

361-44

Q

1

S3

V.87

JAN-JUNE (IOM)

1984

N/c

Sc

Physics Abstracts

Science Abstracts Series A
January—June 1984

Subject Index (A—L)

D.T.G.M.
SEP 28 1984
LIBRARY

inspec
The Institution of Electrical Engineers

SIX-MONTHLY INDEXES TO PHYSICS ABSTRACTS

Twice a year as part of their subscription to Physics Abstracts subscribers receive cumulative indexes for the periods January-June and July-December. Each index is in two parts—a Subject Index, and an Author Index which comprises personal and corporate author indexes, and indexes to conferences, book titles, and bibliographies. The List of Journals and other Serial Sources abstracted by INSPEC in the particular year is also included with the July-December issue of the Author Index while the supplement to that List is included with the January-June issue. Cumulative indexes for earlier years are also available: for details please see the inside back cover.

Subject index

The Subject index provides an alphabetical subject key to the articles included in the abstracts journal. Some general guidance on its use is given below:

1. Look in the index for the name of the specific subject in which you are interested. In most cases this name will be a heading in the index and you will find relevant articles listed under it. The majority of the subject headings fall into the following categories: property, phenomena, substance or named objects, instrument, device, theory, method, process, application, event.
2. Occasionally you will be directed from the subject heading chosen to a different heading under which the relevant or additional articles are listed.
3. If you do not find the subject heading you first chose, try a more general heading.
4. Each entry under the heading relates to an article appearing in the abstracts journal and gives the serial number of that article in the journal preceded by the last digit of the current year, e.g. 4-12345; i.e. Abstract number 12345 in the abstracts journal for 1984.

The language of the article, if it is not in English, is also indicated. e.g. Photo-induced CVD (Japanese) 4-40669.

Each entry starts with a Keyword or Keyphrase considered to be most relevant to the heading. On sorting these Keywords, the qualifying prefixes are usually ignored. (e.g. α -brass, 5-sulphosalicylic, 31 Cygni, n-Ge are sorted under brass, sulphosalicylic, Cygni, Ge respectively).

There are three main Keyword lists: alphabetical A-Z, elementary particles, and chemical symbols (organic substances are written and not given as chemical formula). More than one Keyword list may be present under each subject heading.

For document on, say, 'photoemission of germanium' at least two access points 'photoemission' and 'germanium' are provided. Under the heading 'photoemission' the Keyword will be 'Ge' and under 'germanium' the Keyword will be 'photoemission'.

In a case like this, it is advisable and quicker to use the heading 'photoemission' and go straight to the chemical symbol list for 'Ge'.

Intermetallic compounds are indexed under the appropriate alloy headings. The chemical formula is used as Keyword. However, it is important to realise in searching the chemical symbol list that, at present, alloys and intermetallic compounds are sorted separately. For example FeCo is sorted at the end of the Fe- list e.g. Fe-Al,... Fe-Co,... Fe-Si,... Fe-Si-B,... FeCo,... FeSi and so on in this order.

PHYSICS ABSTRACTS is published twice monthly by the Institution of Electrical Engineers in association with the Institute of Electrical and Electronics Engineers Inc. 2nd Class postage paid at Piscataway, N.J. 08854, USA. POSTMASTER: Send address changes to INSPEC/IEEE SERVICE CENTER, 445 Hoes Lane, Piscataway, N.J. 08854.

Printed by Unwin Brothers Limited, The Gresham Press, Old Woking, Surrey.

©1984. THE INSTITUTION OF ELECTRICAL ENGINEERS. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the Institution of Electrical Engineers.

Physics Abstracts

January—June 1984

CONTENTS

iii
S 1

Abstracts

Science Abstracts Series A

January—June 1984

Subject Index (A - L)

CONTENTS

Abbreviations and Acronyms

Subject index (A-L)

iii

S 1

Abbreviations and Acronyms

Abbreviations and acronyms are used in the modifiers in all INSPEC Cumulative Subject Indexes. Individual terms should be readily understood in the context of the subject headings. **Inorganic substances** are usually given by their chemical formulae. Iron and aluminium garnets appear in the formulae lists as MIG and MAG (where M is metal element, e.g. YIG and YAG); $(\text{Pb},\text{La})(\text{Zr},\text{Ti})\text{O}_3$, $\text{Pb}(\text{Zr},\text{Ti})\text{O}_3$ and $\text{Ce}_2\text{Mg}_3(\text{NO}_3)_{12}$ appear as PLZT, PZT and CMN respectively. **Organic substances** including **liquid crystals** are not given as formulae but common abbreviations are used.

ABS resin	acrylonitrile-butadiene-styrene	CBOOA	cyanobenzylidene octyloxyaniline
AC	alternating current	CCBA	coupled channel Born approximation
ACV	air cushion vehicle	C-CD	charge-coupled device
A/D	analogue-to-digital	CCL	capacitor-coupled logic
ADC	analogue digital conversion	CDFR	commercial demonstration fast reactor
ADP	administrative data processing	CDI	collector diffusion isolation
AE	acoustic emission	CDM	code division multiplexing
AEC	atomic electron correlation(s)	CDW	charge-density wave
AES	Auger electron spectra(oscopy)	CEM	channel electron multiplier
AF	audio frequency	CEPA	coupled electron pair approximation
AFC	automatic frequency control	CERN	Conseil Européen pour la Recherche Nucléaire
AFL	abstract family of languages		
AFMR	antiferromagnetic resonance	CESR	conduction electron spin resonance
AGC	automatic gain control	CGTO	contracted Gaussian-type orbital
AGR	advanced gas-cooled reactor	CHF	coupled Hartree-Fock
ALARA	as low as reasonably achievable	CI	configuration interaction
ALU	arithmetic logic unit	CIDEP	chemically induced dynamical electron polarisation
AM	amplitude modulation		
APACHE	accelerator for physics and chemistry of heavy elements	CIDNP	chemically induced dynamical nuclear polarisation
APR	acoustic paramagnetic resonance	CIEH	charge iterated extended Huckel
APS	appearance potential spectra(oscopy)	CIHY	configuration interaction Hylleras
APW	augmented plane wave	CIM	constituent interchange model
ARMA	autoregressive moving average	CMI	computer managed instruction
ASCII	American standard code for information exchange	CML	current-mode logic
		CMOS	complementary metal-oxide-semiconductor
ATC	air traffic control		
ATE	automatic test equipment	CNC	computerised numerical control
ATM	Axilrod-Teller-Moto	CNDO	complete neglect of differential overlap
ATR	attenuated total reflection		
ATWS	anticipated transients without scram	COC	cholesteryl oleyl carbonate
AVC	automatic volume control	COM	computer output to microform (fiche or film)
BARITT	barrier injection transit time	COOB	4,4'-cyano-octyloxy-biphenyl
BBEA	4-butoxybenzal-4'-ethylaniline	CP	charge, parity
BBGKY	Bogoliubov-Born-Green-Kirkwood-Yvon	CPA	coherent potential approximation
BCC	body centred cubic	CPA	critical path analysis
BCD	binary-code decimal	CPM	critical path method
BCS	Bardeen-Cooper-Schrieffer	CPSK	coherent phase shift keying
BFL	buffered FET logic	CPT	charge, parity, time
BFO	beat-frequency oscillator	CPU	central processing unit
BH	buried heterostructure	CRO	cathode ray oscilloscope
BWO	backward wave oscillator	CRSR	coherent resonant Stokes rotation
BWR	boiling water reactor	CRT	cathode ray tube
BWT	backward wave tube	CS	coupled states
		CSL	current-sinking logic
C ³ L	complementary constant current logic	CSL	current-sourcing logic
CAD	computer aided design	CSM	continuous slowing down models
CANDU	Canadian deuterium uranium	CSRS	coherent Stokes-Raman spectra(oscopy)
CAE	computer aided engineering		
CAI	computer assisted instruction	CT	computerised tomography
CAM	computer aided manufacturing	CTL	complementary-transistor logic
CARS	coherent antiStokes Raman scattering (spectra)	CTR	controlled thermonuclear reactor
CATV	community antenna TV	CVD	chemical vapour deposition
CB	citizen band	CW	continuous wave
CBI	computer based instruction		
		D/A	digital-to-analogue

DAC	digital analogue conversion	EDA	ethylene diamine
DBMS	database management system	EDP	electronic data processing
DBR	distributed Bragg reflector	EDTA	ethylene diamine tetra-acetic acid
DC	direct current	EEBAC	ethyl-4-(4'ethoxy-benzylidene-amino) cinnamate
DCFL	direct-coupled FET logic	EEG	electroencephalography (-gram)
DCTL	direct-coupled transistor logic	EELS	electron energy loss spectra(oscropy)
DDC	direct digital control	EEPROM	electrically erasable programmable read-only-memory
DDL	diode-diode logic	EFL	emitter-follower logic
DECENT	distribution of exact classical energy transfer	EFL	emitter-function logic
DESY	Deutsches Electron Synchrotron	EFM	extended Flygare method
DF	Dirac-Fock	EFT	electronic funds transfer
DFB	distributed feedback	EHD	electrohydrodynamics
DH	double heterostructure	EHF	extremely high frequency
DIL	dual-in-line	EHP	electron-hole potential method
DIP	dual in-line package	EHT	extended Huckel theory
DITE	divertor in torus experiment	EHV	extra high voltage
DLTS	deep level transient spectra(oscropy)	ELDOR	electron electron double resonance
DM	delta modulation	ELF	extremely low frequency
DMA	direct memory access	EM	electromagnetic
DMM	digital multimeter	EMC	electromagnetic compatibility
DMOS	double diffused metal-oxide-semiconductor	EMF	electromotive force
DMSO	dimethylsulphoxide	EMG	electromyography (-gram)
DNA	deoxyribonucleic acid	EMI	electromagnetic interference
DNMR	double nuclear magnetic resonance	EMP	electromagnetic pulse
DOBAMBC	p-decyloxybenzylidene p'-amino 2-methyl butyl cinnamate	ENDOR	electron nuclear double resonance
DOD	different orbitals for different spins	ENG	electronic newsgathering
DORIS	Dopple-ring-Speicher	EOF	end of file
DOS	disc operating system	EPEN	empirical potential energy function based on interactions of electrons and nuclei
DOVETT	double velocity transit time	EPMA	electron probe microanalysis
DP	data processing	EPR	electron paramagnetic resonance
DPCM	differential pulse code modulation	EPRI	Electric Power Research Institute
DPH	diphenylpicrylhydrazyl	EPROM	erasable programmable read-only-memory
DPSK	differential phase shift keying	ERG	electroretinography (-gram)
DSAM	Doppler shift attenuation method	ESCA	electron spectroscopy for chemical analysis
DSC	differential scanning calorimetry	ESCAR	experimental superconducting accelerating ring
DTA	differential thermal analysis	ESFI	epitaxial silicon film on insulator
DTL	diode transistor logic	ESS	electronic switching system
DTU	dual topological unitarisation	EUV	extreme ultraviolet
DVM	digital voltmeter	EW	electronic warfare
DV-X α	discrete variational X α method	EXAFS	extended X-ray absorption fine structure
DWBA	distorted wave Born approximation	EX-OR	exclusive-OR (logic)
DWIA	distorted wave impulse approximation	FAMOS	floating gate avalanche metal-oxide-semiconductor
E1,E2	electric dipole, quadrupole	FBR	fast breeder reactor
E ² PROM	electronically erasable read-only-memory	FCC	face centred cubic
EAROM	electronically alterable read-only-memory	FDM	frequency division multiplex(ing)
EAS	extensive air shower	FDNC	frequency dependent negative conductance
EB	exponential Born	FDNR	frequency dependent negative resistance
EBBA	4-ethoxybenzylidene-4'n-butylaniline	FECL	feedback ECL
EBIC	electron beam induced current(s)	FEM	field emission microscopy
EBR	experimental breeder reactor	FET	field effect transistor
EBT	Elmo Bumpy Torus	FFHR	fusion-fission hybrid reactor
ECCM	electronic counter-counter measures	FFT	fast Fourier transform
ECCS	emergency core cooling system		
ECELR	epithermal critical experiment laboratory reactor		
ECG	electrocardiography (-gram)		
ECL	emitter coupled logic		
ECM	electronic countermeasures		

FFTF	fast flux test facilities	HOBHA	p-n-heptyloxy-benzylidene-p-n-heptyl-aniline
FHNC	Fermi hypernetted chain	HOMO	highest occupied molecular orbitals
FIM	field ion microscopy	HTGR	high temperature gas-cooled reactor
FIMOS	floating gate ionisation injection metal-oxide-semiconductor	HV	high voltage
FIR	finite impulse response	HVDC	high voltage direct current
FM	frequency modulation	HVEM	high voltage electron microscopy
FMIT	fission materials irradiation test facility	HWR	heavy water reactor
FMR	ferromagnetic resonance	IAEA	International Atomic Energy Authority Agency
FMSR	fast mixed spectrum reactor	IAR	isobaric analogue resonance
FPT	finite perturbation theory	IAS	isobaric analogue state
FPLA	field programmable logic array	IBA	interacting boson approximation
FSK	frequency-shift keying	IBFA	interacting boson-fermion approximation
FSGO	floating spherical Gaussian orbitals	IBM	interacting boson model
FTR	fast test reactor	IBPBAC	isobutyl-4-(4'-phenylbenzylideneamino) cinnamate
GAMBIT	gate modulated bipolar transistor	IC	integrated circuit
GANIL	grand accélérateur national a ions Lourds	ICDF	intermediate coupling Dirac-Fock
GCFR	gas-cooled fast breeder reactor	ICF	inertial confinement fusion
GCM	generator coordinate method	IDT	interdigital transducer
GDR	giant dipole resonance	IEPA	independent electron pair approximation
GHF-NO-CI	generalised Hartree-Fock/natural orbital/configuration interactions	IETS	inelastic electron tunnelling spectroscopy
GIAO	gauge-invariant atomic orbitals	IF	intermediate frequency
GMR	giant monopole resonance	IFA	ionisation front accelerator
GO	Gaussian orbitals	IGFET	insulated gate field effect transistor
GOO	generalised Overhauser orbitals	IIR	infinite impulse response
GPM	ground potential model	IKO	Institute v. Kernph Ouder Amsterdam
GQR	giant quadrupole resonance	I ² L	integrated injection logic
GRIN	graded (gradient) refractive index	I ³ L	isoplanar I ² L
GSPC	gas scintillation proportional chamber (or counter)	ILS	instrument landing system
GTO	Gaussian-type orbitals	IMPATT	impact avalanche transit time
GUT	grand unified theory	INDO	intermediate neglect of differential overlap
GVB	generalised valence bond	INDOR	internuclear double resonance
HAM	hydrogenic atoms in molecules	ING	intense neutron generator
HBAB	hexyloxybenzylidene-p'-aminobenzo nitrile	INO	iterative natural orbital
HBT	N-(p-hexyloxybenzylidene)-p-toluidene	INTELSAT	international telecommunications satellite consortium
HCDA	hypothetical core disruptive accident	I/O	input/output
HCP	hexagonal close packed	IOC- ω	inclusion of the overlap charges in the omega
HEED	high energy electron diffraction	IPSS	international packet switching service
HEMP	high altitude electromagnetic pulse	IR	infrared
HEMT	high electron mobility transistor	IRDO	intermediate retention of differential overlap
HF	high frequency or Hartree-Fock	IREB	intense relativistic electron beam
HFB	Hartree-Fock-Bogoliubov	IREB	infrared emitting diode
HFEF	hot fuel examination facility	IRS	information retrieval system
HFIR	high flux isotope reactor	ISABELLE	intersecting storage and acceleration
HFO	Hartree-Fock-Overhauser	ISDN	integrated services digital network
HFS	hyperfine structure	JSFET	ion-sensitive field effect transistor
HGMS	high gradient magnetic separation	ISL	integrated Schottky logic
HIXE	heavy ion induced X-ray emission	ISR	intersecting storage ring
HJFET	heterojunction field effect transistor	ISX	impurity study experiment
HLW	high level waste (radioactive)	ITC	ionic thermocurrents
HMO	Huckel molecular orbitals	ITEP	Institute of Theoretical and Experimental Physics
HMTSeF	hexamethylenetetraselenafulvalene (-inim)	ITR	ignition test reactor
HMTTF	hexamethyltetrathiofulvalene(-inim)	IU	Indiana University
HOAB	heptyloxyazoxybenzene		

IVO	improved virtual orbitals	MEDO	multipole expansion of diatomic overlap
JAERI	Japan Atomic Energy Research Institute	MESFET	metal-semiconductor field effect transistor
JET	Joint European torus	MF	medium frequency
JFET	junction field effect transistor	MFP	mean free path
JINR	Joint Institute for Nuclear Research	MHD	magnetohydrodynamics
KdV	Korteweg-de Vries	MIC	microwave integrated circuit
KEK	Japan National Laboratory for High Energy Physics	MID	magnetically insulated diode
KKR	Korringa-Kohn-Rostoker	MIDP	microwave induced delayed phosphorescence
LAMPF	Los Alamos meson physics facility	MIEHM	modified iterative extended Huckel method
LC	inductance-capacitance	MIM	metal-insulator-metal
LCAO	linear combination of atomic orbitals	MIMD	multiple input multiple data
LCBO	linear combinations of (semi-localised) band orbitals	MIS	metal-insulator-semiconductor or management information system
LCD	liquid crystal display/device	MIT	Massachusetts Institute of Technology
LCGO	linear combination of Gaussian orbitals	MM	millimetre
LCP	large coil program	MMF	magnetomotive force
LCRO	linear combination of Rydberg orbitals	MMIC	monolithic microwave integrated circuit
LEC	liquid encapsulated Czochralski	MNOS	metal-nitride-oxide-semiconductor
LED	light emitting diode	MO	molecular orbitals
LEED	low energy electron diffraction	MOCIC	molecular orbital constraint of interaction coordinates
LEP	large electron positron	MOCVD	metal-organic chemical vapour deposition
LET	linear energy transfer	MODPOT	model potential
LF	low frequency	MOS	metal-oxide-semiconductor
LMC	Large Magellanic Cloud	MOSFET	metal-oxide-semiconductor field effect transistor
LMFBR	liquid metal fast breeder reactor	MOST	metal-oxide-semiconductor transistor
LMTO	linear combination of muffin tin orbitals	MRD	multi-reference double excitation
LNG	liquified natural gas	MRINDO	modified Rydberg INDO
LOCA	loss of coolant accident	MS	management science
LOCE	loss of coolant experiment	MSI	medium scale integration
LOCOS	local oxidation of silicon	MSK	minimum shift keying
LOFT	loss of flow test facility	MSR	molten salt reactor
LPE	liquid phase epitaxy	MSU	Michigan State University
LPFL	low pinchoff-voltage FET logic	MSW	magnetostatic waves
LSA	limited space charge accumulation	MTBF	mean-time between failures
LSD	local spin density	MTF	modulation transfer function
LSI	large-scale integration	MTL	merged-transistor logic
LTE	local thermodynamic equilibrium	MTX α	muffin-tin X α
LUMO	lowest unoccupied molecular orbitals	MUF	maximum usable frequency
LV	low voltage	MWPC	multiwire proportional chamber
LWBR	light water breeder reactor	NAL	National Accelerator Laboratory
LWR	light water reactor	NAND	not-and(logic)
MADO	Mulliken approximation for differential overlap	NC	numerical control
M1,M2	magnetic dipole, quadrupole	NCMET	non-closed shell many electron theory
MBBA	4-methoxybenzylidene-4'-n-butylaniline	NDDO	neglect of diatomic differential overlap
MBE	molecular beam epitaxy	NDT	nondestructive testing
MBPT	many body perturbation theory	NEMO	non-empirical molecular orbitals
MCD	magnetic circular dichroism	NEVE	non-empirical valence-electron
MCP	microchannel plate	NHS	National Health Service
MCSCF	multiconfiguration self-consistent-field	NIC	negative impedance convertor
MCPESCF	multiconfiguration paired excitation SCF	NMOS	N-channel metal-oxide-semiconductor
MCZDO	multi-centre zero differential overlap	NMR	nuclear magnetic resonance
MCX α	multiconfiguration X α	NMR-ON	NMR on oriented nuclei
MEC	molecular electron correlation(s)	NNDO	neglect of non-neighbour differential overlap
		NOR	not-or(logic)

NQR	nuclear quadrupole resonance	PMDR	phosphorescence microwave double resonance
NRC	nuclear regulatory committee	PMOS	P-channel metal-oxide-semiconductor
NRM	natural remanent magnetisation	PMR	proton magnetic resonance
NSSS	nuclear steam supply system	PNDO	partial neglect of differential overlap
NTL	nonthreshold logic	PNO-CI	pair natural orbital configuration interaction
NTO	natural transition orbitals	POL	pair orthogonalised Lowdin
OCR	optical character recognition	POP AE	protons on protons and electrons
ODMR	optical detection of magnetic resonance	POPOP	phenyl-oxazoly-phenyl-oxazoly-phenyl
OEM	original equipment manufacture	POS	point of sale
OER	oxygen enhancement ratio	PPDP/S	Pariser-Parr-Del Bene-Pople/Segal calculations
OPHF	orbital polarised Hartree-Fock	PPI	plan position indicator
OPW	orthogonal plane wave	PPM	pulse position modulation or parts per million
OR	operations research	PPP	Pariser-Parr-Pople
ORELA	Oak Ridge electron linear accelerator	PRDDO	partial retention of diatomic differential overlap
ORNL	Oak Ridge National Laboratory	PRF	pulse recurrence (repetition) frequency
OS	operating system	PROM	programmable read-only-memory or Pockels readout optical modulator
OTEC	ocean thermal energy conversion	PS	proton synchrotron (CERN)
OTF	optical transfer function	PSK	phase shift keying
PAA	paraazoxyanisole	PTFE	polytetrafluoroethylene
PABX	private automatic branch exchange	PTM	pulse time modulation
PAC	perturbed angular correlation	PVC	polyvinyl chloride
PAHR	post accident heat removal	PWA	partial wave analysis
PAM	pulse amplitude modulation	PWB	printed wiring board
PAP	paraazoxyphenetole	PWBA	plane wave Born approximation
PBF	power bursts facility	PWIA	plane wave impulse approximation
PBR	pebble bed reactor	PWM	pulse width modulation
PBT	permeable base transistor	PWR	pressurised water reactor
PBX	private branch exchange	QAM	quadrature amplitude modulation
PC	printed circuit	QCD	quantum chromodynamics
PCAC	partially conserved axial currents	QDMBPT	quasi-degenerate many-body perturbation theory
PCB	printed circuit board	QED	quantum electrodynamics
PCES	phase change energy storage	QPM	quark-parton model
PCGVB	pairwise correlated generalised valence bond	QPSK	quaternary phase shift keying
PCILOCC	perturbative configuration interaction using localised orbitals for crystal calculation	RAM	random access memory
PCM	pulse code modulation	RBE	relative biological effectiveness
PCRV	prestressed concrete reactor vessel	RC	resistance-capacitance
PCX	plasma confinement experiment	RCNDO	Rydberg CNDO
PDX	poloidal divertor experiment	RCS	rapid cycling synchrotron
PEM	photoelectromagnetic	RCTL	resistor-capacitor-transistor logic
PEP	positron electron proton	R & D	research and development
PET	polyethylene terephthalate	RF	radio frequency
PETRA	positron electron tandem ringbeschleuniger anlage	RFI	radio frequency interference
PF	power factor	RG	renormalisation group
PFM	pulse frequency modulation	RHEED	reflection high energy electron diffraction
PFR	prototype fast reactor	RHF	restricted Hartree-Fock
PHWR	pressurised heavy water reactor	RINDO	Rydberg INDO
PID(PI,PD)	proportional+integral+differential (derivative)	RKKY	Rudermann-Kittel Kasuya-Yosida
PIXE	proton induced X-ray emission	RLC	resistance-inductance-capacitance
PLA	phase locked arrays or programmable logic array	RMS	root-mean-square
PLBR	prototype large breeder reactor	RNA	ribonucleic acid
PLC	programmable logic control	ROM	read-only memory
PLL	phase locked loops	RPA	random phase approximation
PLT	Princeton Large Torus		
PM	pulse modulation		
PMMA	polymethylmethacrylate		

RPAE	random phase approximation with exchange	SSFL	Schottky-barrier coupled Schottky-barrier gate FET logic
RPM	relaxation potential model or revolutions per minute	SSI	small scale integration
RPV	reactor pressure vessel	SST	supersonic transport
RTG	radioisotope thermoelectric generators	STD	salinity-temperature-depth or subscriber trunk dialling
RTL	resistor-transistor logic	STEC	solar thermal energy conversion
SACCI	symmetry adapted cluster configuration interaction	STEM	scanning transmission electron microscopy
SAMO	simulated ab initio molecular orbitals	STL	Schottky transistor logic
SAR	synthetic aperture radar	STO	Slater-type orbitals
SAW	surface acoustic waves	STOL	short take-off and landing
SCC	stress corrosion cracking	STP	Slater-transfer Preuss
SCF	self consistent field	SUSY GUT	supersymmetric grand unified theory
SCFL	source-coupled FET logic	SW	short wave
SCL	space charge limited	SWR	standing wave ratio
SCPT	self consistent perturbation theory	SXAPS	soft X-ray appearance potential spectrum
SCR	silicon controlled rectifier	TASI	time assignment speech interpolation
SDFL	Schottky-diode FET logic	TBBA	terephthal-butylaniline
SDM	space division multiplexing	TCNE	tetracyanoethylene
SDO	shielded diatomic orbitals	TCNQ	tetracyanoquinodimethane
SED	stochastic electrodynamics	TCR	temperature coefficient of resistance
SEHF	spin extended Hartree-Fock	TDHF	time dependent Hartree-Fock
SEM	scanning electron microscopy	TDM	time division multiplex(ing)
SFE	solar-flare effect	TDMA	time division multiple access
SFL	substrate fed logic	TDMF	time dependent mean field theory
SGEMP	system generated electromagnetic pulse	TDPAC	time differential perturbed angular correlation
SGHWR	steam generating heavy water reactor	TDS	thermal desorption spectra(oscopy)
SHF	superhigh frequency	TE	transverse electric
SHG	second harmonic generation	TEA	transversely excited atmosphere
SICOS	sidewall base contact structure	TEGFET	two-dimensional electron gas field effect transistor
SIMOS	stacked-gate injection metal-oxide-semiconductor	TEM	transverse electromagnetic or transmission electron microscopy
SIMS	secondary ion mass spectra(oscopy)	TEXT	Texas Experimental Tokamak
SIN	Swiss Institute of Nuclear Research	TFTR	Tokamak fusion test reactor
SINDO	scaled INDO	TGA	thermogravimetric analysis
SIS	semiconductor-insulator-semiconductor	TGFB	triglycine fluoroberyllate
SISAM	spectrometer with interference selective amplitude modulation	TGS	triglycine sulphate
SIT	static induction transistor	TGSe	triglycine selenate
SMC	Small Magellanic Cloud	TJS	transverse junction stripe
S/N	signal-to-noise	TLD	thermoluminescent dosimeter(-ry)
SOG	strongly orthogonal geminal	TM	transverse magnetic
SOS	silicon on sapphire	TMI	Three Mile Island
SPA	separated pair approximation	TMMC	tetramethylammonium manganese chloride
SPC	stored program control	TMTSeF	tetramethyltetraselenafulvalene(-inium)
SPEAR	Stanford positron electron asymmetric ring	TMTTF	tetramethyltetrathiofulvalene
SPHF	spin polarised Hartree-Fock	TOP	transient overpower accident
SPIN-CIPSI	spin symmetry adapted generalisation of CIPSI	TNS	The Next Step
SPS	super proton synchrotron (CERN)	TPC	time projection chamber
SREMP	source region electromagnetic pulse	TRAPATT	trapped plasma avalanche triggered transit
SQUID	superconducting quantum interference device	TREAT	transient reactor test facility
SRMCASE	symmetry-restricted-multiconfiguration annihilation of single excitations	TRM	thermoremanent magnetisation
SSB	single sideband	TSC	thermally stimulated currents
SSBW	surface skimming bulk wave	TSEE	thermally stimulated exo-electron emission
SSC	sudden storm commencement	TSeF	tetraselenafulvalinium
		TSeT	tetraselenatetracene
		TTF	tetrathiofulvalinium

TTL	transistor transistor logic	VLBI	very long base line interferometry
TTT	tetrathiotetracene	VLF	very low frequency
TUCA	transient undercooling accident	VLSI	very large scale integration
TV	television	VMOS	vertical channel metal-oxide-semiconductor
TW	travelling wave	VOR	VHF omnidirectional range
TWT	travelling wave tube	VPE	vapour phase epitaxy
UART	universal asynchronous receiver/transmitter	VRC	visual record computer
UCHF	uncoupled Hartree-Fock	VRDDO	variable retention of diatomic differential
UCN	ultra cold neutrons	VS	virtual storage
UHF	ultra high frequency or unrestricted Hartree-Fock	VSF	vestigial sideband
UHPS	underground hydroelectric pumped storage	VSEPR	valence shell electron pair repulsion
UHV	ultra high voltage	VSWR	voltage standing wave ratio
UKAEA	United Kingdom Atomic Energy Authority	VTOL	vertical take-off and landing
ULA	uncommitted logic array	VTR	voltage transformation ratio or video tape recorder
ULF	ultra low frequency	VUV	vacuum ultraviolet
UMD	unitised microwave devices	VVER	water moderated water cooled reactors
UPS	ultraviolet photoelectron spectra	WARC	World Administrative Radio Conference
US	ultrasonic	WDM	wavelength division multiplex(ing)
UV	ultraviolet	WKB	Wentzel-Kramers-Brillouin
VAD	vapour phase axial deposition	WP	word processing
VB	valence bond	WWER	water moderated water cooled reactors
VCR	video cassette recorder	XPS	X-ray photoelectron spectra
VDM	vector dominance model	ZEBRA	zero energy breeder reactor assembly
VDU	visual display unit	ZGS	zero gradient synchrotron
VHF	very high frequency	ZPPR	zero power plutonium reactor
VHSIC	very high speed integrated circuit		

Subject Index

1/f noise *see random noise*

A-centres

- alkali halides, F and F_A centres, unrestricted Hartree-Fock cluster anal. 4-20998
- quartz, gamma-ray irradiation characts. and radiation hardening 4-6405
- Ge, γ -ray irradi., A centres, energy levels and annealing 4-50760
- KCl:Li, (F_A⁺)_A color centre lasers, photodynamics 4-14692
- KCl:Li F_A(II) centre lasers, flashlamp pumped 4-23999
- KCl:Li⁺, F_A centres, reorientation and optical pumping 4-55826
- KCl:Na crystals, V₁ and F_A centres, thermolum. study 4-40542
- RbCl:Li F_A(II) centre lasers, flashlamp pumped 4-23999
- RbI:Na crystals, and pure crystals, excitations of F, F_A and F_B centres 4-2942
- n-Si, electron irradi., defect form. parameters 4-50361
- n-Si, neutron irradi., low dose, electron traps and annealing behaviour, DLTS study (*Chinese*) 4-39807
- a-Si:H, spin-dependent photoinduced absorpt., ESR study 4-40225
- ZnS:Al, Al_{Zn}-V_{Zn} pairs, IR absorption studies 4-55825

A/D conversion *see analogue-digital conversion*

ab initio calculations

- acetonitrile dimer, intermol. pot., SCF MO LCAO ab initio calc. 4-28525
- acetylene-d₀-(d₂), fundamentals and combination bands, absolute IR intensities calcs. 4-38176
- acetylenes, substituted, electron densities, reson. interaction, ab initio MO STO calcs. 4-38035
- adenine-uracil base pairs, protein interaction, H bonds, ab initio MO STO calcs. 4-48914
- alkali halide crystals, in-crystal polarizabilities of alkali and halide ions 4-39843
- alkanes, ionisation, ab initio MO calcs., pot. energy surface 4-14303
- allene, electron affinities, ab initio MNDO calcs., electron transmission spectra 4-43808
- allyl alcohol, matrix isolated, IR induced photorotamerisation, ab initio calcs. 4-12340
- amines, saturated, medium effects on lowest Rydberg transitions 4-54600
- aminosulphonic acid, mol. struct., ab initio SCF-MO study 4-23600
- aminobenzene, XES, interpretation using ab initio SCF calcs. and electron spectroscopic data 4-49048
- 4-aminobenzoic acid, stable conformations, ab initio SCF MO calcs. model for procaine anesthetic 4-18896
- aminomethanol, mol. struct., ab initio SCF-MO study 4-23600
- aminopropenenitrile, optimised struct., ab initio MO STO calcs. 4-18902
- As₂H₄, outer valence ionic energies, Green's function ab initio calcs. 4-18917
- astrophysically important molecules, photoexcitation and photoionis. cross sections calc. 4-9847
- atomic, mol. and solid state theory conf., Flagler Beach, USA, March 1983 4-31952
- atoms, mols. and ionic solids, electronic struct., relativistic ab initio calcs. 4-38102
- benzene cation radical, Jahn-Teller distortion, ab initio MO calcs. 4-1034
- benzenes, substituted, electron densities, reson. interaction, ab initio MO STO calcs. 4-38035
- benzomorphans mols., N-protonated, electronic and conformational features 4-38066
- bibliography, 1982, quantum chem. literature database 4-23580
- bifurcated H-bonded systems, H⁺ motion, spectrosc. and quantum chem. investigations 4-14325
- borate polyhedra, distortions and polymerisation, ab initio SCF calc. 4-20138
- trans-butadiene, correlated pi-Hamiltonian calc. by ab initio effective valence shell Hamiltonian method 4-9661
- butadiene, energy calc. using ab initio CI method 4-14342
- carboxylic acids, bond lengths and force consts. ab initio calcs. 4-1027
- charge conservation rule with orthogonality hole for atoms in mols. 4-54591
- chlorooxirane, reactive props., likely carcinogenic metabolite, ab initio SCF MO calcs. 4-51979
- closed shell atoms, model for Van der Waals pot. 4-9874
- compact and noncompact systems, use of bond functions as polarisation functions in ab initio calcs. 4-43771
- complex inorganic ions, vibr., thermodynamics, ab initio SCF MO LCAO calcs. 4-28369
- cyanopropyl cations, effect of separation of charge centre and cyano group 4-43784
- cycloalkanes, ionisation, ab initio MO calcs., pot. energy surface 4-14303
- cyclobutanol, struct. props., ab initio HF gradient calc. 4-18907
- cyclobutylamine, struct. props., ab initio HF gradient calc. 4-18907
- cyclobutylsilane, mol. struct., conform., electron diff. and ab initio determ. 4-14570
- cyclopropane, ab initio prediction of structs., force consts. and vibr. freqs. 4-14313
- cyclopropane radical cations, one-electron two-centre bond, ab initio SCF MO investig. 4-9657
- cyclopropanecarboxaldehyde, internal rots. studied by quantum chemical calcs. 4-43807
- cyclopropanecarboxylic acid, internal rots. studied by quantum chemical calcs. 4-43807
- cyclopropyne, struct., energetics and vibr. freq. investigated using ab initio mol. quantum mechanics 4-14341
- diarsene, PES and NMR props., ab initio study 4-33450
- diamonic molecules, relativistic calculations of dissociation energies and related properties 4-33352
- diazene, PES and NMR props., ab initio study 4-33450
- ab initio calculations continued
- 1,3-diazetidene, struct., stability, ab initio calcs. 4-38033
- difluorodichloromethane, struct., harmonic force field, microwave obs. 4-14399
- 1,1-difluoroethane, struct., photoionisation efficiency curve, ab initio calcs., heat of form. 4-54817
- dimethyl phosphate anion+H₂O, bifurcated vs. linear hydrogen bonds 4-1289
- 2,3-dimethyl-1,3-butadiene, geometries, rot. barriers, HF level ab initio gradient computation 4-38034
- 2,6-dimethylacetanilide methyl ester, stable conformations, ab initio SCF MO calcs. model for lidocaine 4-18896
- 2,3-dimethylthiirane, excited electronic state, VUV and circular dichroism study 4-28480
- dioxirane, ring functions, as polarisation functions for ab initio calcs. 4-18923
- diphosphene, PES and NMR props., ab initio study 4-33450
- 1,4-dithiin, struct., ab initio calcs. with STO-3G and 3-21G* basis sets 4-43782
- double-bond cis-trans photoisomerisation S₁-S₀ energy gap and jump probability 4-46777
- energy partitioned ab initio SCF intermolecular energies plus dispersion 4-33473
- ethanol, conformer interconversions at low temp., ab initio calcs. 4-43785
- ethene, adsorbed in zeolites, NMR spectra, MO calcs. 4-23714
- ethene-HCN H bonding, ab initio SCF MO investig. 4-1028
- ethyl radicals, beta-substituted, ground state conformation, ab initio MO study 4-14307
- ethylene+silylene, ab initio calcs. at minimal, split valence and extended basis set level 4-16638
- ethylene dication, pot. energy surface, ab initio MO calc. 4-1233
- ethylene glycol, conformational anal. and mol. struct., ab initio calcs. 4-43786
- ethylene imine, ab initio prediction of structs., force consts. and vibr. freqs. 4-14313
- ethylene oxide, ab initio prediction of structs., force consts. and vibr. freqs. 4-14313
- ethylene radical cations, substituted, struct., conform. and ESR spectra calcs. 4-1057
- ethylenes, substituted, electron densities, reson. interaction, ab initio MO STO calcs. 4-38035
- ethyne-HCN, H bonding, ab initio SCF MO investig. 4-1028
- excimer, ab initio pot. energy curves for low lying electronic states 4-28380
- ferrocene, poly-chlorinated, anomalously large quadrupole splitting inter-pot. 4-9690
- first-row atoms, static multipole polarisabilities, London dispersion coeffs. calcs. 4-18919
- fluoromethylithium, struct., energies, configuration and transition states, ab initio calcs. 4-18933
- formaldehyde, ab initio MCSCF+CI transition state for H₂CO→CO+H₂ on the S₂ surface 4-30948
- formaldehyde, monomer, dimer and trimer, self-association, electronic and vibr. structs., SCF calcs. 4-5138
- formamide, monomeric, matrix IR study, torsional bands, ab initio 4-31G calcs. 4-5223
- formamide, rot. energetics, ab initio mol. fragment calcs. with pseudopot. 4-23587
- formamide-(d₂)-(d₃), ab initio SCF MO calc. of force consts. and dipole derivatives, H-bond force const. estimation 4-1036
- formate anion+H₂O, bifurcated vs. linear hydrogen bonds 4-1289
- formic acid, decomposition, reaction dynamics, intrinsic reaction coordinate approach 4-35863
- glycerol, conform., struct. and asymmetry, ab initio calcs. 4-1033
- glycine aldehyde, conformational anal. using ab initio gradient refinements on 4-21G level 4-23578
- glycine methyl ester, ground state rot. const., ab initio study 4-18905
- graphite, optical spectra, ab initio SCF band struct. model 4-46288
- graphite intercalation compound with K, KC₈, ab initio SCF pseudopotential energy band struct. 4-45574
- H⁺ transfer, ionisation, ab initio pot. energy surface calcs. 4-23581
- haloethanols, mono-, di- and tri-, conformer interconversions at low temp., ab initio calcs. 4-43785
- harmonic force constants, scaled quantum mech. force fields calcs. 4-38349
- heavy ion stopping in finite temp. target, charge state, ab initio calcs. 4-24581
- hydrocarbon mols., extended basis sets, stimulated ab initio MO method 4-1047
- β -hydroxyacrolein, valence ionised states, electronic struct., H bonds, ab initio calcs. 4-18904
- C-hydroxyimine/formamide tautomerism in soln., ab initio calcs. 4-46744
- ice, charge partitioning between Bjerrum and ionic defects, ab initio MO calcs. 4-29466
- ketones, photoabstraction reactions, natural correl. diagrams, pot. energy surfaces 4-14343
- lanthanide ion spectroscopy, spin correlation effects 4-25304
- many-electron atoms, relativistic kinetic energy operator, matrix representation 4-38084
- many-electron molecules relativistic kinetic energy operator, matrix representation 4-38084
- MCSCF energy, first and second anharmonicities 4-5130
- metal surface, mag. struct. and mag. moments, ab initio calcs. 4-16012
- methane, diprotonated, struct. and stability, ab initio MO calc. 4-1044
- methane, satellite struct. in photoelectron spectra, ab initio CI calcs. 4-23612

Subject Index

1/f noise see random noise

A-centres

- alkali halides, F and F_A centres, unrestricted Hartree-Fock cluster anal. 4-20998
- quartz, gamma-ray irradiation characts. and radiation hardening 4-6405
- Ge, γ-ray irradi., A centres, energy levels and annealing 4-50760
- KCl:Li, (F₂⁺)_A color centre lasers, photodynamics 4-14692
- KCl:Li F_A(II) centre lasers, flashlamp pumped 4-23999
- KCl:Li⁺, F_A centres, reorientation and optical pumping 4-55826
- KCl:Na crystals, V₂ and F_A centres, thermolum. study 4-40542
- RbCl:Li F_A(II) centre lasers, flashlamp pumped 4-23999
- RbI:Na crystals, and pure crystals, excitations of F, F_A and F_B centres 4-2942
- n-Si, electron irradi., defect form. parameters 4-50361
- n-Si, neutron irradi., low dose, electron traps and annealing behaviour, DLTS study (Chinese) 4-39807
- a-Si:H, spin-dependent photoinduced absorpt., ESR study 4-40225
- ZnS:Al, Al_{Zn}-V_{Zn} pairs, IR absorption studies 4-55825

A/D conversion see analogue-digital conversion

ab initio calculations

- acetonitrile dimer, intermol. pot., SCF MO LCAO ab initio calc. 4-28525
- acetylene-d₀(-d₂), fundamentals and combination bands, absolute IR intensities calcs. 4-38176
- acetylenes, substituted, electron densities, reson. interaction, ab initio MO STO calcs. 4-38035
- adenine-uracil base pairs, protein interaction, H bonds, ab initio MO STO calcs. 4-48914
- alkali halide crystals, in-crystal polarizabilities of alkali and halide ions 4-39843
- alkanes, ionisation, ab initio MO calcs., pot. energy surface 4-14303
- allene, electron affinities, ab initio MNDO calcs., electron transmission spectra 4-43808
- allyl alcohol, matrix isolated, IR induced photorotamerisation, ab initio calcs. 4-12340
- amines, saturated, medium effects on lowest Rydberg transitions 4-54600
- aminosulphonic acid, mol. struct., ab initio SCF-MO study 4-23600
- aminobenzene, XES, interpretation using ab initio SCF calcs. and electron spectroscopic data 4-49048
- 4-aminobenzoic acid, stable conformations, ab initio SCF MO calcs. model for procaine anesthetic 4-18896
- aminomethanol, mol. struct., ab initio SCF-MO study 4-23600
- aminopropenenitrile, optimised struct., ab initio MO STO calcs. 4-18902
- As₂H₄, outer valence ionic energies, Green's function ab initio calcs. 4-18917
- astrophysically important molecules, photoexcitation and photoionis. cross sections calc. 4-9847
- atomic, mol. and solid state theory conf., Flagler Beach, USA, March 1983 4-31952
- atoms, mols. and ionic solids, electronic struct., relativistic ab initio calcs. 4-38102
- benzene cation radical, Jahn-Teller distortion, ab initio MO calcs. 4-1034
- benzenes, substituted, electron densities, reson. interaction, ab initio MO STO calcs. 4-38035
- benzomorphans mols., N-protonated, electronic and conformational features 4-38066
- bibliography, 1982, quantum chem. literature database 4-23580
- bifurcated H-bonded systems, H⁺ motion, spectrosc. and quantum chem. investigations 4-14325
- borate polyhedra, distortions and polymerisation, ab initio SCF calc. 4-20138
- trans-butadiene, correlated pi-Hamiltonian calc. by ab initio effective valence shell Hamiltonian method 4-9661
- butadiene, energy calc. using ab initio CI method 4-14342
- carboxylic acids, bond lengths and force consts. ab initio calcs. 4-1027
- charge conservation rule with orthogonality hole for atoms in mols. 4-54591
- chlorooxirane, reactive props., likely carcinogenic metabolite, ab initio SCF MO calcs. 4-51979
- closed shell atoms, model for Van der Waals pot. 4-9874
- compact and noncompact systems, use of bond functions as polarisation functions in ab initio calcs. 4-43771
- complex inorganic ions, vibr., thermodynamics, ab initio SCF MO LCAO calcs. 4-28369
- cyanopropyl cations, effect of separation of charge centre and cyano group 4-43784
- cycloalkanes, ionisation, ab initio MO calcs., pot. energy surface 4-14303
- cyclobutanol, struct. props., ab initio HF gradient calc. 4-18907
- cyclobutylamine, struct. props., ab initio HF gradient calc. 4-18907
- cyclobutylsilane, mol. struct., conform., electron diff. and ab initio determ. 4-14570
- cyclopropane, ab initio prediction of structs., force consts. and vibr. freqs. 4-14313
- cyclopropane radical cations, one-electron two-centre bond, ab initio SCF MO investig. 4-9657
- cyclopropanecarboxaldehyde, internal rots. studied by quantum chemical calcs. 4-43807
- cyclopropanecarboxylic acid, internal rots. studied by quantum chemical calcs. 4-43807
- cyclopropyne, struct., energetics and vibr. freq. investigated using ab initio mol. quantum mechanics 4-14341
- diarsene, PES and NMR props., ab initio study 4-33450
- diamonic molecules, relativistic calculations of dissociation energies and related properties 4-33352
- diazene, PES and NMR props., ab initio study 4-33450

ab initio calculations continued

- 1,3-diazetidine, struct., stability, ab initio calcs. 4-38033
- difluorodichloromethane, struct., harmonic force field, microwave obs. 4-14399
- 1,1-difluoroethane, struct., photoionisation efficiency curve, ab initio calcs., heat of form. 4-54817
- dimethyl phosphate anion+H₂O, bifurcated vs. linear hydrogen bonds 4-1289
- 2,3-dimethyl-1,3-butadiene, geometries, rot. barriers, HF level ab initio gradient computation 4-38034
- 2,6-dimethylacetanilide methyl ester, stable conformations, ab initio SCF MO calcs., model for lidocaine 4-18896
- 2,3-dimethylthiirane, excited electronic state, VUV and circular dichroism study 4-28480
- dioxirane, ring functions, as polarisation functions for ab initio calcs. 4-18923
- diphosphene, PES and NMR props., ab initio study 4-33450
- 1,4-dithiin, struct., ab initio calcs. with STO-3G and 3-21G* basis sets 4-43782
- double-bond cis-trans photoisomerisation S₁-S₀ energy gap and jump probability 4-46777
- energy partitioned ab initio SCF intermolecular energies plus dispersion 4-33473
- ethanol, conformer interconversions at low temp., ab initio calcs. 4-43785
- ethene, adsorbed in zeolites, NMR spectra, MO calcs. 4-23714
- ethene-HCN H bonding, ab initio SCF MO investig. 4-1028
- ethyl radicals, beta-substituted, ground state conformation, ab initio MO study 4-14307
- ethylene+silylene, ab initio calcs. at minimal, split valence and extended basis set level 4-16638
- ethylene dication, pot. energy surface, ab initio MO calc. 4-1233
- ethylene glycol, conformational anal. and mol. struct., ab initio calcs. 4-43786
- ethylene imine, ab initio prediction of structs., force consts. and vibr. freqs. 4-14313
- ethylene oxide, ab initio prediction of structs., force consts. and vibr. freqs. 4-14313
- ethylene radical cations, substituted, struct., conform. and ESR spectra calcs. 4-1057
- ethylenes, substituted, electron densities, reson. interaction, ab initio MO STO calcs. 4-38035
- ethyne-HCN, H bonding, ab initio SCF MO investig. 4-1028
- excimer, ab initio pot. energy curves for low lying electronic states 4-28380
- ferrocene, poly-chlorinated, anomalously large quadrupole splitting interpret. 4-9690
- first-row atoms, static multipole polarisabilities, London dispersion coeffs. calcs. 4-18919
- fluoromethylithium, struct., energies, configuration and transition states, ab initio calcs. 4-18933
- formaldehyde: ab initio MCSCF+CI transition state for H₂CO→CO+H₂ on the S₀ surface 4-30948
- formaldoxime, monomer, dimer and trimer, self-association, electronic and vibr. structs., SCF calcs. 4-5138
- formamide, monomeric, matrix IR study, torsional bands, ab initio 4-31G calcs. 4-5223
- formamide, rot. energetics, ab initio mol. fragment calcs. with pseudopots. 4-23587
- formamide(-d₄)(-d₅), ab initio SCF MO calc. of force consts. and dipole derivatives, H-bond force const. estimation 4-1036
- formate anion+H₂O, bifurcated vs. linear hydrogen bonds 4-1289
- formic acid, decomposition, reaction dynamics, intrinsic reaction coordinate approach 4-35863
- glycerol, conform. struct. and asymmetry, ab initio calcs. 4-1033
- glycine aldehyde, conformational anal. using ab initio gradient refinements on 4-21G level 4-23578
- glycine methyl ester, ground state rot. const., ab initio study 4-18905
- graphite, optical spectra, ab initio SCF band struct. model 4-46288
- graphite intercalation compound with K, KC₈, ab initio SCF pseudopotential energy band struct. 4-45574
- H⁺ transfer, ionisation, ab initio pot. energy surface calcs. 4-23581
- haloethanols, mono-, di- and tri-, conformer interconversions at low temp., ab initio calcs. 4-43785
- harmonic force constants, scaled quantum mech. force fields calcs. 4-38349
- heavy ion stopping in finite temp. target, charge state, ab initio calcs. 4-24581
- hydrocarbon mols., extended basis sets, stimulated ab initio MO method 4-1047
- β-hydroxyacrolein, valence ionised states, electronic struct., H bonds, ab initio calcs. 4-18904
- C-hydroxyimine/formamide tautomerism in soln., ab initio calcs. 4-46744
- ice, charge partitioning between Bjerrum and ionic defects, ab initio MO calcs. 4-29466
- ketones, photoabstraction reactions, natural correl. diagrams, pot. energy surfaces 4-14343
- lanthanide ion spectroscopy, spin correlation effects 4-25304
- many-electron atoms, relativistic kinetic energy operator, matrix representation 4-38084
- many-electron molecules relativistic kinetic energy operator, matrix representation 4-38084
- MCSCF energy, first and second anharmonicities 4-5130
- metal surface, mag. struct. and mag. moments, ab initio calcs. 4-16012
- methane, deprotonated, struct. and stability, ab initio MO calc. 4-1044
- methane, satellite struct. in photoelectron spectra, ab initio CI calcs. 4-23612

ab initio calculations continued

methane cation, pot. surface, dissoci., ab initio restricted HF calcs. 4-18899
 methanediol, protonation and deprotonation, secondary β -D equil. isotope effect 4-21424
 methanol, protonation and deprotonation, secondary β -D equil. isotope effect 4-21424
 methanol-methyl cyanide (methyl isocyanide) (H_2O) (methanol) (methyl fluoride), ab initio MO calcs. 4-43783
 2-methoxyphenylcarbamic acid methyl ester, stable conformations, ab initio SCF MO calcs., model for heptacaine 4-18896
 methyl + H_2 -methane + H, reaction dynamics, intrinsic reaction coordinate approach 4-35863
 methyl copper hydride, struct. and bonding calcs. 4-5124
 methyl cyclobutane, struct. props., ab initio HF gradient calc. 4-18907
 2-methyl-1,3-butadiene, geometries, rot. barriers, HF level ab initio gradient computation 4-38034
 3-methyl-but-1-yne-3-ol, Meyer-Schuster and Rupe rearrangement reaction, protonation sites calc. 4-23575
 methyl-HF complex, H bonded, ab initio calculations 4-1029
 N-methylacetamide, rot. energetics, ab initio mol. fragment calcs. with pseudopot. 4-23587
 methylamine-formic acid complex, H^+ transfer, medium effect, ab initio STO calcs. 4-38036
 methylene, bond distances and angles, ab initio calc. 4-38052
 methylene, Renner-Teller effect, ab initio study 4-49003
 methylene, spin-orbit mixing, singlet-triplet transitions, far-IR laser mag. reson. 4-19091
 N-methylsulphamate, mol. struct., ab initio SCF-MO study 4-23600
 model systems, partial interaction energies partial charges, quantum mechanical calcs. 4-38266
 molecular calcs. with spin-orbit coupling 4-18913
 molecular electron scatt., low energy, ab initio optical pots. calcs. algebraic approach 4-5354
 molecules, effective fragment pot., approximate ab initio MO method 4-1037
 molecules, valence, bonding, anisotropy, ab initio calcs. 4-48904
 molecules and crystals., relativistic HF theory, LCAO calcs. 4-38065
 naphthalene, dication and dianion polarisability, MO ab initio calc. 4-14312
 p-nitroaniline, PES satellite struct., ab initio CI calcs. 4-38247
 nitromethane, crystal packing and struct. parameters calc. using ab initio intermol. SCF calc. 4-34450
 2-norbornyl cation, structs., rel. stabilities, electron correl. and basis set effects 4-9682
 nucleotide bases, filled and virtual orbital localisation, ab initio canonical orbital calcs. 4-48931
 organic molecules, small and medium sized, one-electron props., SCF ab initio calcs. 4-43778
 pentatomic heterocyclic-system benzoderivatives, MO and ionisation pots. calc., photoelectron spectra assignment 4-23606
 peptide, rot. energetics, ab initio mol. fragment calcs. with pseudopot. 4-23587
 periodic systems, evaluation of densities of states in ab initio calcs. 4-56183
 phospho-alkynes, mol. struct., electron props., ab initio SCF calcs. 4-43788
 phosphazene, PES and NMR props., ab initio study 4-33450
 phospholipid model membrane-local anaesthetic interactions, ab initio calculations 4-1032
 polar molecules; electron scatt., effective Hamiltonian ab initio calcs. 4-10155
 polar or nonpolar mols., intermol. interactions, use of small basis sets in ab initio calcs. 4-43932
 polyatomic inorganic molecules, force fields and vibr. spectra, ab initio LCAO SCF calcs. 4-9675
 polychlorinated biphenyls, rot. conform., ab initio calcs. 4-1031
 polyethylene, one dimens. infinite, energy gradient in ab initio HF cryst. orbital formalism 4-2295
 polyethylene, Z 4-20548
 polymers, extended basis sets, stimulated ab initio MO method 4-1047
 polysilane, energy band struct., ab initio effective core pot. studies 4-20548
 polyyne, infinite, energy band struct., ab initio effective core pot. studies 4-20548
 positrons, hydrated, HF-MO-LCAO SCF calcs. 4-28353
 propene, selective catalytic oxidation to acrolein, ab initio MO study, mechanism 4-41248
 propyne, electron affinities, ab initio MNDO calcs., electron transmission spectra 4-43808
 protonated intermediates in Rupe and Meyer-Schuster rearrangement, ab initio calcs. 4-23575
 protonated ions with second-row atoms, ab initio SCF and CI calcs. 4-47677
 pyrazine, $n_1\pi^*(B_{3u})$ - $n_2\pi^*(B_{2g})$ splitting ab initio RHF calcs. 4-9669
 quantum chemical calc., ab initio program (*Chinese*) 4-9656
 quartz: AlO_4 , ab initio SCF MO calcs. 4-44010
 radical reactions, ground and excited state, ab initio and model hypersurfaces 4-16615
 radicals, small, hyperfine struct., ab initio CI calcs. 4-38079
 selenophenes, 2-substituted, electronic and vibr. struct. studies, by PES, comparison with thiophene 4-49093
 semiconductors, Frenkel pair generation, ab initio adiabatic potentials (*Russian*) 4-25193
 small molecules, struct., ab initio MO calcs., neutron diffr. crystal struct. 4-43779
 TCNQ mixed salts, crystal field and charge transfer, electric field gradient calc. 4-30339
 1,2,4,5-tetrafluorobenzene, mol. struct., gas phase electron diffr. and, ab initio determ. 4-38328
 tetrathiotetracene, geometry as donor in charge transfer complexes, ab initio study 4-18920
 theoretical chemistry, conf., Louvain-la-Neuve, Belgium (June, 1983) 4-42577
 thiarene, and isomeric structs., ab initio MO studies 4-38074
 thiones, photoabstraction reactions, natural correl. diagrams, pot. energy surfaces 4-14343
 transition metals, vibrational frequencies via total-energy calcs. 4-45048
 trichlorofluoromethane anion + H - $\text{CHCl}_2 + \text{Cl}^-$, reactivity and energy surface, SCF-HF ab initio study 4-21425
 trimethylenemethane, energy calc. using ab initio CI method 4-14342

ab initio calculations continued

two electron integrals, first and second derivatives over Cartesian Gaussians using Rys polynomials 4-48918
 van der Waals interaction potentials: many-body basis set superposition effects 4-5315
 vinylcyclopropane, internal rots. studied by quantum chemical calcs. 4-43807
 vinylidene-acetylene, neutral and ionic, rearrangement, ab initio calc. 4-3380
 vinylmethylene, zero field splitting parameters, ab initio calcs. 4-38049
 water, liquid, 2- and 3-body ab initio pots., Monte Carlo study 4-38063
 water, negatively charged clusters, ab initio calculations 4-44011
 water associates, mol. struct. and props., review 4-10202
 ylides, electronic struct., GVB+POL-CI calcs. 4-33328
 Al^{3+} - H_2O complexes, struct. and electron density, cation influence 4-48933
 Ar-He(Kr)(Ne), collision induced dipole moment, ab initio HF treatment 4-54593
 $\text{Ar} + \text{N}_2^+$, charge exchange, ab initio calcs. 4-10066
 $\text{Ar}^+ + \text{N}_2$, charge exchange, ab initio calcs. 4-10066
 Ar_2^* excimer, ab initio CI relativistic calcs. with spin-orbit coupling 4-18914
 Ar_n^+ cluster ions, metastable dissociation 4-5532
 AsH_2NH_2 , outer valence ionic energies, Green's function ab initio calcs. 4-18917
 As_2S_4 , electronic struct., ab initio and CI calcs. 4-1025
 B-containing dihydrides, indirect-nucl. spin-spin coupling tensors, ab initio SOS-CI calcs. 4-28460
 BH^+ , doublet and quartet states, ab initio MCSCF CI calcs. 4-48951
 B_2H_6 , ionisation pot., ΔE_{SCF} , ab initio LCAO-MO-HF-SCF calcs. 4-48936
 B_2N_2 cation radical, Jahn-Teller distortion, ab initio MO calcs. 4-1034
 Be (0001), chemisorption of H, ab initio HF calc. 4-56149
 Be, structural and electronic props., ab initio study 4-6318
 BeF_2 glass, density of state, IR, Raman and neutron vibr. spectra simulation 4-11882
 BeF_2^+ , $^2\Pi$ state Renner splitting, ab initio UHF calcs. 4-1038
 BeH, valence and Rydberg states, pot. energy curves, LCAO-MO-SCF-CI calcs. 4-43801
 Be_2H_4 , struct. and stability, ab initio calcs. 4-9665
 Be^{2+} - H_2O complexes, struct. and electron density, cation influence 4-48933
 C_2 , ground and excited states, transition moments, ab initio MRD CI calcs. 4-5145
 $\text{CF}(\text{X}^2\Pi)$, VUV photoelectron spectra, ab initio MO calcs. 4-43917
 CH, correl. valence shell Hamiltonian, bond length depend., ab initio determ. 4-33305
 C_2N_2 , integrated IR intensities 4-38167
 CO and CO_2 , photoexcitation and photoionisation cross sections calc. 4-9847
 CO, bond dissociation energies, ab initio calcs. 4-33290
 CO_2 , crystal packing and struct. parameters calc. using ab initio intermol. SCF calc. 4-34450
 CO_2^+ , $^2\Pi_g$ state Renner splitting, ab initio UHF calcs. 4-1038
 Cl_2 , electronic struct. calc. using ab initio valence-electron wave functions 4-38048
 Cr_2 , f-type functions in orbital basis for calc. mol. interactions involving d electrons 4-1041
 Cs monolayers on W (110), bond contraction, ab initio calc. 4-29790
 Cu, liq., density of states and elec. resist. calc. 4-45579
 $\text{Cu} + \text{H}_2$, dissociation, ab initio effective pot. CI calcs. 4-46757
 CuCl_2 , ground and excited states, ab initio CI calcs. 4-43819
 CuF_2 , ground and excited states, ab initio CI calcs. 4-43819
 CuZn , B2-ordered, electronic struct. and positron annihilation 4-25207
 $\text{D} + \text{H}_2$, reactions, reduced dimensionality quantum rate consts. 4-12335
 $\text{D} + \text{H}_2 \rightarrow \text{HD} + \text{H}$, reactive scatt., rate consts., adiabatic T matrix theory 4-21445
 D_3O^+ , vibr. states, ab initio SCF CI calcs. 4-48948
 DyZn , indirect multipolar interactions, ab initio calc. 4-56302
 F_2 , bond dissociation energies, ab initio calcs. 4-33290
 Fe, nuclear spin-lattice relax. of impurities 4-40260
 FeCO_3 antiferromagnet, two-centre transitions, IR absorption studies 4-20971
 fluoromethane-Hf complex, H bonded, ab initio calculations 4-1029
 GaAs, dielectric props., first-principles calc. 4-25671
 H atoms, four, arranged isosceles trapezoid form, variational versions of CEPA 4-33331
 H, electron scattering, coupled-channels optical calc. appl. 4-5419
 H, static multipole polarisabilities, London dispersion coeffs. calcs. 4-18919
 $\text{H} + \text{HS} \rightarrow \text{H}_2 + \text{S}$, transition state geometry, activation barrier, ab initio SCF CI calcs. 4-26182
 H_2 , two-photon absorpt. cross section of $\text{X } ^1\Sigma_g^+ \rightarrow (\text{E,F}) ^1\Sigma_g^+$, ab initio calc. 4-5144
 H_2^+ , photoionisation cross sections and eigenphases calc. using finite-vol. variational method 4-49104
 $\text{H}_2 + \text{H}_2$ collision induced dipole radiation in freq. range of the cosmic background 4-14507
 $\text{H}_2 + \text{He}$, collision induced translation rot. spectra 4-38285
 H_3 , ab initio and model hypersurfaces for ground and excited state radical reactions 4-16615
 H_3^+ , electron impact dissociation, recombination, reaction product channel anal. 4-10172
 H_3^+ ion, IR spectra, ion-mol. reactions 4-9671
 H_4 , Rydberg states, ab initio frozen core CEPA calcs., dissociation energies 4-28378
 HCN, force constants, ab initio, SCF and CI calcs. convergence and additivity of correl. and basis set effects 4-1067
 $\text{H}^+(\text{CO})_2$, struct. study 4-18928
 H_2CO , H_2CS , H_2O and H_2S , photoexcitation and photoionisation cross sections calc. 4-9847
 HCl, electron impact simultaneous rot. and vibr. excitation 4-54878
 HCl^+ , $\text{A}^2\Sigma^+ \rightarrow \text{X}^2\Pi$ transition, fluoresc. cross-sections and electronic transition moments 4-14472
 HF, force constants, ab initio, SCF and CI calcs. convergence and additivity of correl. and basis set effects 4-1067
 (HF), clusters, open chain and cyclic, stability, ab initio calcs. 4-14296
 $\text{H}^+(\text{N}_2)_5$, struct. study 4-18928
 HNC isomerisation, pot. surface, vibr.-rot. levels, ab initio SCR CI calcs. 4-26181
 HNF free radical, $\text{A}^2\text{A}^+ \rightarrow \text{X}^2\text{A}^+$ vibronic transition, ab initio CI study 4-38073

ab initio calculations continued

- (H₂NCHSH₂)⁺, H⁺ transfer along H-bonds, ab initio MO calc. 4-49146
 HO₂ and rel. species, interactions and reactions, ab initio MO study 4-46748
 H₂O clusters, small, as models for struct. and kinetic props. of ice 4-28584
 H₂O dimer configurations, pot. energy curves calc., SCF and CI calcs. 4-33364
 H₂O, satellite struct. in photoelectron spectra, ab initio CI calcs. 4-23612
 H₂O, X'A, state, MRD CI calcs. approaching full CI limit 4-38077
 (H₂O)₂, dipole moments, IR absorpt. intensities, ab initio SCF calcs. 4-23582
 (H₂O)₂, polarisability tensor, Raman scatt., ab initio SCF calcs. 4-33299
 (H₂O)₂⁺, H⁺ transfer, ionisation, ab initio pot. energy surface calcs. 4-23581
 (H₂O)₂-N₂, pot. energy surface, ab initio MO STO calcs. 4-48955
 H₂O⁺, ground electronic state pot. energy surface, ab initio rot.-vibr. energy 4-14345
 H₂O⁺, vibr. states, ab initio SCF CI calcs. 4-48948
 H₂O+H₂O, gas phase clustering, thermochemical data, ab initio calcs. 4-46758
 (H₂O)_n clusters, ionisation energies and H-bond strengths 4-23850
 (H₂OHS₂)⁺, H⁺ transfer along H-bonds, ab initio MO calc. 4-49146
 H₂S, one-electron props., ab initio calcs. 4-48912
 H₂S-(H₂O)₂, three-body nonadditive interactions, ab initio SCF MO study 4-48930
 H₂S-HF complex, H bonded, struct., ab initio calcs. 4-28361
 H₂S₂, basis sets for ab initio MO calcs., energies, struct., force consts. and dipole moments calc. 4-23576
 H₂X-HY, (X=O, S, Se, Y=F, Cl, Br), H-bonded complexes, geometry dissoci. energies, ab initio GO-SCF-MO calcs. 4-38064
 He dimer and trimer, van der Waals interaction potentials: many-body basis set superposition effects 4-5315
 He, static multipole polarisabilities, London dispersion coeffs. calcs. 4-18919
 He+CO collisions, close coupled scatt. calc. comparison with meas. at E_{cm}=27.7 meV 4-19168
 He₂⁺, doubly excited states, ab initio pot. energy curves calcs. 4-23627
 He₃ clusters, dipole polarisability three-body contrib. 4-48949
 InH, ab initio CI relativistic calcs. with spin-orbit coupling 4-18914
 KCN, bound state, ab initio ro-vibrational spectra 4-9755
 Li₂⁺, pot. energy curves, ab initio CI calcs. 4-48947
 Li₆, props., ab initio calcs., Jahn-Teller effect in optimal geometrical shape 4-28358
 Li₇, props., ab initio calcs., Jahn-Teller effect in optimal geometrical shape 4-28358
 Li₂CO₃, geometric struct., stability, ab initio LCAO SCF calcs. 4-28368
 LiFH reactive systems, pot. energy surface, ab initio calcs. 4-46737
 Li⁺H₂O complexes, struct. and electron density, cation influence 4-48933
 LiO, ^{II} state pot. curve, ab initio multiconfig. SCF calcs. 4-3378
 Li₂OH⁺, geometric struct., force fields and vibr. spectra, ab initio calcs. 4-9664
 Li₂(OH)₂, geometric struct., force fields and vibr. spectra, ab initio calcs. 4-9664
 MgBeH₄, struct. and stability, ab initio calcs. 4-9665
 Mg₂H₄, struct. and stability, ab initio calcs. 4-9665
 Mg²⁺-H₂O complexes, struct. and electron density, cation influence 4-48933
 Mo₂, f-type functions in orbital basis for calc. mol. interactions involving d electrons 4-1041
 N-containing dihydrides, indirect nucl. spin-spin coupling tensors, ab initio SOS-CI calcs. 4-28460
 N₂, bond dissoci. energies, ab initio calcs. 4-33290
 N₂, crystal packing and struct. parameters calc. using ab initio intermol. SCF calc. 4-34450
 N₂, Hopfield series, electronic autoionisation, ab initio MQDT calcs. 4-1222
 N₂, Hopfield series, electronic autoionisation, multichannel quantum defect calc., ab initio approach 4-19114
 N₂, photon or electron impact, X-ray emission, ab initio CI wavefunctions 4-33420
 (N₂)₂, bound state, ab initio ro-vibrational spectra 4-9755
 N₄⁺, cluster ions, metastable dissoci. 4-5532
 N₄, open-chain mol., FOGO and LCAO-MO calcs., geometries, internal rot. 4-23599
 (NH₃)_n, struct., ab initio MO calcs., H-bond stability 4-38041
 NH₃⁺, rot.-vibr. pot. energy and dipole moment functions, ab initio MO calcs. 4-14385
 NH₃⁺, bond distances and angles, ab initio calc. 4-38052
 NH₃ complexes, effective fragment pot., approximate ab initio MO method 4-1037
 NH₃, elec. field gradients, Gaussian basis sets, ab initio STO calcs. 4-28363
 NH₃, force constants, ab initio, SCF and CI calcs. convergence and additivity of correl. and basis set effects 4-1067
 NH₃, quasi-Wannier functions determ. from ab initio calcs. of (NH₃)₂ 4-24772
 NH₃, satellite struct. in photoelectron spectra, ab initio CI calcs. 4-23612
 NH₃⁺, low lying states, electronic struct. and spectra, ab initio calcs., Jahn-Teller distortion 4-1046
 N₂H₂, dissoci., pot. energy surface, ab initio MO theory 4-33297
 N₂H₄, outer valence ionic energies, Green's function ab initio calcs. 4-18917
 NH₄⁺(NH₃)_n, struct., ab initio MO calcs., H-bond stability 4-38041
 NH₃...HX(HX)₂, H-bonded complexes, Gaussian orbital SCF-MO calcs., dissoci. energies, geometries 4-23598
 NO, bond dissoci. energies, ab initio calcs. 4-33290
 N₂O₂, isomeric forms, rel. stability, electronic and geometric struct., ab initio calcs. 4-48935
 N₂S₄, electronic struct., ab initio and CI calcs. 4-1025
 Na+Li⁺, charge exchange, coherence effects study 4-14528
 Na₂, electronic struct. calc. using ab initio valence-electron wave functions 4-38048
 Na₂, pot. energy curves, ab initio CI calcs. 4-48947
 NaCl, electronic struct. calc. using ab initio valence-electron wave functions 4-38048
 NaCl, struct. props. 4-56000
 NaH, X²Σ⁺ and A²Σ⁺ states, dipole moment and pot. energy functions calcs. 4-28362

ab initio calculations continued

- Ne, van der Waals interaction pots., basis set superposition effects in electron correl. calcs. 4-23772
 Ne-Ar(Kr), collision-induced dipole moment, ab initio HF treatment 4-54593
 Ne-H₂, van der Waals mol., pot. energy surface, ab initio calcs. 4-5154
 Ni (001), bremsstrahlung isochromat spectroscopy first principles calc. 4-57023
 Ni (111), inverse photoemission calc. 4-40559
 Ni, crossed second-order specific mass isotope shift 4-23663
 Ni-ethylene pi complexes, electronic struct., ab initio MO calcs. 4-14324
 No⁺, ^{II} states, ab initio MCSCF CI calcs. 4-54615
 O₂, bond dissoci. energies, ab initio calcs. 4-33290
 O₂, solid, exchange interaction const. calcs. (Russian) 4-56599
 O(BO)₂, mol. struct. and electronic props., ab initio calcs. 4-1026
 O(CN)₂, mol. struct. and electronic props., ab initio calcs. 4-1026
 OCl₂, proton affinities calcs. 4-1079
 OF₂, proton affinities calcs. 4-1079
 OH₂, bond distances and angles, ab initio calc. 4-38052
 OLi₂, proton affinities calcs. 4-1079
 P-containing dihydrides, indirect nucl. spin-spin coupling tensors, ab initio SOS-CI calcs. 4-28460
 PF₂NH₂, outer valence ionic energies, Green's function ab initio calcs. 4-18917
 P₂H₄, outer valence ionic energies, Green's function ab initio calcs. 4-18917
 PH₂NH₂, outer valence ionic energies, Green's function ab initio calcs. 4-18917
 PH₃...HX, H-bonded complexes, Gaussian orbital SCF-MO calcs., dissoci. energies, geometries 4-23598
 P₂S₄, electronic struct., ab initio and CI calcs. 4-1025
 PtCl₄²⁻, electronic struct. calcs. 4-33355
 PtCl₄²⁻, electronic struct. calcs. 4-33355
 PtH and PtH⁺, ground and excited states, relativistic ab initio electronic struct. calcs. 4-9683
 S II spectrum from sliding spark discharge, configurations, ab initio calcs. 4-1082
 S₈, ionisation pot., UPS, ab initio CI study 4-28506
 SF₆, electron elastic scatt. cross-section, ab initio SCF calcs. 4-10100
 S₂N₂, ground and ionised state, ab initio CI calcs. of UVPEs 4-38078
 S₂N₃, ground state struct., geometry, ab initio SCF calcs. 4-18903
 S₂N₆, ground and ionised states, electronic struct., ab initio MO calcs. 4-1064
 SO₂, basis sets for ab initio MO calcs., energies, struct., force consts. and dipole moments calc. 4-23576
 SO₂, energy deposition via intense IR laser multiphoton excitation 4-5307
 SO₂, integrated IR intensities and at. polar tensors 4-38166
 Si (100), O₂ dissociative chemisorpt., self-consistent cluster and slab model studies 4-34786
 Si (111)2×1 surface, Mott insulator model, ab initio calcs. 4-6858
 Si containing mols., electronic struct., ab initio calcs. 4-5134
 Si, total energy conversion, momentum-space formalism, pseudopot. calc. 4-29917
 Si⁻, electron affinities, ab initio MRD-CI calcs. 4-18935
 SiH⁻, electron affinities, ab initio MRD-CI calcs. 4-18935
 SiH₄, variational cellular calc. 4-9662
 Si₂H₂ isomers, singlet and triplet states, ab initio SCF and pseudopotential calcs. 4-48953
 Si₂H₂, lowest singlet and triplet state, ab initio and CI calcs. 4-33303
 SiOH₂ and isomers, electronic struct., ab initio SCF calcs. (German) 4-1055
 SiP⁺ radical, electronic struct. ab initio MRD-CI calcs. 4-48956
 Sr+Ar, laser assisted collisions, final state distrib., nonadiabatic theory 4-14522
 TiBr, electronic struct., ab initio calc. 4-50721
 TiBr, electronic struct. and static struct. props., ab initio calc. 4-50747
 TiCl, electronic struct., ab initio calc. 4-50721
 TiCl, electronic struct. and static struct. props., ab initio calc. 4-50747
 UF₆, excited states, ab initio CI calcs. using relativistic effective core pot., spin-orbit effect 4-23618
²³⁵U II, hyperfine struct. laser-RF double reson. 4-5159
 W, Fermi surface cyclotron reson. (Russian) 4-25202
 W(CO)₂(PH₃)₂(H₂) complex, bonding, struct., ab initio HF level calcs. 4-33298
 Zn_x clusters (x=1-6), electronic struct. rel. to bulk Zn 4-28583

abacs see nomograms**aberrations**

- aberrations in optics and particle optics only
 see also lenses; optical instrument testing; particle optics*
 achromatic and sharp real imaging of a point by a single aspheric lens 4-1457
 active mirror segment figure control 4-1458
 aerial reconnaissance lens computerised evaluation by automated lens testing system 4-49482
 air lens based design 4-44172
 aspheric surface nonstandard representation telescope design 4-49475
 Caedonian Quadruplet, ion lenses, geometric aberration correction 4-939
 catadioptric afocal telescopes for scanning IR systems 4-48172
 cathode lenses aberrations, variational theory 4-19349
 cathode lenses using combined mag. and electrostatic focusing, aberrations, variational theory (Chinese) 4-54943
 charged particle lenses, spherical aberration correction using aspherical foils 4-38384
 collimator characteristics for laser diode 4-24142
 concentric unit-magnification lens-compensated catadioptric objectives, limiting capabilities 4-19539
 curved Fresnel surface system, stop and conjugate shift, primary monochromatic aberrations 4-28632
 deflection system for electron and ion beam lithography, large area, with very low aberration 4-38385
 deformable annular flat diamond turned mirror, cylindrical laser, low temporal freq. aberration correction appls. 4-1459
 direct electron beam lithography system, focusing and deflection system with vertical beam landing 4-38382
 double Gauss lens synthesis 4-44173
 double-symmetrical systems with aspherical surfaces, aberration theory (German) 4-55165
 E×B mass separator aberration anal. 4-44042

aberrations continued

- eikonal equation exact solns. and their relation to Hamilton charact. functions 4-44044
- electron and ion lens optimisation procedure 4-33606
- electron beam column for 50×50 mm² deflection 4-49254
- electron beam optical system with large field coverage for submicron lithography 4-38380
- electron lens third order aberration coeff. dependence on object position, comment 4-44039
- electron microbeam generation using electron gun and imaging system (*Polish*) 4-313
- electron microscopic Fourier holography, influence and compensation of aberrations (*German*) 4-19350
- electrostatic deflecting elements without fourfold aberrations for electron optics systems 4-23885
- electrostatic einzel lenses, optimum electrode shape 4-23887
- electrostatic electron spectrometer using tubular electrodes of equal radius 4-28282
- electrostatic mirror, two-electrode, space-time focusing, time and spatial aberrations 4-1332
- energy loss high performance spectrometer for use with a dedicated STEM 4-37997
- expanded laser beam wavefront monitoring using shearing interferometer 4-28745
- eye, rat, aspheric curvatures, refr. indices and chromatic aberration 4-26389
- eyepiece, mirror-lens optical system, mirror compensator for image surface curvature 4-19540
- galvanometer scanner, precision post-objective two-axis system 4-24128
- geometrical optics, stops and pupils, aberration function 4-54952
- gradient-index rod, defocusing, imaging props., aberration analytic expressions 4-1358
- GRIN lens profile measurement by ray trace analysis 4-1456
- Hermitian-Gaussian beam transformation in square-law medium exhibiting simple astigmatism 4-23871
- hologram aberrations influence on light intensity distrib. in image plane 4-23922
- holographic grating aberrations 4-44057
- holographic higher order diffracted wave imaging, aberration compensation 4-23924
- holographic memory with two-wavelength reading-recording, aberrations compensation (*Russian*) 4-10261
- holographic optical element ray tracing program 4-44075
- holographic video disc and laser scanning optics 4-54982
- holography, magnifications and aberrations of reconstructed image fields 4-23920
- incoherent isolated objects, diffr. pattern intensity distrib. at optimum compensated fifth order spherical aberrations (*German*) 4-14639
- intracavity adaptive optic mode control theory 4-1418
- intracavity adaptive optics expts. using deformable mirror located in compacted beam region of adaptive half-symmetric unstable resonator with internal axicon 4-1419
- intracavity adaptive optics expts. using deformable mirror located in annular beam region of adaptive half-symmetric unstable resonator with internal axicon 4-1420
- ion and electron lenses, aberration corrected systems of planar electrostatic deflection elements 4-44036
- laser beam distortion and optical system aberrations, interrelationships, geometrical-optics model 4-10343
- laser beam wavefront distortion diagnosis and compensation (*Chinese*) 4-49412
- laser scanning system, catadioptric, with dynamic field flattening 4-24062
- lens design program 4-44167
- lens design short course 4-24124
- light beam self deviation in moving media, nonlinear aberrations 4-44059
- longitudinal chromatic aberration of the vertebrate eye 4-26391
- magnetic round lens and sextupole system, aberration theory 4-10222
- magnetic spectrometer resolution, online optimisation 4-54523
- micro-lens, wave aberrations, automatic shear interference system 4-38554
- microscope projection photolithography, chromatic aberration correction 4-4460
- mirror hologram analyser capabilities 4-33634
- multichromatic visual-display terminals, visual accommodation and convergence 4-16867
- nematic liquid crystal, orientational self-focusing, nonstationary and polarisation effects 4-5672
- objective lens calc. having a relieved entrance pupil 4-33733
- ocular lens of ground squirrel, spherical aberration 4-12560
- optical aberration reduction technique, design and testing optical transfer function calc. for system (*Rumanian*) 4-24130
- optical design program for microcomputers 4-38548
- optical disc storage, objective lens design (*Russian*) 4-28802
- optical etch-point detection using chromatic aberration 4-22751
- optical information processing, conf. Cuernavaca City, Mexico (Jan. 1982) 4-53340
- optical system automatic correction according to relative image contrast (*German*) 4-44183
- optical system wavelength scaling considerations 4-23908
- optical systems with large tilts and decenterations, aberrations 4-44192
- phase conjugate mirror resonator losses, directional behaviour in aberrated multiperture cavities 4-28773
- photographic lens preliminary design utilising correspondences between actual residual aberrations and third order aberration coeffs. 4-43077
- photoobjectives, image quality assessment using edge spread function (*German*) 4-22863
- point-spread functions for rotationally symm. aberrations 4-1356
- ray tracing, aberration function and spatial frequencies 4-23895
- refraction-diffraction optical systems, anal. and synthesis 4-49489
- sandwich pole piece probe forming lens, design and calcs. (*Chinese*) 4-44037
- scanning Czerny-Turner spectrometer, design, resolution test and aberration optimization (*Korean*) 4-13678
- Schmidt camera, comparison with general optical systems, aberrations anal. (*Spanish*) 4-48230
- semiconductor laser coupling props. to collimating optics 4-55096
- single pole piece objective electron lenses, TEM and STEM appl. 4-316
- slide projector condenser design 4-24118
- spherical aberration and diffraction derived via Fourier optics 4-49290

aberrations continued

- subaperture testing approach comparison Kwon-Thunen and simultaneous fit methods 4-49476
- submicron focused ion beam system optics, computer simulations 4-33612
- symmetric sector magnet analysers ion-optical props. 4-22870
- third-order aberrations in tensor representation 4-44065
- two-mirror telescope systems, differential formulas 4-13196
- two-mirror unit magnification system, complete analysis 4-24120
- two-mirror unit magnification system, complete analysis 4-24121
- two-photon resonant image upconverter, chromatic aberrations, analysis using geometrical optics (*Japanese*) 4-5659
- variable shape electron beam lithography, optical parameter optimisation 4-38381
- wave aberration coefficient and wave aberration derivative calc. from ray trace data 4-44168
- wide angle zoom for the Space shuttle 4-48224
- wide-angle lens design, influence of back focus determ. 4-44174
- wide-field optical system, computer calcs. of aberration coeffs. 4-55163
- window aberration correction in laser velocimetry using multifaceted holographic optical elements 4-49295
- X-ray image intensifier, electron optics influence on imaging props. (*Czech*) 4-319
- X-ray image intensifier props., electron optics effect 4-19600
- zoom system stable aberration correction, analytical technique 4-38553

aberrations (visual) see vision defects

abrasion

- see also hardness; wear
- β-brass surface phase transformation, Auger scanning microscope obs. (*Japanese*) 4-30852
- electroerosion printing, wear 4-41006
- impact-abrasive wear test method and equipment for materials at subzero temps. 4-41135
- metals, erosion testing by gas-entrained solid particles 4-21416
- powder mechanics in tribology 4-49777
- scratch tester, mounted in situ in an SEM 4-35786
- steel, abrasion, Cr content effect, small scale yielding mechanism (*Japanese*) 4-51789
- steel, C, heat treated, failure mechanism in abrasive wear 4-41001
- steel, low alloy, abrasion corrosion in aq. NaCl soln. 4-51854
- steel, polishing with magnetoabrasive powders 4-26106
- steel, stainless, erosion by flyash particles, temp. depend. 4-30829
- steel, tool, wear in mass production shearing 4-30833
- steel castings, wear behaviour for mining industry 4-40997
- temperature fields in abrasive grains of arbitrary form, math. models 4-57352
- wear resistant materials, work hardening effect on abrasive and erosive wear 4-30832
- Al, erosion by flyash particles, temp. depend. 4-30829
- Al-Mg-Si, abrasive wear with fine diamond particles rel. to carbide surface hardening 4-46633
- Au-ion-plated coatings, tribology and XPS depth profiling 4-7605
- Co-Cr-W abrasive wear rel. to carbide size 4-57357
- Cr-C-Fe composite magnetoabrasive powders, synthesis 4-3106
- Fe, Armo, heat treated, failure mechanism in abrasive wear 4-41001
- Fe, grey cast, dry abrasive wear rel. to eutectic domain struct. (*Rumanian*) 4-35731
- Fe, high purity, passivation kinetics, mech. machining effect on reaction layer formation (*German*) 4-41059
- Fe, white, castings, wear behaviour for mining industry 4-40997
- Fe-Cr, cast, carbide removal mechanisms in quartz abrasion 4-41008
- Fe-Cr-Mo(V)(Nb)-C 4-21333
- Mo low-scatter surfaces as laser mirrors, prep. by dual-abrasive polishing and sputtering 4-24123
- Nb-N films, abrasion resist., microhardness, microstructure 4-2489
- Ni₃B coatings, wear and corrosion props. 4-21386
- SiO₂, multilayer systems, adhesion meas. by scratch method 4-26171
- Ti, abrasive machining, coating effects on tribology 4-7600
- Ti-Al-V, abrasive wear with fine diamond particles rel. to carbide surface hardening 4-46633
- TiB₂, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
- TiC, powders, var. comp., TEM investigation 4-26069
- TiC, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
- TiC-Fe composite magnetoabrasive powders, synthesis 4-3106
- TiN, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
- VC, powders, var. comp., TEM investigation 4-26069
- VC-Fe composite magnetoabrasive powders, synthesis 4-3106
- WC-Co-BN composites, prod. methods 4-3103

abrasive wear see abrasion

absolute gravity see gravity

absolute pressure measurement see pressure measurement

absolute temperature see temperature

absorption

- for absorption of substances see sorption
- see also acoustic wave absorption; electromagnetic wave absorption
- No entries

absorption coefficients (optical) see optical constants

absorption spectra see spectra

absorption wavemeters see wavemeters

abundance ratio see element relative abundance; isotope relative abundance

a.c. network analysers see network analysers

acceleration

- see also acceleration measurement; accelerometers
- disc rotation dynamics on shaft, accel. vel. and movement in inertia, bicycle appl. (*Italian*) 4-42649
- Doppler interferometer using longitudinal laser modes, appl. to refl. surface vel. meas. 4-285
- EM mass accelerator, railgun development status, appl. to impact fusion research 4-37113
- general relativity, field theory (*German*) 4-22641
- macroscopic particle accel. approaches 4-32036

acceleration measurement

- fast-moving object dynamics anal. using pulsed laser diode 4-48073
- fibre sensors development and appl. (*Czech*) 4-244
- ship's gimbals, accelerometer effects 4-32243

accelerators (particle) *see particle accelerators*

accelerometers

- see also acceleration measurement*
 accelerometer for human chest wall and small animal whole body vibr. meas. 4-47119
 compression mode accelerometer, vibr. and press. monitoring in high temp. environments 4-48122
 dry-tuned accelerometer/gyro instrument, design method 4-48119
 electro-optical, interferometer and laser diode designs 4-13624
 error compensation, expt. investigation into algorithmic method (*Russian*) 4-22764
 external cavity diode laser sensor appls. 4-33705
 fibre optic, for vibration monitoring appl. 4-53667
 fibre optic accelerometer, tilting-mirror 4-38585
 fibre optic accelerometers, interferometric type 4-17318
 functional and design principles and characteristics (*French*) 4-4390
 inertial navigation eqns., limiting capabilities for const.-height information 4-55315
 LF linear accelerometer checking and calibration method 4-53674
 micromechanical capacitive accelerometer with a two-point inertial-mass suspension 4-22768
 multi-axial acceleration meas., transducers review and appl. (*German*) 4-37093
 passive laser accelerometer, conventional optics expt. investigations implications for other integrated optics sensors 4-32242
 piezoelectric, installation verification techniques 4-32250
 piezoelectric and piezoresistive design and selection criteria 4-247
 piezoelectric ceramics, transverse sensitivity, mech. prop. effects, accelerometer appl. 4-40348
 reference standard, calibration using new interferometric technique 4-8878
 ship's gimbals characteristics 4-32243
 vibration measurement appls. of back-to-back type, calibration 4-13618
 well logging, tool depth determination using accelerometer 4-58300
 Si piezoelectric-film FET accelerometer, with proof mass 4-37083

acceptor levels *see impurity electron states*

accidents

- see also electric shocks; explosions; safety*
 1300 MW nuclear power station control room organisation for post accident operation (*French*) 4-43621
 advanced simulator for real time simulation of two-phase flow transients 4-37846
 alternative gaseous fuels safety assessment for light automotive transportation 4-57636
 AVR HTR, safety conception with natural heat removal in accidents (*German*) 4-43640
 big nucl. accidents probability and consequences 4-48702
 breeder reactor, Na spray conflagrations effects study using PULSAR computer code (*German*) 4-9382
 Brown Boveri reactor steam generator, flow induced oscill. calc. (*German*) 4-9383
 BWR plant, emergency operating instructions impact on severe accident sequences 4-23341
 concrete, creep and thermal shrinkage at high temp., math. model 4-27970
 cotton fibres, use in accident dosimetry 4-54439
 deaths, quantified risk assessment in nuclear industry 4-47084
 drained spent fuel storage, self-sustaining Zr oxidation propag. 4-18568
 emergency planning and preparedness for nuclear accidents, IAEA role 4-14129
 fast reactor fuel subjected to simulated thermal transients, macroscopic behaviour 4-23357
 fast reactor safety, loss-of-heat-sink risk considerations 4-23337
 FBR, saturated vapour pressure availability for damage in accident conditions 4-28143
 fissile material transport, criticality aspects 4-37934
 fissile material transport packages, criticality safety anal., transport index eval. 4-37935
 fission reactors, post-accident heat removal from particulated fuel debris 4-54369
 FRETA-B code, two-dimensional ballooning model appl. to out-pile and in-pile simulation expts. 4-32954
 fusion reactor fuel processing system, tritium accident mitigation, risk assessment techniques 4-9561
 GAP-4 molten-fuel intersubassembly gap drainage expt. 4-23358
 HLW subseal disposal, safety assessment 4-18573
 HTGR, air ingress accidents, graphite/O₂ reaction kinetics, A3-3 and A3-27 materials (*German*) 4-43641
 LMFBR, boilup transients in closed system 4-23360
 LMFBR, hypothetical core disruptive accident, conditions inside bubble, laser simulation 4-14135
 LMFBR, hypothetical loss of flow accidents, transient-phase, theoretical anal. and modelling (*German*) 4-9381
 LMFBR, hypothetical loss-of-heat-sink accidents, assessment of accident energetics pot. 4-23339
 LMFBR, slow transient overpower accident, PFR/TREAT test L03 results 4-23368
 LMFBR fuel vaporisation simulations in FAST facility 4-23364
 LMFBR shutdown heat removal for transients up to HCDA, SASSYS code 4-48700
 LMFBR with axially heterogeneous core, HCDA behaviour 4-5006
 loop-type LMFBR, core coolability following loss-of-heat sink accidents 4-23338
 MARS Li-Pb blanket, emergency cooling for loss of flow accident 4-9399
 MUSEMET radioactivity release model, use in risk studies, comparisons (*German*) 4-5051
 nuclear accidents, repairs and protective measures effects on radioactivity releases (*German*) 4-5050
 nuclear fuel reprocessing, accidental events, criticality, fires and explosions, probability (*German*) 4-4982
 nuclear materials type B package in Caldecott tunnel fire thermal environment 4-43697
 nuclear power plant safety concepts in the Federal Republic of Germany 4-33113
 nuclear power station, safety analysis, event tree method (*Croatian*) 4-28146
 nuclear power station safety improvements and precautions (*Hungarian*) 4-23327

accidents continued

- nuclear reactor, time-dependent accident sequences including human actions 4-54359
 nuclear reactor core damage, accident source terms 4-33112
 nuclear reactor H₂ burn monitoring, Three Mile Island reactor data analysis 4-18730
 nuclear reactors, reliability of slow after cooling after losses of coolant (*German*) 4-9378
 nuclear reprocessing and waste facilities, probabilistic risk anal. with dynamic accident progress (*German*) 4-4983
 piping system under LOCA conditions, blowdown force anal. using BLOWDOWN code 4-27927
 postaccident heat removal, downward heat transfer from heat-generating boiling pools 4-23362
 potential severe core damage accident precursors, NUREG/CR-2497 4-33116
 pressurised thermal shock anal., mass weighted skew upwind appl., finite difference technique 4-27928
 public protection strategies for accident management at nuclear plants 4-23396
 PWR, emergency cooling system layout for small leakage (*German*) 4-9377
 PWR, steam explosions, Monte Carlo anal. 4-23347
 PWR accidents, deep metal fibre filters for at. contamination prevention (*German*) 4-12521
 PWR accidents (*Dutch*) 4-33126
 PWR large dry-contaminants, risk reduction by filtered venting 4-33123
 PWR LOCA, direct contact condensation anal. of flowing steam onto injected water 4-48699
 PWR LOCA, H₂ distrib. in containment, expt. results (*German*) 4-54348
 PWR LOCA simulation, HDR blowdown expt. anal. using coupled fluid-structural dynamic method 4-27926
 radiation accident, dosimetry by ESR spectroscopy 4-21813
 radiation accidents involving whole body exposure, relevance of LD_{50/60} for man, review 4-12709
 radioactive materials transportation, acceptability criterion for accidents and risks 4-33205
 radioactive materials transportation, radiological hazards risk assessment methodologies 4-33211
 radioactive materials transportation in US, insurance and indemnity coverage 4-37946
 reactor accident, shielding factors for vehicles to γ -irradiation from deposited activity 4-31150
 reactor containment under accident conditions, effects on H₂ distrib. (*German*) 4-5020
 reactor core melt freq. calc. based on seismic risk anal., unified approach 4-23350
 reactor LOCA, fuel can distortion, emergency coolant flow direction effects, REBEKA testing (*German*) 4-5015
 reactor safety, accident risk assessment for SNR, HTR, BWR and PWR (*German*) 4-5014
 risk assessment in nuclear safety 4-48698
 SNR-300 off-site accident consequence, risk anal. 4-54366
 steel, stainless, boilup in high temp. UO₂, out-of-pile expts. 4-23359
 Tennessee Valley Authority, radwaste transportation accident drills 4-23231
 Three Mile Island-2 progress report 4-33138
 TMI reactor auxiliary building, aerosol sample characterisation 4-18732
 TMI type accidents including human actions, probabilistic anal. 4-23346
 TRAN expt. B-1 on annular channel, fuel crust stability study 4-23367
 TREAT upgrade reactor, reactivity insertion accidents anal. 4-23371
 Tritium Systems Test Assembly, safety anal. report 4-9562
 type B packages for radioactive materials, <500 kg, crush conditions, fire resistance 4-33206
 unprotected LMFBR loss-of-flow accident, lead subassembly simulation, in-pile TREAT test L04 4-23369
 vitrified high level radwaste transportation by train, risk anal. 4-33040
 waste nucl. fuel reprocessing plants, effects of fire caused by kerosene (*German*) 4-9314
 water-steam-air, transient two-phase two-component flow 4-15020
 WIPP waste shaft accident, wire rope mitigation effects 4-28004
 wrist watch jewels, use in accident gamma dosimetry 4-54440
 Zircaloy cladding bundles, rapid oxidation in air, expt. studies 4-18569
 Zircaloy fuel can-UO₂ fuel, chemical reactions in severe reactor accident conditions (*German*) 4-5017
 Zircaloy LWR fuel rod cladding tubes, creep anisotropy effect on ballooning 4-33000
 Zircaloy PWR fuel element cladding, azimuthal temp. variation under LOCA conditions 4-33001
 Zircaloy-4 fuel sheathings, failure model for LOCA, steam or inert atm., 900-1600K 4-54248
 UO₂ fission-heated molten pool expt. DC1 4-23361
 UO₂ fuel-Zircaloy fuel can, chemical reactions in severe reactor accident conditions (*German*) 4-5017
 UO₂/magnetite concrete interaction and penetration following reactor accidents 4-23363
 Zr-Nb press. tubes during LOCA, high temp. transverse creep model verification tests 4-54276

accommodation coefficient *see sorption*

accretion disks *see circumstellar shells*

accumulation layers

- quasi-two-dimensional electron systems, plasma dispersion, quantum size effects 4-45848
 semiconductor interfaces, carrier confinement effects on energy levels 4-6880
 Si (100) inversion layer, second subband occupation, substrate bias effects 4-50932
 a-Si:H, B films, photoinduced metastable surface effects 4-15908
 a-Si:H/SiO₂, charge injection during field effect and photo-field effect 4-40064
 Si:Na⁺ accumulation layers, dynamical conductivity 4-56410
 Te, 2D accumulation layer, Hall cond. oscils. 4-25379
 ZnO surface, 2-D plasmons, angle resolved electron energy loss spectroscopy studies 4-50745
 ZnO weak accumulation layers, electron transport phenomena 4-45854

accumulators *see secondary cells*

acidity *see pH*

acids, organic *see organic compounds*

acoustic analysis

aircraft noise monitoring at airports 4-7913

statistical energy anal. model, effect of random errors 4-5753

acoustic applications

see also ultrasonic applications

acoustic thermometry in gases using pulse techniques 4-260

azimuthal data, errors in acoustic meas. system on oscillating base (*Russian*) 4-14859

gases, acoustic thermometry using pulse techniques 4-13638

levitation, appl. for high power sound field meas. 4-44310

medicine, use of sonic and US waves in technology, review (*Japanese*) 4-3602

position monitor for X-ray microanalysis of small particles in STEM system 4-37258

underwater acoustic and marine seismics, computer modelling 4-58107

acoustic arrays

amplitude shading for any array (*Chinese*) 4-1528

circular arrays, radiation resistance and radiated power determ. (*Chinese*) 4-55298

directivity patterns, general synthesis methods (*Chinese*) 4-1529

displacement meas. using smoothed coherent transform method of holographic detection 4-22749

electroacoustic transducers and array design, goal programming 4-5776

halls, sound reproduction with phased linear loudspeaker arrays (*German*) 4-28929

high resolution array processing using eigensystem approach, optimality 4-44298

high-resolution beamforming with oversampled arrays 4-10498

holographic data collection without redundancy, transmitter- and receiver-array arrangements 4-24313

ocean acoustics, mode separation and source location by focused horizontal arrays 4-14831

phasing method use in spatial processing system 4-1551

planar rectangular array, near-field noise immunity 4-19660

radiating linear array, interaction of resonant electroacoustic transducers 4-19697

shipping lanes, spatial coherence in semicircular noise fields 4-5756

n-source active attenuator arrays for noise in ducts 4-5763

sub-array, effect of placement uncertainty on passive ranging accuracy 4-44299

transducer arrays, acoustic beamforming, Chebyshev complex function approx. 4-19670

ultrasonographic linear arrays, pulsed, directivity function, influence of component errors 4-1564

underwater arrays, convective flow noise, elastic cylinders model 4-33855

uniform line array, approx. maximum entropy method 4-10499

US immersion coupled phased array for inspection of offshore structures 4-49634

US interdigital arrays, shear wave frequency-steered beams 4-44325

US phased array imaging, electronic sector scanning, delay system 4-44313

acoustic delay lines

see also ultrasonic delay lines

liquid velocity meter using a liquid delay line oscillator 4-15042

SAW delay line oscillator, Z-transform and power spectrum anal. 4-24317

SAW reflective array compressors using 180° reflecting metal dot arrays 4-14861

acoustic detectors *see acoustic transducers*

acoustic devices

see also acoustic delay lines; acoustic generators; acoustic microscopes;

acoustic microwave devices; acoustic parametric devices; acoustic radiators;

acoustic receivers; acoustic resonators; acoustic transducers; bells;

surface acoustic wave devices; ultrasonic devices

calorimeter for electron-photon and hadron cascades 4-22290

FFT analyser to narrow information gap 4-55284

manometers for vacuum measurement, Coulomb repulsion and sound wave types (*Japanese*) 4-37112

position monitor for X-ray microanalysis of small particles in STEM system 4-37258

pulsed sonic liq. level device appl. to chem. processing tanks 4-33097

shaker specification selection in seismic qualification tests 4-5770

acoustic dispersion

see also ultrasonic dispersion

acoustic-gravity waves, dispersion in atm. (*Chinese*) 4-3788

antiferromagnet, sound wave self-focusing in magnet with high effective anharmonicity 4-30259

atmospheric fog, sound dispersion and absorption 4-3812

Chelsea dipole active attenuator, loudspeakers and microphones 4-5769

ducts, sound attenuation analysis in duct with a solid and porous filter 4-33838

heterogeneous catalysis interfacial sound modes, dispersion relation 4-31022

metallic powders, acoustic polarisation echo (*Russian*) 4-24286

paramagnetic liquid, relaxation attenuation and dispersion of sound (*Russian*) 4-34583

n-source active attenuator arrays for noise in ducts 4-5763

toluene, liq. and supercooled, relax. processes, light scatt. investig. 4-20280

C fibres mechanical and acoustic props., fabrication and appl. (*Czech*) 4-26034

acoustic echoes *see echo*

acoustic emission

see also ultrasonic materials testing

ABS acoustic emission during stretching or temp. jump 4-6445

acoustic-US testing, effect of specimen resonances 4-26136

aircraft components, acoustic emissions rel. to aircraft manoeuvre 4-38090

amorphous glassy polymers, acoustic emission during stretching or temp. jump 4-6445

beams, brittle, multiple fractures produced by bending, stress waves 4-10604

ceramics, AE during deformation and fracture 4-57518

composite, quantitative NDT, interferometric techniques using embedded optical fibres 4-35845

acoustic emission continued

crack dimensions and unloading regions evaluation, acoustic signal parameters appl. 4-51926

developing flaw coordinates, AE detection, use of amplitude gating 4-16606

diamond microstrength characterisation by IR absorpt. 4-41162

digital US instrument 4-44322

displacement amplitude meas. by laser interferometry 4-55288

epoxy adhesive bond fracture in insulated heat sink, acoustic emission characts. 4-3343

fatigue-life prediction, improved by acoustic emission 4-12279

fibre-optic interferometric SAW sensor for NDT 4-35847

flow detection using US techniques 4-46672

frequency-domain anal., transient phenomena duration determ. 4-44282

gear unit application of acoustic holography 4-24303

glass fibre reinforced polypropylene, stressed, acoustic emission study 4-35796

impacted beam-like struct., acoustic radiation 4-5760

large diameter pipes, acoustic emission test method applications 4-12273

linear pulse holography 4-30889

linear pulse holography for non-destructive evaluation 4-49625

machine diagnosis by sound and vibration analysis (*Japanese*) 4-57499

materials testing, simulation of stress induced sound emission by means of an instrument having pseudostochastic signal generation (*German*) 4-30867

metal matrix composites, nondestructive inspection and evaluation techniques, review 4-30902

metals, laser pulse interaction mechanism 4-51415

metals, polycrystalline, acoustic emission in deform. 4-51765

miniature optical acoustic emission transducer 4-27580

moving sources, heat and momentum, nonuniform gaseous medium 4-15056

NDE, conf., San Diego CA, USA (Aug. 1982) 4-22525

NDT with acoustic emission 4-51909

non-ceramic insulators for HV transmission lines, AE 4-57517

nonconducting liquids, pulse method for determ. critical parameters 4-39440

nondestructive testing (*Japanese*) 4-57500

nuclear power plant vessel integrity and equipment monitoring 4-23319

particles, acoustic emission analysis of size distribution and shape 4-48084

pattern recognition and acoustic emission 4-26142

plastic deformation kinetics, use of acoustic interferograms 4-57493

pressure vessel hydraulic testing, acoustic emission source location, cluster anal. 4-23263

PWR, material integrity, acoustic emission technique appl. 4-23318

refined air, steady discharge elec. breakdown, electrode elastic wave excitation 4-44880

recovery boilers, leak detection by acoustic emission 4-49640

rod shaped samples, inverse problem in acoustic emission signals 4-49599

shape-memory alloy, AE energy release during phase transitions, theoretical model for evaluation 4-57226

short elastic pulse excitation by capacitive method 4-3355

signal evaluation, rise time effect of dynamic source 4-41152

simulated sources, comparison 4-49611

snow avalanches, acoustic emission study 4-22023

solid half-space, sound generation by penetrating radiation 4-20295

source coordinates determination by spectral components of signal 4-30880

steel, acoustic emission source coordinates determination by spectral components of signal 4-30880

steel, austenitic stainless, martensitic transform. propag. vel., acoustic emission freq. spectrum anal. 4-46506

steel, Cr-Mo-V, acoustic emission from pop-in cracking and elastic-plastic fracture toughness 4-3345

steel, defect localisation and grading in welded structures, AE obs. (*Italian*) 4-12308

steel, fatigue crack propag., acoustic emission signal rel. to load 4-16605

steel, fracture surface, flake form. mechanism (*Chinese*) 4-3204

steel, HSLA, H induced cracking, acoustic emission rel. to grain size 4-16550

structural integrity evaluation by acoustic emission and fracture mechanics techniques 4-3344

structural materials, strength, acoustic inspection methods, review 4-51937

thermoacoustic nondestructive imaging induced by deeply penetrating radiation 4-35823

US Int. 1983, Halifax, Canada (July 1983) 4-53352

US materials testing, acoustic emission, far-field signals from axis-symmetric sources in elastic plates 4-51947

water, laser irradi., nonlinear photoacoustic effect 4-50441

waveforms classification with autoregressive models 4-35826

welded piping systems, acoustic emission method for diagnosing defects 4-12272

Al alloy plate, fretting acoustic emission, source identification by pattern recognition 4-26169

Al alloys, laser-induced phase transition, US excitation 4-29473

Al simulated joint specimens, acoustic emission data, pattern recognition anal. 4-30888

Al, tensile deformation, acoustic emission response (*Slovak*) 4-46570

Al/Cu conductors for ICs, electromigration induced extrusion, acoustic emission study 4-50593

Al-Cu-Mg, fatigue crack propag. acoustic emission 4-21309

Al-Mg, acoustic emission during non-homogeneous flow 4-3197

Al-Mg-Si, acoustic emission during fatigue crack propag. 4-57312

Al₂O₃, acoustic emission testing of plasma sprayed coatings 4-21414

C fibre reinforced epoxy laminates, failure, edge stresses effect 4-26037

C fibre reinforced plastics, dynamic testing, damage growth, acoustic emission (*German*) 4-51924

Cu, polycrystalline, acoustic emission in deform. 4-51765

Cu-Co, tensile deformation, precipitating stages, acoustic emission obs. (*Japanese*) 4-26005

Cu-Zn-Al, acoustic emission during partial martensitic transform. (*French*) 4-40782

Cu₇₁Zn₁₇Al₇, B₁' martensite, polycryst., thermal memory effects obs. in acoustic emission 4-21207

Fe, Armcu, polycrystalline, acoustic emission in deform. 4-51765

Fe, laser-induced phase transition, US excitation 4-29473

Fe-Cr alloy, AE during martensitic transformation 4-57227

Fe-V, σ phase form. mechanisms, elec. resist., acoustic emission obs. (*Japanese*) 4-25953

acoustic emission continued

- KBr(Cl) X-irrad. crystals, acoustic and photon emissions during mech. deform. 4-34586
- Mo, acoustic emission testing of plasma sprayed coatings 4-21414
- NaCl X-irrad. crystals, acoustic and photon emissions during mech. deform. 4-34586
- Si, amorphous, laser-annealing, acoustic signals obs. 4-11181
- SiO₂-Al₂O₃-K₂O-Na₂O electroceramics, acoustic emission during cyclic loading 4-41129
- Ti alloys acoustic emission, source coordinates determination by spectral components of signal 4-30880
- TiN sputtered film strength evaluation by stress wave emission 4-26122
- (YSmCa)₃(FeGe)₃O₁₂ films, ion implantation, acoustic emission 4-2796
- Zn, polycrystalline, acoustic emission in deform. 4-51765

acoustic equipment

- see also acoustic arrays; acoustic wave interferometers; ultrasonic equipment*
- bolt-clamped Langevin type vibrator, large amplitude characts. 4-55294
- downhole acoustic sensing, high-temp. prototype device 4-17314
- fisheries acoustic survey sensitivity 4-55263
- intermodulated photoacoustic spectroscopy, appl. to IR Doppler-free spectroscopy of simple mols. 4-37208
- metal powder compaction by ultrasonic vibr. press. 4-57133
- multichannel high freq. subbottom profiler 4-55264
- sonar for ocean subbottom targets anal. 4-22139

acoustic field

- cavitation threshold depend. on static press. 4-1533
- dispersive media, Green's functions for acoustic fields 4-24282
- electroacoustic modelling of sound fields using sound intensification technique (Polish) 4-28945
- emitter arrangements, sound intensity field (German) 4-19615
- force produced by the acoustic radiation pressure on a sphere 4-1520
- hearing protector evaluation in an audiometric testing room 4-21824
- infinite plane elastic surface, acoustic and struct. fields, fluid loading, compliant coating effects 4-33839
- inverse scatt. problem, uniqueness theorems 4-33829
- layered media, extended sources radiation and wave propagation 4-5754
- loudspeakers, emitted sound field, radiating surface vibr. means by holographic interferometry 4-38683
- nondiffuse sound fields prediction in complex enclosures 4-19665
- nonlinear low-viscosity medium, nonlinear acoustic wave interaction 4-24289
- rectangular enclosure with diffusely reflecting boundaries, sound field 4-33861
- tube, stepped, sound. press. distribution, expt. and numerical, calc. (Japanese) 4-28896
- US field and echoes in fluid, numerical calc. 4-14823
- US fields, code for numerical calculation 4-30895
- US intensity profiles meas. using holographic interferometry 4-24311
- vibroacoustic field reproduction via solution of constrained inverse linear problem 4-33843
- wedge, noise field struct. 4-49618

acoustic generators

- see also earphones; loudspeakers; photoacoustic effect*
- ETM 245 digital reverberator, appl. (Italian) 4-5773
- minicomputer based system for acoustic stimuli synthesis and analysis 4-24310
- monolithic sound generators, for alarm, musical and others sounds generation (Dutch) 4-28952

acoustic holography

- acoustic emission linear pulse holography 4-30889
- acoustic emission linear pulse holography for non-destructive evaluation 4-49625
- data collection without redundancy, transmitter-and receiver-array arrangements 4-24313
- displacement meas. using smoothed coherent transform method of holographic detection 4-22749
- ears, human, sound detect. by acoustic holography 4-31231
- gear unit application of acoustic holography 4-24303
- hologram synthesis method 4-49624
- image reconstruction from acoustical holograms using microprocessors 4-28934
- medical applications of optical processing 4-57976
- motion meas., freq.-domain holographic approach 4-22748
- numerical reconstruction of sources in near zone of receiving aperture 4-19672
- phase conjugation using transmitting hypersound hologram 4-5765
- portable high speed ultrasonic imaging system 4-28935
- reactor pressure vessel, flaw detection, acoustic holographic imaging system 4-41164
- sonar imaging and real-time image reconstruction 4-24293
- US inverse source and scattering problems, acoustic holography appl. 4-44267

acoustic imaging

- see also acoustic holography*
- cylindrical space US imaging 4-55293
- digital US imaging and appl. to skeletal tissue 4-57973
- fast reactor, ultrasonic component visualisation 4-54346
- ferroelastic domains, scanning reflection acoustic microscopy study 4-24896
- flaw depth profiles, determ. using acoustic images 4-46728
- hand model, human, acoustical imaging using pulsed microwave irrad. 4-31301
- human tissue, US impedance profiling 4-52414
- lenses, solid-liquid, low-aberration operation, theory 4-28946
- materials characterisation by acoustic microscope, Fourier transform approach 4-28943
- medical and industrial appl., technical and economic problems 4-21807
- medical US, analytical techniques of tissue characterisation and image anal. 4-57974
- medicine, high resolution US imaging by controlled averaging of back-scatt. signals 4-41596
- NDE, conf., San Diego CA, USA (Aug. 1982) 4-22525
- NDE US imaging, high resolution model reconstruction 4-44323
- photoacoustic imaging by laser beam irrad. for subsurface struct. obs. 4-24312
- pressure field backpropagation method for object shape reconstruction from sound-diff. pattern 4-19667
- Rayleigh wave velocity perturbation, precision meas. 4-44324

acoustic imaging continued

- subsurface broadband acoustic microscopy of solids using aperture lenses 4-46729
- thermoacoustic nondestructive imaging induced by deeply penetrating radiation 4-35823
- ultrasonic imaging, surface mapping correction using synthetic-aperture focusing technique 4-24316
- ultrasonic microscope 4-33867
- ultrasound visualisation, quantitative real-time schlieren system 4-44318
- underwater tracking and imaging of a sound source using ultrasonics 4-55262
- US B-scan images, speckle, computer simulations 4-41600
- US field patterns of pulsed; focused radiators, freq. domain methods 4-33835
- US imaging, synthetic aperture focusing, transverse and longitudinal resolution 4-19671
- US imaging of nonlinear B/A parameter of medium 4-41598
- US inverse source and scattering problems, US imaging appl. 4-44267
- US phased array imaging, electronic sector scanning, delay system 4-44313
- US projector, radiated pressure, computer control 4-49643
- US sector-scan imaging, resolution enhancement using homomorphic transform and deconvolution 4-33864
- US synthetic aperture imaging for nondestructive testing 4-24315
- C fibre reinforced C, 3D, acoustic imaging of billets 4-3335

acoustic impedance

- see also acoustic wave velocity*
- cylindrical elastic bodies, inhomogeneous, radially layered, vibroacoustical characteristics 4-28916
- duct, cylindrical, acoustic wave propag., transmission line parameter approx. 4-33833
- duct, cylindrical, thick-wall, hot gas exhaust, radiation impedance calc. 4-33834
- effective flow resistivity of ground surfaces determined by acoustical measurements 4-5768
- finite length duct, sound propag. and radiation for spinning source 4-49598
- ground, acoustic impedance calc. for spherical wave (French) 4-19643
- human tissue, US impedance profiling 4-52414
- hydroacoustic impedance measurements of large area samples, 30 to 200 kHz 4-49608
- impulse reflection for acoustic impedance determ. near ground 4-44277
- monograph for calculating specific acoustic impedance (Chinese) 4-10484
- radiation from vibrating surface at characteristic freq. 4-44274
- three-dimensional acoustic impedance profile reconstruction 4-33841
- tube, narrow, acoustic propag., effective densities and resistivities, finite element anal. 4-38647
- ³He, superfluid, zero sound meas. in A- and B-phases 4-6600
- ³He, superfluid B phase, order parameter collective modes, acoustic impedance study 4-11365
- ³He, superfluid B-phase, collective mode probing with zero sound 4-6592
- ⁴He, liquid, transverse acoustic impedance meas. 4-56110

acoustic insulating materials *see noise abatement***acoustic intensity**

- see also acoustic noise; loudness*
- acoustic wave propagation, random field of internal waves, expt. and theoretical anal. 4-49609
- fluctuations, Cobb expt. anal. 4-14835
- fluctuations calc. for randomly inhomogeneous medium 4-14834
- interfering monopoles, nearfield intensity 4-5749
- wire fabricating machine, noise meas. 4-10516

acoustic intensity measurement

- acoustic levitation, appl. for high power sound field meas. 4-44310
- cross-spectral density method, stochastic anal. 4-19685
- hearing protector evaluation in an audiometric testing room 4-21824
- meter for sound power determ. (Chinese) 4-1558
- motor/pump assembly, sound power determination using sound intensity measurement 4-55290
- power measurements, use of corner microphones in a reverberation chamber 4-19686
- probe earold system for measuring eardrum SPL under hearing-aid conditions 4-52412
- sound insulation meas. for building facades, microphone locations 4-44296
- sound level meters, differences in IEC and ANSI standards 4-28940
- sound level meters integration, design principles 4-28941
- statistical errors anal. 4-1560
- two-microphone technique, interference effects 4-38677
- US intensity profiles meas. using holographic interferometry 4-24311
- US power meter, diaphragm type strain gauge, using radiation press. meas. 4-49636

acoustic magnetic resonance

- see also acoustic nuclear magnetic resonance; acoustic paramagnetic resonance*
- YIG, acoustic FMR and nonlinear magnetoelastic props. 4-51138

acoustic measurements *see acoustic variables measurement***acoustic microscopes**

- alloys, photoacoustic microscopy fatigue crack detection 4-35822
- dielectrics, characterisation by acoustic microscopy (Japanese) 4-1563
- dislocation lines, acoustic contrast calc. for isotropic medium 4-6373
- ELSAM, applic. in materials science 4-41149
- ELSAM scanning microscope arrangement and use 4-1561
- ferroelastic domains, scanning reflection acoustic microscopy study 4-24896
- liquid surface props. studied with Rayleigh angle incidence 4-49639
- materials characterisation by acoustic microscope, Fourier transform approach 4-28943
- microstructure analysis, metals and alloys 4-46680
- optoelectronic materials, defects study by scanning acoustic microscopy 4-6361
- precision instrument for surface characterisation 4-49638
- Rayleigh wave velocity perturbation, precision meas. 4-44324
- reflection acoustic microscopy, Rayleigh wave suppression using acoustic lens:transducer 4-10513
- reflection acoustic microscopy for thick specimens 4-33872
- reflection acoustic microscopy used for elastic profiles meas. of optical fibres 4-10433
- SAW material attenuation, nondestructive meas. using acoustic microscope 4-19682

acoustic microscopes continued

- scanning acoustic interference microscope with wedge delay line, design and vel. meas. appl. 4-38678
- scanning acoustic microscope contrast, elastic anisotropy effect 4-44317
- scanning acoustic microscope for nonplanar surface characterisation 4-33873
- scanning acoustic microscopy, acoustic material signatures technique 4-49637
- scanning electron acoustic microscopy 4-33882
- scanning electron acoustic microscopy techniques 4-33885
- semicond. defects, anal. using acoustic microscopy technique (French) 4-14862
- semiconductor devices and materials, aspects of scanning acoustic microscopy imaging 4-33886
- subsurface broadband acoustic microscopy of solids using aperture lenses 4-46729
- thermal-wave microscopy, surface and subsurface features imaging 4-3369
- US attenuation, acoustic microscopy 4-38679
- US Int. 1983, Halifax, Canada (July 1983) 4-53352
- water acoustic microscopy at suboptical wavelengths 4-19675
- $\text{Al}_2\text{O}_3\text{-Na}_2\text{O}$, β and β'' phases, cracks and other defects, acoustic, optical and electron microscopy studies 4-34575
- Ti alloys, microstruct. characterisation by acoustic microscopy 4-21408

acoustic microwave devices

- see also *acoustic transducers; surface acoustic wave devices*
- bulk acoustic wave microwave convolution device 4-28933
- AIN film on GaAs, 1.0 GHz bulk acoustic wave resonator 4-1566

acoustic mode of crystals see *lattice dynamics***acoustic noise**

- aerodynamic noise in moving media, high freq. Green function 4-28921
- aerodynamic noise in spreading jet, high freq. Green function 4-28922
- airborne US noise, loudness 4-52364
- airport noise, survey of community attitudes 4-21605
- airport noise monitoring 4-21604
- Arctic Ocean, background noise due to pack ice ridging 4-47280
- Atlantic deep water, infrasonic ambient noise meas. 4-47281
- audition of noise, loudness, annoyance and noisiness growth rates determ. 4-36134
- auditory function, temporary effect of noise in man 4-26461
- auditory intensity discrimination at high freqs. in presence of noise 4-3568
- auditory speech reception threshold in noise, clinical meas. 4-52363
- brainstem auditory evoked response, human, effect of broadband noise 4-12597
- brainstem auditory evoked response, human, effect of broadband noise 4-12598
- bubbly water flow, impulsive noise generation (Japanese) 4-38663
- building elements, sound radiation, scale model investigation 4-19663
- chamber muffler design 4-1544
- composite noise, specific noise identification, probabilistic theory (Japanese) 4-44292
- construction site noise, legislation and test standards, review 4-26343
- cylinders, sound induced by vortex shedding, review 4-44558
- cylindrical elements, un baffled, axial oscillations, noise generation, analytical model 4-33860
- cylindrical sound wave diff. by absorbent semi-infinite plane, mixed boundary value problem soln. 4-55253
- domestic air-to-water heat pumps, noise criteria 4-26340
- duct, hydrodynamic, sound generation by turbulent flow 4-29078
- ear protection in noisy environments 4-10493
- effect on human beings (Hungarian) 4-21728
- electrically driven heat pumps noise and vibration of residential systems (German) 4-44287
- environmental noise, personal noise exposure during daily life, reactions anal. (Japanese) 4-16822
- environmental noise, statistical generalization theory (Japanese) 4-16823
- environmental noise forecasting methods (French) 4-12510
- fluctuating noise, annoyance levels, influence of temporal factors 4-19654
- fluid, bubbling, boiling, gas content and temp. effect on acoustics 4-29158
- furnaces, electric arc generated acoustic noise 4-24680
- hearing, temporary threshold shift after exposure to predicted and unpredicted noise 4-26455
- hearing, temporary threshold shifts induced by white noise (Japanese) 4-47010
- heat pumps, small, for houses, noise sources 4-14840
- helicopter and tracked vehicle, under ice measurements 4-55270
- helicopter rotor, circulation control, acoustics 4-38655
- industrial buildings, noise emission forecasting 4-46923
- industrial noise, sound press. weighting and hearing damage (German) 4-28919
- industrial workshops, noise level prediction by geometric acoustics (French) 4-12513
- interior and exterior predictional acoustics, balance sheet anal. (French) 4-5762
- internal combustion engines, noise source identification 4-14842
- inverted profile jets, noise and flow field, forward flight effects 4-49617
- jet, annular, vortices and pressure intensities meas. 4-38856
- machines, fault diagnosis by vibr. noise (Chinese) 4-55269
- marine propeller noise in cavitation tunnel (Chinese) 4-44557
- meteorological sodar, optimum freq. calcs. 4-47453
- monaural and binaural detection, effect of random intensity fluctuation 4-12596
- motor vehicle sound level reduction due to repair of defective exhaust systems 4-14839
- noise event number effect on human reactions 4-44288
- noisemaking toys, meas. and appl. in infant hearing assessment 4-41532
- ocean, shallow water, origin of wind dependent ambient noise var. 4-33856
- offshore drilling facility, noise control 4-14841
- oral communication, noise interference 4-1553
- NE Pacific Ocean, distant storm noise and local wind noise at 165 Hz 4-17170
- panels, discretely stiffened, curved, noise transmission into semicylindrical enclosures 4-44291
- passive noise control, acoustic absorption and attenuation, materials (Spanish) 4-19658
- personal noise exposure, survey (Japanese) 4-46922
- planar rectangular array, near-field noise immunity 4-19660

acoustic noise continued

- production by vortex-body interaction (Japanese) 4-34109
 - Prop-Fan cabin noise shielding by fuselage boundary layer 4-44290
 - pure tones, temporal partial masking by broadband noise (German) 4-38670
 - radiation from viscoelastic beam impacted by a steel sphere 4-33859
 - rail traffic, sound levels as a function of speed for Spanish trains 4-57811
 - road and rail traffic noise, forecasting methods (French) 4-12508
 - road noise, computer models for noise prediction (French) 4-12509
 - road traffic, noise level and vehicle number effects on annoyance factor for humans 4-3512
 - road traffic noise, prediction using filtered Poisson process model (Japanese) 4-46921
 - road traffic noise, reflection from facades, theory 4-3513
 - road traffic noise, sound propagation model 4-26344
 - road vehicle noise, models 4-31145
 - sentence identification in noise and hearing-handicap questionnaires 4-26460
 - sentence intelligibility in quiet and noise in aged listeners 4-10508
 - shipping lanes, spatial coherence in semicircular noise fields 4-5756
 - shipyard workers, hearing deterioration, serial audiometry over 4 years 4-26459
 - signal detection in nearly Gaussian skewed noise 4-14847
 - sound power determ. from labelling machine 4-10494
 - n-source active attenuator arrays for noise in ducts 4-5763
 - speech perception in noise, test standardisation 4-57911
 - structural noise generating mechanisms, multiple input model and expt. modal anal. 4-38657
 - submerged jets, micro-bubbles, turbulent press. fluctuations, cavitation, noise generation 4-1793
 - supercritical airfoil data, edge-tone noise suppression 4-28920
 - superposition of lower slopes of masking patterns produced by narrow band sounds (German) 4-38671
 - supersonic jet screech tone cancellation 4-29121
 - suppression possibilities (Italian) 4-28928
 - temporal gap resolution in narrow-band noises 4-47007
 - thermal power stations, noise forecasting (French) 4-12511
 - traffic noise, effects on quality of sleep 4-44289
 - traffic noise, prediction method 4-26341
 - traffic noise effects on speech intelligibility for normal listeners and impaired hearing listeners 4-1554
 - turbomachinery, axial-flow, acoustic noise power, phase variations effects 4-24300
 - turbulence, sound generation near an elastic wall 4-1711
 - turbulent fluctuations, zero-crossing frequency, shear flow 4-34053
 - underwater arrays, convective flow noise, elastic cylinders model 4-33855
 - underwater sound in Arctic Ocean, contrib. of noise from local earthquakes 4-58198
 - viscous liq., stenosed elastic tube, unsteady flow with attenuation 4-24408
 - weaving workshops, noise level forecasting (French) 4-12512
 - wedge, noise field struct. 4-49618
 - workers, noise-exposed, acoustic neuroma identification 4-26456
 - CdS, stimulated light scatt. controlled by Franz-Keldysh effect 4-24091
- acoustic noise measurement**
- aircraft noise monitoring at airports 4-7913
 - calibrator for noise dosimeters 4-1557
 - contacting surface acoustic charact. exam., anechoic chamber design 4-10514
 - dwellings exposed to road traffic noise, noise levels, behaviour patterns 4-38668
 - employee noise exposure monitoring, data acquisition and instrumentation 4-19688
 - environmental noise meas., using instrumentation mechanism with stochastic input 4-3516
 - FFT spectrum analyzers appl. 4-5771
 - inverted profile jets, noise and flow field, forward flight effects 4-49617
 - occupational noise measurement standard ISO/DIS 1999 4-41405
 - sea, ambient noise vertical directionality measurements, interference, eigenvalue anal. 4-58199
 - sound distortions meas. using Gilbert demodulator (Russian) 4-14863
 - sound insulation meas. for building facades, microphone locations 4-44296
 - sound insulation test, choice of freq. weightings and reverberation time correction 4-3511
 - wire fabricating machine, noise meas. 4-10516
- acoustic nuclear magnetic resonance**
- $\text{Nb}_2\text{V}_2\text{-H}$ single cryst., NMR and acoustic NMR studies 4-51149
 - Ta, nuclear acoustic reson., SQUID detection of acoustomag. effects 4-30312
 - TaHx, acoustic NMR study, hydride precipitation 4-30299
 - V, electron-phonon interaction, long wavelength, nucl. acoustic reson. study 4-25644
- acoustic paramagnetic resonance**
- EPR, detection using pulsed microwave acoustic technique 4-37138
 - paramagnetic liquid, relaxation attenuation and dispersion of sound (Russian) 4-34583
 - GaAs:Cr²⁺, electronic and Jahn-Teller parameters, APR spectrum 4-16089
- acoustic parametric amplifiers**
- No entries
- acoustic parametric devices**
- see also *acoustic parametric amplifiers; acoustic parametric oscillators*
 - audio signalling system for selective communication in air 4-49642
 - radiators in shallow sea, theory 4-28910
 - sound receiver with controllable directivity pattern 4-1562
 - transducers, parametric and linear acoustic nearfields 4-55302
- acoustic parametric oscillators**
- sound radiator, near field studies 4-19642
- acoustic radiators**
- see also *acoustic generators; Doppler effect*
 - aerial ultrasound source by stepped circular vibrating plate for high power US 4-24324
 - beams, point-forced elastic, acoustic radiation, acoustic power 4-33840
 - circular arrays, radiation resistance and radiated power determ. (Chinese) 4-55298
 - circular radiators, surface acoustic press. (German) 4-38646
 - cylinder, fluid-loaded, with doubly periodic ring supports, acoustic radiation 4-55249

- acoustic radiators** continued
 double-plate structures, periodically connected, sound radiation calc. 4-1518
 flexural vibrating plate radiators for directional sonic and ultrasonic radiation generation 4-49644
 loudspeakers, emitted sound field, radiating surface vibr. means by holographic interferometry 4-38683
 parametric, near field studies 4-19642
 parametric radiator, characteristics near reflecting boundary 4-1534
 parametric sound radiators in shallow sea, theory 4-28910
 piston radiator, pulsed, sound field, wave-front dislocations 4-55250
 plates, fluid-loaded, low freq. acoustic radiation and vibr. response 4-19651
 spherical cap, shallow, acoustic radiation, geometrical aspects 4-19628
 US field and echoes in fluid, numerical calc. 4-14823
 US field patterns of pulsed, focused radiators, freq. domain methods 4-33835
- acoustic reactance** *see* **acoustic impedance**
- acoustic receivers**
see also **microphones**
 parametric sound receiver with controllable directivity pattern 4-1562
- acoustic resistance** *see* **acoustic impedance**
- acoustic resonators**
 cylindrical resonator, excited acoustic wave, formation of discontinuities 4-10490
 flow excited resonance, flow acoustic interaction anal. 4-19847
 fossil power plant draught centrifugal fan noise reduction by quarter-wavelength acoustic resonator 4-36053
 modulation of sound by sound 4-1535
 nonlinear resonator, small forced oscils. 4-14828
 piezoelectric resonance transducers with acoustic sensors (*Russian*) 4-24332
 tuning fork resonator, closed type, spectral characts. (*Russian*) 4-49612
 US resonator, appl. for US absorpt. meas. in liquids using light diff. 4-19687
 vibration sensor design for electronic acoustic leak detector (*Russian*) 4-49613
 AlN film on GaAs, 1.0 GHz bulk acoustic wave resonator 4-1566
 LiTaO₃ SAW resonator, freq. accuracy meas. 4-19680
- acoustic signal processing**
 array phasing method-use in spatial processing system 4-1551
 backscattered amplitude, inversion technique for target shape determ. (*French*) 4-55279
 beamforming, Chebyshev complex function approx. 4-19670
 beamforming transducer arrays, signal processing aspects 4-35849
 bulk acoustic wave microwave convolution device 4-28933
 coarse grained materials, NDT, signal averaging methods 4-12284
 composite materials, US testing, wideband spectral anal. 4-51950
 constructing an imaging operator to enhance resolution 4-44301
 diagnostic US signal processing 4-49622
 digital audio signal processing and transmission, parameters (*Hungarian*) 4-55275
 digital instruments appl. (*Hungarian*) 4-55276
 digital recording and signal processing systems for hydrophone arrays 4-49623
 FFT, 8-bit fixed point calculation and round-off error (*Japanese*) 4-55274
 FM acoustic wave systems, demodulated signals, freq. characteristics effects 4-14846
 high resolution array processing using eigensystem approach, optimality 4-44298
 high-resolution beamforming with oversampled arrays 4-10498
 holographic sonar imaging and real-time image reconstruction 4-24293
 inclusions ultrasonic 3-D reconstruction using inverse Born algorithm 4-35821
 infrasonic signal, dynamic spectral anal. with Hilbert transform (*Chinese*) 4-55273
 intensity measurements, cross-spectral density method, stochastic anal. 4-19685
 lexicon access using phonetic features 4-33866
 linear and sign detectors, signal detection in nearly Gaussian skewed noise 4-14847
 machine analysis appl. 4-28932
 medical diagnostic echographic B-scan systems, interaction between transducers and signal processing (*Italian*) 4-12648
 NDT of multilayered structure, US signal processing methods 4-35843
 neural counting model of auditory system applied to response of individual neural fibres 4-41535
 nonstationarity tests 4-44300
 orthopaedic surgery, appl. 4-38669
 passive source localization from spatially correlated angle-of-arrival data 4-19668
 pressure field backpropagation method for object shape reconstruction from sound-diff. pattern 4-19667
 ranging, time-delay measurement errors modeling using generalised β -density function 4-33863
 real-time signal processing in US imaging system 4-35840
 resampling anal. 4-19666
 SAW devices, spurious signal elimination 4-24318
 SAW filters, CS-method of compensating for diffraction distortions 4-28957
 shear wave transducer array for real-time digital synthetic aperture imaging system 4-35841
 sonar signals, acousto-optical beamformer 4-38656
 SONAR transmitter motion analysis using reverberation 4-33857
 sound signals, 16 bit adaptive transform coder for real time processing 4-33865
 spatial processing of sound, general model, C music sound synthesis 4-8019
 speech recognition of Korean using band pass filters based on FFT 4-24305
 speech synthesis and audibility meas. using digital signal processing (*Hungarian*) 4-55277
 audiotechnics digital signal processing (*Hungarian*) 4-55278
 sub-array, effect of placement uncertainty on passive ranging accuracy 4-44299
 synthetic acoustic well logging waveforms, arrays, computation and source design 4-19669
 time delay estimation using coherence, adaptive approach 4-44302
- acoustic signal processing** continued
 underwater acoustic detection, sequential hypothesis testing, optimal stopping problem 4-55258
 underwater acoustics, pattern recognition processing appl. 4-28909
 underwater acoustics, signal-to-noise ratio losses due to OR-ing 4-14848
 underwater acoustics system analysis, book 4-36832
 uniform line array, approx. maximum entropy method 4-10499
 US attenuation estimation by spectral smoothing of backscattered echo signals 4-49635
 US attenuation imaging, aperture diff. theory, computerised tomography 4-8058
 US imaging, synthetic aperture focusing, transverse and longitudinal resolution 4-19671
 US materials testing, acoustic emission, far-field signals from axis-symmetric sources in elastic plates 4-51947
 US phase delay measurement for residual stress determ., Fourier transform 4-51949
 US phased array imaging, electronic sector scanning, delay system 4-44313
 US piezoelectric multilayer transducers for ultrasonic pulse compression 4-44331
 US sector-scan imaging, resolution enhancement using homomorphic transform and deconvolution 4-33864
 US signal analyser for automatic inspection of turbine discs 4-51945
- acoustic streaming**
 plate, oscillatory flow, acoustic streaming 4-33846
 waveguide with slowly varying height, acoustic streaming 4-33845
- acoustic superradiance**
 No entries
- acoustic surface wave devices** *see* **surface acoustic wave devices**
- acoustic surface waves** *see* **surface acoustic waves**
- acoustic transducers**
see also **acoustoelectric transducers**; **ultrasonic transducers**
 array for medical imaging 4-12653
 arrays, acoustic beamforming, Chebyshev complex function approx. 4-19670
 broadband acoustic transmissions generation 4-55303
 disc shaped piston type, elastic wave excitation and reception in solid layer 4-3352
 displacement transducer system, cardiac research appl. 4-21868
 fibre optic acoustic sensors, interferometer arrangements 4-19696
 flexural vibrating plate radiators for directional sonic and ultrasonic radiation generation 4-49644
 HP 77020A ultrasound imaging system, acoustic transducer array 4-12654
 HP 77020A ultrasound imaging system, scan conversion algorithm for displaying ultrasound images 4-12656
 inverse propagation for acoustic transducer characterization 4-19619
 line spectrum detectors, signal and background noise amplitude fluctuation effects (*Chinese*) 4-55285
 metallic glass piezomagnetic transducers, mag. boundary conditions 4-20843
 miniature optical acoustic emission transducer 4-27580
 parametric and linear acoustic nearfields 4-55302
 phase response modifications, determ. of best acoustic position 4-55306
 photoacoustic laser beam monitoring device 4-24331
 piezoelectric resonance transducers with acoustic sensors (*Russian*) 4-24332
 position compensator for acoustic instrument transducer (*Russian*) 4-44328
 SAW comb transducers, theoretical anal. 4-19692
 SAW devices, intertransducer distances influence (*Chinese*) 4-55299
 SAW interdigital transducers, low reflectivity, fabrication and metallisation 4-19690
 SAW transducers using ferroelec. ceramic wedge with planar shear-wave transducer 4-24329
 SAW unidirectional transducers, insertion loss and triplet transit echo 4-19693
 Sell principle, burst generator control (*German*) 4-14868
 sonic oscillator, output load effects on oscillations (*Japanese*) 4-28960
 underwater sound transducers, calibration techniques for far field, near-field and closed environment conditions 4-14864
 LiNbO₃, SiO₂ covered, electromech. coupling const. of SAW and SAW transducers formation 4-20451
- acoustic variables control**
see also **noise abatement**
 vibroacoustic field reproduction via solution of constrained inverse linear problem 4-33843
- acoustic variables measurement**
see also **acoustic intensity measurement**; **acoustic noise measurement**; **acoustic wave velocity measurement**; **ultrasonic measurement**
 absorption and transmission measurement of structures in situ by transitory method (*French*) 4-10512
 absorption coeff., meas., effect of reverberation room vol. 4-38676
 atmospheric infrasounds and subsonic disturbances meas. using microbarograph 4-22122
 attenuation const. meas. for steel plate floating on water surface 4-14858
 building components, laboratory airborne sound insulation determinations, variance anal. 4-19656
 bulk materials, acoustic props. meas. techniques 4-19684
 coherent sinusoidal signals, phase difference and amplitude ratio, precise meas. 4-55287
 cylinders, circular, induced mass meas. and hydrodynamic theory 4-37072
 digital instruments appl. (*Hungarian*) 4-55276
 ETM 245 digital reverberator, appl. (*Italian*) 4-5773
 external cavity diode laser sensor apps. 4-33705
 fibre sensors development and appl. (*Czech*) 4-244
 free decay of acoustical standing waves meas., in resonant tube, computerised system 4-33881
 halls, acoustic absorpt. coeffs. meas., diffusing elements areas effects (*German*) 4-49620
 headphones, electro-acoustical parameters meas. techniques (*Russian*) 4-44320
 hydroacoustic impedance measurements of large area samples, 30 to 200 kHz 4-49608
 integrated acoustic sensor, using piezoelectric ZnO layer on Si 4-53668
 internal combustion engines, noise source identification 4-14842
 JBL's central array design program 4-19676
 KTI system of sound absorbing barrier, experimental results 4-28927

acoustic variables measurement continued

- microphones in sound reinforcement system, gain calculation and meas. 4-49629
- motor vehicle sound level reduction due to repair of defective exhaust systems 4-14839
- nonlinearity parameter B/A determ. from phase measurements 4-19638
- offshore drilling facility, noise control 4-14841
- pitch estimation for noisy speech, autocorrelation method 4-55280
- quartz resonators fabricated from high purity material, acoustic loss meas. 4-20236
- rooms, reverberant, acoustic absorption measurement techniques 4-14844
- signal detection in nearly Gaussian skewed noise 4-14847
- sound signal quasi-peak meters, design (*Russian*) 4-10515
- transducers, acoustic parameter meas. by laser probe method 4-44319
- vibrations, FFT spectrum analyzers 4-5771

acoustic velocity see acoustic wave velocity**acoustic wave absorption**

- see also noise abatement; ultrasonic absorption*
- atmospheric fog, sound dispersion and absorption 4-3812
- barrier use in noise control, sound attenuation results (*Japanese*) 4-14843
- chalcogenide glasses, photodarkening mechanisms, bonding dynamics 4-46208
- ducts, sound attenuation analysis in duct with a solid and porous filter 4-33838
- elastomers, perforated, dynamic props., matrix viscosity and cavity-size distribution effects 4-35651
- ferroelectrics, hydrogen-bonded, pseudospin-phonon coupling, role of central peak in sound absorption (*Russian*) 4-34600
- fluids, relax. processes in sound propag., historical survey, book contrib. 4-19636
- forests, sound attenuation 4-36052
- free decay of acoustical standing waves meas., in resonant tube, computerised system 4-33881
- glass, acoustic props. at low temps. 4-55928
- glass, dielectric, nonresonant absorpt. of acoustic and EM waves, quantum theory 4-2275
- halls, acoustic absorpt. coeffs. meas., diffusing elements areas effects (*German*) 4-49620
- heterogeneous catalysis interfacial sound modes, dispersion relation 4-31022
- insulators, impurity containing, longitudinal acoustic wave absorption, temp. depend. 4-34593
- kaolin suspensions, conc., sound wave propag. (*Chinese*) 4-1530
- lateral waves in absorbing media 4-1523
- liquids, acoustic vel. meas. at multi-freq. points within few milliseconds 4-14852
- measurement of structures in situ by transitory method (*French*) 4-10512
- monograph for calculating specific acoustic impedance (*Chinese*) 4-10484
- one-dimensional conductor, sound attenuation theory 4-50875
- NE Pacific Ocean, low freq. acoustic attenuation in subarctic transition zone 4-21974
- piezoelectric and heterogeneous semicond. thin films, surface acoustic wave absorpt. 4-39656
- residual strain exam. by acoustic signal attenuation 4-30914
- review of M.A. Leontovich's researches in optics and acoustics 4-32016
- room acoustics, sound decay curves and absorption distribution 4-1550
- rooms, optimal corrective absorpt., computer-aided procedure 4-1547
- rooms, reverberant, acoustic absorption measurement techniques 4-14844
- rough surfaces, perturbation method calc. 4-24280
- SAW convolver waveguide loss, laser probing 4-24319
- SAW material attenuation, nondestructive meas. using acoustic microscope 4-19682
- sea water, acoustic absorpt. of low freq. resonant waves (*French*) 4-5757
- steel plate floating on water surface, attenuation const. meas. 4-14858
- substance with weakly bound atoms, nonlinear optical and acoustic absorpt. 4-38520
- superconductor, pure, multiphonon generation of excitations by longitudinal sound pulse (*Russian*) 4-25479
- tube, narrow, acoustic propag., effective densities and resistivities, finite element anal. 4-38647
- viscous liq., stenosed elastic tube, unsteady flow with attenuation 4-24408
- CdS, acoustoelectronic electrification effect 4-15921
- ⁴He, superfluid, first sound absorption and vel. at high and low press. (*Russian*) 4-56109
- KTaO₃-Li crystals, ferroelec. phase transition, acoustic and dielec. props. 4-35380
- MgSO₄-HCl(H₂SO₄) aq. mixtures, acoustic absorpt., H⁺ ion conc. effects meas. 4-29530
- SbCl₃, Brillouin scatt. and acoustic anomalies 4-40465
- SrTiO₃ surface layers, acoustical study of phase transition 4-46198

acoustic wave amplification

- see also acoustoelectric effects*
- FFT analyser to narrow information gap 4-55284
- isotropic media, electroinduced anisotropy of acoustical props. 4-55265
- Love waves in semiconductor-piezoelectric periodically layered active medium 4-29759
- piezoelectric semiconductor film, amplification of eigenmode acoustic waves 4-29757
- sound reinforcement using microphones 4-55296

acoustic wave attenuation see acoustic dispersion; acoustic wave absorption; acoustic wave scattering; acoustic wave transmission; ultrasonic absorption**acoustic wave diffraction**

- see also ultrasonic diffraction*
- barrier insertion loss in presence of ground 4-5750
- barrier insertion loss in presence of the ground 4-5751
- Brillouin scattering in Bragg region, two-dimens. model, acoustic diff. effects 4-49266
- cylinders and spheres, near field diff. patterns calc. 4-55247
- cylindrical sound wave diff. by absorbent semi-infinite plane, mixed boundary value problem soln. 4-55253
- filter, charact., SAW diffraction effect, evaluation and reduction 4-28905
- gratings, extreme nearfield calc. 4-19624
- inhomogeneous solid medium, strain wave diff. by line crack 4-19634
- inverse problem, conf., Paris, France (Jan. 1983) (*French*) 4-53349
- plate reinforced by projecting stiffener ribs, sound radiation 4-19617
- rectangular box, open, sound diff., geometrical theory 4-33832
- SAW filters, CS-method of compensating for diffraction distortions 4-28957

acoustic wave diffraction continued

- shell, elastic, acoustic wave diff. soln. (*Ukrainian*) 4-24275
 - stratified medicine with embedded inhomogeneity, plane wave diff., theory (*French*) 4-55254
 - US attenuation imaging, aperture diff. theory, computerised tomography 4-8058
 - LiNbO₃, SAW harmonic generation, diff. effects 4-45478
- acoustic wave diffusion see acoustic wave scattering**
- acoustic wave effects**
- see also acoustic magnetic resonance; acousto-optical effects; acoustoelectric effects; biological effects of acoustic radiation; sonoluminescence; ultrasonic effects*
 - artificial acoustic activity materials fabrication 4-29541
 - gas bubbles in liq., exciting acoustic pulse interaction, coherent, echo-like phenomenon 4-24291
 - glycerin gas-liq. suspensions, elec. cond., acoustic disturbance effects 4-20386
 - inviscid fluids, thermoacoustic effects and entropy oscillations 4-45269
 - two dimens. turbulent jet, correl. and energy spectra meas., acoustic disturbance interaction 4-10718
 - NaCl electrolyte, elec. cond., acoustic disturbance effects 4-20386
 - TiC, CVD, acoustic wave irradi. effects 4-51524
 - TiN, CVD, acoustic wave irradi. effects 4-51524
- acoustic wave interference**
- see also acoustic wave interferometers; acoustic wave interferometry*
 - periodic surface structure, surface and bulk waves interaction 4-49601
 - supersonic jet screech tone cancellation 4-29121
- acoustic wave interferometers**
- see also acoustic wave interferometry*
 - laser-gas spectrophone measurements with a fiber-optic interferometer 4-43065
 - optical fibre, phase instabilities elimination 4-5772
 - PZT-5A ceramics, 1 MHz fundamental freq., use in fixed path double crystal interferometer 4-44312
- acoustic wave interferometry**
- see also acoustic wave interferometers*
 - bathymetry, appl. of interferometric side-scanning sonar to shallow marine surveying (*German*) 4-26871
 - ears, human, sound detect. by acoustic holography 4-31231
 - liquids, US absorpt. and velocity meas. using US interferometer, theory 4-38675
 - US interferometry for coating thickness meas. 4-27481
 - CS-carbon tetrachloride (chlorobenzene)(nitrobenzene) binary liq. mixtures, US absorption study 4-15589
 - Ni film, polycryst., 9 GHz hypersound phase rel. and attenuation 4-11229
- acoustic wave propagation**
- see also acoustic dispersion; atmospheric acoustics; Doppler effect; liquid helium sound propagation; seismic waves; shock waves; surface acoustic waves; ultrasonic propagation; underwater sound*
 - acoustic activity tensor, symm. props. 4-24284
 - bars, infinite, of arbitrary cross section with circular cylindrical cavity, wave propag. 4-55268
 - borehole, fluid-filled, surrounded by concentric layered transversely isotropic formation 4-19627
 - caustics in geometrical crystal acoustics 4-10486
 - coupled space, acoustics anal. 4-55248
 - crystals, sound propagation, inversion symmetry anal. 4-55926
 - cubic crystals, acoustic activity, theory 4-29539
 - diamagnetic uniaxial cryst. with paramag. impurities, acoustic self-induced transparency 4-29540
 - direct and inverse wave propag. theories and the factorised Helmholtz eqn., path integral representations 4-17704
 - duct, cylindrical, acoustic wave propag., transmission line parameter approx. 4-33833
 - duct, cylindrical, with impedance walls, sound radiation, theory 4-28902
 - ducts, three-dimensional problem, finite element anal. 4-38649
 - ducts sound propagation computation using finite difference method (*Chinese*) 4-49596
 - effective flow resistivity of ground surfaces determined by acoustical measurements 4-5768
 - elastic particles in water, acoustic wave propagation 4-44270
 - elastic spherical structure, multilayered, factorisation interpretation of resonances (*French*) 4-5758
 - elastic wave polarisation control by elec. field creating helical anisotropy 4-1522
 - energy flow for inhomogeneous acoustical and optical waves in anisotropic media 4-14824
 - factorised Helmholtz eqn. for direct acoustic propag. 4-42729
 - ferroelectric plate, acoustic soliton propag., Love and Lamb waves 4-24918
 - South Fiji Basin, low-freq. underwater sound propagation 4-47278
 - finite length duct, sound propag. and radiation for spinning source 4-49598
 - fluid, bubbling, boiling, gas content and temp. effect on acoustics 4-29158
 - fluid waves, propag. and dissipation in compressible and ionised atmospheres 4-55417
 - fluids, relax. processes in sound propag., historical survey, book contrib. 4-19636
 - Fourier transform. and Green's function approach 4-22591
 - ground, acoustic propagation, numerical model (*French*) 4-10488
 - impulse reflection for acoustic impedance determ. near ground 4-44277
 - inhomogeneous media with resonant axisymm. cavities with centre bodies, acoustic propag. 4-19626
 - inhomogeneous media with resonant axisymm. hollow cavities, acoustic propag. 4-19625
 - inhomogeneous medium, transient acoustic normal modes of whispering gallery type 4-28898
 - inverse problem in a random medium 4-19325
 - inverse propagation for acoustic transducer characterization 4-19619
 - lateral waves in absorbing media 4-1523
 - layered media, extended sources radiation and wave propagation 4-5754
 - liquid with gas bubbles, nonlinear effects in sound propagation 4-24290
 - liquids, highly viscous, wave propagation, nonlocal diffusion theory 4-29533
 - nonlinear low-viscosity medium, nonlinear acoustic wave interaction 4-24289
 - nonlinear nondispersive media, wave interaction with external distributed sources 4-33849

acoustic wave propagation continued

- Northeast Pacific Ocean, acoustic propagation in shallow sound channel 4-47279
 null field equation unique solvability 4-33842
 output load effects on oscillations in sonic oscillator (*Japanese*) 4-28960
 piezoelectric conductors, elastoelectromagnetic oscillations 4-25686
 piezoelectric plate, acoustic soliton propag., Love and Lamb waves 4-24918
 piezoelectric semicond., acoustic signal generation in alternating elec. field 4-6839
 piezoelectric semicond., acoustic vibrs. interactions with spatial trap-charging waves 4-6837
 piezosemiconductor, acoustic wave propag., nonlinear parametric interaction 4-2635
 plate, elastic, transient waves, theory and expt. 4-24299
 plate reinforced by projecting stiffener ribs, sound radiation 4-19617
 powdered materials, dynamic polarisation echoes, book contrib. 4-20299
 powders, memory echoes, book contrib. 4-20300
 prestressed elastic medium, plane waves propag. 4-19631
 pulsed and broadband propagation, uniform WKB modal approach 4-14833
 pulsed propagation, NDT appl. 4-10485
 α -quartz, ferroacoustogyrotropy 4-24916
 random field of internal waves, expt. and theoretical anal. 4-49609
 random media, using quantum field theory 4-5744
 SAW convolver waveguide loss, laser probing 4-24319
 shell, elliptical, nonsteady interaction with liq., radiation press. and transfer functions 4-44473
 slender cavities and tubes, acoustic standing waves, eigenvalues calc. 4-24281
 snow surface, sound propagation, theory 4-24283
 sound pulse momentum in slightly dispersive medium 4-1519
 spheres, sonically hard and soft, acoustic pulse response (*French*) 4-28894
 stellar atmospheres, thermodynamic quantities computation in time-dependent calcs. 4-8450
 stratified gas medium under gravity, Doppler effect 4-42662
 time-resolved acoustic pulses generated by 4-MeV protons stopping in aluminium 4-34584
 transition radiation of acoustic gravity waves for vertically moving point mass source 4-14830
 tube, narrow, acoustic propag., effective densities and resistivities, finite element anal. 4-38647
 tube, uniform, with moving medium, acoustic transfer matrix calc. 4-28895
 two-pulse phonon echoes in solid-state acoustics, book contrib. 4-20298
 vibrational and acoustic energy propagation along structures with losses, statistical anal. 4-28917
 voice information at sea, experimental anal. 4-36505
 wall shear flow, acoustic propag. and caustic formation 4-24277
 water, propag. visualisation using holographic interferometry as an inverse optical method 4-19403
 waveguide, linear inviscid wave propagation theory 4-44272
 waveguide, linear inviscid wave propagation theory 4-44273
 waveguides, wideband signal propagation 4-1526
 weak and short waves in one-dimens. inhomogeneous nonlinear elastic materials 4-19640
 wet steam, nonequilibrium two-phase flow, choking, acoustic propag. 4-1809
 AgAsS₃, proustite, sound wave propagation, angular characts. 4-34590
 Ag₃SbS₃, pyrrhotite, piezoelec., elastic and sound wave props. 4-34590
 Fe alloys, microstruct. invest. using physical acoustics 4-51910
 H, spin polarised, gaseous superfluid acoustical props. (*Chinese*) 4-50611
 H, spin polarised, superfluid film, struct., energetics, and modes 4-6607
 LiNbO₃, propagation of limited acoustic beams 4-24919
 LiNbO₃, SAW harmonic generation, diff. effects 4-45478

acoustic wave reflection

- see also echo; reverberation; ultrasonic reflection*
 circular cylindrical shell on boundary of two liquids, backscattering 4-38650
 duct terminations, high amplitude acoustic transmission, theory 4-28904
 finite amplitude refl. wave from circular piston sound sources (*Chinese*) 4-49603
 finite length duct, sound propag. and radiation for spinning source 4-49598
 free surface, initially stressed, P and SV motion 4-19630
 free surface, initially stressed, P and SV motion 4-19632
 layered media, extended sources radiation and wave propagation 4-5754
 Love waves in semiconductor-piezoelectric periodically layered active medium 4-29759
 materials characterisation by acoustic microscope, Fourier transform approach 4-28943
 periodic surface profile, elastic wave reflection, beam splitting 4-19629
 periodic surface structure, surface and bulk waves interaction 4-49601
 perturbation theory of surface acoustic wave reflection from a periodic structure with arbitrary angle of incidence (*Polish*) 4-39652
 piezoelectric insulator/semiconductor structs., acoustic wave reflection, acoustoelectronic interactions 4-20454
 plane sound wave, large amplitude, refl. and refraction in one-dimens. case (*Chinese*) 4-1517
 rectangular enclosure with diffusely reflecting boundaries, sound field 4-33861
 rigid concave disk, sound reflectivity calc. (*Japanese*) 4-14825
 rivers, surface and streambed refls. rel. to elevation changes meas. 4-52975
 rough surfaces, perturbation method calc. 4-24280
 SAW reflection from periodic metal strips, general theory (*Polish*) 4-39651
 superconductors, hard and composite, normal zone boundary, sound reflection studies 4-56493
 supersonic jet screech tone cancellation 4-29121
 three-dimensional acoustic impedance profile reconstruction 4-33841
 vibrational mode conversion in a plate at a reinforcing beam 4-1524
 water/composite interfaces, acoustic wave reflection 4-33837
 He solid/liq. boundary, high freq. acoustic wave reflection 4-34744

acoustic wave refraction

- see also acoustic dispersion; ultrasonic refraction*
 circular cylindrical shell on boundary of two liquids, backscattering 4-38650

acoustic wave refraction continued

- ocean, deep, acoustic transmission fluctuations meas. for refracted paths 4-14832
 plane sound wave, large amplitude, refl. and refraction in one-dimens. case (*Chinese*) 4-1517
 waveguides for acoustic-gravity waves 4-13186
- acoustic wave scattering**
see also ultrasonic scattering
 air bubbles in liq., acoustic oscill. during growth and breakoff 4-45270
 atmospheric fog, sound wave scatt. by random inhomogeneities 4-19644
 axial vortex, acoustic instability 4-1736
 backscattered amplitude, inversion technique for target shape determ. (*French*) 4-55279
 bubbles, active acoustic spectroscopy 4-1818
 circular cylindrical shell on boundary of two liquids, backscattering 4-38650
 coherent low-freq. scatter from rough surfaces, theory 4-33830
 diffusing walls, sound scatt., generalized anal. 4-19616
 direct and inverse scattering in the time domain via invariant imbedding equations 4-19621
 dispersive media, Green's functions for acoustic fields 4-24282
 disturbed sea surface, energy spectrum of backscattered acoustic signals 4-1521
 eggcrate surfaces, sound scatt. theory 4-44271
 elastic particles in water, acoustic wave propagation 4-44270
 ferrite crystals, cubic, acoustic transverse wave scatt. by cylindrical void in mag. field 4-29538
 ferromagnetic solid, elastic wave scatt. by two coplanar Griffith cracks 4-33971
 fluid waves, generation and scatt. by turbulent and inhomogeneous flows 4-55416
 infinite cylinder, acoustic scatt. calcs. 4-44269
 inverse optics, conf., Arlington, VA, USA (Apr. 1983) 4-17625
 inverse problem in elastic and EM wave scatt., probabilistic approach 4-19328
 inverse scatt. problem, uniqueness theorems 4-33829
 inverse scattering in the first Born approximation 4-19326
 Lamb wave scattering in elastic plate waveguide, finite element anal. 4-49597
 liquid-solid smooth interface, acoustic backscatt. at Rayleigh angle, theory 4-33836
 membranes, baffled, acoustic scattering 4-55246
 nearfield effects in acoustic scattering 4-55252
 ocean reverberation, horizontal spatial coherence 4-44279
 P waves transient scatt. by 2-d penetrable targets 4-5747
 plane wave scatt. by slender body of revolution 4-19633
 reciprocal conversion of surface and bulk acoustic waves at periodic corrugations 4-1525
 resonant acoustic scattering from elastic cylindrical shells 4-5746
 rough surfaces, perturbation method calc. 4-24280
 surfaces with curvature discontinuities, scattering integral eqn. 4-24278
 suspensions, acoustic backscattering cross-sections meas. (*Japanese*) 4-31302
 thermoelectric solid cylinders and spheres, thermoviscous effects 4-19622
 three-dimensional acoustic impedance profile reconstruction 4-33841
 transition matrix for prolate spheroidal coordinates 4-33831
 underwater backscattering from model rough surface 4-33852
 underwater scattering from wind-driven surface, spatial coherence 4-33853
 underwater scattering used for deep sea floor nodule densities determ. 4-26838
 volume scattering power spectra calc. for isotropic random medium 4-19623
 Cu calibration spheres, acoustic props. 4-44315
 WC calibration spheres, acoustic props. 4-44315
- acoustic wave transmission**
see also ultrasonic transmission
 deep ocean, multipath underwater acoustic transmission, spatial coherence 4-44278
 double panel, rigid panel and rock wool panel, acoustic transmission loss calc. (*French*) 4-10492
 duct terminations, high amplitude acoustic transmission, theory 4-28904
 duct terminations, vorticity obs. during acoustic power dissipation 4-28903
 ducts, rectangular, acoustic transmission through walls, finite element scheme 4-38648
 finite length duct, sound propag. and radiation for spinning source 4-49598
 measurement of structures in situ by transitory method (*French*) 4-10512
 multilayered plate, transmission coeffs. and transfer matrices calc. 4-24279
 nonlinear boundary, acoustic wave transmission 4-49604
 ocean, deep, acoustic transmission fluctuations meas. for refracted paths 4-14832
 panels, discretely stiffened, curved, noise transmission into semicylindrical enclosures 4-44291
 plane sound wave, large amplitude, refl. and refraction in one-dimens. case (*Chinese*) 4-1517
 plates, perpendicular; T-interaction, point mobility calc. and meas. 4-19650
 shells, layered cylindrical, with applied damping treatment, sound transmission 4-44275
 vibrational mode conversion in a plate at a reinforcing beam 4-1524
- acoustic wave velocity**
see also acoustic dispersion; liquid helium sound propagation; shock waves; ultrasonic velocity
 acoustic-gravity waves, dispersion in atm. (*Chinese*) 4-3788
 atmospheric fog, sound dispersion and absorption 4-3812
 ballistic compressor, compression realisation, weak disturbance velocity 4-34279
 benzene ($-d_6$), isentropic compressibility meas. 4-55897
 n-butanol, aq. solns., isothermal compressibilities and internal pressures 4-15564
 cable faults, acoustic measurements, used where normal sound level detection has failed (*German*) 4-19681
 ceramics, elastic moduli, rel. to melting point, effects of impurities on sintering 4-51708
 cubic crystals, sound vel. anisotropy 4-24914
 glass, acoustic props. at low temps. 4-55928

acoustic wave velocity continued

- glass ceramic, machinable, elastic moduli, second-order press. derivatives 4-51709
 glass fibre reinforced plastic, space exposure effect on physicomach. props. of fibreglass 4-46571
 granular porous materials, grain contact stiffness and acoustic vel. 4-31477
 gravity effect in sound velocity 4-22566
 heavy water, thermodynamic props. calc. from acoustic data 4-15664
 n-heptane-benzene mixture, sound vel., densities and isentropic compressibilities meas. 4-55922
 inhomogeneous media with resonant axisymm. hollow cavities, acoustic propag. 4-19625
 kaolin suspensions, conc., sound wave propag. (*Chinese*) 4-1530
 lithium formate, elastic moduli, acoustic props. 4-34854
 lungs of normal men, speed of LF sound 4-36159
 nonlinear low-viscosity medium, nonlinear acoustic wave interaction 4-24289
 ocean bottom sound speed profile reconstruction, inverse method 4-47442
 oceanic sound speed profile inversion 4-47441
 organic+water mixtures, excess sound velocities meas. 4-50436
 P waves transient scatt. by 2-d penetrable targets 4-5747
 percolation clusters, anomalous acoustic behaviour and backbone structure 4-37034
 piezoelectric ceramics, dielec. and thermodynamic props. 4-56855
 polyamide-12, carbon filler effects on mol. mobility and struct. (*Russian*) 4-15402
 polymer fibre, orientation order, acoustical study 4-20126
 polyvinylidene fluoride, thermal pulse induced pyroelec. response and piezoelec. oscils. 4-7128
 ray tracing, rigorous theory for sound vel. profiles calc. 4-55257
 sediments of N Indian Ocean, sonobuoys meas. 4-41885
 spin-Peierls system in mag. field, dimerized to soliton lattice state transition 4-2772
 steel, austenitic stainless, type AISI 304, 310, 316, elastic moduli, press. depend. study 4-51710
 tetrachloromethane+tetradecafluoromethyl-cyclohexane, crit. solution point, sound vel. study 4-6442
 toluene, liq. and supercooled, relax. processes, light scatt. investig. 4-20280
 two-phase flow, critical flow condition, sound velocity 4-29152
 Bi-BiBr₃ liquid mixture, metal-nonmetal transition under press. 4-45632
 Bi-BiBr₃ liquid mixtures, nonmetal-metal transition and elec. cond. under press. 4-45636
 CoCO₃, elastic consts. determ., sound vel. anisotropy, Mandelstam-Brillouin light scatt. by phonons 4-35461
 CoF₂, rutile struct., elastic moduli, press. derivatives 4-45249
 Co_{1-x}Zn_xFe₂O₄ ferrites, Young's modulus, mag. field depend. 4-34561
⁴He, superfluid, first sound absorption and vel. at high and low press. (*Russian*) 4-56109
 Hg liquid, metal-nonmetal transition under press. 4-45632
 KTaO₃:Li crystals, ferroelec. phase transition, acoustic and dielec. props. 4-35380
 MnCO₃, elastic consts. determ., sound vel. anisotropy, Mandelstam-Brillouin light scatt. by phonons 4-35461
 MnF₂, rutile struct., elastic moduli, press. derivatives 4-45249
 PbBr₂ single cryst., acousto-optical props. and photoelasticity 4-7158
 PbSnTe-piezoelec. ceramic interface, channelled acoustic wave propag. vel. meas. in polydomain ferroelec. 4-2421
 SbCl₃, Brillouin scatt. and acoustic anomalies 4-40465
 Se-Te liquid mixture, metal-nonmetal transition under press. 4-45632
 SiO₂ fibrous ceramics, Space Shuttle tile, nondestructive evaluation, sonic vel. meas. 4-30897
 SrTiO₃ surface layers, acoustical study of phase transition 4-46198

acoustic wave velocity measurement

- see also ultrasonic velocity measurement*
 alloys, residual stresses evaluation, horizontally polarised shear waves appl. 4-35839
 differential sound velocity apparatus for the investigation of protein solutions 4-26563
 liquids, acoustic vel. meas. at multi-freq. points within few milliseconds 4-14852
 ocean bottom sediments, sound speed gradient meas., I₁ deconvolution technique 4-47443
 SAW velocity measurement using impulsive converging beam 4-14855
 seawater sound velocity meter 4-42231

acoustic waveguides

- boundary element analysis of discontinuities 4-24285
 finite element analysis, symmetric and antisymmetric conditions 4-44268
 finite-element analysis, use of symmetric and antisymmetric conditions (*Japanese*) 4-19635
 Lamb wave scattering in elastic plate waveguide, finite element anal. 4-49597
 Lamb waves, elastic plate waveguide, discontinuities, finite element anal. 4-24274
 linear inviscid wave propagation theory 4-44272
 linear inviscid wave propagation theory 4-44273
 matching systems using slender rods, theory 4-28900
 piezoelectric ceramics, differentially poled, guided acoustic interface wave propag. 4-28942
 piezoelectric element, low freq., electrically controlled 4-28958
 rectangular waveguide, point source acoustic field calc. 4-28899
 refraction waveguides for acoustic-gravity waves 4-13186
 SAW convolver waveguide loss, laser probing 4-24319
 SAW waveguides, leaky, coupling efficiency and radiation pattern calc. 4-19679
 solid waveguide, sound radiation by absorption of modulated penetrating radiation, theory 4-28901
 statistically uneven wall, acoustic field, Markov process model 4-28897
 streaming in waveguide with slowly varying height 4-33845
 US waveguide for nuclear power plant investigations 4-766
 wideband signal propagation 4-1526

acoustic waves

- see also acoustic emission; magnetoacoustic effects; shock waves; surface acoustic waves; ultrasonic waves*
 atmospheric infrasounds and subsonic disturbances meas. using microbarograph 4-22122
 boiling and bubbling, kinetics, reasons for generation of acoustic oscillations 4-28969

acoustic waves continued

- α Canis Majoris B (Sirius B), origin of acoustic flux rel. to soft X-ray emission 4-8462
 cleavage crack extension, elastic wave radiation 4-1670
 dense Lennard-Jones fluid, microscopic sound waves 4-55925
 dielectric liquids, linear and nonlinear waves 4-5969
 dispersed systems, conc., of fluidised layer type, elastic press. waves, acoustic effects 4-34169
 flow structure in laminar boundary layers with adverse press. gradient, acoustic perturbation effect 4-44523
 fluid, liq. to amorphous solid or glass range, generalised hydrodynamic theory 4-49860
 inverse problems of the Fredholm type, information content, analytic method 4-17705
 laser produced acoustic pulses in liquid 4-44280
 magnetised nonbarotropic medium, solenoidal perturbations, MHD eqns. 4-24545
 nonlinear media, modulation instability, envelope solitons, coupled mode approach 4-1531
 solar spicules, acoustic-gravity wave theory rel. to solar atmosphere mass balance 4-58420
 standing sound wave effect on turbulent flame flow 4-44762
 supersonic boundary layer, Tollmien-Schlichting waves excitation by sound 4-44631
 time-resolved acoustic pulses generated by 4-MeV protons stopping in aluminium 4-34584
 vibrating struct., sound press.-prod. calc. 4-44283
 viscous compressible heat conductive liqs., bubble oscillations, acoustic wave emission 4-1773
 InSb, multipass synchronous acoustic wave generation using AC Hall drift current 4-30027
 Na discharge, arc instability, acoustic reson., optogalvanic detect. 4-24674

acoustical laboratories

- see also anechoic chambers; reverberation chambers*
 No entries

acoustics

- see also acoustic applications; acoustic devices; acoustic equipment; acoustic noise; anechoic chambers; architectural acoustics; atmospheric acoustics; audio acoustics; hearing; musical acoustics; photoacoustic effect; sound reproduction; ultrasonics; underwater sound; vibrations*
 Acoustical Soc. Amer. 106th meeting, San Diego, CA, USA (7th May) 4-8
 condition no. of integral eqns. from modified fundamental solns. 4-5743
 education in acoustics in Japan, current status (*Japanese*) 4-39
 jets, coaxial, aerodynamic and acoustic characts. 4-44671
 physical acoustics, principles and methods, book 4-17648
 prediction methods, conf., Nancy, France (March 1982) (*French*) 4-10483

acousto-optical devices

- see also acousto-optical effects*
 acoustic beam position control, piezoelectric transducers phased array appl. 4-5777
 band pass response travelling wave modulator with transit time difference compensation 4-33753
 beam steering device analysis by matrix formalism 4-24148
 book, waves and fields in optoelectronics 4-27261
 Bragg cell based dynamic two-frequency interferometry for small displacement measurements 4-32303
 Bragg switch/single sideband modulator with integrated optical single-mode waveguides 4-33750
 coated fibre ultrasonic sensitivity 4-24200
 deflector, synchronously pumped psec. laser, for excitation of spectrofluorimetric single-photon counting system 4-27604
 deflector and Fresnel lenses in As₂S₃ waveguide for integrated optic Fourier processor 4-24244
 fibre optic acoustic sensors, interferometer arrangements 4-19696
 fibre optic acoustic transduction, review, book contrib. 4-19598
 fibre optic hydrophone, use of optical waveguide couplers 4-28874
 fibre optic interferometer as acoustic sensor for sensitive spectrophone 4-38600
 fibre optic lever hydrophones, press. and press. gradient 4-38594
 fibre optic sensitive polarisation hydrophone 4-38596
 fibre optic sensors, single mode, US sensing from 100 kHz to 50 MHz 4-38595
 fibre optical sensors, principles of operation, review 4-55211
 filter for astronomical spectrophotometer under microcomputer programmable control 4-42311
 filter for dye laser rapid tuning 4-49386
 Fresnel field problem solns. for high performance devices 4-24154
 integrated optics, acousto-optical elements (*Czech*) 4-10466
 integrated optics correlator with time integration 4-5739
 liquid crystal acoustooptic effects for intracavity modulation of laser output intensity 4-10335
 microphone, optical fibre probe, development (*Japanese*) 4-10441
 modulator, for two wavelengths of bichromatic light beam 4-49499
 modulator, laser image recording for wideband spectrum analysis 4-24141
 modulator, Nd:YAG laser modulation appl. (*Czech*) 4-24156
 multibeam acousto-optical modulator, laser writing sub-system for electrophotographic transfer printer 4-55107
 multibeam acousto-optical modulator for laser electrophotographic printing and drawing machines 4-55183
 multibeam acoustooptic and electrooptic modulators for laser printer 4-55182
 multichannel Bragg cells, acoustic spreading compensation 4-19402
 multilayered thin-film tunable separators, guided wave switching by SAW 4-19564
 Q-switch, two-coord., for Nd³⁺:YAG laser with unpolarised radiation 4-5622
 recorder, wideband signal recording and playback with high time-bandwidth product 4-24140
 sonar signals, acousto-optical beamformer 4-38656
 Ar ion laser, acousto-optically mode-locked, degradation via diffuse refl. feedback 4-19483
 LiNbO₃:Ti hemispherical waveguide spatial-integrating acoustooptic correlator 4-33813
 LiNbO₃:Ti waveguide collinear acoustooptic interaction (*Czech*) 4-49514
 Nd: garnet CW lasers, active mode locking by resonator loss modulation using acoustooptic modulator 4-14729

acousto-optical devices continued

- Nd:YAG acousto-optic Q-switched laser, intracavity freq. doubling by $\text{LiNbO}_3\text{:Mg}$ (Chinese) 4-49447
 Nd:YAG acousto-optically Q-switched laser oscillator, intracavity SHG using KTiOPO_4 4-44154
 Nd³⁺:YAG, Q-switched laser with active mode locking Q-switched laser with active mode locking 4-49403
 Nd³⁺:YAG laser, mode locking with travelling acoustic wave modulation 4-49409
 TeO₂ acousto-optical deflector for holographic memory 4-55175
 TeO₂ light deflector in acousto-optical light switch (Japanese) 4-55174
 TeO₂ paratellurite based acoustooptical devices for solid-state laser radiation control 4-5623
 Ti halides, single crystals, heat treatment, use as acoustooptic guides 4-49468
 ZnO single-crystal thin film, high freq. acousto-optic Bragg deflector appl. 4-19549

acousto-optical effects

- see also acousto-optical devices*
 acoustically gyrotropic medium, optical rotatory power and permittivity modulation 4-20943
 Brillouin scattering in Bragg region, two-dimens. model, acoustic diffraction effects 4-49266
 dielectric films, polarisation hysteresis obs. using light diffraction by acoustic waves 4-51207
 diffused waveguide with As_2Se_3 dielec. film coating, acoustooptic interaction 4-28833
 Fresnel diffraction by US progressive wave phase grating, theory 4-38566
 Fresnel diffraction from US progressive wave associated with optical grating, theory 4-38565
 isotropic semiconductor, acousto-optical excitation of surface EM waves by finite-aperture light beam 4-56888
 light diffraction by adjacent parallel US waves, theory 4-49267
 light diffraction by ultrasound, for light of arbitrary amplitude and phase distrib. 4-19365
 liquids, US absorpt. meas. using Raman-Nath light diffraction in US resonator 4-19687
 phase shifted adjacent ultrasonic beams, light diffraction 4-56889
 quartz, acousto-optic diffraction of optical guided waves 4-30438
 SAW, nonlinear freq. mixing, acousto-optical study 4-49607
 sharply bounded ultrasound, light diffraction, Laplace transform method 4-54955
 single-mode fibre light pipe, excited, induced acoustooptic interaction 4-44233
 spatial coherence, two-dimens. control by acoustooptic interactions 4-19354
 straight edge object, semitransparent, with acoustically coherence-controllable illum., Fresnel diffraction 4-38389
 temporal modulation of light diffraction by two US beams, exptl. study 4-14636
 TGS crystals, acousto-optical props., near Curie point 4-35411
 ultrasonics and optics, mutual development 4-55266
 $\text{Bi}_{12}\text{SiO}_{20}\text{-Si}$, photorefractive piezoelectric-semiconductor struct., optoacoustic interaction 4-51238
 $\text{La}_3\text{Ga}_2\text{SiO}_{14}$, cryst. growth and optical props. 4-34431
 $(\text{La})_3\text{Nd}_3\text{Ga}_2\text{SiO}_{14}$, cryst. growth and optical props. 4-34431
 LiNbO_3 , single mode waveguide, refractive index, acoustooptic method 4-24172
 $\text{Nd}_3\text{Ga}_2\text{SiO}_{14}$, cryst. growth and optical props. 4-34431
 PbBr_2 , single cryst., acousto-optical props. and photoelasticity 4-7158
 Ti halides, single crystals, heat treatment, use as acoustooptic guides 4-49468

acoustoelasticity *see elasticity***acoustoelectric devices**

- see also acoustoelectric transducers*
 ferroelastics, appl. in optical, acoustoelectronic and electromechanical devices 4-28811
 hearing aid electroacoustics modelling 4-47102

acoustoelectric effects

- hardness testing, electroacoustic method 4-3317
 Love waves in semiconductor-piezoelectric periodically layered active medium 4-29759
 one-dimensional conductor, sound attenuation theory 4-50875
 parametric EM wave intensification by Rayleigh surface waves (Russian) 4-6840
 phonon jets: streamer-breakdown channels in crystals 4-56397
 piezoelectric insulator/semiconductor structs., acoustic wave reflection, acoustoelectronic interactions 4-20454
 piezoelectric semicond., acoustic signal generation in alternating elec. field 4-6839
 piezoelectric semicond., acoustic vibr. interactions with spatial trapping waves 4-6837
 piezoelectric semiconductors, acoustic waves parametric interactions, thermal effects 4-50876
 piezosemiconductor, acoustic wave propag., nonlinear parametric interaction 4-2635
 semiconductor, photostimulated planar acoustomagnetolectric effect 4-45838
 semiconductors, US stimulated scatt., memory struct. 4-6838
 semiconductors 4-56398
 CdS, acoustoelectronic electrification effect 4-15921
 GaAs, buried channel acoustic charge transport 4-39991
 In, US wave field transport by conduction electrons 4-39992
 n-InSb, Corbino disc, multitransit generation of acoustic fluctuations 4-25377
 InSb, multipass synchronous acoustic wave generation using AC Hall drift current 4-30027
 InSb-SiO₂-InSb, double sandwich, SAW propag., acoustoelectric interaction 4-35030
 (Pb,Ni)(Zr,Ti,Zn,Nb)O₃ piezoelectric ceramic, dynamic strength and dynamic nonlinearity 4-20917
 PbTe epitaxial films, Hall effect and acoustoelectric phenomena 4-35098
 Sn optimal conditions for EM excitation of sound 4-35029

acoustoelectric transducers

- see also earphones; headphones; hydrophones; loudspeakers; microphones*
 radiating linear array, interaction of resonant electroacoustic transducers 4-19697

acoustoelectric transducers continued

- US narrow strip transducers, acousto-electric response with mech. losses, simulation 4-49650
 US power composite transducer, piezoceramic position influence (Chinese) 4-55300

acoustomagnetic effects *see magnetoacoustic effects***acoustooptics *see acousto-optical effects*****actinide alloys**

- see also actinide compounds; neptunium alloys; plutonium alloys; thorium alloys; uranium alloys*
 transition metal-actinide alloys, R-Ni(Co), 3d ferromagnetism onset and spin fluctuations, expt. and band models 4-2755

actinide compounds

- see also compounds of individual actinides, e.g. uranium compounds*
see also actinide alloys
 borides, cryst. struct., phase equilibria, structural chem. 4-2174
 chalcogenides, struct., electronic struct. and mag. props. 4-11072
 crystal growth methods (French) 4-40613
 molecules and embedded clusters, self-consistent Dirac-Slater calcs. 4-33354
 nitrides, AnN, An=Th-Am, lattice parameters, electronic struct., LMT0, RLMT0 calcs. 4-56211
 silicides, cryst. struct., phase equilibria, structural chem. 4-2174
 trichloride hexahydrates, cation site approx. D_{4d} symm. 4-50771

actinide metal compounds *see actinide compounds***actinide metals *see actinides*****actinides**

- see also individual actinides, e.g. uranium*
 chondrite metamorphism, behaviour of rare earths, actinides and P 4-31802
 crystal growth methods (French) 4-40613
 heavy actinide isotopes, availability and uses 4-18842
 nuclear waste actinides as fissile fuel in hybrid blankets 4-54425

actinium

- see also nuclei with*
 No entries

actinium compounds

- oxides, Z 4-50573

actinometers *see radiometers***actinometry *see radiometry*****activation analysis *see chemical analysis by nuclear reactions and scattering*****active filters**

- comb filter, biomedical engineering appl. (Chinese) 4-31343
 quantum noise and active feedback 4-4266
 seismometer with active filter, transfer function and dynamic characts. (Russian) 4-26846

active nitrogen *see nitrogen***active oxygen *see oxygen*****activity (thermodynamics) *see thermodynamic properties*****actuators**

- drives, for self-contained power unit control and protection system (Russian) 4-43623
 shape memory alloy actuator for position control (Japanese) 4-46507

adaptive antenna arrays *see antenna phased arrays***adaptive control**

- see also adaptive systems*
 laser beam optimal control in nonlinear media 4-5627
 microcomputer-based temp. control system, high accuracy, calorimeter appl. (Chinese) 4-42944
 multivariable active noise control, adaptive controller 4-44285
 smooth pursuit system producing zero-latency target tracking, model 4-21655

adaptive optics

- see also optical phase conjugation*
 active mirror segment figure control 4-1458
 atmosphere-telescope system with adaptive compensation for random wavefront tilt, MTF derivation 4-13026
 atmosphere-telescope system with adaptive optics, optical transmission function and resolving power 4-26804
 conference, San Diego, CA, USA (Aug. 1982) 4-6
 deformable annular flat diamond turned mirror, cylindrical laser, low temporal freq. aberration correction appls. 4-1459
 deformable mirror spatial light modulator, two-dimens., fast, analog, electrically addressable, optical information processing appls. 4-24158
 extended adaptive Kalman IR filter, vacuum deposition monitoring 4-30635
 focusing grating, diffraction limited, high energy laser diagnostics appls. 4-1472
 image enhancement for the visually impaired 4-52449
 image-transmission system through turbulent medium using multiple reflectors and adaptive focusing combined with four-wave mixing 4-49282
 intracavity adaptive optic mode control theory 4-1418
 intracavity adaptive optics expts. using deformable mirror located in compacted beam region of adaptive half-symmetric unstable resonator with internal axicon 4-1419
 intracavity adaptive optics expts. using deformable mirror located in annular beam region of adaptive half-symmetric unstable resonator with internal axicon 4-1420
 intracavity adaptive phase conjugation system, numerical modelling 4-28780
 laser beam wavefront distortion diagnosis and compensation (Chinese) 4-49412
 mirror, active deformable, use for random phase-front distortion correction 4-10398
 mirror fatigue control, edge actuated 4-1513
 modal wave-front estimation, value of cross coupling 4-1337
 nonlinear system, adaptive optics modelling using optimal control theory 4-1450
 nonlinear/adaptive image processing with a scanning optical system 4-49292
 outgoing-wave adaptive optics systems, error-sensing method for extended targets in turbulence 4-1352
 phase conjugation method in adaptive light beam shaping systems 4-19518
 segmented mirror figure control using actuator configs. 4-1514
 system analysis, compensation for random inclination of wave front (Russian) 4-19543

adaptive optics continued

- telescope design having adaptive main mirror, review 4-8390
- thermal defocusing compensation by a three-element adaptive corrector 4-19530
- turbulence-induced adaptive-optics performance degradation, evaluation in the time domain 4-49488
- wave-front inverting mirror in turbulent medium, av. intensity of reflected wave 4-38399
- wavefront correction, optimal, using slope meas. 4-28630
- wavefront sensing by optical phase differentiation, coherent processing system with rot. filter 4-49277
- DF laser propagation, analytical modelling 4-1427

adaptive systems

- see also *adaptive control; adaptive optics; learning systems; pattern recognition; self-adjusting systems*
- active mirror segment figure control 4-1458
- Boolean complete neural model of adaptive behavior 4-46971
- decimetric wave interf. in azimuthal oriented adaptive antenna system 4-22184
- neural encoder model, demodulation methods appl. 4-46972
- nuclear power plant intergranular SCC recognition, adaptive learning network approach reviewed 4-33023

adding machines see *calculating apparatus***adherence** see *adhesion***adhesion**

- amorphous alloys, ribbon-substrate adhesion dynamics in chill block melt-spinning processes 4-57128
- bond, adhesive, gradual fracture by damage accumulation 4-24377
- butt joint, adhesive, impact fatigue behaviour (*Japanese*) 4-3232
- composite, dispersely filled, influence of adhesion on elastic props. 4-44502
- compound foundation, dynamic contact problem 4-5845
- epitaxial growth, theory and expts. 4-6673
- epoxy adhesive bond fracture in insulated heat sink, acoustic emission characts. 4-3343
- epoxy resin, adsorption on Al surfaces, bonding, XPS study 4-34778
- epoxy resin coating on imidazole treated Cu surface, Fourier transform IR spectra 4-51879
- fiberglass reinforced composites, flat inclusion, partially debonded surface, crack initiation 4-34568
- Galin problem with friction and adhesion, Fuchs-class eqn. 4-55382
- glass fibre reinforced plastics, properties, sensitivity to adhesion changes 4-46732
- hard coatings, scratch adhesion testing 4-3360
- ice, adhesion to flexible polyurethane elastomer substrate, failure energy, thickness effect 4-26170
- ice, friction for adhesion calcs. 4-45260
- interlayers in joints of different moduli under static tensile loading, crack resist. 4-34007
- intestinal protozoan parasite *Giardia lamblia*, attachment theory, adhesive force calcs. 4-21628
- lap joints, epoxy resin bonded, fatigue performance and durability 4-35721
- magnetic tapes, adhesional component of friction 4-51820
- metal surface prepared for adhesive bonding, quality evaluation (*Polish*) 4-57401
- metallic thin film adhesion improvement by fast heavy ions 4-2486
- microadhesion and photostimulated exoelectron emission (*Japanese*) 4-40612
- noble metal-alumina solid-state bonding, effect of ambient temp. 4-57526
- particles, small, negative Hamaker coeffs. and surface tension 4-50613
- PMMA film, adhesion to SiO₂ substrate, blister test 4-16582
- polydiene-styrene triblock copolymers, adhesive layers, fracture, IR attenuated total internal reflection (*Russian*) 4-30446
- polyethylene films, oxidised on metals, decrystn. effects on film adhesion 4-16610
- polyethylene terephthalate surface, activation by corona discharge 4-16520
- polymer surface, of vac. deposited metal, glow discharge treatment effect 4-57363
- polymers, thermal wave non-contacting evaluation 4-46691
- polystyrene film, adhesion to SiO₂ substrate, blister test 4-16582
- polystyrene-glass bead composite, craze form., effect of interfacial adhesion 4-7549
- powder covering-substrate system, bonding, diffusion-kinetic mechanism 4-6672
- powder particles, elastic, pressing-on influence on adhesion 4-49776
- silk fibre reinforced nitrile rubber composites, mech. props. rel. to fibre-matrix bonding 4-51747
- single-lap joints, anal. 4-1610
- spherical elastic particle, force of adhesion to plane 4-41171
- stellite, plasma sprayed coating, laser processing, microstructure, wear, corrosion resist. 4-30854
- surface, adhesion of particles on elastic-plastic impact 4-57524
- thin hard coatings, ion implantation effects 4-2487
- vulcanised elastomers, surface modification by chlorination, adhesive bonding improvement 4-16524
- wear-resistant coatings, brittle, mech. behaviour 4-35780
- XPS and AES, metallurgy, catalysis and semicond. technology appls. 4-51420
- Ag film on Be, charact. of Be-Ag interfacial region, adhesion strength 4-15773
- Ag-Cu bimetallic composite, interfacial struct., cohesion strength (*Chinese*) 4-56153
- Al adhesive joints, protected with hydration inhibitors, environmental durability 4-30919
- Al lap joints, epoxy resin bonded, fatigue performance and durability 4-35721
- Al sheet, adhesive joints, characterisation of oxide layers (*German*) 4-16542
- Al surface treatment by corona discharge, preparation for adhesive bonding 4-16548
- Al-Mg/epoxy resin joints, locus of environmental crack growth 4-51878
- Al-Zn-Mg-Cu, anodic coating behaviour of X7091, SEM obs. 4-7639
- Al₂O₃-Cr₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
- Au coating, modification by ion bombardment during deposition 4-15559
- Au ion-plated coatings, tribology and XPS depth profiling 4-7605
- Au strongly adhesive electrodes on Melinex, phys. props. and microstruct. 4-15794

adhesion continued

- Au thin films sputter deposited on Si, adhesion changes induced by electron irradi. 4-39342
 - C fibre-reinforced epoxy resins, fracture at low temp. 4-16477
 - CdSe-TiO₂ interface, struct., comp., adhesion, TEM, electron diff. obs. 4-56156
 - Cr plating, hard, under reduced press. (*Finnish*) 4-12269
 - Cu, adhesion of polymeric coatings 4-35756
 - β -FeOOH colloidal particles deposition on stainless steel 4-12239
 - Ge (111)-Pb interface, growth and struct. LEED, AES, and SEM study 4-20502
 - HfN sputtered coating on stainless steel, adhesion and mech. props. 4-7603
 - Hg_{1-x}Cd_xTe, interfaces, defects, oxidation, band structure, bond strength 4-39770
 - Mo single crystal, bonding of fresh surfaces under load 4-16562
 - MoS₂-based composite lubricant films, moisture resistance and adhesion 4-7621
 - Ni powder coatings, adhesive forces meas. technique 4-41131
 - Ni-Si C, codeposited composite coatings, bond strength, surface roughness rel. to heat treatment 4-46659
 - Si₃N₄ sputtered coating on stainless steel, adhesion and mech. props. 4-7603
 - SiO₂ multilayer systems, adhesion meas. by scratch method 4-26171
 - Ti coating of steel, carbide layer adherence 4-41088
 - Ti, surface treatment by corona discharge, preparation for adhesive bonding 4-16548
 - Ti-Al-V (6.4 wt.%), electroplated metal adhesion rel. to H absorption, notch sensitivity and fatigue 4-3290
 - TiB₂, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
 - TiC coatings, vac. deposited, internal stresses and Young's modulus 4-15793
 - TiC coatings for first wall of fusion reactor, thermal and mechanical props. 4-20526
 - TiC, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
 - TiN coatings, high rate reactive sputtering 4-3073
 - TiN, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
 - W, CVD coating on Si wafer, props. 4-2477
 - WC-Co powder sprayed coatings, adhesion and workability 4-26105
 - Zn coating, deposited by vapour-gas jet, struct., adhesion and corrosion protective props. 4-57392
 - ZrN coatings, high rate reactive sputtering 4-3073
 - ZrO₂ thin films, metal organic CVD, dielec. and elec. props. 4-51521
 - ZrO₂-Y₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
- adiabatic compression, plasma** see *plasma heating*
- adiabatic demagnetisation** see *magnetic cooling*
- adion** see *adsorption*
- admittance** see *electric admittance*
- admittance measurement** see *electric admittance measurement*
- ADP (ammonium dihydrogen phosphate)** see *ammonium compounds*
- adsorbed layers**
see also *monolayers*
- adatom cluster, surface diffusion, field ion microscopy studies 4-29820
 - adatom on metal surface, multivalency and adatom-phonon interaction 4-20478
 - adatom-adatom pair interactions and adlayer superstructure formation 4-29824
 - adsorbate surface diffusion, field emission studies, review 4-29822
 - adsorbate system, commensurate melting, domain walls, and dislocations 4-29788
 - adsorbates, vibr. spectra, infrared laser photoacoustic spectroscopy studies 4-37206
 - alcohols, conversion mechanism over H-ZSM-5 zeolite 4-57599
 - p-amino-nitrobenzene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 - amorphous film on crystals, X-ray diff. theory 4-44887
 - anthracene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 - atom positions on crystal surface, determ. with X-ray standing waves 4-34803
 - atom surface diffusion, correlation with concentration and step struct. 4-29823
 - atoms and molecules adsorbed on metal surfaces, valence electron excitations and optical props. 4-50635
 - azulene chemisorbed mols. on Rh (111), surface struct. and form. energy 4-29800
 - b.c.c. transition metals, adsorption of H, binding energy and surface diffusion 4-2438
 - butane monolayer, adsorbed on graphite, ²H solid state NMR study 4-30290
 - cadmium stearate, Langmuir-Blodgett film on semicond. substrates, RHEED obs. 4-29835
 - chemisorbed atoms, Auger CVV spectra, surface plasmon effects 4-40581
 - chemisorbed molecules, valence photoemission, vibronic coupling and ion recoil effects 4-35551
 - chlorophyll adsorbed on metals, light absorption spectra, extinction coeff. meas. 4-14439
 - cobalt(II) stearate, adsorbed on Cu, multi-built-up layers, low energy SIMS study 4-2454
 - commensurate-incommensurate system of adsorbed atoms on anisotropic rectangular lattice, Schultz-Halperin-Henley model 4-20471
 - commensurate-incommensurate transitions, renormalisation group method in 2-D, phase boundary 4-20328
 - commensurate-incommensurate transitions and defects 4-39737
 - core levels, X-ray photoelectron diffraction, 500-10000 eV, polarised radiation 4-45491
 - coronene, adsorbed on γ -Al₂O₃, room temp. phosphoresc. and delayed charge transfer fluoresc. 4-28502
 - critical temp. of two-dimensional adsorbates, registered cell model 4-6662
 - crystal growth, adsorbed atom distrib. relative to clusters during nucleation 4-24750
 - cyanide adsorbed on Ag, surface Raman enhancement, charge transfer excitation role 4-51270
 - desorbing adsorbate behaviour, 2D hydrodynamic model 4-2448
 - dibenzotriphenyl adsorbed on montmorillonites, conformation, temp. effect, IR, X-ray and visible spectra 4-14425

adsorbed layers continued

p-dimethyl-amino-nitrosobenzene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 p-dimethylamino-nitrosilbene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 La-dimethylphosphatidylcholine, adsorption on hydrated KBr powder, mol. interactions of phospholipid-water interface 4-31158
 epitaxy and thick film form. on attractive substrate, lattice gas model 4-6679
 epoxy resin, adsorption on Al surfaces, bonding, XPS study 4-34778
 ethene, adsorbed in zeolites, NMR spectra, MO calcs. 4-23714
 ethyl ether adsorbed on Au surface, characterisation using visible electroreflectance spectroscopy 4-56144
 ethylene adsorbed on UHV deposited Ag, surface enhanced Raman scatt. 4-51269
 ethyldyne, on Pt (111), H-D exchange reaction, static SIMS study 4-57601
 formate ions, chemisorbed on Pt [110] orientation from EELS selection rules 4-3005
 formic acid vapour multiple adsorbates on Cu surfaces, IR spectra study 4-2430
 gas-adsorbate momentum transfer effect on movement of mobile adsorbed phase over uniform surface 4-11395
 gelatin, adsorbed layer on glass, surface coverage, struct., water wetting angle obs. (*Russian*) 4-56121
 graphite adsorbed monolayer, weakly incommensurate phase, soliton theory 4-20467
 graphite monolayer on Ni (111), plasmons in response function 4-39801
 graphite with adsorbed ^4He , phonon interactions 4-11406
 graphite with adsorbed anthracene and naphthalene, laser photoionisation detection of submonolayer films 4-41278
 graphite with adsorbed carbon tetrafluoride, wetting transition, RHEED study 4-39672
 graphite with physisorbed Xe and Kr, ground state props. calcs. 4-29785
 heterocyclic N cpds., saturated, on Ag electrodes, charge transfer excitation, surface enhanced Raman scatt. 4-46239
 1-hexadecane thiol chemisorbed on Ag island film, surface enhanced Raman studies 4-56933
 hydroxyl groups, diffuse-reflectance spectroscopy, near IR region (*Russian*) 4-35426
 inert gas atoms on transition metals, electronically excited state, nature nonradiative decay 4-21014
 inert gas physisorbed on metal surface, vibrational broadening in Auger and photoelectron spectroscopy 4-57072
 inert gases adsorbed on metals, excited states and decay mechanisms 4-56142
 IR spectroscopy of adsorbed mols., expt. aspects 4-48216
 law of corresponding states, generalised, for adsorbed gases 4-45496
 light scattering spectroscopy studies (*Japanese*) 4-40011
 malachite green adsorbed layer on silica, surface conc., photothermal deflection spectroscopy studies 4-39667
 mass transport along surfaces, different driving forces 4-29674
 merocyanine dye mol. on ZnS, binding and decomposition 4-45531
 metal-adsorbate systems, surface enhanced Raman scatt., ground state charge transfer mechanism 4-56941
 metals, adsorbed layers, electronic processes (*Japanese*) 4-40010
 metals, equilibrium cryst. shape, adsorbed layer effects 4-29376
 methane adsorbed in NaA zeolite, orientation, IR study 4-56932
 methane adsorbed layer on graphite, mol. mobility and 2-D transitions 4-29825
 methane adsorbed on graphite, NMR study 4-46142
 methane multilayers adsorbed on graphite, thermodynamics study 4-2450
 microlayers, props. and bubble growth kinetics 4-45490
 mobility of adatoms, measurement by field emission 4-2463
 molecular monolayers, on Ag surface, thermal desorption, time of flight mass spectra 4-50628
 molecule adsorbed at metal surface, surface enhanced Raman scatt., mol. charge oscill. mechanism 4-51267
 molecule on Ag particles, surface-enhanced Raman scatt., effect of surface coverage, dipole-dipole interaction 4-7195
 molecules adsorbed on metal surfaces, Raman optical activity, electric field effect 4-14484
 molecules adsorbed on nonmetallic solids, nuclear paramag. relax. 4-38211
 molecules adsorbed on surface, laser multiphoton ionisation detection 4-56140
 molecules near roughened Ag, Cu and Au surfaces, surface enhanced Raman scatt. theory 4-51266
 molecules on Ag film, surface enhanced Raman scatt., waveguide reson. effects 4-35441
 molecules on FCC cryst., electronic spectra, adiabatic approx. anal. 4-29801
 monatomic layer on BCC lattice, surface ordering with allowance for correlation effects (*Russian*) 4-34759
 Monte Carlo methods, solid state physics applications (*German*) 4-53593
 naphthalene chemisorbed mols. on Rh (111), surface struct. and form. energy 4-29800
 nitro compounds on on SiO_2 gel and C, Raman spectra 4-35437
 nitrobenzene, in porous polymer film, optical props. 4-41254
 nucleic acid bases adsorbed on Ag colloids, surface enhanced Raman scatt. 4-57841
 olefins, conversion mechanism over H-ZSM-5 zeolite 4-57599
 optical properties, linear and nonlinear, of adsorbed molecules, local field effect 4-5646
 overlayers, quantitative anal. using Auger technique 4-25163
 pentacyanopropide adsorbed ions, surface enhanced Raman spectroscopy and inelastic electron tunnelling spectroscopy 4-1165
 perdeuterobenzene adsorbed on Ag, Raman spectroscopy without enhancement 4-51394
 phase transitions, Monte Carlo and renormalization group studies 4-20333
 pheophytin adsorbed on metals, light absorption spectra, extinction coeff. meas. 4-14439
 pigments adsorbed on metals, light absorption spectra, extinction coeff. meas. 4-14439
 platelet adhesion on HEMA-styrene copolymer, adsorbed protein effect 4-7945
 polyvinyl alcohol chemisorbed surface layers, planar orientation of nematic liq. crystals 4-10969
 porous dielectrics, adsorbents, specific surface area determ. by NMR 4-32229

adsorbed layers continued

pyridine, adsorbed on Ag, surface enhanced Raman scatt. 4-2930
 pyridine, chemisorbed on metals and semiconds., surface enhanced Raman scatt. 4-30474
 pyridine, electronically excited states of chemisorbed molecules 4-33359
 pyridine, on Pt, struct. determ., EELS study 4-30578
 pyridine, substituted, on Ag electrode 4-46239
 pyridine adsorbed on Ag, first layer enhancement in Raman scatt. 4-51393
 pyridine adsorbed on Ag, surface Raman enhancement, charge transfer excitation role 4-51270
 pyridine on Ag and Cu electrodes, surface-enhanced Raman scatt., evidence for active site low density 4-51271
 pyronine G/malachite green adsorption layers intermolecular energy transfer, photoacoustic studies 4-39669
 quartz fibres, adsorbed H_2O , IR spectroscopic study 4-33722
 quinoxaline, on Ag electrode, surface enhanced Raman spectra 4-35423
 Raman scattering and second harmonic generation 4-40452
 rhodamine 6G ions on W substrate, laser photodetachment from adsorbed layers 4-29814
 rhodamine-B, adsorbed on naphthalene and glass, fluoresc. meas. 4-11916
 rhodamine B, on NaI (001), population of empty surface states by electrons captured from ground state 4-16291
 ruthenium tris-bipyridine adsorbed on Ag-island films, light scatt., electromagnetically induced changes in intensities, spectra and temporal behaviour 4-51395
 semiconductors, adsorbed molecules, Raman scatt. theory 4-2929
 single adatom and diatomic cluster surface migration, FIM studies 4-29821
 single atom surface diffusion, field emission ion microscopy 4-29819
 small particle system lateral interactions 4-50634
 sodium hexadecylbenzenesulphonates, branched, air-water interfacial meas. (*French*) 4-15748
 spectroscopy, field, thermionic and secondary electron emission, book 4-47790
 surface diffusion and statistical mechanical models 4-29818
 surface diffusion in systems with competing order parameters 4-29810
 surface enhanced Raman scatt., short-range reson. charge transfer contrib. 4-7196
 surface enhanced Raman scatt. by cylindrical gratings 4-25749
 surface enhanced Raman scatt. mechanism for adsorbates on metals 4-30479
 surface mobilities on solid materials, conf., Les Arcs, France, Sept. (1981) 4-27245
 meso-tetraphenylporphine and its Ag, Mg and Zn complexes, surface enhanced Raman spectra 4-16190
 thin metal films, adsorbed organic mols., surface amplification of photoionization signal 4-9842
 thionine (3,7-diaminophenothiazinium) chloride, multilayers on graphite electrodes, Raman spectra 4-51260
 two-level atom, near or adsorbed on metal surface, reson. fluoresc. 4-33369
 water, on Ni, activation by chemisorbed O, XPS anal. 4-41255
 water, on Pb, activation by chemisorbed O, XPS anal. 4-41255
 water, on Si (100), vibr. spectrum, rel. to EELS meas. 4-29767
 water, on $\text{V}_2\text{O}_5 \cdot x\text{H}_2\text{O}$ xerogel, H bonds, IR spectroscopy study (*French*) 4-2916
 water on immersed electrodes, ATR studies 4-45492
 Ag (111) adsorption of H_2 , EHT study (*Chinese*) 4-2425
 Ag adsorbed layer on ZnS, coverage, photothermal deflection spectroscopy studies 4-39667
 Ag, adsorbed Ru II complex, surface enhanced Raman and reson. Raman scatt. 4-16192
 Ag on PLZT ceramic domain struct. determ. 4-35397
 Ag, on Si (111) 7×7 surface, RHEED intensity anal., kinematic diffraction approach 4-20444
 Ag overlayer on Pt surface, electronic struct., XPS and UPS studies 4-25416
 Ag/Si (111) interface struct., and form., EXAFS studies 4-29830
 Ag-Au clusters with adsorbed molecules, surface enhanced Raman scatt. theory 4-25747
 Al (111) with adsorbed H_2 , EHT study (*Chinese*) 4-2425
 Al (111) with Sn and Pb monolayers, coverage and core level binding energies 4-25153
 Al adsorbed on rough Ag surface, EM field investigation by differential reflectometry 4-51396
 Ar adsorption isotherms for graphite basal face, first monolayer melting 4-25158
 Ar overlayer on Ag (111), electron stimulated desorption 4-29812
 Ar submonolayer film on graphite, melting transition, mol. dynamics studies 4-29787
 Au (111) with adsorbed Ar, Kr, Xe, N_2 , O_2 , methane and ethane, triple point wetting study 4-39673
 Au adsorbed monolayer on Pt (001) surface, electronic struct. calc. 4-45847
 Au overlayer on Pt surface, electronic struct., XPS and UPS studies 4-25416
 Ba film on W substrate, adsorption of Cs atoms 4-50644
 Br chemisorbed submonolayer on Si (111), surface registration, X-ray interferometric study 4-34787
 Br $^-$ adsorbed on Au surface, characterisation using visible electroreflectance spectroscopy 4-56144
 Br $_2$ adsorbed on substrates, stretch nodes, Raman study 4-49036
 C, adsorbed on Ru, thermodynamic and chem. props. 4-7754
 C and O adsorbate diffusion and recombination kinetics on Pt (111) 4-31028
 a-C, nucleation of Sb, atomistic nucleation theory 4-39439
 C, on Ni surface, field emission microscope studies 4-29751
 CN, on Ag, charge transfer, surface enhanced Raman scatt. study 4-56944
 CO adsorbed mols. on Ni (100), Auger line shapes, angle depend. changes 4-35524
 CO adsorbed on Cu/ZnO, IR transmission spectroscopic study 4-56143
 CO, adsorbed on metals, stretching band vibr. shift, IR obs. 4-54670
 CO bonding to metal surfaces, mol. orbital cluster model anal. 4-20477
 CO, chemisorbed on surface vicinal to Cu (110), IR spectrum, effect of defect sites 4-56945
 CO, coadsorbed with Na on Cu (100), reduced stretch vibr. freq., EELS study 4-29766
 CO, electronically excited states of chemisorbed molecules 4-33359

adsorbed layers continued

- CO molecules on metal surface, oxidation mechanisms (*Russian*) 4-34779
 CO, on Co (10 $\bar{1}$ 0), flash desorption spectra evaluation 4-56146
 CO, on Cu and Ag, dielec. const., ellipsometry and resist. meas. 4-56848
 CO on Cu or Ag films, dielec. const. study (*Japanese*) 4-2860
 CO, on metals, excited states and decay mechanisms 4-56142
 CO on Ni, CO, electron- and ion-induced desorption studies 4-29809
 CO, on Pt (001), valence band shakeup, synchrotron radiation photoemission spectra 4-36066
 CO orientation at step sites of Pt(321) surface, implications for catalytic oxidation 4-34781
 CO, oxidation on kinked Pt (321) surfaces 4-31023
 Cl interaction with Ru (100), UPS, AES, LEED, work function and desorption studies 4-29805
 Cl, on Si and Ge, local struct., surface EXAFS study 4-6661
 Cl₂ adsorption on Cu, electronic excitations, angle-resolved LEED study 4-2460
 Co ferrofluid, struct., neutron scatt. studies 4-30238
 Cs on Cu (111), struct., LEED studies 4-25132
 Cs submonolayer coating on W, Cs atom displacement by Ba and Tm 4-25162
 Cu (111) with Co overlayers, mag. props. calcs. 4-11740
 Cu adsorbed layer on Ni (100), electronic struct. and magnetism, self consistent calc. 4-56407
 Cu adsorbed layer on ZnS, coverage, photothermal deflection spectroscopy studies 4-39667
 Cu adsorbed on rough Ag surface, EM field investigation by differential reflectometry 4-51396
 Cu phthalocyanine layer on ZnO (1 $\bar{1}$ 00), photocond. meas. and ellipsometric spectroscopy 4-25393
 Cu with adsorbed Ag, overlayer electronic struct. study 4-20481
 Cu-Ni, O adsorption effect during irradi., SIMS, SIPS and ISS study 4-46394
 F, on Si surface, electronic struct. and associated nucl. quadrupole interaction 4-39663
 Fe complex, with 1,10-phenanthroline, on Ag and Fe, surface enhanced Raman spectroscopy 4-35429
 Fe, pure, corrosion, inhibition or catalysis by guanidine derivatives 4-12235
 GaAs (110) with adsorbed Al, Ga and In, chemical bonding, adatom-adatom interaction 4-29784
 H and CO coadsorbed on Pd, methanol decomp. and interactions, TDS, LEED, AES studies 4-41256
 H chemisorbed layer on W (100), incommensurate struct., LEED simulation 4-45528
 H, chemisorbed on Si (111)-(2 \times 1) surface, deconstruction mechanism 4-29789
 H, on , struct. determ., EELS study 4-30578
 H, on Ni (110), vibr. modes 4-50622
 H, on Ni (111), phase diagram, position-space renormalisation theory 4-34792
 H, on Ru (001), binding sites, high resolution EELS study 4-20489
 H on Si (100) and (111), bonding, EELS studies 4-25164
 H, surface spin relax. for lowest two hyperfine states 4-19190
 H-induced W (100) surface reconstruction, lattice dynamic effects 4-45475
 H₂ molecules on metal surface, oxidation mechanism (*Russian*) 4-34779
 HCO₂ , on Pt, struct. determ., EELS study 4-30578
 H₂O, adsorbed, static polarisability calc., crit. hydration appl. 4-15765
 H₂O adsorption on α -Fe₂O₃, FTIR spectra, heat flow microcalorimetry 4-40428
 H₂O, decomposition on O-covered Pt (111), thermal and vibr. excitation effects 4-46799
 He 2¹S metastable atoms, adsorbed on metal, deexcitation processes, effect of surface electronic struct. 4-33381
 He films with adsorbed spin polarised H superfluid film, sound propagation (*Chinese*) 4-2404
⁴He adsorbed monolayer, solid, props. and melting transition 4-2402
⁴He film, mass transport and third sound meas. near Kosterlitz-Thouless transition 4-2391
⁴He, on SiO₂ powder, effect on positron lifetime meas. 4-21065
 Hg, on metal surface, UPS assignments 4-21108
 I, on Si and Ge, local struct., surface EXAFS study 4-6661
 K, adsorbed on W, surface diffusion, directional dependence 4-2457
 K coadsorbed, interaction with π -electron orbital containing mols. on Pt(111) 4-7746
 KFe(CN)₆·H₂O, elec. cond. study 4-2610
 Kr adsorbed layer on graphite, incommensurate phase, mol. dynamics method anal. 4-34788
 Kr adsorbed monolayer, weakly incommensurate phase, soliton theory 4-20467
 Kr monolayer on graphite (0001), surface vibr. and thermodynamic props. 4-6659
 Kr on Ag (111), electron stimulated desorption 4-29812
 Kr, on graphite, commensurate phase melting 4-11252
 Kr, on graphite, commensurate melting, domain walls, and dislocations 4-29788
 Kr submonolayer film on graphite, melting transition, mol. dynamics studies 4-29787
 Mn with chemisorbed H₂, O₂-induced segregation study 4-6653
 MnO on C foil, electronic struct., XPS study 4-19102
 Mo (011) with adsorbed H film, electron stimulated ordering 4-39666
 N₂, adsorbed on metals, XPS satellite struct. 4-7308
 N₂, on graphite, incipient triple point, AC heat capacity and thermodynamic anal. 4-6650
 N₂ physisorbed layer on graphite, struct., LEED and mol. dynamics simulation 4-45525
 (N₂)_x-Ar_x dilute films adsorbed on graphite, orientational ordering 4-20483
 NH₃ adsorbed by Si-OH groups on SiO₂ surface, IR spectrum 4-33400
 NH₃ on Ni (110), X-ray induced electron stimulated and photon stimulated desorption 4-25161
 NO, electronically excited states of chemisorbed molecules 4-33359
 NO, molecularly adsorbed on Ni, SCF α scattered wave cluster study 4-45519
 Ne, on graphite, energy and struct. of monolayer and bilayer solids 4-45503
 Ni (100) with adsorbed CO, anharmonic damping of adsorbate vibr. modes 4-20480
 Ni (100) with adsorbed CO, molecule-substrate vibr., IR study 4-39674

adsorbed layers continued

- Ni (100) with adsorbed O or S, anharmonic damping of adsorbate vibr. modes 4-20480
 Ni (111) with Sn and Pb monolayers, coverage and core level binding energies 4-25153
 Ni sputtered atoms, photon emission near Curie point, target temp. effects 4-11396
 Ni(001) with (2 \times 2)S, surface struct. determ. by photoelectron diffraction 4-12009
 Ni(100) with adsorbed O and S, adsorbate vibr. energies 4-29781
 O atom interaction on Ni(001), electronic struct. APW calc. 4-45852
 O layer on Ta film, effects on H absorption rate 4-20474
 O, on Cu, H₂ interaction kinetics, ellipsometry 4-41261
 O, on Cu (001), surface struct. determ. using LEED I-V curves, appl. of averaged Patterson function 4-15750
 O on Ni (100), coverage-depend. vibr. shift 4-29762
 O, on Ni (110), surface anal. by AES induced by surface channelled ions 4-30588
 O on Ni (110) surface, He⁺ and Li⁺ scatt. and neutralisation 4-11987
 O on Si (100) and (111) bonding, EELS studies 4-25164
 O overlayer on W(110), fourfold degenerate ground state, 2D ordering dynamics 4-2446
 O⁻ adsorbed on Al surface, laser-induced surface migration 4-50625
 O₂ adsorbed on Ag, surface enhanced Raman spectra 4-57600
 O₂ adsorbed on Ag (110) surface, around Ag plasma freq., ellipsometric study 4-51400
 O₂ adsorbed on Ag films, ellipsometric study 4-57014
 O₂ chemisorbed layer on W (112), phase diagram and order-disorder transformations 4-25151
 O₂ covered Ni (001), surface relax. and force consts. 4-11390
 O₂ layer on PbTe film, elec. cond., Hall effect, and thermoelec. power 4-11608
 O₂ on Cu or Ag films, dielec. const. study (*Japanese*) 4-2860
 O₂ ordered overlayer on Ru (001), EELS and vibr. struct. 4-15757
 O₂ - on Ti ions on oxide supports, MO calcs. 4-2432
 Pb adsorbed layer on ZnS, coverage, photothermal deflection spectroscopy studies 4-39667
 Pd film growth on Si (111) 7 \times 7 surface, struct., low energy ion scatt. study 4-45542
 Pd layer on Ta film, effects on H absorption rate 4-20474
 Pd, on MgO, gas exposure effects on metal particles, in situ TEM studies 4-25192
 Pd thin film with adsorbed O₂ and CO, Auger, electron loss spectra studies 4-50645
 Pt (100), non-equilibrium surface phase transitions during CO catalytic oxidation 4-25133
 Pt (111) with adsorbed Xe, Xe gas-solid transition, thermal He scatt. method 4-29588
 Pt (997), of H, binding energy from low energy ion recoil scatt. 4-45485
 Ru (0001) with Cu monolayers, electronic and geometric struct. 4-25179
 Ru (001) with adsorbed NH₃, local and long-range interactions with adsorbed Na and O₂ 4-2427
 Ru (001) with adsorbed Na, local and long-range interactions of NH₃ 4-2427
 Ru (001) with adsorbed O₂, local and long-range interactions of NH₃ 4-2427
 Ru complex, Ru(bpy)₃²⁺ bound to porous Vycor matrix, quenching by quinones in benzene solns. 4-28500
 S catalytic poison on Rh (001), effects on electronic struct. 4-25414
 S, chemisorbed on Pt (111), reversible phase transitions 4-15761
 S, on Ni, effect on surface self-diffusion 4-34767
 Sb on Si MBE layers, doping kinetic model 4-15512
 Si, chemisorption of O₂, multiple bonding configurations 4-2449
 Sn, adsorbed on Ge(111), electronic struct., ARUPS study 4-50889
 Sn overlayer on Ge (111), atomic geometry, X-ray photoelectron diffraction study 4-29798
 Ta (110) with adsorbed H, photoemission study 4-20479
 Te, on Si and Ge, local struct., surface EXAFS study 4-6661
 Ti overlayers, quasi-one-dimensional, CDW study 4-56246
 Tm film on W substrate, adsorption of Cs atoms 4-50644
 W (011) with adsorbed H and D lattices, thermal and electron-stimulated disordering 4-11407
 W adatoms on W surface, medium range interactions 4-6651
 W tip with adsorbed H, interpretation of FEM patterns 4-2439
 Xe, adsorbed mols. on W (100), surface diffusion, field-emission-current fluctuations 4-25144
 Xe, adsorbed on graphite, NMR study 4-20874
 Xe monolayer on graphite (0001), surface vibr. and thermodynamic props. 4-6659
 Xe on Ag (111), electron stimulated desorption 4-29812
 Xe, on graphite (0001), selective adsorption and interaction pot. for He atom scatt. 4-35542
 Xe, on metal surface, UV photoelectron spectra assignment 4-43857
 Xe, ordered layers on Ag (111) and Al (111) surfaces, excitonic transitions, EELS 4-45487
 Xe submonolayer film on graphite, melting transition, mol. dynamics studies 4-29787
¹²⁹Xe on Rb, nuclear polarisation and relax., surface treatment effects 4-50637

adsorption

- see also *heat of adsorption*
 adsorbate behaviour, 2D hydrodynamic model 4-2448
 acid-base interactions on metal oxide catalysts, luminesc. study 4-56141
 adsorption of CO and N₂ on Ni surface, shape reson. energies, X α scatt.-wave calcs., photoionisation 4-54606
 aromatic amino acids adsorbed by Ag hydrosols, surface enhanced Raman spectra 4-36067
 asbestos chrysotile, of phospholipids, XPS investigation (*French*) 4-7311
 atom-probe studies (*Japanese*) 4-39685
 atomic electronic states, effect on thermodynamic functions, Langmuir theory 4-50643
 atoms, nonpolar, physisorpt. interaction, quadrupole dispersion contrib. 4-2428
 calorimetry, study of consecutive processes 4-29795
 charcoal, thin adsorbers, residual adsorpt. capacity prediction 4-31020
 chemistry, appl. of neutron scatt., review, book contrib. 4-39056
 critical wetting transition in multilayer adsorption, universality classes 4-11405
 cryogenic gases, adsorption on CAET-4B mol. sieve 4-16684
 diamond powders, surfaces, adsorption props. 4-41249

adsorption continued

- diffusion controlled adsorption, conc. kinetics, ideal isotherms and some appl. 4-11402
- directional switching in planar waveguides effected by adsorption-desorption processes 4-33763
- elastic scattering, selective adsorption, Wigner R-matrix theory 4-7292
- ethylene adsorpt. on α -Al₂O₃ bidisperse porous catalysts 4-31019
- fibrinogen, surface tension and adsorption kinetics on gas-liquid interface 4-16827
- fractal surfaces of adsorbents 4-7745
- gelatin function during precipitation and growth of Ag halide crystals. (*German*) 4-16696
- geological systems, surface adsorption and mobility effects 4-31484
- glass filaments, specific surface area determ. by BET and CAEDMON methods 4-2436
- Grafoil, of N₂, heats and entropies of adsorpt. at 79.3K 4-50631
- graphite, Ar adsorption isotherms, first monolayer melting 4-25158
- graphite, KOH adsorption on basal surface 4-2462
- graphite, of Xe, heat of adsorpt. and vibr. freqs., calorimetric obs. 4-29772
- graphite (0001), K absorption and intercalation, LEED and AES studies 4-29786
- graphite (0001), selective adsorption and interaction pot. for He atom scatt. from adsorbed Xe layer 4-35542
- n-heptane/water interface, adsorption of tetrabutyl-, tetrapentyl- and tetrahexylammonium chlorides 4-15746
- ice, amorphous, adsorpt. and mobility of H atoms on surface 4-29775
- ice, surface structure, modification during ageing 4-29739
- inverse photoemission, applications and related techniques, instrumentation 4-30557
- ion in deformable matrix, water droplet adsorption, thermodynamic properties 4-25146
- laser-induced gas-surface interactions, review 4-6646
- lattice gas model, coadsorption, phase transitions 4-48016
- ligneous materials, of phenol, thermodynamic and kinetic investig. (*French*) 4-29778
- liquid-liquid interface, polymer adsorption, self-avoiding walk model 4-37029
- metal surface, He friction, sticking coeff. and scatt., perturbation approach 4-45515
- metal surface, van der Waals interaction in physisorption 4-34790
- metal surface, work function and surface energy, correlated-basis-function theory 4-20583
- metal surfaces, energy characts. of adsorption, rel. to degree of adatom covering 4-20462
- metal surfaces, IR refl.-absorption spectroscopy of adsorbed mol., review 4-16188
- metal surfaces, molecular adsorption processes, poisoning and promotion 4-45510
- metallic thin films, clear, adsorption and decomposition of water, work function and elec. resist. meas. 4-34776
- metallic thin films, pretreated and passivated, water adsorption, work function, elec. resist. meas. 4-34777
- metals, evaporation field, effect of adsorbed H₂ 4-30611
- metals, group VIII, of O₂, oxidation and surface struct. (*Russian*) 4-34779
- metals, physisorption of He, ground-state energy and bound levels spectrum calcs. 4-45489
- metals, surface vibr., adsorpt. site symm. effect 4-39659
- microcomputer-controlled gravimetric absorption apparatus 4-18029
- molecular fractal surfaces, fractal dimension and appls. to adsorption 4-50617
- naphthalene, monofunctional derivatives, adsorpt. on interfaces 4-50642
- noble metal, van der Waals interaction in physisorption of He 4-34790
- nuclear materials, thermal accommodation coeffs. for inert gases 4-1576
- overlayers, quantitative anal. using Auger technique 4-25163
- physical adsorption, review (*Japanese*) 4-39686
- physical adsorption and surface plasmons 4-6656
- polyhydroxyalkyl methacrylate biocompatibility, adsorpt. obs. of plasma proteins 4-3650
- porous materials, adsorption-desorption hysteresis model 4-1599
- porous materials, water vapour adsorption, specific surface area meas. appl. (*Japanese*) 4-20475
- proteins adsorbed by Ag hydrosols, surface enhanced Raman spectra 4-36067
- pulsed system dispersion, heterogeneous reaction and reversible adsorpt. in capillary tubes 4-10754
- rare earth permanent magnets, bonded, thermal stability characts. 4-7028
- rectangular lattice gas model and 2-D ANNNI model in a field 4-20466
- rutile/heptane interfaces, of triethylamine, IR obs. 4-51258
- rutile/vapour interfaces, of triethylamine, IR obs. 4-51258
- secondary electron resonant emission, effects of adsorbates 4-21083
- self-avoiding domain walls, edge pinning and internal phase transitions 4-39434
- self-avoiding walk adsorption, real space renormalisation group study for d=2,3 4-22708
- semiconducting gas sensors, surface cond. method 4-22775
- semiconductor surfaces and interfaces, review 4-30043
- semiconductors, surface defects, role in Fermi level pinning 4-6635
- separation efficiency in cyclic steady state 4-31018
- serum albumin powder, bovine, elec. cond. under press., adsorption effects 4-36356
- single species surface reactions, adsorption, desorption and rate multiplicity 4-46800
- single-solute adsorption from dil. solns. on solids, appl. of Toth's eqn. 4-2437
- solid-dilute solution interface, monolayer adsorpt., XPS investigation (*French*) 4-7311
- solid-fluid interfaces, complete wetting, integral eqn. theories 4-20476
- solid-gas interface, wetting transition 4-34782
- from solution, determination method 4-50633
- steel, reinforcing, H adsorpt. from cement extract, stress/strain state influence 4-57404
- steel, stainless, Tafel consts. and changes in H₂ coverage 4-35768
- steel fatigue failure in aggressive environments, adsorpt., dissoln., and H embrittlement processes 4-21393
- surface concentration and adsorption kinetics, photothermal deflection spectroscopy studies 4-39667
- surface props., Green's function calc. 4-6854
- surface reaction dynamics 4-57597

adsorption continued

- surface science conf., Warwick, England (Apr. 1983) 4-27238
- theoretical aspects of adsorption and heterogeneous catalysis 4-29816
- thin films, nucleation, growth, adsorption and surface diffusion 4-29854
- thin films nucleation and growth, potential energy scaling Monte Carlo simulation 4-11421
- transition metal hexamine cations, surface enhanced Raman scatt. at outer Helmholtz plane, electrochem. interface enhancement 4-38189
- transition metal surface adsorbed H₂O, monolayer struct. 4-2443
- transition metal surfaces, of H, ground state props., effective medium theory 4-34796
- ultrafiltration membranes, rejection of macromols., adsorpt. effects 4-7747
- ultrahigh vacuum analytical scanning electron microscopy, surface science appl. 4-50150
- water/air interface, of octanoic acid, surface tension meas. 4-25148
- water/hexane interface, adsorpt. of alkylammonium chlorides, temp. and conc. effects 4-25147
- wetting transitions near bulk triple points 4-6627
- zeolite 13X, methyl iodide adsorption, zeolites appl. to I removal from dissolver off-gas 4-52048
- zeolites, synthetic, adsorption props. standard specimen, X-ray anal. 4-16716
- zeolites, X-type, FIR studies 4-56922
- Ag (110), H₂ collisions, selective adsorpt. reson., mag. sub-level splitting 4-46408
- Ag (110), of O₂, precursor state and thermodynamics 4-45529
- Ag (110), of SO₂, LEED, XPS and UPS studies 4-45518
- Ag (111), of Cl, LEED, Auger effect and desorption studies 4-29802
- Ag (111), scatt. of n-H₂, p-H₂, n-D₂, o-D₂, selective adsorption reson. 4-25843
- Ag clusters, matrix isolated, of CO(NO), IR investig. 4-28436
- Ag electrode, C-overlayered, adsorpt. of NH₃, Raman spectrosc. obs. 4-50632
- Ag electrode, of H₂O, high salt conc. effects, SERS investig. 4-45488
- Ag electrode and colloidal Ag, of 1,1'-diethyl-2,2'-cyanine chloride, SERS meas. 4-56903
- Ag film, vapor deposited, optical spectra of adsorbed O₂ 4-40470
- Ag films, coldy condensed, of pyridine, surface-enhanced Raman scatt. active sites 4-25821
- Ag films, pure and O covered, ethylene adsorption, photoelec. and ellipsometric studies 4-39682
- Ag films, vacuum deposited, adsorption of O, surface enhanced Raman spectra 4-40463
- Ag, of O, optical anisotropy, spectroscopic ellipsometric anal. 4-40400
- Ag, of water, on clean and O-covered surfaces 4-34793
- Ag surface, covered with K or Cs, adsorption of O₂, XPS study 4-21110
- Al surface, epoxy resin adsorption, binding energies, XPS study 4-34778
- Al-O system, electron bombardment effects on AES spectra (*French*) 4-50364
- Al₂O₃ insulator surface, ISFET struct., counter-ion adsorption effect on surface pot., pH characts. 4-39683
- Al₂O₃, of chlorosulfone free radicals for low press. plasma 4-7717
- Al₂O₃, of Cu⁺ ions, EPR spectra, ionic bond form. 4-30268
- Au electrodes, of Fe phthalocyanine, laser Raman spectra 4-2434
- Au polycrystalline film, specific adsorption of Br⁻ and I⁻, electrode resist. in electrochem. cell, size effect anal. 4-34799
- BN, basal planes, adsorption isotherms of benzene 4-20487
- BeO, thin films and ceramics, TSEE yield rel. to gas adsorption 4-7321
- Bi (0001), of O₂, kinetic, electronic and structural features 4-25160
- Bi₂Te₃S₁₀, conductance modification by gas adsorption, 2D scaling theory 4-39910
- Br₂ sorption on finely porous filter, laser light effect 4-34802
- C, activated, Freudlich adsorption consts. for organic cpd. adsorption 4-29773
- C, active, H₂O adsorption and enthalpy of immersion, theory 4-12383
- C blacks, oxidised, oligobutadiene rubbers adsorption 4-16683
- C₂K, physisorbed H₂(D₂), low temp. sp. ht. meas. 4-15663
- Ca₂(OH)(PO₄)₃ surface, fluoridated, ¹⁹F MAS-NMR investig. 4-11775
- Cd chalcogenide/ferri-ferrocyanide photoelectrochemical cells, effect of surface morphology and added salt 4-26296
- Cd, electrodeposition from acidic bath, demetalisation, specific anion adsorpt. 4-16348
- CdO surface, adsorption, gas chromatographic study 4-35933
- CdSe thin films regeneration after O chemisorption 4-39690
- Co (1010) and polycryst. surfaces, oxidation, 300 to 700K, AES study, struct. and temp. effects 4-30860
- CoO surface, adsorption, gas chromatographic study 4-35933
- Cr thin film, gas adsorption, internal stress meas. 4-39691
- Cu (001), O₂ adsorption sites, LEED study 4-2445
- Cu (100), of water, EELS spectra at low temp. 4-50626
- Cu (100) face, elec. double layer with specific chloride ion adsorpt., quasi-mol. model 4-57572
- Cu (110), adsorption and decomp. of formic acid, IR reflection-absorption spectroscopy study 4-20494
- Cu (110), clean and O-covered, H₂S adsorption kinetics, AES studies 4-29806
- Cu (110), of H₂O, UPS, desorption, work function and LEED studies 4-45509
- Cu (110), of NH₃ and ND₃, high resolution EELS study 4-45530
- Cu (110), of O₂ surface reconstruction, high energy ion scatt. study 4-20490
- Cu (111) and (100), of Pb, secondary electron emission changes 4-57049
- Cu (111) and (110) oxidised surfaces, adsorption of CO, IR spectra, LEED, and surface pot. meas. 4-29794
- Cu {100}, coadsorption of CO and K, valence band photoemission study 4-57076
- Cu, adsorption of haloacetic acids, anodic polarisation obs. 4-51863
- Cu colloids, aqueous, of pyridine, surface-enhanced Raman scatt. 4-38190
- Cu electrodes, of Fe phthalocyanine, laser Raman spectra 4-2434
- Cu, of O₂, electrochem. determ. and AES study 4-34798
- Cu, of Pb-Sn double monolayers, AES, secondary electron emission obs. 4-39697
- Cu, of phenol, high resolution EELS, angle-resolved photoemission studies 4-30579
- Cu, of water with Br on (110) and (111) surfaces, UPS, LEED, TDS, work function studies 4-30603
- Cu surface, adsorption of ethyl xanthate, XPS study 4-35545
- Cu surface, cetyltrimethylammonium bromide adsorption, surface enhanced Raman scatt. study 4-30475

adsorption continued

- Cu₃Au (100), of O₂, Auger electron spectra studies 4-45506
 Fe (001), of Se, LEED, AES, and work function meas. 4-20495
 Fe (100), (110), and (111), adsorption of acetylene, structs. and reactions 4-45504
 Fe (110), adsorption and decomp. of methanol, EELS study 4-20484
 Fe (110), of O and S, polarised electron diff. study 4-56129
 Fe, clean and with surface carbidic layer, struct. study by surface extended energy loss spectroscopy 4-51425
 Fe film, adsorption of CO₂, effect of preadsorbed H, volumetric meas., changes in work function and resist. 4-29797
 Fe, of H₂, Surface Orbital Modified Occupancy-Bond Energy Bond Order calc. 4-25159
 Fe, of I₂, core and valence electron binding energies, XPS, UPS and electron impact meas. 4-54884
 Fe-Cr alloys, surface segregation and adsorption, anal. with backscattered ions 4-29623
 FeO, planar and non-planar surfaces, defect struct. calc. 4-20443
 α -Fe₂O₃ electrodes, photodecomposition of water, surface studies (Chinese) 4-37589
 α -Fe₂O₃, water adsorption, FTIR spectra, heat flow microcalorimetry 4-40428
 α -Fe₂OOH, goethite, grinding induced decomposition to α -Fe₂O₃, N₂ adsorption study 4-3269
 Ga-Sn, liquid, surface segregation, AES study 4-29736
 GaAs, interface form., Schottky barrier form. 4-6669
 GaAs, of O, surface electronic props. on (100) face 4-56409
 GaAs-Pd Schottky barrier diodes, capacitance-voltage characts., effect of H₂ adsorption 4-20722
 Ge (100) and (111), adsorption of H, work function, surface cond., and EELS study 4-56148
 Ge (111)-Pb interface, growth and struct., LEED, AES, and SEM study 4-20502
 H adsorption in liq. He surface, two dims. triplet H-H scatt. 4-36940
 H₂ adsorption on UV excited MgO surface, enhanced phosphoresc. 4-51324
 InP surface, cleaved, adsorption of Ga and Sb 4-29815
 InP/Pd surface-barrier Schottky diodes, H adsorption effects 4-35069
 InP-Pd/Ti Schottky diode, of H, effect on elec. characts. 4-35068
 KCl:Ca²⁺, dislocation charges, effects of impurities 4-55835
 K₂Zn₃[Fe(CN)₆]₂, of methylpentanes, kinetics (French) 4-29777
 MgO monocrystal, thermally stimulated exoelectron emission peaks rel. to oxygen adsorption 4-7325
 MgO, planar and non-planar surfaces, defect struct. calc. 4-20443
 Mo (100), clean and S-covered, adsorption and decomp. of thiophene, thermal desorption study 4-34800
 NO adsorption by liq. N₂O₄ flow (Russian) 4-43573
¹⁴N(d, α) and ¹⁴N(d,p) reactions absolute calibration for surface adsorption studies 4-46821
 NaCl (001), selective adsorption of ⁴He, diff. expts. 4-51442
 Na_{0.7}WO₃, of water, high resolution EELS, photoemission studies 4-30577
 Ni (001), mol. S₂ chemisorption, LEED, AES, work function meas. 4-39689
 Ni (001), O₂ adsorption sites, LEED study 4-2445
 Ni (001), of S, effects on surface struct., LEED and UPS studies 4-29744
 Ni (100), coadsorption of CO and D₂, temp. induced effects, thermal desorption, work function, UPS and XPS meas. 4-29793
 Ni (100), of ethylene, multiple scatt. Xa calc. 4-34801
 Ni (100), of I₂, core level photoemission study 4-35552
 Ni (100), of I₂, core level photoemission study 4-45526
 Ni (100), of O, surface struct., near-EXAFS studies 4-20442
 Ni (110), adsorption kinetics and electron scatt. of gases and water, angle-resolved UPS study 4-21109
 Ni (110), CO adsorption, CO-S interactions 4-2456
 Ni (110), of H, ordered low temp. phases, LEED study 4-45501
 Ni (111), CO and K coadsorbed, atomic exchange 4-15770
 Ni (111) and (110), dissociative adsorption of H₂, absence of magnetocatalytic effect 4-34797
 Ni (111) layers, on C, heterogeneous catalytic props., effect of metal-support interactions 4-57602
 Ni (111) surface, H₂ thermal desorption, adsorption isotherms 4-20469
 Ni, corrosion, reaction with SO₂+O₂ 4-21358
 Ni, of intercrystalline He, neutron irradiation effects, radiation embrittlement 4-39687
 Ni, silica-supported, benzene adsorption, Fourier transform IR spectroscopy (Russian) 4-34780
 Ni-Fe, passivation, influence of S 4-57423
 NiO single crystal, interaction with O₂, microcalorimetry to study defect structure 4-50281
 NiO surface, adsorption, gas chromatographic study 4-35933
 Pd (100), of CO, SIMS and high resolution EELS studies 4-45524
 Pd (100), of water, EELS spectra at low temp. 4-50626
 Pd, adsorption of CO₂ and O₂, surface structure effects 4-6664
 Pd electrodeposited, sorption props., effect of Bi 4-57574
 Pd, electrodeposited, of Ag atoms, tracer atom investig. 4-50641
 Pd, of CO on (111) surface, photoemission spectra, C KVV Auger spectroscopy; 4-30605
 Pd polycrystalline surfaces, adsorption and desorption kinetics of CO 4-20493
 Pd surfaces, (110), (100) and (111), Xe adsorpt., LEED, UPS, work function and flash desorpt. investig. 4-39664
 Pd-SiC interface, form. and oxidation, AES and EELS study 4-15771
 Pt (100), of CO, NO and CO/NO, IR reflection-absorption study 4-45522
 Pt (100), of O₂, kinetics and energetics, thermal desorption, work function, and XPS meas. 4-56151
 Pt (100), of O₂, Rutherford backscatt., nuclear microanal., work function, and LEED meas. 4-56150
 Pt (111), coadsorption of K and CO 4-20486
 Pt (111), of CO, thermal He scatt. study 4-34794
 Pt (111), of NO, XPS, LEED, and AES study 4-45500
 Pt (111), of O₂ and reaction with S 4-35943
 Pt (111) surface, C covered, adsorption of 2,4,6-trinitrotoluene, temp. programmed desorption study 4-34773
 Pt, electrochemical adsorption of H₃PO₄, in situ Fourier transform IR spectroscopic study 4-34784
 Pt electrode surface, oxidized, vibr. spectra, EELS and XPS study 4-46384
 Pt, of H₂ and S, work function meas. 4-20705

adsorption continued

- Pt surface, covered with K or Cs, adsorption of O₂, XPS study 4-21110
 Pt surface-gas mol. scatt., vibr.-rotational-translational-phonon energy transfer 4-45514
 Pt/CeO₂ supported catalyst, O₂ and N₂O adsorption, EPR study 4-34774
 Pt/electrolyte interface, Cu adsorption, Mirage detection and polarisation modulation study 4-39668
 Pt₂Ni_{100-x}, of CO, vibr. EELS, TDS meas. 4-40589
 Pt(100), CO induced hex-(1×1) phase transition, absolute coverages and hysteresis phenomena 4-6487
 Re (0001), of O₂, 50 to 300K, XPS and UPS study 4-29791
 Re, carburized, of Pu, surface ionis. kinetics 4-21101
 Rh (III) surface, of O₂, CO and Na atoms studied using optical second harmonic generation 4-34785
 Rh (100), coadsorption and interaction of CO and D₂, electron spectroscopic study 4-50639
 Rh (100), coadsorption of NO and D₂ 4-45513
 Rh (100), NO chemisorption and decomposition, desorption studies 4-45512
 Rh (111), adsorption and reaction of NO and O₂ 4-31027
 Rh (111), of benzene, LEED, EELS, desorption and Auger studies 4-45527
 Rh (111), of benzene and naphthalene, LEED, AES, and thermal desorption study 4-29796
 Rh, adsorption isotherms of H₂, 193 to 500K 4-15762
 Rh dispersed particles, adsorption of benzene, dispersion effect on ¹H NMR line width 4-45499
 Rh, of HCNO, mol. dissoci., AES, EELS, TDS studies 4-41258
 Rh, of N₂, surface struct. effect, FEM, TDS studies 4-39679
 Rh polycrystalline surfaces, adsorption-desorption kinetics of CO 4-56147
 Ru (001), coadsorption of H₂O and Na 4-2461
 Ru (100), Cl adsorption, UPS, AES, LEED, work function and desorption studies 4-29805
 Ru, of NH₃, mol. orientation, LEED, ESDIAD, TDS, work function meas. 4-39681
 Ru surface, (001), CO desorpt. kinetics and adsorpts. equilib., adsorbate interactions effect 4-11400
 Sb₂SnFe₂O₃, catalyst, adsorp. and desorpt. activation energy of O₂ determ. using isochor technique (French) 4-35932
 Si (100), of O₂, H₂ and H₂O, photoelectron spectra studies 4-45516
 Si (111), of Ag, ion scatt., LEED and AES studies 4-45507
 Si (111), of Ga and In, LEED, AES and photoemission spectra studies 4-45520
 Si (111), of H₂ and ethene, work function, desorption and surface cond. studies 4-45511
 Si (111) 7×7, adsorption and growth of Ag, angle-resolved EELS and LEED study 4-35533
 Si (111)(2×2) adatom geometry, total energy and pyramidal-cluster models 4-45471
 Si, CVD epitaxial growth, doping element incorporation, adsorption- and equilibrium-referred interpretation 4-11159
 Si, microcrystalline, elec. cond., EPR and gas adsorption effects 4-11522
 Si surface, (111)-(2×1), adsorption of H₂, energy loss spectroscopy studies 4-39678
 Si-Al interfaces, metal adsorption, chem. bonding states, AES with MBE technique studies 4-21078
 SiO₂ dispersed silica, structural changes during mol. stratification of CrO₃ 4-41268
 SiO₂ insulator surface, ISFET struct., counter-ion adsorption effect on surface pot., pH characts. 4-39683
 SiO₂ surface, of dimeric species of Cu(II) and VO(II) ions, EPR spectra 4-25628
 α -Sn (100), surface struct., effect of H₂ adsorption 4-29750
 T radioactive waste, long term low temp. storage, adsorption and volatility expts. (Japanese) 4-23150
 Ti-Mn alloy electrodes, electrochem. H storage 4-21591
 TiO₂ powders, adsorption of HCl and water vapours, charact. of adsorbents 4-2435
 TiO₂ semicond. powder suspensions, of polycyclic aromatic mols., fluoresc. investig. 4-15768
 TiO₂ surface, Al³⁺(P₂O₇⁴⁻) adsorpt., ²⁷Al and ³¹P NMR spectroscopy 4-2426
 W (001), O chemisorption, LEED fine struct. anal. 4-29813
 W (110), of acetylene, electron spectroscopy study 4-20488
 W, of Au, work function, AES and electron backscattering studies 4-6645
 W, of Ge, field electron emission and work function 4-12016
 W, of N₂, kinetics effects 4-29776
 W, of S, effects of electron bombard. and coadsorbed species 4-50640
 W, of Si, thermal desorption mass spectrometry studies 4-45505
 W surface, Ge coated, Ba adsorption, field emission microscopy 4-20465
 WO₃·xH₂O, electrochem. props., influences of water adsorption and hydroxylation 4-25720
 Yb, surface 4f level shift, ARUPS study H₂ and O₂ adsorpt. effects 4-50888
 ZnO, of Ze, LEED, desorption and ARUPS studies 4-45517
 ZnS, colloidal dispersion, of O₂, photoinduced, photoluminesc. 4-31031
 Zr, polycrystalline, O₂(N₂)(CO)(N₂O) adsorption, AES and ESCA studies 4-15767

aerials see antennas

aerodromes see airports

aerodynamics

- see also hypersonic flow; jets; shock waves; supersonic flow; transonic flow; turbulence; wind tunnels
 aeroacoustic computation of cylinder wake flow 4-44590
 aerofoil-vortex in a rotational and strained field 4-1733
 airfoils, thin, boundary value problem in nonequilibrium ideal fluids 4-49842
 blunt cones in supersonic flow, unsteady aerodynamic characteristics, boundary layer influence 4-44630
 boundary layer segmentation on sharp highly swept leading edges, effects on secondary vortices 4-1778
 building aerodynamics, conf. Aachen, Germany (June 1983) 4-9
 channel, circular, with eccentricity, numerical modelling of gasdynamics (Russian) 4-10778
 close-coupled canard aircraft performance augmentation by spanwise blowing 4-1779
 computation fluid dynamics for missile design 4-49841

aerodynamics continued

- cubic spline quadrature formula, computation of pot. flow over aerodynamic profile system (*Russian*) 4-10635
- Darrieus rotor double-multiple-streamtube model with secondary effects 4-26267
- detonation waves, diffraction by thin airfoil (*Chinese*) 4-49851
- direct statistical modelling, macroscopic parameters in Monte Carlo methods 4-55425
- gas jets, straight and spreading, gas-dynamic section length and wave struct. 4-5932
- gas longitudinal heat and sound modes description (*Russian*) 4-24401
- gas mass flow, hot film anemometer meas. (*German*) 4-29219
- gas-dynamic analogy of the motion and equilibrium of magnetizable and polarizable media 4-44618
- gasdynamics, rarefaction waves, asymptotic form of model equation 4-1770
- ground effect, nonlinear, for thin wings of arbitrary aspect ratio 4-29110
- horizontal-axis wind turbine rotors blade element performance 4-19855
- hot-wire probes directional sensitivity determ., aerodynamic disturbances exam. 4-24489
- impinging jet issuing from circular planform, flow pattern visualisation 4-49892
- internal combustion engine gasdynamic investigations, finite-amplitude solitary-wave generator design and operation (*Russian*) 4-55463
- IR thermal images processing for research 4-29213
- isotropic gas dynamics, viscosity method convergence 4-1860
- jet blown through convex cylindrical surface into supersonic stream, penetration 4-5933
- jets, coaxial, aerodynamic and acoustic characts. 4-44671
- maximal invariance group in general solns. of one-dimensional eqns. 4-10710
- missile design factors 4-49840
- noise in moving media, high freq. Green function 4-28921
- noise in spreading jet, high freq. Green function 4-28922
- nonlinear panel flutter in supersonic flow, high-order triangular finite elements 4-10703
- outgassing sphere in rarefied gas flow, aerodynamics 4-44653
- panels, elastic, stability in supersonic gas flow, effect of elastically suspended masses 4-55358
- plane self-similar flows near weak gap surface (*Russian*) 4-5867
- plate with turbulent boundary layer, suction effect 4-44616
- poststall flow over unswep wings cellular patterns, vortices separation 4-49839
- pyramidal bodies, centre of pressure (*Russian*) 4-10636
- radiative gas dynamics, two-dimens., irradi. effects calcs. (*Russian*) 4-34205
- rigid wall boundary problem 4-10701
- sail, theory nondetached planar stationary flow of ideal incompressible fluid 4-1698
- separated flow over low aspect-ratio rectangular wing 4-1780
- separation flows on a concave conical wing 4-44617
- shock waves, trailing edge, intensity reduction 4-5919
- slender wing theory, thickness and camber effects 4-49838
- Space Shuttle aero-analysis, using flow visualisation as diagnostic tool 4-26980
- star-like cross section bodies, aerodynamic characts., drag at Mach 2, 3 velocities (*Russian*) 4-8739
- steady-state simplified Navier-Stokes eqns., marching method soln. (*Russian*) 4-5909
- subsonic flow, oscillating thin airfoils, quasi-doublet lattice method 4-34122
- supersonic flow, ideal gas, past body with tail fins 4-5915
- suspension of particles with internal struct., kinetic model 4-5985
- swing-tip devices on Paris aircraft, effect on far-field wake 4-1777
- swirled coaxial jets from nozzles with divergent quarks, aerodynamic study 4-10719
- theodore von Karman and applied mathematics in America 4-42681
- thermal waves propagation in parametric media (*Russian*) 4-10691
- unified aeroelastic flutter theory for very low aspect ratio panels 4-29116
- vortical flow management for improved config. aerodynamics 4-1766
- vortices, 3-dimens., aerodynamics, conf., Rotterdam, Netherlands (April 1983) 4-22
- vortices, 3-dimens., models 4-1753
- vortices, computations, review 4-1754
- wind tunnels, wall interference effects on aerodynamic phenomena 4-34212
- wind turbines, energy extractable from longitudinal turbulence of wind 4-19856
- wing tip devices for BAe Jetstream aircraft, testing 4-1776

aeroelasticity see elasticity**aeronomy** see meteorology; terrestrial atmosphere; upper atmosphere**Aerosols** see aerosols**aerosols**

see also foams

- absorbing droplets, propag. effects on pulsed light beams 4-28625
- airborne dust, electric charge meas. using semiautomatic method 4-31149
- Antarctic coastal clouds, biogenic nuclei 4-31616
- E Antarctic ice cores, microparticle props., implications for palaeoclimate (30000 yr record) models 4-31626
- Antarctic ice samples, 20000 BP, quartz microparticles 4-52866
- Atlantic Ocean, atm. aerosol deposition, depend. on surface layer characts. 4-26339
- atmosphere, aerosol conc. in marine boundary layer, production and loss model 4-52791
- atmosphere, aerosol IR optical absorption constants 4-22083
- atmosphere, aerosol particle motion influenced by gravity waves (*Russian*) 4-52834
- atmosphere, aerosol radiative transfer models 4-47405
- atmosphere, aerosol single-scatt. albedo in Arctic from ground-based solar irradiance meas. 4-47411
- atmosphere, aerosol size distribution during condensational growth 4-17209
- atmosphere, Angstrom's wavelength exponent rel. to Junge's particle size distrib. exponent 4-47407
- atmosphere, Arctic aerosol, elemental composition obs. made in Greenland 4-52804
- atmosphere, Arctic aerosol influence on atmospheric radiation budget 4-31629
- atmosphere, Arctic haze influence on solar radiation budget 4-13019

aerosols continued

- atmosphere, Big Bend National Park, USA, aerosols and pollutant precipitation chem. 4-41402
- atmosphere, boundary layer, CO₂ laser radiation pulses, nonlinear power attenuation 4-3823
- atmosphere, boundary layer radiative heat transfer, effect of aerosol characts. 4-47322
- atmosphere, channel correl. method for aerosol levels estimation from multispectral scanner data 4-52961
- atmosphere, charged raindrop scavenging of submicron aerosol 4-26765
- atmosphere, chromaticity of path radiance rel. to aerosol correction of Landsat data 4-31704
- atmosphere, condensation nucleus counter design for stratospheric operation 4-42209
- atmosphere, El Chichon, volcanic eruption cloud obs. at. in stratosphere at Frascati, Italy 4-31595
- atmosphere, El Chichon eruption, optical props. of stratospheric aerosol 4-31638
- atmosphere, El Chichon eruption cloud in stratosphere and solar spectral extinction 4-31637
- atmosphere, El Chichon volcanic aerosol cloud in stratosphere, far IR spectroscopic obs. 4-31596
- atmosphere, El Chichon volcanic eruption cloud aerosol in stratosphere 4-31593
- atmosphere, El Chichon volcanic eruption cloud in stratosphere, aerosol cloud formation 4-31592
- atmosphere, El Chichon volcanic eruption cloud over Europe 4-31594
- atmosphere, elemental composition of particles rel. to particle density 4-26757
- atmosphere, elemental tracers of distant regional pollution aerosols 4-46913
- atmosphere, forest canopy in winter, O₃, CO₂ and particle fluxes for deciduous forest 4-42013
- atmosphere, global consequences of multiple nucl. explosions 4-46911
- atmosphere, H₂SO₄ stratospheric aerosol due to 1982 volcanic eruption of El Chichon 4-22056
- atmosphere, ice and refr. haloes 4-26799
- atmosphere, IR laser beam scatt., lateral coherence of off-axis radiation 4-36488
- atmosphere, meas. of visibility impairment over eastern USA 4-36493
- atmosphere, NH₄NO₃ aerosol, NH₃ and HNO₃ loss rates 4-31554
- atmosphere, normalised scatt. diagram with power law for particle size distrib. 4-19373
- atmosphere, optical albedo of cloudy atm.-land surface system (*Russian*) 4-31640
- atmosphere, particle trajectories determination in presence of turbulent-vel. variance gradient 4-42009
- atmosphere, polar stratosphere clouds, form., role of aerosols, temp., humidity 4-17234
- atmosphere, production rate of airborne sea-salt sulphur 4-42084
- atmosphere, refr. index and particle size distrib. from light scatt. obs. 4-12981
- atmosphere, S aerosols concs. in coastal environment rel. to air masses origins (*French*) 4-58240
- atmosphere, Se concs. in marine air 4-42086
- atmosphere, secondary ambient aerosol formation as function of humidity 4-42093
- atmosphere, summer air pollution and light extinction in Washington DC 4-47406
- atmosphere, trace elements in tropical Pacific aerosol at Enewetak Atoll 4-42107
- atmosphere, trace metals in particles in air of Tennessee, USA 4-42092
- atmosphere, vertical distrib., effect on air mass/solar irradiance determ. 4-8295
- atmosphere, volcanic aerosol and ash in stratosphere, from El Chichon eruption 4-31598
- atmosphere, volcanic aerosol from El Chichon volcanic eruption 4-3800
- atmosphere, volcanic aerosol in stratosphere from El Chichon 4-31597
- atmosphere, volcanic aerosol in stratosphere from El Chichon eruption 4-31599
- atmosphere, volcanic ash and aerosol from AD 1982 El Chichon eruption 4-31602
- atmosphere, volcanic ash in stratosphere from El Chichon eruption 4-31600
- atmosphere, volcanic cloud from El Chichon eruption, cloud optical props. 4-42171
- atmosphere, volcanic eruption cloud from El Chichon optical obs. of stratosphere 4-3821
- atmosphere, volcanic plume from Mt. St. Helens 1980 eruption, stratospheric plume chemistry 4-42106
- atmosphere, volcanic sulphate aerosol in stratosphere, from El Chichon eruption 4-31601
- atmosphere aerosol deposition onto grassland, filtration model 4-17211
- atmosphere aerosol optical props. meas. by lidar technique, calibration and data anal. 4-22095
- atmosphere ice crystals at ground level during halo displays, collection and characts. 4-26752
- atmosphere NH₃, sampling techniques field comparison 4-52916
- atmosphere of Beijing, China, pollution depend on meteorological conditions (*Chinese*) 4-13001
- atmosphere of E Canada, turbidity in AD 1968 to 1978 period 4-26744
- atmosphere of E equatorial Pacific, airborne dust chem. composition 4-42109
- atmosphere of eastern Arizona, USA, aerosol chem. composition 4-17210
- atmosphere of N Pacific, continental dust blown from Asia 4-42108
- atmosphere of Nagoya City, Japan, aerosol light scatt. coeff. study 4-13022
- atmosphere of Namib Desert, aerosol composition and origin 4-12967
- atmosphere of northern Nigeria, Saharan dust rel. to solar radiation obs. 4-26770
- atmosphere of Ohio River Valley, USA, chemical composition obs. 4-12966
- atmosphere of Portland, Oregon, USA, aerosol light scatt. and carbonaceous composition 4-52798
- atmosphere of St. Louis, USA and Vienna, Austria, pollution aerosol observations 4-52231
- atmosphere of Wisconsin, USA, Pb and ²¹⁰Pb in aerosol and rain 4-42085
- atmosphere particles from El Chichon volcano, element concs. 4-36338
- atmospheres weather modification expt. aerosols., ice nucleating props., chem. kinetic theory appl. 4-12979

aerosols continued

- atmospheric, laser monitoring, lidar eqn. soln for single freq. sounding 4-8314
- atmospheric, polydisperse aqueous aerosol, narrow light beam in turbid atmos., irradiance distrib. 4-31647
- atmospheric, scatt. indicatrices meas., accuracy characts., of nephelometer 4-52949
- atmospheric aerosol concentrations, Zn, Mg, Fe, Cu, Ca, Pb component analysis (*Spanish*) 4-41395
- atmospheric aerosol optical properties measurement by lidar technique 4-22094
- atmospheric aerosol over Bermuda, sources of sulphate and vanadium 4-12968
- atmospheric extinction meas. of He-Ne laser light rel. to aerosol particle conc. (*Chinese*) 4-58283
- atmospheric propagation of two CO₂ laser pulses 4-47403
- backscattering, relative humidity effect at 0.694 and 10.6 μm wavelength 4-42161
- bipolar charge distributions of chain aggregates with uniform sphere 4-7758
- charged droplets, periodic convulsive disruption during evaporation, analytical model, rel. to electrostatic analysers 4-31030
- charged water drop scavenging of sub-micron aerosol 4-26765
- cloud, EM radiation, radiative transfer calcs. 4-26802
- coagulating, radiation transmission, Mie theory 4-49656
- cocurrent flow on permeable wall, radiation-blocking aerosol jet generation 4-19874
- computer tomography for aerosols distribution images reconstruction 4-41276
- concentration meas. using ratemeter with dead-time correction 4-17879
- conference on precipitation scavenging, dry deposition and resuspension at Santa Monica, USA (November-December 1982) 4-47761
- continuum field-diffusion theory for bipolar charging in aerosols 4-7760
- Detroit region, USA, wet and dry deposition 4-41400
- dispersion determ. by integrated scattered light characts. 4-55467
- double-layer aerosol particles motion with displaced nucleus in gas stream with nonuniform temp. 4-35950
- droplet size and self-dispersal properties, plume modeling 4-31029
- droplets, diffusion interaction, EM control 4-24464
- El Chichon 1982 eruptions, stratosphere transmission at 340 nm, lidar method 4-22121
- El Chichon volcanic eruption cloud, 2-D model simulation 4-31462
- electrical mobility aerosol monitor for particle size meas. 4-31033
- EM wave damping in nonequilibrium aerosol plasma 4-10846
- emission in waste gas container of reprocessing plant (*German*) 4-12522
- ferromagnetic aerosols, mag. charge phenomenon 4-7047
- flames, soot particles, diffusion coefficient meas. 4-24515
- fog, laboratory generated, CO₂ laser pulse effect on transmission at visible, IR wavelengths 4-1348
- gas/aerosol spectrophone, mm. wave, diesel smoke appls. 4-26817
- heating and vaporisation by pulsed light beams 4-28624
- industrial metal aerosols, mag. props. study 4-7038
- laser beam backscattering, radiative transfer eqn. 4-1349
- Lidar, simplified data acquisition of aerosol concentration in atmosphere (*German*) 4-22124
- lidar equation solution, two component, significance of extinction/backscatter ratio and boundary value term 4-26797
- lidar observations of stratospheric aerosol layer at 26 km altitude over Kingston, Jamaica 4-58229
- light scattering, expansion of Mie scatt. matrices in generalised spherical functions 4-53027
- low-resistance fluid dispersion and transport in elec. field, aerosol stream characts. (*Russian*) 4-38891
- lower atmosphere (book) 4-36840
- marine aerosol effects on atm. transmission, particle size spectrometers intercomparison 4-26854
- maritime stratus clouds, optical pulse broadening estimates 4-52884
- monodisperse, bipolar diffusion charging 4-31034
- monodisperseness specifications for aerosols used in equipment testing 4-16698
- Mount St. Helens, ash eruptions (1980), movements and radar obs. 4-12867
- Mt. Lemmon, Arizona, mid-troposphere aerosol scatt., absorpt. and conc. 4-26753
- nitrate aerosols, mass conc. meas. using quartz crystal aerosol monitor 4-31148
- nonvolatile liq. aerosol particles, thermophoresis theory 4-1819
- nuclei production in Alaska air masses under the action of short wave (1850 Å) ultraviolet irradiation 4-8297
- optical properties retrieval from aureole and extinction data 4-3817
- particle deposition in human airways, electrostatic charge meas. 4-31259
- particle measuring systems active scatt. aerosol spectrometer probe, response characteristics 4-37069
- particle size determ. by signal visibility of differential laser Doppler velocimeter 4-34175
- particulate emission characterisation in oil fuel power plant 4-7915
- Peking University, China, turbidity, atm. transparency spectrum and aerosol characts. (*Chinese*) 4-47404
- phospholipids aerosols, dispersed surface active, characterisation by ultrasonic and jet nebulisation 4-31260
- planetary atmospheres, aerosols rel. to 6818.9 Å methane feature on Jupiter, Saturn and Uranus 4-53085
- plasma breakdown at reduced particle density, pulsed CO₂ laser light attenuation 4-10363
- plasma formation with laser breakdown due to aerosols in air, gasdynamic estimates of critical parameters 4-15206
- plasmon resonant aerosols, nonlinear medium for large holographic optical element config. in space 4-10355
- plume from Cu smelter, C filaments in aerosols, chem. and physical props. 4-26336
- polystyrene latex spheres, singlets, doublets, triplets and quadruplets, equilib. charge distrib. 4-7759
- refractive index and microstructure meas. by multifreq. laser probe (*Russian*) 4-13032
- respiratory tract, human, inhaled aerosols deposition 4-31258
- Sahara dust investigation using network of Italian Sun photometers, extinction models 4-8298
- Sahara dust program, vertical particle mass loading determ. using extinction models 4-8299
- satellite measurements of marine aerosols 4-26893
- sea salt, in atmosphere, reaction with NO₂ rel. to NOCl form. 4-22046

aerosols continued

- size distrib. from simple inversion method 4-8328
- size distrib. from meas. with differential mobility analyser using linear inversion method 4-41269
- size-selective samplers, aerosol testing techniques 4-31143
- smoke from nuclear war, global atmos. effects, GCM simulations 4-47401
- soil particles, explosively dispersed, visible and IR extinction 4-19374
- solar power available at ground level determ. using satellite mean., for solar collector system optimisation 4-7826
- soot-laden gas flow, heat transfer coeff. from plate 4-19815
- Stokes-Cunningham diffusion const. in flames 4-24514
- stratosphere, aerosol Angstrom coeff. from inversion algorithms 4-47408
- stratosphere, spatial changes rel. to north polar vortex 4-12986
- middle stratosphere, volcanic aerosols rel. to temp. variability and trends 4-42043
- stratosphere warmings after El Chichon and Agung eruptions 4-47347
- stratospheric volcanic dust cloud of AD 536, cloud optical and physical characts. 4-41848
- sulphate aerosols, mass conc. meas. using quartz crystal aerosol monitor 4-31148
- sulphate aerosols from historical volcanism, rel. to European dry fogs and Greenland acid precip. 4-17128
- Three Mile Island reactor auxiliary building, aerosol sample characterisation 4-18732
- Titan (satellite of Saturn), atmosphere aerosol distribution model 4-58406
- troposphere, particle size and volume distrib. in W Europe 4-12982
- turbulent pipe flow, laser Doppler velocimeter meas. 4-10746
- Uranus atmosphere, aerosol extinction rel. to strength of methane 6815 Å band 4-53084
- Venus, atmosphere, aerosol form. from SO₂+NH₃ reaction 4-47561
- Venus, scattered near-UV sunlight, aerosols effects and spectral albedo curve 4-42332
- Venus atmosphere, clouds and hazes 4-36613
- Venus atmosphere, scattered solar radiation meas. rel. to aerosol layer struct. 4-36616
- Venus clouds, props. of S-coated H₂SO₄ drops 4-53072
- volcanic aerosol from Kilauea, January 1983, Ir enrichment 4-31463
- volcanic aerosols, optical depth determ. from brightness of lunar eclipses 4-36491
- volcanic eruption of El Chichon, Mexico, atmospheric effects 4-47223
- water, atmospheric, Raman spectra obs. using lidar 4-52883
- water aerosol, laser radiation propag. under breakup conditions 4-1449
- water droplet size distribution during condensational growth 4-17209
- weakly-deformed spherical aerosol, thermophoresis (*Russian*) 4-49912
- West Africa, troposphere/stratosphere aerosols extinction coeff. at 1 micron 4-26803
- Al aerosol, atmospheric, characts. investig. (*French*) 4-31035
- C₂ combustion generated particles in Arctic atm., conc. 4-26335
- ⁶⁰Co radioactive aerosols, inhaled, metabolic parameter estimation 4-26523
- ¹³Cs aerosol filtration through silica gel layer, radwaste appl. 4-43666
- (NH₄)₂SO₄ aerosol droplet, IR absorpt. spectrum, 970-1280 cm⁻¹ range, molecular spectroscopy 4-35949
- SO₂ conversion to sulphate and sulphate aerosols, humidity and temp. effects 4-46920
- Si aerosol, atmospheric, characts. investig. (*French*) 4-31035
- aerospace**
see also aerospace computing; aerospace control; aerospace instrumentation; aerospace propulsion; aerospace simulation; aerospace test facilities; aircraft; ground support systems; space research; space vehicles; terrestrial atmosphere
 Nb and alloys, development history, prod. and appls., ASTM standards 4-51573
 Ta and alloys, development history, prod. and appls., ASTM standards 4-51573
 Ti and alloys, development history, prod. growth, appls. and ASTM standards 4-51572
- aerospace applications of computers** *see aerospace computing*
- aerospace biophysics**
 astronauts, investigation of head and neck swelling during space travel (*Swedish*) 4-52506
 cardiovascular effects of simulated zero-gravity in humans 4-8130
 cardiovascular exploration, noninvasive methods 4-47086
 erythrocytes aggregation, background and development of space project 4-52505
 semiferrous epithelium, mouse, response to low dose, high energy ion and X-ray irradiation 4-36191
 spacecraft, radiation dosimetry, depend on inclination, altitude and spacecraft type 4-16995
 Spacelab, scientific accomplishments of first mission 4-53003
 Spacelab, scientific utilisation of Biorack 4-26539
- aerospace computing**
 composite aerospace struct., computerised ultrasonic C-scan system 4-57520
 computation fluid dynamics for missile design 4-49841
 European Space Agency software engineering standards 4-52892
 Space Shuttle external tank, ice/frost growth on cryogenic tanks prediction 4-265
 spacecraft RAM, proton-induced single event upset rates in orbit 4-53007
 Spacelab experiments, versatile ground data display system 4-3925
- aerospace control**
see also attitude control
 engineering sciences and mechanics, conf., Tainan, Taiwan (Dec. 1981) 4-13484
 EURECA platform, orbit prediction and control 4-26973
 geostationary satellites strategies and schemes for rendezvous on transfer orbit 4-13163
 helicopter rotor, circulation control, acoustics 4-38655
 Space 2000 conference at Paris, France (September-October 1982) 4-1
 Space Telescope, thermal control test demonstration on simulated main ring assembly 4-13193
- aerospace engines**
 propane-air flame temp. and species concentration, CARS obs. 4-26208
 propane-air turbulent-jet diffusion flame temp. and species concentration, CARS obs. 4-26209
 ramjet, optical meas. 4-49899

aerospace instrumentation

see also *aircraft instrumentation; Langmuir probes*

- artificial snow production on Space Shuttle, expt. system 4-12322
 astronomical telescopes, sunlight interference due to scatt. from rocket exhausts 4-3903
 cosmic instrumentation engineering, heat exchange of surface coating with surroundings (*German*) 4-47523
 IUE detection system, photometric calibration curve rel. to reality of interstellar absorpt. feature at 280 nm 4-47680
 LET distrib. and radiation doses due to cosmic rays 4-53001
 microelectronic components, cosmic ray nuclei dose and LET distrib. 4-52996
 multichannel Fabry-Perot interferometer on Dynamic Explorer spacecraft, Doppler line profile anal. 4-47415
 satellite-borne microelectronic devices, single event upset rates in natural environment 4-53006
 Space Telescope, thermal control test demonstration on simulated main ring assembly 4-13193
 spacecraft RAM, proton-induced single event upset rates in orbit 4-53007
 Spacelab, first flight payload instrumentation aspects (*French*) 4-31727

aerospace propulsion

see also *aerospace engines*

- antiproton-nucleon annihilation-powered spacecraft 4-53009
 metal-gas MHD energy convertor, possible aerospace appls. 4-12488
 multi-component plasma jet outflow into rarefied medium, plasma thrust-ers appl. 4-24632
 ramjet engine development, optical meas. 4-49899
 Li-SO₂ battery powered unmanned aircraft 4-7845

aerospace simulation

see also *aerospace test facilities*

- computation fluid dynamics for missile design 4-49841
 dual channel projector for flight simulation, multidisciplinary design demands 4-38545
 hypersonic flow past bodies, simulation in wind tunnels 4-5913
 instrumentation facilities, conf., St. Louis, France (Sept. 1983) 4-22520
 satellite system in SGEMP simulator vacuum tank, EM responses 4-53005
 Space Telescope, thermal control test demonstration on simulated main ring assembly 4-13193
 zero-gravity simulation, cardiovascular effects in humans 4-8130

aerospace test facilities

see also *wind tunnels*

- fibre optics data acquisition systems, practical problems in field appl. 4-14812
 hypersonic high enthalpy test facilities, boundary layer meas. using mass spectrometer 4-24508
 IR astronomical focal plane array low-background meas. 4-13201
 space sensor low background IR calibration facility 4-13200
 Space Shuttle aero-analysis, using flow visualisation as diagnostic tool 4-26980
 station for noise reduction 4-28925

a.f. amplifiers see *audio-frequency amplifiers***a.f. oscillators** see *audio-frequency oscillators***AFC** see *automatic frequency control***AFMR** see *antiferromagnetic resonance***afterglows**

- dichlorodifluoromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
 dielectric discharge, active N₂ generator for chemiluminesc. and anal. studies 4-34343
 electron distribution function in flowing afterglow plasma, Langmuir probe meas. 4-10886
 electron energy distrib. function in flowing afterglow Ar plasma 4-10902
 flowing afterglow/Langmuir probe (FALP) apparatus for reaction processes study 4-34321
 tetrachloromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
 trichlorodifluoromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
 trichloromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
 Cd(6S₁ to 5P₁) laser at 480 nm pumped by transverse discharge 4-49332
 Cl₂, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
 CuBr lasers operating in double-pulse excitation regime, afterglow electron density time depend. 4-19431
 CuI lasers operating in double-pulse excitation regime, afterglow electron density time depend. 4-19431
 H₂O⁺, dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 He plasma, diffusion length determ. for arbitrary shape vessel 4-39003
 Hg-H₂, pulsed discharge afterglow, Hg excited states radiative decay 4-33373
 Kr, slow electron superelastic collisions, impact deexcitation 4-38275
 NH₄⁺, dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 NO⁺, dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 Ne weakly ionised decaying plasma, at. 3d level population mechanism at medium press. 4-5181
 Ne₂⁺+N₂, thermal energy charge transfer, N₂⁺(B-X) emission 4-49141
 Ne₃⁺, cluster ion-electron recombination, microwave afterglow/mass spectrometer study 4-33530
 O⁻ flowing afterglow discharge switches, photodetachment as control mechanism 4-39024
 O₂⁺, dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 Pb pulsed vapour laser, decay kinetics of 6p² ¹D₂ lower active level 4-10286
 SF₆, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
 Xe afterglow plasma, interactions between metastable Xe atoms 4-24522
 Xe, slow electron superelastic collisions, impact deexcitation 4-38275
 Xe-He mixture, afterglow, recomb. population of Xe excited states 4-20056

AGC see *automatic gain control***age (Earth)** see *geochronology***age determination, radioactive** see *radioactive dating***age hardening** see *precipitation hardening***ageing**

see also *precipitation hardening; strain ageing*

- alkali halides: Pb²⁺, optical spectra, influence of precipitation processes 4-25786
 alloys, aged, dislocation motion, interaction of superdislocations with ordered-phase particles 4-29462
 alloys, precipitation hardened, creep rel. to overageing (*French*) 4-51761
 alloys, recovery effects, review (*Russian*) 4-51686
 amorphous polymers, quenched, isothermal ageing, sequential relax. mechanism 4-40825
 anodic oxide films, kinetics of ionic migration and relaxation 4-12218
 binary alloys, simple cubic, ageing, cluster formation, computer simulation (*Japanese*) 4-34654
 ceramics, electrooptic, cryst. microstruct., piezoelec. and optical props. 4-35414
 colour processed negative material ageing (*Spanish*) 4-32347
 composite insulating materials, ageing characts. of impurities 4-35647
 conference, Gaitersburg, USA (June 1983) 4-31956
 cryolite, chopped and non-chopped optical films, refractive index, minute scale ageing effect 4-30543
 cryolite-MgF₂, chopped and non-chopped optical films, refractive index, minute scale ageing effect 4-30543
 electric connector Pd-Ag DGR 156 contact alloy, assessment of lower levels of composition 4-46634
 electric strength, decline with time, general eqn. for combined thermal and elec. stresses 4-51188
 electrical insulation and dielec. phenomena, conf., Buck Hill Falls, USA (Oct. 1983) 4-31963
 electronic components used in safety-related nucl. power plant, ageing survey 4-48684
 Elinvar, dispersion hardened, submicroscopic struct., X-ray struct. anal. (*Russian*) 4-25041
 fluorocarbon films, flow discharge polymerised, struct. changes with age and annealing (*German*) 4-50687
 glass fibre and ball reinforced polyamines, fatigue characts. 4-46608
 glass fibre reinforced epoxy composite, hygrothermal ageing and fracture 4-7552
 graphite fibre reinforced epoxy (polyimide), tensile strengths, thermal ageing effects 4-46534
 graphite fibre-epoxy composites, physical ageing 4-35739
 graphite intercalation compound with acceptors, fibrous, elec. resist. meas., current ageing 4-45705
 ice, DC conductivity meas., ageing effects, climatological appls. 4-29967
 ice, hexagonal crystals, heat cond coeffs., ageing effects 4-29713
 ice, surface structure, modification during ageing 4-29739
 ice crystal, hexagonal, H⁺ mobility in bulk and surface, PMR investig. 4-30291
 low C, dual-phase, continuously annealed, temper-ageing 4-40831
 Ni monic PE16, solution annealing, microstruct., mech. props. rel. to double ageing 4-51754
 Ni-Cr-Co-Ta, superalloy IN 738, carbide transform, etching and EM obs. 4-25963
 Nimonic PE16, solution treated, γ' particle size and vol. fraction rel. to age time 4-7468
 photographic emulsion, extra-fine grained photosensitivity regression (*Russian*) 4-13704
 photographic emulsion chemical ageing influence on photo-EMF of spectrally sensitised layers (*Russian*) 4-17999
 photographic layer thermostat aging exp. results (*Russian*) 4-48241
 photographic orthochromatically sensitised layer thermostat aging appl. to topochem. addition accumulation kinetics in Ag halide microcrystal (*Russian*) 4-32366
 poly(vinylidene fluoride), piezoelectric meas., hydrophone appl. 4-35363
 polycapromide film, thermal ageing in tension, loss of strength, chain breakdown (*Russian*) 4-57281
 polycarbonate, β relax. and compression yield, effect of thermal histories 4-40857
 polyethylene, electrical ageing and space charge 4-35358
 polyethylene, latent heat thermal storage material, thermal oxidative ageing (*Japanese*) 4-41382
 polyethylene, struct. and dielec. prop. changes 4-35333
 polyethylene terephthalate film, thermal endurance test methods 4-35891
 polypropylene, glass fibre reinforced composite, and drawn, elec. cond. 4-21192
 polystyrene, annealing, morphology, tensile props. 4-12148
 polyurethanes, photochem. reversible crosslinking 4-35923
 PVC, nonequilibrium glassy state, freq. shifting, Fourier transform IR spectroscopic detection 4-2100
 rare earth-Co matrix magnets, air ageing characts. 4-7035
 rare earth-Co permanent magnet alloys, oxidation behaviour rel. to mag. props. 4-7034
 rubber, crosslinked natural, small-strain behaviour in torsion, ageing effect 4-12119
 silk fibre reinforced nitrile rubber composites, mech. props. rel. to fibre-matrix bonding 4-51747
 SiO₂-Na₂CO₃, soda eravanite-25, ageing 4-57261
 skin collagen, lyophilized, hydrated and dehydrated, TSC study rel. to ageing 4-16834
 solid dielectrics, conf., Toulouse, France (July 1983) 4-8647
 steel, alloy, structural transitions during tempering and cold plastic deformation (*Russian*) 4-51698
 steel, austenitic stainless, cellular precipitation in Al- and Ti-containing alloys 4-40800
 steel, austenitic stainless, high temperature ageing of Alloy 800, carbide precipitation struct., TEM obs. 4-40826
 steel, austenitic stainless, low cycle fatigue life of SUS 321, thermal ageing effect 4-3249
 steel, austenitic stainless, martensitic transitions, H charging effect 4-40777
 steel, austenitic stainless, precipitation behaviour, review 4-7473
 steel, austenitic stainless, precipitation strengthened, microstructure and strength rel. to hot working 4-40834
 steel, austenitic stainless, weld metal, microstruct., neutron diff. study 4-16422
 steel, Cr-Mn-(Ni)-(V), high N, struct. and mech. props., heat treatment effect 4-30732
 steel, Cr-Ni-Cu-(Mo), maraging, props. after ageing 4-21255
 steel, HSLA, cold-rolled, delamination behaviour (*Korean*) 4-40958

ageing continued

- steel, HSLA, ductile fracture, influence of P segregation to particle/matrix interface 4-7538
- steel, low C ferrite-martensite, quench ageing process, Mn and V influences (*Russian*) 4-51697
- steel, maraging, Fe-Ni-Co, hardening study (*Russian*) 4-51676
- steel, maraging, Ni-Co-Mo-Ti, precipitation rel. to ageing temp., elec. resist. obs. (*Japanese*) 4-46509
- steel, maraging Ni-Co-Mo, struct. rel. to thermomechanical treatment (*Japanese*) 4-7486
- steel, Ni-Co-Mo-Ti, maraging, strengthening during cold plastic deform. and heat treatment 4-21254
- steel, Ni-Cr-Ti, strengthening by hydroextrusion 4-40918
- steel, Ni-V-Mo, maraging, struct. and props. 4-21323
- steel, retarded fracture on welding, H influence 4-51808
- steel, stainless, austenitic, A286 type, struct. rel. to mech. props. at 20°C (*French*) 4-46510
- steel, stainless, precipitation hardening, precip. processes (*Korean*) 4-40793
- steel, stainless, under monotonic or cyclic loadings, constitutive eqns., strain hardening, memorisation, aging (*French*) 4-16456
- steel austenitic, Fe-Ni-Mn based, ageing, hardening and microstructure (*Russian*) 4-51677
- TGS:AC(AB), ferroelectric, dielec. hysteresis loops and domain struct. 4-35395
- viscoelastic growing rod, stability study 4-44423
- wire chamber ageing test 4-23473
- wire chambers ageing effect study 4-23472
- Ag-Al(10 at.%), μ -phase precip. vacancy enhancement 4-30701
- Al alloy, residual stress intensity factor, aging temp. depend. (*Chinese*) 4-57310
- Al/a-Se/Al dark EMF phenomena and photovoltage (*Korean*) 4-20719
- Al-Cu, 2011, microstruct. charact. using DSC 4-30870
- Al-Cu, 2219, rel. between microstruct., hardness and elec. cond. 4-7550
- Al-Cu, ageing, effect on struct. and props. 4-57266
- Al-Cu, θ phase formation, DSC obs. quench sensitivity 4-40799
- Al-Cu (1.7 at.%), single crystal, room temp. ageing, GP zone struct. 4-3146
- Al-Cu (3.3 wt.%), containing shearable precipitates, cyclic behaviour, effect of test interruption 4-57326
- Al-Cu (4.4 wt.%), powder composite, sintered, aged, soln. treated, microstructure, TEM obs., 4-25984
- Al-Cu semiproductions, hardening 4-57267
- Al-Cu-Mg, ageing mechanism, TEM, electron microdiffraction obs. (*Russian*) 4-25977
- Al-Cu-Mg, fracture toughness and strength, grain size influence 4-57330
- Al-Cu-Mn, chill cast, overageing, heat resist., hardness, precipitation struct. (*Japanese*) 4-7487
- Al-Cu-WC, sintered, precip. and particle-hardening, combined effect 4-21186
- Al-Li, δ - δ transform., STEM study 4-12065
- Al-Li, rapidly solidified, deform. rel. to second phase dispersoids 4-7524
- Al-Li (1.8 wt.%), precipitation kinetics during ageing (*Russian*) 4-7467
- Al-Mg, internal friction peaks rel. to microstruct. changes 4-40863
- Al-Mg (10 wt.%), rapidly solidified powder, extrusion, microstruct. 4-30662
- Al-Mg dilute alloys, vacancy clustering process 4-39287
- Al-Mg-Li, struct. and props., ageing effect 4-57298
- Al-Mg-Si, B₄C reinforced 6061, ageing reactions 4-40808
- Al-Mg-Si, peak aged, fatigue crack propag., dispersoid particles effect 4-21324
- Al-Si (1.3 wt.%), precipitation study 4-40802
- Al-Zn alloy, preprecipitation studies by positron Doppler broadening meas. 4-39523
- Al-Zn-Ag (5.2, 1.5 at.%), precipitation, neutron small angle scatt. with isotopic contrast 4-3140
- Al-Zn-Mg, 7075, low fatigue crack growth rel. to heat treatment, microstructure and humid environment 4-40973
- Al-Zn-Mg (6.0, 2.6 wt.%), cold working, ageing, ductility, 4.2-293K 4-51748
- Al-Zn-Mg-Cu, 7075, microstruct. in peak-aged and overaged conditions 4-7490
- Al-Zn-Mg-Cu, H embrittlement, effect of microstruct. and Cu content 4-26054
- Al-Zn-Mg-Cu, high strength, unworked fracture behaviour 4-30803
- Al-Zn-Si (12, 6 wt.%), kinetics of phase transitions after deformation by quenching 4-30750
- Al-Zn-based alloys, ageing, morphology and precipitation (*Russian*) 4-51699
- Al-Zn-(Mg), grain boundary region microstruct. after ageing at elevated temps. 4-2214
- AlGaAs/GaAs double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
- Ar based inorganic gas mixtures for proportional counters 4-23474
- CdS thin film, photosensitivity in near UV 4-56455
- CdS-Cu, Cl thin films, photocond. props. ageing process influence 4-35027
- Co-based metallic glasses, high freq. mag. props., stability 4-30206
- Co-Ti, martensitic transformation, ageing and phase hardening effects (*Russian*) 4-35627
- Cu-Al-Co (7, 1 wt.%) bronzes, stress corrosion resist. rel. to ageing and Co content 4-12230
- Cu-Al-Ni, β Hulme-Rothery alloys, modulated microstruct. 4-40742
- Cu-Al-(Ni), shape memory alloys, rapidly solidified, transform behaviour, effect of heat treatment 4-57208
- Cu-Be (2.0 wt.%), grain boundary reaction, effect of additional elements 4-7474
- Cu-Co, averaged, void form. during ductile fracture 4-21300
- Cu-Co, tensile deform., precipitating stages, acoustic emission obs. (*Japanese*) 4-26005
- Cu-Ni-Fe (20, 19.8 wt.%), mag. props., influence of elastic stress 4-57229
- Cu-Ni-Si, thermomech. treatment, elec. resist. obs. (*Japanese*) 4-25982
- Cu-Ti with disperse oxides, ageing and hardening (*Russian*) 4-51678
- Cu-Zn, β Hulme-Rothery alloys, modulated microstruct. 4-40742
- Cu-Zn-(Au), solute redistrib. assoc. with nucleation and growth of α_1 plates 4-30704
- Cu-Zr, amorphous alloy, thermal aged, struct. changes, calorimetric evidence 4-45010
- CuBe2, Hall coeff., influence of phase boundary scatt. 4-2588
- Fe-based metallic glasses, high freq. mag. props., stability 4-30206

ageing continued

- Fe-Be alloys, triaxially modulated microstruct., APFIM-TEM studies 4-46494
- Fe-Co-B-Si, amorphous alloy, thermal aged, struct. changes, calorimetric evidence 4-45010
- Fe-Cr-Co-Mo-Ti permanent mag., spinodal decomposition and mag. hardening 4-56017
- Fe-Cr-Co-Si-Ti, permanent mag. alloy, microstruct., mag. props. rel. to treatment and comp. 4-16065
- Fe-Mn-Ni (11, 6.5 wt.%), strengthening mechanisms 4-46517
- Fe-Ni-C martensites, deform. mechanisms, effect of ageing 4-21291
- Fe-Ni-Cr superalloy, mech. props., microstruct. on prolonged heat exposure (*Chinese*) 4-3172
- Fe-Ni-Mo microduplex semihard magnet alloys, processing and mag. props. 4-73559
- Fe-Ni-Ti (30.0, 3.8 wt.%), ausaging, martensitic transform. 4-51660
- Fe₈₀B₂₀, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
- Fe₈₃B₁₇, mag. permeability aftereffect relax. and shear transforms. 4-25600
- Fe₇₅M₂₅B₂₀ (M=Ti, V, Cr, Mn, Co, Ni), amorphous alloys, elec. resist., structural relax. 4-39873
- Fe₆₇Ni₁₉B₁₄, mag. permeability aftereffect relax. and shear transforms. 4-25600
- Fe₄₀Ni₄₀P₁₄B₆, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
- (GaAl)As-GaAs isolated stripe CW laser degradation by proton bombardment (*Chinese*) 4-49414
- n-GaAs photoanodes, BP stabilised 4-12485
- InGaAs/InP 1.65 μ m GH lasers, molecular beam and liquid phase epitaxy growth, aging 4-33654
- InGaAs/InP lasers, facet oxidation 4-28742
- InGaAsP DFB lasers, ageing characts. 4-23993
- InGaAsP lasers, 1.3 μ m, screening at high temp. and current by EL mode ageing 4-14717
- InGaAsP/InP 1.3 μ m double-channel planar buried heterostruct. laser with reflective coated mirror, ageing test 4-19455
- InGaAsP/InP buried crescent lasers, stable CW operation at high temp. 4-23992
- InGaAsP/InP double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
- InGaAsP/InP lasers, facet oxidation 4-28742
- InP/InGaAsP aged LEDs, dark spot defects 4-56999
- KI:Eu single crystals, X-irradiated, Eu precipitation study by photolum. 4-2952
- LiNbO₃, ageing and elec. props. 4-35646
- LiTaO₃ SAW resonator, freq. accuracy meas. 4-19680
- MgF₂, chopped and non-chopped optical films, refractive index, minute scale ageing effect 4-30543
- Nb-Al-oxide-Nb Josephson junctions, critical current uniformity and stability 4-56503
- Nb-Ti (50 wt.%), neutron irradi., pinning vol. force, materials treatment effects (*Russian*) 4-25493
- Ni alloys, high-alloy, notch sensitivity 4-21284
- Ni-Al(14 at.%), isothermal ageing, nucleation and growth of γ -precipitates 4-3139
- Ni-Cr-Al high Cr alloy, complex recrystallisation and precipitation reactions (*Russian*) 4-51663
- Ni-Cr-Mo system, ageing, carbide formation 4-12071
- Ni-Mo-Al (33.5, 7 wt.%), directionally solidified eutectic, precipitation 4-3144
- (Pb, La)TiO₃ ceramics, mech. props., ageing changes 4-35678
- Pb-Sn-Sr-Al, as-cast, cellular precipitation and overaging 4-51679
- PbZr_{0.7}Ti_{0.3}O₄ ceramic, elec. cond. and ageing 4-34970
- Pd-Si, amorphous alloy, ageing 473K, crystallisation, atmosphere effect, Mossbauer effect, AES (*Japanese*) 4-6270
- Se vapour deposited amorphous thick films, room temp. ageing, X-ray diff. 4-29836
- n-Si photoanodes, BP stabilised 4-12485
- SiO₂, silica, optical fibres, H diffusion, protective coating, ageing effects 4-49531
- Sm-Co based polymer bonded magnets, mag. props., ageing behaviour 4-7029
- Sm(Co,Cu,Fe,Zr)_{7.4}, coercivity, microstruct., ageing effects 4-7020
- Sm(Co,Cu,Fe,Zr)_{8.92} mag. alloys, heat treatment, metallographic studies 4-51826
- Sm₂(Co,Cu,Fe,Zr)₁₇ alloy, coercivity depend. on mag. processing 4-35738
- Sm(Co,Cu,Fe,Zr)_{7.5} magnets, coercivity enhancement by heat treatment 4-7015
- Sm(Co,Cu,Fe,Zr)₂, hard magnetic alloys, metallurgical behaviour 4-57358
- SmCo₅ permanent magnets, ageing, positron annihilation, electron microscopy, elec. resist., mag. meas. 4-7019
- SmCo₅ resin-bonded magnets, ageing characts. 4-7030
- Sm₂Co₁₇ high-coercivity magnets, magnetisation characts. 4-7025
- Sm₂Co₁₇ type resin-bonded magnets, ageing characts. 4-7030
- Sm(Co_{0.725}Fe_{0.20}Cu_{0.055}Zr_{0.02})_{7.5} magnets, struct. and mag. props. 4-25042
- Sm(Co_{0.90}-vFe_{0.08}Zr_{0.02})_{8.35}, mag. props. meas. 4-25596
- Te alloys, optical recording materials, archival life meas., optical disk appl. 4-44164
- Ti alloys, phase transitions and ageing, plastic deformation effects (*Russian*) 4-35658
- Ti-Al-Sn(V), fatigue crack growth, surface reactions with water vapour 4-30855
- Ti-containing Raney-Ni catalysts long term perform. for H₂-O₂ alkaline fuel cells 4-57715
- Ti-Mo-V, phase transform. rel. to ageing temp., TEM obs. (*Chinese*) 4-57215
- Ti-Mo-Zr-Sn-O₂ alloys, ω -phase morphology, neutron scatt. and TEM studies 4-6513
- Ti-Nb (35 wt.%), spinodal decomp., isothermal ω -phase form., small-angle X-ray scatt. obs. 4-16402
- Ti-Nb-Ta-Zr, supercond., flux pinning, role of α precipitates 4-45966
- Ti-Ni single crystal, shape memory effect, pseudoelectricity 4-3196
- Ti-V (23 at.%), incommensurate struct. and resist., ageing effects (*Russian*) 4-50790
- Ti-V-Cr-Al (13, 11, 3 wt.%), β -solution treated, microstruct.-prop. relationships 4-30735
- Ti-V-Fe-Al (10, 2, 3 wt.%), aged, tensile deform., fracture, microstructure 4-7522

ageing continued

- TiN, sputtered thin films, elec. props. 4-11611
 TmS, sputter film, formation of oxide phases, electron beam irradiation, aging in air 4-56165
 U-Mo(2wt.%), ageing, strain rate sensitivity rel. to cooling rate from γ phase 4-40928
 n-WO₃ thin film photoanodes, photocurrent spectra, ageing effects 4-7888
 ZnS electrolumiphors, aging in presence of moisture 4-21042
 ZnS:Cu electrolumiphores, ageing and restoration processes, moisture effects 4-51350
 Zr, plastic deform. effect on internal friction 4-50428
 Zr-Nb (20wt.%), age hardening rel. to H content (*Japanese*) 4-35637
 Zr_{1-x}Fe_x amorphous alloys, superparamagnetism and superconductivity 4-46071
 ZrO₂, CaO-(MgO) partially stabilised, aged, elec. cond. and microstruct. relationship 4-50575
 ZrO₂, MgO partially stabilised, stress-induced martensitic toughening 4-46617

aggregates (materials) *see composite materials*aging *see ageing*

agriculture

- see also farming*
 California, irrigated lands assessment for water management from Landsat obs. 4-22031
 climate and weather considerations in crop location 4-17250
 conference on remote sensing appl. at Houston, USA (December 1982) 4-47748
 crop acreage remote sensing technique using Landsat 4-21932
 crop area estimation remote sensing method using Landsat 4-21933
 crop yields, effects of Europe climate scenarios 4-47399
 diseased vegetation, radiance and discrimination from above 4-42158
 hangar-type winter hothouses in USSR, radiation conditions and productivity 4-8250
 N Kenya, natural vegetation of semi-arid rangeland, impact of men and domestic animals 4-21942
 land cover and crop type, effects on soil moisture sensing with orbital C-band radar 4-22145
 W Norway, tax records as index of Little Ice Age environmental/economic deterioration 4-13014
 photovoltaic water pumping system in Egypt 4-57682
 plant laser-induced fluoresc., effects of nutrient deficiencies in corn 4-31372
 plant laser-induced fluoresc., remote detect. of plant stress and species differentiation 4-31371
 remote sensing, multitemporal segmentation and anal. 4-36498
 remote sensing by microwave methods, emissivity and scatt. by plant cover 4-21946
 remote sensing by radar and IR 4-22182
 remote sensing for crop acreage and biomass estimation, using IR, visible and microwave data 4-21941
 remote sensing method for estimation of early season small grains crop area 4-21940
 remote sensing methods applied to agriculture, conf., July 1983, Niamey, Niger (*French*) 4-27243
 remote sensing of crop types by X-band radar remote sensing 4-21948
 remote sensing of crops, correction for variable viewing and illumination geometries 4-22142
 remote sensing of crops by microwave method, emissivity of soil and vegetation 4-21947
 remote sensing of vegetation using polarised radar 4-21949
 remote sensing of vegetation using SIR-A radar 4-21951
 remote sensing techniques for agriculture 4-21937
 soil moisture sensing, use of vegetation indices to improve microwave estimates 4-22146
 spaceborne remote sensing, Commission of European Communities report 4-3859
 Yucatan peninsula, Maya prehistory and climate effects 4-13013
 N₂O emission from agricultural soil following fertilizer application 4-42082

Aharonov-Bohm effect *see quantum theory*

air

- see also terrestrial atmosphere*
 activation by high-energy medical accelerators, ¹⁵O and ¹³N prod. 4-26525
 aerosols in air, critical parameters of plasma form. with laser breakdown, gasdynamic estimates 4-15206
 air + Ar⁺(Sb⁺)(As⁺)(P⁺)(N⁺)(O⁺)(O₂⁺)(Ge⁺)(Cr⁺)(Fe⁺)(Cl⁺), charge transfer cross section meas. 4-49157
 air-SF₆-CO mixtures, breakdown, attachment and ionisation 4-34225
 air-water annular two-phase flow in horizontal tube 4-10771
 air-water interface, transition phenomena of monolayers 4-29732
 blastwaves generation from confined electrical discharges 4-49856
 breakdown plasma form, threshold near Cu mirror, depend. on surface absorpt. coeff. 4-28808
 bubbles in liq., acoustic oscill. during growth and breakoff 4-45270
 dehumidifier using solar-assisted regenerator 4-57670
 discharge, gaseous products, periodic characteristics (*Japanese*) 4-34352
 electron drift velocity determ., time-of-flight method 4-38928
 international intercomparison of standards for collision kerma rates by TLD techniques 4-48780
 ionisation by 4-38933
 ionised gas, glow discharge positive column, heat flow processes 4-15323
 ions for biological studies, phys. characts. and control 4-36270
 liquid, stimulated Raman scatt. spectrum, 0.5247 to 1.0256 μ m (*Chinese*) 4-55126
 longitudinal flow with impinging jets, heat transfer on surface 4-29084
 matrix air heater, solar powered, thermal analysis 4-57667
 methane-air flames, self-spreading front, temp. meas. by spark-induced fluoresc. (*German*) 4-27519
 methane-air premixed flames, N₂ CARS thermometry of temp. profiles through flame fronts 4-35904
 negative ionisation, effect on thymus glands of laboratory rats 4-31200
 nuclei production in Alaska air masses under the action of short wave (1850 Å) ultraviolet irradiation 4-8297
 plane high-current discharge study 4-34347
 rarefied, steady discharge elec. breakdown, electrode elastic wave excitation 4-44880
 shock parameters attenuation meas. using piezoelectric transducer 4-9003

air continued

- water/air interface, adsorption of octanoic acid, surface tension meas. 4-25148
 H₂-air-steam mixtures, combustion for various concentrations 4-57562
 O₃ in troposphere over Colorado Mts., USA, due to pollution effects 4-42050
 SF₆-air mixtures, DV voltage breakdown in rod-plane gaps 4-24646
 air bases *see airports*
 air bubbles *see bubbles*
 air compressors *see compressors*
 air conditioning
 see also ventilation
 cool storage for energy saving and management in Kuwait 4-36034
 cooling/heating solar energy system for saving energy in air conditioning (*Japanese*) 4-36027
 cross-cooled dessicant dehumidifier 4-21533
 energy savings using supplementary energy from solar energy system (*Japanese*) 4-35986
 NTS test bed for novel HVAC systems evaluation 4-52190
 solar absorption system for air conditioning 4-57765
 solar-assisted comfort conditioning, research and development 4-52101
 CaCl₂ desiccant soln. regeneration, solar regenerator theory and expt. 4-26273
 LiBr desiccant soln. regeneration, solar regenerator theory and expt. 4-26273
 air permeability *see permeability*
 air pollution
 see also air pollution detection and control; smoke
 acid generation in polluted troposphere; chemical calcs. 4-3798
 acid rain in NW England, ionic composition and acidification process 4-31136
 acid smut fallout from plume, model 4-16816
 aerosol deposition onto grassland, filtration model 4-17211
 aerosols, elemental tracers of distant regional pollution 4-46913
 aerosols and sunlight extinction in Washington DC 4-47406
 air quality modeling, uncertainties 4-47321
 air quality simulation models; numerical advection schemes 4-12960
 Arctic aerosol, elemental composition obs. made in Greenland 4-52804
 Arctic aerosol influence of atmospheric radiation budget 4-31629
 arctic haze absorpt. of solar radiation and climate effects 4-47409
 Arctic haze influence on solar radiation budget 4-13019
 Arctic haze pollution, contribution of Noril'sk smelter in USSR 4-17242
 Armadale, Central Scotland, Index of Air Pollution study 4-46915
 Athens, Greece, ambient air negative ion density, effect of wind speed and direction 4-42129
 Atlantic Ocean, atm. aerosol deposition, depend. on surface layer characts. 4-26339
 atmosphere, Big Bend National Park, USA, aerosols and pollutant precipitation chem. 4-41402
 atmospheric corrosion of stainless steel 4-57522
 automobile exhaust emissions and energy consumption, forecasting by computer 4-16820
 Barrow, Alaska, polluted air masses transport 4-41398
 Beijing, China, pollution depend on meteorological conditions (*Chinese*) 4-13001
 benz(a)pyrene in marine area, refinery effluent 4-46916
 benzene, concs., distrib. and lifetime 4-31140
 Bermuda, chemical composition of atmos. aerosol 4-12968
 boundary layer, turbulent diffusion modelling and pollutant transport 4-58264
 boundary layer turbulence, pollution, diffusion, conf., Atlanta, USA (March 1981) 4-42607
 boundary layer turbulence, von Karman's const. 4-42126
 buoyant plumes, wind tunnel modelling, near field dispersion 4-57810
 Canada and USA, long-range transport model 4-31591
 carbonyls in urban fog, cloudwater and rainwater in USA 4-12970
 Chesapeake Bay, USA, deposition of hydrocarbons from atmosphere 4-47212
 chlorocarbon emissions and effect on O₃ in stratosphere, photochem. model 4-42077
 climate change due to man-made trace gas perturbations (*Chinese*) 4-13007
 climate changes, book 4-36833
 climate changes due to air pollution 4-36480
 coal power plants, escaping radioactivity 4-52236
 coastal nuclear plants, thermal inertial boundary layer model, meteorological modelling 4-22061
 complex valley meteorology, off-site dose assessment for emergency preparedness, ZPS-1 4-18806
 concentrations and transport, estimation from remote sensing data 4-16821
 conference, Nov. 1980, Amsterdam, Netherlands 4-31975
 conference on ecological indicators for pollution assessment, at Utrecht, Netherlands (October 1982) 4-36772
 conference on planetary boundary layer physics at Erice, Sicily (February 1978) 4-53361
 conference on precipitation scavenging, dry deposition and resuspension at Santa Monica, USA (November-December 1982) 4-47761
 convective boundary layer, air quality models, prediction uncertainty 4-41394
 convective planetary boundary layer, turbulent exchange mean vertical coeff. 4-36437
 cooling tower plume rise expts. at The Geysers, California, USA 4-52792
 cumulus cloud transport of transient trace gases, photochemical model 4-42075
 depositing pollutant, ground level conc. and flux. 4-26337
 Detroit region, USA, wet and dry deposition 4-41400
 dichlorodifluoromethane conc. patterns assoc. with frontal passages 4-31141
 dispersal in boundary layer, Lagrangian trajectory model 4-31137
 dispersion equation, finite differencing scheme 4-36048
 vertical dispersion from elevated source into neutral boundary layer model 4-26735
 dispersion in surface layer of atmosphere, random walk model 4-26772
 dispersion of pollutants, appl. of Prigogine diffusion theorem 4-42042
 Dorset, Ontario, Canada, acid rain episode and source regions 4-52806
 electric power station effluent plume dispersion obs. 4-21602
 elevated line source, turbulent dispersion, wind conc. moments and budgets meas. 4-31142

air pollution continued

- engineering meteorology (book) 4-47795
 Europe, SO₂ and SO₄ long-range transport numerical modelling 4-36050
 fallout over Great Britain and in S Hemisphere, AD 1981 and 1982 conc. obs. 4-52238
 fallout samples collected during 1981, gamma-ray spectra 4-16818
 fjord valley pollution transport, SF₆ tracer study 4-12502
 fog chemistry in polluted Californian atmosphere 4-42094
 radiation fog development, influence of soil moisture, pollution and vertical exchange 4-47353
 fossil fuel energy technologies, environmental impacts and public health risks 4-57746
 Greenland ice sheet, U isotopes rel. to Cosmos 954 burn-up 4-21600
 Hampton, Virginia, acid precipitation, var. and sequential sampling 4-41399
 haze colour obs. at Denver, Colorado, USA 4-13021
 heavy metal deposition from atm., in Sweden 4-46919
 human exposure to Rn decay products inside UK dwellings, Royal Commission memorandum 4-26538
 Hungary, rainwater NO₃ and NH₄ content since 1900 AD 4-21599
 Japan, visibility, climatological anal. and effects of wind 4-31639
 Lacq industrial region, France, gas-particle conversion, role of fog (French) 4-26334
 Latrobe Valley, Australia, hourly pollutant concs., meteorological and source characts. 4-12506
 Latrobe Valley, Australia, pollution characts. rel. to wind and visibility 4-12505
 long-distance transport, model simulations compared to observations 4-31550
 long-range transport in Europe 4-31139
 long-range transport of sulphur pollutants, models involving chem. reactions 4-16812
 long-range transport processes and models, review 4-12500
 Los Angeles, USA, chemistry of urban fog and mist 4-16813
 LWR containment, airborne radioactivity, sources and solutions 4-33141
 mesoscale diffusion and pollution dispersion, effect of vertical wind shear (Chinese) 4-13003
 metals, bulk deposition in Tulsa, Oklahoma 4-46914
 methane, sources, sinks and seasonal cycles 4-42096
 Mexico City, particulate air pollution, elemental composition obs. 4-52232
 Minnesota and Wisconsin, USA, rainwater acidity, summer 1981 obs. 4-52795
 mixing height, an inconsistent indicator of boundary layer pollution concs. 4-16810
 MUSEMET radioactivity release model, use in risk studies, comparisons (German) 4-5051
 Nagoya City, Japan, aerosol light scatt. coeff. study 4-13022
 natural radiation survey by NRPB, pilot study report 4-26536
 near-field dispersion from instantaneous sources in surface layer 4-42006
 New Jersey, USA, urban area pollution chemical composition 4-16814
 New York State, USA, acidity of rainwater in AD 1966 to 1978 period 4-31134
 nonmethane anthropogenic hydrocarbons in troposphere, photochemistry 4-42080
 nuclear reprocessing and waste facilities, probabilistic risk anal. with dynamic accident progress (German) 4-4983
 nuclear research reactor buildings, air radioactivity due to gaseous wastes (Hungarian) 4-52504
 nuclear war, long-term biological consequences 4-46912
 nuclear winter, global consequences of multiple nucl. explosions 4-46911
 particle trajectories determination in presence of turbulent-vel. variance gradient 4-42009
 particulate air concentrations, normalised, observed and predicted data comparison 4-21601
 peroxyacetylnitrate (PAN) in atmosphere, possible greenhouse effect heating 4-52797
 photochemical models for O₃, NO₂, PAN 4-52803
 photovoltaic solar energy conversion, air pollution effect in Athens, Greece 4-57729
 plume dispersal from Kincaid Power Plant, second-order closure model using meteorological data 4-3510
 plume dispersion in convective boundary layer, expts. at Mt. Isa, Australia 4-52794
 plume dispersion in convective boundary layer, model 4-52802
 plume dispersion over complex terrain, Gaussian model study 4-52793
 plume rise within convective boundary layer, laboratory expts. 4-31549
 plume trapping by elevated inversion, theory 4-12961
 plume turbulent diffusion and meandering, by Lagrangian model 4-31552
 plume vertical dispersion in complex terrain, theory 4-52235
 plumes consisting of SO₂, NO_x and hydrocarbons, transport to background troposphere 4-12962
 polycyclic aromatic hydrocarbon (PAH) on diesel particulates, chem. conversion by O₃ 4-52230
 polycyclic aromatic hydrocarbons in air of Los Angeles, California, USA 4-31558
 Portland, Oregon, USA, aerosol light scatt. and carbonaceous composition 4-52798
 power station effluent plume dispersion, obs. at Kincaid Station, Illinois, USA 4-21603
 prediction models for suspended particulate and CO max. concs. 4-31555
 radiative participation effects on pollutant dispersal in atm. boundary layer 4-16817
 radioactive material dispersion and deposition following release from point source 4-12504
 radioactive plumes trajectories, 3-D potential flow model 4-54258
 radioactive pollutants, dose assessment from indoor pollutants 4-58022
 rainwater, sulphate and nitrate comp. rel. to acidity 4-41404
 smoke from nuclear war, global atmos. effects, GCM simulations 4-47401
 smoke-plume turbulence and dispersion, wind-tunnel study 4-52801
 St. Louis, Missouri, USA, sulphate in air and rain, mesoscale variability 4-46918
 St. Louis, USA and Vienna, Austria, pollution aerosol observations 4-52231
 stack height, effect of humidity (German) 4-16815
 stratosphere, trace gas concentration temporal variations, causes 4-42047
 thermal power plants, air pollution problems in India 4-57808
 Three Mile Island reactor auxiliary building, aerosol sample characterisation 4-18732

air pollution continued

- toluene, concs., distrib. and lifetime 4-31140
 trace element air pollution in Europe 4-52229
 trace gases effect on O₃ conc. and surface temp. 4-42156
 transport, model sensitivity anal., perturbation theory appl. 4-46908
 trichlorofluoromethane anion+H-CHFCI₂+Cl⁻, reactivity and energy surface, SCF-HF ab initio study 4-21425
 trichlorofluoromethane conc. patterns assoc. with frontal passages 4-31141
 tropospheric budgets of chlorocarbons, CO, methane CH₃Cl and NO_x 4-42078
 northwest United States, residential wood burning and air quality 4-52234
 NE United States, urban pollutant plume transport in boundary layer 4-52800
 urban air pollution modelling, book 4-42626
 urban fog chemistry, model for production of H⁺, NO₃⁻, SO₄²⁻ 4-42076
 urban pollution maxima, effect of time shift of human daily activities 4-12503
 eastern USA, S emissions rel. to sulphate in rain, subregional study 4-52807
 eastern USA, sulphate emission inventory for stationary combustion sources 4-52233
 USSR, forest-steppe zone, heavy metals deposition rate in soil and snow 4-41401
 visibility impairment over eastern USA, instrumental meas. and visual obs. compared 4-36493
 Washington, DC, USA, acid rain and Lagrangian meteorology 4-31135
 wood burning in residential heating, model to estimate contrib. to total pollution 4-3507
 Yukon Territory, Canada, radioactivity levels in 40 year snow core 4-52810
 Zircaloy cladding bundles, rapid oxidation in air, expt. studies 4-18569
 Br in Arctic atmosphere, obs. of gas phase and particulate Br contents 4-42083
 C, combustion generated particles in Arctic atm., conc. 4-26335
 C filaments in aerosols from Cu smelter, chem. and physical props. 4-26336
 CO in atmosphere of Moscow, USSR, conc. variations in AD 1970 to 1982 period (Russian) 4-52835
 CO₂ atmospheric levels in pre-industrial era 4-31570
 CO₂ conc. variability at Barrow, Alaska, during winter 4-42091
 CO₂ concentration, contrib. from global deforestation 4-31125
 CO₂ emission rates for conventional and synthetic fuels 4-35978
 CO₂ in atm. (1860-1950), effect on ¹⁴C conc. 4-26338
 CO₂ in mid-troposphere, conc., mathematical model 4-58267
 CO₂ in stratosphere and -troposphere over Australia, var. with time 4-52830
 CO₂ increase and atmos. temp. rise? a different view 4-52808
 CO₂ pollution absorbed by oceans 4-22001
 CO₂ pollution affecting climate, general circulation model study 4-42151
 CO₂ warming of Earth, implications of Australia climatic variations anal. 4-31625
 Co pollution, book 4-42635
⁶⁰Co gamma source, exposure skyline spectrum calc. 4-43662
 HNO₃, removal from atm. by rain and snow scavenging 4-52796
 H₂O₂ in rainwater of Tokyo, Japan 4-52241
⁸⁵Kr in the atmosphere, contamination during 1950-1980 (Czech) 4-46910
⁸⁵Kr mesoscale transport using numerical models 4-12501
 NH₄NO₃ aerosol, NH₄ and HNO₃ loss rates 4-31554
 NO, air pollution in rural midwestern USA 4-12965
 NO-NO₂-O₃ in atm. surface layer, theory 4-31556
 NO₂, air pollution in rural midwestern USA 4-12965
 NO₂ in Oslo, Norway, pollutant conc. in city streets 4-57809
 NO₂, reaction with NaCl rel. to NOCl form. 4-22046
 NO₃ and HONO formation in nighttime urban atmosphere 4-42079
 N₂O emission from agricultural soil following fertilizer application 4-42082
 O₃, air pollution in rural midwestern USA 4-12965
 O₃ conc. in upper stratosphere in AD 1958 to 1980 period 4-42112
 O₃ concentrations affected by N₂O and chlorofluoromethane pollution 4-12964
 O₃ diurnal variation in Harima district, Japan, urban and rural sites 4-31559
 O₃ ground level concs. at Madrid, Spain, diurnal variability 4-17207
 O₃ layer, status of studies of anthropogenic impact (Russian) 4-42052
²¹⁰Pb fallout rate in California, USA 4-46909
 Rn, decay products in rainwater, model calc. (Japanese) 4-22047
 S aerosol, concs. in coastal environment rel. to air masses origins (French) 4-58240
 S, characts. and control (Russian) 4-52237
 S pollutants in snow from several Canadian cities 4-3506
 S pollution long-range transport by forward trajectory model 4-31551
 SO₂ concs. in Agra city, Uttar Pradesh, India, Gaussian prediction model 4-16811
 SO₂ global pollution emission rates during 1970 to 2030 period 4-52228
 SO₂ lifetime in atmosphere, obs. based on cosmic ray produced ³⁸S 4-31557
 SO₂, remote monitoring by laser, nonexponential absorption effects 4-41393
 SO₂+OH reaction mechanism for atm. pollution conditions 4-17208

air pollution detection and control

- aerosol concentrations, Zn, Mg, Fe, Cu, Ca, Pb component analysis (Spanish) 4-41395
 aerosol levels estimation from multispectral scanner data, channel correl. method 4-52961
 aerosols, elemental tracers of distant regional pollution 4-46913
 aerosols emission in waste gas container of reprocessing plant (German) 4-12522
 air-particulate instrumentation and analysis 4-42627
 airborne lidar systems for atmospheric observations 4-26350
 asbestos content measurement by transmission electron microscopy method 4-17271
 asbestos fibre analysis by TEM, filter collection transfer 4-21608
 automatic air sampling apparatus for checking compliance with MAK and MIK standards (German) 4-41396
 combustion processes, air pollutant form, reduction methods 4-31138

air pollution detection and control continued

- computerised low-cost environment monitor, 16 remote stations (*Spanish*) 4-52246
- deep metal fibre filters for at. contamination prevention after accidents in PWR (*German*) 4-12521
- dimethylmercury and methylmercury chloride, determ. in air 4-12519
- electric charge carried by airborne dust determ. using semiautomatic method 4-31149
- exhaust gases from diesel engines, smoke density meter (*Russian*) 4-36051
- fluoresensor, KrF laser-based, aerial testing results 4-12516
- Fourier transform IR spectrometer system appl. 4-3514
- heavy metals investigation using neutron activation analysis, Dutch study (*Dutch*) 4-52244
- laser radar meas. of atmospheric conditions, instrumentation and meas. techniques (*Japanese*) 4-58306
- laser spectroscopic techniques, industrial meas. and control appls. 4-19495
- lidar remote sensing methods, pulse repetition freq. considerations 4-22098
- local radiation action of atmospheric emissions from radiochemical plants 4-16819
- long-path laser absorpt. procedure for troposphere OH conc. determ. 4-42191
- mask correlation spectrometry for pollutant conc. remote sensing 4-57816
- meas. and prevention techniques (*French*) 4-52248
- measurement of aerosol and smoke by filter media and optical reflectance method 4-16824
- methane monitor, using diode-laser absorption spectrometry 4-3515
- microwave remote sensing of atmospheric gases and acid clouds 4-26349
- millimetre wave gas/aerosol spectrophot. diesel smoke appls. 4-26817
- mixed Rn and Th daughter conc. meas. 4-7914
- monitor for Pu, Rn-immune system 4-43660
- near-surface radwaste burial trenches, respiration of radioactive gases, 10 CFR 61 4-23239
- nitrate aerosols, mass conc. meas. using quartz crystal aerosol monitor 4-31148
- nuclear accidents, repairs and protective measures effects on radioactivity releases (*German*) 4-5050
- optical spectrometer of repetitive-scanning derivative type for pollution gas conc. 4-21606
- organic chemicals, deposition props. determ. 4-41403
- paper mill, air pollution monitoring and estimation using Na-deposit as indicator (*Japanese*) 4-41397
- particulate characterisation, X-ray diffr. reference intensity method 4-57815
- particulate emission characterisation in oil fuel power plant 4-7915
- photoacoustic non-resonant cell, acoustically decoupled, appl. to atm. trace gas analyses 4-41406
- photovoltaic solar energy conversion, air pollution effect in Athens, Greece 4-57729
- Plume Model Validation and Development project field measurements and uncertainty estimates at a Plains site, USA 4-31144
- plume visibility meas. by teleradiometric and sensitometric methods 4-52240
- polar mols., atm. pollutants, microwave rot. spectra 4-7909
- pollution abatement expenditures allocation and distribution effects on US economy 4-26330
- polycyclic aromatic hydrocarbon detectors, choice of filter material 4-31558
- polycyclic organic emissions from coal-fired utility boilers, meas. 4-3509
- power plant emissions control options and R&D efforts 4-36049
- radioactive spent resin incineration at nuclear power plants, feasibility, off-gas control 4-23241
- radwaste incinerator vol. reduction systems, high temp. gas particulate collectors 4-23218
- rain chemical sampler, design of automated apparatus 4-57814
- rainwater chemical composition samplers, contamination by dry deposition 4-52897
- refuse incineration, environmental and energy aspects (*Italian*) 4-41304
- remote sensing, conf., Liverpool (Dec. 1982) 4-47764
- remote sensing, optical methods 4-41408
- remote sensing methods in environmental studies, conf., April 1983, Brussels, Belgium 4-25
- semiconducting gas sensors, surface cond. method 4-22775
- size-selective samplers, aerosol testing techniques 4-31143
- SKFU system for telemetric dose surveillance of nuclear power plants (*German*) 4-54427
- spark ignition engines, NO emission level computation for various operations 4-16825
- sulphate aerosols, mass conc. meas. using quartz crystal aerosol monitor 4-31148
- surface acoustic wave delay lines for minor species conc. anal. 4-31146
- thermal power plants, pollutant reduction methods 4-57808
- TLD environmental monitoring programme for Palo Verde Nuclear Power Station 4-18810
- toluene, absorpt. coeffs. at CO₂ laser wavelengths, detect. limits 4-38163
- turbulence effects on cumulative freq. distrib. for conc. calcs. 4-16826
- vehicle particulate emissions and resuspended matter meas. with high volume sampler 4-52243
- wood burning in residential heating, model to estimate contrib. to total pollution 4-3507
- X-ray fluorescence analysis appl. 4-7908
- xylene, absorpt. coeffs. at CO₂ laser wavelengths, detect. limits 4-38163
- As cpds. detection using samplers with glass fibre filters 4-52898
- B, atmospheric, determ. and sampling 4-16809
- ¹⁴C, formation, behaviour, emission from LWR power plant (*German*) 4-37841
- HCl sensitive detection by derivative spectroscopy with diode laser 4-52247
- H₂O₂ in rainwater, concentration measurement technique 4-52241
- H₂S detection using SAW delay lines 4-31146
- ¹³¹I measurement in BWR exhaust air, radioiodine fallout (*German*) 4-7911
- ¹³¹I monitor, improved calcs. for collecting-measuring instruments (*German*) 4-54429
- ¹³¹I removal from atmospheric air, ¹²⁷I content effects (*German*) 4-7910
- ¹³¹I removal under reactor accident conditions using active charcoal (*German*) 4-7912
- ¹³¹I, very small activity meas. in air using high volume sampler (*German*) 4-54428

air pollution detection and control continued

- NH₃ and H₂O₂ pollutant gas monitoring by spectral measurements with 1.5 μ m InGaAsP/InP laser 4-26346
- NH₃ detection in flue gas using ¹³C¹⁶O₂ laser monitor 4-12515
- NO₂ detect. in atm. by atm. press. ionis. mass spectrosc. 4-16703
- NO₂ detect. of ambient levels using passive sampler 4-16808
- NO₂ monitoring using laser absorpt. spectroscopy (*Russian*) 4-26347
- NO_x emission control technology for utility and other combustion plants 4-12507
- NO_x emissions from large scale furnaces, measuring methods and instruments (*German*) 4-52242
- NO_x-HNO₃ removal from low-flow process cell exhaust ventilation system 4-18814
- Rn, low-level detection system 4-43661
- ²²²Rn daughter prods. near land-sea discontinuities by gamma spectrometry 4-8330
- ²²²Rn gas emanation from U tailings, reduction using chemical reduction process 4-23228
- ²²²Rn progeny in residences, conc. meas. by total- α 3-count technique, optimisation 4-52245
- S pollution control (*Russian*) 4-52237
- SF₆ and perfluorocarbon tracking of power station plumes over North Sea 4-26348
- SO₂ conversion to sulphate and sulphite aerosols, humidity and temp. effects 4-46920
- SO₂ detect. in atm. by atm. press. ionis. mass spectrosc. 4-16703
- SO₂ detection using SAW delay lines 4-31146
- SO₂ emission control using differential absorpt. lidar 4-52239
- SO₂ reduction in flue gases of thermal power stations, cost evaluation 4-16806
- SiO₂, crystalline, anal. by automated powder diffractometry 4-57619
- SnO₂-based combustion monitor sensor 4-37086
- ⁹⁰Sr, prediction of fallout transport and vertical. profile in aerated zone (*Japanese*) 4-43664
- T monitoring system using coherent demodulation technique 4-26345
- U tailings, reduction of ²²²Ra emanation using chemical encapsulation process 4-18805
- air pumps** see compressors
- air terminals** see airports
- air tightness detection** see leak detection
- aircraft**
- see also aerospace control; aerospace instrumentation; helicopters components, acoustic emissions rel. to aircraft manoeuvre 4-30890
- fibre reinforced composites, aircraft industry uses 4-41166
- ice formation on cylinders (aircraft), wind tunnel expts. 4-58228
- ice formation on cylinders (aircraft) simulation model 4-58227
- icing of aircraft in clouds, obs. of cloud microstructs. 4-22039
- Kuiper Airborne Observatory, far-IR and sub-mm obs. and instruments 4-26996
- noise monitoring at airports 4-7913
- testing station for noise reduction 4-28925
- using panels of extruded Al alloy D16chT, residual strength of built-up one-piece structures 4-51806
- Li-SO₂ battery powered unmanned aircraft 4-7845
- Pb-acid aircraft battery, reactions, stability and performance evaluation 4-7853
- aircraft instrumentation**
- camera system, integral aircraft, for aerial photography 4-309
- head up display optical system design 4-38559
- optical techniques for airborne displays 4-1463
- volume phase holograms and their application to avionic displays 4-44078
- airfields** see airports
- airglow**
- see also atmospheric spectra; aurora; nightglow; sky brightness; twilight
- dayglow, N I (³S-⁴P) reson. multiplet origin from N₂ dissociative excitation 4-14436
- dayside cleft optical emissions 4-26908
- mesopause temperature variations deduced from airglow obs. 4-42250
- solar eclipse time O₂ 1.27 μ m emissions and O₂ conc. profiles 4-58324
- spectral observations and ionosphere ions vertical distrib. determ. 4-22204
- temperature measurement 4-58298
- Urales affecting upper atmosphere airglow and wind velocities (*Russian*) 4-13116
- UV airglow at 3371 angstrom and implications for photoelectron flux 4-3864
- NO₂* emissions and temp. depend. of O+NO \rightarrow NO₂* reaction 4-41198
- O I 6300 Å Doppler shift meas. rel. to spatial mapping of thermospheric neutral wind field 4-58329
- O UV dayglow at 1356 Å, limb profiles 4-22201
- O ultraviolet dayglow intensity at 1356 Å. 4-22200
- O⁺ UV dayglow at 834 Å, obs. and radiative transfer model 4-22202
- O₂ 1.27 μ m airglow meas. using rocket-borne IR photometer 4-8331
- airports**
- aircraft noise monitoring at airports 4-7913
- noise, survey of community attitudes 4-21605
- noise monitoring 4-21604
- RAF Lyneham, aviation forecasting, automated weather radar/Meteosat display appl. 4-52842
- alarm systems**
- biomedical alarm systems for the profoundly deaf, technical aspects (*French*) 4-8138
- microwave repeater solar power supply design and reliability 4-3459
- radiotelegraphic auto-alarm receiver, test methods of operation characteristics against atmospheric radio noise at 500 kHz (*Japanese*) 4-47389
- SnO₂ gas sensor and its appl. 4-37081
- toxic gas measuring instrument with photometric evaluation of chemical reactions (*German*) 4-21511
- US intrusion alarm for radiation areas 4-3632
- albedo**
- asteroids, surface optical properties, quantitative anal. 4-36629
- P/ Comet Schwassmann-Wachmann 1, IR photometry rel. to diameter and albedo of nucleus 4-53101
- earth, effect of biothermostasis involving S-cycle 4-13016
- Earth albedo 4-47400
- Earth surface albedo values used for operational weather forecasting 4-31587

albedo continued

- Great Plains of USA, visible albedo depend. on order zenith angle 4-41924
 inhomogeneous plane parallel media sublayers 4-26986
 land surface processes, albedo and energy balance rel. to climate 4-22080
 Michigan hardwood forest, albedo following fires 4-47265
 Sahel region, Tunisia, desertification, soil characts. 4-31529
 Saturn small satellites, Voyager imaging results 4-17437
 surface albedo data for climatic modelling 4-22073
 Titan, results from photometric and spectrophotometric obs. (*Russian*) 4-42359
 Venus, magnitude and albedo rel. to atm. comp. 4-42336
 Venus, scattered near-UV sunlight, aerosols effects and spectral albedo curve 4-42332
 Be reflected minimum critical mass systems, Bragg cutoff phenomena, improved albedo 4-54227

alclad *see* **aluminum alloys**

Alfven waves *see* **magnetohydrodynamic waves; solid-state plasma**

algebra

- see also* **Boolean algebra; linear algebra; matrix algebra**
 Amalgamation Property in lattice varieties 4-27458
 Backlund transformations, group prop. and algebraic structure 4-27282
 Banach algebra, additive perturbations (*German*) 4-47836
 characterization of distributive lattices 4-32192
 commutator in finitely generated ortholattices 4-27454
 compact elements in lattices 4-27455
 comparability graphs of partially ordered sets of different types 4-32195
 compatible ordering of lattices 4-32188
 conference, lattice theory, Szeged, Hungary (Aug. 1980) 4-31968
 cubic eqn. roots, simple transcendental expressions 4-53422
 distributive correlation lattices 4-27457
 distributive lattices and rings of quotients 4-27456
 double cosets in chemistry and physics 4-17676
 dualities and equivalences for varieties of algebras 4-32189
 equivalence of κ -systems and m -lattices 4-32196
 finite lattice characterisation for elements as join of cycles 4-27449
 generative complexity of α -complete lattices 4-32199
 Hermitian and unitary operators generalisation in Hilbert space 4-47834
 Hilbert space model of orthomodular lattices 4-27447
 hybrid expansion and convergence 4-8684
 identities in interval lattices of lattices 4-27445
 L-dense sets and L-compatible partial functions 4-27450
 lattice of varieties of algebras with zero 4-32200
 lattice varieties, products survey 4-32201
 lattices, whose covering graphs are S-graphs 4-32198
 Lie superalgebras, discrete series 4-36885
 many body systems, von Neumann algebras, New-Tamm-Dancoff procedure 4-27469
 modular lattices, equational theories of projective geometries 4-32190
 modular polarity lattices, distributivity characterisation 4-27444
 modularity in atomistic lattices 4-27452
 Neuman problem, nonlinear, numerical algorithm 4-4192
 operators, asymptotic, algebraic formalism of quantum mechanics 4-47899
 operators, asymptotic, algebras and topologies 4-47898
 p-algebras or pseudocomplemented lattices 4-27448
 pauli spinors and Hestenes' geometric algebra 4-36859
 piecewise-homogeneous media, nonclassical thermoelasticity eqns. 4-10545
 recurrent covers and Boolean equations 4-32187
 refinement property of reduced free products in varieties of lattices 4-32186
 strong extensions of lattice-ordered algebras 4-27460
 structure theorem for lattices of generalized partitions 4-27459
 topological representation theory for orthomodular lattices 4-27446
 unbounded observables, complete sets 4-36927
 Z-algebras on reductive Lie algebras (*Russian*) 4-36883

algorithm theory

- see also* **computational complexity**
 symmetrised generalised log-derivative method for inelastic and reactive scatt. calcs. 4-22636

algorithms (computer listings) *see* **subroutines****aliphatic compounds** *see* **organic compounds****alkali metal alloys**

- see also* **caesium alloys; lithium alloys; potassium alloys; rubidium alloys; sodium alloys**
 alkali metal-group IV liq. alloys, neutron diff., Knight shift and elec. resist. studies 4-45710
 binding energy, heat of soln., bulk modulus and shear elastic const. 4-50716
 disordered binary, surface energies and work functions 4-29768
 liquid, chem. interactions and electronic struct., solid state calcs. 4-45588
 molten, thermal diffusion and thermoelec. powers 4-34678

alkali metal compounds

- see also* **alkali metal alloys; alkali metal halides; caesium compounds; francium compounds; lithium compounds; potassium compounds; rubidium compounds; sodium compounds**
 alkali phosphate glass, with transition metal oxides, nonohmic effects 4-20400
 alkali silicate glass, deformation kinetics, -120 to +350°C 4-51722
 alkali-He system, mol. struct. calcs., I-depend. pseudopotentials 4-5142
 aluminoborate glasses containing U, neutron and γ -irrad. effects on physical props. 4-20258
 aluminofluorophosphate glasses, durability and props. 4-15396
 borate crystals, arrangement and fractions of BO_3 and RBO_4 units (*Japanese*) 4-6351
 borate crystals, stability and bond energies, heats of formation 4-39202
 borate glasses, B atom tetrahedral coord., statistical mechanics anal. 4-20110
 complexes, alkali bis(citrate)ferrates(III), Mossbauer studies 4-16126
 fluorides, HF impact, K-plus L-shell ionisation, electron transfer 4-25845
 fluorides, solid, Ar(Mg) ion impact excitation, K X-ray spectra 4-21094
 fluorine compounds+Mg(Ar) ions, K X-ray spectra, chemical bonds effect 4-19203
 glass system, mixed alkali effect and phase separation 4-11337
 glasses, Ar implanted, antireflective coating prod. by ion implantation 4-24259
 intercalation cpd. with graphite, phonon dispersion relations, ang. force model 4-45287

alkali metal compounds continued

- intercalation cpd. with graphite, phonons study by inelastic neutron scatt. 4-45279
 intercalation in transition metal ternary and multinary cpds., struct. characts. 4-29394
 metaphosphate anion struct., computer anal. of cryst. struct., phys. and chem. props. data 4-11234
 metavanadates, luminesc., excitation and absorpt. spectra 4-11925
 nitrates, molten, diffusion meas., gravimetric method 4-56057
 phosphate phases, $\text{ABR}(\text{PO}_4)_2$, A=alkali metal, B=alkaline earth, R=rare earth, prep., cryst. chem. 4-2122
 phosphates, Raman spectra of melts, structure from temp. depend. (*Russian*) 4-51251
 phosphosilicate glasses, $\text{M}_2\text{O-M}'\text{O}_2\text{-SiO}_2\text{-P}_2\text{O}_5$, (M=Li, Na, K) (M'=Zr, Ti), superionic glass form. 4-39587
 silicate glasses, elec. conductivity anal. (*Russian*) 4-2377
 silicate glasses, struct., Raman spectra studies 4-24730
 alkali aluminosilicate, interdiffusion of Ag, rel. to electronic polarisability 4-39613

alkali metal halides

- see also* **compounds of individual alkali metals, e.g. sodium compounds**
 alkali halide: ReO_4^- matrix isolated system, persistent anihilos in vibr. spectra 4-34597
 alkali metal-metal halide solns., model using HNC theory 4-20072
 atom-surface pot., role of ionic quadrupolar deform. 4-35541
 atoms, mass spectra, static sample temp. obtained with pulsed laser induced ion generation 4-1283
 binary common-ion mixtures, thermodynamic anal. of solid-liquid phase diagrams 4-24974
 cathodoluminescence spectra, effect of O impurities 4-30531
 chlorides, defect energy calcs. using repulsive parameters from charge density overlap 4-39283
 clusters, secondary ion mass spectrometry, ionic radii effects 4-1311
 colloidal centre form. during radiolysis 4-21488
 complexes with cryptand[2.2.2], ionic cond. 4-45412
 crystals, γ -irrad., mechanoluminesc. study 4-40545
 crystals, ion wavefunctions, cryst. field effects 4-11502
 crystals, radiation processes and radiolysis (*Russian*) 4-11179
 defect formation efficiency, effects of homologous cation impurity (*Russian*) 4-34546
 delocalised positronium effective mass 4-11492
 desorption kinetics of He, corrections to rigid wall approx. 4-20485
 dislocation damping, temp., freq. and charge depend. 4-24828
 dissociative self-surface ionisation, positive and negative-ionic emission currents 4-16284
 doped, aggregation pathways and Suzuki phase formation 4-29637
 doped, defect clustering kinetics, review 4-20180
 doped crystal, electroplastic effect, impurity influence 4-24902
 elastic and thermal props., compressible ion theory 4-15605
 electron charge density beyond rigid-ion approx. 4-34438
 EPR study of alkali halides: $^{151}\text{Eu}^{2+}$, $^{151}\text{Eu}^{3+}$, Sr^{2+} 4-20857
 evaporation in electrostatic field, surface ledge configurations 4-15753
 excitons, absorpt., reflectivity, intrinsic luminesc. spectra 4-25242
 F_H -centres in NaCl-type alkali halides 4-2200
 F-centres, visible spectra Schrodinger eqn. appl. (*Italian*) 4-45131
 high-current pulsed electron beam bombardment, dielec. breakdown 4-7124
 in-crystal polarizabilities of alkali and halide ions 4-39843
 ion dynamics and anion-cation mirror symm. 4-45278
 ionic cryst. films, mol. dynamics simulation 4-6684
 ionic crystals, radiative-tunnel hopping diffusion of electrons over system of F-centres 4-11530
 irradiated, behaviour of colloidal centre size distrib. (*Russian*) 4-29471
 irradiated, metal colloid form. 4-20234
 isoelectronic, estimates of van der Waals coeffs. from optical data 4-20938
 ligand relax. and g-shift of s^1 ions 4-20614
 localised centre absorption band spectral location and lattice constants 4-56970
 metal/alkali halide, single crystal contact, formation of new phases with temp. gradient 4-50648
 molecules, potential energy functions, rot. and vibr. const. calcs. 4-38153
 molten and binary mixtures, molecular heat transfer and thermal cond. 4-39618
 optical breakdown thresholds and density of absorbing inhomogeneities 4-6399
 plastic flow stress, press. depend. in single crystals 4-45253
 rare earth halides, MRX_3 , M=alkali metal, synthesis, cryst. structures 4-2121
 solutions in methanol (ethanol), elec. conductance meas. (*German*) 4-34680
 Stokes expt., solid-phase version 4-29666
 third-order elastic const., temp. depend. calc. 4-55905
 US irrad., point defect excess conc., dislocation density 4-6397
 vacuum cleaved crystals, TSEE 4-3022
 H_2O^- defect prod. and optical props. 4-11145
 LiBr desiccant soln. regeneration, solar regenerator theory and expt. 4-26273

alkali metals

- see also* **caesium; francium; lithium; potassium; rubidium; sodium**
 alkali metal-rare gas films, metal-insulator-transition, model 4-45637
 alkali metal-LiF model system, solar selective absorbing surfaces produced by ion implantation 4-26310
 alkali metals: Zn, Zn impurity excitations decay 4-34907
 alkaline and buffer atom nonlinear absorpt. medium, radiation transfer in a spectral line 4-49925
 atom, excited states, photoionisation threshold cross-sections calcs. 4-19020
 atom+alkyl halide, nonadiabatic processes, neutral excitation and ion pair prod. channels 4-10003
 atom+ H_2^+ near reson. dissoc. charge exchange, keV energies 4-10072
 atom+ H^+ , electron capture and excitation 4-10057
 atom+He, $j_{m_1}j_{m_2} \rightarrow j_{m_1}j_{m_2}$ transitions cross sections 4-5340
 atom+ion collisions, selective valence electron transfer 4-23806
 atom+molecule, differential cross-sections, vibr. interference structs. 4-9907
 atom+nitromethane, electron transfer collisions, harpoon model 4-10063
 atom spin relaxation in quasi-mol. complex 4-38055
 atomic clusters, secular eqns., diatomic group theoretical calcs. 4-49205
 atomic hyperfine interactions, laser spectroscopy appl. 4-33346

alkali metals continued

- atomic vapours, multiphoton ionisation, drag current density calc. 4-1108
 atoms, core photoelectron spectra, shake-up processes 4-1132
 atoms, excited d-states, photoionisation cross-sections, Hartree-Fock calcs. 4-1115
 atoms, excited state, photoionisation, zeros in dipole matrix elements 4-1114
 atoms, excited states, photoionisation cross sections using quantum defect theory 4-54649
 atoms, mass spectra, static sample temp. obtained with pulsed laser induced ion generation 4-1283
 atoms, multiphoton ionisation, electron polarisation 4-1107
 atoms, nucl. spin polarised, study of metal surfaces 4-40242
 atoms, photoelectron polarisation in resonant two-photon ionisation with superstrong continuous excitation 4-19013
 atoms, photoionisation, relativistic many-body calcs. 4-1123
 atoms, polarised, polarised electron impact, ionisation and ns-np excitation asymmetry 4-5444
 atoms, Rydberg states, quadratic, Zeeman effect 4-18982
 atoms, total energies and electron affinities, local spin-density approx. exact exchange extension 4-28571
 atoms+H reson. interactions, polarisabilities and van der Waals coeffs. 4-48961
 closed-shell ion+He(Ne) repulsive interactions, beam and transport meas. 4-28533
 deformation mechanism maps 4-46580
 expanded fluid, metal-insulator-transition, model 4-45637
 free atoms, relativistic SCF calcs. with local density approxs., core-exchange polaris. 4-38087
 heat pipes, high-temp., heat transfer, flow study 4-19809
 injection heat pipe for laser induced fluoresc. spectroscopic study 4-32323
 intra-alkali matrix effects in the inductively coupled plasma 4-32316
 ion+atom collisions, selective valence electron transfer 4-23806
 ion+inert gas, interaction pots. calcs. 4-49125
 ions, electron impact, single and multiple ionisation cross-sections 4-5456
 ions, surface rainbow scatt. from metal surfaces 4-7300
 ions in hydrocarbon flames, $C_3H_3^+$ reduction in relation to soot suppression 4-51975
 ions in hydrocarbon flames, H^+ transfer reactions and mass spectra 4-51974
 liquid, core polarisation and struct. factor 4-55703
 liquid, density-functional theory of surface tension 4-6628
 liquid, electrical resistivity calcs. 4-2579
 liquid, struct. factors under press. 4-6245
 liquid, surface energy, microscopic theory (Russian) 4-24713
 liquid, thermal press. coeffs., Percus-Yevick phonon method 4-44939
 liquid, variational thermodynamic calcs., use of one-component-plasma model 4-55695
 liquid alkali metal coolant systems, on-line monitoring equipment 4-9320
 liquid metals and binary liq. alloys, Helmholtz free energies, variational calc. 4-55702
 liquid surface theory 4-45454
 melting, adiabats and Grüneisen parameter 4-45308
 metal-metal halide solns., model using HNC theory 4-20072
 monolayers, electronic struct. and cohesive energies, all-electron local density functional theory 4-6852
 surface energy and work function theory 4-2423
 trace anal. in flames by laser optical spectroscopy 4-26251
 vapour, thermal cond. temp. depend., meas. apparatus for wide temp. range 4-37099
 vapour, visible absorpt. spectra, diffuse bands 4-19072
 wires, thin, negative temp. coeff. of resist. 4-20621
 Si: alkali metal, impurity-vacancy complexes, electronic struct. 4-45676

alkaline earth alloys

- see also barium alloys; beryllium alloys; calcium alloys; magnesium alloys; strontium alloys
 No entries

alkaline earth compounds

- see also barium compounds; beryllium compounds; calcium compounds; magnesium compounds; radium compounds; strontium compounds
 atoms, electron impact ionisation, HF vel. distrib. 4-19273
 chalcogenide crystals with NaCl struct., interionic pot. anal., binding energies, bulk moduli, press. derivatives 4-39201
 chalcogenides, theory of divalent ions in crystals 4-24756
 ditellurides, MTe_2O_5 , $M=Ca, Ba$, cryst. growth, DTA, X-ray diffr., chem. anal., dielec. and optical props. 4-50225
 fluorides: rare earth, heavily doped, ionic cond. studies 4-45395
 fluorides, HF impact, K-plus L-shell ionisation, electron transfer 4-25845
 fluorides, high temp. ionic transport and disorder, review 4-20396
 fluorides, solid, Ar(Mg) ion impact excitation, K X-ray spectra 4-21094
 fluorine compounds+Mg(Ar) ions, K X-ray spectra, chemical bonds effect 4-19203
 halide complexes with cryptand[2.2.2], ionic cond. 4-45412
 halides, pot. energy functions. mol. spectroscopic consts. calcs. 4-33477
 hydrides, pot. energy functions. mol. spectroscopic consts. calcs. 4-33477
 metaphosphate anion struct., computer anal. of cryst. struct., phys. and chem. props. data 4-11234
 oxides, Li^+ or Na^+ ion implanted, point defects, ESR, optical absorpt., luminesc. spectra 4-20269
 pyrophosphates, luminescence of Mn and Sn activated 4-30495
 rare earth-alkaline earth halides, superionic solid soln., Raman spectra studies 4-51278
 rare earth-alkaline earth sulphides, optical band gaps, absorpt. edge meas., diffuse reflectance spectroscopy 4-2937
 MF₂: rare earth ($M=Ca, Sr, Ba$), lattice distortion and local compressibility induced by trivalent impurities 4-6385
 MPd₂P₃, cryst. struct., Guinier powder diffr. studies 4-24776

alkaline earth metals

- see also barium; beryllium; calcium; magnesium; radium; strontium
 alkaline and buffer atom nonlinear absorpt. medium, radiation transfer in a spectral line 4-49925
 alkaline earth metal ions, electron impact, single and multiple ionisation cross-sections 4-5456
 atom, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 atom+halogen mol. chemionisation reaction 4-21452
 atomic hyperfine interactions, laser spectroscopy appl. 4-33346
 atoms, penetration effects in high-Rydberg states 4-9698
 atoms, Rydberg states, Doppler-free 2-photon laser spectrosc. obs. 4-18960

alkaline earth metals continued

- atoms, total energies and electron affinities, local spin-density approx. exact exchange extension 4-28571
 chemionisation reaction 4-21452
 ions, polarisabilities and sizes calc. 4-49181
 ions in hydrocarbon flames, $C_3H_3^+$ reduction in relation to soot suppression 4-51975
 ions in hydrocarbon flames, H^+ transfer reactions and mass spectra 4-51974
- alkalinity** see pH
- allotropism** see polymorphism
- alloy steel**
 see also tool steel
 abrasion, Cr content effect, small scale yielding mechanism (Japanese) 4-51789
 austenitic, precipitation-hardening, with Pb impurity, thermocyclic treatment effect on props. 4-40845
 austenitic-ferritic, work hardening, effect of grain size 4-16416
 ball-bearing, performance in corrosive environment 4-21369
 bearing, degassed, automatic inclusion determ. 4-30884
 BWR riser piping, intergranular SCC, radiographic inspection system 4-41163
 cast steel, unalloyed and low-alloyed, fatigue props. and tensile strength (Swedish) 4-7593
 constructional, corrosion damaged, treatment of fatigue test results 4-51930
 constructional, reversible temper brittleness, alloying elements redistrib., microadditions influence 4-21320
 crack resistance evaluation from strain diagrams 4-7582
 damage resist. during creep, plastic deform. effects (Russian) 4-51736
 defect detection trial plate, near surface defects, US inspection 4-41122
 defect detection trials, NDT of test pieces 4-41121
 defect detection trials, US inspection 4-41120
 defect detection trials plate, simulated PWR nozzle, US time of flight technique 4-41119
 defect detection trials plate, US inspection of clad inlet nozzle 4-41118
 diffusion layer failure formation after chemothermal treatments 4-3235
 dispersion strengthened, optimisation of mech. props. by suitable heat treatment 4-46522
 dual phase, fracture characs. (Chinese) 4-16470
 dual-phase, as-rolled formable, Mo replacement by less expensive additions (Italian) 4-25986
 dual-phase, Barkhausen jumps, effect of heat treatment in intercrit. temp. range 4-56694
 dual-phase, Mn-Si, low C, mech. behaviour, influence of microstruct. (Korean) 4-57288
 electrolytic nitriding, preliminary high-temp. thermomech. treatment effect (Russian) 4-41056
 electrotechnical, grain oriented, mag. props. 4-12201
 eutectoid, mech. props., effect of Cr additions up to 1% 4-51773
 failure mechanism under low-cycle nonisothermal load 4-7543
 fatigue crack initiation at notch, H susceptibility and lifetime (German) 4-26066
 fatigue crack propag., acoustic emission signal rel. to load 4-16605
 ferritic, Cr-Mo-V and Mo-V, incremental step creep test, determ. of creep damage coeff. 4-46669
 ferritic, irradiation hardening 4-15543
 ferritic, Mo-V, long term creep, precipitation struct. (German) 4-3171
 ferritic steels, appl. to steady-state fusion reactors 4-913
 formability diagrams, modified (German) 4-16432
 fracture characteristics during bending tests with different notch types 4-46677
 fusion reactor first wall, influence of steel type on activation 4-9434
 heat resistant, thermal fatigue life in nonuniform plane stress state 4-51816
 heat treated, fatigue damage, positron annihilation detection (German) 4-16586
 heat-resistant casing, accelerated crack development in hydrogen impregnating media 4-51895
 high alloy, cutting using combustion products from transonic jet of O_2-H_2 and O_2 -propane generators 4-35851
 high strength, cast and forged, comparative study of fracture and fatigue 4-57325
 high strength, corrosion fatigue crack propag. rate, mech. and environmental effects (Chinese) 4-7624
 high strength, fatigue fracture morphology after exposure to various rel. humidities 4-30826
 high strength, sintered, machinability rel. to additives, drill life test 4-7390
 high-speed, cast, props., C and rare earth metal contents influence 4-40977
 high-speed, cast and powder, props. 4-40976
 high-speed, phase anal. and comp., review 4-7661
 high-strength, block cyclic loading influence on deform. and strength character, plane stressed conditions 4-12125
 high-strength, short-term rupture strength, rapid heating effect 4-16506
 high-strength, yielding and strength limiting states, block cycling effect 4-30772
 high-strength weldable, comp. optimisation 4-40980
 hot ductility, AlN and NbC precipitation 4-30703
 HSLA, cold-rolled, delamination behaviour (Korean) 4-40958
 HSLA, cyclic stress-strain behaviour 4-26007
 HSLA, ductile fracture, influence of P segregation to particle/matrix interface 4-7538
 HSLA, fatigue behaviour, effect of Ti and post-rolling heat treatment 4-21313
 HSLA, fatigue crack thresholds, internal H effect 4-3239
 HSLA, fracture toughness, effects of microstruct. 4-7562
 HSLA, fracture toughness of blunt-notched CT specimens, X-ray diffr. of fracture surfaces (Japanese) 4-3230
 HSLA, H induced cracking, acoustic emission rel. to grain size 4-16550
 HSLA, martensitic, high temp. ductility, effects of austenite grain size and grain boundary segregation 4-16452
 HSLA, nonlinear toughness parameters evaluation 4-12281
 HSLA, precip. strengthened, fracture toughness and microstruct., effect of heat treatment 4-30825
 HSLA, resistance spot welded sheet, quality assessment 4-7687
 HSLA, SCC, H induced cracking, prior treatment and microstruct., effect 4-16549

alloy steel continued

- HSLA, small fatigue crack initiation and growth in various environments 4-12153
 HSLA multiphase, metallography, etching method 4-26145
 HTR cast pressure vessels from type Ultrafort 6998 (*German*) 4-9300
 ion-implanted, tribological props. 4-12194
 laser-hardened surface structure, effect on wear resist. 4-41087
 low alloy, abrasion corrosion in aq. NaCl soln. 4-51854
 low alloy, brittle to ductile transition temp., fracture toughness 4-26031
 low alloy, cold formability, microstruct. effect (*French*) 4-46533
 low alloy, Cr-Zn, mechanical props., α - γ transition and thermomech. treatment effects (*Russian*) 4-35659
 low alloy, electroless Ni-P coated, fretting wear and fretting fatigue 4-7597
 low alloy, evaporation tubes, steam corrosion, gas content of blisters, mass spectra 4-7641
 low alloy, fatigue crack growth in torsion, fracture transition model 4-7579
 low alloy, fracture toughness specimen, US detection of onset of crack extension 4-30881
 low alloy, heat treated, erosion behaviour rel. to mech. props. 4-7607
 low alloy, high C, centreline segregation, metallographic study 4-30885
 low alloy, isochronous stress creep strain behaviour 4-40892
 low alloy, line-pipe, trial production of plate (*Korean*) 4-40830
 low alloy, low C martensite, hot tensile props., effect of rare earth metal additions 4-30805
 low alloy, low cycle fatigue, cyclic response and inelastic strain energy 4-30791
 low alloy, nitride dissolution and formation, hot extraction analysis (*German*) 4-26148
 low alloy, nuclear press. vessel, anal. of impact props. by Charpy test 4-12151
 low alloy, nuclear press. vessel, fracture characts. obtained from impact tests 4-12152
 low alloy, radiocrystallographic elastic constants of 0.35C-1Cr steel (*French*) 4-3162
 low alloy, slightly predeformed, dislocation model for crack tip blunting 4-30801
 low alloy, stress relaxation during tempering 4-12099
 low alloy, surface properties in molten salt nuclear reactor environment (*French*) 4-27966
 low alloy, thermomechanical strengthening, mech. props. and microstruct. (*Ukrainian*) 4-7484
 low alloy, tubular, sulphide stress cracking rel. to microstruct. 4-51857
 low alloy, V, dispersion hardening, brittle fracture resist. 4-51680
 low alloy 4-21280
 low alloy bainitic, fatigue crack threshold meas. 4-3347
 low alloy structure steel, dynamic props., appl. of plastic wave theory (*Chinese*) 4-3173
 low strength, fracture toughness determ. using stretch zone width meas. 4-30786
 low-alloy, applied and residual stresses, eddy current characterisation 4-35836
 low-alloy, brittle fracture susceptibility eval. criteria, crit. brittleness temps. determ. 4-41134
 low-alloy, cold-rolling rolls, heat treatment and props. 4-40843
 low-alloy, continuously cast, mech. props. and struct. changes during hot deform. 4-40920
 low-alloy, electrosag weld joint, crack resist. characts. 4-26059
 low-alloy, flat parts strengthened by surface plastic deform., survivability 4-57338
 low-alloy, fractographic features and fatigue crack development before failure 4-40978
 low-alloy, martensitic-ferritic struct., mech. props. 4-21286
 low-alloy, notch effect zone determination, X-ray diff. method 4-46679
 low-alloy, powder metallurgical, produced by hot forging, struct. and physico-mech. props. 4-7529
 LWR pressure vessel materials, neutron irradiation, prediction of brittle-ductile transition temp. shift 4-730
 magnetisation, study of stress effects 4-25588
 maraging, martensitic transform., internal friction study on N18K10MST 4-40779
 maraging, Ni-Co-Mo, H compensation of lattice defects, positron annihilation Doppler broadening obs. 4-12290
 maraging, Ni-Co-Mo-Ti, precipitation rel. to ageing temp., elec. resist. obs. (*Japanese*) 4-46509
 maraging Ni-Co-Mo, struct. rel. to thermomechanical treatment (*Japanese*) 4-7486
 massive ferrite, intermediate temp. transform. (*Chinese*) 4-57214
 medium strength, implant cold cracking test (*French*) 4-26149
 microalloyed, grain coarsening, effect of Al, V, Ti and Nb additions 4-7491
 microalloyed, mol. C, fatigue behaviour 4-21311
 microalloyed, niocarbonitride precipitation, improved props. in sheet and strip production (*Croatian*) 4-46514
 microalloyed, static recovery, recrystn. and solute strengthening, effect of Mo, Nb and V additions 4-7479
 Mn, powders, prod. by diffusional impregnation, struct. and props. 4-3098
 Mn, precipitation hardening, martensitic transform. 4-51681
 Mn, structural plate, welded joint, fracture toughness test (*French*) 4-12307
 mode III fatigue crack growth modelling 4-7545
 nitrided layers, strengthening mechanism 4-3287
 nondestructive inspection method for surface layer 4-7664
 optically stimulated exoelectron emission and plastic props. of H17 steel 4-7328
 pressure vessel, neutron irradiation, APFIM study 4-45192
 pressure vessel, yield stress and cleavage fracture stress, influence of microstruct. 4-40982
 pressure vessel nozzle plate, defect electron trials, US flaw detection 4-46720
 pressure vessels, thick walled, surface cracks, lifetime evaluation, ASME codes (*German*) 4-7559
 PWR, ferritic and austenitic steel circuits 4-23176
 quenched, cutting by CBN tools (*Japanese*) 4-21378
 rail or wheel, safety inspection vs. pop-in events (*Chinese*) 4-7540
 reactor pressure vessel, dominant mechanism of irradiation embrittlement 4-12171
 reactor pressure vessel, reconstituting irradiation. Charpy V specimens 4-12291

alloy steel continued

- reactor pressure vessel, SA533B and SA508, heat treatment microstructure rel. to structural integrity 4-16427
 reinforcing, H adsorption from cement extract, stress/strain state influence 4-57404
 residual stress in A533B, US vel., temp. depend. 4-30912
 residual stresses in impulse hardening 4-57402
 rotating disc with fatigue cracks or sharp notch, unstable fracture strength (*Japanese*) 4-21305
 SCC in high temp. water, effect of fluid flow 4-51850
 shakedown and ratcheting below creep range 4-12132
 sheath for internally cooled supercond., nondestructive testing 4-9469
 sheets, cold-rolled, rel. between mag. anisotropy and recrystn. texture 4-40814
 ShKh15, thermal treatment, temps., thermal stresses calcs. 4-21241
 Solder 28 type, deep drawability criterion appls. (*French*) 4-46525
 steel, W-Mo, high-speed, cooling rate in liq. N₂, effect on retained austenite transform. 4-40837
 strength-differential effect in plasticity 4-49715
 structural, A533, rapid loading plane strain fracture toughness, round robin testing 4-3331
 structural, cleavage induced fracture, limiting crack tip radius 4-40950
 structural, ductile tearing resistance curves 4-12161
 structural, fracture toughness, appl. of fracture mechanics concepts (*French*) 4-46623
 structural, fracture toughness under cyclic loading 4-51813
 structural, fracture toughness under cyclic loading 4-51814
 structural, heat treatment to reduce temper brittleness 4-40839
 structural, low-C, with Ti and Ce, nonmetallic inclusions 4-40981
 structural, nuclear, A203D, dynamic strain ageing 4-30727
 structural transitions during tempering and cold plastic deformation (*Russian*) 4-51698
 surface layers, electron microscopic methods (*Czech*) 4-41147
 tensile testing, hydrogen embrittlement 4-16592
 thermite welds, normalising, struct. and ductility 4-51753
 thermo-mechanical cycles, residual stresses, Young's modulus variation (*French*) 4-35640
 type AISI 4140 and 4340, ion nitrided, tribology and microstruct. 4-7602
 tyre-roll, rolling sliding contact, wear damage 4-46632
 ultrahigh strength, fatigue crack closure, effect of H induced surface asperities 4-3238
 US flaw inspection, defect detection trial plate 4-26118
 wear of sliding pair with Cu alloys or polyamide, cardan joint use 4-46631
 wear particles, boundary lubrication with zinc dialkyl dithiophosphate 4-46630
 welded joint, fatigue, effect of section thickness 4-46622
 weldments, fatigue crack growth (*Japanese*) 4-51792
 Al, low alloy, pitting and crevice corrosion, sea exposure simulation by laboratory trials 4-7653
 Co eutectoid, partitioning of Co during pearlite growth 4-30705
 Co, high-speed, surface hardening 4-21372
 Co-Cr-Ni-Mo, maraging, quenching parameters effect on props. 4-21252
 Co-Mo-Ni-Ti, maraging, mech. props., heat treatment effect 4-21253
 Cr, 1X13, solar energy absorbing selective coating (*Russian*) 4-21574
 Cr 12% steel, fuel casing, thermo-mechanical studies (*German*) 4-18669
 Cr, bearing, cast and wrought, carbides transform. 4-21246
 Cr bearing, fracture toughness using chevron notch three point bend specimen, stress intensity factor formulae 4-12280
 Cr, bearing, martensitic transform., effect of prior cold work 4-40784
 Cr, carburised, fatigue fracture surface, SEM obs. (*Japanese*) 4-26049
 Cr, deform. and fractography, carbide particle struct. (*Japanese*) 4-26042
 Cr, dry wear transition rel. to Cr content (*Japanese*) 4-26067
 Cr, high-C, hardened rolls, depth of strengthening study by grinding away layers 4-41092
 Cr, induction hardened, torsional fatigue strength rel. to case depth (*Japanese*) 4-26045
 Cr, laser-processed, rapid solidification 4-40705
 Cr, ledeburitic, wear, N6 and Ti additions effect (*German*) 4-35732
 Cr, low alloy, marine corrosion resist., alloying elements and microstruct. influence (*French*) 4-7654
 Cr, low alloy, pitting and crevice corrosion, sea exposure simulation by laboratory trials 4-7653
 Cr, mag. phase anal., saturation magnetisation 4-46024
 Cr, martensitic, C clusters, TEM obs. 4-21410
 Cr, non-metallic inclusions, external oxide phase and S content effects 4-30856
 Cr, polishing with magnetabrasive powders 4-26106
 Cr, powders, prod. by diffusional impregnation, struct. and props. 4-3098
 Cr, recrystallisation upon heating, coarse grain heredity 4-3156
 Cr, sintered, hot-forged parts, corrosion, heat treatment influence 4-3295
 Cr, thermite rail welds, mech. props. and microstruct. 4-51752
 Cr type, high-strength, sintered, struct. and mech. props. after thermomech. treatment 4-51811
 Cr type, stress-rupture strength after long service in tube furnaces of oil-refining equipment 4-57342
 Cr-Al, low alloy, marine corrosion resist., alloying elements and microstruct. influence (*French*) 4-7654
 Cr-Co, embrittlement in various quenched structures 4-16488
 Cr-Mn, austenite transform. and props. in uninterrupted cooling 4-21248
 Cr-Mn, multistage thermal cycling, struct., microhardness and strength 4-21229
 Cr-Mn, thermomechanically strengthened, mech. props., substructure 4-57271
 Cr-Mn and Cr-Ni, weld joints, low-temp. cyclic crack resist. 4-51809
 Cr-Mn-Ni, low C, martensitic, strength props. 4-30771
 Cr-Mn-Si, temper brittleness, grain boundary segregation of P, AES (*Chinese*) 4-3205
 Cr-Mn-Ti-B, hot forged, machinability rel. to heat treatment 4-3157
 Cr-Mn-(Ni)-(V), high N, struct. and mech. props., heat treatment effect 4-30732
 Cr-Mo, austenite nucleation and growth, memory effect 4-21206
 Cr-Mo, bainitic, H attack 4-35709
 Cr-Mo, creep cavitation in neighbourhood of stress concentrations 4-3194
 Cr-Mo, disappearance of serrated flow 4-40888
 Cr-Mo, fatigue damage line of Wohler diagram (*German*) 4-46591
 Cr-Mo, fatigue fracture morphology, stress ratio effects 4-21316
 Cr-Mo, ferritic heat resistant, microstruct. after long term service 4-30729

alloy steel continued

- Cr-Mo, H embrittlement susceptibility, tempering temp. effect (*Japanese*) 4-46597
- Cr-Mo, irradiated and unirradiated plates and weldment, fracture toughness behavior 4-57333
- Cr-Mo, low alloy, marine corrosion resist., alloying elements and microstruct. influence (*French*) 4-7654
- Cr-Mo, low alloy, surface oxide layers grown in natural conditions 4-41046
- Cr-Mo, low C, oxidation and oxide spalling, influence of thermal cycling 4-16552
- Cr-Mo, low-cycle fatigue data files 4-12187
- Cr-Mo, pressure vessel, fracture toughness rel. to loading rate 4-51797
- Cr-Mo, pressure vessel, H embrittlement (*German*) 4-12185
- Cr-Mo, quenched and tempered, precip. induced voids 4-7461
- Cr-Mo, stress corrosion cracking in 200° and 300°C water 4-26113
- Cr-Mo, surface hardening, delayed fracture strength (*Japanese*) 4-26043
- Cr-Mo, temper embrittled, containing rare earth additions, Auger anal. of fracture surfaces 4-26055
- Cr-Mo, tensile strength, H embrittlement rel. to H content (*Japanese*) 4-26044
- Cr-Mo, ultrahigh strength, heat treatment, mech. props. 4-16495
- Cr-Mo low alloy, coercivity and microstruct., TEM studies 4-7492
- Cr-Mo rotor steel, carbide-form. processes 4-40842
- Cr-Mo-Ni-V, creep crack initiation and growth, AC potential drop obs. (*German*) 4-30872
- Cr-Mo-V, acoustic emission from pop-in cracking and elastic-plastic fracture toughness 4-3345
- Cr-Mo-V, chromised and plated Cr coatings, endurance in hot gas erosion atmosphere 4-16569
- Cr-Mo-V, cold-rolling work rolls bearing necks, hardening 4-40844
- Cr-Mo-V, contact fatigue crack initiation under repeated oblique force 4-30834
- Cr-Mo-V, decomposition rate of supercooled austenite 4-3143
- Cr-Mo-V, for rolls, isothermal decomp. of austenite by pearlitic mechanism 4-40743
- Cr-Mo-V, H-11, fracture toughness anomalies, microstruct. analysis 4-12190
- Cr-Mo-V, heat treatment, creep rel. to P addition 4-12110
- Cr-Mo-V, high temp. bolting, reloading stress relax. with specific time interval, temp. depend. (*Japanese*) 4-3164
- Cr-Mo-V, high temp. bolting, reloading stress relax. at specific relaxed stress, temp. depend. (*Japanese*) 4-3165
- Cr-Mo-V, low alloy, heat resist., creep life and fracture strain prediction (*Czech*) 4-7555
- Cr-Mo-V, low alloy heat resistant, creep fracture mechanisms 4-30799
- Cr-Mo-V, mech. props., deform. and tempering effect 4-21283
- Cr-Mo-V, reactor shell, few cycle loading effects on radiation embrittlement 4-16505
- Cr-Mo-V, structural, austenite form. under rapid heating (*Russian*) 4-7448
- Cr-Mo-V, thermal fatigue crack initiation, SEM obs. (*Japanese*) 4-26050
- Cr-Mo-V, thick cylinders, crack propag. during thermal shock 4-40936
- Cr-Mo-V, turbine rotor, creep embrittlement 4-35707
- Cr-Mo-V, turbine rotor, temper embrittlement 4-35706
- Cr-Mo-V, turbine rotor etching technique for revealing prior austenite grain boundaries 4-57507
- Cr-Mo-V, weldments, brittle fracture, struct. effect 4-21321
- Cr-Mo-V pipe grade, limiting deform. under various creep conditions 4-12177
- Cr-Mo-V steel macrostructure and props., effects of electroslog founding 4-35703
- Cr-Mo-V-Nb, tempering, bainite transform. (*Chinese*) 4-3141
- Cr-Mo-V-Ti-B, H attack 4-40963
- Cr-Mo-W-V, high temp. bolting, reloading stress relax. at specific relaxed stress, temp. depend. (*Japanese*) 4-3165
- Cr-Mo-W-V, high temp. bolting, reloading stress relax. with specific time interval, temp. depend. (*Japanese*) 4-3164
- Cr-Ni, dislocation creep, glide mechanism (*Czech*) 4-7514
- Cr-Ni, low C, rel. between fatigue limit, threshold and microstruct. 4-57313
- Cr-Ni martensitic, weld joints, corrosion cracking in chloride soln. 4-51891
- Cr-Ni-Cu-(Mo), maraging, props. after ageing 4-21255
- Cr-Ni-Mo, constructional, loading freq. change influence on fatigue resist. in seawater 4-51894
- Cr-Ni-Mo, economically alloyed, for large forgings 4-40919
- Cr-Ni-Mo-W-Nb, high temp. bolting, reloading stress relax. with specific time interval, temp. depend. (*Japanese*) 4-3164
- Cr-Ni-Mo-W-Nb, high temp. bolting, reloading stress relax. at specific relaxed stress, temp. depend. (*Japanese*) 4-3165
- Cr-Ni-Ti, ferritic structure rel. to tempering, 300-600°C, hardness and toughness (*German, English*) 4-35644
- Cr-Ni-Ti, ferritic-austenitic, carbonitrides, X-ray phase analysis (*German, English*) 4-51928
- Cr-V, crack formation and propag. rel. to high temp. thermomechanical treatment (*German*) 4-40939
- Cr-V(Ti), rail, high C, mech. props. and microstruct. (*Korean*) 4-40957
- Cr-W, heat resist., strength loss rel. to Ce microalloying 4-51763
- FeMnAl steel, creep eqn. formulation in complex stress states 4-3177
- Mn, numerical simulation of fatigue crack growth 4-3218
- Mn-C micro-alloyed steel butt-welded pipe, annealing, stress redistribution 4-3152
- Mn-Cr, retaining rings, using corrosion resistant materials, design and economic anal. 4-3303
- Mn-Mo-Ni, fracture toughness parameters verification in large and small tensile pieces (*German*) 4-16588
- Mn-Mo-Ni, hot rolled sheet, Charpy testing, fracture toughness evaluation (*German*) 4-7676
- Mn-Nb, dual phase, coercivity rel. to heat treatment (*Chinese*) 4-56686
- Mn-Nb, impact fracture at low temps. (*Chinese*) 4-16471
- Mn-Si, dual phase, yield and flow stresses, grain size depend. 4-57302
- Mn-Si, mech. props., Te addition effect 4-21319
- Mn-Si rail steel, rupture localisation near eutectoid sulphides 4-30818
- Mn-Si-V-Al, low C, carbonitrides solubility, thermodynamic calc. 4-30684
- Mo, isothermal decomposition, ferrite ageing 4-12078
- Mo, low alloy, pitting and crevice corrosion, sea exposure simulation by laboratory trials 4-7653
- Mo, metallographic characterization of wrinkled ferrite 4-21220

alloy steel continued

- Mo-Ni, pressure vessel steel, A533 B, irradiated, dynamic fracture toughness 4-57334
- Nb bearing austenite, dynamic precipitation during high strain rate compression testing 4-40798
- Nb, grain refinement by control of recrystn. during hot rolling 4-40832
- Nb-Mn, controlled-rolled, microalloyed, dual-phase, microstructure props. (*Chinese*) 4-46535
- Nb-V, low C, controlled-rolled, texture development, effect of finishing temp. 4-16420
- Ni 4-16478
- Ni, intergranular tempered martensite embrittlement 4-40975
- Ni, passivation, rotating ring-disc electrode studies 4-57479
- Ni, weldments 4-40956
- Ni-Co-Mo, maraging phase transform. and precip., effect of N content (*Slovak*) 4-46519
- Ni-Co-Mo, maraging, strengthening during cold plastic deform. and heat treatment 4-21254
- Ni-Co-W-Mo, maraging, mech. props., heat treatment effect 4-21253
- Ni-Cr, age hardening, struct. transform., mech. props. 4-51755
- Ni-Cr, C diffusion, martensite form. (*Chinese*) 4-3137
- Ni-Cr, intergranular embrittlement, small punch test evaluation 4-41161
- Ni-Cr, P-doped, intergranular fracture surfaces, rel. between impurity-induced embrittlement and residual strains 4-30806
- Ni-Cr, temper brittleness, grain boundary segregation of P, AES (*Chinese*) 4-3205
- Ni-Cr-Mn, high-strength, far dynamic wear conditions 4-21332
- Ni-Cr-Mo, AISI 4340, H trapping 4-16499
- Ni-Cr-Mo, crack propag., load response in delayed failure, H diffusion (*Japanese*) 4-46595
- Ni-Cr-Mo, crack propag. in H embrittlement under repeating stress (*Japanese*) 4-46596
- Ni-Cr-Mo, ductile tearing, use of scale models 4-7547
- Ni-Cr-Mo, fatigue crack growth, low freq., effect of environment and stress ratio 4-57395
- Ni-Cr-Mo, fatigue crack propag., retardation due to tensile overload (*Japanese*) 4-51793
- Ni-Cr-Mo, fracture rel. to inclusions and stress states 4-51798
- Ni-Cr-Mo, H embrittlement, heat treatment, elec. current effect 4-46615
- Ni-Cr-Mo, near threshold mixed mode fatigue crack propag., parallel superposition model 4-35694
- Ni-Cr-Mo, nucleation mechanism of stress corrosion cracking from notches 4-12255
- Ni-Cr-Mo, quenched and tempered, micromechanics of fracture 4-12157
- Ni-Cr-Mo, retained austenite tempering, impact toughness, Mossbauer spectra, 200-300°C 4-35645
- Ni-Cr-Mo-V, passivation, rotating ring-disc electrode studies 4-57479
- Ni-Cr-Mo-V, rotor, caustic SCC, effect of impurity segregation and alloy comp. 4-7635
- Ni-Cr-Mo-V, SCC, effect of potential and caustic conc. 4-12251
- Ni-Cr-Mo-V, turbine rotor, temper embrittlement 4-35706
- Ni-Cr-Mo-V heat resistant, for turbine rotors, working props. improvement (*Italian*) 4-7536
- Ni-Cr-Ti, strengthening by hydroextrusion 4-40918
- Ni-Cu-Mo, powder metallurgical, heat treatment conditions optimisation 4-46539
- Ni-Mo, elastic-plastic fracture toughness and fracture resistance (*Japanese*) 4-57320
- Ni-Mo (*Russian*) 4-21336
- Ni-Mo-Cr, nuclear press. vessel, local criterion for cleavage fracture 4-16491
- Ni-Mo-V, thermomechanical response to cyclic uniaxial deform. 4-57282
- Ni-V-Mo, maraging, struct. and props. 4-21323
- Si (2 wt.%), duplex ferrite-martensite microstruct., fatigue crack growth 4-30800
- Si, bainitic transform., composition-prop. approach 4-16497
- Si, bainitic transform., composition-prop. approach 4-16498
- Si, cleavage fracture toughness, temp. depend. (*Chinese*) 4-16469
- Si, comp. limit of ferrite solid solns. at 950-1100°C 4-30683
- Si, dual phase, nonlinear fatigue crack growth, deflection model 4-16494
- Si, recrystn. and mag. props., effect of Sb additions 4-40816
- Si-Mn, tempering, enthalpy study (*French*) 4-21240
- Ti microalloyed, dynamic precip. and solute hardening, effect of Mn conc. 4-57241
- Ti-microalloyed, nitride stability during weld thermal cycles, role of alloy comp. 4-40796
- V, struct.-prop. relationship (*Korean*) 4-16489
- V, thermomechanical treatment, low pearlite content (*German*) 4-40829
- V-Nb, deform., carbonitride precipitation, phase comp. 4-51669
- W, laser hardened, thermal stability 4-21376
- W, vacuum-quenched, white layers 4-40841
- W-Mo, high-speed, surface hardening 4-21372
- W-Mo, high-speed, thermomech. treatment effect on struct. 4-40836

alloying additions

- IN 519, Fe-Cr-Ni austenitic alloy, isothermal scaling, influence of Si and Y 4-3278
- microalloyed, grain coarsening, effect of Al, V, Ti and Nb additions 4-7491
- steel, alloy, high-strength weldable, comp. optimisation 4-40980
- steel, austenitic stainless, cellular precipitation in Al- and Ti-containing alloys 4-40800
- steel, austenitic stainless, Fe-Cr-Ni, electron irradi., defect props., elec. resist. meas., comp. depend. 4-55877
- steel, austenitic stainless, Sb-doped 25 Cr-20 Ni, creep behaviour 4-30755
- steel, carbon, evolutions of H, effects of Si or Mn-contents (*Japanese*) 4-3159
- steel, chromising, substrate design with small alloying additions 4-12238
- steel, constructional, reversible temper brittleness, alloying elements redistribution, microadditions influence 4-21320
- steel, Cr-Mo, temper embrittled, containing rare earth additions, Auger anal. of fracture surfaces 4-26055
- steel, Cr-Mo-V-Ti-B, H attack 4-40963
- steel, Cr-W, heat resist., strength loss rel. to Ce microalloying 4-51763
- steel, dual-phase, as-rolled formable, Mo replacement by less expensive additions (*Italian*) 4-25986
- steel, high speed, P and S segregation along grain boundaries, cleaning action of rare earth elements (*Chinese*) 4-16394
- steel, high speed, sintering, effect of C addition (*Korean*) 4-30661

alloying additions continued

steel, high-speed, cast, props., C and rare earth metal contents influence 4-40977

steel, HSLA, fatigue behaviour, effect of Ti and post-rolling heat treatment 4-21313

steel, ledeburitic Cr, wear, N6 and Ti additions effect (*German*) 4-35732

steel, linepipe, for use in wet environments containing H_2S 4-41061

steel, low alloy, marine corrosion resist., alloying elements and microstruct. influence (*French*) 4-7654

steel, microalloyed, static recovery, recrystn. and solute strengthening, effect of Mo, Nb and V additions 4-7479

steel, mild, Al additions, SCC behaviour 4-46654

steel, Mn-Si, mech. props., Te addition effect 4-21319

steel, Ni-Cr-Mo, mech. props., effect of substituting W for Mo (*Korean*) 4-40959

steel, Ni-Cr-Mo-V, rotor, caustic SCC, effect of impurity segregation and alloy comp. 4-7635

steel, Si, recrystn. and mag. props., effect of Sb additions 4-40816

steel, stainless, duplex, σ phase precipitation, alloying elements effects 4-21222

steel, stainless, mixed struct. of age-hardened martensite and metastable austenite, transform, induced plasticity 4-40903

steel, structural, low-C, with Ti and Ce, nonmetallic inclusions 4-40981

steel, sulphide inclusion morphology and transverse impact props., role of rare earth element additions 4-46586

steel, temper embrittlement, effect of alloying elements 4-57327

steel, Ti-microalloyed, nitride stability during weld thermal cycles, role of alloy comp. 4-40796

steel, tool, high speed, phase transform., influence of Nb, X-ray diffr. study (*German*) 4-16386

steel, type 30KhGSN2A with brittle inclusions, fracture characts. (*Russian*) 4-51783

superalloys, high temp. corrosion rel. to rare earth or refractory additions, review 4-16539

Udimet 710, 720, microstruct. and props., effect of B and C additions 4-46512

Ag contact composites, TEM obs. WRT optimum antifiction and elec. erosion characts. 4-7596

Al alloys, heat-resistant wrought 4-57295

Al-Cu-Mg, chem. comp. optimisation 4-57239

Al-Cu-Mg-Mn-Zr, plates, mech. props., Zr effect 4-21285

Al-Cu-Ti, SCC, strain rate sensitivity, effect of Ti additions 4-41037

Al-Fe-Si, recrystn. texture, influence of Si additions 4-25973

Al-Si eutectic alloys, struct, mech. props., Sr microalloying effect (*Rumanian*) 4-35608

Al-Si-Na (12.5 wt.%), eutectic alloy, morphology rel. to Na addition (*Chinese*) 4-3121

Al-Si(0.5 wt.%), with brittle inclusions, fracture characts. (*Russian*) 4-51783

Al-Zn-Mg-Cu, H embrittlement, effect of microstruct. and Cu content 4-26054

Al-Zn-Mg-Cu, SCC susceptibility, influence of Zn, Mg and Cu conc. (*German*) 4-26110

Al-Zn-Mg-Cu based high-strength wrought alloys 4-57296

Al-Zn-Ti, SCC, strain rate sensitivity, effect of Ti additions 4-41037

(Ce mischmetal, Sm)Co₂ magnets, coercivity improvement by additions of transition metal powders 4-7031

Co-S system, dil., thermodynamics, influence of Fe, Ni, Cr and Si 4-51627

Cu, cold worked, softening temp. and elec. resist., effect of additions of In, Pb, Sb or Sn 4-40815

Cu, pure, cold worked, elec. resist., softening temp. rel. to alloying additions (*Japanese*) 4-46524

Cu-Al-Ti (10, 2.5 wt.%), struct., mech. props., Ti addition effect 4-26001

Cu-Al-Zn-Mn(Ni), quenched martensitic state, mech. props. and struct. rel. to Mn and Ni content 4-7586

Cu-Be (2.0 wt.%), grain boundary reaction, effect of additional elements 4-7474

Cu-Ni-Sn, cellular precip., effect of B and P additions 4-16400

Cu-Sn-Ni, self-lubricating sintered, bronze bearings, crushing strength, porosity, Ni addition effect 4-12198

Cu-Sn-Zn, cold worked, X-ray diffr. study of microstruct., role of Sn addition 4-16410

CuAu_{1-x}Ag_x, L1₀ ordered alloy, axial ratio, effect of additions of Ag 4-15426

CuAu_{1-x}Ni_x, L1₀ ordered alloy, axial ratio, effect of additions of Ni 4-15426

Fe alloys, beneficial effect of Sn 4-40995

Fe, cast, nodular, austenitising, microstruct. rel. to Mo addition (*French*) 4-51700

Fe, cast, pearlitic structures stabilised with Sb additions (*French*) 4-40761

Fe-Co-Cr containing various admixtures, struct., NMR, nucl. gamma reson. (*Russian*) 4-25961

Fe-Co-Ta, Recalloy, mag. props., thermal expansion, elec. resist., hardness (*Japanese*) 4-46069

Fe-Cr-Al-Ce, high temp. corrosion in Na₂SO₄-NaCl molten salt, Ce addition effect 4-7637

Fe-Cr-Co-M (M=Mo, Ti, Zr) permanent mag. additions effect on ductility and mag. props. 4-11749

Fe-Cr-Co-Si-Ti, permanent mag. alloy, microstruct., mag. props. rel. to treatment and comp. 4-16065

Fe-Cr-Mo(V)(Nb)-C 4-21333

Fe-Cr(Ni)(Mo), passivity in organic solns. of H₂SO₄, effect of alloying additions 4-57482

Fe-Ni (13 wt.%), strength and low temp. toughness, effect of rolling temp. and Mo or Ti additions 4-30820

Fe-Ni base melt surface tension and metallic glass struct. 4-45455

Fe-Ni-Cr LMFBR cladding, microstruct. and irradiation swelling, rare earth addition effects 4-20270

Fe-Ni-Mo (13.3 wt.%), strength and low temp. toughness, effect of Al, V or Ti additions 4-30821

Fe-Ni-P, struct. and phys. props., P influence 4-30168

Fe-Si (3 wt.%), C content effect on secondary recrystallisation 4-25970

Fe-Si-C, grey, cast, complex diffusion alloying, Si effect 4-21371

Fe-Si-C, phase transform., struct., rel. to microadditions 4-51655

Fe-Sn-C, cast high-strength, Sn effect on struct. and props. 4-21250

FeCo-V(G)(Mn)(Ni), at. ordering characts., calorimetry, neutron diffr., TEM studies (*Russian*) 4-24965

Mg-base alloys, heat-resistant, alloying principles 4-51620

alloying additions continued

Mn-Al-C magnets, microstruct., effect of Ni addition, SEM and TEM study 4-29642

Mn-Ge, antiferromag. Invar type alloy, thermal expansion, mech. props. rel. to Fe, Co or Ni additions 4-20847

Nb alloy interaction with Li, nonmetal interstitial impurity distrib., alloying effect (*Ukrainian*) 4-39329

Nb-Ti(W), alloying features, directional crystallisation 4-12085

γ/γ' -NbC, alloying element segregation during directional crystallisation (*Russian*) 4-50517

Nb₃Sn composite processes superconductor, effect of Ti addition to Nb core on initial props. (*Japanese*) 4-25492

Nb₃Sn-Cu superconducting wire, prep. in situ, effect of Ta additions 4-40128

NbTi(65 wt.%), critical current density, influence of precipitation and alloying 4-30130

Ni-based superalloys, cyclic oxidation at 1100 and 1150°C, effect of Cr, Al, Ti, Mo, W, Ta and Nb 4-51882

Ni-Co-Cr superalloy, creep rel. to Mg additions (*Chinese*) 4-57280

Ni-Cr-Al superalloy, carbide comp. and struct. rel. to Nb and Ta additions 4-12069

Ni-Cr-Al-Co-W-Mo-Ti, struct. and phase comp., Y additions effect 4-21221

Ni-Cr-W-Co-Ti, ZrN modified, ductility 4-3193

Ni-Sn, cellular precip., effect of B and P additions 4-16400

Ni₃Al, alloying behaviour, ternary additions 4-40746

Ni₃Al with ternary additions, solubility data 4-29618

Ni₃Ga 4-40746

Ni₃Ga with ternary additions, solid solubility lobes 4-29619

Ni₃Ge, alloying behaviour, ternary additions 4-40746

Ni₃Ge with ternary additions, solubility data 4-29620

Ni₃Si, alloying behaviour, ternary additions 4-40746

Ni₃Si with ternary additions, solubility data 4-29621

Ni, commercial, microstruct., impurity and inclusion distrib. 4-57187

Ta-base alloys, corrosion resist., elimination of H embrittlement by substitutional alloying 4-57389

Ti alloys, rapid solidification processing, strength and microstructure 4-7443

Ti alloys, rapidly solidified, microstruct. 4-30697

Ti-Al-V, electrochem. behaviour in HCl, influence of alloying elements 4-51847

Ti-Al-V (6, 4 wt.%), modified, enhanced superplasticity and strength 4-26009

Ti-Cu, electrochem. behaviour in HCl, influence of alloying elements 4-51847

Ti-Fe-Ni, sintering process, Ni effect 4-46472

TiNi, influence of alloying on martensitic transform. characts. 4-21213

α -U, high temp. strength, flow stress. rel. to Al, Fe and Si additives 4-16447

V alloys, first wall of thermonuclear reactor, heat and oxidation resist. rel. to alloying additions 4-54400

V₃Ga multifilamentary supercond., crit. current enhancement by In addition 4-45979

W alloys, heat-resistant, alloying principles 4-51622

Zr and alloys, pitting corrosion, review 4-51846

alloys

alloys such as Au-Cu, Au-Cu-Zn are indexed under components of the named elements i.e. gold alloys; copper alloys; zinc alloys in these examples

see also actinide alloys; alkali metal alloys; alkaline earth alloys; alloying additions; aluminium alloys; antimony alloys; arsenic alloys; bismuth alloys; boron alloys; cadmium alloys; dilute alloys; eutectic alloys; gallium alloys; germanium alloys; indium alloys; lead alloys; liquid alloys; mercury alloys; rare earth alloys; selenium alloys; silicon alloys; solid solutions; superalloys; tellurium alloys; thallium alloys; tin alloys; transition metal alloys; zinc alloys

aged, dislocation motion, interaction of superdislocations with ordered-phase particles 4-29462

ageing, recovery effects, review (*Russian*) 4-51686

amorphous, atomic diffusion, thermal and mech. treatment effects 4-56065

amorphous, atomic scale struct., scatt. expt. studies 4-55735

amorphous, atomic short-range ordering and pair distrib. functions 4-55747

amorphous, corrosion resistance, passivation and catalysis 4-57410

amorphous, EXAFS capabilities and limitations, overview 4-46364

amorphous, formation by ion beam mixing 4-11168

amorphous, free energy of crystallisation 4-44951

amorphous, mag. after-effects and hysteresis loops 4-56713

amorphous, magnetic props., flash annealing effects 4-56690

amorphous, medium range order, density model, appl. to small angle neutron scatt. 4-44956

amorphous, rapid quenching prep. and props., book 4-53374

amorphous, resist., Hall effect, magnetoresist. and thermopower 4-56312

amorphous, short-range struct., pulsed neutron scatt. studies 4-55736

amorphous, sp. ht. and thermal conductivity 4-56047

amorphous, strength ductility and toughness, model mechanics study 4-57308

amorphous, struct. relax., mol. dynamics method anal. 4-29323

amorphous, structural and thermodynamic props., electronic theory 4-44928

amorphous elec. resist., temp. depend., diffraction model anal. 4-45723

amorphous magnets with mixed exchange interactions sp. ht., random, mag. anisotropy model 4-46047

Auger line shape 4-57047

BCC alloys, highly ordered and stoichiometric, vacancy form. 4-45129

binary, cellular interface morphologies during directional solidification, one-sided model 4-45310

binary, deconvolution of partial correlation function 4-2030

binary, metastable and unstable states, book 4-13486

binary, quenched, segregation, interpretation of struct. functions 4-7459

binary, surface ordering with allowance for correlation effects (*Russian*) 4-34759

binary, surface segregation, electronic theory anal. 4-25035

binary, vacancies and vacancy complexes, group theory anal. 4-24807

binary alloy, antiferromag., paramag. phase props. 4-16010

binary alloy, nucleation, role of diffusion 4-24963

binary alloy films, HVEM irrad., nonequilib. segregation 4-15646

binary alloy systems, spherical precipitate phase, fibre morphology resulting from solid state coalescence 4-56029

alloys continued

- binary alloys, disordered, including short range order, in cluster Bethe lattice method, appl. to Hubbard model 4-56526
- binary alloys, first- and second-order phase transitions, collective variable method anal. (*Russian*) 4-24957
- binary alloys, immiscible, monotectic solidification mechanism, interfacial tensions (*French*) 4-46495
- binary alloys, localisation, quantum percolation 4-15857
- binary alloys, simple cubic, ageing, cluster formation, computer simulation (*Japanese*) 4-34654
- binary alloys, surface segregation and free enthalpy 4-2338
- binary alloys with random transfer, local spin fluctuations 4-25568
- binary ferromagnetic alloy, anisotropy, mag. states, phase diagrams, mol. field approx. 4-56611
- binary mag. alloy, competing exchange interactions 4-6963
- binary systems, contact melting diagrams construction 4-24978
- binary systems, glass forming ability by modified temp.-comp. map rel. to phase 4-45004
- cast, shrinkage-caused porosity, rel. to solidification rate (*French*) 4-16380
- castings, stress corrosion resist. to H_2S , bent beam technique 4-12317
- cavitation erosion resistance 4-51824
- cemented carbides, wear, effect of comp., struct., and service conditions 4-40998
- connectors and interconnection technology, conf. Philadelphia, PA, USA, Nov. 1983 4-42594
- constructional, crack closure effect and cyclic crack resist. eval. 4-57337
- corrosion fatigue, conf., Lvov, USSR (May 1980) 4-17640
- corrosion fatigue fracture, general aspects 4-21391
- creep, anomalies in mech. response at low temps. 4-20285
- creep-oxidation interaction, review 4-41062
- crystalline and amorphous, modified CPA theory anal. 4-45577
- diffusion phenomena, quasichem. approx. 4-29701
- dislocation loop and gas-filled pores coalescence 4-20191
- disordered ferromagnetic, elec. cond. with s-f exchange interaction (*Russian*) 4-34944
- ductile, flow instabilities at crack tips 4-12172
- elastic stabilization of precipitates against applied load coarsening 4-51661
- electrical contact materials, W and precious metals reduction, review 4-3105
- electrochemical method for visual detection of surface inclusions 4-16581
- electrochemical-ferromagnetic treatment (*Russian*) 4-7627
- electron irradi., order-disorder transition kinetics 4-39474
- electronprobe microanalysis near phase boundaries, correction procedure for charact. fluoresc. 4-46850
- ESCA study, review 4-30595
- excitonic processes in spectra 4-34880
- fatigue crack propagation under corrosion and creep, freq. effect mechanism 4-40930
- FCC, yielding, plastic flow, microstructure, review 4-3176
- ferrite-pearlite composites, flow stress model, grain size depend. 4-30763
- ferromagnetic damping alloys, appl. in gears for noise control 4-38664
- fracture, hydrostatic tensile stress effect 4-34572
- grain boundary motion, drag force of second phase particles, shape effect 4-15494
- hardfacing, for wear resist. coatings 4-16530
- heat resistant, relax. resist. generalised graph 4-46547
- Heusler ternary A_2BC_3 alloys, supercond. 4-15979
- high-speed, development prospects 4-40805
- hydrides, energy storage appl. 4-52221
- hydrogen phase strain hardening 4-51694
- hypervelocity impact expts. with railgun accelerator for amorphous alloys 4-46475
- interface microstructure, diffusion effects 4-29833
- intermetallic compounds, hybridisation and struct. instabilities 4-11470
- internal friction and shear modulus, hydrocarbon surface layer effects 4-40875
- ion irradi., amorphous phase form. criteria 4-15553
- irradiated, order-disorder phase transitions (*Russian*) 4-34435
- irradiated, void growth under vacancy supersaturation conditions, segregation zone form., vacancy diffusion coeff. 4-55861
- laser induced defect and disorder creation in ordered alloys 4-24862
- Laves phase intermetallic compds., spin glass props. 4-20823
- Laves phase structure simulation by polystyrene latexes, optical microscopy 4-50532
- light metal alloys, powder metallurgy, developments and appl. 4-51574
- magnetic phase analysis, magnetometer with automatic recording 4-42994
- materials design, stress and strain state eval. 4-40916
- metal-H alloys, disordered interstitial electronic density of states 4-29860
- metallic glasses metastable states, struct. exam. 4-29331
- metallic solutions, equilibrium heterogeneous states 4-15614
- microstructure analysis by acoustic microscopy 4-46680
- monotectic microstructure, solidified at high growth rates 4-46502
- multicomponent alloy thin films, composition and thickness determ. by X-ray fluorescence 4-7771
- narrow-band conc. alloys, superconducting phase transition theory 4-25474
- nearly-free-electron type, screening charge transfer and pseudoatom size 4-34845
- neutron irradiated, improvement in mech. props. 4-45196
- ordered L_{12} , anomalous yield behaviour theory 4-51727
- permalloys, magnetisation, permeability and power losses 4-30209
- petals move according to temp. 4-15577
- phase diagrams, new expt. methods 4-35606
- phase diagrams and deformability, mutual relationships (*Russian*) 4-25942
- photoacoustic microscopy fatigue crack detection 4-35822
- plain bearing alloys, development and props. 4-51822
- polycrystalline alloys, plastic props. temp. depend., solute content effect 4-30762
- postirradiation mechanical behaviour determ. with miniaturised disk bend test 4-7681
- precipitation hardened, creep rel. to overageing (*French*) 4-51761
- protective coatings on gas turbine blades, plasma sprayed 4-26112
- pseudoalloys, skeletal struct., elastic constants calc. 4-45250
- random binary alloys, Ising model with competing interactions, mean field approach 4-16005
- random binary alloys, phonon freq. spectrum 4-45283

alloys continued

- random mag. alloys with competing spin anisotropies, renormalised field theory 4-56669
- random narrow-band alloys, T_c formula for strong-coupling superconductivity 4-25471
- rapidly quenched for permanent magnet materials 4-56700
- residual stresses evaluation, horizontally polarised shear waves appl. 4-35839
- second-order phase transition, press. effects (*Russian*) 4-6975
- self-fluxing, pulse laser irradi. influence on mass ejection (*Russian*) 4-40702
- shape memory alloy, stress-induced austenite-martensite transform., interface propag. 4-40776
- shape memory effect, martensite determ. 4-3316
- shape memory effect, one-dimens. model 4-6425
- shape-memory alloy, AE energy release during phase transitions, theoretical model for evaluation 4-57226
- shape-memory alloys, Ginzburg-Landau theory and solitary waves 4-39454
- sheet, generalised quadratic flow 4-40910
- sheet, localised necking at negative minor strains 4-40913
- sheet specimens, evaluating hardening laws at large tensile strains 4-16413
- solidification, convection in two phase zone 4-57212
- solidifying, permeability coeff. of two-phase zone, determ. method using oscillations 4-41130
- strain hardening and strain softening 4-30716
- structural materials, irradi., cavity formation and He migration 4-56079
- substitutional, supercond. transition temp., CPA calc. (*Russian*) 4-25468
- substitutional alloys, transport coeffs. in multiorbital models 4-20617
- substitutionally disordered, density of states and local-environment fluctuations 4-34851
- superconducting, with paramagnetic admixture, thermal conductivity at electronic topological transition 4-56490
- superconducting alloys, quasiparticle density of states calcs. 4-35118
- superlattices occupation determ. by group-theoretic method 4-2131
- superplasticity, physics, industrial fabrication methods and appl. 4-30767
- surfaces, opt. props. after surface treatments (*Russian*) 4-7146
- ternary, irradi., void form. (*Russian*) 4-24853
- ternary systems, math. model synthesis on a simplex 4-7423
- thermodynamics and phase equilibria, graphical representation 4-25053
- US shock treatment, struct. changes 4-41091
- wear, oxidation, recent developments and future trends, review 4-41004
- He interaction with radiation effects, review 4-29469
- Ni-Cr thermocouples, thermoelectric drift due to inhomogeneous comp. changes 4-27525
- alnic alloys *see iron alloys*
- Al_2O_3 *see alumina*
- $Al_2O_3\alpha$ *see corundum*
- $\alpha-Al_2O_3$ *see corundum*
- alpha-decay
- see also alpha-decay theory; alpha-particle spectra*
- bound states, virtual states, and nonexponential decay via path integrals 4-44
- decay rates, 1/f noise fluctuations 4-14289
- neutr. isoscalar resonances, α -decay, spectroscopic factors 4-586
- nuclear far from beta stability, prod. in heavy ion fusion reactions, review 4-4926
- radioactive materials, spectrosc. obs. using temp.-controlled absorpt. cell 4-53761
- ${}^9Be_{\alpha-\alpha p p}$, unified cluster struct. 4-4818
- ${}^{40}Ca(e,\alpha)$, 10.5-32 MeV, cross sections, yield, excited state 4-634
- ${}^{40}Ca(\gamma,\alpha)$, 10.5-32 MeV, cross sections, yield, excited state 4-634
- Ce to Os region, alpha emitters, decay energies and half-lives 4-23085
- ${}^{40}Ca$, A=247, 248, alpha decay props. meas., half-lives and branching ratios determ. 4-37506
- ${}^{40}Fm$, A=252, 254, alpha decay props. meas., half-lives and branching ratios determ. 4-37506
- ${}^{61}Li^*(J^{\pi}=0^+, T=1) \rightarrow \alpha + d$, parity-forbidden decay width calc. 4-27849
- ${}^{20}Ne$, left-right asymmetry degrees of freedom in HF calcs. 4-18341
- ${}^{18}O_{\alpha-}^{14}C$ after ${}^{12}C(^{18}O)$, spin meas., strong absorption model anal. 4-43439
- ${}^{40}Os$, A=168-170, alpha decay, half life meas., from ${}^{144}Sm(^{27}Al,X)$ and ${}^{144}Sm(^{28}Si,X)$ 4-27850
- ${}^{229}Pa \rightarrow {}^{225}Ac$, ${}^{225}Ac$ E1 transition rate enhancement and octupole deformation 4-43428
- ${}^{240}Pu$, half-life, calorimetric meas. 4-48543
- ${}^{240}Pu$, half-life determined by isotope dilution mass spectrometric meas. 4-48540
- ${}^{240}Pu$, half-life from α -particle emission rates 4-48542
- ${}^{240}Pu$, half-life from specific activity meas. 4-48541
- ${}^{240}Pu$, half-life meas. by USA Half-life Evaluation Committee 4-48539
- ${}^{146}Sm$, A=166-169, alpha decay, half life meas., from ${}^{144}Sm(^{27}Al,X)$ and ${}^{144}Sm(^{28}Si,X)$ 4-27850
- ${}^{232}Th$, alpha-decay, gamma-rays intensity and energy 4-9181
- ${}^{233}U$, γ -ray transition energies and emission probabilities in decay 4-48544
- alpha-decay theory
- see also alpha decay*
- deformed nuclei, favoured transitions 4-587
- one particle potentials for nucleon weak interactions 4-588
- nn and pp clustering on nuclear surface, simple schematic model 4-54063
- alpha-particle absorption
- No entries
- alpha-particle angular distribution
- see also alpha-particle spectra*
- ${}^{197}Au(^{16}O,\alpha^{12}C)$, fast α -particle ang. distrib., interaction model 4-673
- ${}^{197}Au(^{22}Ne,\alpha^{18}O)$, fast α -particle ang. distrib., interaction model 4-673
- ${}^{197}Au(^{22}Ne,\alpha X)$, 20-80 MeV, alpha ang. distrib. and spectra 4-675
- alpha-particle attenuation *see alpha-particle absorption*
- alpha-particle detection and measurement
- see also alpha-particle spectrometers; radioactivity measurement*
- cavity ionisation theory, α -particle fields appl., expt. exam. 4-48889
- decay-product collection and counting apparatus for exhaled Th determ., calibration 4-3633
- diamond detector for α -particles, polarisation and space charge 4-23509
- dosimeter, personal, for Rn daughters using a diffused-junction detector 4-43653

alpha-particle detection and measurement continued

- fragmentation spectra meas., of relativistic deuterons and α particles 4-28280
 Homalite CR-39 plastic detector calibration for light particle spectrometry and appl. 4-965
 ionisation chamber detector system, for alpha-particle spectrometry (*Slovak*) 4-33254
 ionisation tracks produced by α -particles in high press. Ar, Kr, Xe gases, recombination luminesc. 4-971
 low cost automatic alpha counter for laboratory use 4-14290
 Makrofol E detectors, alpha and deuteron dosimetry 4-28213
 polycarbonate SSNTD, Chinese made, α -particle and fission fragment registration (*Chinese*) 4-43763
 radiometer dead time meas. using α -radiation source 4-14288
 RAM, soft-error evaluation and flux measurement 4-11204
 surface barrier semiconductor detectors, dead layers meas., ^{241}Am α -particles detect. (*Japanese*) 4-18877
 AgGaSe₂ nuclear radiation detector electron and hole transversal modes 4-1006
 α -Al₂O₃ layers, TSEE detection of α - and β radiation 4-3618
 CdTe nuclear radiation detectors, characters, for proton, α -particle and γ -ray detection (*Russian*) 4-38008
 ^{237}Np in rock fissures, alpha activity distrib. study 4-31147
 ^{222}Rn progeny in residences, conc. meas. by total- α 3-count technique, optimisation 4-52245
 Si surface-barrier detectors, satellite peaks meas. in decay-chain member α -particle spectra 4-48869

alpha-particle effects

- absorbed dose in mice injected with ^{211}At , comparison between X-irrad. and ^{211}At -treated mice 4-52489
 borosilicate glasses, highly active fission waste products solidification, thin soluble layers anal. and fracture behaviour (*German*) 4-9298
 cytogenetic damage induced in germ line of male mice, RBE of ^{239}Pu α -particles, fission neutrons and ^{60}Co γ -rays 4-3596
 lung tumour induction in Syrian hamsters by Pu, microscopic dose distrib. 4-26483
 lymphocytes, human, chromosome aberrations induced by 23 MeV γ -particles, dose-effect relationship 4-57953
 oncogenic transformation of mouse BALB/3T3 cells by ^{238}Pu α -particles 4-21744
 RAM, soft-error evaluation and flux measurement 4-11204
 steel, structural, charged particle braking power and paths, 0.1 to 90 MeV (*Russian*) 4-39355
 zirconolite, CaZrTi₂O₇, alpha recoil damage 4-29488
 Ag, trapping and detrapping of O decorated defects, TDPAC study 4-35267
 Al₂O₃ anodic film in borate soln., film density and shopping power for α -particles 4-57062
 B₂O₃-SiO₂ nucl. waste glasses, Pb implanted, radiation damage effects 4-18519
 Ca₂Nd₈(SiO₄)₆O₂· ^{244}Cm , alpha self-radiation induced swelling and amorphisation 4-15554
 Cu, hardening due to radiation damage 4-33167
 Cu-He, gas evolution (*Russian*) 4-39595
 InSb, radiation damage by α -particle bombardment 4-45201
 Ni, hardening due to radiation damage 4-33167
 Ni, He bubbles, gas density and size distrib. meas. by neutron scatt. 4-20263
 SiO₂, ionising particle irradi., predose effects 4-11198

alpha-particle interactions see alpha particle-nucleus reactions**alpha-particle model see nuclear cluster model****alpha particle-nucleus reactions**

- for inelastic alpha particle-nucleus scattering, see "alpha particle-nucleus scattering"
 ^{232}Th (α , fission), I isotope yields 4-54194
 $A_p \leq 12$ projectile reactions and scatt., density distrib., double folding model, review 4-37652
 emission of large p_T particles coherent tube model 4-13965
 intranuclear cascade calculations of momentum transfer in light-ion collisions with complex nuclei 4-18395
 symmetric fission mode, (α ,f), (^3He ,f) mass distrib. meas. 4-48561
 three-dimensional nuclear dynamics in the quantized ATDHF approach 4-14000
 triple-alpha process in stellar interiors, screened reaction rate rel. to C production 4-3916
 two-nucleon transfer reactions, transition amplitude props. 4-23087
 $(\alpha, 2\alpha)$, distortion effects, DWIA framework, reduction factor 4-54156
 $(\alpha, 2\alpha)$, intermediate energies, distortion effects in DWIA, cross section reduction 4-54154
 $(\alpha, 2n\gamma)$, exclusive neutron spectra, preequilibrium exciton model 4-9217
 (α, d) J depend. in second order DWBA amplitude 4-32851
 $(\alpha, \gamma X)$, $A = 20$ -56, threshold-27 MeV, gamma prod. cross sections, gamma astronomy appl. 4-43496
 (α, p) , nonequilibrium protons, breakup-fusion mechanism 4-37649
 (α, X) , 2 GeV/N in emulsion, comparison with secondary interactions, anomalous effect 4-4872
 (α, X) , interference of states of intermediate nucleus in exchange processes 4-18437
 ^{107}Ag ($\alpha, 2n$) ^{109m}In , isomer and ground state formation cross-sections, $T_{1/2}$ (*Russian*) 4-4805
 ^{27}Al (α, X), 40 MeV, particle spectrum 4-54155
 ^{27}Al (α, d), 27.2 MeV, diff. cross sections, direct, microscopic and cluster descripts. 4-668
 ^{197}Au (α, X), 40-1119 MeV, 2p and 2n production, excitation funct. meas. 4-37648
 ^{197}Au (α, f), fission products formation, excitation functions meas. 4-18486
 ^{197}Au (α, px), 43 MeV/nucleon, inclusive proton spectra and proton-proton correl. 4-9216
 ^{197}Au ($\alpha, xn\gamma$), 45 MeV, Tl gamma transitions and structure 4-54077
 ^{10}B ($\alpha, p\gamma$) ^{13}C Doppler broadened γ -line shapes, ^{14}N energy level study 4-18351
 ^{11}B (α, γ) ^{15}N , GDR of mass-15 nuclei 4-54152
 ^AC (α, γ), $A = 12, 13, 35$ MeV, ^{15}N high spin states study, semimicroscopic DWBA anal., optical potential effects 4-4728
 ^{12}C (α, X), 40 MeV, particle spectrum 4-54155
 ^{12}C (α, γ), E1 and E2 cross sections calc., astrophysical S-factor determ. 4-18438
 ^{13}C (α, γ) ^{17}O , elec. dipole transition studies 4-18377
 ^{40}Ca (α, α') ^{36}Ar , isoscalar monopole strength between 10 and 20 MeV excitation energy 4-604

alpha particle-nucleus reactions continued

- ^{42}Ca ($\alpha, n\gamma$), ^{45}Ti , γ -decay of positive parity levels, DSAM 4-43426
 ^{114}Cd (α, p), 24-31 MeV, $^{117}\text{In}^m$ isomer pair excitation cross section ratios 4-517
 ^{59}Co (α, X), 30-200 MeV, longitudinal momentum transfer meas. 4-43495
 ^{19}F (α, X), 1.5-3.7 MeV, $X = \alpha, p, \gamma$, ^{23}Na excited states, spectroscopic factors decay mechs. 4-534
 ^{19}F (α, γ), 1.5-3.7 MeV, ^{23}Na resonances, J^π , γ -branching 4-37519
 ^{19}F (α, p), 1.5-3.7 MeV, ^{23}Na resonances, J^π , γ -branching 4-37519
 ^{56}Fe (α, p) ^{57}Co , cross sections and thermonuclear reaction rates 4-54151
 ^{56}Fe (α, X), 35, 49 MeV, preequilibrium emission of charged particles, reaction mech. 4-669
 ^3H (α, n) ^4He , cross section meas. 4-43476
 ^3H (α, n) ^4He , effects of channel coupling, RGM calcs. 4-9218
 ^3H (α, n), three-cluster resonating-group method in coupled-channel formalism 4-13964
 ^3H (d, n) ^4He , 14 MeV neutron fluence standard meas. (*Japanese*) 4-28267
 ^3He (α, γ) ^7Be , direct capture model, solar neutrino problem 4-32908
 ^4He (α, X), $\sqrt{s} = 31.5, 44$ GeV, p_t and E_t multiplicity correlations, inclusive cross sections 4-18304
 ^4He (α, X), 218 MeV, $X = ^3\text{He}$, light fragments, inclusive cross sections 4-43493
 ^4He (α, X), nuclear effects at large transverse momentum in a QCD parton model 4-18186
 ^4He (α, X), wounded nucleon prob. distrib., rigid projectile approx. and exact calcs. 4-667
 ^{165}Ho (α, X), 40 MeV, particle spectrum 4-54155
 ^{115}In (α, n), 24-31 MeV, $^{118}\text{Sn}^m$ isomer pair excitation cross section ratios 4-517
 ^6Li ($\alpha, 2\alpha$), peripheral model generalisation including rescattering 4-9222
 Mn (α, κ), 12-172 MeV, integral excitation functions, meas. and hybrid model anal. 4-37650
 ^{14}N (α, γ) ^{18}F , α -width meas., parity and isospin forbidden 4-32909
 ^{93}Nb ($\alpha, x\alpha p\gamma$), 40-140 MeV, reaction model 4-32906
 ^{58}Ni ($\alpha, 2p\gamma$), 32 MeV, ^{60}Ni high spin states, J^π , transitions and lifetimes 4-43397
 ^{58}Ni (α, px), 43 MeV/nucleon, inclusive proton spectra and proton-proton correl. 4-9216
 ^{60}Ni (α, X), 35, 49 MeV, preequilibrium emission of charged particles, reaction mech. 4-669
 ^{16}O (α, X), ^{20}Ne left-right asymmetry degrees of freedom in HF calcs. 4-18341
 ^{16}O ($\alpha, 2\alpha$), 140 MeV, energy sharing spectra, α -independ. particle model and DWIA (*Chinese*) 4-27886
 ^{16}O ($\alpha, 2\alpha$), enhanced clustering in cluster knockout reactions, comments 4-54109
 ^{16}O (α, γ), nonresonant, microscopic potential model anal., astrophysical S-factor behaviour 4-13999
 ^{208}Pb ($\alpha, ^4\text{He}$), energy depend. of neutron pickup cross sect. 4-18410
 ^{208}Pb (α, α'), 104 MeV, n decay of giant monopole resonance region 4-43441
 ^{208}Pb (α, t) ^{209}Bi comparison, quasiparticle-phonon model calcs., high lying proton states 4-4873
 ^{107}Pd (α, p) ^{108m}Ag , isomer and ground state formation cross-sections, $T_{1/2}$ (*Russian*) 4-4805
 ^ARu (α, xn yp) $A = 96, 98$ high spin cascade assignment to ^{98}Rh ^{98}Pd isotopes 4-18477
 ^{28}Si (α, p) ^{31}P , cross sections and thermonuclear reaction rates 4-54151
 ^{14}Sm (α, n) ^{147}Gd medium spin levels using γ -ray spectroscopy 4-18441
 ^{14}Sm (α, t) ^{45}Eu comparison, quasiparticle-phonon model calcs., high lying proton states 4-4873
 ^{152}Sm ($\alpha, ^3\text{He}$), 40 MeV, ^{153}Sm high spin states, comparison with ^{151}Sm and particle-rotor model 4-27778
 Sn ($\alpha, ^4\text{He}$), two-quasiparticle state strength distrib. 4-13935
 Ta (He, X), 4.2 GeV/c/N, large transverse mom. baryon prod., cascade model anal. 4-18471
 ^{125}Te (α, n) near Coulomb barrier, ^{128}Xe non-yrast, levels 4-27795
 ^{130}Te (α, pn) ^{132m}As , isomeric cross section ratios 4-32809
 ^{232}Th ($\alpha, 3n$) ^{233}U , investigation of ground state rotational bands 4-18442
 ^{232}Th (α, f), ^{132m}As isomeric cross section ratios 4-32809
 ^{203}Tl ($\alpha, 4n$) ^{205}Bi , isomeric transitions, high-spin states 4-18443
 ^{203}Tl ($\alpha, 4n$) ^{205}Bi , isomeric transitions, high-spin states 4-18443
 ^{238}U ($\alpha, 3n$) ^{239}Pu , investigation of ground state rotational bands 4-18442
 ^{238}U (α , fission) anal. of energy and mass dist. of fission products 4-54195
 V (α, κ), 12-172 MeV, integral excitation functions, meas. and hybrid model anal. 4-37650

alpha particle-nucleus reactions

- $A_p \leq 12$ projectile reactions and scatt., density distrib., double folding model, review 4-37652
 (α, α) on ^4He , ^{12}C , ^{16}O , folding model, analytical expression for pot. 4-4903
 Al (α, α), 17.9 GeV/c, elastic and quasielastic scatt., differential cross section 4-4875
 ^{12}C (α, α'), 1.37 GeV, Glauber model anal. 4-54157
 ^{12}C (α, α') ^{12}C , Glauber model S-matrix, effective profile expansion 4-27854
 ^{12}C (α, α), elastic and inelastic scatt., excitation function and α -cluster structure of ^{16}O 4-27887
 ^{12}C (α, α') ^{12}C , 4.26 MeV resonance RBS anal. for C content in thin films 4-46833
 ^{14}C (α, α), low energy elastic scatt., generator coordinate method calc. 4-32905
 ^{14}C (α, α), microscopic α -nucleus pot. 4-9215
 ^{14}C (α, α), $A = 40, 42, 44, 48$, microscopic α -nucleus pot. 4-9215
 ^{40}Ca (α, α'), isoscalar monopole strength between 10 and 20 MeV excitation energy 4-604
 C (α, α), 17.9 GeV/c, elastic and quasielastic scatt., differential cross section 4-4875
 Cu (α, α), 17.9 GeV/c, elastic and quasielastic scatt., differential cross section 4-4875
 ^{19}F (α, X), 1.5-3.7 MeV, $X = \alpha, p, \gamma$, ^{23}Na excited states, spectroscopic factors decay mechs. 4-534
 ^{19}F (α, γ), 1.5-3.7 MeV, ^{23}Na resonances, J^π , γ -branching 4-37519
 ^AGd (α, α'), $A = 158, 160$, K-shell ionisation cross sections meas. from intensity ratios of K X-rays to $2^+ \rightarrow 0^+$ γ -rays 4-54153
 ^AH (α, α') ^AH , diffraction scattering, total cross-section meas., $E_m = 17.9\text{GeV}$ 4-4876
 ^3He (α, α), elastic scatt. data, solar neutrino problem 4-32908
 ^3He (α, α), high energy scatt., Glauber amplitude 4-670

alpha particle-nucleus scattering continued

- ⁴He(α,α), inelastic screening and quark matter transitions at ISR and SPS energies 4-43419
⁴He(α,α')⁴He, diffraction scattering, total cross-section meas., $E_\alpha = 17.9$ GeV 4-4876
⁴He(α,α')⁴He, inclusive inelastic cross section, microscopic model 4-48584
¹⁴Nd(α,α'), A=142, 146, 150, giant monopole resonance in transitional and deformed nuclei 4-32907
¹⁶O(α,α), A=16, 18, microscopic α -nucleus pot. 4-9215
¹⁶O(α,α), 104 MeV, phase shifts calc. by uniformly approximated WKB method 4-54167
¹⁶O(α,α)¹⁶O elastic scatt., optical model description, ²⁰Ne α -struct. 4-9220
²⁰⁸Pb(α,α)²⁰⁸Pb, isoscalar giant resonances 4-9221
²⁸Si(α,α), low energy elastic scatt., generator coordinate method calc. 4-32905
²⁸Si(α,α), microscopic α -nucleus pot. 4-9215
³²Si(α,α), low energy elastic scatt., generator coordinate method calc. 4-32905
⁴⁸Sm(α,α'), A=144, 148, giant monopole resonance in transitional and deformed nuclei 4-32907
¹⁷³Yb Coulomb excitation of 636 keV level by C, N, O and α , lifetime 4-676

alpha-particle scattering *see alpha particle-nucleus scattering***alpha-particle spectra**

- see also alpha-particle angular distribution*
 beams, time struct. studies by γ -ray time spectrum method 4-54519
 bone surfaces, α -contaminated, specific energy spectra 4-8129
⁴⁰Ar(α,α), on Z=65-90, forward angle α -energy spectra 4-4883
⁴⁰Ne(α,α), A=20,22, on Z=65-90, forward angle α -energy spectra 4-4883
 Si surface-barrier detectors, satellite peaks meas. in decay-chain member α -particle spectra 4-48869
¹⁴⁷Sm(n, α), 19.5 MeV, energy distrib. of α particles, ¹⁴⁴Nd level excitation (French) 4-37544

alpha-particle spectrometers

- see also alpha-particle spectra*
 Chinese α -spectrometer using cellulose acetate SSNTD (Chinese) 4-43756
 CR-39, differential elastic scatt., resolution for 30 MeV α -particles 4-54534
 fragmentation spectra meas., of relativistic deuterons and α particles 4-28280
 ionisation chamber detector system, for alpha-particle spectrometry (Slovak) 4-33254
 CdTe nuclear radiation detectors, characts. for proton, α -particle and γ -ray detection (Russian) 4-38008

alpha-particles

- see also cosmic ray alpha-particles and helium nuclei*
²⁵²Cf spontaneous fission, fragment-long range α -particle spectra correlation 4-37668

alpha-radiation *see alpha-particles***alpha-rays** *see alpha-particles***alpha-rhythm** *see bioelectric potentials***alpha-rhythm measurement** *see electroencephalography***altimeters**

- short-pulse multicolour laser, atmospheric pressure and sea state, remote sensing from satellites 4-26896

altitude measurement *see height measurement***alumina**

- see also corundum*
 acoustic emission testing of plasma sprayed coatings 4-21414
 aggregated powder, compaction, size distrib. 4-3109
 γ -Al₂O₃, adsorpt. of coronene, room temp. phosphoresc. and delayed charge transfer fluoresc. 4-28502
 β -alumina, divalent-cation, preparation, struct. and Raman spectra 4-24795
 anodic film, thickness determ. by photoluminesc. method 4-26108
 anodic film in borate soln., composition determ. by Rutherford backscatt. 4-56173
 anodic film in borate soln., film density and shopping power for α -particles 4-57062
 anodic film on InP and In_{0.53}Ga_{0.47}As, prep. and props. 4-25465
 atomic layer epitaxy for display appl. (German) 4-245
 barrier anodic coatings, electrolyte byproducts incorporation 4-41105
 ceramic, crack resistance 4-16486
 ceramic cutting tool materials, impact resist., fatigue wear rel. to microstructure 4-12199
 ceramics, bending strength 4-40899
 ceramics, ion-implanted, struct. (Japanese) 4-11166
 ceramics, thermal conductivity meas. in range 10 to 1000°C and 1-40 bar press. 4-15727
 chemically sensitive FET sensors, operation as function of insulator-electrolyte interface 4-27507
 coating on cemented carbide cutting tools, comparative evaluation with other coatings 4-3273
 coating on GaAs, photoluminescence changes and facet coating procedures 4-56972
 compatibility with liquid Na, mech. and thermal props. 4-30841
 compressive failure modes in air and physiological media, prosthetic appl. 4-21303
 corrosion resistance to HCl 4-12216
 CVD, charge-carrier injection, trap-assisted tunnelling model 4-35104
 dielectric films on InP, LPCVD and elec. props. 4-56439
 electron irradi. damage in cation sublattice, HVEM and optical meas. 4-20255
 electron irradi. of pure and He-doped material, void and Al precipitate form. 4-15541
 electron-induced desorption, surface damage (Russian) 4-50357
 fatigue curves, universal, using identification curves 4-12277
 fibre reinforced Al composite, nondestructive inspection and evaluation 4-30902
 fibre reinforced Mg alloy, nondestructive evaluation by US scanning and X-ray radiography 4-30901
 fibres, polycryst., prod. 4-12046
 fibrous insulators, thermal cond. at high temps. (Japanese) 4-50600
 film, anodic, photocond. in 3 to 6.2 eV range, localised levels 4-2664
 film, on Si, optical props., ellipsometric meas. 4-46225
 film, plasma-sputtered, for exoelectronic dosimeters 4-25854

alumina continued

- film, SEM and surface EXAFS study 4-20521
 film, TEM extended electron energy loss fine struct. study 4-57050
 films, CVD, deposition rate meas. 4-16339
 films, plasma enhanced beam deposition at low temps. 4-35582
 formation on Al by oxidation, amorphous to cryst. transform. 4-57488
 fracture, delayed, crack coalescence and microscopic crack growth 4-16485
 growth from melt, pulling system for automatic control of crystal diameter (Czech) 4-25877
 growth of β -Al₂O₃ at interface between α -Al₂O₃ and NaAlO₂ 4-6566
 hardness testing, in air and simulated body environment 4-21314
 insulating thin films, ion beam sputter deposition for highly loaded contacts 4-21139
 insulator surface, ISFET struct., counter-ion adsorption effect on surface pot., pH characts. 4-39683
 ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 ISFET in analytical chemistry, pH sensitive mechanism 4-31041
 liquid, density meas., new technique (French) 4-17877
 metal-Al₂O₃-SiO₂-Si structure, transient reversible currents 4-56442
 microstructure of metastable phases, TEM obs. 4-25044
 MIS system with multilayer dielectric, electronic cond. and trapping 4-56441
 mulite, Al₂O₃-SiO₂, thermal shock by water quenching, critical temp. difference rel. to drop height 4-16487
 mulite-matrix aluminosilicate refractory bodies, linear thermal expansion coeffs. 4-39545
 mulitic substrates, obtained by dry-processing, struct. and morphological characterisation 4-51618
 noble metal-alumina solid-state bonding, effect of ambient temp. 4-57526
 particle dispersion in Na₂O-B₂O₃-SiO₂ glass, density, AC cond., thermal expansion, transform. range 4-39565
 permittivity meas. using open resonator 4-269
 photon-stimulated desorption of H⁺(F⁺) and photoelectron yield, core excitons obs. 4-6663
 plastic deform. under compression, 200-1800°C (French) 4-21288
 plastic refractories, work of fracture, temp. depend. 4-30781
 porous, Young's modulus with changing pore struct. 4-51713
 powder, field dependent trap parameters 4-6915
 powder, mixed α/γ phases, surface area, sinterability, photostimulated exoelectron emission (French) 4-57080
 powder, plasma spraying, criterional relationships derivation 4-57096
 powder, sintering, initial cryst. growth, X-ray line broadening obs. 4-57160
 powder compact, sinterability rel. to pore coordination no. distrib. 4-57145
 powder compacts, mech. props. (Japanese) 4-40960
 powders, EDS-derived, characterisation 4-51571
 pyrogenic, surface and pore struct. 4-40715
 refractory blocks, nondestructive testing 4-12299
 restrictive diffusion of polyaromatic compounds in gamma-Al₂O₃ 4-29668
 RF sputtered thin films, O₂ partial press. effects on props. 4-56161
 SCC, microstruct. effects on rel. between stress intensity factor and crack vel. (Japanese) 4-41079
 silicates, ²⁹Si NMR chemical shift, nonequivalent tetrahedral sites evaluation 4-20873
 solid and liq., specific heat measurement, at high temp. 4-15657
 spray dried powder, stress transmission during die compaction 4-3110
 strength test, C-ring technique 4-51939
 substrate, flow of superfluid ⁴He film 4-11379
 superionic conductors, ternary, Al₂O₃-based, structural aspects, review 4-25078
 surface, bidisperse catalyst, ethylene adsorpt. 4-31019
 surface, Cu²⁺ adsorption, EPR spectra, ionic bond form. 4-30268
 surface activation and cleaning by CW CO₂ laser 4-35523
 surface flaws produced by Knoop indentation, crack opening behaviour 4-40951
 suspensions in water, heat transfer, pool boiling study 4-24344
 Synroc-D, nuclear waste ceramic, phase equilib., O fugacity effect 4-54250
 thermal expansion, reference material, mean values 4-32224
 thermal shock by water quenching, critical temp. difference rel. to drop height 4-16487
 thermoluminescent detectors, neutron response (Czech) 4-48803
 thin film deposition by UV laser photolysis 4-12032
 thin film growth on Al at room temp., kinetic and spectroscopic study by surface plasmon excitation 4-46349
 thin metallic markers redistribution under ion bombardment 4-51429
 translucent ceramic, Mg distrib. and microstruct. 4-25045
 TSEE dosimeters, photon energy depend. of dose response 4-3620
 twin growth, compression, 700°C (French) 4-20212
 twinning shear 4-6379
 ultrafine, form. by spray-inductively coupled plasma technique 4-3111
 vibrational and normal mode anal. 4-6459
 Weibull's modulus and mean strength, uncertainty as function of no. of samples 4-35785
 wetting by Al-Ca liquid alloy (Japanese) 4-25120
 Young's modulus, high temp. meas. using precision bending apparatus 4-41125
 zeolites, Y struct., Al content determ. from lattice consts. 4-50247
 Al oxide layers on W and Mo faces, thermal dissolution, FEM obs. 4-39698
 Al/Al₂O₃/Ag/Se/Ag struct., I-V characts. and thermostimulated depolarisation (Russian) 4-40063
 Al/Al₂O₃/Pb inelastic electron tunnelling junctions, conductance changes during infusion doping 4-50953
 Al-Al₂O₃, grain growth study 4-16407
 Al-Al₂O₃ oxide dispersion strengthened, high temp. strength 4-40889
 Al-Al₂O₃-Ga MIM tunnel diodes, radiation from surface plasma waves (French) 4-40074
 Al-Al₂O₃-GaAs MOS diodes, capacitance-voltage characts. (Japanese) 4-56436
 Al-Al₂O₃-MgO cast particle composite, fracture ductility, SEM obs. 4-21299
 Al-Al₂O₃-SiO₂-Si structure, identification of charge carrier type 4-56443
 Al-Al₂O₃-Te capacitors, surface states and capacitance-voltage curves 4-50940
 Al-Al₂O₃-metal struct., influence of electrode metal on negative differential resistance (French) 4-35088

alumina continued

- Al-Al₂O₃-metal tunnel junctions, light emission, role of multiple scatt. of surface polaritons 4-7250
 Al-Al₂O₃-Pb:Co²⁺(Ni²⁺), MIM junction, EPR study 4-46096
 β'' -(Al_{1-x}Fe_x)₂O₃-Na₂O, solid state reaction mech., TEM study 4-34661
 β'' -Al₂O₃, cryst. struct. and ionic cond. 4-39580
 β'' -Al₂O₃, fast ion conductor, local order in Bragg diff. data 4-39569
 α -Al₂O₃ heat capacity and elastic moduli semiautomatic meas. using adiabatic cryostat, between 1.6 and 400K 4-17893
 β -Al₂O₃, ionic cond. and Raman scatt. 4-39570
 Al₂O₃ layer characterisation for Al sheet adhesive joints (German) 4-16542
 α -Al₂O₃ single crystals, TSEE rel. to mech. surface treatment 4-3033
 α -Al₂O₃, TSEE rel. to synthesis parameters 4-3032
 Al₂O₃-Cr³⁺, thermal cond. meas., uniaxial stress effects 4-15728
 α -Al₂O₃-Cr³⁺, N-lines in luminescence spectra 4-21018
 Al₂O₃-Cr³⁺, optical detection of EPR and mag. circular dichroism 4-25654
 α -Al₂O₃-Cr³⁺(Y³⁺), doped and undoped, diffusion and elec. cond. studies 4-15694
 α -Al₂O₃-Fe³⁺, 3d⁵ ions in low symmetry cryst. field, zero field splitting parameters (Chinese) 4-56301
 Al₂O₃-Mn, valency changes induced by heat treatment or γ -irrad. 4-11912
 β'' -Al₂O₃-Na⁺, tracer diffusion study, secondary cell application 4-15687
 β'' -Al₂O₃-Ni²⁺, Jahn-Teller multimode system, Ham factors and energy levels 4-15860
 α -Al₂O₃-Ti, oxidation-reduction and ionic disorder 4-15459
 Al₂O₃-TiO₂ composite dielec. thin film, dielec. props. 4-51190
 β -Al₂O₃-(NH₄)₂O, nonstoichiometric ionic conductor, NH₄⁺ groups motion and PMR relax. 4-40274
 β -Al₂O₃-(Na_{0.3}Li_{0.7})₂O, local elec. fields, IR absorpt. intensities 4-40434
 Al₂O₃-Ag₂O, β and β'' phases, struct. and props., high resolution electron microscopy study 4-34477
 β'' -Al₂O₃-Ag₂O, polycrystalline, ionic cond. 4-39572
 Al₂O₃-Al interface, Auger depth profile 4-57048
 Al₂O₃-B₂O₃-P₂O₅-SnO₂ glasses, Sn valency, Mossbauer study 4-10994
 Al₂O₃-B₂O₃-SiO₂-SnO₂ glasses, Sn valency, Mossbauer study 4-10994
 Al₂O₃-BaAl₂O₄ system, α cryst. struct. determ. and phase transitions 4-39223
 Al₂O₃-CaO-SiO₂-TiO₂ system, compatibility relationships of calcium aluminate 4-57198
 Al₂O₃-Cr₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
 Al₂O₃-Cr₂O₃ finely dispersed oxide, solid-phase reactions 4-57118
 Al₂O₃-Cr₂O₃ system, solid soln. form., high temp. X-ray diff. (German, English) 4-51635
 β -Al₂O₃-EuO(Eu₂O₃), synthesis, ion transport and fluorescence lifetimes 4-39576
 β'' -Al₂O₃-Gd₂O₃, ionic distribution, X-ray study 4-39270
 β -Al₂O₃-H₂O, study of atomic H centres by ENDOR and ESR linewidth 4-7093
 β -Al₂O₃-Li₂O, local elec. fields, IR absorpt. intensities 4-40434
 β'' -Al₂O₃-Li₂O, water uptake, DTA and ionic cond. study, molecule ions effects 4-39574
 β'' -Al₂O₃-M₂O (M=Na, K, Ag, Li), mobile cation vibr., Raman study 4-40464
 β'' -Al₂O₃-M₂O₃ (M=Gd³⁺, Nd³⁺, Eu³⁺), formation by ion exchange and ionic cond. meas. 4-39571
 Al₂O₃-MgO spinel ceramic, corrosion-resist. 4-40718
 Al₂O₃-MgO-B₂O₃ system, spinel formation 4-57199
 Al₂O₃-MoSi₂ ceramic mixture, synthesis and mech. props. 4-51595
 Al₂O₃-Na₂O, 2D β and β'' structures, mobile ion ordering 4-45045
 Al₂O₃-Na₂O, β and β'' phases, cracks and other defects, acoustic, optical and electron microscopy studies 4-34575
 Al₂O₃-Na₂O, β and β'' phases, fast Na ion transport, EPMA study 4-34708
 Al₂O₃-Na₂O, β and β'' phases, solid electrolyte, Na ion thermodynamic props. from thermolec. power data 4-34666
 β -Al₂O₃-Na₂O, ceramics, separability of inter- and intragranular resist. 4-30574
 β -Al₂O₃-Na₂O, deterioration in Na environment, supersaturation model, rel. to Na-S battery 4-36002
 β -Al₂O₃-Na₂O, dielectric response from ionic cond. and NMR data 4-40329
 β -Al₂O₃-Na₂O, fracture toughness anisotropy 4-26039
 β -Al₂O₃-Na₂O, inhibition of degradation by ionic exchange (French) 4-51843
 β'' -Al₂O₃-Na₂O, ionic cond., Monte Carlo computer simulation, superdefects 4-39578
 β -Al₂O₃-Na₂O, ionic cond., theoretical model for mixed alkali effect 4-45406
 β -Al₂O₃-Na₂O, low-temperature thermal expansion of disordered solids 4-39547
 β -Al₂O₃-Na₂O, mixed alkali phase, percolation model for cond. 4-39589
 β'' -Al₂O₃-Na₂O, Na⁺ ion distribution, neutron diff. study 4-39271
 β -Al₂O₃-Na₂O, O interstitial transport and chemical coloration 4-34723
 β -Al₂O₃-Na₂O, solid electrolyte, impedance and modulus spectroscopy 4-6554
 β -Al₂O₃-Na₂O, structure and Na⁺ dynamics, ²³Na NMR study 4-39583
 β -Al₂O₃-Na₂O solid electrolytes, AC ionic cond. anal. 4-39577
 β -Al₂O₃-Na₂O solid electrolyte, K(Li)(Ag)(Ti) substituted, mixed cation effects and ionic equilibria 4-39588
 β'' -Al₂O₃-Na₂O-Ag₂O, anomalously large conductivity prefactor at low-temp. 4-15680
 β -Al₂O₃-Na₂O-Ag₂O, mixed cation effects, cond. anomalies, evidence for co-ionic effect 4-39591
 β -Al₂O₃-Na₂O-Ag₂O, X-irrad., Ag²⁺ ESR study 4-40222
 β -Al₂O₃-Na₂O-CdO, diffusion and ionic cond. 4-39579
 β -Al₂O₃-Na₂O-Li₂O, phase diagram and cryst. struct. 4-40758
 β -Al₂O₃-Na₂O-M₂O₃ (M=La, Nd), cryst. struct., ionic cond. and EPR studies (French) 4-39582
 β -Al₂O₃-Na₂O-MgO, ionic cond. and cryst. struct., thermal behaviour 4-39581
 β -Al₂O₃-Na₂O-MgO, stoichiometry fluctuations 4-39272
 β -Al₂O₃-Na₂O(Ti₂O₃), nonstoichiometric, structure, normal coord. anal. 4-39269
 β'' -Al₂O₃-Na₂O.xH₂O, hydrogen, IR study 4-39573
 β'' -Al₂O₃-Nd₂O₃, fluorescent solid electrolytes 4-29681

alumina continued

- Al₂O₃-Ni-Ti, powder particles, flame spraying, interface interaction, struct. transform. 4-51485
 β'' -Al₂O₃-NiO, synthesis and visible absorpt. spectra 4-39575
 Al₂O₃-P₂O₅-B₂O₃-V₂O₅ glasses, EPR and optical spectra of V 4-7055
 Al₂O₃-Pb tunnel junction barriers, effect of H(D) implantation, IEIS and work function meas. 4-11590
 Al₂O₃-SO₂-H₂O, glass formation and condensation (Bulgarian) 4-44967
 Al₂O₃-Si₃N₄-SiO₂ MOS struct., interface states generation by high field injection 4-45896
 Al₂O₃-SiO₂, melt grown mullite, solid soln. range and microstructure 4-3128
 Al₂O₃-SiO₂, mullite, mech. props. 4-16483
 Al₂O₃-SiO₂, mullite, O ion conductivities and defects 4-45407
 Al₂O₃-SiO₂, mullite/ZrO₂ composites, sintering and mech. props., zirconia addition effect 4-3114
 Al₂O₃-SiO₂, thermal shock fracture, peak amplitude distrib. of acoustic emission events 4-3308
 Al₂O₃-SiO₂, ZrO₂ toughened, reaction sintering, effect of MgO additions 4-21187
 Al₂O₃-SiO₂ gels, densification under heat treatment, glass form., Raman spectra 4-57178
 Al₂O₃-SiO₂ zeolites, positron channelling, X-ray and γ -ray stimulated threshold free emission 4-24886
 Al₂O₃-SiO₂-Na₂O(CaO), dehydrated zeolite 5A, struct., neutron profile refinement study 4-39231
 Al₂O₃-W cermet, phys. props., effect of W spatial distrib. 4-51610
 Al₂O₃-Y₂O₃ system, sintering, eutectic form and struct. 4-57203
 Al₂O₃-ZrO₂, aqueous composite, colloidal filtration, particle size distrib., rel. to pH 4-16364
 Al₂O₃-ZrO₂, ground surfaces, residual stresses, stress induced phase transform. 4-3135
 Al₂O₃-ZrO₂ system, rapid solidification 4-16381
 Al₂O₃-ZrO₂-SiO₂, ceramic powders, glass densification, sol-gel prep. 4-35594
 Al₂O₃-ZrO₂-Y₂O₃, transform. toughening by dispersed partially stabilized tetragonal ZrO₂ 4-51682
 (Al₂O₃)₂MgO single and polycryst., high temp. internal friction peak (French) 4-39392
 3Al₂O₃.2SiO₂, mullite, form. from oxides in Al-Si thin films, electron diff. exam. 4-29843
 α -Al₂O₃, sintered, Hertzian indentation, fracture behaviour 4-30795
 α -Al₂O₃ layers, TSEE detection of α and β radiation 4-3618
 B₂O₃-Li₂O-LiCl-Al₂O₃, amorphous, prep. and ionic cond. (Chinese) 4-50567
 B₂O₃-MgO-Al₂O₃-Na₂O-Bi₂O₃ glasses, reversible thermochromism 4-11874
 Ba²⁺- β'' -alumina, ion transport study 4-25082
 BaO-Al₂O₃-TiO₂ system, lattice parameters of BaAl₂Ti₅O₁₄ phase, X-ray indexing 4-16378
 β -Al₂O₃, struct., props. and production, review 4-51596
 Ca²⁺- β'' -alumina, ion transport study 4-25082
 CaO-Al₂O₃ system, liq. viscosity (French) 4-20390
 CaO-Al₂O₃-SiO₂ system, gel form. from metal alkoxides, struct. evolution obs. 4-57120
 CaO-Al₂O₃.8H₂O powders, precip. from soln., precipitate phases, precip. mechanisms 4-2336
 (Cr₂Al₃)₂O₃, neutron diff. study of critical exponents (German) 4-6995
 Cu-Al₂O₃, manufacture and props. (Polish) 4-3115
 Cu-Al₂O₃ single crystals, cold rolled, stored energy, recrystallisation kinetics, second phase particles effect 4-12081
 Cu-(Al₂O₃) single crystals, cold rolled, deform. struct. rel. to second phase particles 4-12111
 CuO-ZnO-Al₂O₃, phase-structural characteristics, catalytic precipitation (Russian) 4-35625
 InP-Al₂O₃-Al structure, drift phenomena and barrier height from photoemission (French) 4-25450
 InP-Al₂O₃-metal, etching procedures of InP, effects on electrical props. (French) 4-25451
 Li/Li(Al₂O₃) interface, in solid state galvanic cell, effect of press. 4-41325
 Li(Al₂O₃) composite electrolyte, phys. props. 4-34702
 Li(Al₂O₃) solid electrolytes, NMR studies 4-35243
 Li₂O-Al₂O₃-Nb₂O₅ glasses, rapidly quenched, struct. and props. 4-46538
 Li₂O-MgO-Al₂O₃-SiO₂, ceramic, synthesis, thermodynamic anal. 4-57143
 MgAl₂O₄-Al₂O₃ system, internal friction spectra, comp. depend. 4-15585
 MgO-(Cr₂O₃)-Fe₂O₃-SiO₂-Al₂O₃-CaO refractories, thermomech. and deform. props. 4-12121
 MgO-Al₂O₃ refractories, electron cond. 4-56359
 MgO-Al₂O₃-SiO₂-TiO₂ glass ceramics, γ -irrad., ESR studies 4-7054
 MgO-Al₂O₃-ZrO₂ system, high temp. ternary phase 4-16375
 MgO-Al₂O₃, spinels, optical absorption spectra of X-ray photoluminescence (Russian) 4-30514
 Mo-Cr₂O₃-Al₂O₃, composite materials, surface props. for thermionic converter appl. 4-56414
 Na₂AlF₆-Al₂O₃ melts, elec. cond., effects of fluoride additions 4-39550
 Na₂AlF₆-Al₂O₃-Al system, vapor press. over melt 4-11260
 Na₂O-K₂O-Al₂O₃-ZrO₂-SiO₂, molten alkali feldspar, contact angle on aluminosilicate substrate, ZrO₂ content effect 4-25119
 Nb-Zr/Al₂O₃ proximity layers, tunnelling characts. 4-11643
 NiO-Al₂O₃ system, struct., diffuse refl. spectrosc. obs. 4-25781
 Pb-Al₂O₃-Al supercond. junction, electron-phonon interaction function, numerical anal. from expt. data 4-11639
 Pb²⁺- β'' -alumina, ion transport study 4-25082
 PbO-Al₂O₃-SiO₂, Pb solubility rel. to metal oxide additions 4-20361
 Sc₂O₃-ZrO₂-Al₂O₃, elec. cond., effect of Al₂O₃ and monoclinic ZrO₂ 4-6545
 Si/MgO-Al₂O₃/Si struct., VPE growth and bipolar integrated circuit form (Japanese) 4-40021
 Si₃N₄-SiO₂-Al₂O₃-Y₂O₃ ceramics, liquid phase sintering 4-7405
 SiO₂-Al₂O₃, phase boundaries in high temp. segment 4-40725
 SiO₂-Al₂O₃, thermal conductivity meas. in range 10 to 1000°C and 1-40 bar press. 4-15727
 SiO₂-Al₂O₃ multilayer emitter, thermally stimulated exoelectron emission 4-7337
 SiO₂-Al₂O₃-CaO-MgO, vitreous-crystalline material, elasticity, strength props. 4-57276
 SiO₂-Al₂O₃-K₂O-Na₂O-Fe₂O₃ porcelain bodies, Fe oxides colouring effects 4-40734

alumina continued

- SiO₂-Al₂O₃-K₂O-Na₂O electroceramics, acoustic emission during cyclic loading 4-41129
 SiO₂-α-Al₂O₃ system, stable and metastable phase equilib. diagrams 4-51636
 SiO₂-Li₂O-Al₂O₃-K₂O-Na₂O glass, laser-irradiated, thermally stimulated exoelectron emission 4-57079
 SnO₂-coated Al₂O₃, stability in air and molten glass 4-57381
 Sr²⁺-β"-alumina, ion transport study 4-25082
 TeO₂-B₂O₃-Al₂O₃ glass, ¹¹B NMR 4-51144
 TiO₂-Al₂O₃ system, high temp. reaction, α-Al₂O₃ precipitation, TEM obs. 4-40792
 ZrO₂, surface damage, microstruct. and mechanisms, SEM obs. (*German, English*) 4-51775
 ZrO₂-Al₂O₃, ultrafine coprecipitated powders using spray-ICP technique, stability 4-25928
 ZrO₂-Al₂O₃-SiO₂-TiO₂ system, primary phase relations 4-57200
 ZrO₂-Sc₂O₃-Al₂O₃ system, phase relationships, cubic-tetragonal equil., 1800°C, alumina effect 4-2310
 ZrO₂-SiO₂-Al₂O₃-TiO₂ system, thermal props. rel. to impurities 4-25946
 ZrO₂-SiO₂-Al₂O₃-TiO₂ system, initial melting temp., thermal dissociation, impurities effect 4-25947
 ZrO₂-toughened, change of tetragonal ZrO₂ by hot isostatic pressing 4-57168
 ZrO₂-Al₂O₃ cermets, optical props., multiple scatt. corrections 4-46214

aluminium

- see also nuclei with
 (111) with adsorbed H₂, EHT study (*Chinese*) 4-2425
 (111) with Sn and Pb monolayers, coverage and core level binding energies 4-25153
 A5 type, deep drawability criterion appls. (*French*) 4-46525
 abundance in Bp-stars, Al resonance lines in IUE spectra, UV study 4-8471
 acoustoelasticity, texture effect 4-34562
 adhesive joints, protected with hydration inhibitors, environmental durability 4-30919
 adsorbed monolayer of Sm on (100) surface, valence, LEED and XPS study 4-2452
 adsorbed on GaAs (110), chemical bonding, adatom-adatom interaction 4-29784
 adsorbed submonolayer on rough Ag surface EM field investigation by differential reflectometry 4-51396
 aerosol, atmospheric, charact. investig. (*French*) 4-31035
 anodic oxidation, Cl⁻ ion role 4-35770
 anodic oxidation in sodium tartrate and H₃PO₄ electrolytes, electron-yield EXAFS study 4-15783
 anodic oxidation in sodium tartrate electrolyte, incorporation of siliceous impurity 4-16528
 anodised, atmospheric corrosion over 12 year period, New Zealand main centres 4-41115
 anodised, Auger electron spectroscopy of porous layers 4-57489
 anodising in molten salts, review 4-7647
 atom, np² and nf² Rydberg states determ. by two-photon MPT spectra 4-5161
 atomic beams density monitoring, during MBE 4-12026
 atoms, inner-shell excitations, density-effect 4-9982
 Auger backscattering factor, effects of electron energy and angle of incidence 4-35528
 Auger electron emission excited by low-energy Ar⁺ bombardment (*Chinese*) 4-7290
 Auger process, KLL, plasmon gain satellites 4-11974
 Auger spectra, KLV, energy distrib. of electrons 4-30570
 band struct., direct transitions and surface states, angle-resolved photoemission study 4-30044
 barrier type film formed in oxalate soln., EELS study 4-34814
 Bethe-Bloch stopping power parameters for Al, Cu, and Ag extracted from recent accurate measurements 4-39357
 bicrystals, creep deform., grain boundary sliding, dislocation absorpt. 4-12122
 bilayer films, laser irradi., hole formation 4-28793
 castings, automated X-ray inspection, local feature method for flaw detection 4-7685
 castings, fracture mechanics, allowable flaw sizes (*German*) 4-16476
 castings, surface roughness effects on ultrasonic sizing algorithms 4-35827
 cathode, macroparticle dynamics obs. in vacuum arc, using laser Doppler anemometry 4-24667
 cathode in He-Ne laser, examination using scanning electron microscope (*Chinese*) 4-49385
 ceramic tools, hot isostatic pressing process 4-30670
 clean films, magnetoresist. data, localisation and supercond. fluctuations 4-56497
 closed internal fatigue cracks, US detection 4-26168
 coating, hydraulic pulse densified, form. model 4-26101
 coating on Ni-base superalloys, thermal fatigue strength and heat resist. 4-12264
 coating on steel, interface struct. 4-41036
 coatings produced by hydraulic-pulse densification of powder, anticorrosion props. 4-7642
 colour-anodised, selective absorbing surfaces in practice, review 4-41380
 commercially pure, anal. of AlFeSi particles 4-46496
 commercially pure, recryst. behaviour HVEM and TEM study 4-40817
 core level binding energies in atom in jellium model, appl. of Slater's transition state theory 4-34846
 corrosion, flow-dependent, current understanding of mechanisms 4-3280
 corrosion in HNO₃, new class of inhibitors, 1-aryl substituted-3-formamido thiocarbamides 4-12229
 corrosion inhibition in marine environment, using 3-methyl-4-amino-5-mercapto-1,2,4-triazole 4-3300
 corrosion protective coatings on Ni alloy blades, thermal shock resistance 4-12262
 corrosion testing, current distribution, microcomputer controlled meas. system (*Japanese*) 4-46689
 creep recovery and work hardening rate meas. technique, computer simulation 4-30765
 cross section for emission of bremsstrahlung by electrons 4-47881
 dark EMF phenomena in Al/amorphous Se/Al structure (*Korean*) 4-20719
 defect electronic structure, extension of muffin-tin Greens-function theory 4-45674

aluminium continued

- deformation depend. of Bordoni peak 4-50429
 diffusion creep speed, effect of transitions (*Russian*) 4-50414
 diffusion into Si from doped SiO₂, conc. distrib. 4-55859
 diffusion layer on austenitic stainless steel, struct. and phase comp. after heat treatment 4-3158
 directional strain softening, cell boundary dissolution 4-12083
 disc, anisotropic rotating, elasto-plastic anal. 4-5803
 dislocation-point defect interaction mechanisms 4-50339
 dynamic modulus and dislocation segment distributions during deformation 4-3161
 EELS, multiple scatt. effect, Monte Carlo study 4-7287
 electrical transport props., quantum oscills. 4-25320
 electrochemical tunnel etching 4-41064
 electrodes, corrosion rate determ. using Faradaic rectification and AC impedance meas. 4-52019
 electrolytic capacitors, chemical composition and thermal processing parameters effect (*Polish*) 4-7780
 electromigration, meas. using resistometric technique 4-39617
 electron and gamma irradi., void form., dislocation struct., electron microscopy (*Russian*) 4-24869
 electron scattering, Monte Carlo simulation 4-7289
 electron stopping power, 1 to 10 keV 4-11206
 electron transport calc., two discrete ordinates methods comparison 4-37742
 electronic absorption coeff. for ⁵⁷Co 14.4 keV X-rays 4-54573
 erosion by flyash particles, temp. depend. 4-30829
 etching, by HF discharge plasma, spectrosc. investig. 4-12256
 etching and passivation under AC conditions, influence of temp. 4-57490
 fatigue, high temp., low cycle, grain boundary migration, microstruct. obs. 4-12141
 fatigue, high temp., low cycle, grain boundary migration meas. 4-12142
 fatigue, high temp., orthogonal grain config., expt. invest. 4-7548
 fatigued, US absorpt. and testing (*French*) 4-51796
 FCC, defect trapping by ¹⁰⁰Pd, PAC meas. 4-34526
 filled epoxies, dielec. props., elec. susceptibilities 4-40380
 film, appl. of high rate magnetron sputtering cathode for deposition 4-16313
 film, form birefr. anisotropic microstruct. contrib. to polarisation effect 4-11952
 film, granular, electron inelastic lifetime, electron-electron attraction strength, magnetoresist. 4-2661
 film, laser evaporation, laser-evaporation instability 4-29475
 film, microwave irradi. influence on EM field absorpt. 4-11636
 film, spectral reflectance meas. attachment for commercial spectrophotometer 4-22827
 flat sheet, anal. of biaxial stretching 4-40911
 flow stress, press. depend., dislocation motion 4-51729
 foil, cathodolum. simple collectors in SEM 4-17036
 foil, Fe ions collisions, charge state distrib., microscopic anal. 4-19194
 foil, K edge EXAFS spectra 4-7280
 fracture as a result of stretching (*Russian*) 4-6435
 grain boundary splitting and grain boundary dislocation motion (*Russian*) 4-34501
 graphite fibre reinforced composite wires, NDT of voids using X- or γ-rays 4-30898
 graphite fibre reinforced wires, nondestructive evaluation by US vel. and attenuation 4-30900
 graphite fibre reinforced wires, nondestructive evaluation of thermal cycling, US torsional vel. obs. 4-30899
 hermetic coated optical fibre, spectral loss charact. at high temp. 4-24232
 high purity, plastic props., effect of grain vol. distrib. 4-30779
 hot expanded liquid, vol., enthalpy, temp. and elec. resist. 4-45707
 immunity effect on natural and radiation induced coloration of quartz 4-30534
 inner-shell electron excitation loss, signal/background ratio, scatt. angle depend., EELS 4-51426
 interatomic potentials, derivation from data obtained from first principles calcs. 4-55785
 internal friction, dynamic modulus meas., dislocation segment distrib. effects 4-50304
 internal friction, microdeformation meas., dislocation motion (*French*) 4-50432
 internal friction and dislocation interactions (*French*) 4-50421
 internal friction peaks at high temp., inverted flexure pendulum meas. 4-55919
 internal friction peaks connected with grain boundary sliding 4-50433
 ion beam irradi., mech. and relax. testings (*Russian*) 4-26128
 ion induced Auger emission and work function 4-46380
 ion-bombardment induced photon emission, angle of incidence depend. 4-35495
 K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 laser generated US waves, freq. spectrum 4-33892
 laser heating, vaporisation and effect on vapour (*Russian*) 4-34541
 laser produced plasma obs. 4-55572
 laser-plasma interaction simulation, two temp. eqns. of state 4-55617
 layer thickness estimation using glancing inclined X-ray beams 4-42919
 liquid, density-functional theory of surface tension 4-6628
 liquid, elec. resist., Harrison's first principle method, eigenvalue choice 4-2581
 liquid, Helmholtz free energy, variational calc. 4-55702
 liquid, solubility of Ti and B (*French*) 4-29634
 liquid, struct. and elec. resist., self-consistent calc. 4-44927
 liquid, struct. and viscosity, mag. field influence 4-29664
 liquid, thermodynamics, liq. theory approx. methods 4-20077
 liquid, wetting and contact reactions with nonmetallic materials 4-50614
 liquid surface, instability under intense IR radiation 4-20249
 locally averaged Compton profile 4-11959
 low-energy electron elastic multiple scatt. 4-50386
 mechanical properties at elevated temperatures, A8 and A85 4-3192
 mechanical stability and theoretical tensile strength under hydrostatic loading (*Chinese*) 4-3174
 mechanical stability in presence of tensile and compressive stresses, ideal strength 4-6725
 metallisation, improved lift-off process using chem. etch formulation 4-12257
 metallisation deposition by UV laser photolysis 4-12032
 microdot targets, laser-irradiated, spectral emissions at 0.53, 0.27 μm 4-44862
 microplasticity, internal friction meas. (*French*) 4-51915

aluminium continued

- microwave ion source for high current metal beams 4-43732
muon spin resonance and muon tapping 4-46167
nonlinear Bordonì relax. and internal stresses (*French*) 4-50430
orientation depend. of special grain boundary energy 4-2217
oxidation, form. of Al_2O_3 , amorphous to cryst. transform. 4-57488
oxidised, effective phase factors for extended absorption fine struct. meas. 4-7279
passivity breakdown and localised corrosion, electrochem. noise meas. 4-57434
photostimulated exoelectron emission from scratched surfaces 4-25857
pitting corrosion mechanism (*German*) 4-41057
planar stress wave, dislocation dynamics and viscosity effects 4-2267
plasma, prod., line radiation ang. depend. 4-55643
plasma, prod. by laser beam, ablation and lateral energy transport 4-1952
plastic deform. under active load (*Russian*) 4-24903
plastic flow, Cottrell-Stokes relation, re-exam. based on precise activation vol. meas. 4-6423
point defect clusters at twin boundary 4-24805
point defects produced by cold working, Mossbauer spectroscopy and PAC study 4-35260
polycrystal under cyclic tension-compression loading, initial strain field and fatigue crack initiation mech. 4-3258
polycrystalline, Ar^+ ion bombard., secondary electron ang. distrib. 4-51441
polycrystalline film, temp. coeff. of resist., three layer model anal. 4-15967
polycrystalline targets, elastically reflected electrons, spatial distrib. 4-25838
positron annihilation meas., 85 mK to 300K 4-21064
positron surface-state lifetime meas. 4-57028
proton stopping resulting in time-resolved acoustic pulse generation 4-34584
pseudopotential theory of effective interaction 4-2289
pure, chill-cast, meniscus solidification and surface quality 4-51647
pure, cyclic creep accel., temp. and stress depend. 4-3184
quenched, photostimulated exoelectron emission 4-7324
reactor neutron activation anal. in presence of P and Si 4-41284
reinforced with B fibre, internal friction study 4-39395
relative energy dissipated during fatigue testing (*French*) 4-51795
ring fragmentation by EM loading 4-35791
rolled plates, acoustic stress measurements, texture and thickness effects 4-51943
rolled plates, stress analysis, scanned shear wave meas. 4-35837
rolled sheet, anisotropic, Young's modulus, rigidity modulus and Poisson's ratio 4-7500
sample with thin oil layer, internal friction, plastic deformation effects 4-40874
screening of hole final states in X-ray emission 4-2996
secondary electron energy spectra emitted by ^{60}Co γ -radiation 4-35546
sheet, adhesive joints, characterisation of oxide layers (*German*) 4-16542
simulated joint specimens, acoustic emission data, pattern recognition anal. 4-30888
slow solidification of a cylinder with constant heat efflux 4-50469
solar collectors, social effectiveness (*Czech*) 4-7817
solar emission lines near 12 microns, identification 4-17477
solubility of H under high press., thermodynamics 4-20367
spray deposited, emissivities, calorimetric method study 4-27526
sputtered films, electromigration of films, multilayers and alloys 4-2385
sputtering, at. excitation 4-11998
sputtering yields, meas. using thin C catcher foils 4-51437
steel fibre reinforced Al, composite prep. by vacuum infiltration technique, interface stability 4-3107
strain ageing, dislocation struct., US vel. obs. 4-51701
strain hardening curve and ultimate uniform strain (*Chinese*) 4-16409
strain rate sensitivity, role of dislocation loop and point defect recovery 4-21269
stress and strain distrib. during high axial compression, quantitative determ. using ruby particles 4-7686
stress relaxation, effect of electron irradi. 4-55874
stress relaxation in single crystals 4-40882
structure phase transition, use of analytic interatomic pair pot. 4-29384
substrates, surface finish and microstruct., theoretical considerations 4-29737
superconducting film, energy gap and crit. current, phonon-induced enhancement 4-20765
superconducting film, thermoelectrically induced charge imbalance 4-6928
superconducting state parameters pseudopotential depend. 4-45906
superconducting strips, microwave-enhanced critical currents 4-45971
superconducting strips, phase slip centres, energy gap and electrochem. pot. study 4-15989
superconductor/insulator/supercond. junctions, tunnelling under microwave irradi. 4-30121
surface, (110), oscill. relax., LEED meas. 4-29740
surface, adsorbed CO bonding, mol. orbital cluster model anal. 4-20477
surface, adsorbed O^- , laser induced surface migration 4-50625
surface, electron and ion excitation, Auger effect 4-11973
surface, epoxy resin adsorption, binding energies, XPS study 4-34778
surface, heavy ion bombardment, secondary ion emission 4-11991
surface, high temp. selective, lower emissivity limits 4-3477
surface, Li segregation quantitative study by high energy ion recoil spectrometry 4-46816
surface, Ne^+ collisions, autoionisation state form. 4-25844
surface, Ni ion impact, convoy electron prod. and total electron yield 4-11201
surface, thermal coupling and plasma-induced surface damage mechanisms 4-55870
surface (001), medium energy electron diff. study 4-20445
surface (001), surface state resonance in LEED and its relation to CID pattern 4-25412
surface (111), Ce ordered layers, excitonic transitions, EELS 4-45487
surface condition influence on air plasma form. due to microsec. CO_2 -TEA laser pulse irradi. 4-49921
surface layer enrichment by Cs implantation (*Chinese*) 4-34757
surface relax., plasmons, EELS study 4-16279
surface treatment by corona discharge, preparation for adhesive bonding 4-16548
surfaces, opt. props. after surface treatments (*Russian*) 4-7146

aluminium continued

- target, accel. with 350 nm laser pulses, lateral energy transfer effect on vel. uniformity (*French*) 4-38977
tensile deformation, acoustic emission response (*Slovak*) 4-46570
tensile testing, heat treatment and prestrain effects, ductility indices 4-25991
thermal cond. deviation from Matthiessen's rule 4-39876
thermal wave nondestructive depth profiling with stereoscopic photothermal detection 4-46690
thick-film laser targets, density meas. 4-4497
thin film, elastic moduli and thermal expansion coeff. 4-50400
thin film, inelastic electron scatt., superconductivity 4-45946
thin film, on Si, thickness meas. with thermal waves 4-42922
thin film, Thomas-Fermi impurity potential 4-25273
thin films, α -particle stopping power meas. 4-50385
thin films, heat treatment effect on intrinsic stress 4-51696
thin films on Si substrates, thermal-wave detection and thin-film thickness meas. with laser beam deflection 4-232
thin metallic markers redistribution under ion bombardment 4-51429
thin tunnel junctions, light irradi., nonequilib. superconductivity 4-45937
transmission ESR studies 4-46109
tubes, splitting, long stroke energy dissipation 4-5818
tubing, remote field eddy current inspection technique 4-51918
twist boundaries, energy and struct., effect of interatomic pot. 4-39310
ultrafine-grained, high purity, struct. and props., effect of annealing temp. 4-16425
voids, positron annihilation, two-dimensional ang. correl. studies 4-46356
X-ray absorption spectra, K and L, APW band struct. calc. 4-2994
Al I, 3s 3p 4p configurations, Slater-Condon theory 4-14320
Al, ion vapour deposition 4-51546
Al, metal-jets produced by conical free surface collapse by plane shock wave 4-2269
Al, thick layers, electron transmission, EELS 4-51423
Al XI and XII, laser produced plasma, two-electron dielectronic satellites, X-ray spectra 4-6187
 Al^{10+} , doubly excited, transitions between quartet levels 4-5339
 Al^{3+} adsorption on TiO_2 surface, ^{27}Al NMR study 4-2426
 Al^{1+} , radial Sternheimer shielding-antishielding factors 4-43821
 Al/Fe , interstitial trapping following excimer laser annealing 4-45123
 $\text{Al}/\text{Al}_2\text{O}_3/\text{GaAs}$ MIS capacitor, current-voltage and capacitance-voltage characts. 4-45882
 $\text{Al}/\text{Al}_2\text{O}_3/\text{Pb}$ inelastic electron tunnelling junctions, conductance changes during infusion doping 4-50953
 Al/CdS contacts, ohmic character monitoring by one-probe technique 4-32272
 Al/Cu conductors for ICs, electromigration induced extrusion, acoustic emission study 4-50593
 Al/GaAs (110) struct., interface states, Schottky capacitance spectra studies 4-15929
 Al/GaAs interface reaction, XPS studies (*Chinese*) 4-50647
 $\text{Al}/\text{Ni}(\text{Pd})(\text{Pt})$, bilayers, phase formation by ion beam mixing and thermal annealing 4-11194
 $\text{Al}/\text{octaethylporphyrin}/\text{Ag}$ film sandwich cells, UV electroluminescence study 4-21041
 $\text{Al}/\text{oxide}/\text{Al}$ supercond. tunnel junctions, tunnelling in pair-breaking microwave field 4-45940
 $\text{Al}/\text{oxide}/\text{metal}$ tunnelling junctions, Al-H bond form. and vibr. 4-45898
 Al/Si thin film couples, grain boundary interdiffusion and surface cpd. form. 4-15721
 Al/Si multilayers, atomic mixing influence on SIMS depth profiling 4-45467
 $\text{Al}/\text{SiO}_2/\text{p-Si}$ MIS tunnel diode, solar cell operation, model (*Polish*) 4-12473
 $\text{Al}/\text{SiO}_2/\text{p-Si}$ tunnel diodes, I-V characts., semicond. barrier tunnelling effects 4-6898
 $\text{Al}/\text{SnO}_2\text{-Sb}_2\text{O}_3/\text{Al}$ mixed oxide sandwich struct., elec. props. 4-50950
 $\text{Al}/\text{Ta}_2\text{O}_5/\text{Si}$ MIS capacitors, elec. props. 4-15964
 $\text{Al}/\text{TiN}/\text{NiSi}$, contacts, TiN diffusion barrier 4-50952
 Al/W and Al/Ti thin film reactions, Cu impurity effects, glancing-angle X-ray diffr. and Rutherford backscatt. study 4-20414
 $\text{Al-Al}_2\text{O}_3$, grain growth study 4-16407
 $\text{Al-Al}_2\text{O}_3/\text{Ag}$ MIM tunnel diodes, radiation from surface plasma waves (*French*) 4-40074
 $\text{Al-Al}_2\text{O}_3/\text{Al}$ struct., influence of electrode metal on negative differential resistance (*French*) 4-35088
 $\text{Al-Al}_2\text{O}_3/\text{GaAs}$ MOS diodes, capacitance-voltage characts. (*Japanese*) 4-56436
 $\text{Al-Al}_2\text{O}_3/\text{Mg}(\text{Ag})$ structures, investigation of visible emitted radiation 4-11602
 $\text{Al-Al}_2\text{O}_3/\text{Pb}$ supercond. junction, electron-phonon interaction function, numerical anal. from expt. data 4-11639
 $\text{Al-Al}_2\text{O}_3/\text{SiO}_2/\text{Si}$ structure, identification of charge carrier type 4-56443
 $\text{Al-Al}_2\text{O}_3/\text{Te}$ capacitors, surface states and capacitance-voltage curves 4-50940
 $\text{Al-Al}_2\text{O}_3/\text{metal}$ struct., influence of electrode metal on negative differential resistance (*French*) 4-35088
 $\text{Al-Al}_2\text{O}_3/\text{metal}$ tunnel junctions, light emission, role of multiple scatt. of surface polaritons 4-7250
 $\text{Al-Al}_2\text{O}_3/\text{Pb-Co}^{2+}(\text{Ni}^{2+})$, MIM junction, EPR study 4-46096
 $\text{Al-CeO}_2/\text{Si}$ MIS struct., cond. switching with memory 4-50936
 Al-GaAs , MBE, growth mechanisms, electron diff., AES, EELS studies 4-20525
 Al-GaAs (001) interface, growth processes 4-20417
 Al-GaAs (110) interface, reson. photoemission 4-30599
 Al-H frozen films, metal-nonmetal transition and superconductivity 4-35113
 Al-H system, muffin-tin Green's function theory of H defects 4-45675
 Al-InP interface and Schottky diodes formation (*French*) 4-56430
 Al-O system, electron bombardment effects on AES spectra (*French*) 4-50364
 Al-oxide-Sn junctions, W doped at Al-oxide interface, cond. meas. 4-11601
 Al-phthalocyanine Schottky barrier cells, photovoltaic action spectra 4-11556
 $\text{Al-poly(3-methylthiophene)-Au}$, electrochemically grown polymer film cell props. 4-40077
 $\text{Al-polythiophene-Au}$, electrochemically grown polymer film cell props. 4-40077
 $\text{Al-Sb}_2\text{O}_3/\text{Al}$ MIM struct., I-V characts., elec. breakdown studies 4-11600

aluminium continued

- Al-Si, contacts, elec. and energy struct. props. 4-35070
 Al-Si, low temp. surface Si segregation, AES study 4-6636
 Al-Si interfaces, metal adsorption, chem. bonding states, AES with MBE technique studies 4-21078
 Al-Si thin film diffusion couples, effects of different solute element addition on Si diffusion 4-56088
 Al-Si₃N₄-SiO₂-Si MNOS struct., injection props. of contacts, degradation effects 4-50938
 Al-Si₃N₄-GaAs MIS struct., characterisation using capacitance method (French) 4-35073
 Al-Si-Ti metallisation, sputtered, for VLSI circuits, characterisation and props. 4-40925
 Al-SiO₂-InP MOS diodes, capacitance-voltage characts. (Japanese) 4-56436
 Al-SiO₂-Si, MOS capacitor, hole traps optical generation in thermal oxide, electron irradiation effects 4-50929
 Al-SiO₂-Si MIS structures, transient charging of insulator, DLTCs study 4-56434
 Al-SiO₂-Si MOS struct., elec. characts., effect of Al gate deposition process (Russian) 4-40059
 Al-SiO₂-Si structure, p-n junction formation in Si by Al electromigration through SiO₂ 4-30081
 Al-SiO₂-Si structures, trap generation and electron detrapping in SiO₂ during high-field stressing 4-40053
 Al-SiO₂-Si MIS tunnel junction, anal. model, current flow, device appls. 4-50928
 Al-ZnS-Mn-Cu₂S-ZnS-SnO_x thin film structures, electrolum., short pulse excitation 4-30551
 Al+F₂, crossed beam collisions, AlF(a²π) vibr. distrib. 4-12342
 Al+methane, C-H insertion reaction, activation barriers, semiempirical calcs. 4-51962
 Al⁺+Ar, L-X-ray spectrum, 25 vacancy prod., fluoresc. yield 4-19197
 Al₂O₃ fibre reinforced composite, nondestructive inspection and evaluation 4-30902
 Al₂O₃-Al interface, Auger depth profile 4-57048
²⁶Al, abundance meas. using accelerator mass 4-57614
²⁶Al detection using CW laser radiation producing selective initial state enrichment 4-19293
²⁷Al 5p²P_{1/2} level, hyperfine structure 4-49175
 Au-Al thin step-shaped couple, growth rates of diffusionally formed Au₂Al, spectral refl. 4-46343
 B fibre reinforced Al, physico-chem. interaction 4-57275
 Bi₂GeO₂₀-Al, holographic recording 4-49306
 Bi₂SiO₂₀-Al, holographic recording 4-49306
 C fibre reinforced Al matrix composites, prod. methods 4-7400
 CdS:Al film based photoelectrochemical cells, stability studies 4-52170
 CdS:Al film photoelectrochemical cell, doping effects 4-16790
 CdTe:Al crystal, EPR study 4-46103
 CdTe:Al epitaxial layers, LPE growth and doping characts. 4-34820
 Cu/Al and Pt/Cu/Al thin films, interfacial reactions, O₂ effects 4-39611
 Cu/Al thin film bilayers, interdiffusion and sequential cpd. form. 4-29707
 Cu/Al thin film bilayers, W interdiffusion marker during sequential cpd. form. 4-29708
 Fe-Al multilayers, ion beam mixing, elec. resist. study 4-34549
 Fe-Al vac. deposited multilayers, mixing by laser pulse or ion implantation 4-15722
 GaAs-Al, correl. between prep. method, barrier height and interface states (French) 4-6888
 GaAs-Al interface, reson. excitation of IR surface second harmonic 4-10373
 GaAs-Al Schottky diode, effect of interfacial layer doped with opposite type impurities (Chinese) 4-40016
 Ge:Al, kinetics of decomposition, with separation, retrograde scheme 4-47231
 Ge/sapphire/metal MIS structures, internal photoemission 4-25454
 H diffusion in Al 4-11347
 InP-Al₂O₃-Al structure, drift phenomena and barrier height from photoemission (French) 4-25450
 Li₃N:Al, ionic cond. and defect migration 4-25085
 Na₃AlF₆-Al₂O₃-Al system, vapor press. over melt 4-11260
 NaF:Al³⁺, point defects, ²³Na double NMR study 4-11800
 Nb-Zr/Al/Al₂O₃ proximity layers, tunnelling characts. 4-11643
 NbTi/Al thin superconducting solenoid for particle spectrometer, design study 4-48863
 NbTi/Cu/Al thin supercond. solenoid, internal winding, for colliding beam detectors 4-48879
 Ni-Cr fibre reinforced Al, composite prep. by vacuum infiltration technique, interface stability 4-3107
 PLZT:Al, photoferroelectric sensitivity enhancement by thermal diffusion and ion implantation 4-34728
 Se/Al struct., elec. switching phenomena (Russian) 4-45880
 Si, Al covered, multiple-energy He⁺ irradiation, surface deform. and gas escape process 4-29485
 Si, polycrystalline, solar cells, grain boundary and intragrain Al diffusion 4-46875
 Si:Al, ion implanted, diffusion under semi-continuous laser annealing (French) 4-15700
 Si:Al film on sapphire, recrystallised, electrically active impurity neutralisation 4-50964
 Si:Al(Ga), effect of O₂ from vapour phase on doping 4-56082
 p⁺-Si/B/Al Ohmic contacts on ion implanted shallow Si layers, formation by halogen lamp annealing 4-15960
 Si:Cu(Al), laser implantation of impurities 4-15505
 Si/SiO₂/Al MOS system, interface state electron capture cross-section, DLTS studies 4-35075
 Si/TaSi₂(WSi₂) polycide structures, interfacial Al electromigration 4-39616
 Si-Al contacts, interdiffusion reduction by improved surface ordering 4-39610
 Si-Al contacts formed by ion implantation and post annealing 4-30069
 Si-SiO₂ interface, fixed charge density, backend Al metallisation effects 4-11598
 SiC:Al, 6H polytype, CVD epitaxial growth, Al doping using metalorganics 4-30644
 VO₂:Al, low freq. dielectric relax. meas. 4-46177
 Yb-Al (110) interface, electron spectroscopy study 4-56155
 ZnS:Al, Al₂Se₃-V₂Se₃ pairs, IR absorption studies 4-55825
 ZnS:Al film, amorphous, low resist., optical and elec. props. 4-40514

aluminium continued

- ZnS:Te:Al, Te doping and implantation, cathodoluminescence study 4-45162
 ZnSe:Al, MOS struct., bistable conduction state 4-40069
 Zn₂SiO₄:Al, photolum. meas. 4-35476
- aluminium alloys**
 see also aluminium compounds
 age-hardenable, high resolution microstructural and microanalytical characterizations 4-51668
 anodized, H₂PO₄, relation between film microhardness and metallic coating adhesion 4-3291
 aramid fibre reinforced Al alloy laminate, flight simulation behaviour, fatigue crack growth 4-12282
 compilation of compositions, designations, trade names, book 4-47781
 corrosion fatigue strength in various media 4-21396
 corrosion in Ca(OH)₂ solution (Japanese) 4-41074
 corrosion in hypersaline geothermal brine 4-7655
 corrosion protective coatings on Ni alloy blades, thermal shock resistance 4-12262
 crack growth rate prediction, under combined fatigue and creep 4-46674
 crack growth resistance using DCB specimens 4-44508
 critical recrystallisation, original struct. influence, alloy AK4-1 4-57249
 cryogenic tensile properties of 7010 alloy 4-30751
 cyclic fracture toughness 4-51810
 cylinders and frusta, thin-walled circular, quasistatic crumpling under axial compression 4-5821
 deformation, gel electrode imaging 4-21412
 devitroceramic fibre reinforced Al alloys, prod. scale squeeze casting and mech. props. 4-30667
 dilute, thermopower at elevated temps. 4-45751
 dilute alloy, electronic struct. calcs. 4-2505
 dilute alloys, elec. field gradients, ¹¹¹In PAC study 4-34929
 dilute alloys, residual resistivity, charge transfer and band effects 4-2586
 elastic-plastic toughness testing, onset of stable crack growth, US obs. (Japanese) 4-21404
 erosion by normal impact of ang. erodent particle jet, morphological obs. 4-35736
 extruded panels of D16chT, residual strength of built-up one-piece structures 4-51806
 fatigue, variation of crack rate scatter in 7XXX alloys 4-3215
 fatigue crack growth, near-threshold 4-12140
 fatigue crack growth curves, self-simulation conditions 4-26058
 fatigue induced changes in surface residual stress 4-3241
 fatigue measurement and imaging, electrochem. method 4-35824
 fatigue-life prediction, improved by acoustic emission 4-12279
 fractographic analysis of fatigue crack propagation by modulated pattern method (Japanese) 4-51913
 fracture toughness and failure under plane strain, screening of excess phases 4-26060
 graphite particle reinforced Al-Si composite, deform. of graphite during hot extrusion 4-40905
 heat-resistant wrought alloys 4-57295
 laser-induced phase transition, US excitation 4-29473
 load relaxation in type HE30TB, comments and authors' reply 4-12109
 mechanical characts. at low temps., preliminary elastoplastic cyclic deform. influence 4-30776
 plate, fretting acoustic emission, source identification by pattern recognition 4-26169
 plates containing defects, elastic-plastic stress-strain field meas. (Chinese) 4-49785
 powder metallurgy, developments and appl. 4-51574
 rare earth alloys, RCo₃-M₂, M=Ni, Cu, Al, Si, mag. props. 4-7017
 rare earth alloys, RFe₂Al₃, R=Y, Sm to Lu, ferromagnetism and hyperfine studies 4-7010
 rare earth binary alloys, R₁-R₂Al₂, high temp. spin disorder resist., CPA calc. 4-29947
 rare earth metallic glasses, R-Al, thermal stability, mag. and elec. props. 4-45727
 rare earth trialuminides, polytypism identification by electron microscopy 4-39214
 residual strength test results treatment, fracture mechanics methods appls. 4-26146
 residual stress intensity factor, ageing temp. depend. (Chinese) 4-57310
 sheet, localised necking at negative minor strains 4-40913
 shell, cylindrical, impact against a rigid barrier 4-55381
 stable crack extension measurement, using elec. pot. method 4-49778
 steel, austenitic, Fe-Mn-Al, cryogenic structural materials appl. 4-51720
 steel fibre reinforced Al alloy, effect of surface treatment of fibre (Korean) 4-57141
 Ti-Al-V, microstructure, standard scales and classification 4-51623
 transient creep, uniaxial and biaxial, constitutive eqns. 4-16463
 transition metal-Al alloys, K-edge X-ray fine struct. smoothing 4-46367
 tribological coatings, ion plating process 4-46454
 tube, stress responses to proportional and alternate axial and shear strain paths 4-25994
 tubes, cylindrical, axial collapse classification under quasistatic loading 4-5820
 US shock treatment, struct. changes 4-41091
⁶Ti6Al4V alloy for steam turbine blades, microstructure and texture testing 4-46542
 Ag plated Al alloy, elec. contact resist. rel. to surface roughness 4-56416
 Ag-Al (10 at.%), μ phase precip., vacancy enhancement 4-57233
 α-Ag-Al (3.5-15.5 at.%), short-range order kinetics, resistometric study 4-12090
 Ag-Al alloys, solid-soln. hardening, stress-equivalence 4-30710
 Ag-Al (10 at.%), μ-phase precip. vacancy enhancement 4-30701
 AgAl two phase alloy, short range ordering and annealing, elec. cond. studies 4-34660
 Al brass, beta and martensitic, corrosion behaviour, Al effect 4-57460
 Al brasses, β- and martensitic, corrosion behaviour 4-35767
 Al bronze, commercial, superplastic behaviour (Japanese) 4-35666
 Al-(Mg)-(Cu)-(Zn)-Ti, dendrite liquation of Ti 4-57209
 Al-Al₃ dil., positron annihilation Doppler-broadened lineshapes, thermal equilb. meas 4-57027
 Al-Al₃ Portevin-Le Chatelier effects, influence of heat treatment 4-12103
 Al-Ag-Sn solid solution, interdiffusion at 832K 4-56098
 Al-Al-Zn, unmixing kinetics, nucleation and spinodal decomposition models 4-39524

aluminium alloys continued

- Al-Ag(Si), interface composition variation around a dissolving precipitate 4-39521
 Al-Al₃Cu lamellar composites, deformation mechanism, plastic anisotropy (French) 4-40924
 Al-Al₃Cu strips of regular eutectic comps., growth and microstruct. 4-25950
 Al-Al₂O₃ oxide dispersion strengthened, high temp. strength 4-40889
 Al-Al₂O₃-MgO cast particle composite, fracture ductility, SEM obs. 4-21299
 Al-Al₃Ni strips of regular eutectic comps., growth and microstruct. 4-25950
 Al-Al₃Ti system Z 4-51652
 Al-As-Te glass system, elec. switching phenomena 4-6843
 Al-Ba(Sr)-Sm, phase equilib. 4-30689
 Al-base binary phase diagram, interaction parameters 4-24964
 Al-based alloys, internal friction assoc. with precip. and recrystallisation 4-40848
 Al-Ca liquid alloy, wetting of graphite, Al₂O₃ and SiO₂ substrates (Japanese) 4-25120
 Al-Cr, dil., precipitation rel. to recrystn. behaviour, internal friction and dynamic elastic moduli meas. 4-40794
 Al-Cr rapidly crystallised and extruded alloys, struct. and mech. props. (Russian) 4-25964
 Al-Cu, 2011, microstruct. charact. using DSC 4-30870
 Al-Cu, 2219, rel. between microstruct., hardness and elec. cond. 4-7550
 Al-Cu, 2219, thermal history, hardness, NDE by elec. cond. 4-30916
 Al-Cu, ageing, effect on struct. and props. 4-57266
 Al-Cu, dil., rapid solidification, STEM study of featureless zone 4-40765
 Al-Cu, fatigue crack growth, micromechanisms 4-30790
 Al-Cu, fatigue resist. during HF programmed and random loading 4-7578
 Al-Cu, high strength, creep crack growth, study using computerised testing system 4-40964
 Al-Cu, hypoeutectic alloys, directional solidification, dendrite morphology 4-51648
 Al-Cu, ledge struct. and θ' precipitate growth 4-40801
 Al-Cu, low temp. internal friction peak mechanisms 4-50425
 Al-Cu, metastable, soft X-ray emission spectra, effect of heat treatment 4-7282
 Al-Cu, Mg, 2024, residually stressed, fatigue strength rel. to preload 4-35676
 Al-Cu, N-heterocyclic cpds. as corrosion inhibitors in HCl 4-21357
 Al-Cu, partly coherent precipitate growth, departure from coherence effects (Russian) 4-50516
 Al-Cu, precip. hardening process, study using sound wave vel. rel. and US attenuation 4-21230
 Al-Cu, single crystals, containing θ' precip., cyclic deform., orientation and history depend. 4-12102
 Al-Cu, solidification zero gravity, Cu distrib. in grains 4-57204
 Al-Cu, stress-strain behaviour, micromechanical theory prediction 4-30762
 Al-Cu, θ' phase formation, DSC obs. quench sensitivity 4-40799
 Al-Cu, θ' precip. mechanism on climbing dislocations 4-12074
 Al-Cu, unidirectional solidification, solid-liq. interfacial stability, influence centrifugal forces 4-16383
 Al-Cu, unidirectionally solidified ingots, inverse segregation 4-51653
 Al-Cu (1.7 at.%), single crystal, room temp. ageing, GP zone struct. 4-3146
 Al-Cu (1.7 at.%), solid soln., local atomic arrangements 4-21217
 Al-Cu (3 wt.%), elastic interaction of growth ledges on plate shaped precipitates 4-16404
 Al-Cu (3.3 wt.%), containing shearable precipitates, cyclic behaviour, effect of test interruption 4-57326
 Al-Cu (4 wt.%), cathodic protection in acid media, inhibitor effects 4-51859
 Al-Cu (4 wt.%), θ' plates, heights of ledges, determ. by electron diffraction and lattice plane imaging 4-57228
 Al-Cu (4.4 wt.%), powder composite, sintered, aged, soln. treated, microstructure, TEM obs., 4-25984
 Al-Cu (4.5 wt.%), powder, prodn. by rotating-water-atomisation process 4-16352
 Al-Cu alloy, directional solidification, effect of melt superheat (Chinese) 4-7442
 Al-Cu alloys, melting and solidification, BEALUCA space expt. (German) 4-57525
 Al-Cu alloys, US hardening 4-21231
 Al-Cu metallisation sputtered films, electromigration of films, multilayers and alloys 4-2385
 Al-Cu powders, compaction, die wall an internal lubrication rel. to mech. strength 4-30665
 Al-Cu semiproducts, hardening 4-57267
 Al-Cu sputtered thin films, electromigration, metallisation lifetime monitoring technique 4-11351
 Al-Cu system, dissoln. of θ -CuAl₂, shape changes 4-57234
 Al-Cu system, rapidly quenched, phase comp. and struct. (German, English) 4-7427
 Al-Cu thin film conductors, grain growth as result of rapid annealing, semicond. technological appls. 4-40821
 Al-Cu thin films, W marker motion during sequential cpd. form., Rutherford backscattering spectra 4-15714
 Al-Cu-Ag system, phase diagram, thermal analysis of liquidus (Chinese) 4-3122
 Al-Cu-Li, nonlinear fatigue crack growth, deflection model 4-16494
 Al-Cu-Li, recrystallised 2020, fracture rel. to intermetallic particles 4-21315
 Al-Cu-Mg, 2024, cumulative fatigue damage and fatigue life 4-46620
 Al-Cu-Mg, 2024, elasto-plastic work hardening 4-30764
 Al-Cu-Mg, ageing mechanism, TEM, electron microdiffraction obs. (Russian) 4-25977
 Al-Cu-Mg, Al-Zn-Mg-Cu, dynamic fracture toughness by split Hopkinson bar technique (Japanese) 4-26135
 Al-Cu-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
 Al-Cu-Mg, chem. comp. optimisation 4-57239
 Al-Cu-Mg, D16T, block cyclic loading influence on deform. and strength character, plane stressed conditions 4-12125
 Al-Cu-Mg, fatigue crack initiation under programmed block loading 4-40941
 Al-Cu-Mg, fatigue crack propag. acoustic emission 4-21309

aluminium alloys continued

- Al-Cu-Mg, fatigue life, programmed loading, stresses beyond endurance limit 4-7583
 Al-Cu-Mg, fatigue strength improvement rel. to cold work induced residual stress (German) 4-40938
 Al-Cu-Mg, fracture, endurance prediction 4-51815
 Al-Cu-Mg, fracture toughness and strength, grain size influence 4-57330
 Al-Cu-Mg, heat-resistance, electroslag refined, hot workability and hot deform. 4-7494
 Al-Cu-Mg, hot rolling, secondary phase particles investigation (Rumanian) 4-30723
 Al-Cu-Mg, mech. props., effect of grain boundaries, new model (Slovak) 4-46568
 Al-Cu-Mg, partly coherent precipitate growth, departure from coherence effects (Russian) 4-50516
 Al-Cu-Mg, SCC vel. meas. under const. load and const. displacement 4-41043
 Al-Cu-Mg, spalling failure, -196-600°C 4-12181
 Al-Cu-Mg-Fe-Ni, elevated temp. mech. props. 4-57300
 Al-Cu-Mg-Mn, failure temperature conditions, effect on struct. and props. 4-40979
 Al-Cu-Mg-Mn-Zr, plates, mech. props., Zr effect 4-21285
 Al-Cu-Mg-Mu-Si-Fe, corrosion fatigue strength in various media 4-21396
 Al-Cu-Mg-Mu-Si-Fe, yielding and strength limiting states, block cycling effect 4-30772
 Al-Cu-Mg-Si forgings, struct. and props., Mg and Fe contents influence 4-57331
 Al-Cu-Mn, chill cast, overageing, heat resist., hardness, precipitation struct. (Japanese) 4-7487
 Al-Cu-Ni system, microstructure of Al-rich corner, phase diagram contours 4-16374
 Al-Cu-Si, flow stress rel. to deform. time (Japanese) 4-26006
 Al-Cu-Ti, SCC, strain rate sensitivity, effect of Ti additions 4-41037
 Al-Cu-WC, sintered, precip. and particle-hardening, combined effect 4-21186
 Al-CuAl₃, directionally solidified eutectic, effect of fluid flow 4-40767
 Al-CuAl₃, single eutectic grains, hot deform. in tension, role of phase boundaries 4-21263
 Al-Cu(Fe), phase equilib. between solid Al and liq. 4-30682
 Al-Cu(Ni)(Co) dil. alloys, extension of muffin-tin Green's function theory to defects 4-45674
 Al-Fe (0.005-0.04 wt.%), high purity, recrystn. textures, influence of Fe content and annealing temp. 4-21232
 Al-Fe (0.6 wt.%), cold drawn wire, dynamic recrystallisation 4-12079
 Al-Fe-Mn, dissolution in HNO₃, inhibitive efficiency of benzoic acid 4-41048
 Al-Fe-Mn, ternary system, phase equilib., crit. review 4-40747
 Al-Fe-Si, recrystn. texture, influence of Si additions 4-25973
 Al-Fe(cu), impurity mobility of Fe and Cu, RBS study 4-45381
 Al-Ge, dil., positron annihilation Doppler-broadened lineshapes, thermal equilib. meas 4-57027
 Al-Ge, metastable phase equil., calc. of T₀ curves in connection with rapid solidification 4-57206
 Al-Ge (1.9 wt.%), precipitate dissoln. during 200 keV Al⁺ irradiation 4-29486
 Al-Ge evaporated films, percolation of liquid eutectic 4-29945
 Al-He, lateral variation of He implantation using proton backscattering 4-45172
 Al-Hf-Al₃Hf, lattice parameter variation, dispersion hardening characts. 4-1043
 Al-In (17.5 wt.%), unidirectional solidification struct. rel. to growth rate and temp. gradients (Japanese) 4-35619
 Al-In (17.5 wt.%), unidirectional solidification, monotectic struct. (Japanese) 4-35620
 Al-Li, δ - δ' transform., STEM study 4-12065
 Al-Li, rapidly solidified, deform. rel. to second phase dispersoids 4-7524
 Al-Li (1.8 wt.%), precipitation kinetics during ageing (Russian) 4-7467
 Al-Mg, 5083-O, stable crack growth, fractographic approach (Japanese) 4-57322
 Al-Mg, acoustic emission during non-homogeneous flow 4-3197
 Al-Mg, dielec. breakdown during anodic ceramic films form. (Russian) 4-7122
 Al-Mg, fatigue crack propag., retardation due to tensile overload (Japanese) 4-51793
 Al-Mg, internal friction peaks rel. to microstruct. changes 4-40863
 Al-Mg, phase transitions and mechanical props., thermal cycling (Russian) 4-50491
 Al-Mg, spalling failure, -196-600°C 4-12181
 Al-Mg (10 wt.%), rapidly solidified powder, extrusion, microstruct. 4-30662
 Al-Mg (2 wt.%), cold-worked, internal friction peaks 4-35648
 Al-Mg (5.7 at.%), high temp. deform., internal stress rel. to dislocation density (Japanese) 4-35665
 Al-Mg (6 wt.%), sheet, struct. changes during warm-forming 4-46536
 Al-Mg (7 wt.%), dynamic recrystallisation after extrusion 4-12082
 Al-Mg (8 wt.%), deform. influence on precipitation kinetics (Russian) 4-57236
 Al-Mg alloy for reactor construction, radiation durability, verification (Russian) 4-18610
 Al-Mg alloy shells, elastic-plastic, cylindrical, failure under combined loading 4-44426
 Al-Mg and Al-Li, Mg, oxide film form. effect on corrosion cracking sensitivity 4-51893
 Al-Mg butt welded joints, A5083, fatigue fractography 4-3248
 Al-Mg dilute alloys, vacancy clustering process 4-39287
 Al-Mg/epoxy resin joints, locus of environmental crack growth 4-51878
 Al-Mg-Li, struct. and props., ageing effect 4-57298
 Al-Mg-Li-Zr, struct. and props., effect of cooling rate during crystn. 4-57299
 Al-Mg-Mn, superplastic flow mechanisms, quantitative evaluation 4-21266
 Al-Mg-Sc, homogenising 4-57268
 Al-Mg-Si, 6061, creep crack growth 4-40990
 Al-Mg-Si, 6061 plate, fatigue crack propag. near thickness interface 4-12160
 Al-Mg-Si, abrasive wear with fine diamond particles rel. to carbide surface hardening 4-46633
 Al-Mg-Si, acoustic emission during fatigue crack propag. 4-57312
 Al-Mg-Si, B₄C reinforced 6061, ageing reactions 4-40808

aluminium alloys continued

- Al-Mg-Si, peak aged, fatigue crack propag., dispersoid particles effect 4-21324
- Al-Mg-Si alloy plate, autogenous GTA welding, three-dimens. heat flow and solidification 4-16611
- Al-Mg-Zn-Cu, 7075-T651, SCC in various electrolytes, statistical treatment of data 4-16531
- Al-MgO, dispersion strengthened, qualitative fracture anal. (Slovak) 4-46600
- Al-Mg(Si), welded, solute segregation in 'white zones' 4-16406
- Al-Mn, dil., precipitation rel. to recrystn. behaviour, internal friction and dynamic elastic moduli meas. 4-40794
- Al-Mn, internal friction spectrum, plastic deform. effects 4-51719
- Al-Mn, stress relaxation, effect of electron irradi. 4-55874
- Al-Mn (1.3 wt.%), cathodic protection in acid media, inhibitor effects 4-51859
- Al-Mn-Mg (1.1 wt.%), Portevin-Le Chatelier effect, serration characts. 4-40907
- Al-Mn-Mg (1.1 wt.%), Portevin-Le Chatelier effect, yield transition and strain rate sensitivity meas. 4-40908
- Al-Sc, decomp. features 4-57235
- Al-Si, A-Si3, spheroidizing by heat treatment of Si (French) 4-40822
- Al-Si, crystn. under pressure, struct. and mech. props. 4-3191
- Al-Si, dil., positron annihilation Doppler-broadened lineshapes, thermal equilb. meas 4-57027
- Al-Si, LM6, hollow plate shaped castings, solidification times in sand moulds 4-14871
- Al-Si, thermal cycling treatment, effect on struct. and props. 4-40840
- Al-Si (0 to 24 wt.%), struct. modification by alloying additions 4-57207
- Al-Si (11.5 wt.%), high temp. stress strain curve interpretation 4-40886
- Al-Si (1.3 wt.%), precipitation study 4-40802
- Al-Si alloys containing bimodal particle distrib., recrystn. 4-40811
- Al-Si diffusion coatings on medium C steel, effect on oxidation resist. 4-41089
- Al-Si eutectic, Sr modification, improvement of mech. props. 4-7426
- Al-Si eutectic alloys, morphology of (100)-textured Si crystallites, dendrites 4-51471
- Al-Si eutectic alloys, struct. mech. props., Sr microalloying effect (Rumanian) 4-35608
- Al-Si hypereutectic alloys, cutting with sintered diamond tool (Japanese) 4-41002
- Al-Si/Si interface, high resolution TEM study 4-20507
- Al-Si-Cu thin film conductors, grain growth as result of rapid annealing, semicond. technological appls. 4-40821
- Al-Si-Cu-Fe, heat treatment, mech. props. rel. to Fe content 4-3187
- Al-Si-Cu-Mg hypoeutectic cast alloy, Sr modification (Chinese) 4-7441
- Al-Si-Cu-Mg-Ni, hypereutectic, wear resist. 4-40993
- Al-Si-Ge, superconducting, I-V characts. (Chinese) 4-2687
- Al-Si-Mg-Fe, 6061, strain induced microstruct., US signal analysis 4-30913
- Al-Si-Na (12.5 wt.%), eutectic alloy, morphology rel. to Na addition (Chinese) 4-3121
- Al-Si-graphite particle composite, deform. of graphite during hot extrusion 4-40905
- Al-Si (0.5 wt.%), with brittle inclusions, fracture characts. (Russian) 4-51783
- Al-Ti, nucleation of Al by Al₃Ti particles 4-15415
- Al-Ti system, heterogeneous nucleation, role of lattice coherency 4-24765
- Al-Ti-Al₃Ti, lattice parameter variation, dispersion hardening characts. 4-11043
- Al-Ti-B system, phase relationships and grain refining of Al 4-40751
- Al-Ti-Al₃V, lattice parameter variation, dispersion hardening characts. 4-11043
- Al-Zn, damping capacity, influence of cold-working 4-7498
- Al-Zn, dil., solute diffusion and interaction with vacancies 4-34715
- Al-Zn, solid solns., creep behaviour, incorporate of Suzuki and Fisher interactions 4-7519
- Al-Zn, unmixing kinetics, nucleation and spinodal decomposition models 4-39524
- Al-Zn (11 wt.%), creep at intermediate temp., evolution of internal stresses and substruct. 4-57279
- Al-Zn (15 at.%), coherent spinodal curve temp., hardness meas., TEM studies 4-30700
- Al-Zn (5 wt.%), stress exponent and subgrain size, effect stress reductions 4-16446
- Al-Zn (8.5 wt.%) positron annihilation characts., temp. depend. 4-40563
- Al-Zn alloy, preprecipitation studies by positron Doppler broadening meas. 4-39523
- Al-Zn binary alloys, creep and self-diffusion 4-21281
- Al-Zn phase diagrams, differential scanning calorimetric obs. 4-25006
- Al-Zn-Ag (5.2, 1.5 at.%), precipitation, neutron small angle scatt. with isotopic contrast 4-3140
- Al-Zn-Mg, 7075, slow fatigue crack growth rel. to heat treatment, microstructure and humid environment 4-40973
- Al-Zn-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
- Al-Zn-Mg, high strength, shock loading, mech. props. 4-12182
- Al-Zn-Mg, math. eqn. relating low cycle fatigue data to fatigue crack propag. rates 4-29517
- Al-Zn-Mg, mixed-mode fatigue crack growth under biaxial loading 4-55372
- Al-Zn-Mg, polygonized struct. thermal stability, Mg effect 4-3149
- Al-Zn-Mg, powder consolidated extruded plate, microstruct., tensile props. 4-30663
- Al-Zn-Mg, powder metallurgy, near-threshold fatigue crack growth, crack closure effect 4-26026
- Al-Zn-Mg, prespalling stage of fracture, crack form. correl. with macroscopic props. 4-51817
- Al-Zn-Mg, shear band form., influence of press., struct. study 4-57278
- Al-Zn-Mg, static and dynamic SCC, influence of temp. (Japanese) 4-41078
- Al-Zn-Mg, welded, SCC mechanism 4-12221
- Al-Zn-Mg (4.6, 2.0 wt.%), intercrystn. corrosion and SCC in NaCl soln. (German) 4-51868
- Al-Zn-Mg (6.0, 2.6 wt.%), cold working, ageing, ductility, 4.2-293K 4-51748
- Al-Zn-Mg-Cr, commercial purity, precip. and microstruct. parameters, effect of trace Cr (Chinese) 4-7463
- Al-Zn-Mg-Cu, 7075, fatigue crack propag. in vacuum, effect of age-hardening 4-26024

aluminium alloys continued

- Al-Zn-Mg-Cu, 7075, microstruct. in peak-aged and overaged conditions 4-7490
- Al-Zn-Mg-Cu, 7075-T6, fatigue failure, prediction, crack initiation and propag. model 4-3259
- Al-Zn-Mg-Cu, Al-Mg, dynamic fracture toughness by instrumented charpy test 4-7671
- Al-Zn-Mg-Cu, anodic coating behaviour of X7091, SEM obs. 4-7639
- Al-Zn-Mg-Cu, fatigue crack growth, micromechanisms 4-30790
- Al-Zn-Mg-Cu, H embrittlement, effect of microstruct. and Cu content 4-26054
- Al-Zn-Mg-Cu, high strength, unworked fracture behaviour 4-30803
- Al-Zn-Mg-Cu, powder metallurgy alloy, constant amplitude fatigue life 4-12164
- Al-Zn-Mg-Cu, powder metallurgy alloy, fatigue crack tip mechanics in vacuum and humid air 4-40942
- Al-Zn-Mg-Cu, SCC susceptibility, influence of Zn, Mg and Cu conc. (German) 4-26110
- Al-Zn-Mg-Cu, US transmission, fatigue crack closure effect 4-26166
- Al-Zn-Mg-Cu based high-strength wrought alloys 4-57296
- Al-Zn-Mg-Cu plates, ingot struct. and props. influence on quality 4-57297
- Al-Zn-Mg, 7XXX series alloys, welding and SCC behaviour, review 4-12268
- Al-Zn-Si (12, 6 wt.%), kinetics of phase transitions after deformation by quenching 4-30750
- Al-Zn-Ti, SCC, strain rate sensitivity, effect of Ti additions 4-41037
- Al-Zn-based alloys, ageing, morphology and precipitation (Russian) 4-51699
- Al-Zn-(Mg), grain boundary region microstruct. after ageing at elevated temps. 4-2214
- Al-Zr-Al₃Zr, lattice parameter variation, dispersion hardening characts. 4-11043
- AlCr₂, order-disorder transition study (Russian) 4-6485
- AlFeSi particles in commercial purity Al, anal. 4-46496
- Al₃Ni-Al fibre matrix eutectic alloy, interphase boundary struct. 4-6667
- Al₃Ni-Al fibre matrix eutectic alloy, interphase boundary geometrical modelling 4-6668
- Al₃Zr growth morphology in slowly cooled melt 4-39182
- AuAl₃, optical characts. and colour (Russian) 4-51218
- B fibre reinforced Al-Mg, fatigue props., effect of fibre-matrix interface (Slovak) 4-46602
- B plastic reinforced D16T alloy rod elements, short-term strength under room and low temp. conditions 4-12180
- BaAl₂-type ternary structures, seven possible types 4-2140
- C fibre reinforced Al-Cu, dry wear characts. (Japanese) 4-46625
- Ca-Al amorphous alloys, total Compton intensity 4-46362
- Ca-Al metallic glass, electronic and atomic struct., pulsed NMR study 4-45599
- Ca-Al metallic glasses, elec. resist. and transverse magnetoresist. 4-45728
- Ca_{1-x}Al_x metallic glasses, thermopower as function of temp. 4-29949
- CaCo₂Al₈, cryst. struct., X-ray diff. study (German) 4-24761
- CeAl₃, coupled phonon and crystn. elec. field excitations, Raman scatt. 4-25757
- CeAl₃, thermal expansion and lattice const., X-ray diff. study 4-20381
- CeAl₃, valence instabilities, bound state of phonons and cryst. field excitation 4-55934
- CeAl₃, thermal and elec. cond. meas. at low temps. 4-56315
- CeAl₃, thermal expansion and magnetostriction, reson. level model 4-2357
- CeAl₃, valence fluctuation cpd., far IR absorption 4-35445
- CeAlCo, cryst. struct. determ. 4-24763
- Ce_{1-x}Gd_xAl₃, x=0.05, 0.2, effect of ferromagnetism on Kondo state 4-56753
- Ce_{0.7}Nd_{0.3}Ni_{2.5}Cu_{2.5} and CeNi_{5-x-y}Cu_xAl_y, hydrogenation characteristics, H₂ storage appl. 4-41253
- Co-Cr-Al cast alloys, hot corrosion attack, ion implantation effects 4-7650
- Co-Cr-Al-M coatings (M=Si, Y, Hf, Zr), oxide struct., effect of deposition and processing variables 4-15788
- Co-Cr-Al-Y coating formed by ion implantation, hot corrosion attacks 4-7650
- Co-Cr-Al-Y coating on Ni-base superalloys, thermal fatigue strength and heat resist. 4-12264
- Co₂MnAl_{0.98-x}Si_{0.02}Sn_{0.02}, Sn hyperfine field trends, Mossbauer effect studies 4-45698
- Co₂TiAl, ferromagnetic Heusler alloys, hyperfine field, Knight shift 4-50778
- Cr-Al-Y-Fe (Co) coatings on stainless steel, laser surface fusion and oxidation 4-7649
- Cu-Al, Hume-Rothery alloys, composition depend. of optical gaps 4-20936
- Cu-Al, internal friction meas. (French) 4-51718
- Cu-Al, sliding wear, stacking fault energy, induced residual stresses 4-21334
- Cu-Al, two phase, quenched, early stages of deform. microhardness obs. 4-16449
- Cu-Al, wear, stacking fault energy effect, X-ray diff. study 4-41007
- Cu-Al (12 wt.%), friction and wear rel. to heat treatment and electron beam surface melting 4-57354
- Cu-Al (12 wt.%), strained, formation of stable 15R-martensite phase 4-11044
- Cu-Al (16 wt.%), double ribbons-inclined dislocation interactions 4-34530
- Cu-Al (>16 at.%), short range order, DTA, elec. resist., selected area diff. 4-34441
- Cu-Al alloys, γ₂ and δ phases, electronic sp. ht. and electronic struct. 4-56046
- Cu-Al particles, growth by gas-evaporation, comp., cryst. struct. and habit 4-40614
- Cu-Al single crystals, Al₂O₃ particles disposed in peripheral layer, plastic deform. rel. to layer thickness 4-35671
- Cu-Al-Co (15, 2 at.%), FCC heterophase single crystals, twinning and brittle fracture 4-12174
- Cu-Al-Co (7, 1 wt.%) bronzes, stress corrosion resist. rel. to ageing and Co content 4-12230
- Cu-Al-Fe, bearing alloys, heavy load support appl., wear props. 4-35734
- Cu-Al-Ni, β Hume-Rothery alloys, modulated microstruct. 4-40742
- Cu-Al-Ni (14.3 wt.%), single crystals, elastic const., shear deform. for martensitic transform. 4-3167

aluminium alloys continued

- Cu-Al-Ni (28.2, 3.9 at.%), decomp. of β_1 phase 4-21195
 Cu-Al-Ni shape memory alloys, 4-7588
 Cu-Al-Ni single crystals, stress induced martensite, stacking modulation 4-11157
 Cu-Al-Ni-Ti(Zr), shape memory alloy ribbons, melt spun, improvement of ductility by Ti or Zr addition 4-21271
 Cu-Al-Si-Co (2.8, 1.8, 0.4 wt.%), superplastic Coronzé 638, deform., strain hardening effect 4-51726
 Cu-Al-Si-Co (2.8, 1.8, 0.4 wt.%), Coronzé 638, superplastic, cavitation damage, fracture 4-51771
 Cu-Al-Ti (10, 2.5 wt.%), struct., mech. props., Ti addition effect 4-26001
 Cu-Al-Ti (1.2, 2.7 wt.%), FCC heterophase single crystals, twinning and brittle fracture 4-12174
 Cu-Al-Zn-Mn-Ni, martensite morphology and shape memory effect (*Chinese*) 4-16388
 Cu-Al-Zn-Mn(Ni), quenched martensitic state, mech. props. and struct. rel. to Mn and Ni content 4-7586
 Cu-Al-(Ni), shape memory alloys, rapidly solidified, transform behaviour, effect of heat treatment 4-57208
 Cu-Al(15 wt.%), short-range order during annealing (*Russian*) 4-6320
 Cu-Nb-Al/Nb-Ti alloy superconducting cables, props. (*Italian*) 4-35197
 Cu-Ni-Al, ageing and deform. behaviour (*Japanese*) 4-3185
 Cu-Zn-Al, acoustic emission during partial martensitic transform. (*French*) 4-40782
 Cu-Zn-Al, internal friction at thermoelastic martensitic transform. (*French*) 4-40861
 Cu-Zn-Al, martensitic, internal friction behaviour 4-40858
 Cu-Zn-Al, rapidly solidified, microstruct. of β -phase 4-16384
 Cu-Zn-Al, shape memory effect, degradation, grain size refinement, internal stresses, reflectivity obs. (*Japanese*) 4-46505
 Cu-Zn-Al, stress-induced martensitic transform. cycling and two-way shape memory training 4-40785
 β -Cu-Zn-Al, surface martensite transform. and microstruct. 4-7449
 Cu-Zn-Al (14.5, 8.5 wt.%), reverse martensitic transform., internal friction study 4-40781
 Cu-Zn(Sn)(Al), corrosion in trichloroethylene and tetrachloroethylene, influence of chloroacetyl chlorides and chloroacetyl acid (*German*) 4-51867
 CuAl, deformed solid soln., internal friction 4-50422
 CuAl thin film and bulk alloy, heavy ion-induced γ to α transition 4-29603
 CuAl₂ film, structural changes during leaching 4-25181
 θ -CuAl₂ precipitates in Al-Cu alloys, shape changes during dissoln. 4-57234
 Cu₇₅Ni₂₅Al₃, β' , martensite, polycryst., thermal memory effects obs. in acoustic emission 4-21207
 DyFe₂Al₆, mag. struct., neutron diff. study 4-6953
 Dy₂Fe₁₇-yAl₃, Mossbauer study 4-35316
 Dy₂Fe₁₇-yAl₃H_x, X-ray and Mossbauer study, hydrogenation effect on hyperfine field 4-35303
 Fe-Al, Al diffusion coeff., temp. depend., X-ray diff. study (*Russian*) 4-34689
 Fe-Al, comparison of model predictions and meas. isomer shifts 4-46166
 Fe-Al, Debye temp. anomalies (*Russian*) 4-6464
 Fe-Al, low-temp. heat capacity, long range order (*Russian*) 4-6522
 Fe-Al, magnetic hyperfine splitting induced by ion implantation, Mossbauer study (*French*) 4-29937
 Fe-Al, slip directions, temp. and comp. depend. 4-40914
 Fe-Al (26.5 to 50 at.%), quenched, thermal expansion behaviour on annealing (*German*) 4-46540
 Fe-Al (36-50 at.%), thermal expansion behaviour (*German*) 4-15668
 Fe-Al (39.8 at.%), Bailey-Orowan creep model 4-35662
 Fe-Al-C, phase composition and ordered phase formation (*Russian*) 4-7446
 Fe-Al-Si (20, 5 at.%), antiphase domain growth kinetics 4-16424
 Fe-Al-(Ti), high temp. alloys, radiotracer studies of C permeation through oxide scales 4-35759
 Fe-Cr-Al, high purity, oxidation at 800°C, scale topography and morphology 4-41097
 Fe-Cr-Al-Ce, high temp. corrosion in Na₂SO₄-NaCl molten salt, Ce addition effect 4-7637
 Fe-Mn-Al-C (25.5, 0.2 wt.%), resistivity negative temp. coeff. (*Chinese*) 4-2583
 Fe-Mn-Cr-Mo-Al-Si-C, superalloys, duplex microstruct., carbide stability regions 4-51667
 Fe-Ni-Al(Mo), coarsening kinetics of coherent NiAl-type precipitates 4-57232
 Fe-Ni-Cr-Al, oxidation kinetics, influence of impurities 4-41044
 Fe-Si-Al ferromagnetic alloy, mech. strength in mag. fields (*Russian*) 4-35677
 Fe-Si-Al film, Sendust, transient layer on Si, Mossbauer studies 4-2473
 FeAl-Y(La)(Ce), liq., enthalpy of form. 4-51628
 Fe₇₀Al₃₀, anomalous mag. behaviour, inelastic neutron scatt. study 4-20808
 Fe_{1-x}Al_x, mag. vacancies, ¹⁹F TDPAD expts. and simulations 4-35265
 Fe₃Al, ordered, radiation damage (*Russian*) 4-50371
 Fe₃Al single cryst. and polycryst., magnetostriction and thermal expansion 4-40211
 (Fe_{1-x}Al_x)₂Gd (Dy), mag., elec. and thermal props., local disorder effects 4-51056
 Fe₈₀B_{20-x}Al_x metallic glass ribbons, elec. and mag. props. 4-30202
 (Fe₇₇Cr₂₃)₇₅P₁₆B₆Al₃, amorphous, ferromag-spin glass transition study 4-56615
 FeMnAl steel, creep exp. formulation in complex stress states 4-3177
 (Fe_{1-x}Mn_x)₇₅P₁₆B₆Al₃ spin glass, reentrant props. 4-11721
 (Fe_{1-x}Mn_x)₇₅P₁₆B₆Al₃, amorphous, reentrant spin glass behaviour 4-51057
 (Fe_{1-x}Mn_x)₇₅P₁₆B₆Al₃ spin glass, reentrant magnetism study 4-6988
 (Fe_{1-x}Mn_x)₇₅P₁₆B₆Al₃, spin correlations near ferromag.-to-spin glass crossover 4-56631
 (Fe_{1-x}Ni_x)₇₅P₁₆B₆Al₃ ribbon, low field magnetisation studies 4-56614
 GdAl amorphous spin glass, field depend. of susceptibility peak 4-56635
 GdAl spin glass, irreversibility line interpretation 4-6990
 GdAl₂, ferromagnetic intermetallic cpd., ¹¹⁹Sn impurity, hyperfine interaction, Mossbauer study 4-34937
 Gd₃₇Al₆₃, amorphous spin glass, nonlinear mag. susceptibility 4-2766
 Gd_{1-x}Dy_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Er_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Er_xAl₂, inverse paramag. susceptibility and mag. moments 4-30146

aluminium alloys continued

- Gd_{1-x}Er_xAl₂, low hysteresis materials for mag. refrigeration 4-56629
 Gd_{1-x}Ho_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}La_xAl₂, g-factor shifts, ESR meas. d-character of band electrons 4-51133
 Gd_{1-x}Lu_xAl₂, g-factor shifts, ESR meas. d-character of band electrons 4-51133
 Gd_{1-x}Y_xAl₂, g-factor shifts, ESR meas. d-character of band electrons 4-51133
 HoAl₂, thermal expansion and lattice consts., X-ray diff. study 4-20381
 Ho₂Co_{17-x}M_x, M=Al, Y, Fe, Ni, Cu, lattice consts., Curie temp., coercive force, comp. depend. 4-6979
 HoFe₂Al₈, mag. struct., neutron diff. study 4-6953
 La-Al metallic glasses, elec. resist. and transverse magnetoresist. 4-45728
 La-Al metallic glasses, electronic transport props. 4-56310
 La(Fe,Al)₁₃, Mossbauer spectroscopy, magnetisation, zero field susceptibility meas. 4-35287
 La(Fe,Al)₁₃, cubic intermetallic cpds., mag. props. 4-56623
 La_{1-x}Gd_xAl₂, electronic and mag. props., bremsstrahlung isochromat spectra 4-21063
 LaNi₄Al_{0.4} single- and dual-hydride bed devices dynamic characts. 4-21593
 La_{1-x}Pr_xAl₂Gd₃₊, Van Vleck paramagnet, Stark splitting and exchange forces, EPR study 4-30145
 La_{75-x}Pr_xAl₂₅(Ga₂₅), crystal field effects study 4-56298
 La₉₀Y₁₀Al₁₀, surface and bulk valence, photoemission, mag. susceptibility meas. 4-56288
 Li-Al/FeS cells, thermal energy generation meas. 4-12465
 β -LiAl, bonding and lattice dynamics, inelastic neutron scatt. studies 4-45288
 LiAl(Ga-In), doping effect on elec. transport props. 4-45742
 Li_{1-x}Al_{1-x}, elec. resist. defect struct., temp. comp. depend. 4-2587
 Mg-Al, cast ZM5, fracture toughness (*Chinese*) 4-3207
 Mg-Al clusters, H atom interaction, extended HMO calc. 4-50630
 Mg-Al-Zn (8.5, 0.5 wt.%), flow stress under compression, heat treatment and rolling effect 4-40893
 Mg-Zn-Al, strain hardening prediction from high temp. tensile tests 4-51691
 Mn-Al-C magnets, microstruct., effect of Ni addition, SEM and TEM study 4-29642
 Mn-Al-C magnets, spark erosion and rapid solidification prep., mag. props. 4-56708
 Mn-Al-C wires, metastable FCC phase, prod. by in-rotating-water spinning method 4-16385
 Mn-Si-Al, phase equilb. and struct. 4-30691
 MnAlC hard mag. alloy, cryst. and mag. struct., neutron diff. study (*Chinese*) 4-51025
 MnAlC, hard mag. alloy, mag. and cryst. struct., neutron diff. study 4-56553
 MnAlC permanent magnets, magnetic circuit temp. behaviour (*German*) 4-40197
 Mn_{1-x}M_xAlGe (M=3d metal), mag. props. 4-56577
 Mu₂MnAl alloy, decomposition kinetics, elec. resist. studies 4-45343
 Nb-Al multifilamentary superconductors, powder metallurgy processed, cold hydrostatic extrusion 4-21185
 Nb-Al superconducting wires, powder metallurgy processed, high field performance 4-45967
 Nb₂(Al,Ge), A15 compound superconductors, present status and manufacturing process 4-51001
 Nb₃Al, supercond., nearly stoichiometric and homogeneous, sp. ht. and mag. susceptibility 4-45929
 Nb₃Al_{1-x}B_x(C_x), A15 phase, ion implanted, cryst. struct. and supercond. transition temp. 4-34444
 NdAl₃, cubic ferromag., ¹⁴³Nd NMR hyperfine spectrum 4-56799
 NdAl₃, cryst. field splitting, neutron scatt. study 4-6751
 Ni-Al, binary alloy films, HVEM irradi., nonequilb. segregation 4-15646
 Ni-Al, β and γ phases, twinned microstruct. origins 4-6514
 Ni-Al, elec. cond. and mag. transition temp. 4-34945
 Ni-Al alloy, internal sulphidation, cooperative precipitation of sulphides 4-34650
 Ni-Al arc sprayed coating, fretting wear and fretting fatigue 4-7611
 Ni-Al bronzes, complex, microstruct. development during continuous cooling 4-7424
 Ni-Al films, Ni-rich, grain size and growth 4-20508
 Ni-Al layers, on Hastelloy X, protection against carburisation in HTGR He 4-16570
 Ni-Al phase diagram, Ni₃Al₃ precipitates, morphology and lattice parameters 4-57191
 Ni-Al-Mo, phase equilb. reinvest., implication to elevated temp. stability of γ/γ' -Mo aligned eutectic 4-7420
 Ni-Al-Mo, rapidly solidified prealloyed powders by laser spin atomization 4-57139
 Ni-Al-Mo system, ternary equilb. phase diagram. 4-57192
 Ni-Al-Ta superalloys, microstruct. props. of β -NiAl phase 4-57224
 Ni-Al-Ti, eutectic superalloy, directionally solidified, interface dislocations motion (*Japanese*) 4-35618
 Ni-Al(14 at.%), isothermal ageing, nucleation and growth of γ' -precipitates 4-3139
 Ni-Al(36.9 at.%), single crystal, struct. of stress induced and thermal martensites 4-1042
 Ni-Cr-Al high Cr alloy, complex recrystallisation and precipitation reactions (*Russian*) 4-51663
 Ni-Cr-Al superalloy, carbide comp. and struct. rel. to Nb and Ta additions 4-12069
 Ni-Cr-Al-Co-W-Mo-Ti, struct. and phase comp., Y additions effect 4-21221
 Ni-Cr-Al-Fe-Y, wrought heat-resist. alloy, struct. and props. 4-41071
 Ni-Cr-Al-Mo, directionally crystallised, annealing, microstructure 4-7493
 Ni-Cr-Al-Y(Zr), transient oxide scale form. and struct. 4-7638
 Ni-Cr-Al-Zr, surface comp., quantitative Auger microprobe study 4-35527
 Ni-Cr-Fe-Al-C, austenitic, deformed, heat resist., struct. fineness influence 4-57272
 Ni-Cu and Ni-Cu-Zn(Al)(Si) alloys, micromagnetism, s-d exchange and spin fluctuations anal. (*Rumanian*) 4-16042
 Ni-Mo-Al, γ/γ' - α , Bailey-Orowan creep model 4-35662
 Ni-Mo-Al (33.5, 7.1 wt.%), directionally solidified eutectic, precipitation 4-3144
 Ni-Nb-Al, γ/γ' eutectic, directionally solidified, morphology (*Slovak*) 4-46501

aluminium alloys continued

- Ni-Ni₃Al-Mo, γ/γ' - α eutectic, mutual crystallographic orientation of phases (*Slovak*) 4-45061
- Ni-Ta-Fe-Al, precip. hardened, containing ordered γ' and γ'' precip., deform. mechanisms 4-57294
- Ni₃(Al, Ta) single crystals, flow stress asymmetry, orientation and temp. depend. 4-51728
- NiAl coatings for use in high temp. nucl. reactors, development 4-16568
- NiAl₃, oxidation mechanism, Rutherford backscattering spectrometry study 4-21382
- Ni₃Al alloy, vacancies, positron annihilation studies 4-29427
- Ni₃Al, alloying behaviour, ternary additions 4-40746
- Ni₃Al, compression induced dislocation dissociation, weak beam study 4-39298
- γ -Ni₃Al, electronic struct., alloying effects, DV-X α cluster calc. 4-50713
- Ni₃Al, itinerant electron ferromag., magnetisation and elec. resist. 4-45731
- Ni₃Al, mag. moment distrib. and superlattice dislocations 4-11707
- Ni₃Al, strongly ordered L₁₂ alloys, dynamic recrystallisation rel. to flow and fracture 4-57253
- Ni₃Al with ternary additions, solubility data 4-29618
- Ni₃Al-B, rapid solidification, strength and ductility rel. to B content 4-40915
- Ni₃Al-Ni₃Ga-Ni₃Ge-Ni₃Si, pseudo-quaternary system, continuous solid soln. 4-35612
- Ni₃Al₂ in Ni-Al phase diagram, precipitate morphology 4-57191
- Ni₃Al; itinerant electron ferromagnet, Curie temperature 4-51051
- Pb-Sn-Sr-Al, as-cast, cellular precipitation and overaging 4-51679
- PdAu₂Fe₂Al₄, mag. transition and props. (*Chinese*) 4-2753
- PrAl₃, spontaneous resist. anisotropy due to quadrupole scatt., magnetoresist. study 4-2604
- Pr₂Co_{17-x}Al_x, mag. and structural props. 4-51042
- Pr_{0.25}La_{0.75}Al₃, elec. resist., Kondo-like behaviour 4-56334
- RhAl alloys, band struct. and mixed states, photoemission spectra studies 4-25208
- SIC whisker reinforced Al composite, creep rupture, microstruct. 4-40966
- Sm-Alnico V alloys, mag. anisotropy props. 4-51043
- Sm-Fe-Co-Ni-Al-Cu alloys, struct. and mag. props. 4-6322
- Sn-Al eutectic, embrittlement in damp air 4-41070
- Ta-Al-N alloy, anodised thin film capacitor, Auger electron spectroscopy, dielec. loss study (*Japanese*) 4-7125
- TbAl₂, mag. anisotropy in paramag. and ferromagnetic phases 4-51021
- Ti-Al, neutron irradi., polymorphic transform., electron-positron annihilation (*Russian*) 4-24873
- Ti-Al, radiation defect annealing, neutron irradiation, positron annihilation (*Russian*) 4-50370
- Ti-Al (24 wt.%), math. eqn. relating low cycle fatigue data to fatigue crack propag. rates 4-29517
- Ti-Al compacts, growth in liq.-phase sintering, dilatometric study 4-3101
- Ti-Al-Ag system, phase diagram (*Japanese*) 4-25943
- Ti-Al-Cr-Mo-V, impurity distrib. study 4-11174
- Ti-Al-H system, superplasticity study (*Russian*) 4-50405
- Ti-Al-Mn, damage and fracture criteria during creep 4-30811
- Ti-Al-Mo, dynamic recrystallisation (*Chinese*) 4-57245
- Ti-Al-Mo, spalling failure character, -196 to 800°C 4-30816
- Ti-Al-Mo-Cr, CORONA 5, fatigue crack growth rate, microstruct., O content 4-40969
- Ti-Al-Mo-Cr (7.5, 2.5, 1.8 wt.%), decomp. of metastable β -phase, effect of thermal treatment 4-40744
- Ti-Al-Mo-V, oxide films form. at 1100°C, alloying elements role 4-26100
- Ti-Al-Mo-Zr, fracture toughness testing, with vibr. loading at high temps. 4-30878
- Ti-Al-Mo-Zr, microstructure analysis by acoustic microscopy 4-46680
- Ti-Al-Sn (5.2, 2.5 wt.%), fatigue crack growth, surface reactions with water vapour 4-30855
- Ti-Al-Sn (5.2, 2.5 wt.%) powder compacts, porosity rel. to NaCl content 4-40706
- Ti-Al-Sn-Zr-Mo, dwell fatigue crack growth rates 4-7566
- Ti-Al-Sn-Zr-Mo (6.2, 4.2 wt.%), thermomech. treatment, Widmanstätten alpha microstructure 4-16423
- Ti-Al-V, abrasive wear with fine diamond particles rel. to carbide surface hardening 4-46633
- Ti-Al-V, electrochem. behaviour in HCl, influence of alloying elements 4-51847
- Ti-Al-V, N implanted, effect on wear performance 4-35737
- Ti-Al-V, oxide layer form. ion cyclic loading under fretting corrosion conditions 4-51890
- Ti-Al-V, rapidly solidified prealloyed powders by laser spin atomization 4-57139
- Ti-Al-V, VT6, block cyclic loading influence on deform. and strength character, plane stressed conditions 4-12125
- Ti-Al-V, yielding and strength limiting states, block cycling effect 4-30772
- Ti-Al-V (6, 4 wt.%), fatigue crack growth, threshold range, opening stress intensity factor 4-3217
- Ti-Al-V (6, 4 wt.%), fatigue damage, strain hardening index 4-12156
- Ti-Al-V (6, 4 wt.%), modified, enhanced superplasticity and strength 4-26009
- Ti-Al-V (6.4 wt.%), dwell fatigue crack growth rates 4-7566
- Ti-Al-V (6.4 wt.%), electroplated metal adhesion rel. to H absorption, notch sensitivity and fatigue 4-3290
- Ti-Al-V (6.4 wt.%), fatigue crack growth, surface reactions with water vapour 4-30855
- Ti-Al-V (6.4 wt.%), math. eqn. relating low cycle fatigue data to fatigue crack propag. rates 4-29517
- Ti-Al-V (6.4 wt.%), prealloyed powder compacts, low cycle fatigue, influence of thermomech. processing 4-26053
- Ti-Al-V surfaces, opt. props. after surface treatments (*Russian*) 4-7146
- Ti-Al-V-Cr-Mo-Zr, microstruct. characterisation by acoustic microscopy 4-21408
- Ti-Al-V(Mn), fatigue, cyclic asymmetry in HF loading 4-7584
- Ti-Al-V(Sn), microstruct. characterisation by acoustic microscopy 4-21408
- Ti-Al-V(Zr), secondary creep, stress exponent and activation energy 4-7510
- Ti-Al-W, creep deform. modes, phase morphology 4-7523
- Ti-Al-Y (8.4 at.%), as-cast and laser surface melted, comparison of microstruct. 4-7634
- Ti-Al-Zr (-V), grain boundary segregation of impurities, X-ray microanal. study (*Russian*) 4-51665

aluminium alloys continued

- Ti-Al-Zr-Mo VT9 alloy, fatigue fracture toughness character., strain history and load cycle asymmetry effect 4-12175
- Ti-Al-Zr-W(Mo)(B), struct. and corrosion props., effect of quenching from liq. state 4-30857
- Ti-Ni-Al ternary alloys, martensitic transforms., TEM study 4-40786
- Ti-V-Cr-Al (13, 11, 3 wt.%), β -solution treated, microstruct.-prop. relationships 4-30735
- Ti-V-Cr-Al-Sn cold-formable sheet alloy 4-40902
- Ti-V-Fe-Al (10, 2, 3 wt.%), aged, tensile deform., fracture, microstructure 4-7522
- TiAl base alloys, suitable for steam-turbine blades, corrosion props. 4-12263
- TiAl nonstoichiometric alloys, ordered superstructures and phase diagrams (*French*) 4-2139
- TiAl, single cryst. growth by floating zone technique 4-12020
- TiAl single crystals, floating zone technique 4-21132
- TiFe_{0.94}Al_{0.06} intermetallic cpd., H₂ absorption kinetics 4-46792
- TiFe_{1-x}Al_x, H₂ absorption props., H₂ storage appl. 4-46793
- Ti_{58.7}Ni_{37.5}Al_{3.8}, diffuse electron scatt. from incommensurate phase 4-20369
- Ti₅₉Ni_{38.1}Al_{2.9}, phase transform. 4-21211
- UFe₂Al₃, cryst. struct. and mag. props. 4-40151
- UNiAl, air-exposed, surface segregation, surface energy driving force 4-56137
- V-Al, high temp., oxidation, 800-993K, metallography and microhardness (*Japanese*) 4-46651
- V-Al, O content investigation (*German*) 4-7431
- Y(Fe_{1-x}Al_x)₂, hyperfine fields at ⁸⁹Y nucl., NMR study 4-30292
- Y_{1-x}Gd_xAl₂, electronic and mag. props., bremsstrahlung isochromat spectra 4-21063
- Y_{0.9}Yb_{0.1}Al₂, surface and bulk valence, photoemission, mag. susceptibility meas. 4-36288
- Yb-Cu-Al, magnetic isotherm, Coqblin-Schrieffer model, high and low temp. results 4-30148
- YbAl₂, intermetallic compounds, X-ray absorpt. spectra 4-16270
- YbAl₃, intermetallic compounds, X-ray absorpt. spectra 4-16270
- YbCuAl valence fluctuation cpd., far IR absorption 4-35445
- Zn-Al (22 wt.%), superplastic deform., texture form. 4-57244
- Zn-Al-Mg (0.1, 0.05 wt.%), textured, flow stress, effect of grain size 4-16451
- Zn-Al-Mg alloy, fine-grained, positron study 4-46360
- Zr-Al, cryst. and amorphous, prod. by splat cooling on hot substrate, supercond. transition temp. 4-56479
- Zr-Al (27at.%), splat quenching, ordered ω -phase form 4-3131
- Zr-Al system, oxidation behaviour, rate law and activation energy 4-21368
- Zr_{1-x}M_xMo₂ (Mz, Ge, Si, Al), crystal struct., X-ray diffr. study 4-45053

aluminium compounds

see also alumina; aluminium alloys

- AlBr₃-KBr immiscible liquid phases, PdBr₂(RhBr₃)(RuBr₃) distribution coeffs. meas. 4-45336
- AlGaAs heterojunction concentrating solar cell arrays for high conversion efficiency 4-31087
- aluminumfluorophosphate glasses, durability and props. 4-15396
- Al(PO₃)₂-AlF₃-BaF₂-CaF₂-SrF₂-MgF₂ optical glass development (*German*) 4-5675
- emerald, width of the Cr³⁺ ESR line 4-25633
- Ga_{1-x}Al_xAs, elec. resist. var., deep levels, band struct. 4-34974
- GaAs-AlGaAs multi-quantum-well heterostructure waveguides, optical absorpt., luminesc. characts. 4-19562
- graphite-MnCl₂-AlCl₃, kinetics, struct. and mechanism of formation 4-34452
- interferometer sensors, laser noise props. 4-5716
- kaolin, water interaction, dehydration, IR spectroscopy study 4-56924
- kaolin suspensions, conc., sound wave propag. (*Chinese*) 4-1530
- quartz:AlO₃, ab initio SCF MO calcs. 4-44010
- silicon, plasma etching 4-7672
- AgAlSe₂, band struct., valent state density, pseudopot. calc. 4-39776
- AgAlTe₂, band struct., valent state density, pseudopot. calc. 4-39776
- (Al,Ga)As laser diode, Mossbauer spectrometer velocity calibration 4-18025
- Al oxide layers on W and Mo faces, thermal dissolution, FEM obs. 4-39698
- Al/Al_{0.5}Ga_{0.5}As/GaAs MIS capacitor, current-voltage and capacitance-voltage characts. 4-45882
- Al-Al₂O₃-Mg(Al) structures, investigation of visible emitted radiation 4-11602
- AlAs, interatomic force const. and lattice vibr. calcs. 4-11243
- AlAs/GaAs double heterojunctions, inelastic tunnelling characts. 4-50906
- AlAs-GaAs MIS structures, elec. characts. 4-6906
- AlAs-GaAs superlattices, photoluminesc. spectra, well size fluctuations effects 4-25793
- AlAs-GaAs:Zn disordered superlattices, diffusion and interdiffusion processes 4-34716
- AlBr₃-graphite, prep. of laminar compounds in presence of Br₂ 4-55766
- Al₂C, sintered body prep., mech. props., thermal expansion and corrosion resist. 4-12146
- AlCl₃ intercalated with graphite, struct., low temp. anal. (*French*) 4-45103
- AlCl₃ intercalation compound with graphite, synthesis and struct. 4-50257
- AlCl₃, vapour phase, high temp. IR and Raman spectra 4-38177
- AlCl₃-FeCl₃ mixed crystals, pile irradi., ³⁵S prod., thermal annealing 4-55864
- Al₂Cl₆, vapour phase, high temp. IR and Raman spectra 4-38177
- AlCl₃(AlBr₃)(AlI₃), IR emission, transmission and reflectance techniques 4-54702
- AlF₃, photon impact F KVV Auger spectra, chem. effects 4-54807
- AlF(a π), prod. from Al+F₂ vibr. distrib., chemiluminescence 4-12342
- AlGaAs coupled-cavity laser, single longit. mode operation, 0.2-1.0 GHz FM characts. meas. 4-33695
- AlGaAs current-confined constricted-double-heterojunction large-optical-cavity diode laser, high power 4-1409
- (AlGa)As DH laser, gain mechanism 4-23985
- AlGaAs diode laser, carrier-induced index change 4-23983
- AlGaAs grating loaded lasers, tunable single mode picosecond pulse generation 4-24038

aluminium compounds continued

- AlGaAs index-guided diode lasers, high power phase-locked arrays 4-28713
 AlGaAs injection lasers, mode switching induced by temp. variations and optical feedback 4-19447
 AlGaAs laser, freq. stability, theory 4-38475
 AlGaAs laser, high-speed freq. stabilization using servo-system 4-24034
 AlGaAs laser, quantum noise limited freq. stability 4-19488
 (AlGa)As, laser diode, nonlinear modulation response and relax. oscils. 4-23986
 (AlGa)As laser diodes for long-life space appls., reliability 4-1415
 AlGaAs laser simultaneous freq. and power stabilisation using optogalvanic effect of Kr 4-23981
 AlGaAs lasers, intensity noise statistics 4-33659
 AlGaAs lasers, near threshold struct. depend. wavelength shifts, wavelength-stable source appls. 4-28694
 AlGaAs multi-longitudinal-mode TJS laser diodes, noise characts. 4-33661
 AlGaAs multiple quantum well heterostruct. visible laser, MOCVD growth 4-19448
 AlGaAs multiquantum well lasers, gain and carrier lifetime meas. 4-28690
 AlGaAs, open tube diffusion of Zn, rel. to ohmic contact form. 4-6559
 AlGaAs operating in dispersive external cavity, transient optical response 4-24026
 AlGaAs phase-coupled quantum well lasers, Schottky barrier restricted arrays 4-49389
 AlGaAs quantum well lasers, phonon assisted gain coeff. 4-1391
 AlGaAs ridged substrate internally diffused stripe laser, visible emission 4-10294
 AlGaAs semiconductor laser with grating feedback, tunable single mode pico-second pulse generation 4-1389
 AlGaAs shallow-homojunction solar cells with high efficiency, MOCVD grown 4-52138
 AlGaAs single mode injection lasers for optical signal processing 4-38474
 (AlGa)As stripe-geometry injection lasers generalised Epstein model 4-23946
 (AlGa)As TJS laser mode partition study, statistical meas. 4-55034
 AlGaAs:Cu(Fe), deep acceptor levels, comp. dependence and random alloy effects 4-25280
 AlGaAs:Si, heavy doping during MBE 4-16319
 AlGaAs:Si selectively doped short period superlattice, MBE grown, persistent photocond. 4-25428
 AlGaAs/GaAs DH lasers, twisted-terraced substrate, design and mode locking 4-33684
 AlGaAs/GaAs double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
 AlGaAs/GaAs fibre coupled 2-D monolithic LED array with highly uniform radiance 4-24239
 n-AlGaAs/GaAs heterojunction interface, electron transport props. 4-15954
 AlGaAs/GaAs multiquantum-well laser monolithically integrated with MESFET driver 4-19470
 AlGaAs/GaAs multiquantum well laser and GaAs MESFET, monolithic integration, MBE growth 4-44103
 AlGaAs/GaAs quantum well heterostructs., organometallic VPE and photoluminesc. 4-25890
 AlGaAs/GaAs selective-meltbacked substrate inner stripe laser, room temp. CW operation 4-24019
 AlGaAs/GaAs single mode CSP lasers with optical feedback, phase noise characts. 4-33650
 AlGaAs-DH laser coupled to external resonator, bistability, self-sustained oscils. and irregular operation 4-1432
 (AlGa)As-GaAs 2-D electron gas devices, deep-level anal. by low-freq. noise measurement 4-50909
 AlGaAs-GaAs curved waveguides and channelled-substrate DH lasers, monolithic integration by wet chem. etching 4-24245
 (AlGa)As-GaAs double heterostructures, MBE grown, optical props., effect of As species 4-16251
 AlGaAs-GaAs single quantum wells, MBE growth, photoluminesc. props. 4-30640
 AlGaAs-GaAs solar cells for concentrator photoelectric batteries 4-7876
 AlGaAs-GaAs stripe geometry quantum-well heterostruct. lasers defined by Zn induced layer disordering 4-55029
 AlGaAs-GaAs two-dimensional electro-optic polarization modulator for integrated optics 4-55180
 Al_{0.3}Ga_{0.7}As/GaAs interface, selectively doped, illumination stimulated persistent channel depletion 4-45861
 Al_{0.4}Ga_{0.6}As/GaAs quantum well struct., MBE growth, photoluminescence props. 4-51344
 Al_{1-x}Ga_xAs active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
 Al_{1-x}Ga_xAs bulk lasers with superlattice interfaces 4-33648
 Al_{1-x}Ga_xAs continuous quantum well heterostructure laser diodes, wavelength modification 4-28693
 Al_{1-x}Ga_xAs DH lasers, picosecond pulse generation 4-10298
 n-Al_{1-x}Ga_xAs graded-gap layers, longit. piezoresistive effect 4-56360
 Al_{1-x}Ga_xAs LED materials, organometallic VPE, growth temp. depend. 4-51522
 Al_{1-x}Ga_xAs, LPE growth rate, diffusion limited growth model 4-35585
 Al_{1-x}Ga_xAs layered semiconductor, quantitative anal., SIMS method, matrix calibration 4-16702
 Al_{1-x}Ga_xAs MOCVD layers on semi-insulating GaAs, bulk and transfer doping 4-50958
 Al_{1-x}Ga_xAs quantum well heterostructure, lasers with external grating, broadband tuning 4-1393
 Al_{1-x}Ga_xAs quantum well heterostructure laser, wavelength modification by layer interdiffusion 4-1395
 Al_{1-x}Ga_xAs variable gap film press. gauges, composition gradient depend. 4-50967
 Al_{1-x}Ga_{1-x}As:Si, MBE growth and characterisations, H₂ gas effects 4-16330
 Al_{1-x}Ga_{1-x}As:Si epitaxial film, dopant conc., SIMS anal. 4-45173
 n-Al_{1-x}Ga_{1-x}As:Si MBE layers capacitance and Hall effect meas. 4-50962
 Al_{1-x}Ga_{1-x}As:Si(Sn) MBE films, doping and elec. props. 4-15509
 Al_{1-x}Ga_{1-x}As:Sn(Ge)(Te)(Cu) epitaxial films, impurity photolumin. 4-16263
 Al_{1-x}Ga_{1-x}As/GaAs heterostructures, photoluminescence, Al isovalent impurity effects (Russian) 4-40533
 n-Al_{1-x}Ga_{1-x}As/GaAs heterostruct., electron gas for FET 4-50821

aluminium compounds continued

- Al_{1-x}Ga_{1-x}As/GaAs layers, modulation doped, 2-D electron gas, low field mobility calc. 4-20710
 Al_{1-x}Ga_{1-x}As/GaAs quantum well heterostruct., photoluminescence 4-25791
 Al_{1-x}Ga_{1-x}As/GaAs quantum well heterostructs., MBE grown, photoluminesc. 4-35472
 Al_{1-x}Ga_{1-x}As/GaAs quantum well struct., electron-transport, quantum size effect 4-45865
 n-Al_{1-x}Ga_{1-x}As/GaAs selectively doped heterostructs. for high electron mobility transistors 4-35048
 Al_{1-x}Ga_{1-x}As-GaAs, single crystal stacked layers, cascade solar cell portions, growth and photoluminesc. 4-3089
 Al_{1-x}Ga_{1-x}As-GaAs DH gain-induced laser with nonhomogeneous pumping, longit. mode selection 4-38483
 Al_{1-x}Ga_{1-x}As-GaAs heterostructure injection lasers, dynamic characts. 4-28698
 Al_{1-x}Ga_{1-x}As-GaAs interface, appl. of spectral limits theorem 4-6696
 Al_{1-x}Ga_{1-x}As-GaAs quantum well heterostructure, impurity induced disordering 4-50905
 Al_{1-x}Ga_{1-x}As-GaAs superlattices grown by MOCVD, monolayer heterointerfaces 4-51463
 Al_{1-x}Ga_{1-x}As-GaAs system, parabolic quantum wells, photolum. meas. 4-56995
 Al_{1-x}Ga_{1-x}As, solid soln., phase state change with pulsed annealing 4-55875
 Al_{1-x}Ga_{1-x}As-Al_{1-x}Ga_{1-x}As-Al_{1-x}Ga_{1-x}As quantum well laser operation in strong mag. fields 4-5589
 n-AlGaAsGaAs MBE selectively doped heterostruct., long-lifetime photocond. 4-15955
 AlGaAsSb multijunction cascade solar cells, band gap span influence on efficiency 4-12480
 AlGaInAs epitaxial layers LPE, on GaAs (100), growth lines rel. to melt surface tension 4-3090
 Al_{1-x-y}Ga_xIn_yAs, band struct. calcs. 4-20559
 Al_{1-x-y}Ga_xIn_yAs, multinary alloys, energy gaps, CPA calc. 4-25214
 AlGaInP/GaInP/AlGaInP DH visible lasers, MOCVD growth and room temp. pulsed operation 4-19443
 Al_{1-x-y}Ga_xIn_yP, band struct., virtual cryst. approx. 4-56215
 Al_{1-x}Ga_{1-x}N, reactive MBE growth and optical characterisation 4-16328
 Al_{1-x}Ga_{1-x}P, high excitation photo- and electrochromism. 4-21008
 AlH, RKR potential and dissociation energy 4-1230
 AlH₃ lattice, character of products formed in synchronous photochem. processes, photocond. decay 4-26218
 AlH₃ lattice, product localisation formed in synchronous photochem. processes 4-31000
 AlH₃ source for SmH_{2.95} synthesis, using conventional very high-pressure technique 4-7714
 AlH₄, nuclear spin-spin coupling tensors calc. using first-order polarisation propagator approach 4-28459
 Al³⁺-H₂O complexes, struct. and electron density, cation influence 4-48933
 AlInAs, MESFET optimum semiconductors for HF and low-noise appl. 4-29965
 Al_{0.48}In_{0.52}As LPE layers, undoped and Si-doped, elec. props. 4-20745
 Al_{0.48}In_{0.52}As layers, MBE, lattice matched to InP substrate, mobilities 4-40658
 Al_{0.48}In_{0.52}As/Ga_{0.47}In_{0.53}As interdigitated photoconductive detectors 4-37170
 Al_{1-x}In_xAs epitaxial layer, lattice matched to InP, direct energy gap, cathodoluminesc. study 4-45616
 AlN, CVD and props. (Japanese) 4-11417
 AlN ceramics, high press. hot pressing without additives (Japanese) 4-40727
 AlN film on GaAs, 1.0 GHz bulk acoustic wave resonator 4-1566
 AlN, formation by N⁺ ion implantation, precipitation process obs. 4-20228
 AlN, hot pressed, friction and wear, temp. and environmental effects 4-30828
 AlN, hot-pressed, mech. props., influence of oxidation (French) 4-16558
 AlN in MIS system, with multilayer dielectric, electronic cond. and trapping 4-56441
 AlN, phonon freqs., vol. depend. and effective charges 4-6463
 AlN, pyrolytic layers, doping with Cl₂ and O₂, effects on elec. cond. 4-56456
 AlN, sintered, oxidation 4-16518
 AlN, wide gap semicond., surface ionisation appl., work functions 4-50899
 AlN-Y₂O₃ sintered compacts, thermophys. props., high temp., elec. resist., strength props., oxidation resist. 4-50541
 AlN₂O₃-Si, MIS struct., growth and electronic props. 4-51496
 AlO, blue-green B²⁺-X²⁺ band, radiative lifetimes 4-5291
 AlOOH, boehmite, thermal expansion anomaly at 560K, DSC study 4-45366
 Al₂O(OH)₃, bauxite, sintering characts. rel. to K₂O content 4-30673
 Al₂ interatomic force const. and lattice vibr. calcs. 4-11243
 Al(PO₃)₃-BaF₂-AlF₃, thermooptical glass, with addition of fluorides of Groups I-III 4-51246
 AlPO₄, berlinite, α-β transform., birefringence study 4-55992
 α-AlPO₄, cryst. struct., refinement from Laue photographs 4-2153
 AlP, O₂ dielectric films on InP, LPCVD and elec. props. 4-56439
 Al₂(SO₄)₃·18H₂O·Cr³⁺ single cryst., EPR studies 4-56764
 AlSb, cohesive energy and bulk modulus 4-2137
 AlSb, interatomic force const. and lattice vibr. calcs. 4-11243
 AlSb polypolytype heterostructures 4-15949
 Al_{1-x/2}Si_{1-x/2}O_{1-x/2}, mullite, superstructures, high resolution electron microscopy and diffraction study 4-39247
 Al₂Si₂O₅(OH)₄, kaolinite, heat decomposition, spinel phase form., struct., lattice energy 4-3142
 BeAl₂O₄, alexandrite, saturation and inverse-saturation absorpt. line shapes 4-49465
 Ca-Si-Al-O-N glass, elastic moduli, refractive indices (French) 4-45247
 Ca₂(Al,Fe_{1-x})₂Si₂O₁₂(OH)₂, 0 ≤ x ≤ 1, epidote, Mossbauer study 4-40294
 Ca₂(Al₂O₇)(WO₄)₂, cryst. struct. determ. 4-45073
 CaAl₂Si₂O₁₂, dissolution studies 4-713
 (CoCl₂)_{1-x}(AlCl₃)_xC mag. intercalation cpds., low temp. heat capacity 4-6993
 CuAlO₂, charge density distrib. and d-s hybridization 4-2158
 CuFe₂(1-x)Al₂O₄ solid solns. with spinel structure, elec. cond. and cation ordering 4-2618

aluminium compounds continued

- GaAs/AlGaAs quantum well lasers, spontaneous emission in strong mag. field 4-38477
 (Ga,In)As-(Al,In)As junctions, magnetophonon reson. (French) 4-25246
 GaAs 800 nm wavelength lasers, lifetime investig. 4-10307
 GaAlAs BH lasers grown by two-step MOCVD process 4-1406
 GaAlAs Bragg heterojunction injection laser with stable output wavelength 4-49402
 GaAlAs broad band super radiant diode fibre optic sensor and communication appls. 4-33683
 GaAlAs current pulsed laser with dispersive external feedback, single mode operation 4-33649
 GaAlAs DH laser, static and dynamic characts., temp. effects (Chinese) 4-55036
 GaAlAs DH lasers with lateral optical confinement, perturbation theory anal. 4-28691
 GaAlAs diode laser, freq. and amplitude modulated, for optical heterodyne spectroscopy 4-8965
 GaAlAs diode laser, linewidth reduction with high reflectivity coating 4-38470
 GaAlAs fibre coupled edge emitting LEDs 4-5708
 GaAlAs high power twin-ridge-substrate laser (Japanese) 4-55039
 GaAlAs, high-power dual-wavelength laser array, monolithic integration, LPE growth 4-19442
 GaAlAs index-guided diode lasers, FM-noise spectrum 4-49360
 GaAlAs injection laser, microwave props. 4-23995
 GaAlAs interferometric coupled-waveguide laser 4-10295
 GaAlAs laser diode, providing 6-GHz AM modulation bandwidth 4-24035
 GaAlAs laser diodes, design, operation and characts., communication appl. 4-14712
 GaAlAs laser diodes, broad-area, single-heterostruct., inelastic reflection of photons 4-23988
 GaAlAs laser diodes, spectral props. (German) 4-55043
 (GaAl)As lasers, separately pumped, longit. mode behaviour and tunability 4-33651
 GaAlAs lasers in single longit. mode, HF phase noise 4-33658
 GaAlAs p-i-n junction waveguide modulators using Pockels effect 4-55179
 GaAlAs semiconductor lasers for optical communication (Hungarian) 4-38631
 GaAlAs single mode laser spectrum meas. using stabilised optical fibre Fabry-Perot interferometer 4-33662
 GaAlAs single-mode laser freq. fluctuation stabilisation using fibre interferometer, noise props. 4-24045
 GaAlAs stabilised laser low freq. noise props. 4-33653
 GaAlAs stripe geometry heterostruct. lasers, numerical anal. 4-19445
 GaAlAs stripe geometry DH lasers, life testing, low temp. cathodoluminesc. spectra 4-38479
 (GaAl)As stripe-geometry DH lasers, self-sustained oscillations, expt. study 4-38512
 GaAlAs tunable mode-locked lasers incorporating Brewster-angled diodes 4-33657
 GaAlAs twin stripe lasers, closely coupled, optical bistability 4-24073
 (GaAl)As two-component heterojunction laser with spatially inhomogeneous injection 4-28697
 GaAlAs visible lasers, failure mechanism rel. to formation of dark defects 4-10308
 GaAlAs visible laser, transverse mode stabilized, separated multiclad layer stripe built-in waveguide 4-19471
 GaAlAs:Sn(Ge), liquidus-solidus curves, appl. to visible laser 4-46455
 n-GaAlAs/GaAs heterojunction, 2-D electron gas, tangential magnetoresist. 4-15953
 GaAlAs-GaAs DH laser, IR transmission/emission method (Chinese) 4-55035
 GaAlAs-GaAs DH stripe laser, life-tested, low temp. SEM cathodolum. 4-35498
 (GaAl)As-GaAs high peak power asymmetric DH injection laser 4-1405
 (GaAl)As-GaAs isolated stripe CW laser degradation by proton bombardment (Chinese) 4-49414
 GaAlAs-GaAs/GaAs heterostructures, spectroscopic electroreflectance and ellipsometry (French) 4-11866
 Ga_{0.7}Al_{0.3}As, PIXE analysis of compound materials 4-45067
 p-Ga_{1-x}Al_xAs, alloy scatt. potential calc. 4-6773
 Ga_{1-x}Al_xAs alloys, deep energy levels, photocond., cond. band struct. effects 4-30015
 Ga_{1-x}Al_xAs, disorder-activated phonons, resonant Raman study 4-25736
 Ga_{1-x}Al_xAs, disordered, IR dielectric props. and vibr. states 4-40457
 Ga_{1-x}Al_xAs, electron-hole plasma, k-selection rule, photoluminesc. study 4-45818
 Ga_{1-x}Al_xAs, Hall mobility, electron conc. and resistivity meas. at 300K 4-11544
 Ga_{1-x}Al_xAs, MOCVD epitaxial growth, solid comp. and growth rate 4-21150
 Ga_{1-x}Al_xAs semiconductor alloy variable-gap cells with several junction energy gaps for a high efficiency solar energy system 4-21558
 Ga_{1-x}Al_xAs/GaAs, internal strain and photoelastic effects 4-16178
 Ga_{1-x}Al_xAs-GaAs multiple-quantum-well structures, hydrogenic impurity ground state 4-6872
 Ga_{1-x}Al_xAs-GaAs-Ga_{1-y}Al_yAs superlattice, impurity level binding energy 4-30063
 Ga_{1-x}Al_xAs_{1-y}Sb_y, quaternary alloy heterojunction band discontinuities 4-45868
 GaAlInAs, lattice matched to InP, composition depend. of spin-orbit splitting 4-2563
 Ga_{1-x}Al_xSb on GaSb, LPE grown, Zn diffusion and appl. to IR detection (French) 4-56086
 Ga_{1-x}Al_xSb_{1-y}As_y, p-n struct., avalanche multiplication coeff., photosensitivity spectra 4-6884
 Ga_{1-x}Al_xSb(x~0.17) 1.3-1.6 μm photoconductors (French) 4-22838
 GaAs/Al_xGa_{1-x}As heterostructure, 2D electron gas, negative magnetoresist. and inelastic scatt. time 4-50912
 GaAs/AlAs superlattices, characterisation by laser-Raman spectroscopy 4-34807
 GaAs/AlGaAs injection laser-Cu heat sink system, internal stresses 4-5617
 GaAs/AlGaAs lasers, blistering of Ti/Pt ohmic contacts 4-26107
 GaAs/Ga_{0.7}Al_{0.3}As selectively doped heterostruct., transport. props. 4-35054
 GaAs-Ga_{1-x}Al_xAs quantum well struct., Wannier excitons, energy levels 4-50733

aluminium compounds continued

- GaAs/Ga_{1-x}Al_xAs quantum-well struct., hydrogenic donor energy levels, nonparabolicity effects 4-50916
 GaAs/GaAlAs DH lasers, LPE growth method 4-35587
 GaAs/GaAlAs gain and index guided lasers, linewidth broadening due to competition noise 4-38484
 GaAs/GaAlAs graded-index separate-confinement heterostruct. quantum well laser structure 4-49353
 GaAs/GaAlAs heterojunctions, electron dynamics in two-dimensional electron gas, study by Monte Carlo method (French) 4-11584
 GaAs/GaAlAs injection laser with separated mirrors 4-49362
 GaAs/GaAlAs large period superlattices, folded acoustical phonon dispersion 4-2290
 GaAs/GaAlAs low threshold current GRIN-SCH stripe lasers grown by organometallic VPE 4-24012
 GaAs/GaAlAs quantum well high-speed optical modulator in p-i-n diode struct. 4-35047
 GaAs/GaAlAs semiconductor laser, beam-scannable light source, superluminescent mode, grating coupler design 4-19469
 GaAs/N-AlGaAs, selectively doped MBE heterostructs., high electron mobility 4-25427
 GaAs/n-AlGaAs heterojunction, MBE growth, FET appls. 4-16327
 GaAs-(Al,Ga)As junctions, magnetophonon reson. (French) 4-25246
 GaAs-(Al,Ga)As broad-contact single heterostruct. laser diode, thermal props. 4-55041
 GaAs-(Al,Ga)As DH broad-contact laser diodes, static thermal props. 4-10304
 GaAs-(Al,Ga)As heterostructure, modulation doped, electron mobilities 4-6877
 GaAs-(Al,Ga)As stripe-geometry DH laser diodes, thermal props. 4-55042
 GaAs-(Al,Ga)As twin mesa laser integrated with a passive waveguide 4-10299
 GaAs-(GaAl)As semiconductor laser, wavelength-stabilized design 4-1410
 GaAs-Al_{0.3}Ga_{0.7}As DH lasers with two sections in common cavity, steady state characts. (Chinese) 4-5585
 GaAs-Al_{0.6}Ga_{0.4}As multiple quantum well struct., MOCVD grown, stimulated emission 4-40480
 GaAs-Al_xGa_{1-x}As, low temp. fractional quantum Hall effect 4-20675
 GaAs-Al_xGa_{1-x}As, Si doped quantum well struct., photolum., anomalous polarisation 4-2962
 GaAs-Al_xGa_{1-x}As DH rib waveguide electro-optic directional coupler switch 4-24254
 GaAs-Al_xGa_{1-x}As heterostructure, electron gas, a.c. conductivity study 4-11581
 GaAs-Al_xGa_{1-x}As heterostructure, 2D electron gas, parabolic negative magnetoresist. 4-25432
 GaAs-Al_xGa_{1-x}As heterostructure, localisation of two-dimensional electrons 4-40005
 GaAs-Al_xGa_{1-x}As MBE grown DH and multiple quantum well lasers 4-14696
 GaAs-Al_xGa_{1-x}As multiple quantum well heterostructs., spontaneous and stimulated photoluminesc. 4-16250
 GaAs-Al_xGa_{1-x}As modulation doped quantum well heterostructs., carrier density distrib. 4-20712
 GaAs-Al_xGa_{1-x}As multiple quantum well struct., free excitons in room temp. photolum. 4-30518
 GaAs-Al_xGa_{1-x}As quantum well structures, recomb. enhancement due to carrier localisation 4-7234
 GaAs-Al_xGa_{1-x}As quantum well heterostruct., p-doped, photolum. effects of longitudinal elec. field 4-21002
 GaAs-Al_xGa_{1-x}As quantum wells, acceptor binding energies 4-30039
 GaAs-Al_xGa_{1-x}As waveguide ion beam etching for integrated optical appl. 4-44261
 n⁻GaAs-Al_xGa_{1-x}As-n⁺-GaAs SIS capacitors, resonant Fowler-Nordheim tunneling 4-40017
 GaAs-AlAs multi-quantum-well struct., excitons, luminescence 4-46328
 GaAs-AlAs multiple-quantum-well struct., laser heating, luminesc. study 4-46301
 GaAs-AlAs superlattice, MBE grown, refr. index meas. 4-16175
 GaAs-AlAs/Si, for high efficiency cryst. solar tandem cells 4-21542
 GaAs-AlGaAs etalon, room-temp. low-power optical bistability obs. using diode laser 4-49426
 GaAs-AlGaAs heterostructures, dimensional resonance study 4-11582
 GaAs-AlGaAs heterostructures, Hall effect studies 4-11583
 GaAs-AlGaAs heterostructure, MBE grown, recent developments and device appls. 4-15952
 GaAs-AlGaAs heterostructure layers with high optical quality, MBE growth 4-16325
 GaAs-AlGaAs heterostructures, modulation-doped, hot electrons 4-40027
 GaAs-AlGaAs heterostructures, hot electron transport, expt. anal. 4-40038
 GaAs-AlGaAs heterostructs., quantized Hall effect device, resistance std. 4-45871
 GaAs-AlGaAs integrated laser phased arrays, longit.-mode control by phase vel. matching 4-38466
 GaAs-AlGaAs leaky optical waveguide with four layers, Maxwell eqns. anal. (Chinese) 4-38576
 GaAs-AlGaAs modulation doped heterojunctions, two-dimens. hole system, mobility 4-40026
 GaAs-AlGaAs multiple quantum wells and bulk GaAs, photoexcited, hot carrier relaxation 4-56361
 GaAs-AlGaAs ridge-waveguide DH lasers, MBE growth 4-14724
 GaAs-AlGaAs single and multi-quantum well struct., MOCVD growth 4-51507
 GaAs-AlGaAs single quantum well, improvements using thin superlattice buffers 4-51310
 GaAs-AlGaAs stripe-geometry lasers with self-existent waveguiding, stripe-contact lasers and lasers with high-resist. lateral layers (Polish) 4-33688
 GaAs-AlGaAs surface emitting laser diode with multilayered heterostructure reflectors 4-14723
 GaAs-Ga_{1-x}Al_xAs heterojunction, doping considerations, low temp. mobility 4-20708
 GaAs-Ga_{1-x}Al_xAs superlattices, MOCVD growth and struct. study 4-20498
 GaAs-GaAlAs DH lasers with ion beam etched facet 4-24020
 GaAs-GaAlAs DH laser, static field model with cavity longit. effects 4-28687

aluminum compounds continued

- GaAs-GaAlAs double quantum wells, bound and virtual bound states 4-46330
 GaAs-GaAlAs heterojunction, electrorefl. and spectroscopic ellipsometry 4-51389
 GaAs-GaAlAs heterostructures, LPE growth, Al conc. in subsurface region 4-7375
 GaAs-GaAlAs laser diodes, stress compensation 4-1392
 GaAs-GaAlAs optical waveguides, MOCVD grown, low losses, attenuation meas. 4-24179
 GaAs-GaAlAs staircase heterostruct., transient electronic transport, Monte Carlo simulation 4-30059
 GaInAs/AlInAs single quantum wells, photoluminesc. props. 4-2949
 GaSb/Al_{0.5}Ga_{0.5}Sb optically pumped multiquantum well lasers 4-55038
 GaSb/AlSb multiquantum well structs., MBE growth and narrow-well photoluminesc. 4-21003
 GdCl₃-AlCl₃ complexes, vapour press., comp. and thermodynamic props., radiochem. investig. 4-31008
 In_{1-x}Al_xAs epilayers on InP substrates, deposition and props. 4-30638
 In_{1-x}Al_xP_{1-y}Sb_y, quaternary, alloy heterojunction band discontinuities 4-45868
 InGaIP visible laser diodes, MBE growth and lasing characts. 4-28692
 K₂SO₄-Al₂(SO₄)₃·24H₂O, crystal growth rate rel. to microscopic damage 4-3044
 LiAlFe_{1-x}Cl_x, ionic cond., phys. props. 4-34700
 LiF-Li₂O-Al(PO₃)₃ system, Li⁺ conducting glassy solid electrolytes 4-45401
 Mg₂Al₄Si₂O₁₈, sintered cordierite, residual glass content, IR spectra 4-39149
 Mg_{5+x}Al_{2-4-x}Zr_{1.7+0.25x}O₁₂, -0.4≤x≤0.4, cryst. struct., refr. indices, birefr. 4-15438
 MnAl₂Si₄(Se₄)(Te₄), cryst. struct. and mag. props. 4-11090
 Na₁₃Al₂Si₁₃P₁₀O₉₆·16H₂O, cryst. struct. determ. 4-45069
 Nb-Al-oxide-Nb Josephson junctions, critical current uniformity and stability 4-56503
 Si-Al-O-N, form. in Si₃N₄-Y₂O₃-Al₂O₃-Si₂Al₂O₄N₄ system 4-57163
 Si_{100-x}Al_x:H amorphous films, reactive co-sputtering, high p-type conductivity and optical props. 4-40647
 SiAlON ceramic, hot pressed, grain boundary struct. 4-39311
 SiAlON, ceramic cutting tool materials, impact resist., fatigue wear rel. to microstructure 4-12199
 SiO₂-AlN-CaO system, glass forming liquids, viscosity 4-50557
 SmTmGdLuAlYIG epitaxial films, mag. props. study 4-56729
 SrF₂-MgF₂-YF₃-AlF₃ glass for IR transmission, crystn. kinetics 4-2085
 TmCl₃-AlCl₃ complexes, vapour press., comp. and thermodynamic props., radiochem. investig. 4-31008
 Y₂O₃-Al₂O₃-AlN-Si₃N₄, subsolidus phase relationships 4-12058
 Zr-Al-N, phase equilibria, phase anal., X-ray and metallographic methods 4-12060
 ZrF₄-BaF₂-GdF₃-AlF₃ glass optical fibre, impurity level reduction using sublimation purification technique 4-19607
 ZrF₄-BaF₂-LaF₃-AlF₃-NaF optical fibres, improved crucible fabrication technique 4-33819

aluminosilicate glasses

- alkali aluminosilicate glasses, chemical durability, radwaste appl. 4-14072
 fibre, glass-ceramic, alkali resistant, development for reinforcing cement 4-40736
 Li₂O-ZnO-Al₂O₃-TiO₂-SiO₂, glass-ceramic, polymorphic conversion 4-57216
 optical VAD fibres, fabrication, transmission loss and refr. index. dispersion (*Japanese*) 4-49588
 pyroxene glass ceramics, Fe-bearing and spinel type, synthesis 4-51611
 structure-coordination state of Al, ultralongwave X-ray spectroscopy 4-20117
 transuranic waste forms, comparative leach testing 4-4934
 Al₂O₃-B₂O₃-SiO₂ glass, composition influence on relative grinding hardness value 4-33821
 Al₂O₃-P₂O₅-SiO₂ system, glassy solids, low temp. synthesis 4-35598
 Al₂O₃-P₂O₅-SiO₂-V₂O₅ glasses, EPR and optical spectra of V 4-7055
 Al₂O₃-SiO₂ fibres, refractive index, composition and crystallisation relationship during heating (*Czech*) 4-50208
 Al₂O₃-SiO₂ glass layers formed by gel process, O diffusion 4-57181
 alkali aluminosilicate, interdiffusion of Ag, rel. to electronic polarisability 4-39613
 CaAl₂Si₂O₈ glass, emission spectra, shock wave instability temp. and rel. to fusion curve 4-30529
 CaO-SiO₂-Al₂O₃ glass, S doped, EPR study 4-25630
 FeO-Al₂O₃-SiO₂ glasses, spin glass transition and hyperfine parameters 4-30178
 K₂O-Al₂O₃-CaO-SiO₂, phase-separated glass, spinodal decomp. 4-7417
 LiO₂-TiO₂-Al₂SiO₅ system, crystn. of glass fibres 4-55750
 Li₂O-Al₂O₃-SiO₂, foamed glass ceramic lead through seal, dielec. const., microwave appls. 4-17896
 Li₂O-Al₂O₃-SiO₂ glass ceramic, heterogeneous system, prediction of fatigue life and fracture stress 4-26036
 Li₂O-Al₂O₃-SiO₂ glass containing Zr and Ti, phase separation and crystallisation (*Russian*) 4-6292
 Li₂O-Al₂O₃-SiO₂-P₂O₅ system, superionic gel and glass formation by low temp. chemical polymerisation 4-39587
 Li₂O-Al₂O₃-SiO₂-(TiO₂) glass, ESR study of change of structural state of Cu II during crystallisation 4-20856
 MgO-Al₂O₃-SiO₂, cordierite glass-ceramic, hot-pressed, thermal expansion 4-45364
 MgO-Al₂O₃-SiO₂, mechanical damage, strength of fibres based on glasses 4-51767
 MgO-Al₂O₃-SiO₂-MnO cordierite-type glasses, crystallisation, MnO effects 4-55738
 MnO-Al₂O₃-SiO₂ glass, sp. ht. rel. to mag. order, 1-38K 4-16046
 MoO₃-K₂O-Li₂O-Al₂O₃-SiO₂, glass-ceramic, nucleation kinetics 4-29329
 Na₂O-Al₂O₃-CuO-SiO₂ glass, struct., EPR and optical props. 4-10996
 Na₂O-Al₂O₃-SiO₂, interaction of Na, dislocation, Si-O bonding 4-51619
 Na₂O-Al₂O₃-SiO₂, treated with aqueous solutions, interdiffusion of ions 4-50590
 Na₂O-Al₂O₃-SiO₂ glass, acoustic, elastic and elec. props. 4-11233
 Na₂O-CaO-MgO-Al₂O₃-SiO₂-(TiO₂) glass, ESR study of change of structural state of Cu II during crystallisation 4-20856
 Na₂O-K₂O-MgO-F-Al₂O₃-SiO₂, machinable glass ceramic, crystal chemistry, EDXA 4-20109

aluminosilicate glasses continued

- P₂O₅-CaO-Al₂O₃-SiO₂ glass-ceramic material based bioactive implants (*German*) 4-8155
 SiO₂-Al₂O₃-CaO-K₂O-Cu₂O glass, phase transforms, Cu₂O effect 4-10993
 SiO₂-Al₂O₃-MgO-CaO-Na₂O/K₂O-F⁻-P₂O₅ system based machinable bioactive glass-ceramics (*German*) 4-7475
 SiO₂-LiO₂-Al₂O₃-K₂O-Na₂O glass, laser-irradiated, thermostimulated exoelectron emission 4-57079

a.m. (modulation) *see* amplitude modulationambient temperature *see* temperatureamblyopia *see* vision defects**americium***see also* nuclei with

- aqueous radwaste solutions, Pu and Am removal by ferrite treatment 4-18648
 Barents Sea, radioactive pollutants in seawater, sediment and biota 4-26722
 Greenland Sea, radioactive pollutants in seawater, sediment and biota 4-26722
 nuclear weapons fallout, Pu and Am at Thule, Greenland 4-46907
 NE Pacific, Am and Pu radioactivity in upper water column 4-26720
 pollution of Bombay coastal environment, India 4-41982
 radioactive waste, groundwater, effect on Pu, Np and Am isotopes 4-54266
 sorption by deep sea sediments 4-721
 Am/F(α,n) sources, neutron spectral meas. 4-37980
 Am/Li(α,n) sources, neutron spectral meas. 4-37980
¹⁴¹Am, kilogram quantities, markets 4-18843
²⁴¹Am, ²²⁶Ra, ²³⁹Pu, ²⁴⁹Cf and ²⁵²Cf, comparative toxicity in C57BL/Do black and albino mice 4-3597
²⁴¹Am, comparative retention of bone-seeking radionuclides in rat skeleton 4-3610
²⁴¹Am, exposed skin, elastic degeneration, 1976 Hanford exposure incident 4-16991
²⁴¹Am, haematologic effects in 1976 Hanford exposure incident 4-16990
²⁴¹Am in Japanese rice-field surface soils 4-31129
²⁴¹Am, internal deposition in exposure accident at Hanford, 1976 4-16988
²⁴¹Am, organ burden and dose estimates, 1976 Hanford exposure incident 4-16989

americium compounds

- AmO₂, production at Los Alamos Nat. Lab., safety levels 4-18845
 AmPO₄, vibr. props. (*German*) 4-2277
 Am₁₀(SiO₄)₆O₂, solid-state reaction formation temp. and cryst. struct. 4-39248
 U_{0.5}Am_{0.5}O_{2±x}, thermodynamic study 4-14055

ammeters

- DC instruments, high-sensitivity, comparison 4-4420
 fibre optic current meters, sensor design using (Y_{0.81}Tb_{0.19})₃Fe₅O₁₂ and ZnSe crystals (*Japanese*) 4-27539
 nanoammeter, circuit design using LF 355 differential amplifier (*Spanish*) 4-4422

ammonia

- adsorbed on Ru (001), local and long-range interactions with adsorbed Na and O₂ 4-2427
 adsorption on Cu-overlayered Ag electrode, Raman spectrosc. obs. 4-50632
 adsorption on Ru, mol. orientation, LEED, ESDIAD, TDS, work function meas. 4-39681
 atmosphere, sampling techniques field comparison 4-52916
 catalytic decomposition at Pt surface, N₂ vibr. excited mol. formation 4-33360
 chemisorption on Pt, effect on surface core level shifts 4-30041
 crystalline, lattice dynamics, polarisation interactions 4-50443
 desorption from Ni (111) surface, transition state theory appl. 4-29774
 electrode, ruminal fluids analysis appl. 4-26565
 explosion in glass capillary, for fusion reaction 4-38986
 fluid, chain-of-rotators eqn. of state 4-55473
 gas detection in flue gas using ¹³C₁₆O₂ laser monitor 4-12515
 gas detector using Pd MOS struct. 4-8887
 glow discharge, IR laser optogalvanic spectroscopy 4-23691
 ice:NH₃, electron as probe for defects 4-29983
 ice:NH₄F, electron as probe for defects 4-29983
 ice, optical props. from far IR to near UV, Jupiter atom. appls. 4-51215
 interstellar NH₃, obs. of clumping between mol. clouds (Orion MC-1 and MC-2) 4-27143
 interstellar NH₃, review 4-22464
 irradiated polarised proton targets 4-942
 Jupiter, methane and NH₃ bands, longitudinal var. 4-13242
 Jupiter atmosphere, modelling of two-phase stratiform clouds in presence of H₂O and NH₃ condensates (*Russian*) 4-31787
 laser, CW, 12 μm, optically pumped, investigation using tunable diode laser 4-24042
 laser, CW, line-tunable oscil. from 10.7 to 13.3 μm 4-49328
 laser energy and tuning characts., parameters of laser pumped mol. lasers 4-38456
 lasers, pulses high repetition rate, appls. in chemistry and isotope separation 4-23959
 layer on Ni (110), X-ray induced electron stimulated and photon stimulated desorption 4-25161
 liquid and solid phase, intermolecular pots., mol. dynamics calcs. 4-50169
 molecular gas two-photon optically pumped visible laser 4-14671
 molecule, ν_2 band two-photon transition intensities 4-38264
 molecule, ν_2 band, Fourier transform and diode laser spectra 4-14381
 molecule, ν_2 spectrum, Fourier transform interferometer meas. 4-38180
 molecule, ν_4 band, forbidden transitions obs., corrections to ground state $\Delta K=3$ intervals 4-9757
 molecule, bond path, use in characterising bond strain 4-14608
 molecule, elec. field gradients, Gaussian basis sets, ab initio STO calcs. 4-28363
 molecule, electron elastic scatt., small angle, 300, 400 and 500 eV 4-10099
 molecule, ground and ν_2 inversion-rot. levels, microwave and IR obs. 4-14398
 molecule, IR multiphoton excitation 4-54696
 molecule, N K-shell excitation, fragment ion appearance pot. spectrosc. 4-5478

ammonia continued

- molecule, pollutant gas monitoring by spectral measurements with 1.5 μm InGaAsP/InP laser 4-26346
 molecule, satellite struct. in photoelectron spectra, ab initio CI calcs. 4-23612
 molecule, substitution, inductive versus polarisation effects 4-18901
 molecule, vibr. anharmonicity, inversion, pot. function 4-14497
 molecule, X-ray scatt., charge transfer model 4-9790
 molecule wavefunction cluster expansion, comparison with full CI results 4-1035
 molecules, optogalvanic studies with a CO_2 laser 4-28431
 non-metastable lines towards compact H II regions, SHF obs. 4-13397
 normal and deuterated, adsorption on Cu (110), high resolution EELS study 4-45530
 photocatalytic synthesis in fluidised bed reactor 4-12331
 plasma chemical synthesis, electrode material effect 4-16660
 plate-fin heat exchangers fin profiles selection 4-21565
 production from coal using Texaco and gasification process, operating data 4-57745
 PUREX reprocessing, tributylphosphate solvent clean-up using $(\text{NH}_4)_2\text{CO}_3$ and NH_3 (German) 4-54284
 Q-band IR transitions 4-54658
 quasi-Wannier functions determ. from ab initio calcs. of $(\text{NH}_3)_7$ 4-24772
 Raman 12.08 μm CW laser, power enhancement with addition of H_2/He buffer gases 4-5571
 Raman laser, CW, optically pumped, 12.08 μm , high power-conversion efficiency 4-28664
 subliming from NH_4F , rot. and translation distrib. 4-14406
 vibrational MCD study 4-23730
 ND_3^+ , UV laser photodissoc., momentum analysis of fragments 4-9859
 $\text{ND}_3 + \text{F}$ reaction, vibr. energy partitioning 4-51967
 $(\text{NH}_3)_n$ struct., ab initio MO calcs., H-bond stability 4-38041
 NH_3 , low lying states, electronic struct. and spectra, ab initio calcs., Jahn-Teller distortion 4-1046
 $^{14}\text{NH}_3$, ν_2 bands, high resolution IR diode laser meas. 4-14414
 NH_3/O_2 flames, NO conc. profiles, laser induced fluoresc. and absorpt. meas. 4-35906
 NH_3 -acetylene, struct., microwave spectrum, mol. beam elec. reson. study 4-43901
 $\text{NH}_3\cdot\text{H}_2\text{O}$, vapour-liq. equilibria in 100 to 150°C region, partial press. meas., phenol conc. effect 4-29581
 $\text{NH}_3\cdot\text{H}^+(\text{Li}^+)$, interaction energies, SCF and Moller-Plesset levels 4-54831
 $\text{NH}_3 + \text{F}$ reaction, vibr. energy partitioning 4-51967
 $\text{NH}_3 + \text{HF}$, proton transfer reaction, hydration effect, quantum chemical approx. 4-21450
 $\text{NH}_3 + \text{NH}_3(\text{N}_2)(\text{H}_2)$, relaxation times, line widths, line shifts and double resonance effect calc. 4-1256
 $\text{NH}_3 + \text{SO}_2$, aerosol form. in Venus atm. 4-47561
 $(2\text{NH}_3\cdot\text{H}_2\text{O})$, cryst., H^+ transfer patterns 4-34694
 $^{14}\text{NH}_3$, vibr. excitation effect on ν_2 mode vibr.-rot. line contours 4-5229
 $^{14}\text{NH}_3$ molecular beam maser oscillator, frequency down-conversion 4-44081
 $^{15}\text{ND}_3$ 15.9 μm laser source 4-14716

ammonia clocks see atomic clocks**ammonium compounds**

- hydrogen tartrate, growth in SiO_2 hydrogel, density, morphology, microstructure 4-29365
 intercalated with K and graphite, Raman scatt. study intercalation cpd. with K and graphite, ZZ 4-46272
 intercalation cpd. with graphite and K, X-ray diffr. studies of struct. 4-45096
 lithium ammonium tartrate, ferroelectric, piezoelec. and piezooptical props. 4-46185
 lithium ammonium tartrate, phase transition, Raman scatt. study 4-25690
 $(\text{NH}_4)_{1-x}(\text{K}_x)\text{SO}_4$ mixed crystals, laser Raman spectra 4-2919
 $(\text{NH}_4)_2\text{OsCl}_6$, Cl K X-ray absorpt. spectra, white lines 4-14444
 PUREX reprocessing, tributylphosphate solvent clean-up using $(\text{NH}_4)_2\text{CO}_3$ and NH_3 (German) 4-54284
 $\beta\text{-Al}_2\text{O}_3(\text{NH}_4)_2\text{O}$, nonstoichiometric ionic conductor, NH_4^+ groups motion and PMR relax. 4-40274
 $(\text{Cr}(\text{NH}_3)_4)_2(\text{H}_2\text{P}_2\text{O}_7)_2\cdot 2\text{H}_2\text{O}$, cryst. struct. determ. 4-45072
 $\text{Hf}(\text{SO}_4)_2\cdot 2(\text{NH}_4)_2\text{SO}_4\cdot 4\text{H}_2\text{O}$, cryst. struct., X-ray study 4-15440
 $\text{KH}_2\text{PO}_4/\text{NH}_4\text{H}_2\text{PO}_4$, dielec. behaviour, effect of impurities 4-2885
 ND_4 in photochemical reaction, Schuler band absorpt., laser FM spectra 4-33414
 $(\text{ND}_4)_2\text{Cd}(\text{SO}_4)_2$, langbeinite type cryst., Raman spectra 4-30447
 ND_4Cl , NMR of ^{35}Cl 4-25647
 ND_4Cl phase transition, molecular dynamics, ND_4^+ rotations and libration frequency determ. 4-45317
 NH_4^+ , D isotope effects of N chem. shift 4-33423
 NH_4^+ , dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 NH_4^+ ions, effect on electronic struct. of GeF_6^{2-} ions 4-9685
 NH_4^+ , zero-field temp. depend. mobility in N_2 and O_2 4-19913
 NH_4BF_4 , K-shell excitation, photoelectron spectra 4-25848
 $\text{NH}_4(\text{BO}_3)_2\cdot 4\text{H}_2\text{O}$, growth from soln., cryst. morphology of α - and β -phases, twinning 4-15413
 $\text{NH}_4\text{B}_5\text{O}_{10}\cdot 4\text{H}_2\text{O}$, elastic consts., shear and compressional wave vel. meas. 4-2250
 NH_4BeF_3 , struct. phase transitions, X-ray study 4-25014
 $(\text{NH}_4)_2\text{BeF}_4$, ferroelectric, incommensurate phase, phase transitions 4-35385
 $(\text{NH}_4)_2\text{BeF}_4$, ferroelectric, γ -irrad., phase transitions, macroscopic quadrupole effects 4-46201
 $(\text{NH}_4)_2\text{BeF}_4$, incommensurate phase in applied mag. field 4-25011
 $(\text{NH}_4)_2\text{BeF}_4$, optical gyration and electrogyration 4-35415
 NH_4Br cubic compounds, thermal expansion 4-34674
 NH_4Br , cubic rotator phases, orientational order, mol. dynamics calcs. 4-20128
 NH_4Br , third order elastic consts. near λ point, anomalous temp. depend. 4-55907
 $(\text{NH}_4)_2\text{Cd}(\text{SO}_4)_2$, langbeinite type cryst., Raman spectra 4-30447
 $(\text{NH}_4)_2\text{Cd}(\text{SO}_4)_2$, optical activity, absorpt. spectra 4-35407
 $(\text{NH}_4)_2\text{Ce}(\text{PO}_3)_3$, cryst. struct. determ. 4-24785
 $(\text{NH}_4)_2\text{Ce}(\text{PO}_3)_3$, prep., cryst. struct. and morphology 4-6305
 NH_4Cl crystals, polaron spectra, two-particle states and Fermi reson. (Russian) 4-25754
 NH_4Cl crystals, third order elastic consts. 4-45239

ammonium compounds continued

- NH_4Cl cubic compounds, thermal expansion 4-34674
 NH_4Cl , NMR of ^{35}Cl 4-25647
 NH_4Cl , order-disorder phase transition, critical fluctuations, light scatt. study 4-25768
 NH_4Cl , phonon-like polaritons study 4-50738
 NH_4Cl , third order elastic consts. near λ point, anomalous temp. depend. 4-55907
 $\text{NH}_4\text{Cl}\cdot\text{H}_2\text{O}$, unidirectional solidification in microgravity, optical obs. 4-6475
 NH_4ClO_4 , proton spin-lattice relax. times, temp. depend., NMR study 4-56811
 NH_4ClO_4 , thermal ignition behaviour in presence of fuel-rich compounds 4-30990
 NH_4ClO_4 , topochem. decomposition, reactivity near reagent/product interface 4-41195
 NH_4CoF_3 cubic compounds, thermal expansion 4-34674
 $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$, proton spin-lattice relax. times, temp. depend., NMR study 4-56811
 $\text{NH}_4\text{-D}_2\text{ClO}_4$, proton spin-lattice relax. times, temp. depend., NMR study 4-56811
 $(\text{NH}_4\text{-D}_2)_2\text{Cr}_2\text{O}_7$, proton spin-lattice relax. times, temp. depend., NMR study 4-56811
 $\text{NH}_4(\text{-D}_2)_2\text{AsO}_4$, dielectric and elec. props. 4-35329
 $(\text{NH}_4)_2\text{Fe}(\text{SeO}_4)_2\cdot 6\text{H}_2\text{O}\cdot\text{Mn}^{2+}$, EPR spectra at room temp. and X-band freq. 4-30272
 $\text{NH}_4\text{H}(\text{CICH}_3\text{COO})_2$, NQR under high hydrostatic press. 4-30315
 $\text{NH}_4\text{H}_2\text{PO}_4$, dissolution and growth studies 4-11324
 $\text{NH}_4\text{H}_2\text{PO}_4$ -type antiferroelectrics, growth and characts. of coloured monodomain crystals 4-30417
 NH_4HSO_4 , ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
 $(\text{NH}_4)_2\text{H}(\text{SO}_4)_2$, thermally stimulated depolarisation current studies 4-6802
 NH_4HSeO_4 , ferroelectric phase transition study 4-51206
 NH_4HSeO_4 , incommensurate antiferroelec., dislocations and time-dependent dynamics 4-35382
 $\text{NH}_4(\text{H}_2\text{O})_2\text{MgCl}_3$, growth from soln., cryst. morphology, twinning 4-15413
 $\text{NH}_4\text{I:Mn}^{2+}$, EPR spectra 4-35222
 $\text{NH}_4\text{I}(\text{Cl}_4\cdot\text{H}_2\text{O})$, ^{35}Cl NQR investig. 4-30314
 NH_4IO_3 , ferroelectric, proton spin-lattice relax. studies 4-7085
 $\text{NH}_4\text{IO}_3\cdot\text{Te}(\text{OH})_6$, piezoelec., cryst. struct., X-ray powder diffr. study 4-6342
 $(\text{NH}_4)_2\text{InBr}_2\cdot\text{H}_2\text{O}$, NQR and NMR, electric field gradient 4-30333
 $(\text{NH}_4)_2\text{IrCl}_6$, Cl K X-ray absorpt. spectra, white lines 4-14444
 $(\text{NH}_4)_2\text{IrCl}_6$, Cl K X-ray absorpt. spectra, white lines 4-14444
 $(\text{NH}_4)_2\text{-K}_2\text{Al}(\text{SO}_4)_2\cdot 12\text{H}_2\text{O}$, mixed alum, photoelasticity 4-56886
 $(\text{NH}_4)_2\text{K}_2\text{SnCl}_6$ 4-30347
 NH_4LiSO_4 , ferroelec., Brillouin scatt. study, relaxation and anomalous temp. depend. of elastic constants 4-25769
 $\text{NH}_4(\text{Mg}(\text{H}_2\text{O})_2\text{Cl})_2$, cryst. struct. determ. 4-6327
 $(\text{NH}_4)_2\text{Mg}(\text{SO}_4)_2\cdot 6\text{H}_2\text{O}\cdot\text{Ni}^{2+}$, optical absorpt. spectra band splitting, spin-orbit interaction 4-2948
 $\text{NH}_4\text{MnFeF}_6$, cryst. struct. refinement 4-55805
 $\text{NH}_4^+(\text{NH}_3)_n$ struct., ab initio MO calcs., H-bond stability 4-38041
 NH_4NO_3 aerosol, NH_4 and HNO_3 loss rates 4-31554
 NH_4NO_3 , cryst. struct. and low temp. vibr. modes, neutron diffr. study 4-15432
 NH_4NO_3 , DMSO soln., highly conc., volumetric behaviour 4-34668
 NH_4NO_3 , IV-II phase transition, X-ray diffr. study 4-39484
 NH_4NO_3 , in liq. cryst. structure, ^{14}N NMR investig. 4-54750
 NH_4NO_3 solid, phase I and II, NO_3^- diffusion, ^{14}N NMR study 4-25083
 NH_4NO_3 , thermal props., modification transforms, and reproducibility of DTA curves 4-29601
 $(\text{NH}_4)_2\text{O}\cdot\text{Ce}_2\text{O}_3\cdot 4\text{P}_2\text{O}_5$, prep., cryst. struct. and morphology 4-6305
 NH_4PF_6 , PMR and ^{19}F NMR study at high press. 4-16111
 $(\text{NH}_4)_2\text{PtCl}_6$, Cl K X-ray absorpt. spectra, white lines 4-14444
 NH_4SCN , struct. phase transition, Raman scatt. obs. 4-30450
 $(\text{NH}_4)_2\text{SO}_4$ aerosol droplet, IR absorpt. spectrum, 970-1280 cm^{-1} range, molecular spectroscopy 4-35949
 $(\text{NH}_4)_2\text{SO}_4$, low temp. ferroelectric phase transition 4-51205
 $(\text{NH}_4)_2\text{SO}_4$, partially deuterated, spin lattice relax. time ^{17}O influence 4-51150
 $(\text{NH}_4)_2\text{SiF}_6$ surface film form. on Si (111) wafers, deposition mechanism effect, X-ray diffr., RHEED obs. 4-56174
 $(\text{NH}_4)_2\text{SnCl}_6$, Cl NQR, press. variation effect, spin-lattice relax. meas. 4-30326
 NH_4X crystals, where X=Cl, Br, or I, order-disorder phase transitions, ID hindered rotor model 4-45326
 $(\text{NH}_4)_2\text{ZnBr}_4$, ferroelec., incommensurate phase transition, X-ray diffr. study 4-2882
 NH_4ZnF_3 cubic compounds, thermal expansion 4-34674
 $(\text{NH}_4)_2\text{ZnF}_4\cdot 2\text{H}_2\text{O}\cdot\text{Cu}(\text{Mn})$, EPR spectra, hyperfine interaction 4-11759
 $(\text{NH}_4)_2\text{ZrF}_6$, hyperfine interaction and phase transition, TDPAC study 4-46151
 $\text{NH}_4\text{Zr}_2(\text{PO}_4)_3$, hydrothermal growth, cryst. struct., decomp. 4-45041
 $\text{Rb}_{1-x}(\text{NH}_4)_x\text{H}_2\text{PO}_4$, ferroelec.-antiferroelectric mixture, dipole-glass phase, dielec. const., X-ray diffr. profile meas. 4-20920
 $\text{Rb}_{1-x}(\text{NH}_4)_x\text{H}_2\text{PO}_4$ mixed cryst. proton glass, Vogel-Fulcher scaling of susceptibility 4-25670
 $\text{Rb}_{1-x}(\text{NH}_4)_x\text{H}_2\text{PO}_4$, ferroelec.-antiferroelec. crystal, short range ordering and freezing 4-34407
 $\text{Rb}_{1-x}(\text{NH}_4)_x\text{H}_2\text{PO}_4$, ferroelec.-antiferroelec. random mixture, dipole glass phase, X-ray study 4-44968
 $\text{Rb}_2(\text{NH}_4)_2\text{-HSeO}_4$ mixed crystals, high temp. phase transition, domain struct. 4-46194

amorphisation

- alloys, ion irradi., amorphous phase form. criteria 4-15553
 condensed systems, atomic diffusion, amorphisation effects 4-11332
 diamond- ^{57}Co , ion implanted, amorphisation, ^{57}Fe Mossbauer study 4-15548
 diamond- Co , ion implanted, amorphisation, Mossbauer study 4-34551
 hypervelocity impact expts. with railgun accelerator for amorphous alloys 4-46475
 ice, electron irradi. induced amorphous state, anomalous devitrification 4-39344
 kaolin, water interaction, dehydration, IR spectroscopy study 4-56924
 PET films and yarns treated by corona discharge 4-11018

amorphisation continued

- polyethylene films, oxidised on metals, decrystn. effects on film adhesion 4-16610
 quartz, electron irradi., metamict transform. 4-20257
 quartz, neutron and γ irradi. damage, positron annihilation study 4-20259
 semiconductors, diamond-like, amorphisability and mech. props. 4-29492
 YIG, neutron irradi., amorphisation, X-ray diff., mag. meas. studies 4-6408
 Au-Bi amorphous alloys prod. by laser quenching and ion irradi. 4-15382
 $\text{Ca}_2\text{Nd}_6(\text{SiO}_4)_6\text{O}_2$, Cm, alpha self-radiation induced swelling and amorphisation 4-15554
 $\text{Dy}_2\text{O}_3/\text{B}$, thin films amorphisation, forbidden gap 4-55725
 $\text{Fe}_{20}\text{Ni}_{80}\text{B}_{20}$, crystallised, re-amorphisation under neutron irradiation 4-45194
 Ga, amorphisation by low temp. ion irradiation 4-2234
 GaAs, ion beam amorphisation and recrystn., TEM study 4-39349
 GaAs, ion bombarded, displacement cascade struct., TEM study 4-34552
 GaAs:Cr, Si, ion implanted, annealing of amorphous layers 4-39325
 GaAs:Se, ion implanted, annealing, amorphisation and recrystn., high resolution TEM study 4-50319
 GaP ion bombarded, displacement cascade struct., TEM study 4-34552
 InP:Se, implanted, transient annealing using graphite strip heater and electron beam methods 4-34509
 Si, internal stresses from ion-implanted amorphous regions 4-11161
 Si, ion implantation, surface softening 4-50378
 Si, ion implantation damage and amorphisation, electron microscopy studies 4-55887
 Si, laser irradi., liq.-amorphous phase transition, thermal model 4-6478
 Si, valence electron energy states, amorphisation effects 4-50709
 Si:Hg , ion implanted, annealed and unannealed depth distrib. 4-34515
 $\text{Si}_3\text{H}_8(\text{OH})_2$, siloxene, cryst. to amorphous struct. change on thermal annealing 4-39144
 $(\text{SmYGDfM})_3\text{Ga}_{40}\text{Fe}_{40}\text{O}_{12}$ films, ion-implanted, characterisation of microstructure by SEM 4-25173

amorphous-crystalline transformations *see crystallisation***amorphous magnetic materials** *see magnetic properties of amorphous substances***amorphous semiconductors**

- see also chalcogenide glasses; electrical conductivity of amorphous semiconductors and insulators; insulators*
 Anderson transition and min. metallic cond. 4-45630
 binary semicond. glasses, hopping cond., ESR studies 4-45770
 carrier recombination rate study 4-25370
 conference, Tokyo, Japan (August 1983) 4-42584
 defects, impurities and doping effects, statistical theory anal. (Chinese) 4-55723
 electron-phonon interactions near mobility edge 4-45650
 films, laser-induced oscillatory phenomena 4-5645
 films, new-phase nucleation kinetics during pulsed heating 4-2476
 intermediate order, rel. to light absorpt. coeff. in optical tail region 4-6271
 local density of states in dislocation and impurity cages 4-45688
 localisation, deep states in gap, and hopping transport 4-45685
 localised state distrib., transient photodecay meas. sensitivity, Monte Carlo study 4-56388
 magnetoresistance in variable range hopping regime 4-45812
 nonequilibrium transport and energy relax. 4-45777
 nuclear spin relax. phenomena 4-40270
 photovoltaics for solar energy appls., conf., Arlington, VA, USA (April 1983) 4-13469
 poly-(2-vinylpyridine-CO-styrene) film, metal-phthalocyanine bound, elec. cond. mech. (Japanese) 4-56349
 poly-N-epoxypropylcarbazole photogeneration quantum yields 4-56394
 poly-N-vinylcarbazole, doped, amorphous and photoconductive, glass transition in charge carrier transport phenomena 4-39916
 Se, electron struct., cluster approx. 4-15812
 a-Si:H film, CVD deposition process 4-51519
 Si crystals, solar grade, physics, chemistry and growth aspects for use in flat-plate photovoltaic systems 4-7352
 Si solar cells, R&D progress (Japanese) 4-3457
 solar cells, amorphous, single-junction and tandem, optimal design 4-12484
 solar cells, conference, Pianore, Italy (July 1980) 4-36794
 solar cells, ovonic amorphous photovoltaic thin film, commercial development 4-16772
 solar cells, thin film, overview 4-16771
 superlattices, phys. props. 4-15940
 thermoelectric power due to variable-range hopping 4-45816
 transient induced absorpt. spectroscopy from picoseconds to milliseconds 4-40472
 transition metal oxide glasses, elec. transport and struct. props., small polaron theory 4-6783
 triplet exciton recomb., ODMR studies 4-39782
 Zero field optically detected mag. reson. study 4-56820
 AgGaS₂ films, polycrystalline and amorphous, growth by flash evaporation, elec. props. 4-45562
 Al/a-Se/Al dark EMF phenomena and photovoltage (Korean) 4-20719
 As, amorphous, passivation technique for MBE growth-interruption problems 4-30634
 As₂S₃/Ag film, photostimulated diffusion study (Russian) 4-50588
 AsSbS₃-CdSe heterostructure, EBIC study 4-50918
 As₂Se₃GeO₅ heterostructure, EBIC study 4-50918
 α -B:H films, transient and steady state photocond. 4-45834
 BaO-V₂O₅ glass, elec. cond. 4-6780
 BaO-V₂O₅-Fe₂O₃ semicond. glasses, Fe and V ion interactions 4-6281
 Bi₂O₃-V₂O₅-CaO glasses, elec. cond. temp. depend. 4-39891
 a-C, nucleation of Sb, atomistic nucleation theory 4-39439
 C:H films, amorphous, DC cond. and ESR meas. 4-56353
 a-C:H glow discharge film, white photoluminescence 4-40511
 (Cd₂GeAs₄)_n-(TiAs)₂ system, glass formation and elec. props. 4-45020
 CdO-ZnO-P₂O₅ glasses, IR transmission spectra, absorpt. band gap determ. 4-11876
 CdO-ZnO-P₂O₅ glasses, memory switching 4-45840
 CdTe, amorphised, hopping and band transport 4-25338
 CuS amorphous thin films, preparation and optical props. 4-11420
 GaAs, amorphised, hopping and band transport 4-25338
 GaAs, appl. of spectral limits theorem 4-6696
 GaAs, ion beam amorphisation and recrystn., TEM study 4-39349
 GaAs single-cryst. polycryst. and amorphous samples, picosecond range process investigation 4-20939

amorphous semiconductors continued

- a-GaAs:H, amorphous and microcryst., electronic struct., photoemission spectra 4-39767
 GaAs:H sputtered thin film, RBS anal. 4-45546
 GaP, amorphised, hopping and band transport 4-25338
 GaSb flash evaporated amorphous film, Raman studies 4-46353
 Ge, amorphous, in-situ crystn. under laser irradiation in TEM 4-39336
 Ge, amorphous, low temp. AC loss meas., evidence for two loss mechanisms 4-50812
 Ge, amorphous, sp. ht. meas. at very low temps. 4-50536
 Ge, amorphous, tunnelling systems, thermal cond. meas. 4-6572
 Ge amorphous film, absorption edge determ. from transmission meas. 4-49260
 a-Ge film, laser annealing, in situ TEM studies 4-24860
 a-Ge film, transient photoconductivity study 4-2632
 a-Ge films, short range order, vacuum deposition angle depend. 4-50203
 Ge, growth model from amorphous phase 4-16299
 a-Ge, heavily doped, Coulomb gap, disorder effect, cond. study 4-45781
 a-Ge, hopping transport, extended theory 4-45778
 a-Ge, hydrogenated and nonhydrogenated, density of states modifications, 3d core levels binding energy effect 4-50707
 a-Ge, laser induced structural changes 4-39340
 Ge, low power laser annealing effects, crystallisation 4-15528
 a-Ge, low-power laser annealing, defect migration and temp. gradient effects 4-24861
 Ge, polycrystalline layers form. by solid phase epitaxy through amorphous material zone recrystn. (Russian) 4-46433
 a-Ge, refractive index dispersion temp. depend. 4-30429
 a-Ge sputtered films, ordering prior to crystn., Raman scatt. and EXAFS study 4-6273
 Ge thin film, amorphous, annealing and oxygenation effects on conductivity 4-40085
 a-Ge thin films, electron beam induced explosive crystallisation and dendritic growth 4-39711
 a-Ge:H, bond stretching modes, IR absorpt. spectra study 4-40435
 a-Ge:H, doped and undoped, defect correl. energy, IR absorpt. 4-40483
 a-Ge:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 a-Ge:H, H-atom local density of states, T-matrix anal. 4-24938
 a-Ge:H, semiconductor superlattices, phys. props. 4-15940
 a-Ge:H, spin-lattice relax. of paramag. states 4-40226
 a-Ge:H, thin film, homogeneous chemical vapour deposition 4-51513
 a-Ge:H film, magnetron sputtered, high photocond. 4-11555
 a-Ge:H sputtered film, AC and DC conduction, H effects 4-25347
 a-Ge:Mo films, local struct. and elec. props. 4-39133
 Ge:P(B) amorphous films, ESR spectra, temp. depend. 4-11770
 a-Ge-monocrystal Si junction, elec. behaviour 4-20713
 GeS, optical props. in spectral region 18 to 38 eV 4-35463
 GeSe, amorphous thin films, crystn. in TEM 4-34406
 GeSe₂ films, amorphous, laser-induced oscillatory phenomena 4-5645
 In_{1-x}Ga_xSb amorphous films, laser induced explosive crystn. for optical information storage 4-14763
 InP, amorphised, hopping and band transport 4-25338
 InP films, electronic props. and struct., electron diff., optical and elec. cond. meas. 4-39143
 InP films, flash evaporated, electronic distrib., disorder effect, soft X-ray spectra, XPS meas. 4-40599
 La₂S₃2Ga₂O₃:Nd³⁺ glasses, upper active level filling process characts. 4-30526
 MgO amorphous thin films, visible and UV anomalous absorption 4-46340
 a-P, radiative recombination, ODMR and photoluminesc. studies 4-25799
 Pb_{1-x}HgS films, flash-evaporated, structure 4-39731
 Sb₂S₃ films, growth by soln.-gas interface technique, optical and electrical props. 4-29838
 Se, amorphous, AC cond., photoinduced changes 4-45787
 Se, amorphous, hole lifetime in strong elec. fields 4-6807
 Se, amorphous films, elec. and photoelec. props. controllability 4-45790
 Se amorphous layer, electret state, AC field effects (Russian) 4-46175
 a-Se, deep trapping levels, elec. field ionisation 4-45690
 a-Se, equilib. doping and elec. behaviour, xerographic studies 4-45804
 a-Se film, mol. doping and transport props. 4-45159
 a-Se films, crystallisation, compressive stress form., vacancy mechanism 4-34828
 Se, glassy, struct. defects, local density total energy calcs. 4-44978
 Se photoreceptors, deep gap state spectroscopy 4-20606
 a-Se thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355
 Se vapour deposited amorphous thick films, room temp. ageing, X-ray diff. 4-29836
 Se/Al struct., elec. switching phenomena (Russian) 4-45880
 Si alloy amorphous tandem solar cells, continuous roll-to-roll plasma deposition 4-16779
 a-Si alloys, optical absorpt. props., effects of topological and quantitative disorder 4-46217
 Si, amorphised, hopping and band transport 4-25338
 Si, amorphous, bibliography, 1982 update 4-42646
 Si, amorphous, glow-discharged, photoluminescence study 4-40532
 Si, amorphous, laser-annealing, acoustic signals obs. 4-11181
 Si, amorphous, photocrystallisation by laser beam or incoherent radiation, SEM/TEM study 4-6304
 Si, amorphous, prepared by CVD, refr. index depend. on optical gap 4-7257
 Si, amorphous; radiation induced interface states in MOS capacitors 4-45208
 Si, amorphous, solar cell, photon responses and energy conversion coeff. (Dutch) 4-36010
 Si, amorphous, solar cells, interface recombination effects, theory 4-46874
 Si, amorphous, solar cells, reverse bias and heat treatments 4-57717
 Si, amorphous and microcrystalline, vacuum deposition form. 4-46442
 Si, amorphous based alloy solar cell modelling 4-52151
 Si amorphous film, halogenated and hydrogenated, transport props. rel. to deposition parameters 4-6824
 Si amorphous film, hydrogenated, photocond. and trapping parameters 4-6823
 Si amorphous film deposition by laser induced-CVD and sputtering 4-7369
 Si amorphous films, deposition techniques and appls. 4-7368
 Si, amorphous films, epitaxial recrystn. on sapphire 4-25185
 Si amorphous films with SiO₂ patterns, lateral solid-phase epitaxy 4-20510

amorphous semiconductors continued

- Si amorphous ion implanted layers, seeded crystallisation using laser and electron irradi. 4-55724
 Si amorphous photovoltaic solar cells, progress 4-16773
 Si amorphous photovoltaic modules; manufacture rel. to prod. cost components 4-16778
 Si, amorphous Si/polycrystalline Si stacked solar cell with over 12% conversion efficiency 4-21548
 Si amorphous solar cell types, fabrication method for high conversion efficiency 4-16774
 Si amorphous thin film fabrication appl. of microwave plasma CVD system (*Japanese*) 4-3084
 Si, appl. of spectral limits theorem 4-6696
 Si buried amorphous layers, ion implanted, thermal cond., laser probe studies 4-56104
 a-Si, continuous random network model, force field treatment 4-55732
 a-Si, density of gap states, charged dangling bonds, crystn. studies 4-39833
 Si, density of states in energy gap, Bethe lattice model (*Chinese*) 4-20605
 a-Si, EPR and spin-lattice relax rate below 1K 4-46087
 a-Si, elec. props. anal. by EBIC method 4-50679
 Si, elec. props. study, interface and surface effects study 4-39976
 a-Si evaporated film, hydrogenation and direct substitutional doping, elec. props. 4-24837
 Si evaporated films, dangling bond density reduction by hydrogenation under NH_3 4-2545
 a-Si film, horizontal plasma deposition and solar cells 4-51542
 a-Si film, photo-electronic props. 4-15972
 a-Si film, photochemical vapour deposition 4-51517
 Si film structure on (100) texture, laser recrystallised on fused quartz 4-50651
 a-Si films, deposition from plasma influence of gas flow direction 4-51531
 a-Si films, self-sustaining crystallisation study 4-39723
 Si, growth model from amorphous phase 4-16299
 a-Si, hopping transport, extended theory 4-45778
 Si, implanted, thermal cond. meas., photoacoustic signal 4-20422
 Si, impurity trapping, influence of fast solidification 4-15647
 p-Si insulator a-Si:As⁺, laser annealing effects (*Korean*) 4-40020
 a-Si, integrated multi-bandgap solar cells fabrication and props. 4-52152
 Si, interfacial reaction with Schottky metals 4-39612
 Si, ion implantation damage and amorphisation, electron microscopy studies 4-55887
 Si, ion mixing of marker atoms 4-34514
 Si, ion-implant conditions in device processing, transport in amorphous targets, Monte Carlo simulation 4-29453
 Si, laser-annealed, transiently molten, ultra-rapid solidification 4-24858
 a-Si, low-energy heavy ion ranges, shell effects 4-50388
 a-Si material for thin film solar cells (*Japanese*) 4-3458
 a-Si, on Si_3N_4 , material migration, grain growth and crystallisation, in situ laser heating in STEM 4-10931
 a-Si, optical absorpt. spectrum, electronic consequences of ideal local order 4-46280
 a-Si p^+ -i-n⁺ diode solar cells, storage current meas. 4-52157
 a-Si p^+ -n-i struct., high-speed memory switching 4-50879
 a-Si p-i-n junction, photovoltaic devices fabrication and characts. 4-50913
 a-Si p-i-n junction solar cells, high efficiency, junction and film props. anal., design and fabrication 4-52163
 a-Si p-i-n junctions, carrier lifetime study 4-15941
 a-Si p-n junction, photocurrent due to p layer 4-50914
 a-Si, p-type, sputtered, elec. and optical props. 4-6779
 a-Si, photo-induced defects and photocond. 4-39986
 Si, preamorphized, BF₃⁺ implanted, rapid thermal annealing 4-15514
 Si single-cryst. polycryst. and amorphous samples, picosecond range process investigation 4-20939
 Si solar cell active layers, cost estimates for amorphous deposition processes 4-21149
 a-Si solar cells, optical confinement by MIS tunnelling back surface electrode 4-52154
 a-Si solar cells, photovoltaic props. degradation after laser irradi., Staebler-Wronski effect rel. to excess carriers 4-52153
 a-Si solar cells, review of recent advances 4-52159
 Si solar cells, technological advancements, w.r.t. effectiveness and economics (*Slovak*) 4-3465
 Si, solar-grade, production by burning rice husks, eval. by photoelectrochemical techniques 4-57130
 Si, sp. ht. meas. at very low temps. 4-50536
 a-Si, specific heat at low temp. 4-39538
 Si, sputtered amorphous solar cell, deposition parameters rel. to photovoltaic props. 4-21541
 a-Si thin films, magnetron sputtered, props., influence of deposition parameters 4-50686
 a-Si thin films, residual strains, X-ray double cryst. topography study 4-39710
 a-Si, transport and related props., transient expts. 4-45775
 Si, valence electron energy states, amorphisation effects 4-50709
 a-Si, vibrational density of states 4-39427
 a-Si:(D,O) films, IR study of bonding 4-46354
 Si:(H, Cl) amorphous films, XPS and UPS investig. (*Chinese*) 4-21102
 Si:As, amorphous ion-implanted layer, thermal annealing, ellipsometric parameters (*Chinese*) 4-7483
 a-Si:Al films, transport props., metal-insulator transition and supercond. 4-39995
 Si:B, preamorphized, implants, rapid thermal annealing, residual defects 4-50316
 a-Si:B,H films, prep. by CVD, optical parameters, effect of post-hydrogenation and H-exodiffusion 4-40390
 Si:B (BF₃), cryst. and amorphous, carrier and implant profiles 4-29459
 a-Si:B p-i-n solar cell produced by reaction chamber method, prep. and props. 4-52149
 Si:BF₃, preamorphized, implants, rapid thermal annealing, residual defects 4-50316
 Si:B(P), amorphous CVD films, doping and elec. props., plasma hydrogenation effects 4-39321
 a-Si:B(P) CVD film, crystallisation growth rate, doping depend. 4-44948
 a-Si:C, local struct., NMR, EPR, Raman, scatt., and IR absorpt. studies 4-39131
 a-Si:C,O,H film, photolum. props., effect of O₂ 4-40513
 a-Si:Cl, H film, EPR study (*Chinese*) 4-20858

amorphous semiconductors continued

- a-Si:Cl, H films, photocond. and absorption study 4-39972
 a-Si:D(H), vibr. props., IR absorpt. spectra 4-40440
 a-Si:F films, deposition, elec. and optical props. 4-51541
 Si:F films, prep. by glow-discharge decomp., impurity content, IR transmission spectra, bond stretching vibrs. 4-2983
 a-Si:F films, Raman scatt. of SiF₄ mols. 4-40437
 a-Si:H, AC cond., photoinduced changes 4-45787
 Si:H, amorphous, CVD prep., optical, electronic and device props. 4-16337
 Si:H, amorphous, collection lengths and diffusion lengths in p-i-n solar cells 4-50830
 Si:H, amorphous, geminate recombination effect, prep. parameters (*Chinese*) 4-6798
 Si:H, amorphous, glow-discharge prep., sp. ht. meas. at very low temps. 4-50536
 Si:H, amorphous, growth mechanism anal. by Rutherford recoil meas. for glow discharge prep. 4-45540
 Si:H, amorphous, high-rate deposition from SiH₄ plasma 4-51529
 Si:H, amorphous, large area glass/TCO/p-i-n/metal solar cell, photovoltaic performance improvement 4-16776
 Si:H, amorphous, multilayered photoreceptor drum for electrophotography, glow discharge fabrication 4-40673
 Si:H, amorphous, multiple gap solar cell, limiting efficiency calc. 4-16782
 Si:H, amorphous, periodically structured MSM structs., picosecond response photodetectors 4-37169
 Si:H, amorphous, photoinduced IR absorpt., dispersive relaxations 4-35443
 Si:H, amorphous, RF sputtered, light-induced optical absorption changes (*Chinese*) 4-21056
 Si:H, amorphous, reactive RF sputtering in Ne, Ar and Kr 4-7358
 Si:H, amorphous, silicide formation with metals for semitransparent photodiode electrodes appl. 4-56094
 Si:H, amorphous, solar cells, review 4-26295
 Si:H, amorphous, solar cells, light soaking and regenerative annealing 4-46876
 Si:H, amorphous, sputtered, photovoltaic props., solar cells appl. 4-21136
 Si:H, amorphous CVD film, post-hydrogenated, electronic props. 4-35578
 Si:H, amorphous film, magnetron sputtered, gap state density determ. 4-29862
 Si:H, amorphous films, localised states, photoluminesc. study method 4-39832
 Si:H, amorphous films, plasma deposition kinetics, optical emission spectroscopy 4-21164
 a-Si:H, anomalous surface photocond. 4-39975
 Si:H, B, amorphous, simultaneous depth profiling by elastic recoil detection anal. 4-29460
 a-Si:H, B, dopant states, tight-binding model 4-6743
 Si:H, B, Hall effect and hole transport 4-20673
 a-Si:H, B films, photoinduced metastable surface effects 4-15908
 a-Si:H, band edges, Fermi level position, surface H conc. 4-39763
 a-Si:H, bond stretching modes, IR absorpt. spectra study 4-40435
 a-Si:H, carrier dynamics, surface and interface effects obs. by transient grating spectroscopy 4-39928
 a-Si:H, charge fluctuations electronic density of states calc. 4-45568
 a-Si:H, Cl film, photoluminescence spectra 4-40507
 a-Si:H, Cl films, doped and undoped, Hall mobility meas. 4-39940
 a-Si:H, Cl films, IR spectra study 4-40550
 a-Si:H, compensated, localised states, drift mobility, charge collection meas. 4-45692
 a-Si:H, computer model with periodic boundary conditions, struct. and vibr. spectra 4-39136
 a-Si:H, conduction mechanism and photocond. 4-25350
 a-Si:H, deep level distrib., transient voltage spectroscopy 4-40046
 a-Si:H, deep trapping, disorder and band tail localisation effects 4-45809
 a-Si:H, density of gap states determ., const. photocurrent method, transient current spectroscopy 4-39762
 a-Si:H, density of states distrib. determ., capacitance-voltage method 4-39760
 a-Si:H, differential photocurrent transients, meas. using Fourier transform technique 4-39963
 a-Si:H, dispersive transport, Monte Carlo study 4-45779
 a-Si:H, distant-pair recombination, tunnelling nonradiative transitions 4-46322
 a-Si:H, dopant states, tight-binding model calc. 4-6741
 a-Si:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 a-Si:H, effect of light irradi. on TSC 4-39927
 a-Si:H, effect of localised-state distrib. on photoconductive props. 4-39964
 a-Si:H, elec. cond. study 4-39905
 a-Si:H, electron-transport meas. 4-40090
 a-Si:H, electronic and optical props. 4-45687
 a-Si:H, F, dopant states, tight-binding calc. 4-6742
 Si:H, F amorphous thin films, RF glow discharge deposition from SiF₄, plasma anal. 4-21169
 a-Si:H, F film, deposition and photoconductivity 4-51540
 a-Si:H, film deposition by glow discharge, bias effects on props. 4-51497
 a-Si:H, gap state distrib., elec. props. meas. 4-39764
 Si:H, gap state parameters, isothermal capacitance transient spectroscopy (*Japanese*) 4-20609
 Si:H, gap states density, deep levels, TSC meas. in space charge zone 4-2623
 a-Si:H, glow discharge deposited, impurity diffusion study 4-39598
 a-Si:H, glow discharge deposited film, crystallisation 4-39721
 a-Si:H, glow discharge film, silane dilution effect on intrinsic stress 4-50673
 a-Si:H, glow discharge produced, appl. to solar coatings 4-31099
 a-Si:H, hydrogenated and pure, phonon density of states 4-39426
 a-Si:H, IR study of stretch freq. 4-11895
 a-Si:H, interface kinetics at metal contacts, Raman scatt. and elec. props. 4-40048
 a-Si:H, light-induced metastable defects 4-39284
 a-Si:H, light-induced optical absorpt. changes 4-40485
 a-Si:H, luminescence, metastable excited carrier population 4-40525
 a-Si:H, luminescence quantum efficiency 4-40506
 a-Si:H, luminescence study of saturation of band tail states 4-40509
 a-Si:H, MIS diodes, trap level and conc., DLTS 4-15887
 a-Si:H, N glow discharge films, optical band gap, H content effects 4-57011
 a-Si:H, nonequilibrium photon thermalisation 4-20421

amorphous semiconductors continued

- a-Si:H, nonsubstitutional dopant states and carrier density statistics 4-56271
 a-Si:H, occupied gap states distrib., photoelec. yield spectroscopy 4-40596
 a-Si:H, optical energy gap, H content depend. 4-40392
 a-Si:H, optically detected mag. resonance and luminescence 4-40282
 a-Si:H, P, mechanism of P-doping IR spectra study (*Chinese*) 4-39130
 a-Si:H, P films, transient-photoconductive studies 4-40094
 a-Si:H, p-type, used as photoreceptor, photoelectrical and optical study 4-40393
 a-Si:H, P(B), film, surface states study 4-30036
 a-Si:H, phonon density of states meas. 4-45295
 a-Si:H, phonon interactions in tail states 4-20308
 a-Si:H, phonon-induced delocalisation of band tail states 4-45684
 a-Si:H, photo-induced mid-gap absorption and transient photocond. 4-39970
 a-Si:H, photocond., Fermi level effect 4-39973
 a-Si:H, photoconductivity, light-induced defects 4-39965
 a-Si:H, photoconductivity absorpt. edge study 4-30021
 a-Si:H, phys. props. and imaging appl. (*French*) 4-39984
 a-Si:H, RF glow discharge deposited, optoelectronic and photovoltaic props. meas. 4-50864
 a-Si:H, RF sputtered, light induced Si-H bond (*Chinese*) 4-11413
 a-Si:H, RF sputtered, props., effects of RF power and total gas press. 4-2981
 a-Si:H, radiative and nonradiative processes 4-21033
 a-Si:H, recomb. mechanisms, radiative and nonradiative processes, subnanosecond photoluminescence meas. 4-40503
 a-Si:H, recomb. processes, ODMR and photoluminesc. study 4-20889
 a-Si:H, recombination and spin depend. effects, comment 4-11803
 a-Si:H, recombination kinetics depend. on photoexcitation density 4-39925
 a-Si:H, recombination processes and spin-dependent photocond. 4-6831
 a-Si:H, recrystallisation, AES obs. 4-40579
 a-Si:H, reversible photoinduced changes of electron hole lifetimes and gap states 4-39926
 a-Si:H, SIMS anal. using superimposed D implant standards 4-46829
 a-Si:H, Schottky barrier, electron drift mobility 4-45766
 a-Si:H, semiconductor superlattices, phys. props. 4-15940
 a-Si:H, short-range order, EXAFS obs. 4-40570
 a-Si:H, solar cell, ion bombardment effect on efficiency 4-45211
 a-Si:H, space-charge-limited I-V characs. and density of states 4-45798
 a-Si:H, spin-dependent photoinduced absorpt., ESR study 4-40225
 a-Si:H, spin-lattice relax. of paramag. states 4-40226
 a-Si:H, sputter deposition, energetic H-atom bombardment effects 4-45560
 Si:H, Staebler-Wronski effect meas., appl. of Meyer-Neldel rule 4-15910
 a-Si:H, Staebler-Wronski effect, dark cond. study 4-39966
 a-Si:H, Staebler-Wronski effect thickness depend. 4-39967
 a-Si:H, thermal props. at low temps. 4-56045
 a-Si:H, thin film, homogeneous chemical vapour deposition 4-51513
 a-Si:H, thin film solar cell modelling, uniform field approx. 4-31097
 a-Si:H, time of flight photocond. study 4-39969
 a-Si:H, transient photocurrent in weak electron phonon coupling 4-39974
 a-Si:H, transport props., effect of surface oxide 4-39977
 a-Si:H, trap statistics and gap density of states calc. method 4-11488
 a-Si:H, trapped electron-trapped hole recomb., dangling bonds, photocond., EPR studies 4-39834
 a-Si:H, travelling wave method for meas. drift mobility 4-11540
 a-Si:H, two-beam photoluminescence study 4-40505
 a-Si:H, undoped layers, effect of dopant contamination on space charge limited currents 4-50824
 a-Si:H, vibr. density of states, bond CPA calc. 4-39425
 a-Si:H, vibrational density of states 4-39427
 a-Si:H,B, density of gap states determ., space charge spectroscopy 4-39759
 Si:H,B amorphous films, glow discharge deposition, BF₃ doping 4-29456
 a-Si:H,B films, prep. by glow discharge, optical props. 4-35508
 a-Si:H,B p-i-n solar cell, carrier collection enhancement by B doping in i-layer 4-52155
 a-Si:H,B(P) film, doping efficiency, crystallisation effects 4-44949
 Si:H,B(P) microcryst. film, preferential dopant segregation 4-45340
 a-Si:H,Cl, doping in RF glow discharge 4-45158
 Si:H,F, amorphous film, glow discharge deposition and high resistive props. 4-16342
 a-Si:H,F,P alloys, high conductivity, percolation process, effect of P-doping 4-39907
 Si:H,F films, amorphous-microcryst. mixed phase, elec. props., appl. to power sensors and strain gauges 4-50855
 a-Si:H,F high cond. film, performance for power sensor and strain gauge 4-50813
 a-Si:H,N films, plasma deposition, optical and elec. props. 4-39716
 a-Si:H,O glow discharge coatings, photocond. 4-15915
 a-Si:H,P, dispersive photoluminescence decay 4-40510
 a-Si:H,P, doping depend. of carrier lifetime 4-2622
 a-Si:H,P, localised states and photoconductivity 4-39836
 a-Si:H,P, photoinduced transient localised states 4-39835
 Si:H,P microcrystalline films, struct. and elec. props. 4-45551
 a-Si:H,P(B) film, optically induced excess cond. 4-40088
 a-Si:H,Sb(In,Tl), doping by controlled evaporation into RF plasma discharge 4-40674
 Si:H amorphous film, growth characterisation of multiple angle of incidence spectroscopic ellipsometry 4-51523
 Si:H amorphous film, thickness and optical constants determ. 4-25706
 Si:H amorphous films, glow discharge deposited, Schottky barriers, photovoltaic props. 4-30047
 Si:H amorphous layer, broadband spectroscopy by optical guided wave techniques 4-43067
 Si:H amorphous layer on quartz, SHG, bulk material use in integrated optics 4-24242
 Si:H amorphous solar cell degradation, role of C 4-41338
 a-Si:H and a-Si, dangling bond states, rigorous energy bounds 4-45681
 a-Si:H and a-Si, hydrogenated bond states, rigorous energy bounds 4-45682
 a-Si:H CVD films, struct. and electronic props., Raman scatt. study 4-40436
 a-Si:H diodes, n-i-n struct., photo-induced degradation 4-35056
 a-Si:H evaporated film, IR vibr. spectroscopy studies 4-21059
 a-Si:H film, CVD deposition and photoconductivity 4-51520
 a-Si:H film, CVD growth and photoconductivity 4-51516

amorphous semiconductors continued

- a-Si:H film, carrier dynamics at surface and interface, transient grating method obs. 4-20667
 a-Si:H film, chemical vapour deposition characterisation 4-51514
 a-Si:H film, deposition characs. 4-51530
 a-Si:H film, electric field induced conduction drift (*Chinese*) 4-20746
 a-Si:H film, growth kinetics studied by pulsed RF discharge 4-51532
 a-Si:H film, ion bombardment effect on growth 4-51539
 a-Si:H film, laser CVD study 4-51515
 a-Si:H film, low temp. photocond. and photolum. study 4-39971
 a-Si:H film, microcrystalline, morphological fluctuations 4-50678
 Si:H film, microcrystalline, NMR and optical spectra 4-51142
 a-Si:H film, microwave glow discharge deposition method 4-51537
 a-Si:H film, photoconductivity study 4-39968
 a-Si:H film, plasma deposited, mech. stress 4-29855
 a-Si:H film, plasma deposited, field effect conductance, temp. depend. 4-39903
 a-Si:H film, plasma deposition rate study 4-51534
 a-Si:H film, plasma deposition study 4-51535
 a-Si:H film, plasma deposition calcs. 4-51536
 a-Si:H film, plasma deposition and growth morphology 4-51543
 a-Si:H film, reactive evaporation deposition 4-51503
 a-Si:H film, short lived photoinduced midgap absorpt. 4-40551
 a-Si:H film, sputtered, transform. from microcrystalline state 4-51491
 a-Si:H film, UHV plasma deposition system 4-51538
 a-Si:H film 4-51544
 a-Si:H film Schottky barrier diodes, space charge capacitance, freq. and temp. depend. 4-40047
 a-Si:H films, CVD and plasma deposition, defect chemistry 4-29839
 a-Si:H films, dangling bonds, ENDOR study 4-40280
 a-Si:H films, diffusion of H 4-39597
 a-Si:H films, dispersion energy and oscill. strength 4-40549
 a-Si:H films, doped, elec. cond., kink in high temp. depend. 4-39904
 a-Si:H films, etch pit symm., disclinations, high resolution electron microscopy 4-39141
 a-Si:H films, glow discharge deposited, H incorporation, doping and thickness depend. conductivity 4-40089
 a-Si:H films, hydrogenated and pure, intermediate range order 4-39135
 a-Si:H films, IR photocond. and dark cond., annealing effects 4-35025
 a-Si:H films, medium range order, small-angle neutron diff. study 4-39140
 a-Si:H films, P doped and undoped, optical gap, Urbach tail parameters, temp. and doping effects 4-40391
 a-Si:H films, photochem. CVD prep., struct., optical, and electronic props. 4-3078
 a-Si:H films, photocond., optical and thermal quenching 4-11558
 a-Si:H films, photocond. and photoluminesc. at low temps. 4-56979
 Si:H films, photocurrent reversal, time-of-flight expts. 4-6887
 a-Si:H films, prep. by ion beam deposition, photoacoustic spectroscopy, charge transport 4-40484
 a-Si:H films, RF glow discharge deposition and solar cell apps. 4-45825
 a-Si:H glow discharge films, photoexcited carriers p recombination 4-25462
 a-Si:H heterogeneous LPCVD films, X-ray diff. and Raman scatt. studies 4-39137
 a-Si:H MOSFET, photocond., Fermi level effects 4-6830
 a-Si:H n-i-n diodes, characs., SCLC model including diffusion 4-40034
 a-Si:H p⁺-i-n⁺ cells, electroluminesc. detected ODMR 4-40281
 a-Si:H p-i-n junctions, luminescence phenomena 4-40508
 a-Si:H p-i-n solar cells, effect of B₂H₆ profile on photovoltaic performance 4-52156
 a-Si:H p-i-n solar cells with graded B-doped active layers 4-16780
 a-Si:H photovoltaic cell performance (*Czech*) 4-7869
 a-Si:H RF sputtered coatings, microcryst. struct. 4-45550
 a-Si:H reactively sputtered films, electrophotographic photoreceptor props. 4-48229
 a-Si:H Schottky solar cells, effect of dopant contamination in undoped layer 4-7879
 a-Si:H solar cells, numerical computer simulation 4-52158
 a-Si:H solar cells (*Russian*) 4-41340
 a-Si:H sputtered, luminescence lifetime distrib. 4-40512
 a-Si:H sputtered film, preparation, elec. props. 4-51490
 a-Si:H sputtered films, optical props. 4-30544
 a-Si:H sputtered films, struct. studies in high resolution STEM 4-39139
 a-Si:H sputtered films, thickness depend. props., Raman and DC cond. meas. 4-39714
 a-Si:H thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355
 a-Si:H thin films, high field breakdown 4-40341
 Si:H ultrathin layers, quantum size effect, optical props. 4-21057
 a-Si:H/SiO₂, charge injection during field effect and photo-field effect 4-40064
 a-Si:H/a-Si_{0.2}Co_{0.8}H quantum well structs., optical props. 4-51387
 a-Si:H, optical absorpt. edge, site disorder effect 4-40473
 a-Si:H:Pt(Yb) contacts, density of gap states determ., transient junction spectroscopy 4-40045
 a-Si:H-Si n-p heterojunction, elec. props. 4-50910
 a-Si:H-metal contacts, Schottky barrier form. and struct. props. 4-6866
 a-Si:H(D)(F)(Cl), vibr. resonance modes 4-39428
 a-Si:H(F) film, ion implanted, elec. cond. study 4-15969
 Si:H(H,P) glow discharge films, density of states determ. by capacitance-freq. measurements (*Korean*) 4-15811
 a-Si:N, local struct., NMR, EPR, Raman scatt., and IR absorpt. studies 4-39131
 Si:N,H amorphous glow discharge films, elec. props. 4-6792
 Si:P, diffusion in crystallised amorphous layers 4-45418
 Si:P, H microcrystalline films, ESR and elec. cond. 4-16095
 Si:P films, dielectric props. meas. 4-40327
 a-Si:P films, plasma deposition, doping, cond. meas. 4-39717
 a-Si:P sputtered coating, P diffusion, Auger spectra study 4-45422
 a-Si:Se, films, optical gap, elec. resist. meas., stability reduction by microvoids 4-40395
 Si:Si⁺(As⁺) layers, pulsed laser melting study 4-34535
 a-Si/metal bilayer, optical storage material, TEM anal. 4-29846
 Si/Mo bilayers, MoSi₂ form. kinetics by CW laser annealing 4-15720
 a-Si-based p-i-n solar cells, computer modelling 4-7872
 Si-C alloy film, tetrahedrally bonded amorphous semicond., crystallisation process study 4-39142
 Si-Ge alloys, amorphous and cryst., struct. studies using EXAFS and Raman scatt. 4-40571

amorphous semiconductors continued

- a-Si-Ge alloys, hydrogenated, gap state distrib., elec. props. meas. 4-39764
- a-Si-Ge alloys, photoconductive, prep. by glow discharge 4-40675
- Si-Ge films, tetrahedrally bonded amorphous semicond., crystallisation process study 4-39142
- Si-Ge-B, amorphous, GaAs Schottky contact with large barrier height, MESFET appl. 4-15934
- a-Si-Ge-B alloy, tetrahedrally bonded continuous random network, electronic props. 4-39765
- a-Si-Ge-B LPCVD films, oxidation mechanism and work functions, rel. to submicron device fabrication 4-51836
- a-Si-H film, electronic struct. photoemission study 4-30037
- Si-N alloy film, tetrahedrally bonded amorphous semicond., crystallisation process study 4-39142
- a-Si+H films, evaporated, gap states distrib. determ. before and after hydrogenation, SCL current meas. 4-39761
- Si(-H)-Si(Ge)(H), tandem type amorphous solar cells 4-52150
- Si_{100-x}Al_xH amorphous films, reactive co-sputtering, high p-type conductivity and optical props. 4-40647
- a-Si_{1-x}Al_xH films, metal-insulator transition, DC cond. and photoemission meas. 4-39994
- SiC sputtered films, amorphous, Raman spectra study 4-20975
- SiC:H, amorphous doped films, Fermi level, XPS study 4-15808
- SiC:H, amorphous films for solar cell window layer, compositional study 4-39730
- a-SiC:H, diffusion of In and Sn from transparent electrode, XPS study 4-41344
- a-SiC:H, glow discharge deposition and phys. props. 4-40676
- a-SiC:H, prep. by GD-CVD, phys. props. 4-40668
- a-SiC:H film, phys. props. 4-40438
- a-SiC:H films, plasmons, XPS study 4-40597
- SiC:H/Si amorphous/crystalline heterostruct. solar cell, performance and characs. 4-36008
- SiC-Si-Si p-i-n heterojunction solar cells, mobility-lifetime products and interface props. 4-52148
- a-Si_{0.9}C_{0.1}H/a-Si:H quantum well struct., optical props. 4-51387
- a-Si_{1-x}C_xH, AC electrolum., polarisation effects 4-40534
- Si_{1-x}C_xH, amorphous semiconductor superlattices, phys. props. 4-15940
- a-Si_{1-x}C_xH, ODMR study 4-40283
- SiC_x, amorphous CVD films, photoluminescence and optical props. (French) 4-46320
- Si_{1-x}C_xH, amorphous, luminescence study 4-40504
- Si_{1-x}C_xH, amorphous, photoluminescence study 4-25797
- Si_{1-x}C_xH, amorphous, plasmon behaviour, XPS study (Chinese) 4-2531
- a-Si_{1-x}C_xH, valence band struct., photoelectron spectra and pseudopot. study 4-39766
- Si_{1-x}C_xH amorphous films, plasma deposition, ion beam effects 4-25900
- a-Si_{1-x}C_xH films, optical consts., ellipsometric spectra 4-40394
- Si_{1-x}Ge_xH, amorphous, density of states by space-charge limited currents 4-20663
- Si_{1-x}Ge_xH amorphous alloy, three-stacked tandem type solar cells 4-16777
- Si_{1-x}Ge_xH amorphous films, reactively sputtered, compositional gradients obs. 4-51487
- a-SiH glow-discharge films, H₂ evolution and annealing studies 4-39134
- Si-N, amorphous film, annealing behaviour, EPR study 4-7049
- SiN_x, valence and core level photoemission data 4-40598
- SiN_xH, amorphous semiconductor superlattices, phys. props. 4-15940
- SiN_xH, ion irradi., dark cond. meas., defect states 4-39837
- SiN_xH(PB), amorphous, glow-discharge deposition, doping effects on elec. props. 4-39314
- SiN_xH amorphous films, RF glow discharge deposition from SiH₄-N₂-H₂ silane compounds 4-40671
- SiN_xH films, prep. by RF glow discharge deposition, IR absorpt. 4-40552
- SiSn:H amorphous alloy films, RF glow discharge fabrication, conductivity transition 4-45839
- a-Si_{1-x}Sn_xH, sputter assisted plasma CVD films, props. 4-40439
- Te, thin film, for optical data storage stability 4-29847
- Te₆₀As₄₀Ge₁₀, amorphous state, vibr., Raman study 4-51259
- TeO₂-V₂O₅ glass, struct. determ. by X-ray diffr. 4-15386
- TeO₂-V₂O₅-Fe₂O₃ glasses, elec. cond. and ESR 4-50814
- V₂O₅, thin films, amorphous, refr. index, absorpt. coeff., film thickness, reflectance interference spectra 4-2980
- V₂O₅-B₂O₃ glass, elec. cond. 4-6780
- V₂O₅-GeO₂, binary semicond. glasses, hopping cond., ESR studies 4-45770
- V₂O₅-GeO₂ semiconductor glasses, elec. conductivity 4-56338
- V₂O₅-P₂O₅ semiconductive glasses, electrochemical props. 4-41226
- V₂O₅-P₂O₅-metal glass constants, elec. props. in gaseous media 4-40050
- V₂O₅-P₂O₅-(CaO)(MgO) glasses, internal friction meas., 120 to 650K 4-39384
- V₂O₅-SeO₂ binary semicond. glasses, hopping cond., ESR studies 4-45770
- V₂O₅-P₂O₅, vitreous, Hall effect, elec. cond. and thermopower 4-45814
- ZnS:Al film, amorphous, low resist., optical and elec. props. 4-40514
- ZnTe amorphous film, apparatus for isothermal annealing and crystallisation obs. 4-2078

amorphous state

- see also electrical conductivity of amorphous metals and alloys; electrical conductivity of amorphous semiconductors and insulators; electron energy states of amorphous solids; magnetic properties of amorphous substances; vitreous state
- alloy formation by ion beam mixing 4-11168
- alloys, corrosion resistance, passivation and catalysis 4-57410
- alloys, free energy of crystallisation 4-44951
- alloys, liq. and amorphous, dynamics, microscopic studies 4-45293
- alloys, liq. and amorphous, structure, diffr. studies 4-44932
- alloys, medium range order, density model, appl. to small angle neutron scatt. 4-44956
- alloys, rapid quenching prep. and props., book 4-53374
- alloys, sp. ht. and thermal conductivity 4-56047
- alloys, strength ductility and toughness, model mechanics study 4-57308
- alloys 4-56065
- anisotropic absorbing media, light scatt. study 4-56866
- atomic level struct., computer simulation and statistical geometry 4-44957
- crystallisation kinetics and activation energy for a cryst. growth in amorphous materials 4-29322

amorphous state continued

- Debye randomness, equivalent formulations and implications 4-6272
- dielectrics, cryst. and amorphous, radiation damage 4-20235
- disordered metal, Coulomb interaction, density of states 4-11489
- disordered metals, low-freq. 1/f resistivity fluctuations 4-50787
- fluorides, amorphous, Mossbauer quadrupole spectra anal. 4-11809
- glassy and amorphous materials, fast ion motion 4-34688
- glassy metals, structural relax. influence on thermal cond. 4-20423
- ice, amorphous, adsorpt. and mobility of H atoms on surface 4-29775
- ice, amorphous or crystalline struct. of solar system surfaces 4-17416
- ice, cryst. and amorphous, positronium formation and diffusion studied with variable-energy positrons 4-16265
- internal friction and US attenuation in solids, conf., Villeurbanne, France (July 1983) 4-36782
- Ising ferromagnet, spontaneous magnetisation temp. depend. 4-40155
- laser-induced struct. changes, kinetics and thermodynamics 4-39448
- Lennard-Jones amorphous solid, dislocationlike motion, computer simulation 4-2080
- local elasticity props., evidences for typical sites and shell struct., dynamic stability 4-39360
- long range correlations, phenomenological Lagrangian 4-20105
- low-temp. anomalies in thermal props. 4-20547
- magnetic materials, decomposition of Mossbauer spectra 4-11813
- metallic glasses, amorphous microstruct., structural relaxation, crystallisation, transport props., review 4-39147
- metals, electronic spectral function, eqn. of motion method calc. 4-45601
- metals, Hall effect, theory 4-45737
- metals, historical development and future trends 4-42673
- metals, Jahn-Teller A_{1g}B_{2g} resonance polaron model 4-25249
- metastable phase equilibria, calc. of T₀ curves in connection with rapid solidification 4-57206
- neutron diffraction experiments on amorphous alloys 4-50146
- noble metal-nontransition element alloys, amorphous, evidence for Hume-Rothery phase, struct. and Hall coeff. 4-10989
- nuclear quadrupole splitting and topology of (V_{2x}η)-parameter space 4-45697
- passivity of metals and semiconductors, conf., Bombannes, France (May 1983) 4-53390
- phosphates, amorphous and crystalline, infrared spectra of trivalent cations B and Fe 4-30448
- polyethylene terephthalate, thermal cond. study 4-2388
- rare earth alloys, RCo₂, R₂Co₁₇, cryst. struct., polystyrene latexes simulation, metallography 4-50242
- red blood cells, cryoprotection, glass-forming tendency and amorphous state stability 4-31191
- short-range order, fuzzy symm. group, basic struct. characteristic parameters 4-44947
- stable amorphous system, thermodynamics study 4-45362
- steel, stainless, amorphous, ion implanted, electrochem. corrosion 4-57443
- structural phase transitions, light scatt. studies, seminar, Bentenjima, Japan (June 1983) 4-22509
- substitutional alloys, transport coeffs. in multiorbital models 4-20617
- superconductors, amorphous, flux flow resist. and crit. fields 4-45956
- superconductors, atomic motion, Kondo-like effect and pair-breaking 4-50979
- surface film on crystal, X-ray diffr. theory 4-44887
- thin films, dynamic switching 4-56402
- thin films, stability, switching voltage and transient ON-characteristics 4-25408
- transition metal alloys, disordered, effect of electron-phonon interaction on elec. cond. 4-45730
- transition metal alloys, M₂Sn_{1-x} (M=V, Cr, Mn, Fe, Co, Ni, Cu), amorphous, forming ability, stability and elec. transport 4-44962
- trap statistics and gap density of states calc. method 4-11488
- two-dimensional binary mixtures, orientational ordering 4-55731
- Ag-Rn(Rh)(Os)(Ir) films, preparation and amorphous-crystalline transform. 4-11419
- Al₂O₃ film, TEM extended electron energy loss fine struct. study 4-57050
- Au-Bi amorphous alloys prod. by laser quenching and ion irradi. 4-15382
- Au_{1-x}La_x amorphous alloy, interdiffusion reaction prep. and free energy 4-45429
- Au_{81-x}Si_{18-x} amorphous alloy, free energy of crystallisation 4-44951
- Au₄₀V_{1-x} amorphous alloy, interdiffusion reaction prep. and free energy 4-45429
- B₂O₃-Li₂O-LiCl-Al₂O₃, amorphous, prep. and ionic cond. (Chinese) 4-50567
- C, 3.4 micron absorpt. band, implications for interstellar dust 4-8555
- C, amorphous, granular metallic deposits, cond. during nucleation and growth 4-39715
- C amorphous with Cu island films, surface and volume diffusion during condensation 4-2474
- C film, ion irradiation, variation of struct. and electrophysical props. (Russian) 4-50664
- C films, ion beam deposition, structural, elec. and optical props. 4-29841
- C, glass-like, prep. by carbonisation of phenol formaldehyde resin 4-51612
- C, mass absorpt. coeffs. (25-250 μm), appl. to IRC+10216 dust shell anal. 4-30468
- a-C:H film, complex. dielec. const., rel. to struct. 4-29845
- a-C:H film, ESR study 4-30267
- C:H hard amorphous RF plasma deposited coating, optical and protective props. 4-24111
- Ca-Al amorphous alloys, total Compton intensity 4-46362
- Co-Cr-Mo-Zr, amorphous ribbons, corrosion resistance in 1N HCl 4-16559
- Co-Gd amorphous ribbons and films, crystn. kinetics 4-45003
- Co-P amorphous electrodeposits, positron lifetime studies 4-51404
- Co-Pt, magnetomechanical hysteresis 4-20842
- Co₅₈Fe₂₁Ni₁₀Si₁₁B₁₆, amorphous, mag. props., tensile stress effects 4-35167
- Cu-Pd disordered alloy, struct. study 4-39146
- Cu-Ti amorphous alloys, crystallisation behaviour 4-44960
- Cu-Zr, amorphous alloy, thermal aged, struct. changes, calorimetric evidence 4-45010
- Cu-Zr, crystalline and amorphous, specific heat meas. 4-25051
- Cu-Zr amorphous alloys, crystallisation behaviour 4-44960
- Cu-Zr amorphous foils, DC sputtering using high-rate triode deposition system 4-57099
- Cu-Zr-xP amorphous alloys, corrosion resist., P addition effect 4-57446

amorphous state continued

- Cu-Zr(Ti), amorphous and microcryst., corrosion behaviour, electrochem. characts. 4-46650
 CuAg amorphous thin films, atomic diffusion and structural relax. 4-45385
 Cu₅₀Ti₅₀ amorphous alloys, thermopower, temp. coeff. 4-20633
 Cu₉Y, amorphous, struct. study using EXAFS 4-55728
 CuZr amorphous alloys, anomalous magnetoresist., weak localisation 4-50794
 Cu₄₀Zr₆₀ amorphous alloys, thermopower, temp. coeff. 4-20633
 Cu₅₇Zr₄₃, magnetoresist. meas., weak localisation 4-56319
 Cu₂Zr_{1-x} amorphous sputtered films, X-ray reflectometry, AES and ESCA studies 4-45555
 D₂O ice, amorphous, neutron diff. studies, CRN model 4-29321
 (Fe,Ni,Cr)₉₀Sn₁₀, amorphous, hyperfine field distrib., Mossbauer spectra 4-35312
 Fe-B, amorphous, electronic struct. and mag. props. 4-20545
 Fe-H base amorphous alloys, H diffusion study 4-45383
 Fe-Mo-C, amorphous, surface film form. in HCl, ion beam analysis 4-12246
 Fe-Mo-C (70, 12, 18 wt.%) amorphous, anal. of H in corrosion product films using ERD 4-45465
 Fe-Ni base metallic glasses, coercive force composition depend. 4-25595
 Fe-Ni-B amorphous alloys, crystn. 4-2081
 Fe-Ni-B-P-XCr amorphous alloy passivation, Cr addition and heat treatment effect 4-57445
 Fe-Ni-Cr-P-B, laser glazing, surface amorphous and crystalline structures 4-34537
 Fe-Ni-Cr-W, amorphous and crystallised, corrosion resist. behaviour 4-46649
 Fe-Si (33 at.%), amorphous films, crystn. behaviour 4-29320
 Fe-Ni amorphous ferromag. alloy, anomaly in Young's modulus 4-45246
 Fe_{1-x}B_x amorphous sputtered alloys, optical props. 4-46281
 Fe_{100-x} sputtered amorphous film, mag. resonance study 4-25642
 FeBSi, amorphous, electronic struct. study 4-56194
 Fe₇₈B₁₃Si₉, amorphous powder, explosive consolidation 4-21184
 Fe₈₂B₁₂Si₆, metallic glass, Mossbauer study of H 4-25658
 Fe₈₁B₁₉, amorphous, Mossbauer isomer shift 4-56833
 Fe₇P₁₃, amorphous, segregation and crystallisation (Russian) 4-50518
 Fe₉Co₇₂B₁₅Si₂Mo₂, amorphous, field induced anisotropy 4-25546
 Fe₃Co₇₁Si_{10-x}B₁₆TM_x, amorphous alloys, magnetostriiction study 4-7044
 (Fe_{1-x}Cr_x)₈₄B₁₆ amorphous, elec. cond. and mag. props. (Chinese) 4-2578
 FeCr₁₀C₇P₁₃, amorphous, segregation and crystallisation (Russian) 4-50518
 FeCr₃P₁₃C₇ amorphous coatings deposition by detonation-plasma sputtering (Russian) 4-40646
 Fe₂₀Ni₈₀B₂₀, amorphous, elec. cond. critical behaviour 4-11507
 Fe₄₀Ni₆₀B₂₀, amorphous, Mossbauer study 4-35314
 Fe₄₀Ni₆₀B₂₀, amorphous, crystallisation study 4-39472
 Fe₄₀Ni₆₀B₂₀ powder, prodn. by impact atomisation process 4-16351
 Fe₂Ni_{80-x}B₁₉Si₁, amorphous, elec. cond. critical behaviour 4-11507
 Fe₂₁Ni₃₆Cr₁₄P₁₂B₆ amorphous, annealing kinetics for Curie temp. changes 4-25553
 Fe₄₀Ni₃₈Mo₂B₁₈, metallic glass, Mossbauer study of H 4-25658
 Fe₄₀Ni₄₀P₁₄B₆, amorphous, field induced anisotropy and Curie temp. 4-25447
 Fe₄₀Ni₄₀P₁₄B₆, press.-induced struct. relax. 4-45265
 Fe₄₅Ni₄₅P_{8.5}B_{1.5}, amorphous, struct. and electronic state changes (Russian) 4-24726
 (Fe_{1-x}Ni_x)₇₇Si₁₀B₁₃, amorphous, mag. props. study 4-25544
 Fe₈₀P₂₀ amorphous alloy, electrochem. props. and passivation 4-57444
 Fe_{100-x}Zr_x, amorphous, low temp., sp. ht. meas. 4-46040
 GdAl spin glass, irreversibility line interpretation 4-6990
 GdCo₂, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293
 GdFe₂, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293
 Gd, Fe_{1-x}H amorphous film, mag. and elec. props 4-46027
 Hf-ZZ 4-25466
 La_{75-x}Pr_xAl₂₅(Ga₂₅), crystal field effects study 4-56298
 Li₂B₂O₄, amorphous, ⁷Li NMR study (Chinese) 4-2828
 Mg-Zn, amorphous and cryst., EXAFS spectra 4-46369
 Mg-Zn alloy, amorphous, struct. relax. during isothermal annealing 4-44953
 Mg-Zn amorphous vacuum deposited films, elec. and optical props. 4-45725
 Mg₇₀Zn₃₀, amorphous, thermopower meas. 4-34951
 Mo-Ge sputtered amorphous film, structural study 4-44952
 Mo₂Ge₃ superconducting films, amorphous, flux pinning and inhomogeneities or defects 4-45963
 Mo₅₀Ni₅₀, amorphous, local atomic struct. by reson. X-ray diff. study 4-44954
 Mo₂Si amorphous films, collective flux pinning 4-11652
 Mo₂Si amorphous films, collective flux pinning, probe of struct. defects 4-45964
 Nb₂Ge(Si) amorphous films, collective flux pinning, probe of struct. defects 4-45964
 Nb₂(Si) amorphous films, collective flux pinning 4-11652
 Ni-Nb amorphous film on semicond. substrates, thermal stability 4-45554
 Ni-P, amorphous, EXAFS study and struct. 4-57033
 Ni-P, amorphous hexagonal metastable phase, twins (Chinese) 4-2321
 Ni₆₀Nb₄₀, amorphous, prep. by mech. alloying, X-ray and DSC studies 4-20103
 Ni₃₂Zr₆₈, amorphous, struct., X-ray and neutron diff. studies 4-44955
 NiZrFe, amorphous, Mossbauer study 4-56834
 Ni₁₃Zr₇₃Hg₁₀, amorphous struct., X-ray diff. study 4-44955
 PbTiO₃, amorphous, heterogeneous struct., EXAFS and small-angle X-ray scatt. studies 4-6276
 PbTiO₃, amorphous and cryst. sp. ht., dielec. const. meas. (Japanese) 4-20921
 Pd-Si, amorphous alloy, ageing 473K, crystallisation, atmosphere effect, Mossbauer effect, AES (Japanese) 4-6270
 Pd-Si-H base amorphous alloys, H diffusion study 4-45383
 Pd_{73.5}Cu₆Si_{16.5} amorphous wire, struct. relax. and Young's modulus 4-44961
 Pd₂Si, amorphous, local struct., topological and chem. ordering 4-44958
 Pd₈₀Si₂₀ amorphous alloys, thermopower, temp. coeff. 4-20633
 Pd₃₀Zr₇₀ amorphous alloys, thermopower, temp. coeff. 4-20633

amorphous state continued

- Sb, amorphous films, vacuum-deposited, crystn., electron irradi. effects 4-56176
 Sb amorphous vacuum-deposited films, prep. and crystallisation 4-45552
 Se_{1-x}Te_x, amorphous films 4-56379
 Se_{1-x}Te_x, liquid and amorphous, TDPAC study 4-56835
 Si-C thin films, hydrogenated, plasma-enhanced CVD grown, microhardness 4-2488
 Si-Ge-B alloy, thermal oxidation 4-35757
 Si-N-O, layers, photoelectric spectra 4-51449
 SiC fibre, coreless, tensile strength, effect of oxidation curing polycarbosilane fibre 4-21224
 Si_{1-x}Cr_x amorphous film, metal-insulator transition and minimum metallic cond. 4-15821
 Si₂H₃(OH)₃, siloxene, layer cpd., time resolved luminesc., mol. exciton model 4-40515
 Si₃N₄ amorphous film, fine struct. of absorpt. spectra 4-11967
 Si₃N₄, amorphous film, luminescence study 4-25818
 Si₃N₄-C, amorphous composites, CVD, etching in HF soln. 4-7617
 Si₃N₄-C composites, CVD amorphous, ESCA study 4-20104
 Si₃N₄-Y₂O₃, amorphous powder, calcination, microstruct. and sinterability (Japanese) 4-51601
 SiO amorphous film, vacuum deposited, high resolution electron microscopy studies 4-39708
 SiO₂, amorphous, X-ray irradi., 1.9 eV luminescence centres 4-56980
 SiO₂, fused silica, high and low water content, transmittance and refl. 2 μm to 1 mm 4-24108
 SiO₂:Co, amorphous and cryst., implanted, Fe prod., Mossbauer spectra study 4-35274
 SiO₂, amorphous thin film, optical phonons, IR transmission 4-56938
 SnSe₂ thin films, phase transformations, electron microscopy study 4-50658
 Ta₂O₅ amorphous films, leakage-current increase due to pinhole growth during annealing 4-35106
 TbFe₃, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293
 Ti-ZZ 4-25466
 TiO-SiO₂, mixed, amorphous thin films, elec. cond. 4-6917
 Ti₈₀Si₂₀, amorphous alloy, quenched, annealed, crystallisation at high press. 4-15379
 WO₃ amorphous films, electrochromism, impedance measurements (French) 4-40418
 WO₃, ESR of colour centres, paramagnetic and optical props. (Russian) 4-35229
 Yb₈₀Ag₂₀, amorphous, short range order, dense random packing, quadrupole splitting, Mossbauer study 4-35293
 Yb₈₀Al₂₀, amorphous, short range order, dense random packing, quadrupole splitting, Mossbauer study 4-35293
 Yb₈₀Cu₂₀, amorphous, short range order, dense random packing, quadrupole splitting, Mossbauer study 4-35293
 Yb₈₀Cu₂₀(Ag₂₀)(Au₂₀), amorphous, atomic struct., Mossbauer study 4-55727
 Zr based amorphous superconductors, flux entry fields 4-40126
 Zr-based alloys, cryst. and amorphous, prod. by splat cooling on hot substrates, supercond. transition temps. 4-56479
 Zr-Cu amorphous alloy, electronic density of states calc. 4-2498
 Zr-Ni amorphous films form. by solid state reactions 4-45553
 Zr-Ni glasses, electronic props., sp. ht. and supercond. phases 4-45916
 Zr-Ni-H, amorphous, thermodynamics of H absorption 4-45358
 Zr-ZZ 4-25466
 Zr₇₈Cu₂₂(Ni₂), sputtered amorphous alloys, supercond. crit. fields, struct. relaxation effects 4-45957
 ZrFe, amorphous, Mossbauer study 4-56834
 Zr₇₈Rh₂₂ glass formation study 4-44959
- amorphous state structure** *see noncrystalline state structure*
- amplification**
see also acoustic wave amplification; amplifiers
 dye lasers, amplification frequency shift on light reflection from inverse medium 4-55025
 free electron laser amplifier energy transfer by nonlinear force 4-33673
 light amplification by undulator, random phase approximation 4-33672
- amplification measurement** *see gain measurement*
- amplifiers**
see also amplification; audio-frequency amplifiers; differential amplifiers; fluidic amplifiers; high-frequency amplifiers; microwave amplifiers; operational amplifiers; preamplifiers; radiofrequency amplifiers; ring lasers; wideband amplifiers
 bioelectric signals with RC-circuit, recovery time reduction 4-16999
 for PDS microdensitometers 4-22330
 ion current amplifier for mass spectrometer 4-37240
 quantum noise and active feedback 4-4266
 regenerative laser, spatially modulated signal, noise characteristics 4-5604
 transducer interfaces for analogue output 4-48114
 Nd:YAG, laser amplifier system, characteristics (Korean) 4-38498
 PtRh-Pt thermocouples for differential thermoanalysis, measuring amplifier (German) 4-42962
- amplifying** *see amplification*
- amplitude limiting circuits** *see limiters*
- amplitude modulation**
 laser light waveform and amplitude modulation by means of mech. chopper 4-5624
 plasma-therm ICP supply, modification for RF power modulation 4-32320
 semiconductor laser, injection-locked, AM for heterodyne-type optical communications 4-44119
 semiconductor lasers, single longit. mode type, AM at 1.5 μm, dynamic linewidth study 4-38510
- amplitude selectors** *see limiters*
- analogue computer applications** *see analogue simulation*
- analogue computer methods** *see analogue simulation*
- analogue differential analysers** *see differential analysers*
- analogue-digital conversion**
see also digital-analogue conversion
 charge integrating ADC, time and energy meas. in multi-detector expts. 4-54568
 digital multimeters, Fluke Series 70 range, microprocessor control, display technique using ADC (French) 4-22774
 digital multimeters, using ADC, range, accuracy (French) 4-17888

analogue-digital conversion continued

- direct reading ICP photoelectric spectrometer, electric signal treatment (*Chinese*) 4-12419
 electrooptic A/D conversion, performance criteria of components 4-49501
 fast ADC scanner for multiparameter nuclear physics experiments 4-23531
 flash A/D converters for real-time event selection 4-23516
 gamma-ray spectra, complete pulse conditioning method (*German*) 4-18878
 guided-wave interferometric modulators appl., using LiNbO_3 4-14782
 integrated-optics analogue-to-digital converter 4-28882
 International Solar Polar Mission, mag. field instrumentation and data streams processing 4-31731
 isotopic spectral analysis, A/D meter of analytic peak intensity ratio 4-37076
 lifetime meas. in spectroscopy, microcomputer system 4-32325
 microphone acoustic pressure optical direct analogue-to-digital conversion 4-10511
 MWPC for EAS expts. 4-22329
 optical A/D conversion, GHz bit rate, using cleaved-coupled-cavity semiconductor lasers 4-28875
 spectral transmission data anal. using microprocessor controlled digitiser, camouflage appls. 4-1355
 X-ray fluorescence spectrometric multichannel analyser using Apple II plus microcomputer 4-31045
 zero suppressing cct. for digitisation of analogue pulses over long memory times 4-54566

analogue simulation

- cone retina in vertebrate, systems analysis of analogue model 4-41513
 electrolytic tank simulation of the potential drop technique for crack length determinations 4-26131

analysers, differential *see differential analysers***analysing power** *see polarisation in nuclear reactions and scattering***analytical chemistry** *see chemical analysis***anaphoresis** *see electrophoresis***AND gates** *see logic gates***Anderson model**

- asymmetric, sp. ht. calc. 4-16040
 binuclear unit $t_2^2-t_{2g}^2$, mag. behaviour study 4-20781
 degenerate, diagrammatic technique 4-56278
 degenerate Anderson impurity system, Fermi liq. theory 4-40140
 degenerate Anderson model, Fermi liq. relations, large-N expansion and Bethe-ansatz soln. 4-50768
 degenerate Anderson model, functional integral formalism 4-193
 density of states in Coulomb gap 4-45689
 dilute fluctuating-valence systems, asymmetric Anderson model 4-11661
 disordered n-orbital model, density of states, scaling relation 4-25194
 disordered quasi-one dimens. system, Anderson transition 4-56279
 disordered solids, sp. ht. at low temp. due to negative U-centres 4-15662
 disordered systems, electronic and vibr. props., use of recursion method 4-6740
 disordered two-dimens. systems, Anderson transition and min. metallic cond. 4-45630
 electron gas, degenerate, X-ray absorpt. spectra, effects of disorder and final-state interactions 4-7277
 electron-impurity-centre interactions, velocity correlation funct. calc. 4-29940
 ground state props. of Anderson lattice in large N limit 4-2494
 impurity-Anderson model, spectral properties 4-25205
 incommensurate systems, electron conductivity near localisation threshold, Anderson transition 4-34942
 intermetallic compounds, hybridisation and struct. instabilities 4-11470
 Kimball's special cases of Anderson localisation 4-29929
 Kondo lattice, superconductivity, Anderson model anal. 4-50980
 localisation, intrinsic and extrinsic disorder effects 4-25298
 localisation length, matrix continued-fraction calcs. 4-25229
 localisation transition, second-quantised theory in $d=2+\epsilon$ 4-20608
 localised magnetisation arising from spin-dependent impurity pots. in Wolff model 4-25516
 long-range correlated random pot. wave propag. and localisation 4-20607
 magnetic alloys, exact results in theory, review 4-51022
 magnetic susceptibility and electronic sp. ht. calc. 4-56277
 metal-insulator transition, Anderson localisation and electron-electron interactions 4-50726
 metals, f-shell, localisation, Anderson model anal. 4-56260
 metals with Ce and Yb impurities, degenerate Anderson model soln. 4-40130
 metals with rare earth impurities, degenerate Anderson model, low temp. thermodynamics 4-51061
 mixed valence semiconductors, periodic Anderson model 4-25301
 mixed valence solids, impurity-impurity interaction, mag. susceptibility, periodic Anderson model 4-39841
 mixed valent semicond., energy gap and magnetisation curve, variational approach 4-20610
 one dimensional systems, localisation, with off-diagonal disorder and spin-depend. 4-25297
 one-dimensional chain of randomly positioned centres, electron transmission 4-29939
 one-dimensional disordered systems, Anderson transition and Ioffe-Regel criterion 4-15819
 one-dimensional system with incommensurate lattice distortion, electronic struct. 4-45663
 one-dimensional systems, strongly disordered, Anderson transition, Ioffe-Regel criterion 4-11485
 periodic, electron-phonon interaction and thermopower temp. depend. 4-45651
 periodic, one dimensional exact soln., electron correl., singlet ground state energy 4-25274
 periodic, thermopower and thermal cond. 4-2570
 periodic Anderson Hamiltonian with orbital degeneracy, ordered states 4-25506
 perturbation expansions for systems with strong local correlations 4-2551
 plasma turbulence, equivalence to condensed matter induced Anderson localisation 4-50003
 quantized Hall effect and localization, review 4-50847
 quasi-1D system, scaling theory of localisation 4-11486
 rare earth compounds, nonmetal-metal transition, electronic density of states 4-20565

Anderson model continued

- rare earth systems, valencies, 4f instabilities, M-edge X-ray absorpt. spectroscopy 4-56284
 semiconductors, doped, Anderson localised regime, theory of interacting donor electrons 4-50767
 semiconductors, doped, electron-electron interactions in Anderson-localised regime (*Japanese*) 4-20645
 spatially disordered systems, electron localisation, short range order effects 4-45691
 spinless Anderson model with local phonon mode, perturbation theory anal. 4-11458
 SU(N) Anderson mag. impurity thermodynamics 4-51024
 symmetric Anderson Hamiltonian, series expansion 4-25497
 symmetric lattice, ground states in 1-D 4-29873
 transition metal alloys, electron correlation calcs. 4-50714
 transition metals, electron correlation calcs. 4-50714
 two dimensions, Anderson localisation for small disorder 4-29930
 two-dimensional electron-impurity system under strong mag. fields, Anderson localisation 4-15855
 valence fluctuation in periodic Anderson Hamiltonian, single-site picture 4-25543
 B, intrinsic electronic localisation, isotopic disorder effect in narrow electronic band materials 4-39802
 Ce compounds, electron spectroscopies in impurity model 4-7278
 Ce compounds, f level occupancy, hybridisation and coupling to conduction states 4-29919
 CeSb_{1-x}Te, solid solns., mag. props. 4-6964
 n-GaAs Anderson localisation effect on magnetotcond. 4-50843
 n-InSb, metallic, Anderson localisation, phys. parameter determ. 4-45683
 a-Si:H, phonon-induced delocalisation of band tail states 4-45684
 TaS₂ (1T), Anderson localisation, effect of cryst. defects 4-6738
 TaS₂ (1T), Anderson localised state, ferromagnetism obs. 4-51050
 Ta_{1-x}Ti_xS₂ 1T polytype, excess specific heat in Anderson localised states 4-45352
 WV₂O₆, mag. props. study 4-20802

Anderson transition *see Anderson model; metal-insulator transition***anechoic chambers**

- design for contacting surface acoustic characts. exam. 4-10514
 rectangular enclosure, noise reduction and sound radiation efficiency calc. (*Japanese*) 4-28930
 wedges, cutoff freqs. meas. 4-55272

anelastic relaxation

- see also Borden effect; creep; elastic aftereffect; internal friction; Snoek effect; stress relaxation; Zener relaxation*
 BCC metals, cold worked, Snoek-Koster relax. 4-40851
 filled elastomers, relaxation processes and filler particles thermal mobility 4-35649
 internal friction and US attenuation in solids, conf., Villeurbanne, France (July 1983) 4-36782
 polycarbonate, β relax. and compression yield, effect of thermal histories 4-40857
 polyimide films, mechanical serviceability in creep conditions (*Russian*) 4-15586
 reinforced polymeric materials, strength, relax. processes effect 4-12096
 steel, stainless, anelastic phenomena and internal clamping 4-40868
 viscoelastic and anelastic materials, creep and stress relax. functions, convexity 4-5812
 , solid soln., anelastic relax. at low temp. 4-39391
 Al, microplasticity, internal friction meas. (*French*) 4-51915
 Cu, cold worked, internal friction behaviour during steplike heating 4-40881
 Cu-Zn-Al, martensitic, internal friction behaviour 4-40858
 Fe-C-N, BCC systems, short range and long range migration of heavy interstitials (*French*) 4-39600
 Mg, electron irradi. and cold worked, internal friction and anelastic phenomena (*French*) 4-40880
 Nb-O-H, elastic consts., US attenuation and velocity of trapped H 4-34591
 Nb-O-N, BCC systems, short range and long range migration of heavy interstitials (*French*) 4-39600
 Ni-base superalloys, particle strengthened, anelastic relaxation, cyclic creep and stress rupture (*Chinese*) 4-16428
 Pd, internal friction spectra, relax. peaks temp. depend. (*French*) 4-51717
 Sn, pure, struct. relax. by interphase boundary migration, internal friction, elastic modulus and creep 4-12094
 Ta-O-C-N, BCC systems, short range and long range migration of heavy interstitials (*French*) 4-39600

anelasticity*see also anelastic relaxation*

- inverse problem in viscosity 4-29515
 metallic glasses, mechanical props., review, book contrib. 4-40887
 polyacetylene films, anelastic props., oxidation depend., thermostimulated creep study (*French*) 4-39385
 propylene ethylene block copolymers, anelastic props., thermostimulated creep study (*French*) 4-39386
 Fe₃Ni₃Cr₁₄P₁₂B₆ glassy metal, reversible struct. relax., shear modulus and internal friction 4-46548
 MgAl₂O₄-Al₂O₃ system, internal friction spectra, comp. depend. 4-15585
 V-H, 4T, superdiffusion and stress-strain curves 4-34692

anemometers*see also laser velocimeters*

- aerospace simulation facilities, conf., St. Louis, France (Sept. 1983) 4-22520
 axi-symmetric air jet flow meas., anemometer techniques comparison 4-24501
 boiler tube bank, wind tunnel air flow meas. using laser Doppler anemometry 4-49907
 comparison of measured and calculated gas velocities in the inlet channel of a single cylinder reciprocating engine, using laser Doppler anemometer 4-44773
 electronic wind direction indicator, using 16 LED wind compass card 4-36506
 electronic wind velocity meter 4-8324
 fibre optics use in flow meas. instruments 4-44212
 flow velocity field around Prandtl-probe, measurement using laser-Doppler-anemometry (*German*) 4-49903
 flowing media, velocity profile meas., laser anemometry appls., jet dissipation, turbomachine flow 4-55465
 gas stream, velocity vector meas. using three wire probe and const. current thermoanemometer 4-15043

anemometers continued

- hot film anemometer used for measuring mass flow ion gases (*German*) 4-29219
- hot-wire, conditioned sampling instrumentation for coherent flow structures 4-15048
- hot-wire anemometer for direct neutral temp. meas. in mesosphere 4-31686
- hot-wire probes directional sensitivity determ., aerodynamic disturbances exam. 4-24489
- hot-wire sensor calibration in binary air-He streams (*Russian*) 4-1853
- immersed jet, hydrodynamic characts. meas. by laser Doppler anemometer (*Russian*) 4-15010
- integrated Si double bridge anemometer 4-55453
- internal combustion engine cylinder turbulent air flow meas. by laser Doppler anemometer 4-19899
- kerosene atomised vapouring spray, droplet size and vel. meas. 4-34159
- laminar separation point meas. by laser Doppler anemometer 4-38789
- laminar to turbulent flow transition, laser Doppler anemometer meas. inside oscillating tank 4-38798
- laser Doppler anemometer, dual-wavelength, simultaneous particle size and velocity meas. 4-24505
- laser Doppler anemometer, for two-phase flow meas. 4-15049
- laser Doppler anemometer, rapidly scanning design 4-34208
- laser Doppler anemometer, with automatic traversing system, wind tunnels and jets appl. 4-24503
- laser Doppler anemometer for sediment-laden flow velocity meas. (*Chinese*) 4-55459
- laser Doppler anemometer study of turbulent struct. of non-Newtonian fluids 4-49861
- laser Doppler anemometry, errors due to voltage level trigger effects 4-24502
- laser Doppler anemometry, macroparticle dynamics obs. in vacuum arc 4-24667
- laser Doppler anemometry, threshold method for processing Doppler signal (*Russian*) 4-1852
- laser Doppler anemometry in turbulent flow, mean vel. shift (*Russian*) 4-10795
- laser Doppler system, crosswind vel. meas. (*German*) 4-3856
- laser Doppler velocity meas., in low-speed wind tunnel 4-24504
- laser principle, configuration and equipment selection 4-34213
- luminous flames, flow meas. with photoelectron correl. laser Doppler method 4-30988
- manometric wind sensor, characts. and operation 4-47432
- measurement of jet impingement on boundary layers (*Russian*) 4-29142
- multiphase flow fields, optical meas. of particle size, velocity and concentration 4-49908
- natural convection, laminar regime, vel. profiles along heated wall of rectangular enclosure 4-38826
- Netherlands anemometer array on power lines to study wind power (*Dutch*) 4-52918
- pipe flow velocity meas. at high temp., using laser Doppler anemometry 4-24506
- plane turbulent jet, coherent struct. 4-5879
- polymer solns., dilute, drag reducing in rectangular open channel flow, turbulence struct. 4-10649
- pressure anemometer spatial resolution, instrument for adverse conditions 4-58295
- pressure tube anemometer for wind measurement in sea spray conditions etc. 4-58294
- spherical particles diffusing in fluid, local size distrib., meas. technique (*French*) 4-15032
- supersonic turbulent flow meas., constant-current and constant-temp. hot noise anemometers comparison 4-15045
- three-component sonic anemometer/thermometer system for general micrometeorological research 4-31664
- three-dimensional laser Doppler anemometer, accuracy assessment 4-55454
- severe thunderstorm instrumentation, ground based transportable system 4-3844
- trailing vortices, instabilities, flow visualisation using hot-wire anemometry 4-1743
- triple hot-wire probe signals evaluation by calibration field technique (*German*) 4-49904
- turbulence diagnostics by laser anemometer spectral anal. 4-44775
- turbulent flow meas. by triple hot-wire anemometry, statistical errors determ. 4-24488
- CO₂ liquid flow in cylindrical channel, Brillouin light scatt. study (*French*) 4-34191

angiography *see radiography***angle measurement** *see angular measurement***angular correlation techniques**

- angular $\beta\gamma$ -correlation induced by magnetic interaction 4-579
- Bi, electric field gradient of Tl, probe atom depend. 4-34927

angular measurement*see also angular velocity measurement*

- autocollimator certification using interference angle gauge 4-10407
- automatic system, Soviet primary standard 4-48080
- cylinder high-resolution rotation-angle meas. using speckle displacement detect. 4-13615
- deflection angle measurement using optical-heterodyne method 4-32302
- interference goniometer image information parameters 4-33743
- mirror angle monitoring system, dual-axis, using, He-Ne laser 4-24136
- multipolar resolvers, computerised system, config. and operation (*French*) 4-8867
- optical encoders, used for high resolution devices 4-13617
- Osram-GEC laboratory automated mirror photometer 4-22820
- polygon mirror automatic calibration system (*Japanese*) 4-19537
- position measurement (*Russian*) 4-48077
- prisms, polished, testing for ang. errors using an autocollimator and auxiliary plane mirrors 4-33825
- rotation angle of specimen holder in solenoid meas., galvanomagnetic effects meas. appl. 4-8925
- small polarisation-plane rotation meas. 4-13669
- torsion angle meter based on mirror-and-lens light returner (*Russian*) 4-27572
- transducer, reusable, for shaft angle of twist meas. 4-27504
- tripod stand mounted optical instrument system, ang. deflection estimation 4-5790

angular momentum

- entry state ang. momentum direction 4-27823
- protoplasts, gravit. torques and ang. momentum transport rel. to star form. 4-22368

angular momentum theory

- see also quantum theory; Regge poles and trajectories*
- Coulomb scatt. parameters for separate potentials for all ang. momentum 4-47911
- coupling consts., packed storage program 4-47889
- eigenfunctions, manifest rot. symmetric expressions 4-22632
- four-centre Coulomb integrals numerical calcs. 4-47894
- H wave functions, three-term recursion relations 4-53515

angular velocity measurement

- gyroscope, direct rotation-rate detection, digital DP system 4-17881
- laser tachometer, high-precision, based on Doppler velocimetry, for shaft RPM meas. (*German*) 4-48090
- optical fibre sensors, sensors, giving optical output for nonoptical quantities meas. (*German*) 4-4388
- rigid body mechanics, digital image correlation 4-24392
- rigid body orientation determ. 4-49673
- synchronous sensor (*Polish*) 4-37074
- three-dimensional angular velocity measurement device, orientation and calibration determ. using ang. inform. 4-49664

anharmonic oscillators *see harmonic oscillators***animal communication** *see biocommunications***anisotropy, magnetic** *see magnetic anisotropy***anisotropy, magnetocrystalline** *see magnetic anisotropy***annealing**

- see also graphitising; laser beam annealing; magnetic annealing; recrystallisation annealing; solution annealing; stress relaxation*
- (*German, English*) 4-35644
- AC powder electroluminescence maintenance improvement 4-35491
- alkali halides, H₂O⁻ defect prod. and optical props. 4-11145
- alkaline earth oxides, Li⁺ or Na⁺ ion implanted, point defects, ESR, optical absorpt., luminesc. spectra 4-20269
- alloys, amorphous, mag. after-effects and hysteresis loops 4-56713
- alloys, amorphous, magnetic props., flash annealing effects 4-56690
- alloys, amorphous, struct. relax., mol. dynamics method anal. 4-29323
- alloys, rapidly quenched for permanent magnet materials 4-56700
- amorphous semiconductor films, apparatus for isothermal annealing and crystallisation obs. 4-2078
- anisotropy in specific resistance meas., metallic or semiconductor films 4-37116
- brass, cold rolled, annealed, fatigue rel. to subgrain structure and orientation 4-16479
- calcium fluorophosphate, natural, annealing of absorbing defects, UV absorption spectroscopy 4-20997
- capron, deformed, low temp. annealing, dislocation pinning by point defects 4-30718
- chalcogenide glasses, localised states and photoinduced changes 4-50769
- defect annealing by supercurrent proton irradi. 4-2233
- dislocation relaxation processes characteristic times (*Russian*) 4-24816
- doped semiconductors, pulsed electron annealing dynamics 4-45191
- edge dislocations, radiation annealing, radiation creep (*Russian*) 4-50285
- fission tracks in apatite, thermal history and length distrib. 4-28295
- fluorapatite, etchable fission track annealing for age determ. method 4-22331
- fluorocarbon films, flow discharge polymerised, struct. changes with age and annealing (*German*) 4-50687
- fossil alpha-recoil tracks in biotite mica, annealing behaviour, alpha-recoil dating 4-31479
- graphite, pyrolytic, neutron irradi., ESR studies at low temp. 4-7066
- HTGR fuel particles, SiC coating interaction with fission products 4-54247
- ice crystal, hexagonal, H⁺ mobility in bulk and surface, PMR investig. 4-30291
- ice Ih, doped, pulsed NMR T₁ meas., annealing, temp. and impurity conc. depend. 4-30307
- III-V semiconductor, rare earth activated luminesc. 4-35480
- Ising model, frustrated, in presence of annealing and anisotropic defect distrib. 4-45988
- low C, dual-phase, continuously annealed, temper-aging 4-40831
- mechanical properties at elevated temperatures, A8 and A85 4-3192
- metallic glass ribbons, flux harmonic content, annealing and surface roughness effects 4-30200
- metallic glasses, defects, variable energy positron studies 4-51406
- metallic glasses, induced-magnetic anisotropy, annealing effects 4-56612
- metallic glasses, magnetostriction, annealing and temp. depend. (*Chinese*) 4-56750
- metallic glasses, mechanical props., review, book contrib. 4-40887
- metallic glasses, structural relax. and glass transitions 4-55749
- metallic glasses, structural relax. irreversibility and mag. props. 4-55739
- metallic thin films, clear, adsorption and decomposition of water, work function and elec. resist. meas. 4-34776
- metals, He irradiated, pore development during annealing, He tubular diffusion effects 4-15557
- Metglas alloys, explosive compaction effects on ferromag. props., relative density and crystallisation 4-35591
- MOS structures, mobile ion conc., effect of appeal temp. 4-35079
- multicomponent glass fibres, drawing induced absorption losses 4-7218
- nylon 6, annealing at elevated press., reequilibration effects 4-15399
- nylon-6, annealing-crystallisation-melting cycles, cumulative memory effect 4-44921
- organic compound solid films, annealing kinetics and rot. isomerism, IR absorpt. spectra 4-51264
- organosilicon plasma deposited films, IR spectra, ESCA and contact angle characterisation 4-7264
- oxirane cryst., clathrate hydrate and deuterate formation from low temp. annealing, IR spectra 4-35428
- Permalloys, ordering kinetics during annealing, elec. resist. and permeability studies 4-15380
- PET, fatigue crack propaga., effect of thermal history and morphology 4-35711
- physics of amorphous metals 4-29326
- poly(vinyl alcohol), modified, membrane prep. and props. (*Polish*) 4-21494
- polycrystals, surface morphology and electromigration during annealing 4-11394
- polyethylene, elec. breakdown and morphology 4-20911

annealing continued

- polyethylene-ethylene-propylene copolymer blends, phys. characterisation 4-15397
 polyethylene-ethylene-propylene-diene terpolymer blend, phys. characterisation 4-15398
 polystyrene, annealing, morphology, tensile props. 4-12148
 polystyrene, Rheomolded, annealing, rubbery state instability, DSC obs. 4-11291
 polystyrene sulphonic acid ionomer films, ionic interaction, far IR spectra 4-30464
 polytetramethyl-p-silphenylene siloxane crystal mats, solution annealing, X-ray obs. 4-45029
 polyurethane elastomers, struct., mech. props. rel. to diamine additive 4-30741
 polyvinylidene fluoride film, piezoelectricity, thermal stability, poling temp. depend. 4-46187
 PVC, nonequilibrium glassy state, freq. shifting, Fourier transform IR spectroscopic detection 4-2100
 quartz, annealing in H₂ atm., integral refl. coeff., X-ray diffr. study 4-30423
 quartz, gamma-ray irradiation characts. and radiation hardening 4-6405
 rare earth alloy thin films, crystallisation under electron beam annealing 4-34826
 rare earth alloys, rapidly quenched, mag. hysteresis 4-51099
 resistor cermet film, in-situ annealing 4-7357
 sapphire, plastic deform., dislocations, diffusion, review 4-20203
 sapphire, shaped, physical characts., growth and annealing conditions influence 4-24745
 sapphire plates, mechanically treated, stress relax. 4-34566
 semiconducting materials, microscopy studies, conf., Oxford, England (Mar. 1983) 4-17636
 semiconductor, point defects, exptl. studies, book 4-33
 semiconductor electron beam annealing by electron gun, uniformity of implant activation 4-6407
 semiconductors, beam annealing, techniques and appls. 4-55868
 semiconductors, electron beam annealing using pulsed electron beams, review 4-24871
 semiconductors, ion implanted, impurity diffusion and activation, defect effects 4-50587
 shallow high-conductivity junctions, fabrication of n-type regions using heavy ion implants 4-34505
 soda glass, heavy ion tracks study 4-5084
 solar cell processing, appl. of transient annealing 4-16784
 steel, austenitic Mn-Cr behaviour of generator-rotor retaining rings 4-21293
 steel, austenitic stainless, fatigue of annealed and cold-worked samples 4-7563
 steel, austenitic stainless, He ion implantation and bubble growth, TEM studies 4-11307
 steel, Cr, sintered, hot-forged parts, corrosion, heat treatment influence 4-3295
 steel, Cr-Mn-Ni, low C, martensitic, strength props. 4-30771
 steel, Cr-Mo, low-cycle fatigue data files 4-12187
 steel, dual-phase, low C, mech. behaviour, influence of microstruct. (Korean) 4-57288
 steel, electrotechnical, grain oriented, mag. props. 4-12201
 steel, low C, annealing textures, development and control 4-51690
 steel, low C, chemically capped, annealing, anomalous struct. form., heating rate influence 4-30733
 steel, low C, flow stress at high temp. and high strain rate. 4-35654
 steel, low C, flow stress at high temp. and high strain rate 4-35655
 steel, low-C, controlled decarburisation in N₂-based atm. 4-30721
 steel, microduplex stainless, superplastic, grain growth and strain rate sensitivity 4-7508
 steel, Ni-Cu-Mo, powder metallurgical, heat treatment conditions optimisation 4-46539
 steel, stainless, type 304, ion implantation, microstruct., friction and wear 4-7598
 steel, type AISI C 1010, internal friction studies 4-40867
 steel austenitic, Fe-Ni-Mn based, ageing, hardening and microstructure (Russian) 4-51677
 steel sheet, phosphatability, influence of annealing 4-35766
 superlattices, harmonic, structural parameters, annealing effect, X-ray dynamic diffr. 4-34369
 thermotropic polymers, annealing, local homeotropy TEM obs. 4-29307
 (TMTSF)₂ClO₄ organic supercond., anion disorder effects, EPR and elec. cond. studies 4-7673
 transition metal-metalloid amorphous alloys, crystn., Mossbauer study 4-45005
 U₂Fe, comminuted, density hardness, microstructure 4-30797
 UV dosimetry with TLD 4-37941
 wire production, elec. heat treatment 4-12093
 , solid soln., anelastic relax. at low temp. 4-39391
 Ag films, VPE grown, resist. ratios, size effects, radiation annealing, RHEED, electron microscopy studies 4-30087
 Ag, ion implanted, impurity internal oxidation, ¹¹⁹Sn Mossbauer spectra 4-35269
 Ag overcoated granular films, structure and optical behaviour 4-51399
 α-Ag-Al (3.5-15.5 at.%), short-range order kinetics, resistometric study 4-12090
 α-Ag-Cd-In alloys, microstruct., X-ray diffr. study 4-21235
 Ag-Cu-In (35, 5 wt.%), hot extrusion, structural superplasticity, strain rate and temp. depend. 4-3186
 AgAl two phase alloy, short range ordering and annealing, elec. cond. studies 4-34660
 AgF(Cl)(Br), annealing of neutron and gamma irradiated induced point defects 4-11191
 Al alloy AK4-1, critical recrystallisation, original struct. influence 4-57249
 Al coating, hydraulic pulse densified, form. model 4-26101
 Al, deformation depend. of Bordoni peak 4-50429
 Al, nonlinear Bordoni relax. and internal stresses (French) 4-50430
 Al, orientation depend. of special grain boundary energy 4-2217
 Al, ultrafine-grained, high purity, struct. and props., effect of annealing temp. 4-16425
 Al/(Ni(Pd)(Pt)), bilayers, phase formation by ion beam mixing and thermal annealing 4-11194
 Al/Sb thin film couples, grain boundary interdiffusion and surface cpd. form. 4-15721
 Al-Cu, metastable, soft X-ray emission spectra, effect of heat treatment 4-7282

annealing continued

- Al-Cu thin film conductors, grain growth as result of rapid annealing, semicond. technological appls. 4-40821
 Al-Cu-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
 Al-Fe(cu), impurity mobility of Fe and Cu, RBS study 4-45381
 Al-H frozen films, metal-nonmetal transition and superconductivity 4-35113
 Al-Mg (7 wt.%), dynamic recrystallisation after extrusion 4-12082
 Al-Mg (8 wt.%), deform. influence on precipitation kinetics (Russian) 4-57236
 Al-Mg-Sc, homogenising 4-57268
 Al-Si, crystn. under pressure, struct. and mech. props. 4-3191
 Al-Si/Si interface, high resolution TEM study 4-20507
 Al-Si-Cu thin film conductors, grain growth as result of rapid annealing, semicond. technological appls. 4-40821
 Al-SiO₂-Si, MOS capacitor, hole traps optical generation in thermal oxide, electron irradiation effects 4-50929
 Al-Zn-Mg, anomalous mech. to hysteresis loops, rel. heat treatment 4-12165
 Al-Zn-Mg, polygonized struct. thermal stability, Mg effect 4-3149
 Al-Zn-based alloys, ageing, morphology and precipitation (Russian) 4-51699
 Al-Zn(-Mg), grain boundary region microstruct. after ageing at elevated temps. 4-2214
 AlCl₃-FeCl₃ mixed crysts., pile irradi., ³⁵S prod., thermal annealing 4-55864
 AlGaAs-GaAs single quantum wells, MBE growth, photoluminesc. props., substrate annealing effects 4-30640
 Al_{0.9}Ga_{0.1}As continuous quantum well heterostructure laser diodes, wavelength modification 4-28693
 Al_{0.9}Ga_{0.1}As quantum well heterostructure laser, wavelength modification by layer interdiffusion 4-1395
 Al_{0.9}Ga_{0.1}As, solid soln., phase state change with pulsed annealing 4-55875
 Al₂O₃, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 As-Se chalcogenide glass film, plasma effects on light transmission and solubility 4-34656
 Au, recovery stage III, vacancy migration 4-16419
 Au-Ag (15 at.%), short-range order form. and quenched-in vacancy annihilation by resistivity meas. 4-7482
 Au-Co (2 at.%), precipitation kinetics, elec. resist. and magnetisation meas. 4-7472
 Au-GaAs, interfacial reactions study by TEM 4-39699
 AuIn₃ thin films, elec. resist. and grain size at 4.2K 4-40079
 B fibre reinforced Al, physico-chem. interaction 4-57275
 B fibre reinforced Ti alloy, SiC-coated fibres, fracture and tensile strength of fibres after high temp. annealing 4-57347
 BN, cubic cryst., thermal shock influence on substruct. and strength 4-57341
 B₂O₃ glass, annealing, enthalpy relax. 4-2349
 BaPb_{0.7}Bi_{0.3}O₃ sputtered films, superconducting props., PbO₂ annealing atmosphere effects 4-6925
 BaTiO₃ ceramic, ferroelec. props. and hot pressing 4-56858
 Be-Nb-Zr alloys, amorphous, supercond. and thermal relaxation 4-45955
 Bi, epitaxial film, transport props., effect of annealing 4-35100
 Bi₂Si₂O₇, monocrystalline plates grown from melt by Stepanov method 4-25871
 C, glass-like, a C₂H intercalation cpd., struct. and annealing behaviour 4-39176
 a-C:H film, ESR study 4-30267
 a-C:H thin films, optical consts. and dielectric props. 4-46339
 CH₃ films, amorphous, prep. struct., phys. and optical props. 4-7261
 CaF₂ film, TSEE glow curves rel. to heat treatment 4-3028
 CaF₂ γ-ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
 Ca₂Nd₆(SiO₄)₆O₂·24H₂O, alpha self-radiation induced swelling and amorphisation 4-15554
 Ca(VO₄)₂, monocrystalline plates grown from melt by Stepanov method 4-25871
 Cd, Hg_{1-x}Te, polycrystalline ingot, thermal modelling of casting 4-3055
 CdO-ZnO-P₂O₅ glasses, IR absorpt. spectra 4-25750
 CdS, photosensitivity, annealing effects 4-39987
 CdS, thin film absorpt. spectra, annealing technique investig. 4-20989
 CdS/Cu₂S solar cells fabricated on single-crystal CdS substrates, scanning light spot and electron beam-induced current scans 4-21557
 CdSe single crystal films, slow recombination centres, photoelec. props. studies 4-11482
 Co-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (Russian) 4-40083
 Co-Ni-Fe base metallic glasses, struct. relax. study 4-6269
 Co-Ta-Zr amorphous sputtered film, zero-magnetostriction, mag. props. 4-30247
 Co₃Fe₂Ni₁₀Si₁₁B₁₆ metallic glass ribbon, initial permeability, annealing effects 4-30204
 Co₃Fe₂Ni₁₀Si₁₁B₁₆ metallic glasses toroids, mag. props. and winding methods 4-30207
 Co₃Fe₂Ni₁₀Si₁₁B₁₆ amorphous alloy annealed, mag. props., effect of tensile stresses 4-40215
 Co_{70.3}Fe_{7.7}Si₁₃B₁₀ amorphous ribbons, domain struct., anisotropy effects 4-30199
 Co_{70.5}Fe_{4.5}Si₁₀B₁₅ composite, high freq. mag. props. 4-46068
 Co₅₈Ni₁₀Fe₃₁B₁₆, Vitrovac 6010, annealed, mech. and phys. props. (German) 4-57273
 Co₈₇Zr₅Nb₈ amorphous sputtered cores with multilayer struct., magnetisation props. 4-35206
 Cu alloys, dil., γ-irrad. and deformed, dislocations, annealing, US absorpt. meas. 4-50303
 Cu, annealed, decoration of etch figures 4-20196
 Cu, cold worked, internal friction behaviour during steplike heating 4-40881
 Cu foil, He ions implantation effects 4-45168
 Cu overcoated granular films, structure and optical behaviour 4-51399
 Cu, pure, cold worked, elec. resist., softening temp. rel. to alloying additions (Japanese) 4-46524
 Cu/Al thin film bilayers, W interdiffusion marker during sequential cpd. form. 4-29708
 Cu-Al, internal friction meas. (French) 4-51718
 Cu-Al(-Ni), shape memory alloys, rapidly solidified, transform behaviour, effect of heat treatment 4-57208

annealing continued

- Cu-Al(15 wt%), short-range order during annealing (*Russian*) 4-6320
 Cu-Cr polycr structures, electrophysical props., low temp. diffusion effects 4-2662
 Cu-In-He, nucleation of He clusters at ^{111}In sites, PAC obs. 4-35271
 Cu-MgO dispersion hardened alloys, optimisation of prep. conditions 4-7399
 Cu-Ni-Fe, precipitate comp., microanal. invest. using STEM/EDX (*German*) 4-57237
 Cu-Ni-Fe superparamagnets, magnetocaloric effects (*Russian*) 4-51059
 Cu-Zn, thin-walled tubing, L80, annealing effect on struct. and props. 4-3150
 Cu-Zr, amorphous alloy, thermal aged, struct. changes, calorimetric evidence 4-45010
 CuAg amorphous thin films, atomic diffusion and structural relax. 4-45385
 $(\text{Cu}_{1-x}\text{Ag}_x)(\text{Ga}_{1-y}\text{In}_y)(\text{Se}_{1-z}\text{Te}_z)_2$, solid soln., lattice const. and electronegativity 4-39513
 CuAl, film, structural changes during leaching 4-25181
 Cu_3Au (100), O_2 adsorption, Auger electron spectra studies 4-45506
 $\text{Cu}_{1.9}\text{MoS}_8$, neutron irradi., superconductivity and elec. resist. (*Russian*) 4-25469
 Cu_2O , heat treatment effects, photoluminescence and optical absorpt. studies 4-11914
 Cu_2S -CdS thin film solar cells, stability study 4-26287
 Cu_2Te , thermoelec. material. mech. props., effect of thermal cycling 4-55909
 $\text{Cu}_{60}\text{Zr}_{40}$, amorphous-crystalline transition, DC elec. resist. study 4-44963
 $\text{Cu}_{88}\text{Zr}_{12}$, amorphous alloy, prep. by magnetron sputter deposition, crystn. 4-55744
 Dy, magnetic props. and cryst. struct. (*Russian*) 4-51094
 $\text{Dy}_2\text{O}_3/\text{B}$, thin films amorphisation, forbidden gap 4-55725
 Fe, impurity-vacancy interactions, muon spin rotation expts. 4-34527
 Fe-Al (26.5 to 50 at%), quenched, thermal expansion behaviour on annealing (*German*) 4-46540
 Fe-austenitic stainless steel system, annealing, interdiffusion, 1023-1373K 4-15715
 Fe-B metallic glasses, struct. relax. and Curie temp. 4-20112
 Fe-C/Fe-Cr-C, symmetric sandwich, annealing, C diffusion, modified quasistationary model (*Czech*) 4-6543
 Fe-C-O, reduction-decarburizing annealing, thermodynamic study 4-3100
 Fe-Co-B-Si, amorphous alloy, thermal aged, struct. changes, calorimetric evidence 4-45010
 Fe-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Fe-Mn-Cr-Mo-Al-Si-C, superalloys, duplex microstruct., carbide stability regions 4-51667
 Fe-Ni, deformed, time-temp.-reaction diagrams for thermomech. treatment, intercrit. annealing 4-51683
 Fe-Ni, quenched, annealed, L_{10} -type superstructure form., mag. anisotropy const. determ. (*Russian*) 4-25545
 Fe-Ni, sintered, tensile props. and phase struct. rel. to annealing temp. 4-7527
 Fe-Ni base metallic glasses, coercive force composition depend. 4-25595
 Fe-Ni dilute alloy, electron irradi., annealing behaviour, mag. aftereffect study 4-46073
 Fe-Ni films, spin-wave spectra, volume inhomogeneity model anal. (*Chinese*) 4-56779
 Fe-Ni-Au, microstruct. and mag. props. 4-25043
 Fe-Ni-Cr, elastic and mag. props. (*Russian*) 4-6419
 Fe-Si (3 at%), slightly deformed, struct. and texture changes during annealing (*Russian*) 4-25969
 Fe-Si (3 wt%), core loss and materials preparation 4-25582
 Fe-Si (3 wt%), Goss texture, contrib. of shear bonding 4-40818
 Fe-Si-B-based soft mag. glasses, retained γ -Fe, electron microscopy studies 4-56022
 Fe-Si-C, phase transform., struct., rel. to microadditions 4-51655
 Fe-V-B-Si alloys, N-bearing, amorphous, effects of annealing on Curie temp. 4-46028
 Fe-V-Ni solid solution, deformed-and-recovered, dislocation substruct., influence of processing parameters 4-57292
 $\text{Fe}_{80}\text{B}_{20}$, Metglas 2605, activation energy spectra in relax., crossover and reversibility 4-44999
 $\text{Fe}_{83}\text{B}_{17}$ glassy alloy, primary crystallisation, X-ray diff. anal. 4-6289
 $\text{Fe}_{86}\text{B}_{14}$ metallic glasses, short range ordering, elec. resist. studies 4-45017
 $\text{Fe}_{80}\text{B}_{20-x}\text{Al}_x$ (Ga_x) metallic glass ribbons, elec. and mag. props. 4-30202
 $\text{Fe}_{87}\text{B}_{13}\text{Au}_2$ metallic glass ribbons, Mossbauer spectra and crystallisation products 4-56825
 $\text{Fe}_{81.5}\text{B}_{14.5}\text{Si}_4$ amorphous ribbons, stress relief annealing, heating rate depend. 4-57262
 $\text{Fe}_{81.5}\text{B}_{14.5}\text{Si}_4$ ferromag. glass, spin polarised electron scatt. studies 4-46070
 FeBSiC annealed amorphous ribbons, mag. and struct. props. 4-30203
 $\text{Fe}_{81}\text{B}_{13}\text{Si}_3\text{C}_2$ metallic glass ribbon, initial permeability, annealing effects 4-30204
 $\text{Fe}_{81}\text{B}_{13}\text{Si}_{3.5}\text{C}_2$ metallic glasses toroids, mag. props. and winding methods 4-30207
 $\text{Fe}_{81}\text{B}_{13}\text{Si}_{3.5}\text{C}_2$ metallic glass toroids, power loss, coating effects 4-30208
 $\text{Fe}_{53}\text{Co}_{72.1}\text{B}_{1.5}\text{Si}_2\text{Mo}_2$, amorphous, field induced anisotropy 4-25546
 $\text{Fe}_{47}\text{Co}_{70.2}\text{Si}_{1.8}\text{B}_{10}$ metallic glass, flash annealing and mag. props. 4-30726
 $\text{Fe}_{50}\text{Co}_{50}\text{Si}_{10}\text{B}_{10}$ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
 $\text{Fe}_{50}\text{Co}_{50}\text{Si}_{10}\text{B}_{10}$, amorphous, relax. processes occurring below Curie temp. (*Russian*) 4-26070
 $\text{Fe}_{50}\text{Co}_{50}\text{Si}_{10}\text{R}_{10}$, amorphous, density, effect of isochronal annealing 4-55899
 $(\text{Fe}_{1-x}\text{Ni}_x)_{80}\text{B}_{20}$ metallic glasses, disaccommodation of mag. permeability 4-30205
 $(\text{Fe}_{20}\text{Ni}_{20})_{83}\text{B}_{17}$ glass, relax. behaviour during annealing 4-45002
 $\text{Fe}_{30}\text{Ni}_{36}\text{Cr}_{14}\text{P}_{14}\text{B}_6$ metallic glasses, short range ordering, elec. resist. studies 4-45017
 $\text{Fe}_{32}\text{Ni}_{36}\text{Cr}_{14}\text{P}_{12}\text{B}_6$, metallic glass, internal friction and Curie temp. 4-25551
 $\text{Fe}_{32}\text{Ni}_{36}\text{Cr}_{14}\text{P}_{12}\text{B}_6$ amorphous, annealing kinetics for Curie temp. changes 4-25553
 $\text{Fe}_{32}\text{Ni}_{36}\text{Cr}_{14}\text{P}_{12}\text{B}_6$, Metglas 2826 A, thermal annealing, embrittlement 4-35692

annealing continued

- $\text{Fe}_{32}\text{Ni}_{36}\text{Cr}_{14}\text{P}_{12}\text{B}_6$ metallic glass, internal friction and reversible struct. relax. 4-57274
 $\text{Fe}_{60}\text{Ni}_{40}\text{P}_{14}\text{B}_6$ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
 $\text{Fe}_{60}\text{Ni}_{40}\text{P}_{14}\text{B}_6$, amorphous, density, effect of isochronal annealing 4-55899
 $\text{Fe}_{60}\text{Ni}_{40}\text{P}_{14}\text{B}_6$, Metglas 2826, H mobility, induced mag. anisotropy 4-39605
 $\text{Fe}_{60}\text{Ni}_{40}\text{P}_{14}\text{B}_6$, Metglas 2826, struct. relax. kinetics 4-45001
 $(\text{Fe}_{1-x}\text{Ni}_x)_{77}\text{Si}_{10}\text{B}_{13}$, amorphous, mag. props. study 4-25544
 $\text{FePd}_{25}\text{Au}$ alloy, sp. ht. of ordering, annealing studies 4-11315
 Fe_2Si , annealed and quenched, mag. anisotropy study 4-20813
 GaAs (100) surface band struct., surface photovoltaic study 4-56403
 GaAs cleaved surface, $^{\circ}\text{O}_2$ and temp. induced modification (*French*) 4-56126
 GaAs, defect profile and annealing behaviour, impurity complexes form. 4-24841
 GaAs, electron indicated, deep donor levels excitation and annealing (*Russian*) 4-56265
 GaAs, γ -ray irradi., E5 centres, annealing and accumulation, elec. field effects 4-25293
 GaAs, heavily doped, electron irradi., annealed, internal quantum efficiency of deep-centre luminesc. 4-7246
 GaAs, high dose ion implanted, halogen lamp annealing, Raman scatt. study 4-15520
 GaAs, implanted impurity redistribution, stress effect 4-24843
 GaAs, ion implanted, IR annealing (*Japanese*) 4-29457
 GaAs, ion implanted, spectroscopic ellipsometry anal. 4-39327
 GaAs, ion-implanted, study following electron-beam annealing 4-20230
 GaAs, LEC grown, midgap electron traps, DLTS studies 4-15835
 GaAs, LEC grown semi-insulating, cryst. homogeneity improvement by annealing 4-51470
 GaAs, proton and electron irradi., proton annihilation and damage profiles 4-40562
 GaAs, proton irradiated, accumulation and annealing of deep centres, role of charge state 4-25292
 GaAs samples pulse annealing by incoherent radiation (*Slovak*) 4-15519
 GaAs semiconductor crystal, H^+ beam effects, damage and pulsed proton annealing 4-50379
 GaAs, Ti-Pt bilayer ohmic contacts for metallisation, stresses anal. 4-20499
 GaAs:Cr, S, Cr redistrib. under annealed S implants 4-29697
 GaAs:Cr, Si, ion implanted, annealing of amorphous layers 4-39325
 GaAs:Cr,Mn, semi-insulating, dopant redistribution during annealing 4-39330
 GaAs:Cr(O), extrinsic photoconductivity, thermal quenching behaviour 4-50869
 GaAs:Ge, neutron transmutation doping elec. and optical characterisation 4-34507
 a-GaAs:H, amorphous and microcryst., electronic struct., photoemission spectra 4-39767
 GaAs:Mn, ion implanted, Mn accumulation, Fermi energy and annealing studies 4-34648
 GaAs:Se, implanted, electron-beam annealed, electron microscopy study 4-20229
 GaAs:Si, annealing effect on elec. and optical props. 4-25339
 n-GaAs:Si, Be-implanted, p-v-n junction form. by swept line electron beam annealing 4-50359
 GaAs:Si, ion implanted, SiO_2/N_2 capped annealing, elec. activation 4-50829
 GaAs:Si encapsulated in Si_3N_4 , free carrier conc. and Hall mobility 4-50693
 GaAs:Zn, elec. props. rel. to implantation conditions 4-34980
 GaAs:Zn, implanted, IR rapid annealing 4-20217
 GaAs:Zn, implanted p^+ layers, electron beam annealing, profile broadening control 4-50355
 GaAs:Zn, ion implanted, heavy doping, enhanced activation 4-39316
 GaAs:Zn, ion implanted with minimised annealing redistribution 4-15498
 GaAs-Ag Schottky diodes, $^{\circ}\text{O}_2$ and temp. induced modification (*French*) 4-56126
 GaAsP, form. by ion implantation and annealing, Schottky contact study 4-50317
 GaAs $_x$ P $_{1-x}$, γ -ray induced defects, recombination-enhanced annealing 4-20252
 GaAs $_x$ P $_{1-x}$, solid soln., phase state change with pulsed annealing 4-55875
 GaN, VPE, annealing effects 4-35573
 Ge (111), deposition of and reaction with Si, RHEED study 4-45473
 Ge, CZ grown, defects induced by annealing or irradiation 4-20182
 Ge, electron irradi. defects, DLTS studies 4-34913
 Ge, γ -ray irradi., A centres, energy levels and annealing 4-50760
 Ge, location of implanted ^{125}I , Mossbauer study 4-11171
 a-Ge sputtered films, ordering prior to crystn., Raman scatt. and EXAFS study 4-6273
 Ge thin film, amorphous, annealing and oxygenation effects on conductivity 4-40085
 Ge-Se-Te films, amorphous, elec. props., electrode effects 4-2613
 GeAs, homogeneity region, electrophysical props. 4-56339
 GeO, obliquely deposited film, orientation props. for liquid crystals 4-50185
 GeSe-GeSe solid soln. system, phase diagram and decomposition 4-34615
 GeSe, amorphous thin films, crystn. in TEM 4-34406
 GeTe(Se) amorphous films, local struct., XPS and UPS studies 4-44973
 Hf-Os constitution diagram, metallography, X-ray diff. and electron microprobe studies 4-24969
 $\text{Hg}_{0.8}\text{Cd}_{0.2}\text{Te}$, ion implantation, radiation defect form. 4-15507
 $\text{Hg}_{0.8}\text{Cd}_{0.2}\text{Te}$ thin films, sputtered, annealed, elec. props., struct., comp. 4-40086
 $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$, LPE growth using slider boat, annealing effect on epilayer props. 4-34819
 InP (110), ion bombarded and annealed, AES, SAM and RHEED study 4-29745
 InP, disorder production and annealing during He RBS/channelling anal. 4-11197
 InP, electron irradi. defects, elec. and optical investigations 4-34902
 InP, electron irradi. induced defects, minority carrier injection annealing 4-50828
 InP, ion implanted, rapid lamp annealing, band-to-band luminesc. 4-51312
 InP, LEC grown, annealing effect on struct. defects 4-34495

annealing continued

- InP MIS struct., role of plasma oxide CVD 4-40067
 InP, n-type, proton irradiated defects study (*French*) 4-55891
 InP, undoped and doped, DLTS obs. of electron irradi. defects 4-34903
 InP, unintentionally doped LEC crystals, annealing effects 4-34901
 InP:Fe, semi-insulating, Si⁺ implantation, capless annealing of damage (*Chinese*) 4-20265
 InP:H⁺(B⁺)(O⁺)(Ne⁺)(Ar⁺)(Fe⁺), high resistive layers obtained by ion implantation (*French*) 4-55853
 InP:S(Si), compensating aspects of implantation damage 4-34510
 InP:Se, implanted, transient annealing using graphite strip heater and electron beam methods 4-34509
 InP:Se, ion implanted, rapid thermal and electron beam annealing 4-15537
 InP:Si, ion implanted, photoluminescence excitons and polaritons 4-40498
 InSb MIS struct., annealing effect on charge storage 4-56433
 InSb, thin films, elec. props. and crystallisation behaviour 4-56461
 InSb:Ge, impurity distrib. and p-n conversion under heat treatment 4-6390
 KBr, radiation-induced vol. charge, dynamical studies 4-2199
 KCl single cryst., dislocation struct. evolution during isothermal annealing (*Russian*) 4-39302
 KCl, X-centres, quasi-metallic model, positron angular correlation study 4-55827
 KCl(Br), vacancy breakdown during elec. cond. 4-25361
 KH₂PO₄, optical uniformity, effect of annealing 4-56883
 KNO₃ ceramic, ferroelec. props. and hot pressing 4-56858
 LaIrSi₃, cryst. struct. and supercond. transition temp., rel. with LaRh₂Si₂ and La₂Rh₂Si₃ 4-39243
 LaNi₃, intrinsic cycling degradation and annealing procedures 4-20362
 LaRhSi₃, cryst. struct. and supercond. transition temp., rel. with LaRh₂Si₂ and La₂Rh₂Si₃ 4-39243
 LiF film, ⁹TSEE glow curves rel. to heat treatment 4-3028
 LiF, γ -ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
 LiF single cryst., dislocation struct. evolution during isothermal annealing (*Russian*) 4-39302
 LiF TLD 100, supralinearity and sensitisation, track interaction model 4-7251
 LiF TLD for environmental and personnel dosimetry, fading and sensitivity, annealing and readout method effects 4-48778
 LiF:Fe, ion implanted, thermal annealing effects, conversion electron Mossbauer spectra 4-34646
 LiF:Ti (TLD-100), photoluminescence and thermoluminescence, thermal treatment effects 4-40539
 LiNbO₃:Eu(Cu)(Mn)(Ni), X-ray irradi. and thermal reduction-induced defects 4-39286
 LiNb₃O₈, optical characts. study (*Chinese*) 4-2889
 LiTaO₃ single cryst., reduction, electron irradi. and ESR spectra 4-45188
 Mg sialon glasses, factors influencing crystn. 4-39148
 Mg-Zn alloy, amorphous, struct. relax. during isothermal annealing 4-44953
 MgO amorphous thin films, visible and UV anomalous absorption 4-46340
 MgO:C, arc-fused, DC conductivity, hysteresis 4-34693
 Mg₇₀Zn₃₀, amorphous, struct. studies 4-44981
 Mg₇₀Zn₃₀, metallic glass, atomic dynamics, influence of struct. relax. 4-44980
 Mn-Al-C magnets, spark erosion and rapid solidification prep., mag. props. 4-56708
 Mn-C micro-alloyed steel butt-welded pipe, annealing, stress redistribution 4-3152
 Mn-Cu-Ti(Zr), Elinvar characts., thermal expansion, Young's modulus, hardness, tensile strength rel. to heat treatment 4-21262
 Mn-Zn ferrites, phys. props. and structural imperfection 4-11678
 Mo (011) with adsorbed H film, electron stimulated ordering 4-39666
 Mo, high energy N and O radiation damage, annealing, positron lifetime meas. 4-11196
 Mo, polycrystalline, vacuum annealing, O desorption from grain boundaries, ductility recovery (*Japanese*) 4-35639
 Mo powder, explosively consolidated, heat treatment, microstruct., hardness 4-30712
 Mo single cryst. prep. with optional shape using secondary recrystallisation 4-57135
 Mo, warm-worked, recrystn. 4-46531
 Mo-Nb-C, plasma arc carbonisation prep., annealing, supercond. transition temp., comp. depend. 4-46468
 Mo-Ta-C, plasma arc carbonisation prep., annealing, supercond. transition temp., comp. depend. 4-46468
 (Mo_{0.6}Ru_{0.4})₁₀₀₋₈B₈ glasses, struct. studies and relax. behaviour, X-ray diff. study 4-45007
 (Mo_{0.4}Ru_{0.4})₈₂B₁₈ amorphous films, supercond. props., elec. resist., and irradi. props., effect of annealing 4-2665
 Mo₃Si amorphous films, collective flux pinning 4-11652
 Mo₃Si amorphous films, collective flux pinning, probe of struct. defects 4-45964
 Mu-Cu, high damping capacity alloys, internal friction rel. to comp. and annealing 4-40865
 NH₃ irradiated polarised proton targets 4-942
 NaCl, deformation-induced vacancy clusters, annealing behaviour 4-29428
 NaCl single cryst., dislocation struct. evolution during isothermal annealing (*Russian*) 4-39302
 NaCl, vacancy breakdown during elec. cond. 4-25361
 NaCl:KCl, thermoluminescence, annealing and deformation effects 4-57006
 NaCl:PB⁺, aggregation and precipitation, UV absorption studies 4-50529
 NaCl:PB⁺, precipitation, light scatt. study 4-46508
 NaCl:Tb, Z₂ centres, thermolum., optical absorpt. studies 4-2969
 Nb-Al-oxide-Nb Josephson junctions, critical current uniformity and stability 4-56503
 Nb-Ge, struct. and phase composition, metallographic study (*Russian*) 4-51649
 Nb-Ge thin sputtered films, struct. and superconductivity, annealing effects (*Russian*) 4-56471
 Nb-Ge-Si, struct. and phase composition, metallographic study (*Russian*) 4-51649
 Nb₃Al_{1-x}B_x(C), Al₅ phase, ion implanted, cryst. struct. and supercond. transition temp. 4-34444

annealing continued

- Nb₃Ge(Si) amorphous films, collective flux pinning, probe of struct. defects 4-45964
 Nb₃Si (Ge) amorphous films, collective flux pinning 4-11652
 Nb₃Sn multifilamentary superconductors, composition, struct. and current carrying capacity 4-45976
 Nb₃Sn tapes, superconducting, microstruct. and neutron radiation damage 4-45193
 Ni foil, He ions implantation effects 4-45168
 Ni, H embrittlement, influence of grain boundary penetration of O 4-57345
 Ni, He bubbles, gas density and size distrib. meas. by neutron scatt. 4-20263
 Ni, neutron irradi., voids, dislocations, annealing kinetics (*Russian*) 4-24872
 Ni₃, trivacancy recovery and cubic symmetry defect trap formation on ¹¹⁹In impurities, PAC study 4-34523
 Ni:¹⁴N implanted contact on n⁺-Si, thermal stability and elec. resistivity 4-2655
 Ni-Al phase diagram, Ni₃Al₃ precipitates, morphology and lattice parameters 4-57191
 Ni-base superalloy, brazed joint, B diffusion (*Czech*) 4-39601
 Ni-Cr-Al high Cr alloy, complex recrystallisation and precipitation reactions (*Russian*) 4-51663
 Ni-Cu powder mixture, homogenisation, X-ray diff. determ. 4-30717
 Ni-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Ni-H, dil., elec. resist. and solubility meas. 4-6764
 Ni-NiSi₂(NiSi₃) contacts, thermal and ion-induced silicide dissociation 4-20503
 Ni-P films, crystn., electron diff. study 4-24735
 Ni₃Al alloy, vacancies, positron annihilation studies 4-29427
 Ni₆₀Nb₄₀ metallic glass, annealing effects and homogeneous flow 4-7518
 Ni(OH)₂, surface coating of Ti-containing Raney-Ni catalyst for H₂O₂ fuel cell anodes 4-57714
 Ni_{1-x}P_x amorphous film, ion implanted, elec. props. 4-20744
 NiSi/TiN/Al, contacts, TiN diffusion barrier 4-50952
 NiSi₂, epitaxial, form. and struct. on Si (111) 4-25178
 NiSi₂ layer formation and study 4-39725
 Ni₃₅Ti₆₅ glasses, chem. short-range order, neutron diff. patterns, effect of heating 4-34415
 Pb/Ag superlattice, growth and X-ray diff. spectra 4-2470
 PbF₂, structural defect annealing near sublatitude melting temp. 4-24804
 PbTe heterogeneous layer, current percolation and photosensitivity 4-45794
 Pd, internal friction spectra, relax. peaks temp. depend. (*French*) 4-51717
 Pd-Cu, mechanical and struct. props. (*Russian*) 4-6426
 Pd₇₈Ge₂₂, amorphous, struct. relax. kinetics 4-45001
 Pt₅₀Ni_{50-x}Cu_x, ordering during annealing, X-ray diff., elec. resist. meas. (*Russian*) 4-25968
 PtSi cosputtered coatings, high temp. stability, Schottky diode studies 4-29840
 SOS films, Si-implanted and electron beam annealed, high resolution electron microscopy 4-20505
 Sb-S amorphous films, local struct., Raman scatt. studies 4-6677
 Se-As, amorphous, structural relax., annealing, DTA study (*French*) 4-30719
 Se-Sn-As chalcogenide glass and cryst. cpds., ¹¹⁹Sn Mossbauer studies 4-56836
 Se-Te amorphous semiconductors, phys. props. and crystallisation 4-2082
 Se₆₀S₂₀Te₂₀ chalcogenide glass, crystallisation kinetics 4-44974
 Si (111), deposition of and reaction with Ge, RHEED study 4-45473
 Si, annealed, interstitial O conc. depth profiles 4-50334
 Si, CW beam-annealed, electron microscopy and defect/impurity spectroscopy 4-20604
 Si, CZ grown, defects induced by annealing or irradiation 4-20182
 Si, Czochralski grown, segregation and precipitation of O, early stages 4-50525
 Si, Czochralski grown, thermally induced/microdefects after high temp. annealing 4-20129
 p-Si, Czochralski type, new electron trap 4-34897
 Si, dislocation motion, doping effects 4-15476
 Si epitaxial layers, annealing behaviour of stacking faults (*Chinese*) 4-6384
 a-Si evaporated film, hydrogenation and direct substitutional doping, elec. props. 4-24837
 a-Si film, photo-electronic props. 4-15972
 Si, friction force acting on dislocations, temp. depend. 4-29446
 Si, gettering, defect control technique for device processing 4-39281
 Si grapho-epitaxy using partly ionised particle beams 4-16335
 Si, implanted, transient annealing, elec. characts. and microscopic anal. 4-24859
 Si inversion layers, Shubnikov-de Haas oscils. 4-30080
 Si, ion implanted, heat pulse annealing, struct. charact. by TEM 4-24838
 Si, ion implanted, pulsed electron beam annealing, melting and freezing kinetics 4-20254
 Si, ion implanted, solid phase epitaxy by annealing 4-34810
 Si, ion-implanted, annealing using dense plasma focus 4-29455
 Si, ion-implanted polycryst., IR radiation annealing using graphite heater 4-24854
 Si, location of implanted ¹²⁵I, Mossbauer study 4-1171
 Si MOS struct., ion implanted C-V characts. and dielec. props. 4-45890
 Si, neutron doped, drag thermo EMF, anisotropy parameters, heat treatment effects 4-6816
 Si, neutron doped and γ -irrad., nature of defects 4-55885
 n-Si, neutron irradi., annealing, DLTS studies 4-20260
 n-Si, neutron irradi., low dose, electron traps and annealing behaviour, DLTS study (*Chinese*) 4-39807
 Si, neutron irradiated, zero phonon line, uniaxial stress meas. 4-35484
 n-Si, neutron transmutation doped, piezoresist. and Hall effect, annealing and quenching effects 4-6776
 Si, p-n junction solar cells, mol. beam glow discharge prep. 4-52160
 Si, polycrystalline films, improved conductivity by pre-annealing 4-45902
 Si, preamorphised, BF₃ implanted, rapid thermal annealing 4-15514
 Si, proton and electron irradi., proton annihilation and damage profiles 4-40562
 Si, proton and gamma irradi., dislocation effects on impurity-defect agglomeration interaction processes 4-6404
 Si, pulsed electron beam annealing, struct. defects induced by thermoelastic stresses, SEM studies 4-24822

annealing continued

Si semiconductor crystal, H^+ beam effects, damage and pulsed proton annealing 4-50379
 Si, shaped, structural and electronic props., annealing influence 4-25364
 Si single cryst., neutron irradiation-induced defects, γ -ray diff. and IR studies 4-11192
 Si solar cells, metallurgical grade, impurity gettering effect on efficiency 4-7877
 Si, thermal oxidation conditions rel. to electrophys. props of SiO_2 (*Russian*) 4-41018
 Si, thermal processing, effect on thermophysical props. and structural perfection 4-50836
 Si, thermally induced microdefects, high resolution electron microscopy study 4-20181
 Si thin film on insulating substrates, recrystallisation using incoherent light sources 4-15381
 Si, X-ray irradi., Frenkel pairs, minority carrier injection effects 4-55823
 Si:As, amorphous ion-implanted layer, thermal annealing, ellipsometric parameters (*Chinese*) 4-7483
 Si:As, implanted, struct. modification during annealing 4-50328
 Si:As, ion implantation, annealing behaviour, MeV backscattering anal. 4-45154
 Si:As, ion implanted, controlled diffusion by electron beam heating 4-15699
 Si:As, ion implanted, transient enhanced diffusion during short time annealing 4-39594
 Si:As (B), ion implanted, pulsed electron beam annealing 4-15536
 Si:As $^+$, extremely shallow n^+ -p junctions, low temp. process for annealing 4-50324
 Si:As $^+$, high dose ion implanted, annealing behaviour 4-15500
 Si:As $^+$ ion implanted wafers, IR transient annealing (*Chinese*) 4-20222
 Si:As(B), implanted, rapid thermal annealing 4-20218
 Si:Au(Cu) single cryst., impurity gettering by porous Si during annealing 4-2382
 Si:B, flash annealing with pulsed Xe lamp and appl. for solar cells 4-39332
 Si:B, ion implantation for shallow p^+ /n junction formation, solid-phase epitaxy obs. 4-20225
 Si:B, ion implanted, B lattice position annealing studies 4-11158
 Si:B, ion implanted, diffusion behaviour, flash-lamp annealing effects 4-45421
 Si:B, ion implanted, multiple scan electron beam annealing (*French*) 4-15538
 Si:B, ion implanted, rapid thermal annealing using ultrahigh power arc lamp 4-50318
 Si:B, polycryst., ion implanted, time-resolved scanned electron beam annealing 4-50360
 Si:B, preamorphized, implants, rapid thermal annealing, residual defects 4-50316
 Si:B,Ar, ion implanted, epitaxial regrowth 4-50656
 p-Si:B MOS capacitors with Al gate, donor-like traps, atomic models 4-6897
 p $^+$ -Si:B/Al Ohmic contacts on ion implanted shallow Si layers, formation by halogen lamp annealing 4-15960
 Si:B $^+$ (BF_3^+) implanted slices, TEM studies after annealing and oxidation 4-24823
 Si:BF $_3$, preamorphized, implants, rapid thermal annealing, residual defects 4-50316
 Si:BF $_3^+$, implanted, oxidation generated defects, TEM studies 4-24824
 a-Si(BP) CVD film, crystallisation growth rate, doping depend. 4-44948
 Si:C, O crystals, O precipitation C and heat treatment effects 4-39515
 Si:Co, segregation behaviour, Mossbauer and TEM studies 4-45341
 Si:Co(Cr), implanted polycryst., electron-beam annealing 4-24870
 Si:Er, γ -ray irradi. defects, Hall effect, elec. cond. and photocond. studies 4-34543
 a-Si:F films, deposition, elec. and optical props. 4-51541
 Si:H, amorphous, RF sputtered, light-induced optical absorption changes (*Chinese*) 4-21056
 Si:H, amorphous, solar cells, light soaking and regenerative annealing 4-46876
 a-Si:H, glow discharge deposited, impurity diffusion study 4-39598
 Si:H, ion implanted, low-sym. EPR center 4-20864
 a-Si:H, photoconductivity, light-induced defects 4-39965
 a-Si:H, recombination processes and spin-dependent photocond. 4-6831
 Si:H,P (B), post hydrogenated, elec. cond. and ESR, doping effects 4-39900
 a-Si:H,P(B) film, optically induced excess cond. 4-40088
 a-Si:H evaporated film, IR vibr. spectroscopy studies 4-21059
 a-Si:H film, photoconductivity study 4-39968
 a-Si:H film, plasma deposited, mech. stress 4-29855
 a-Si:H films, dangling bonds, ENDOR study 4-40280
 a-Si:H films, IR photocond. and dark cond., annealing effects 4-35025
 a-Si:H(F) film, ion implanted, elec. cond. study 4-15969
 Si:Hg, ion implanted, annealed and unannealed depth distrib. 4-34515
 Si:In, epitaxial layer doping with organoindium cpds., annealing effect 4-55850
 Si:Na, electron irradi., radiation defects, Hall effect meas. 4-50362
 Si:O, annealing behaviour of recombination centres 4-39823
 Si:O, thermal donors and O agglomeration 4-56262
 Si:O epitaxial layers, preannealing effects 4-45549
 Si:P, annealed, shallow donor complex, photocond. spectra 4-45669
 Si:P, implanted, solar cells obtained by incoherent light annealing, elec. characts. 4-21547
 Si:P, ion implanted, incoherent light annealing, appl. to solar cell prod. 4-16788
 Si:P, proton irradi., fast electron annealing of IR absorption bands 4-34547
 Si:P polycrystalline layers, ion implanted, elec. resist., effect of annealing in H_2 and N_2 atmos. (*Chinese*) 4-40084
 Si:P solar cells, pulsed electron beam annealing effect on open-circuit voltage 4-16786
 Si:P(As), ion implanted, rapid isothermal annealing with electron beam system 4-15539
 Si:Sb, ion implanted, dopant conc., electron and ion channelling studies 4-50332
 Si:Sb, low temp. resist., log-T depend. 4-34981
 Si:Sb, polycrystalline, ion implantation doping and annealing, expt. study and VLSI appl. 4-45169
 Si:Sb, solid-phase epitaxially grown, point defect trapping 4-50322
 Si:Sb ion implanted solid soln., partially coherent Sb precipitate form. 4-29629

annealing continued

n-Si/Au Schottky diodes, elec. characts. and electron beam annealing 4-15961
 Si/Ni-Au dilute alloys, ion-induced or thermal reactions, Rutherford backscatt. and glancing angle X-ray diff. 4-6411
 Si/Pt system, reaction products after pulsed electron beam annealing 4-15717
 Si/Sb thin film system, pulsed laser- and electron beam-induced diffusion 4-15716
 Si/ SiO_2 formation by O^+ implantation, SIMS anal. 4-45545
 Si/Ti(TA) systems disilicide form. by thermal pulse annealing 4-15718
 Si-Al contacts formed by ion implantation and post annealing 4-30069
 Si-C alloy film, tetrahedrally bonded amorphous semicond., crystallisation process study 4-39142
 Si-Ge films, tetrahedrally bonded amorphous semicond., crystallisation process study 4-39142
 a-Si-H film, electronic struct. photoemission study 4-30037
 Si-N alloy film, tetrahedrally bonded amorphous semicond., crystallisation process study 4-39142
 Si- SiO_2 interface, γ -ray damage, annealing characts. 4-45185
 Si- SiO_2 structure formed by 200 keV O ion implantation, O depth distrib. 4-45167
 Si-V interface, chemical reaction and Schottky-barrier form. 4-45535
 $Si_{100-x}Al_x$ amorphous films, reactive co-sputtering, high p-type conductivity and optical props. 4-40647
 SiC, electron irradi., optical props., annealing effects (*Japanese*) 4-46286
 SiC, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 a-SiC:H film, phys. props. 4-40438
 a-SiH glow-discharge films, H_2 evolution and annealing studies 4-39134
 $Si_3H_4(OH)_3$, siloxene, cryst. to amorphous struct. change on thermal annealing 4-39144
 SiN:H, amorphous film, annealing behaviour, EPR study 4-7049
 SiN:H amorphous film, plasma deposited, mech. stress 4-29855
 Si_3N_4 plasma enhanced deposition, encapsulant for GaAs:Si 4-50693
 SiO_2 fused silica, thermal annealing of radiation induced defects, rel. to MOS devices 4-45179
 SiO_2 , vitreous, ion bombardment by He^+ , B^+ and Xe^+ annealing waveguide layers 4-19568
 SiO_2 , X-ray radiation-induced electron traps 4-15834
 $SiO_2:B^+(P^+)(As^+)$ ion implanted layers in MOS struct. (*Chinese*) 4-20221
 $Sm_2(Co,Cu,Fe,Zr)_{17}$ permanent magnets, coercivity, energy product improvement 4-7021
 $Sm(Co,Cu,Fe,Zr)_{7.4}$ magnets, annealed and quenched cellular microstructure 4-6383
 $Sm(CoFeCuZr)_{7.4}$ sintered magnets, microstruct. and mag. props., annealing effects (*Russian*) 4-25592
 $Sm(CoFeCuZr)_{7.4}$ magnets, phase composition and hysteresis props. (*Russian*) 4-51093
 SnO_2 :As thin film, ion implanted, elec. props. 4-35099
 $SnTiO_3$, grown by Czochralski method, optical props. 4-57091
 Ta, radiation induced lattice defects, stage III recovery, PAC study 4-34476
 Ta_2O_5 amorphous films, leakage-current increase due to pinhole growth during annealing 4-35106
 $TaSi_3$ thin films, temp. depend. of elec. and struct. props. 4-30098
 Ti/Au bimetal films, interdiffusion and elec. resist. changes under annealing 4-35092
 Ti/Pt ohmic contacts to GaAs/AlGaAs lasers, blistering phenomena 4-26107
 Ti-Al, radiation defect annealing, neutron irradiation, positron annihilation (*Russian*) 4-50370
 Ti-Al-Cr-Mo-V, impurity distrib. study 4-11174
 Ti-Ni, electrosparc alloying, annealing, surface phase comp. rel. to treatment conditions (*Russian*) 4-21362
 Ti-V (23 at.%), incommensurate struct. and resist., ageing effects (*Russian*) 4-50790
 TiAl, single cryst. growth by floating zone technique 4-12020
 TiB_2 , irradiation and post-irradiation annealing behaviour 4-11193
 TiN films, ion implanted, transparency and cond. props., solar cells fabrication appl. 4-35103
 TiO_2-BaCO_3 multicomponent thin film systems, phase and struct. transforms 4-34834
 TiO_2-BaO multicomponent thin film systems, phase and struct. transforms 4-34834
 TiO_2-PbO layered thin film system, phase and structural transitions 4-25182
 TiO_2-PbO multicomponent thin film systems, phase and struct. transforms 4-34834
 $TiSi_2$, bilayers on poly-Si, As ion implantation diffusion and distrib., heat treatment 4-29704
 $Ti_{80}Si_{20}$, amorphous alloy, quenched, annealed, crystallisation at high press. 4-15379
 Tl halides, single crystals, heat treatment, use as acoustooptic guides 4-49468
 V single crystal, stability of sinusoidal surface profile rel. to isothermal annealing 4-15756
 V $_3$ Ga multifilamentary supercond., crit. current enhancement by In addition 4-45979
 W, CVD coating on Si wafer, props. 4-2477
 W-Sb-He system Sb and He ion implanted, vacancy trapping and He decoration 4-46150
 WSi_2 thin films, elec. cond. and Hall effect studies 4-50963
 Y, thin films, elec. resist., effect of substrate temp., deposition rate and annealing 4-6908
 YIG epitaxial films, domain struct. and mag. props., annealing and high press. effects 4-25623
 YIG films, spin-wave spectra, volume inhomogeneity model anal. (*Chinese*) 4-56779
 YIG:Bi, Ga (La, Ga) bubble garnet films, annealing and mag. props. 4-56745
 $(YSmLuCa)_3(FeGe)_2O_{12}$:Xe(As) bubble garnet films, mag. and struct. props. 4-56744
 Zn, pure single crystals, fast neutron irradi., 77K, ductility, fracture stress, dose depend. 4-51724
 Zn-Mn dilute supercond. film, quenched and annealed, localised excited states 4-50749
 ZnO sputtered thin films, post-deposition annealing using furnace and laser beam 4-55865

annealing continued

- ZnO thin films fabricated by RF magnetron sputtering, resistivities study 4-40095
 ZnP₂ single cryst., γ -irrad. defects and elec. resist. 4-55814
 ZnS, ion implanted, radiation defect related photoluminescence band 4-7237
 ZnSe:N⁺, void formation on annealing TEM study 4-45210
 Zr, foil, electron irradiation, 14 and 38 MeV, 4.2°K, isochronous annealing (*Russian*) 4-39343
 Zr overlays on Pt(100) surface, structural and chemisorptive props., LEED and AES study 4-50616
 Zr-Nb (2.5 at.%), microstruct. and hardness, cyclic heat treatment effects (*Russian*) 4-25979
 Zr-Ni amorphous films form. by solid state reactions 4-45553
 ZrC-NbC(TaC)(WC) solid solution, creep rate study 4-57285
 Zr₇₆Cu₂₄, amorphous, sputtered, thermal, supercond. and structural props., heat treatment effect 4-35121
 ZrFe₂, ⁸⁹Ym. mag. hyperfine interaction and nuclear spin-lattice relax. 4-25550
 Zr_{1-x}-Fe_x amorphous alloys, superparamagnetism and superconductivity 4-46071
 Zr₃Ni, ideal type II amorphous supercond., flux flow resist. and upper crit. field 4-40124
 ZrO₂, tetragonal modification, effects of additives and heat treatment, X-ray diffr. study 4-50256
 ZrO₂-based ceramics, plasma-sprayed thermal barriers (*French*) 4-51842
 ZrO₂-MgO, partially stabilised ceramic, stress induced polymorph form., decomposition during annealing 4-57238
 Zr₃Rh, ideal type II amorphous supercond., flux flow resist. and upper crit. field 4-40124

annealing, magnetic *see magnetic annealing***anodes**

- 5 MJ plasma focus two-dimensional MHD calc. 4-34308
 electrolytic capacitors, chemical composition and thermal processing parameters effect (*Polish*) 4-7780
 plasmatron electrodes, rotating electrode discs, cathodic and anodic spot phenomena 4-15306
 Pb/acid cells tubular positive plates formation, influencing factors, resting and extreme conditions 4-36000
 Pb-acid accumulators, thermopassivated dry-charge positive electrodes, depassivation, expt. 4-7849
 Si/liquid contact, 7.2% efficient photoanodes 4-50862
 TiNi oxide electrodes, appl. as photoanodes in photoelectrochemical cells, performance, temp. effect 4-3471

anodes, electrochemical *see electrochemical electrodes***anodic machining** *see electrolytic machining***anodisation**

- metals, anodising in molten salts, review 4-7647
 solar cells, MIS, anodic oxyfluoride layers grown on Si 4-57730
 Al, anodic oxidation, Cl⁻ ion role 4-35770
 Al, anodic oxidation in sodium tartrate electrolyte, incorporation of siliceous impurity 4-16528
 Al, SEM and surface EXAFS study of anodically prepared Al₂O₃ 4-20521
 Al surfaces, opt. props. after surface treatments (*Russian*) 4-7146
 Al-Mg, dielec. breakdown during anodic ceramic films form. (*Russian*) 4-7122
 Al-Zn-Mg-Cu, anodic coating behaviour of X7091, SEM obs. 4-7639
 Bi₂Te₃, anodic film form., ellipsometric nucleation and growth study 4-51388
 Ce, cryst. oxide film formation (*Japanese*) 4-46645
 Cu-Ni alloy, active anodic dissolution in NaCl solution (*French*) 4-3276
 GaAs anodic film rapid growth, retardation modulation ellipsometer for fast surface transient obs. 4-43020
 GaAs, anodic oxide growth in situ study using ellipsometry (*French*) 4-46347
 InAs/oxide interfaces, element V material obs. 4-56157
 InP, plasma anodic oxidation 4-26073
 InSb, anodic oxide form. 4-21344
 InSb anodization in MOS structures, characts., surface state density distrib. 4-35086
 InSb/oxide interfaces, element V material obs. 4-56157
 Nb/Nb small area planar Josephson tunnel junction, fabrication 4-40115
 Ni anodic oxidation in KOH electrolyte 4-46351
 Ni anodic oxide film growth in alkaline electrolyte, cond., refr. index, cyclic voltammetry, ellipsometry 4-41102
 Pb_{1-x}N_xTe, anodisation, XPS study 4-51835
 Pt electrode surface, oxidized, vibr. spectra, EELS and XPS study 4-46384
 Si, anodisation, HF, kinetics 4-57385
 n-Si, anodisation in HF soln., kinetics and mechanism of porous layer growth 4-16527
 Si, monocryst., plasma anodisation, real time ellipsometric analysis (*French*) 4-51838
 Si, theory of SiO₂ growth in O₂ plasma 4-21348
 Si:P(B), impurity profiles, anodic oxidation and chemical polishing study 4-34517
 Si-anodic oxide interface, ellipsometric investigation 4-46224
 Sn, anodic treatment, passivation studies using group VIA anions 4-12225
 Ti, anodic oxidation in acid media, temp. rise obs. 4-30863
 Ti, anodic oxide film formation and dissolution in HClO₄ 4-12236
 Ti, oxidation in LiCl-KCl eutectic, electrochem. study (*French*) 4-46648
 ZnO/Zn anodically and thermally formed systems, photostimulated exoelectron emission 4-7336

anodised coatings *see anodised layers***anodised layers**

- Al₂O₃ film, SEM and surface EXAFS study 4-20521
 anodic oxide films, kinetics of ionic migration and relaxation 4-12218
 ceramic films on Al-Mg dielec. breakdown during form. (*Russian*) 4-7122
 oxide amorphous layers on Al, prod. in sodium tartrate and H₃PO₄ electrolytes, electron-yield EXAFS study 4-15783
 oxide films, anodic, on the Hg₂₈Cd₇₂Te substrates, comp., ion-induced reduction and sputtering studies 4-40594
 oxide films, electrostriction and electrochromism, ellipsometric study 4-46352
 Al 4-34814
 Al alloys, anodized, H₃PO₄, relation between film microhardness and metallic coating adhesion 4-3291

anodised layers continued

- Al₂O₃ anodic film, thickness determ. by photoluminesc. method 4-26108
 Al₂O₃ anodic film on InP and In_{0.53}Ga_{0.47}As, prep. and props. 4-25465
 Al₂O₃ barrier anodic coatings, electrolyte byproducts incorporation 4-41105
 Al₂O₃ film, anodic, photocond. in 3 to 6.2 eV range, localised levels 4-2664
 Al₂O₃ layer characterisation for Al sheet adhesive joints (*German*) 4-16542
 CdS, film growth by anodic sulphidation on Hg_{1-x}Cd_xTe 4-51550
 CeO₂ crystalline anodic oxide film formation on Ce (*Japanese*) 4-46645
 Fe and Fe alloys, passive films, structure simulation by RDF method 4-57426
 Fe anodic oxide films, in-situ reflection-spectroscopic study 4-46348
 Hg_{1-x}Cd_xTe, anodic oxide, comp., reaction with substrate 4-41015
 InSb MOS structure with thin anodic oxide, elec. props. 4-40057
 IrO₂ anodic films, XPS studies 4-41066
 IrO₂ films, voltammetric anal. and open-circuit pH response 4-7732
 Nb, anodic oxide film, temp. rise and electrochem. breakdown (*French*) 4-46647
 Nb₂O₅/Nb, thin anodic oxide film, AES depth profiles, quantitative evaluation 4-20446
 Ni and Ni-Mo alloy surfaces, thin anodic films analysis using STEM 4-56125
 Ni, anodic film form. in Na₂SO₄ soln., STEM obs. 4-51855
 Ni anodic oxide film growth in alkaline electrolyte, cond., refr. index, cyclic voltammetry, ellipsometry 4-41102
 Ni anodic oxide films, in-situ reflection-spectroscopic study 4-46348
 Ni-Mo (13 wt.%), anodic film form. in Na₂SO₄ soln., STEM obs. 4-51855
 Ni-Mo alloys, single phase, passive films struct., STEM study 4-57427
 NiOOH layers, form., ion and electron transfer, inhibitor effect 4-57415
 n-Si, anodisation in HF soln., kinetics and mechanism of porous layer growth 4-16527
 Ta-Al-N alloy, anodised thin film capacitor, Auger electron spectroscopy, dielec. loss study (*Japanese*) 4-7125
 Ta₂O₅/Ta, thin anodic oxide film, AES depth profiles, quantitative evaluation 4-20446
 Ti, anodic oxide film formation and dissolution in HClO₄ 4-12236
 Ti anodic oxide films, in-situ reflection-spectroscopic study 4-46348
 WO₃ anodic thin film, photocond. 4-39956

anodised thin films *see anodised layers***anolytes** *see electrolytes***anomalous skin effect**

- electron gas, anomalous skin effect under high elec. field 4-6818
 metals, anomalous skin effect, surface impedance calcs. (*Russian*) 4-50893
 metals, weakly damped Reuter-Sondheimer waves under anomalous skin effect conditions (*Russian*) 4-25386
 Al, transmission ESR studies 4-46109
 W, anomalous EM transparency in low mag. fields 4-35522

antenna arrays

- see also antenna phased arrays; directional couplers; microwave antenna arrays*
 annular loop antenna arrays near field patterns in lossy cylinders, hyperthermia appl. 4-12672
 induced EMF theory, trigonometric spiral array field patterns study 4-19321
 Mark III Nancay Radioheliograph 4-17392
 spatial light modulator, multichannel addressing, coherent optical processor of antenna array signals 4-17481

antenna feeders

- imaging beam waveguide feed 4-13198

antenna lobe patterns *see antenna radiation patterns***antenna patterns** *see antenna radiation patterns***antenna phased arrays**

- focused array hyperthermia applicator 4-12678
 microwave phased arrays for deep-seated tumour irradi., 3-D phantom meas. 4-31179
 piezoelectric transducers for acoustic beam position control 4-5777
 Very Large Array, modern synthesis radiotelescopes, design and performance 4-53044

antenna radiation patterns

- annular loop antenna arrays near field patterns in lossy cylinders, hyperthermia appl. 4-12672
 decametric wave interf. in azimuthal oriented adaptive antenna system 4-22184
 focused array hyperthermia applicator 4-12678
 ground radiowave intensity, effect on ionospheric absorpt. evaluation 4-36533
 human body, interaction with EM field, 10-1000 MHz, antenna radiation characts. study (*German*) 4-16920
 induced EMF theory, trigonometric spiral array field patterns study 4-19321
 metal-framed spectacles, effect on microwaves near the eyes, microwave antenna meas. method 4-12741
 Nagoya University 1.5 m EHF telescope, antenna optics and receiver system 4-13194
 resonance cone fine struct. in lower hybrid range, kinetic effects 4-34270
 satellite, two component warm plasma performance comparison 4-44858
 sonar signals, acousto-optical beamformer 4-38656
 vacuum-insulated infinite flat slotted plate antenna in cold plasma 4-1929

antenna theory

- bistatic rain-scatter experiment at 34.8 GHz 4-8282
 capacitor antenna in electron beam-plasma system, theory for impedance 4-19964
 capacitor antenna in streaming plasma, theory for impedance 4-19964
 conducting strip embedded in dielectric slab, induced current determ. 4-19322
 EM pulses diffraction by wire structures (*French*) 4-44029
 lossy transmission line transients, detect. of branch points by modified FFT 4-26813
 radiowave propagation, influence of hydrometeors 4-3786
 thick screen with impedance faces, EM plane wave diffr., HF scattering study 4-23872
 undersea radiocommunication using undersea cables as ULF/ELF antennas, theory 4-21989

antennas

- see also antenna radiation patterns; dipole antennas; microwave antennas; receiving antennas; reflector antennas
dielectric and dielectric-coated metal structures, waveguides resonators and antennas appl. 4-19914
EM propagation, physical modeling over nonhomogeneous terrain 4-23873
EM pulses diffraction by wire structures (French) 4-44029
performance of antennas in plasmas 4-26981
plasma diagnostic using ring aperture antenna, input impedance, longitudinal wave effects 4-15293

anti-transmit-receive tubes see gas-discharge tubes; radar equipment

antibaryons see baryons

anticorrosion coatings see corrosion protective coatings

anticrossing spectroscopy see energy level crossing

antiferromagnetism

No entries

antiferroelectric materials

- see also antiferroelectricity; ferroelectric materials
ice, polymorphs, high press. phase transitions and H-bonded symm. 4-39192
semiconductors, thermodynamics and electron subsystem effects 4-6524
smectic-A phase, one-part description 4-2880
squaric acid, one-dimensional mol. correlations obs. by neutron scatt. 4-40365
NH₄H₂PO₄-type antiferroelectrics, growth and characts. of coloured monodomain crystals 4-30417
NH₄HSeO₄, incommensurate antiferroelec., dislocations and time-dependent dynamics 4-35382
NaNO₂, antiferromagnetic, elastic stiffness const. at normal-to-incommensurate phase transition, US study 4-50497
NaNbO₃, antiferroelectric, phase fronts at P-R transitions 4-51199
PbZrO₃ antiferroelec. phase, struct. phase transition meas. by neutron diff. 4-45318
Rb_{1-x}(NH₄)_xH₂PO₄, ferroelec.-antiferroelectric mixture, dipole-glass phase, dielec. const., X-ray diff. profile meas. 4-20920
Rb_{1-x}(NH₄)_xH₂PO₄, ferroelec.-antiferroelec. crystal, short range ordering and freezing 4-34407
Rb_{1-x}(NH₄)_xH₂PO₄, ferroelec.-antiferroelec. random mixture, dipole glass phase, X-ray study 4-44968

antiferroelectricity

- see also antiferroelectric materials
incommensurate-commensurate phase transitions, extended antiferroelec. interaction Ising model 4-6467
liquid crystals, doubly reentrant, frustrated spin glass model 4-11276
A₂BX₄ type crystals, incommensurate-commensurate phase transitions, statics and dynamics 4-25004
H-bonded crystals, phase transition and isotope effect (Japanese) 4-56863
NH₄(1-x)D₄H₂(1-x)D₂AsO₄, dielectric and elec. props. 4-35329
PbHfO₃, antiferroelectric twins 4-24830
Pb_{0.99}Nb_{0.02}((Zr_{0.6}Sn_{0.4})_{0.94}Ti_{0.06})_{0.98}O₃, electrostriction study 4-40354

antiferromagnetic Curie temperature see Curie temperature

antiferromagnetic-ferromagnetic transitions see ferromagnetic-antiferromagnetic transitions

antiferromagnetic-paramagnetic transitions see paramagnetic-antiferromagnetic transitions

antiferromagnetic properties of substances

- see also antiferromagnetism; magnetic semiconductors
actinide chalcogenides, struct., electronic struct. and mag. props. 4-11072
binary alloy, antiferromag., paramag. phase props. 4-16010
copper formate, mag. field induced antiferromag. order above Neel temp. 4-11714
dibromodichlorobis(4-methylpyridine)-iron, mag. susceptibility in temp. range 77-300K 4-20800
graphite intercalation cpd. with MnCl₂, two-dimensional antiferromag., ESR study 4-51125
graphite-CoCl₂ intercalation cpd., mag. ordering study 4-40147
graphite-CoCl₂ intercalation cpd., mag. transitions, neutron study 4-40174
graphite-FeCl₃ intercalation cpd., mag. ordering study 4-40147
manganese formate, press. effect on mag. props. 4-11702
manganese formate, spontaneous magnetisation development around Neel temp. 4-11676
manganese formate and diluted systems, crit. phenomena, hierarchic ordering 4-11713
manganese formate dihydrate, antiferromag., spontaneous magnetisation, temp. Barkhausen effect development 4-11745
metals, anomalous antiferromagnetic struct. 4-2735
(n-methyl-2-aminopyridinium) copper (II) trichloride, spin-1/2 linear chain antiferromagnet 4-56579
methylammonium manganese chloride, quasi-one-dimensional antiferromagnetism 4-56674
polyene radicals, Heisenberg antiferromag. chains, spin densities and correl. calc. PPP model 4-28376
quasi-one-dimensional Mn²⁺ cpds., anomalous AFMR, temp. depend., anisotropy, renormalised spin wave calc. 4-16101
rare earth alloys, RAgGa, paramag. props., Curie and Neel temps. 4-56536
rare earth alloys, RInAg₂; Heusler alloys, elec. and mag. props. 4-45732
rare earth alloys, RPD₂Si, R=Gd, Tb, antiferromag., Neel temps., metamagnetic transitions, indirect exchange interactions, cryst. field effects 4-30169
rare earth rhodium silicides, R₂RhSi₃, cryst. struct., elec. and mag. props. 4-50272
rare earth silicides, (R,Th,U)Os₂Si₂, mag. props. and cryst. struct. 4-2725
rare earth ternary silicides, R-Rh-Si and R-Ir-Si, supercond. and mag. props. 4-11621
rare earth-transition metal ternary compounds, coexistence of mag. order and superconductivity, review 4-2667
Rb₂Co_{0.85}Mg_{0.15}Fe₄, antiferromagnetic, random-field effects in 2-D and 3-D, birefringence study 4-56645
steel, austenitic stainless, antiferromagnetic ordering (Russian) 4-51026
TCNQ salt, dimethylmorpholinium (TCNQ)₂, mag. phase transition, EPR and susceptibility meas. 4-2756
tetrachlorobis(4-methylpyridine)-iron, mag. susceptibility in temp. range 77-300K 4-20800

antiferromagnetic properties of substances continued

- tetraethylammonium iron(III) tetrachloride, EPR linewidth, anomalous temp. depend. 4-7048
tetramethylammonium hexacyanomanganates, Mn(III) or Fe(III) substituted, mag. props. 4-2761
TMMC, mag. specific heat contrib. from solitons 4-11722
TMPD-maleonitrile dithiolate nickelate, cryst. struct. and mag. meas. 4-2191
(TMTSF)₂TaF₆, transport props., mag. props., phase diagram 4-2602
transition metal alloys, MM'Ge, M,M'=d transition metals, cryst. and mag. structures, X-ray diff., neutron diff., mag. meas. 4-11674
transition metal alloys, Mn_{2-x}M_xSb, M=Ti-Cr, Fe, Co, ferrimagnetic-antiferromagnetic transitions 4-56619
3d transition metal monoxides, cohesive props., KKR band calcs. 4-6312
transition metal trisulphides, MPS₃ (M=Mn, Fe, Co, Ni), mag. props., neutron diff., susceptibility, and ³¹P NMR studies 4-11673
B₂O₃-Fe₂O₄-Mn₂O₄ glass, rapidly quenched, crystn. behaviour with regard to thermal and mag. props. (German) 4-2093
BaCoF₄, optical phonon spectra, effect of magnetoelec. interaction (Russian) 4-2936
Ba₂FdCrF₆, Neel temp., cationic inversion, Mossbauer spectra 4-11814
BaM₂(XO₄)₂ (M=Co, Ni; X=P, As), mag. props., susceptibility, sp. ht., and neutron scatt. studies 4-11699
BaMnF₄, microwave absorption peculiarities, two-magnon processes (Russian) 4-25639
Ba₂NiFeF₆, Neel temp., cationic inversion, Mossbauer spectra 4-11814
C₆Eu graphite intercalation cpd., mag. anisotropy due to π-f exchange 4-2750
C₆Eu graphite intercalation cpd., ESR studies 4-16086
CaFe₂²⁺Fe³⁺Si₂O₇(OH), ilvaite, elec., mag. props., Mossbauer spectra 4-56565
CaMnCl₃, study of Mn⁵⁵ nuclear spin system 4-20886
Ce mononitrides, spin dynamics, neutron scatt. study 4-56641
Ce mononitrides and monochalcogenides, mag. props. 4-11692
Ce mononitrides:Gd³⁺, exchange and cryst. field effects, EPR study 4-11767
CeAg₂Si₃, mag. ordering, neutron diff. study 4-51031
CeAu₂Si₃, mag. ordering, neutron diff. study 4-51031
CeBi, hybridization-mediated anisotropic coupling and excitation behaviour 4-56608
CeFeP₂, mag. and elec. props., Mossbauer spectra 4-11684
CeH₂(D₂), mag. props. at low temps. 4-2739
Ce_{1-x}La_xMn₂Si₂, mag. props., X-ray diff., magnetometric meas. 4-11682
Ce(Mn_{1-x}Ti_x)Si₂, T=Fe, Co, Cu, mag. props., X-ray diff., magnetometric meas. 4-11682
CePd₂Si₂, mag. ordering, neutron diff. study 4-51031
CeRh₂Si₂, mag. ordering study 4-40146
CeRh₂Si₂, mag. ordering, neutron diff. study 4-51031
CeRu₂D₂, struct. investigations and mag. props. 4-11111
CeSb(Bi), mag. props. study 4-30151
CeSb_{1-x}Te_x, mag. props., effect of Te substitution, neutron diff. study 4-11695
CeSb_{1-x}Te_x solid solns., mag. props. 4-6964
CeSb_{1-x}Te_x solid soln., mag. props. and cryst. field splitting energy 4-56600
Ce_{1-x}Y_xIn₃, mag. ordering, Kondo lattice, mixed valence, Neel temps., susceptibility, resist. meas. 4-56289
CoCO₃:Fe²⁺, hyperfine field features of impurity nucleus 4-20867
CoCO₃:Fe²⁺, low-freq. spin excitations of impurities 4-35168
CoF₂, noncollinear mag. structures in an external field 4-25495
CoO, antiferromagnet, mag. transitions, mag. susceptibility studies 4-20819
Co_{1-x}Zn_xF₂, mag. props. 4-16031
Cr, surface magnetism of (110) face, angle-resolved photoemission study 4-30608
Cr-Fe, itinerant-electron antiferromag., spin glass state, mag. susceptibility 4-51060
Cr-Ga (0.92 at.%), elec. resist. anomaly at incommensurate-commensurate SDW transition under hydrostatic press. 4-20624
Cr-Mn dilute alloy, elec. resist. and mag. phase transitions 4-51055
(Cr_{1-x}Al_x)₂O₃, neutron diff. study of critical exponents (German) 4-6995
CrMnAs, cryst. struct. and mag. props. 4-11675
Cr₂O₃, magnetic phase transitions, modulation and thermomodulation spectroscopy (Russian) 4-6972
α-Cr₂O₃:Ga³⁺, EPR absorpt., mag. cluster model extension (German) 4-20859
CrRe, coexistence of supercond. and itinerant antiferromagnetism, NMR study 4-30126
Cr_{1-x}Ti_xAs, mag. and crystallographic props. 4-56620
Cs, liquid, NMR ¹³³Cs Knight shift and relax. rate studies 4-46130
CsCoBr₃, one-dimensional antiferromag., soliton response, neutron scatt. study 4-2731
CsCoBr₃(Cl₃), quantum Ising-like antiferromag. chain, soliton dynamics 4-56661
CsCoCl₃, frustrated antiferromag., magnetoelectric effect 4-16080
CsCoCl₃, magnon line positions, analytic calcs. rel. to Raman scatt. results 4-16020
Cs₂CoCl₄, one-dimens. XY antiferromag., quasielastic neutron scatt. study 4-2732
CsCoCl₃·2H₂O, mag. soliton study by nucl. mag. relax. 4-16116
Cs₂Cr₂Br₆, collective excitations, inelastic neutron scatt. study 4-11738
Cs₂FeF₆·H₂O, antiferromagnetic resonance spectrum 4-40238
CsMnBr₃, Heisenberg system, EPR study 4-16087
CsMnBr₃, one-dimensional antiferromag., paramag. spin waves 4-56585
CsMnBr₃·2H₂O, spin flop relax. study 4-20818
CsMnCl₃·2D₂O antiferromag., pure and Mg²⁺, Ni²⁺, Co²⁺ doped, energy transfer of exciton 4-39780
CsMn_{1-x}Co_xCl₃·2H₂O, oblique antiferromag. phase, proton NMR study 4-46125
CsMn_{1-x}Co_xCl₃·2H₂O, random mixture, mag. ordering study 4-16011
CsMnF₃, antiferromagnet, spin waves, parametric excitation 4-35161
CsMnF₃, nuclear spin wave relax. mechanisms 4-25540
CsMnF₃, spin-lattice relax. and magnetisation 4-16118
CsNiCl₃, frustrated antiferromag., magnetoelectric effect 4-16080
CsNiCl₃, linear-chain antiferromagnet, low temp. magnetostriction 4-56754
Cu (111) with Co overlayers, mag. props. calcs. 4-11740
Cu complexes, magnetic layer compounds, Heisenberg antiferromag., sp. heat meas. 4-56671

antiferromagnetic properties of substances continued

- Cu complexes, Schiff bases with ONO donor tridentate dibasic ligands (I), IR spectra, mag. meas. 4-46014
 Cu, magnetic phase transition in nuclear spin system 4-11697
 Cu, nucl. cooperative phenomena at nanokelvin temps. 4-11696
 Dy, magnetic cycling, mag. transitions, energy conversion 4-36020
 Dy, planar helical-paramagnetic transition, critical behaviour, neutron scatt. study 4-30164
 DyCo₂Si₂, antiferromag. ordering, mag. moments, neutron diff. study 4-2734
 DyFe₄Al₈, mag. struct., neutron diff. study 4-6953
 DyMo₂S₈, mag. supercond., small angle neutron scatt. study 4-56510
 DyPO₄, mag. relax. and mag. props. 4-7090
 DyRh₂Si₂, mag. struct., neutron diff. study 4-56551
 DySb, paramag. susceptibility and antiferromag. phase transition, stress effects 4-56535
 Er, antiferromagnetic, mag. props., muon probe study 4-35324
 Er elec. resist. anomalies at mag. transition points 4-11513
 Er, electric field gradient, temp. depend., perturbed ang. distrib. study 4-39849
 ErCu₂, antiferromag. struct., neutron diff. study 4-56555
 ErFeSi₂, mag. ordering, neutron diff. study 4-51030
 Er₂Fe₂Si₂, magnetically ordered, mag. and cryst. struct. 4-35147
 α-ErH₂ solid solns., mag. order, magnetisation study 4-7008
 ErMn₂Ge₂, mag. ordering, neutron diff. study 4-51030
 ErMn₂Si₂, mag. ordering, neutron diff. study 4-51030
 ErSi, magnetic interactions, modulated ordering using neutron diffraction 4-30150
 Eu monochalcogenides, pure and mag. diluted, Mossbauer study 4-16128
 Eu₂CuO₄, semiconductor, mag. props. study 4-30156
 Eu(NH₃)₆, low-temp. mag. susceptibility meas. 4-51036
 EuO(SiSe), mag. interactions, band model study 4-11662
 Fe-Mn, Young's modulus and internal friction peaks 4-40871
 Fe-Mn (22.6 at.%), HCP-BCC transition, elastic moduli softening, US rel. meas. 4-15570
 Fe-Ni-Mn, dilute, diatomic impurity cluster effects (*Russian*) 4-51045
 Fe-Ni-Mn hydrogenated state, Mossbauer effect and mag. order (*Russian*) 4-25656
 Fe_{0.6}Al_{0.4}F₂, antiferromagnetic, random-field effects in 2-D and 3-D, birefringence study 4-56645
 FeBO₃, antiferromagnetic, magnetostatic waves and magnon relaxation, impurity effects 4-35218
 FeCO₃, antiferromagnet, two-centre transitions, IR absorption studies 4-20971
 FeCl₄²⁻ salts, mag. susceptibility meas., weak ferromag. below Neel temp. 4-16013
 FeCl₄-isopropanol frozen soln. in 0.07 to 4.2K range, mag. susceptibility meas. 4-40150
 Fe_{1-x}Co_xBr₂ randomly mixed antiferromagnets, with competing Ising and XY anisotropies, AC susceptibility meas. 4-30170
 Fe₃Cr₄Co₅, mag. props. following thermomagnetic treatment 4-46162
 Fe₃Cu_{1-x}Cr₂Se₄, mag. moment studies (*Korean*) 4-16017
 FeF₃, antiferromagnet, mag. sp. ht., capacitance meas. technique 4-56646
 FeF₃, Raman scatt. by optical phonons 4-20976
 FeF₂, uniaxial antiferromag., mag. props. 4-2748
 FeF₂Mn, phonon associated relax. of local magnons 4-46018
 FeGe monoclinic polymorph, antiferromag. struct., neutron diff. study 4-11672
 Fe₂M_{1-x}F₂, spin-flop effects, magnetisation studies 4-56622
 Fe_{0.7}M_{0.3}Cl₂, randomly diluted metamagnet, hysteretic behaviour, neutron scatt. study 4-11709
 Fe_{1-x}Mg_xCl₂, dil. Ising system, antiferromag., random fields, sp. ht. meas. 4-2782
 Fe_{1-x}Mn_xF₂, nonlinear mixing spectroscopy studies 4-19510
 Fe₂MoO₄, spin arrangement, Mossbauer study 4-35294
 FeMoO₄Cl, two-dimensional antiferromagnet with superexchange pathways, synthesis, cryst. struct., mag. props. 4-56604
 FeMo₂Se₈, inhomogeneous mag. transition, Mossbauer study 4-35281
 γ-FeNiCr, antiferromagnetic order near stainless steel composition 4-35201
 Fe₇₀Ni_{30-x}Cr_x, exchange anisotropy and thermal expansion 4-25548
 Fe₂O₃, elastic props. near antiferromag. phase transition 4-2803
 α-Fe₂O₃, haematite, thermoelec. power at Morin transition 4-45817
 Fe₂O₃, antiferromagnet, mag. transitions, mag. susceptibility studies 4-20819
 Fe₂O₃, mag. props. nonstoichiometry effects 4-56570
 Fe₂O₃, mag. susceptibility and mag. defect clusters 4-46008
 FeP, Mossbauer study, mag. struct. and elec. field gradient 4-11820
 FePS₃, antiferromag. transition, Mossbauer effect, susceptibility, and X-ray diff. meas. 4-40167
 FePS₃, mag. struct. neutron diff. study 4-25517
 Fe_{1-x}Pt_x, magnetic percolation calc. and Mossbauer study 4-40141
 Fe₂Sn, hyperfine fields, Mossbauer studies 4-11818
 Fe₂TiO₅, monoclinic, characterisation by mag. susceptibility and Mossbauer spectra 4-40152
 Fe₂Zn_{1-x}Cr_xS₄, magnetisation and mag. susceptibility near Neel point 4-6945
 Fe_{0.68}Zn_{0.32}F₂, random field Ising antiferromagnet, crit. behaviour, hysteresis effects, capacitance study 4-56663
 Fe₂Zn_{1-x}F₂, nonlinear mixing spectroscopy studies 4-19510
 Gd complexes, (Gd(C₆H₅NO)₃)(ClO₄)₃ and (Gd(C₆H₅NO)₃)₃, antiferromag. props. 4-56575
 GdAlO₃, dipolar surface spin waves at low temps. 4-16021
 GdAlO₃Cr³⁺, mag. Franck-Condon effect, absorpt. and emission spectra 4-11910
 He³, solid antiferromag., crystn. wave damping, spin wave emission, surface magnetisation 4-2403
³He, solid, antiferromag. UDDU test for spin exchange interactions, Green funct. theory 4-29726
 Hf_{1-x}Ta_xFe₂, antiferromag. to ferromag. transition (*Japanese*) 4-40173
 HoBi, antiferromagnetic, mag. structures and transitions 4-40144
 HoFe₄Al₈, mag. struct., neutron diff. study 4-6953
 Ho₂O₃SO₄, mag. props., optical absorpt. spectroscopy study 4-35146
 HoRh₂Si₂, mag. ordering, neutron diff. study 4-25518
 HoRu₂Si₂, mag. ordering, neutron diff. study 4-25518
 HoVO₄, hyperfine-enhanced nucl. spin order, neutron diff. study 4-56557
 K₂Cu₂Mn_{1-x}F₄, temp. depend. of EPR fields 4-20853
 KFeF₃ (CoF₃)(NiF₃) perovskites, mag. neutron scatt. 4-56548

antiferromagnetic properties of substances continued

- K(Li,Mg_{2-x}Mn_x)Si₄O₁₀F₂, teniolite, mag. susceptibility and magnetisation 4-56534
 KMn_{1-x}Ni_xF₃, susceptibility, antiferromag., Neel temp., phase transitions 4-46005
 K₂Ni_{1-x}Co_xF₄, two-dimensional antiferromag., birefringence meas. 4-25716
 KNiF₃, antiferromagnet, mag. sp. ht., capacitance meas. technique 4-56646
 KNiF₃, mag. energy density fluctuations 4-24999
 KNiF₃, superexchange interaction, approx. anal. 4-35166
 K₂NiF₄-type oxides, tridimensional mag. couplings, Neel temp. and bond covalency 4-6977
 La(Fe,Al_{1-x})₁₃, cubic intermetallic cpds., mag. props. 4-56623
 LaFe₂P₂, mag. and elec. props., Mossbauer spectra 4-11684
 LaMnO_{2-x}, concentrational antiferromagnetic-ferromagnetic transition 4-51047
 La₂Ni₂, absorption of H, mag. props. study 4-35170
 La₂NiO₄, cryst. struct. and semiconductor-metal transition 4-50268
 Mn²⁺ systems, conc., electronic and mag. collective excitations, optical spectra 4-25701
 Mn²⁺ systems, conc., spectroscopic props. rel. to collective excitations 4-25254
 γ-Mn-Cu alloys, elastic moduli 4-45240
 Mn-Cu(Ti,Zr), Elinvar characts., thermal expansion, Young's modulus, hardness, tensile strength rel. to heat treatment 4-21262
 Mn-Ge, antiferromag. Invar type alloy, thermal expansion, mech. props. rel. to Fe, Co or Ni additions 4-20847
 Mn-Ni antiferromag. alloys, internal friction and elastic const. anomalies 4-40870
 MnAs_{1-x}F_x, magnetic phases, initial mag. susceptibility study 4-35171
 MnCO₃, spin-lattice relax. and magnetisation 4-16118
 MnCl₂4H₂O, NMR of oriented ⁵⁵Mn nuclei 4-30298
 MnCl₂4H₂O, antiferromag., ⁵⁵Mn NMR-ON, nucl. spin cooling in mK region 4-40268
 MnCl₂4H₂O, nuclear spin cooling and NMR 4-46135
 MnCl₂4H₂O, unusual γ-ray anisotropy during spin-lattice relax. of oriented nuclei, NMR obs. 4-46140
 Mn₂Co_{1-x}, mag. ordering, neutron diff. study 4-56552
 Mn_{1-x}Cr_x(Fe₂Si₂) antiferromag. semicond., elec. props., stoichiometry and cation substitution effects 4-34978
 Mn_{1.88}Co_{0.12}Sb, thermal cond., elec. resist. meas. near antiferromagnetic transition temp. 4-56618
 MnF₂, antiferromagnet, dielec. const. anomalous changes 4-56845
 MnF₂, magnetostriuctive at shifts obs., gamma-ray diff. study 4-11069
 Mn₂GaC perovskites, magnetic transitions, sp. ht. study 4-6986
 Mn_{1-x}Ga_{2+x}S₄, cryst. struct. and mag. props. 4-11090
 Mn₂Ni, giant-spin clusters, mag. and optical props. 4-20811
 Mn₂In_{0.1}, mag. ordering, neutron diff. study 4-56552
 Mn₂Mg_{1-x}O solid solutions, mag. props. (*Russian*) 4-56580
 γ-MnNi antiferromag. mag. moment distrib., mag. environment model anal. 4-30154
 MnO antiferromagnet, mag. interactions, band theory 4-20805
 MnO, antiferromagnet, mag. transitions, mag. susceptibility studies 4-20819
 MnO-Al₂O₃-SiO₂ glass, sp. ht. rel. to mag. order, 1-38K 4-16046
 MnPS₃, mag. struct. neutron diff. study 4-25517
 MnPS₃, mag. susceptibility and EPR meas. 4-11680
 MnRhAs, antiferromagnetic-ferromag. transition, magnetisation and susceptibility meas. 4-11712
 MnS antiferromagnet, mag. interactions, band theory 4-20805
 MnSn₂, ¹¹⁹Sn hyperfine fields, Mossbauer studies 4-11818
 Mn₂Te_{1-x}, liq., elec. cond. meas., struct., neutron diff. 4-6789
 Mn_{0.2}Zn_{0.8}F₂ dilute antiferromagnet, mag. susceptibility in weak fields 4-25522
 Mn_{0.4}Zn_{0.55}F₂, random field effects, magnetisation and sp. ht. studies 4-51064
 Mn_{0.5}Zn_{0.5}F₂, mag. field effect on transition temp. 4-20815
 Mn_{0.68}Zn_{0.32}F₂ single cryst., mag. elastic diffuse neutron scatt. study 4-51028
 Mn_{1-x}Zn_xF₂, mag. props. 4-16031
 Mn₂Zn(GaN) perovskites, mag. transitions, sp. ht. study 4-6985
 MoCl₂-graphite intercalation cpds., high-stage, successive mag. phase transitions 4-30163
 NaBaF₂F₉, Neel temp., cationic inversion, Mossbauer spectra 4-11814
 NaCa₂Ni₂V₂O₁₂, cubic antiferromagnet, spin configurations, magnetostriction study 4-30264
 NaFe₂, topotactic form., cryst. struct., and mag. props. 4-11078
 Na_{0.2}VO₃, mag. susceptibility meas., exchange-coupled pair model 4-11677
 Nd₂CuO₄, semiconductor, mag. props. study 4-30156
 NdFe₂Ge₂, antiferromag. ordering, neutron diff. study 4-20797
 NdFeO₃, AC susceptibility in spin reorientation region 4-20806
 Ni complex, NaNi(acac)₃benzene, excited state spin ordering under pulsed mag. field 4-11701
 NiBr₂, antiferro-fan transition, exptl. obs. 4-2754
 NiBr₂, helix-antiferro-fan transition, in-plane mag. field effect 4-40168
 NiCO₃, mag. struct., powder neutron diff. study 4-2733
 Ni₂Co_{1-x}Cl₂, mag. heat capacity meas. 4-2773
 NiF₂, Raman scatt. by optical phonons 4-20976
 NiMn, electronic struct., structural and mag. transitions 4-20551
 NiMn, mag. and structural transitions 4-20822
 NiO antiferromagnet, mag. interactions, band theory 4-20805
 NiO, antiferromagnet, mag. transitions, mag. susceptibility studies 4-20819
 NiO-CoO type II antiferromag. solid soln., high temp. susceptibility 4-30157
 Ni_{1-x}Zn_xF₂, mag. props. 4-16031
 α- and β-O₂, energy struct. and mag. props., phonon dispersion curves 4-34598
 O₂ solid α and β-phases, mag. struct., neutron diff. studies 4-46002
 (Pb,Sr_{1-x})(Fe_{2/3}Ge_{1/3})O₃ solid solns., ferroelec. and antiferromag. props. 4-56859
 PrCu₂, mag. phase transition below 58 mK, neutron diff. obs. 4-56628
 Pr₂CuO₄, semiconductor, mag. props. study 4-30156
 PrCu₂Si₂(Ge₂), antiferromag. ordering, neutron diff. study 4-20797
 PrFe₂Ge₂, antiferromag. ordering, neutron diff. study 4-20797
 PrO₂, mag. ground state, neutron scatt. study 4-30153
 PrSn₃, field-induced mag. form factor, temp. depend. 4-56545
 PrSn₃, hyperfine-induced nucl. spin polarisation, neutron diff. study 4-56556

antiferromagnetic properties of substances continued

- Rb₂Co_{0.6}Mg_{0.4}F₄, disordering process obs. 4-2788
 RbCoCl₃, props. of mag. excitations, far IR spectra study 4-7180
 RbCoCl₃, Raman scatt. and antiferromagnetic props. 4-16199
 Rb₂Co_{0.85}Mg_{0.15}F₄, random-field-induced destruction of phase transition 4-11706
 Rb₂Co_{0.5}Mg_{0.5}F₄, interplanar ordering kinetics, neutron scatt. study 4-11670
 Rb₂Co_{0.5}Mg_{0.5}F₄, spin dynamics near mag. percolation threshold 4-51066
 Rb₂Cr_{1-x}Mn_xCl₄ single cryst., mag. phase diagram, neutron diffr. study 4-51052
 RbFeCl₃, triangular antiferromag., successive phase transition and mag. phase diagram 4-16027
 RbFeCl₃·2H₂O, spin-cluster reson. intensity, temp. depend. 4-20866
 Rb₂Mn₂Cd_{1-x}Cl₄, two dimensional diamagnetically diluted, spin dynamics, ESR study 4-2814
 Rb₂Mn₂Cd_{1-x}Cl₄, two-dimens. antiferromag., EPR crit. line broadening 4-7058
 Rb₂Mn_{1-x}Cr_xCl₄ insulating antiferromagnet-ferromagnet random mixture, AFMR, EPR obs. 4-56784
 RbMnF₃, paramag. and antiferromag. resonance near Neel temperature 4-46115
 RbNiCl₃, linear-chain antiferromagnet, low temp. magnetostriction 4-56754
 RbNiCl₃, Raman scatt. and antiferromagnetic props. 4-16199
 (Ru(NH₃)₅Cl₂)Cl₂ and RuM₂Cl₅·H₂O (M=Cs, Rb, K) Ru(III) complexes, antiferromag. props. 4-56574
 Si (111), unreconstructed, mag. props., Hubbard model anal. 4-46031
 Si (111), unreconstructed, antiferromag. transition temp. 4-46032
 Sm₂Co₂As, semiconductor, mag. props. study 4-30156
 (Sm_{1-x}Er_x)Rh₂B₄, supercond., antiferromag.-ferromag. transition study 4-40170
 Sr(Fe_{2/3}(Te_{1/3}W_{1/3})O₃) solid solns., ferroelec. and antiferromag. props. 4-56859
 Sr_{0.5}La_{0.5}Li_{0.5}Fe_{0.5}O₄, stacking defects and mag. struct. (French) 4-40145
 Tb mononictides:Gd³⁺, exchange and cryst. field effects, EPR study 4-11767
 Tb, planar helical-paramagnetic transition, critical behaviour, neutron scatt. study 4-30164
 TbAuCu₄, mag. struct., mag. susceptibility and moments, neutron diffr. obs. 4-36549
 TbGe₂Si_{0.8}, magnetic interactions, modulated ordering using neutron diffraction 4-30150
 TbIr₂Si₂, mag. ordering, neutron diffr. study 4-25518
 TbMn₂Ge₂, magnetic phase transition and cryst. struct. 4-40172
 TbPO₄, antiferromag. ordering, struct. transition obs. via induced IR activity 4-25007
 TbRh₂Si₂, mag. ordering study 4-40146
 Th₂Mn₂H_{17.6}, mag. ordering, H₂ absorption effects 4-51096
 ThRh₂Si₂, mag. ordering, neutron diffr. study 4-25518
 TmAg, quadrupole splitting above ordering temp., Mossbauer spectroscopy 4-35288
 TmCo₂Si₂, antiferromag. ordering, mag. moments, neutron diffr. study 4-2734
 TmCu, mag. excitations, inelastic neutron scatt. 4-51041
 TmCu, quadrupole splitting above ordering temp., Mossbauer spectroscopy 4-35288
 TmRh, quadrupole splitting above ordering temp., Mossbauer spectroscopy 4-35288
 U mononictides, spin dynamics, neutron scatt. study 4-56641
 U mononictides and monochalcogenides, mag. props. 4-11692
 UP_{1-x}Se_x solid soln., specific heat and mag. transitions 4-6987
 VBr₂, triangular lattice Heisenberg antiferromag., ESR study 4-46086
 VCl₂, triangular lattice Heisenberg antiferromag., ESR study 4-46086
 VI₂, triangular lattice Heisenberg antiferromag., ESR study 4-46086
 VMnAs, cryst. struct. and mag. props. 4-11675
 V₂O₃ based alloys, metal-antiferromag. insulator transition, elec. resist. meas. 4-20696
 V₂O₃, muon depolarisation during mag. phase transition 4-25665
 V₂O₃:Cd, hyperfine interactions, TDPAC spectra 4-46154
 Y-Mn alloys, Mn magnetic states spin echo NMR spectra studies 4-30357
 Y₂Co₃, magnetism and supercond., thermal expansion, sp. ht., forced magnetostriction meas. 4-46083
 YFeO₃, microcrystalline, synthesis, admixture characterisation, Mossbauer study 4-16069
 YGd, dilute alloys, spin density wave transition, sp. ht. study 4-56584
 Y₆Mn₂D₂₃, mag. and cryst. struct., powder neutron diffr. studies 4-30152
 Yb(NH₃)₆, low-temp. mag. susceptibility meas. 4-51036
 ZnFe_{1-x}Mn_xCrO₄, antiferromagnetic behaviour, susceptibility, Curie const. 4-2736
 Zn_{1-x}Ga_{0.67x}Cr_{0.33x}Se₄ single cryst., synthesis, elec. and mag. props. (German) 4-39909
 (Zr_{1-x}Nb_x)Fe₂, NMR study 4-11796

antiferromagnetic resonance

- classical and quantum theories of radiation damping 4-46114
 one-dimensional antiferromagnet, spin-spin relax. with parallel pumping (Russian) 4-2826
 quasi-one-dimensional Mn²⁺ cpds., anomalous AFMR, temp. depend., anisotropy, renormalised spin wave calc. 4-16101
 BaMnF₄, microwave absorption peculiarities, two-magnon processes (Russian) 4-25639
 Cs₂FeF₄·H₂O, antiferromagnetic resonance spectrum 4-40238
 CuCl₂·2H₂O, antiferromagnetic resonance exchange mode obs. 4-35230
 CuCl₂·2H₂O, resonance spectrum study (Russian) 4-7052
 Rb₂Mn_{1-x}Cr_xCl₄ insulating antiferromagnet-ferromagnet random mixture, AFMR, EPR obs. 4-56784
 RbMnF₃, paramag. and antiferromag. resonance near Neel temperature 4-46115

antiferromagnetism

- see also antiferromagnetic properties of substances; exchange interactions (electron); metamagnetism
 alloys, second-order phase transition, press. effects (Russian) 4-6975
 amorphous antiferromagnets, simplified model of phase transition 4-25555
 antiferromagnetic classical X-Y model, mean field anal. 4-51069
 antiferromagnetic model with Neel states as ground states 4-51018
 antiferromagnetic semiconductor, low temp. carriers 4-2574
 antiferromagnets with paramagnetic impurities, spin-wave relax. 4-11690

antiferromagnetism continued

- classical planar X-Y model, 2-D, critical phenomena and discrete symmetry breaking 4-35184
 dipolar surface spin waves at low temps. 4-16021
 easy-plane chain, soliton excitations in external mag. field 4-2781
 electron-electron and electron-lattice interactions, four-site four-electron model 4-29856
 frustrated hierarchical lattice, dilution effect 4-37044
 ground state of antiferromagnets at zero temp. 4-40129
 Heisenberg antiferromag., quasi-1D, phase diagrams, paramag., spin-Peierls and Neel states 4-51017
 Heisenberg antiferromagnet, quasi-one-dimensional, spin-Peierls state vs. Neel state, interchain exchange interaction 4-11657
 Heisenberg antiferromagnet, two dimens./on triangular lattice, phase transition 4-51083
 Heisenberg antiferromagnetic deformable spin-1/2 chains, thermodynamics 4-30197
 Heisenberg chain, integer-spin, finite-size scaling 4-56673
 Heisenberg chains, antiferromag., ground-state props. for integer and odd half-integer spins 4-11658
 Heisenberg model, diluted, struct. factor, diffraction anal. 4-51027
 Heisenberg model, magnon-phonon coupling, self-consistent field anal. (Russian) 4-51039
 Heisenberg quantum systems, existence of gap in energy spectrum 4-16006
 Heisenberg-Ising chain, spin-1, with uniaxial anisotropy, finite size scaling study 4-2785
 Hubbard model, linear responses, role of exchange field fluctuations 4-2718
 Hubbard model, magnetic ordering effect on thermodynamic and elec. props. 4-25569
 Hubbard model, magnetic phase diagram, incommensurate phases 4-2758
 intermediate valence ion fluctuations between two mag. configurations 4-29933
 Ising amorphous antiferromagnets, phase transition, statistical model 4-46029
 Ising antiferromagnet, hexagonal, randomly modulated phase 4-2716
 Ising antiferromagnet, site-disordered, random-field effects 4-35133
 Ising antiferromagnet, triangular, with first and second neighbour interactions, transition temp. 4-56655
 Ising antiferromagnetic triangular lattice, partition function, Ruelle theorem anal. 4-20832
 Ising model, FCC, thermodynamic functions, Monte Carlo simulation 4-46059
 Ising model, triangular lattice, antiferromag. interactions, Monte Carlo and renormalisation group calcs. 4-20830
 Ising model in external field, A-B site-bond percolation 4-6938
 Ising spin S=1 model of f.c.c. lattice (Chinese) 4-2775
 Ising system, annealed, on triangular lattice, spin glass charact. 4-16048
 layered triangular lattice, antiferromag., spin wave theory 4-16019
 local magnetisation oscils. in semi-infinite antiferromag. 4-35137
 mag. phase diagram Ising lattice, hexagonal 4-16047
 magnetic phase transition, Morin point as degenerate critical point 4-56624
 magnetic structure in coexistence phase of supercond. and weak ferromag. 4-6955
 magnetoelastic soliton study (Russian) 4-20810
 maze-like patterns in monodisperse latex system, frustration 4-11733
 mean field theory, mapping to ferromagnetism 4-30133
 metals, FCC, multiple SDW state 4-2729
 metals, mag., low density electron gas props., collective excitations, quasi-particles 4-25508
 metamagnetic Ising model, finite size scaling approach in two dimens. 4-40171
 Neel temp. and thermodynamic props., Monte Carlo calc. 4-56626
 nonideal antiferromagnetic chain, local magnetisation oscils. due to impurities 4-25504
 nonmetallic solids, magnetism, magnons, phonons and solitons 4-25541
 nuclear spin interaction with paramagnetic impurities 4-2752
 nuclear spin-spin relax., multiple interactions 4-30305
 one-dimensional antiferromagnet, spin-spin relax. with parallel pumping (Russian) 4-2826
 one-dimensional antiferromagnetic Heisenberg chain, spin dynamics simulation 4-51082
 one-dimensional Fermi system with mag. impurities, thermodynamics 4-46043
 one-dimensional random Ising ferromagnets and antiferromagnets 4-2715
 orthoferrites, high freq. mag. susceptibility near tricritical point 4-35149
 orthorhombic antiferromagnet in strong mag. field, high-freq. susceptibility 4-2743
 periodic Anderson Hamiltonian with orbital degeneracy, ordered states 4-25506
 Potts model, d-dimensional q-state, high temp. series expansion 4-46035
 Potts model, dil. antiferromag., Monte Carlo simulations 4-16036
 q-state antiferromagnetic Potts model with competing interactions 4-46053
 random mag. alloys with competing spin anisotropies, renormalised field theory 4-56669
 screw dislocation influence on frustration of antiferromagnetic bonds 4-55829
 singlet ground state hexagonal antiferromagnet, triangular spin struct. 4-25562
 sound wave self-focusing in magnet with high effective anharmonicity 4-30259
 spin-Peierls system in mag. field, dimerized to soliton lattice state transition 4-2772
 spin-wave theory, possible fundamental inadequacies, NMR evidence 4-56589
 superconductor, effect of nonmagnetic impurities 4-20761
 superconductors, 1-D, Fulde-Ferrell state 4-25476
 systems with dipole interaction, ground state study 4-25196
 triangular Ising antiferromagnet, mean field renormalisation group transformations 4-20828
 triangular Ising antiferromagnet, mean-field renormalisation group transformations, 4-30189
 triangular lattice, antiferromag., with second neighbour interaction, Monte Carlo study 4-16035
 two-dimensional classical Heisenberg model with easy-plane anisotropy, Monte Carlo simulation 4-11730
 two-dimensional Hubbard model, Monte Carlo studies 4-11660

antiferromagnetism continued

- two-dimensional Ising antiferromagnet, random interface dynamics 4-11708
- two-dimensional Potts model with ferromagnetic and antiferromag. interactions, critical behaviour 4-40181
- two-sublattice antiferromagnet, optical transitions in saturated paramagnetic region 4-11659
- uniaxial random antiferromagnets, random field effects 4-56554
- MnCO₃, second sound damping due to scattering of magnons by dislocations 4-25536

antihyperons *see hyperons***antimony**

- see also nuclei with*
- adsorption on cleaved InP surfaces 4-29815
- amorphous, interf. function normalisation in radial distrib. method 4-24725
- amorphous films, vacuum-deposited, crystn., electron irradi. effects 4-56176
- amorphous vacuum-deposited films, prep. and crystallisation 4-45552
- amplitude depend. internal friction anomalies at low temp. 4-50423
- atom, relaxation energy shift in L X-ray emission spectra 4-1083
- epitaxy on PbS {001} 4-45547
- Fermi surface, integral characts. in pseudopot. scheme 4-20543
- films, elec., galvanomagnetic and electrothermal props. 4-30097
- films, semimetallic, longitudinal magnetoresistance, quantum oscillations obs. (Korean) 4-15970
- films, vacuum deposited, struct. and galvanomag. props. 4-40096
- ion implantation in Ag, Mossbauer study of strong O trapping by Sb impurities 4-35268
- L-M Coster-Kronig and LM-MMM satellite energies, solid state, theoretical studies 4-57046
- nucleation on a-C, atomistic nucleation theory 4-39439
- pollutant in Tejo Estuary, Portugal 4-36044
- quadrupole interaction at ⁵⁷Fe, meas. by Mossbauer spectroscopy 4-35253
- special purity, prod. by H reduction of trichloride 4-30666
- steel, austenitic stainless, Sb-doped 25 Cr-20 Ni, creep behaviour 4-30755
- thin film, elec. resist., film thickness effect 4-20743
- total photon cross sections in elements 4-55892
- universal tight binding band strcuts. and bonding 4-6701
- whiskers, electronic struct. and Fermi surface, strain effects (Russian) 4-45613
- X-ray L absorption spectra and electronic band struct. 4-2992
- Al/Sb thin film couples, grain boundary interdiffusion and surface cpd. form. 4-15721
- Ca halophosphate:Sb³⁺, Mn²⁺, luminesc. at low temp., red shift 4-40494
- GaAs:Sb epitaxial films, edge photoluminescence spectra 4-2967
- n-GaAs:Sb epitaxial films, photoconductivity study 4-56390
- Ge:Sb, (O), γ-ray and neutron irradi., photoluminescence studies 4-30517
- Ge:Sb, (O), neutron irradi., low temp. photoluminescence studies 4-35487
- Ge:Sb, acoustic attenuation anomalous behaviour 4-20294
- Ge:Sb, ballistic heat-pulse transport under mag. field 4-45432
- Ge:Sb, Cu, solubility of Cu, temp. depend. of Hall coeff. study 4-50521
- n-Ge:Sb, He ion irradi., conversion to p-type, radiation-accelerated diffusion effects 4-15556
- Ge:Sb, kinetics of decomposition, with separation, retrograde scheme 4-57231
- n-Ge:Sb, magneto-impurity reson. 4-25373
- Ge:Sb, negative magnetoresist., impurity conc. depend. 4-20678
- n-Ge:Sb, negative magnetoresistance theory 4-25380
- Ge:Sb, O, thermal donors, charge state and energy level spectrum 4-20600
- Ge:Sb, self-diffusion, doping effects, radioisotope studies 4-11336
- n-Ge:Sb, US attenuation, effects of uniaxial stress 4-24913
- n-Ge:Sb, US attenuation, impurity conc. depend. 4-24912
- III-V semiconductor:Sb, ion implanted, Mossbauer isomer shift studies 4-46152
- Sb, electric field gradient at ¹¹⁹Sn, meas. by Mossbauer spectroscopy 4-35254
- Sb³⁺+Ar(air), charge transfer cross section meas. 4-49157
- SbI, UV absorpt. spectra, flash pyrolysis technique 4-38118
- ¹²³Sb in Cd, elec. field gradient, probe atom depend. 4-34926
- Si:As, supersaturated solid soln., decomposition, sessile Frank loop, impurity atmosphere effects 4-29442
- Si:Ga(Sb), evaporative doping in MBE systems by solid phase epitaxy 4-45151
- a-Si:H, Sb, impurity diffusion study 4-39598
- a-Si:H:Sb(In)(Ti), doping by controlled evaporation into RF plasma, discharge 4-40674
- n-Si:Sb, effect of free carriers on Raman freq. 4-40461
- Si:Sb, evaporative doping during MBE 4-50671
- Si:Sb, high concentration Sb diffusion using auxiliary wafers 4-45419
- Si:Sb, ion implanted, dopant conc., electron and ion channelling studies 4-50332
- Si:Sb, laser-induced diffusion, TEM studies (French) 4-15698
- Si:Sb, low temp. resist., log-T depend. 4-34981
- Si:Sb, polycrystalline, ion implantation doping and annealing, expt. study and VLSI appl. 4-45169
- Si:Sb, shallow high-conductivity junctions, fabrication of n-type regions using heavy ion implants 4-34505
- Si:Sb, solid-phase epitaxially grown, point defect trapping 4-50322
- Si:Sb, ion implanted solid soln., partially coherent Sb precipitate form. 4-29629
- Si:Sb MBE layers, doping kinetic model 4-15512
- Si/Sb thin film system, pulsed laser- and electron beam-induced diffusion 4-15716
- SnO₂:Sb(Sb) heat reflecting layer formation on glass, optical props. (Czech) 4-50685
- SnO₂:Sb, twin images, electron microscope study 4-20211
- SnO₂:Sb:F, thin layer thermoelectric, prep. and props. (Polish) 4-2484
- SnO₂:Sb film, charact., for solar cell apps. 4-30434
- SnO₂:Sb-In₂O₃, mixed thin films, prep. by hydrolysis method, elec. resist., optical transmission props. 4-56463
- SnTe/Sb compositional modulated structures, prep. and struct. anal. 4-50669
- Te:Sb, self-diffusion and Sb diffusion, vacancy mechanism 4-11345

antimony alloys*see also antimony compounds*

- transition metal alloys, Mn₂-M₃Sb, M=Ti-Cr, Fe, Co, ferrimagnetic-antiferromagnetic transitions 4-56619
- AgMn₂Sb, spin glass, EPR width and shift, exchange-narrowed anisotropy contrib. 4-30279
- Au₅₅Pb₂₂Sb_{22.5}, molten, kinematic viscosity and elec. cond. anomalies rel. to glass form. 4-2365
- Bi-Sb, dislocations revealed by Cu impurity diffusion and chem. etching 4-11147
- Bi-Sb, liq. alloys, activity of O 4-57186
- Bi_{1-x}Sb_x alloys, pure and Te doped electron conc. and cyclotron mobility 4-15876
- Bi_{1-x}Sb_x, electron Fermi surface 4-2502
- Bi_{100-x}Sb_x, cryst. growth from melt in microgravity environment 4-3049
- Bi_{1-x}Sb_xTe_x, elec. cond. and electron mobility, elongation effects 4-34982
- C fibre reinforced Sn-Sb-Cu composite, squeeze casting, tensile strength, SEM obs. 4-51585
- Cd-Sb liquid alloys, magnetic susceptibility and short range order 4-46000
- Cs-Sb liq. alloy, struct., neutron diffr. study 4-44933
- Cs₃Sb photocathode as high current density photoemissive electron source 4-48835
- Cu-Sb, creep cavity surfaces and grain boundaries, chem. comp. study 4-24829
- Cu-Sb, diffusion induced grain boundary migration and discontinuous precip. 4-40803
- Cu-Sb alloy, rel. between creep cavitation and grain boundary orientation 4-45144
- DySb, paramag. susceptibility and antiferromag. phase transition, stress effects 4-56535
- Fe-Sb, dil., mag. and static lattice perturbation, diffuse neutron scatt. study 4-20794
- (Fe_{1-x}Sb_x)_{1-x}(Fe_{1.68}Sn)_x solid soln., hyperfine interactions, Mossbauer studies 4-35319
- Ge-Sb alloys, high press. η phase, cryst. struct. 4-11045
- In-Sb, liq., activity coeff. of O 4-15665
- In-Sb, liq., lifetime of associates 4-45293
- IrMnSb, Heusler C₁₅ alloys, sp sites, hyperfine fields, TDPAC and Mossbauer study 4-35280
- Mg₂Sb₂, semicond., electronic struct., X-ray spectra and Huckel technique studies 4-29882
- Mn_{1-x}Cr_xSb, press. effect on Curie temp. (Russian) 4-6975
- Mn_{1.88}Cr_{0.12}Sb, thermal cond., elec. resist. meas. near antiferro-ferrimagnetic transition temp. 4-56618
- Na-Sb liquid alloys, NMR relax. and metal-nonmetal transition 4-46131
- (Na₂KSb)Cs films, photoemission and optical const. (Russian) 4-51456
- Nb₂Sb, A15 cpd., lattice dynamics, inelastic neutron scatt. study 4-20307
- NiMnSb, Heusler C₁₅ alloys, sp sites, hyperfine fields, TDPAC and Mossbauer study 4-35280
- Pb-Sb, liq., O activity, determ. by modified coulometric titration 4-34671
- Pb-Sb eutectic, twin-roll rapid solidification process, cooling characteristics 4-7445
- Pb-Sb eutectic alloy, rapidly solidified ribbon, rolling characts. 4-21202
- Pb-Sb-As, model alloy, creep and ratchetting study 4-12131
- Pb-Sb-As alloy tubes, thick flanged, subjected to steady axial mech. loading and transient thermal loading, ratchetting and creep 4-26000
- PdMnSb, Heusler alloy, plastic deform. occurring during cold work, PAC study 4-56827
- PtMnSb, Heusler C₁₅ alloys, sp sites, hyperfine fields, TDPAC and Mossbauer study 4-35280
- RhMnSb, Heusler C₁₅ alloys, sp sites, hyperfine fields, TDPAC and Mossbauer study 4-35280
- Sb-Ag dilute alloys, electric field gradient sign meas. at ¹¹¹Cd by β-γ TDPAC technique 4-35257
- Sb-Sn, Peltier coeff. meas. at solid-liq. phase boundary, impurity effect 4-56321
- Sb-Te liquid semicond., mag. contrib. to hyperfine field, Knight shift meas. 4-56802
- Sb-Te liquid semiconducting alloys, NMR investig. 4-46129
- Sb_{1-x}Ag_x, electric quadrupole interaction, TDPAC meas. 4-35306
- Sb_{1-x}Bi_x alloys, Hall effect and thermomag. props., commutation effects 4-15898
- Sb_{1-x}Cd_x, electric quadrupole interaction, TDPAC meas. 4-35306
- SbCu₂, cryst. struct. anal. 4-45056
- Sb_{1-x}In_x, electric quadrupole interaction, TDPAC meas. 4-35306
- Sb_{1-x}M_x, where M=Ag, Cd, In and Sn, electric quadrupole interaction, temp. and conc. depend. 4-30364
- Sb_{1-x}Sn_x, electric quadrupole interaction, TDPAC meas. 4-35306
- ¹²³SbSn dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
- Sn-R (R=rare earth), dilute alloys, liquid, electrical resistivities meas. 4-45722
- Ti_{1-x}Sb_x, normal state resist. and supercond. transition temp. studies 4-45914
- Ti-TiSn-TiSb, phase diagram study (German) 4-35613
- W-Sb-He system Sb and He ion implanted, vacancy trapping and He decoration 4-46150

antimony compounds*see also antimony alloys*

- exfoliated SbCl₃ intercalated graphite for absorption substrates 4-45470
- intercalation compound with graphite, C₃₆SbCl₃ and C₆₀SbCl₃, cyclotron resonance studies 4-39758
- intercalation cpd. with graphite, graphite-SbCl₃, ¹²¹Sb-NMR and EPR studies 4-40250
- intercalation cpd. with graphite, high resolution ¹³C NMR 4-40252
- intercalation cpd. with graphite, SbF₃-graphite, electronic and struct. props., Mossbauer study 4-39268
- Sb₂S₃/As₂S₃ heterostructure based photothermoplastic material, production and characts. (Russian) 4-35061
- Ti-supported PbO₂ electrode, T-SnO₂ layer functional mechanism (Chinese) 4-46768
- AgI-Sb₂S₃ system, struct. study of elec. cond. 4-25089
- Ag₃SbS₃, Raman scatt. and phase transitions 4-16200
- Al/Sb₂O₃-SnO₂/Al mixed oxide sandwich struct., elec. props. 4-50950
- Al-Sb₂O₃-Al MIM struct., I-V characts., elec. breakdown studies 4-11600

antimony compounds continued

- As₂S₃/Sb₂S₃ glassy semiconductor heterostruct. based photothermoplastic material (*Russian*) 4-17998
 (As₂S₃)_{1-x}(Sb₂S₃)_x glasses, far IR and Raman spectra 4-20960
 AsSb₂ Fermi surface and magnetothermoelec. EMF quantum oscils. 4-34863
 AsSbS₂-CdSe heterostructure, EBIC study 4-50918
 (Bi_{1-x}Sb_x)₂Te₃ Seebeck coeff. and elec. cond. at room temp. 4-39944
 Bi_{1-x}Sb_x narrow gap semiconductors, S-type current-voltage characteristics 4-29980
 Bi_{1-x}Sb_x semiconducting alloys, combined breakdown 4-34999
 Bi₂Sb_{2-x}S₃ solid solns. use as photoelectrodes (*French*) 4-30018
 Bi₂Te₃-Sb₂Te₃ thermoelements, contact resistance rel. to comp. of contact material 4-56429
 Bi₂Te₃-Sb₂Te₃ thermocouples, Czochralski cryst. growth 4-4402
 CuSb₂(Se₂)₂(Te₂), X-ray spectra and chemical shift 4-46361
 GaSb_{1-x}As_x lattice vibr., CPA calc. 4-55944
 Ge-Sb-Se glasses, elastic props., US vel. meas. 4-2252
 Ge₂Sb₂S_{7.5} glasses, composition and DS calorimetry 4-50207
 GeSe₂-GeTe-Sb₂Te₃ chalcogenide glasses, isothermal and continuous heating crystallisation 4-20111
 GeTe-AgSbTe₂, electrophysical props. of solid solutions 4-56374
 K₂SbF₃(NO₃)₂.KNO₃, cryst. struct., IR and Raman spectra (*French*) 4-20169
 Li₂Sb₂S₃ solid solutions, cryst. struct. and phys. props. (*French*) 4-34704
 Li_{0.54}Sb_{0.46}Fe_{2.5-2x}O₄ ferrite, ¹²¹Sb and ⁵⁷Fe Mossbauer spectra studies 4-2850
 Pb(Ni_{1/3}Sb_{2/3})₂Ti₂Zr₂O₃MnO ferroelec. ceramics, dielec. const., expt. study (*German*) 4-46171
 PbS-Sb₂S₃ glass form. tendency and disorder-induced defects 4-6279
 PbS₂Sb₂S₃ cryst. struct. determ. 4-6332
 Sb-chalcogenide system, Raman and IR vibr. spectra studies 4-46254
 Sb-S amorphous films, local struct., Raman scatt. studies 4-6677
 Sb_{2-x}Bi_{2x}Te₃ extruded melt, thermoelectric props. 4-56373
 SbCl₃ Brillouin scatt. and acoustic anomalies 4-40465
 SbCl₃, magnetic, electric, and dynamic line width second moments and their contribution to ³⁵Cl nuclear quadrupole resonance line widths 4-30350
 SbCl₃benzaldehyde, cryst. complex, two-stage phase transform., NQR obs. 4-11792
 SbCl₃ doped polyacetylene thin films, growth and morphology 4-56172
 SbCl₃ intercalated with graphite, stage 2 cpd., ¹²¹Sb Mossbauer spectroscopy 4-30370
 SbCl₃ intercalated with graphite, stage 4 cpd., US studies of phase transitions 4-34592
 SbCl₃ intercalated with graphite, LF longitudinal lattice modes, inelastic neutron scatt. study 4-45275
 SbCl₃ intercalation cpd. with graphite ordering kinetics study 4-39469
 SbCl₃ intercalation cpd. with graphite, struct. and stability 4-41265
 SbCl₃-graphite intercalation cpd., second stage, discommensuration struct. 4-15634
 SbCl₃-graphite intercalation cpd., struct. and cond., TEM obs. (*Chinese*) 4-50248
 SbCl₃-graphite intercalation compounds, stoichiometric determ. by Rutherford backscatt. spectrometry 4-50531
 SbF₃, elec. hyperfine interaction, TDPAC method 4-28428
 SbF₃ intercalated with graphite, basal elec. cond. meas. 4-45771
 SbF₃ intercalation cpd. with graphite, NMR study 4-40257
 SbF₆ intercalation cpd. with nitromethane and graphite, NMR study 4-40253
 SbI, spectroscopic consts., chemiluminescence, near-IR spectra 4-49020
 SbNbO₄, electron and X-ray irradi., struct. changes, X-ray diffr. study 4-50354
 SbO, predissoc. and dissoc. energy 4-43928
 Sb₂O₃ additive in ZnO ceramics, characterisation by depolarisation thermocurrents 4-20900
 Sb₂S₃ films, growth by soln.-gas interface technique, optical and electrical props. 4-29838
 Sb₂S₃ vapour transport and diffusion coeffs. 4-10807
 SbSI film on Si substrate, elec. and dielectric props. 4-40346
 SbSI thin films, prep. and dielec. props. 4-30392
 SbSI, X-ray L absorption spectra and electronic band struct. 4-2992
 SbSI-Si-metal structs., I-V and C-V characs. 4-11589
 SbSI_{1-x}O_xI, ferroelec. and piezoelec. props. 4-51201
 SbSeI crystals, optical props. 4-56961
 SbSeI, semicond., exponential optical absorption edge tail 4-46283
 Sb₂SnFe_{0.25}O₃, catalyst, adsorp. and desorp. activation energy of O₂ determ. using isochlor technique (*French*) 4-35932
 Sb₂Te₃, electric quadrupole interaction, temp. and conc. depend. 4-30364
 Sb₂Te₃, electric quadrupole interaction, TDPAC meas. 4-35306
 Sb₂Te₃-Bi₂Te₃ thermocouples, contact resist., effect of impurity addition to solder 4-50900
 (Sb₂Te₃)_{0.75}(Bi₂Te₃)_{0.25}(Ti₂Te₃)_x solid solution, transport props. and Seebeck coeff. 4-29999
 Sb₂Te₃-Se, photoelectron diffr. from high-lying core levels, surface struct. determ. 4-7312
 Sn_{1-x}Sb_xO₂, surface comp., electronic struct., XPS, UPS, EELS obs. 4-57066
 Sn₂Sb₂S₅, cryst. struct. determ. 4-6332
 TiO₂Sb₂O₅, EPR study of state of d¹ ions in rutile struct. sites 4-11758

antineutrons see neutrons**antineutrons see neutrons****antinucleons see nucleons****antiphase boundaries**

- AgAuTe₄, cryst. struct. and antiphase boundaries 4-29389
 Al₂O₃, microstructure of metastable phases, TEM obs. 4-25044
 Au₂Zn(H), dissociated antiphase boundaries and dislocations 4-29645
 CdInGaS₄, ordered phase struct. and domain struct., electron microscopy and electron diffr. study 4-39529
 Cu_{0.75}VS₂, phase transition with temp. hysteresis, long period superstructures, electron diffr., microscopy studies 4-6489
 Fe (001), adsorption of Se, LEED, AES, and work function meas. 4-20495
 Fe-Al-Si (20, 5 at.%), antiphase domain growth kinetics 4-16424
 Ni₂Cu₈Sn₂₅, massive and martensitic transform. structures 4-21214
 TiAl nonstoichiometric alloys, ordered superstructures and phase diagrams (*French*) 4-2139
 β-W₂C, cryst. struct., c-Fe₂N type ordered struct. and antiphase boundaries obs. (*French*) 4-15429

antiphase domains

- see also *antiphase boundaries*
 semiconducting compounds, polarity reversal and symm. in sphalerite and wurtzite structs. 4-34455
 (Fe₂Co)AsS₂, crystal defects and group-subgroup relationships, TEM studies 4-11132
 FeS₂, crystal defects and group-subgroup relationships, TEM studies 4-11132
 Ni (001), mol. S₂ chemisorption, LEED, AES, work function meas. 4-39689
 Si, reconstructed dislocations, energy levels and defect props. calc. 4-15841

antiprotons see protons**antireflection coatings**

- alkali glasses, Ar implanted, antireflective coating prod. by ion implantation 4-24259
 bilayer resist process using antireflective coating 4-27613
 binocular optics antirefl. coating illum. characts. 4-19542
 broadband antireflective coatings for fibre communication optical components 4-38586
 camera lenses with different antirefl. coatings, transmission coeff. calc. in oblique parallel beams 4-32350
 dip coating and neutral soln. processes, prod. of antireflective-interference-layer-systems 4-24260
 domestic hot water solar heating systems materials review 4-26320
 double-layer antireflective coatings for high-index substrates, practical design 4-24139
 dye laser cavity optics, high angle of incidence antireflection coating use 4-10332
 energy convertor selective emitters, performance 4-21555
 gradient-index antireflection coatings 4-10401
 holographic optical elements with ultrahigh spatial-freq. surface corrugations 4-1364
 laser facets, high quality antirefl. coatings by sputtered Si₃N₄ 4-28711
 photographic lenses, spectral transmission characts. and colour restoration characts. correction (*Chinese*) 4-8968
 photolithography, linewidth control using antireflective coating 4-44187
 solar cell array antireflection coatings optical and thermophysical characts. optimisation for reducing intrinsic electromagnetic field 4-31086
 solar innovative optical materials, survey 4-49469
 stratified media with exponentially graded refr. index, optical props. 4-23889
 synthesis methods for optical thin-film coatings 4-24137
 technology and performance development 4-24145
 thermophotovoltaic Ge solar cell energy convertors interference filters performance 4-21556
 thermophotovoltaic Si solar cell energy convertor selective emitters, performance 4-21555
 thermophotovoltaic Si solar cell energy convertors interference filters performance 4-21556
 three-layer antireflection coatings, design and optimisation 4-24138
 transition layers in interf. optical coatings, physical aspects of existence 4-19541
 tubular evacuated collectors, with diffuse reflectors, collection efficiency 4-41373
 vacuum equipment automation for optical coating 4-3074
 C:H hard amorphous RF plasma deposited coating, optical and protective props. 4-24111
 CdTe coatings for enhanced transmission in IR region 4-28810
 Co, black, solar absorber, photodesorption (*Korean*) 4-39670
 GaAs MOS anti-reflection layer solar cell fabrication on polycrystalline and single-crystal substrates 4-3468
 HgCdTe 0.1 photoconductive detectors, antireflection coating effect on performance 4-37176
 InGaAsP-InP DFB double-channel planar BH laser diodes, antireflection-coated, CW single longit. mode operation 4-49396
 In₂O₃ films, thermally evaporated, elec. conductive and IR transparent 4-21055
 In_{2-x}Sn_xO_{3-y} films, transparent and cond., appl. for antireflection coating of aeroplane windows (*French*) 4-33736
 MgF₂ light-splitting coatings, mechanical strength, and moisture resistance characts. 4-33734
 TiN films, ion implanted, transparency and cond. props., solar cells fabrication appl. 4-35103
 TiO₂ thin films, CVD deposition, antireflection coating appl. 4-25896
 TiO₂ thin nonabsorbing films, radiation strength, fabrication parameters influence 4-10344
 ZnO transparent electrodes fabricated by RF magnetron sputtering, stability study 4-40095
 ZnSe coatings for enhanced transmission in IR region 4-28810

APD see avalanche photodiodes**API gravity see density****apodisation see acoustic imaging; optical images****apparatus see instrumentation; instruments****apparent porosity see porosity****appearance potential see ionisation potential****appearance potential spectra**

- 1-butene+Pt surface collisions, energy transfer and catalytic reaction 4-59337
 dimethylaniline, (2,3-), (2,4-) and (2,5-) isomers, ionisation and appearance energies and calc. partial mass spectra 4-1292
 Al, oxidised, effective phase factors for extended absorption fine struct. meas. 4-7279
 CO²⁺, electron impact dissoc., ion kinetic energy spectroscopy, predissoc., appearance energies 4-38341
 Co, conduction band distrib., X-ray absorpt. and APS study 4-57043
 Co, critical point energies, soft X-ray APS study 4-7283
 Cu, conduction band distrib., X-ray absorpt. and APS study 4-57043
 Cu, critical point energies, soft X-ray APS study 4-7283
 Fe, conduction band distrib., X-ray absorpt. and APS study 4-57043
 Fe, core level excitations, spin-depend., spin polarised APS study 4-30567
 Fe-Ni-B metallic glasses, evidence for FCC-like short range order 4-34418
 HCl, absolute oscillator strengths for partial photoionisation, ionic fragmentation and photoabsort. 4-33454
 N₂, N K-shell excitation, fragment ion appearance pot. spectrosc. 4-5478
 NF₃, N K-shell excitation, fragment ion appearance pot. spectrosc. 4-5478

appearance potential spectra continued

- NH₃, N K-shell excitation, fragment ion appearance pot. spectrosc. 4-5478
 NO, N K-shell excitation, fragment ion appearance pot. spectrosc. 4-5478
 N₂O, N K-shell excitation, fragment ion appearance pot. spectrosc. 4-5478
 Ni, conduction band distrib., X-ray absorpt. and APS study 4-57043
 Ni, critical point energies, soft X-ray APS study 4-7283
 Si, oxidised, effective phase factors for extended absorption fine struct. meas. 4-7279
 Ti films, evaporated, elec. resist. and Auger electron APS, O diffusion effects 4-20741

appearance potential spectroscopy

No entries

Appleton layer *see ionosphere***appliances, domestic** *see domestic appliances***applied mechanics** *see mechanics***approximation theory**

- see also function approximation; interpolation; least squares approximations*
 Chebyshev expansion of characteristic polynomial, topological anal. 4-17681
 electromagnetics, boundary-element method 4-27311
 kriging, technique and applications in remote sensing 4-31657
 phase diagrams, piecewise-smooth approximation 4-30687
 photoelasticity, approx. methods of separating normal stresses on basis of measured differences/sums, modification 4-38778
 photographic material sensitivity, charact. curves, num. analysis methods comparison (*German*) 4-37235

APR *see acoustic paramagnetic resonance***APS** *see appearance potential spectra; appearance potential spectroscopy***APW calculations**

- alkali metal monolayers, electronic struct. and cohesive energies, all-electron local density functional theory 4-6852
 alkaline earth metal monolayers, Be-Ba, electronic struct., cohesive energy, all-electron local density functional calcs. 4-45607
 metal surface, mag. struct. and mag. moments, ab initio calcs. 4-16012
 solids, relativistic effects, LCAOC and APW methods 4-39756
 transition metals, electron-phonon interaction, relativistic APW band struct. calc. 4-34886
 warping corrections to muffin-tin potential 4-45567
 Al, muffin-tin Green's function theory of H defects 4-45675
 Al, X-ray absorption spectra, K and L, APW band struct. calc. 4-2994
 BaPb_{1-x}Bi_xO₃, electronic struct., self-consistent scalar relativistic linear APW calc. 4-6700
 BaTiO₃, perovskite struct., cubic phase, electronic struct. 4-2511
 Be, nucl. quadrupole interaction, comparison of APW and OPW procedures 4-56303
 Be, structure factor, γ -ray meas. and band struct. calcs. 4-39205
 CaTiO₃, perovskite struct., cubic phase, electronic struct. 4-2511
 CsI monolayers on W (110), bond contraction, ab initio calc. 4-29790
 Csl, eqn. of state and metal-insulator transition 4-50457
 CuZn, B2-ordered, electronic struct. and positron annihilation 4-25207
 DyZn, indirect multipolar interactions, ab initio calc. 4-56302
 Fe (001) seven layer film, surface magnetism, self consistent calc. 4-25610
 Fe₃O₄, high temp. phase, band struct. calc. 4-45617
 HFH₂, electronic energy bands calc., APW method, optical props. 4-45619
 Ir, cyclotron reson. anisotropy, electron-phonon interaction, relativistic APW Fermi surface calc. 4-29870
 MgO, Compton scatt., APW band struct. calc. 4-25826
 MnAs intermetallic cpd., mag. props., spin fluctuation theory, APW calc. 4-51062
 MnPt₂, ferromag. alloy, electronic struct., spin-polarised APW calc. 4-29874
 Ni (001), chemisorbed O atom interactions and electronic struct., APW calc. 4-45852
 Pt (001) surface, with and without adsorbed Au monolayer, electronic struct. study 4-45847
 Rh (001), S catalytic poison effects on electronic struct. 4-25414
 SrTiO₃, perovskite struct., cubic phase, electronic struct. 4-2511
 TmS, band struct., local density functional approx., self-consistent relativistic linearised APW calc. 4-34853
 V, electronic structure peculiarities 4-56203
 V, Fermi surface, press. depend. 4-6692
 W, Fermi surface cyclotron reson. (*Russian*) 4-25202
 YC₂, band struct., CPA, LCAO and APW calcs. 4-56212
 ZrH₂, electronic energy bands calc., APW method, optical props. 4-45619

arbiters (computers) *see computer interfaces***arc discharges** *see arcs (electric)***arc furnaces**

noise, acoustic, electric arc generated 4-24680

arc heaters *see arc furnaces***arc lamps**

- plasma arc lamps, light sources diagnostic techniques 4-55666
 xenon, theatrical motion-picture films projection performance 4-8977
 Ar mini-arc lamp as VUV spectral radiation transfer standard (*Japanese*) 4-33725
 Na high pressure lamp, energy balance 4-39033

arc welding

- steel, austenitic stainless, microstructure, phase transform. in Duplex 316L 4-7447
 steel, austenitic stainless, weld metals, long term heating, morphology and deterioration prevention 4-3160
 steel, martensitic, Co-Ni type, weld joints, corrosion cracking in chloride soln. 4-51891
 Ti alloy plate, O contaminated, US characterisation 4-57519

archaeoastronomy *see astroarchaeology***archaeology**

- see also astroarchaeology*
 ancient coins, quantitative results of X-ray fluoresc. analysis 4-46808
 ancient materials, Li, B, N content, ion beam anal. 4-43157
 artifact dating, accel. appl. 4-43156
 baked clays geomagnetism and archaeology (book) 4-53370
 cereal grain temperature history determ. by ESR method 4-36882

archaeology continued

- clays, PIXE anal. for archaeological studies 4-52713
 Danish flint artefacts, patination and wear traces 4-43158
 dating by TSEE of BeO 4-74
 Deer Creek Site, Oklahoma, combined mag. and radar survey 4-22138
 Egypt, archaeomagnetic investigations for BC 3000 to AD 1400 period 4-12768
 electrical resistivity techniques appl. to archaeological surveys 4-17303
 ion beam anal., conf., Tempe, AZ, USA (May 1983) 4-42579
 magnetic prospecting problems 4-17302
 neutron activation γ -spectrum processing by Hewlett-Packard minicomputer 4-31043
 physical studies of archaeological materials, review 4-4191
 Plains archaeological sites, USA, mag. survey data, on-site processing 4-17063
 quartz TLD dating technique, pre-dose effect 4-52477
 spectrochemical methods for archaeological find characterisation 4-32397
 thermoluminescent radioactive dating, microcomputer controlled reader system 4-52911
 underground detection using differential heat analysis 4-42957
 Au-Cu-Ag matrix, PIXE evaluation of major components, matrix effects 4-3431
 Cu based metallic artifacts, analysis by prompt gamma-ray neutron activation analysis 4-46809
 N depth profiling using ¹⁴N(n,p)¹⁴C 4-46824

archaeomagnetism *see palaeomagnetism***archeomagnetism** *see palaeomagnetism***architectural acoustics**

- see also anechoic chambers; echo; noise abatement; reverberation*
 auditoria, sound field diffusivity index 4-28931
 auditoria, speech intelligibility, multi-language RASTI analysis 4-49626
 auditorium acoustics, importance of good sightlines and direct soundlines 4-1545
 auditoriums, MCR system for multiple-channel amplification of reverberation 4-24302
 balcony open to street, acoustic protection in hot climates 4-1546
 Bearsville's recording studios, remodelling of Control Room B 4-55271
 building acoustics, T-junction statistical energy analysis model, internal damping loss factors 4-1549
 building components, laboratory airborne sound insulation determinations, variance anal. 4-19656
 building elements, sound radiation, scale model investigation 4-19663
 building facades, sound transmission loss, analytical model 4-19664
 buildings with periodically connected double-plate structures, sound radiation calc. 4-1518
 church bells, strike note determ. (*German*) 4-38674
 concert hall, performers' preferred time delay of single reflection 4-49619
 Douzhenko Film Studio, sound studio complex design (*Russian*) 4-10497
 dwellings exposed to road traffic noise, noise levels, behaviour patterns 4-38668
 halls, acoustic absorpt. coeffs. meas., diffusing elements areas effects (*German*) 4-49620
 halls, sound reproduction with phased linear loudspeaker arrays (*German*) 4-28929
 hearing protector evaluation in an audiometric testing room 4-21824
 lightweight panels, low freq. acoustic reduction 4-19659
 microphones in sound reinforcement system, gain calculation and meas. 4-49629
 noise level protection of open entry rooms 4-1543
 nondiffuse sound fields prediction in complex enclosures 4-19665
 partition wall, sound insulation, coincidence effect, theory 4-44294
 rectangular enclosure, noise reduction and sound radiation efficiency calc. (*Japanese*) 4-28930
 rectangular enclosure with diffusely reflecting boundaries, sound field 4-33861
 reverberation, signal transformation through passive linear system, room acoustics (*French*) 4-5764
 reverberation times of enclosures, correction method, humidity and temp. depend. 4-1548
 room, reverberation, diffusion effects, ray-tracing simulation 4-24301
 room acoustics, sound decay curves and absorption distribution 4-1550
 room acoustics, sound insulating systems, output energy distrib. calc., least squares method (*Japanese*) 4-38662
 rooms, optimal corrective absorpt., computer-aided procedure 4-1547
 rooms, reverberant, acoustic absorption measurement techniques 4-14844
 rooms, sound field evaluation by acoustic paths method (*French*) 4-10495
 rooms, sound localization by human listeners 4-16885
 sound diffusion by periodically moving plate 4-14845
 sound insulation meas. for building facades, microphone locations 4-44296
 sound insulation test, choice of freq. weightings and reverberation time correction 4-3511
 sound isolation, comparison of dBA and ISO ratings 4-44295
 St. Pauls Cathedral, London, acoustical props., reverberation time, speech intelligibility 4-33862
 stage acoustics, performer tuning 4-44293
 studios, acoustic reverberation meas. 4-49621

architectural CAD

rooms, optimal corrective absorpt., computer-aided procedure 4-1547

architectural computer aided design *see architectural CAD***architecture**

- see also building; civil engineering*
 photogrammetry, UMK 6.5/1318 universal measuring camera developments 4-37233
 seismic response of building foundations 4-41736
 seismic response of multistorey asymmetric buildings, effect of epicentral direction 4-41737
 seismic response of nonlinear soil-struct. systems 4-41738
 seismic risk for commercial buildings in Memphis, Tennessee, USA 4-12782
 seismological and wind effects in civil engineering, conf., Sept. 1979, Tsukuba, Japan 4-26

arc ing *see arcs (electric)***arc ing, switches** *see circuit-breaking arcs***arcs (electric)**

- see also arc furnaces; arc lamps; arc welding; circuit-breaking arcs*
 arc cathode plasma, bouncing expansion along transverse B field 4-24660
 arc extinguishing devices for generator anode wall 4-44867

arcs (electric) continued

- arcing fault surge, freq. transform method calcs. (*Japanese*) 4-20057
 ASDEX, divertor electric arcs 4-15340
 blastwaves generation from confined electrical discharges 4-49856
 cathode arc spots, thermal runaway prevention 4-24652
 conductive arc track, nonlinearity factor anal. 4-39026
 cylindrical channel, arc characts. in turbulent He flow, multilayer model (*Russian*) 4-15325
 DC arc plasma, electron mobility, mag. field effect 4-24669
 dielectrics, high volt. vacuum breakdown, flashover and arcs (*French*) 4-51189
 electrode vapour flow in free-burning arc 4-10911
 free burning arc, transverse mag. field deflection, temp. and flow field 4-44876
 free-burning arcs, high- and low-current, thermal layer (*German*) 4-20051
 furnaces, electric arc generated acoustic noise 4-24680
 gas pressure in active zone of hollow cathode arc discharge 4-44878
 high intensity, anode falls and heat transfer meas. using electron probe 4-39028
 high-pressure sodium lamp, relationship between arc tube temp. and efficiency 4-10907
 interaction of electric arc discharge with surface of electrodes made from multiphase silver-based materials 4-39036
 low-current arc cathode processes on metals with very thin oxide films 4-2025
 low-current vacuum arc, electron temp., Langmuir probe meas. 4-24664
 macroparticle dynamics obs. in vacuum arc, using laser Doppler anemometry 4-24667
 metal vapour arcs, cathode spot anal. 4-24650
 metal vapour vacuum arc, arcing voltage 4-55671
 MHD generator channel, contracted discharge at slag covered electrode wall 4-44868
 multiple large volume, intensity distribution 4-39032
 nonequilibrium arc modeling 4-44871
 plasma arc cutting systems, reduces costs 4-44866
 plasma gun double arc formation conditions 4-39012
 plasma reactors, electric arc, with multijet cylindrical and conical mixing chambers, thermal characts. (*Russian*) 4-15326
 power dissipation in the column of a TIG welding arc 4-10906
 retrograde velocity of vacuum arcs in mag. fields, temp. depend. (*Chinese*) 4-2020
 self-crowbar air gap, thin arc plasma behaviour 4-24642
 stabilization of arc position in coaxial gap of plasma gun 4-50088
 steel, type 52100 and stainless type 303, electrical arc-induced wear, surface anal. study 4-7601
 sustained high-current arcs, behaviour during vacuum consumable arc remelting 4-24663
 thermal coupling and plasma-induced surface damage mechanisms 4-55870
 thermal particulars of the plasma arc with a blown mixture of air and hydrocarbon 4-6213
 TV-1, disruptive tokamak discharges, arcing study 4-15341
 unipolar arc from plasma contact with metallic wall 4-15339
 unipolar arcing to Ti sample, proton irradi. effects 4-10914
 unipolar arcs, simulation study 4-10905
 unipolar discharges, initiation and sustainment by microsecond pulse plasma 4-15318
 upstream boundary conditions for channel model representation of arcs in gas flow 4-39030
 vacuum arc, commutation, zero current passage 4-24662
 vacuum arc, multicathode spot, model 4-24656
 vacuum arc, multicathode-spot, anode melting 4-24654
 vacuum arc, multicathode-spot, steady-state current distrib., self-mag. field effects 4-24659
 vacuum arc discharge, plasma flux form. 4-39020
 vacuum arc ion currents, interaction with axial mag. fields 4-24658
 vacuum arcs, anode discharge modes 4-24653
 vacuum arcs, axial mag. field effects 4-24661
 vacuum arcs, cathode spots, transverse forces and motions 4-24649
 vacuum arcs, current construction, MHD description 4-29277
 vacuum arcs, high-current, cathode spot motion in mag. fields 4-55670
 vacuum arcs, retrograde velocity, temp. depend. 4-24651
 vacuum arcs and electrical insulation, conf., Columbia, SC, USA (Oct. 1982) 4-22513
 wall-stabilised arcs, Stark parameters of O I, S I and C I multiplets 4-5171
 Ar arc plasma in channel, props., gas motion effect 4-29282
 Ar, current density and energy flux in anode spot 4-39023
 Ar₂ metastable generation in hollow cathode arc 4-54739
 Ar(Ca⁺), spectral line emission from arc plasma in air with Ca and F, optimum temps. 4-1890
 Ca(Ca⁺), spectral line emission and radiation intensity in arc plasma in air with Ca and F 4-1891
 CaF, spectral line emission from arc plasma in air with Ca and F, optimum temps. 4-1890
 CaF₂, spectral line emission from arc plasma in air with Ca and F, optimum temps. 4-1890
 CaO, spectral line emission from arc plasma in air with Ca and F, optimum temps. 4-1890
 CaO, spectral line emission and radiation intensity in arc plasma in air with Ca and F 4-1891
 Cr oxide cathode of DC arc discharge, gas and liq. phase interactions 4-50106
 Cu vacuum arc, macroparticle velocities determ. 4-24657
 Cu vacuum arcs, high current, erosion products, time-resolved characterisation 4-24655
 Hf electrode, oxidation in arcing in O-bearing plasma-forming media, underoxidised melt 4-55668
 K₂SO₄ seed electrode mass balance in arc-mode MHD channel 4-26300
 Li influence on spectral line intensity (*Russian*) 4-34345
 N₂, arc eqn. soln. by orthogonal collocation method 4-10909
 N₂, current density and energy flux in anode spot 4-39023
 Na discharge, arc instability, acoustic reson., optogalvanic detect. 4-24674
 Na high pressure lamp, energy balance 4-39033
 SF₆, arc eqn. soln. by orthogonal collocation method 4-10909
 Xe, arc, low-voltage, parameters calc. from probe and spectral meas. 4-50119
 Zn vacuum-arc plasma, excited-state densities, spectroscopic study 4-6219

area measurement

- blood/lymph vessels, area/dia.meas., image sensor and signal processing equipment (*Japanese*) 4-8170
 organ gamma scan, surface area meas., use for wt. estimation (*Russian*) 4-8080
 porous dielectrics, adsorbents, specific surface area determ. by NMR 4-32229
 PVC-supported redox catalysts, apparent surface coverage determ. 4-32235
- argon
 see also nuclei with
 adsorbed on Au (111), triple point wetting study 4-39673
 adsorption isotherms for graphite basal face, first monolayer melting 4-25158
 adsorption kinetics and electron scatt. on Ni (110), angle-resolved UPS study 4-21109
 arc, current density and energy flux in anode spot 4-39023
 arc, electron temperature determination in LTE and non-LTE plasmas 4-49935
 arc plasma in channel, props., gas motion effect 4-29282
 atom, 2p_{1/2} level, anisotropy excitation, radiative relax., lifetime meas. 4-23662
 atom, 3p²4s excited state, photoionis. 4-1110
 atom, 3p²4s excited states, photoionisation partial cross sections 4-1103
 atom, electron elastic scatt., spatial angular distrib. 4-23815
 atom, electron impact 2p_{3/2} shell alignment 4-5440
 atom, electron impact excitation, mass spectra study 4-49169
 atom, electron impact ionisation of 3p and 2p, triple differential cross-sections 4-5450
 atom, electron impact K inner shell ionisation threshold behaviour 4-10117
 atom, electron scatt., differential cross sections, 50 MeV to 2 eV 4-10093
 atom, electron scatt., optical model, charge polarisation, adiabatic model 4-33535
 atom, highly excited lines, Van der Waals broadening coeffs. 4-18989
 atom, inner shell photoionisation, ang. momentum exchange 4-9741
 atom, K-shell photoelectron satellite threshold meas. 4-23670
 atom, KLL Auger spectra energies and intensities 4-19111
 atom, L₁ XPS spectra, many-body calcs. 4-33378
 atom, L_{2,3} shell alignment tensor, electron-electron coincidence obs. 4-5443
 atom, two-photon transition probability, RPA calcs. 4-49000
 atom electron elastic scatt. free-free radiative absorpt. cross sections 4-10092
 atoms, Auger transitions, multiconfiguration Dirac-Fock calcs. 4-14374
 atoms, deexcitation rate consts. by ats. and molcs, temp. depend. 4-33509
 atoms, electron impact excitation, grandparent and nonvalence reson. 4-5151
 atoms, electron scatt. total cross sections 4-5373
 atoms, electron scatt. total cross sections in intermediate energy range 4-5376
 atoms, metastable states, electron impact excitation functions 4-14578
 atoms, radial Sternheimer shielding-antishielding factors 4-43821
 atoms, Ramsauer minima in electron total cross sections, precision meas. with TOF spectra 4-5372
 atoms, Rayleigh light scatt., collision-induced depolarisation 4-18959
 atoms, total electron scatt. cross section in energy range 4 to 300 eV 4-5375
 blastwaves generation from confined electrical discharges 4-49856
 cold plasma generator, parameter optimisation (*Russian*) 4-10860
 collision induced polarisability anisotropy, depolarised light scatt. 4-9781
 condensation in cryogenic shock tubes 4-29587
 density meas. using thick-source alpha particle gas densimeter, gas composition effect 4-42928
 electron drift vel. and excitation coeff. 4-23491
 electronic energy bands, density functional theory, self-interaction correction 4-20540
 electrons elastic scatt., polarisation and exchange effects 4-5358
 energy distrib. of electron escaping from anode perforations in discharge 4-39035
 excimer, ab initio pot. energy curves for low lying electronic states 4-28380
 fluid, quasi-free-electron energy rel. to mobility 4-6849
 fluid, quasifree electron mobility determ. by partial waves method 4-24517
 gas, explosion-driven shock wave optical props. 4-19917
 gas, pulse time compression in course of stimulated Brillouin scatt. 4-28765
 gas, self-sustained volume discharge with preionisation, initial-stage dynamics 4-29285
 gas, stimulated Rayleigh-Brillouin gain spectra, spectral line shapes 4-5655
 gas, thermal cond. at high press. 4-29231
 gas, thermal cond. meas. 4-34223
 gas, viscosity coeffs., temp. depend. 4-34222
 gas continua in a barrier discharge 4-5163
 gas mixtures, average ionisation energies for X-rays 4-24516
 gaseous impurity effect on density of saturated Rb vapour 4-49926
 glow discharge, electron temp., spectroscopic determ. 4-49934
 HF discharges, electron energy distrib. and excitation rates 4-24671
 hollow cathode discharge, plasma rot. and particle temps., Doppler spectroscopic meas. 4-50109
 imploded plasmas, X-ray emission meas. 4-55639
 ion beam production and diagnostics in Mather-type plasma focus 4-33250
 ion beams generation, hollow-cathode magnetron ion source 4-32382
 ion impact on solid fluorides, K X-ray spectra 4-21094
 ion laser, acousto-optically mode-locked, degradation via diffuse refl. feedback 4-19483
 ion laser, CW, mirror problems at high output power 4-38511
 ion laser, mode-locked, tunable picosecond IR pulse generation by difference freq. generation 4-24086
 ion laser, power-stabilised, high-current 4-28662
 ions impinging on foils, K X-rays, high resolution meas. 4-19204
 laser, discharge, with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 laser, mode-locked, with intracavity radiation extraction 4-38504
 liquid, current injection and light emission in divergent elec. field 4-50111
 liquid, equation of state, mol. thermodynamics theory 4-29567

argon continued

- liquid, microscopic dynamics, birefringence meas. 4-25717
 metastable generation in hollow cathode arc 4-54739
 mini-arc lamp as VUV spectral radiance transfer standard (*Japanese*) 4-33725
 molecule, discretised path integrals evaluation using iterative scheme 4-13531
 nucleating droplets, free energy via cluster-integral series 4-2307
 overlayer on Ag (111), electron stimulated desorption 4-29812
 partially ionised, simple mixture rule for elec. cond. 4-1875
 plasma, high press. surface wave, electron density meas. from Stark broadening 4-55488
 plasma, ion source operation with various confinement geometries, check-board arrangement 4-55590
 plasma, K-shell spectrum, level populations, Lyman series fine struct. opacity influence 4-24625
 plasma, TM₀₁₀ cavity tuning and matching 4-26254
 plasma column, magnetised, discharge charact. hysteresis 4-34344
 plasma pinch, const. current, radius ratio calcs. 4-24597
 plasma positive column, metastable and resonant state radical density distrib. (*French*) 4-15319
 positron collisions, positronium form. 4-23823
 rarefied plasma, supersonic jet, interaction with plate with sharp leading edge 4-29127
 recombination luminesc. from ionisation tracks produced by α -particles in high press. gas 4-971
 RF H-type discharges, electron temp. asymmetrical double probe meas. 4-55645
 shock wave radiation over broad spectral range 4-34130
 solid, band struct., many-body effects, OPW calc. 4-56214
 solid, electronic excited states relaxation processes, luminesc. study 4-51325
 solid, ground- and excited state props., perturbation model calc. 4-25218
 solid, low temp. props., pair and many-body pots. 4-29380
 solid, surface-sensitive luminescence and excitons 4-46303
 solid state props. near 0K from $[n(r)]$ -6 pot. 4-29383
 square-well fluids in $d=2,3$, perturbation theory, critical temp. 4-44915
 stopping cross section of ^4He 4-1012
 submonolayer film on graphite, melting transition, mol. dynamics studies 4-29787
 thermal conductivity in temp. range 300-430K at press. up to 10 MPa 4-1863
 thermal desorption from solid Xe, sticking probabilities calc. 4-50629
 thermal plasma flow, behaviour of small particles 4-15086
 tracer diffusion in methanol, 1-butanol and 1-octanol from 298 to 433K 4-11323
 transport phenomena theory (*Chinese*) 4-1862
 vapour-liq. coexistence region, vapour press., critical assessment 4-55980
 viscosity at intermediate temp. 4-10806
 Ar I, 4p-nd transition probabilities, visible and near-IR obs. 4-5162
 Ar I 3p⁴p configuration, crossing fields calc. of Zeeman sublevels 4-28400
 Ar II three level system, weak nonlinear resonances 4-18943
 Ar III, nsⁿp⁶ $^1\text{S}_0$ state, Auger spectra 4-33380
 Ar, ion-acoustic soliton resonant interaction, 2D 4-49991
 Ar ions impact on solid targets, K-plus L-shell ionisation, electron transfer 4-25845
 Ar K shells, electron impact ionisation, threshold behaviour 4-5407
 Ar, plasma with cylindrical symm., emitted light intensity radial distrib. (*Spanish*) 4-6189
 Ar XVIII, in dense ICF plasmas, Stark broadening 4-44804
 Ar⁺ CW mode-locked laser for synchronous pumping, tunable ultrashort light pulse generation 4-19468
 Ar⁺ fine struct. transitions, collision strength calcs. 4-18967
 Ar⁺ laser, direct modulation characts. (*Chinese*) 4-55094
 Ar⁺ laser at 515 nm, $^{12}\text{I}_2$ stabilized, precision wavelength comparisons with He-Ne laser at 633 nm 4-10279
 Ar⁺ mass-identified ions transverse diffusion in parent gases 4-38934
 Ar¹⁴⁺ KLL dielectronic recomb. reson. obs. 4-5463
 Ar²⁺ electron impact ionisation cross-sections meas. 4-5459
 Ar²⁺ electron impact ionisation cross sections 4-10140
 Ar⁸⁺ first-order wavefunctions, Rayleigh-Schrodinger perturbation theory 4-54614
 Arⁿ⁺ ($n=12$ to 15), KLL dielectronic recombination 4-38315
 Arⁿ⁺, highly ionised, dielectronic recomb. 4-5470
 Ar¹⁺ ECR source for multiply charged ion 4-48838
 Ar:H₂⁺, dissoci. charge exchange obs., 1.5 to 6.5 keV 4-49143
 Ar:K, Jahn-Teller effect and absorpt. spectra 4-2559
 Ar:Kr cryst., IR absorpt., mol. dynamics calcs. 4-20957
 Ar:O₂ alloy, single cryst., elastic constants, rotation-translation coupling effect on intermolecular forces 4-50398
 Ar:Xe, N₂O(NO)(N₂O₂), Wannier impurity states, energy transfer, photoluminescence 4-56977
 Ar-CO₂ mixture, lasing transitions between symmetric and deform. modes 4-49325
 Ar-Cs MHD plasmas, continuum emission, electron density determ. 4-49961
 Ar-Cs plasma, two dims. MHD electrode boundary layers 4-19946
 Ar-F₂C¹⁸O (F₂C¹⁸O) rot. spectrum, mol. struct., microwave spectrum 4-14397
 Ar-Fe hollow cathode discharge, atomic level populations meas. 4-24668
 Ar-glyoxal, vibr. predissoc., fluoresc. spectrum, lifetime meas. 4-54822
 Ar-H, collisions below 1 keV 4-9885
 Ar-He, flow fields generated by opposed free jets, optical and mass spectrometric meas. 4-34155
 Ar-He(Kr)(Ne), collision induced dipole moment, ab initio HF treatment 4-54593
 Ar-He(Ne)(Xe) systems, mutual diffusion coeff. from 350 to 1300K 4-34221
 Ar-Hg, fluorescent lamp discharges, plasma kinetics 4-24639
 Ar-Hg, fluorescent lamp discharges plasma kinetics 4-24640
 Ar-Kr, binary mixtures, thermal diffusion factors 4-34220
 Ar-Kr mixtures, multiple nucleation pathways near triple points 4-50458
 Ar-methane and Ar-ethane gas mixtures comparison in cylindrical drift chambers in mag. field 4-23471
 Ar-methane proportional counters, laser induced ionisation study 4-23475
 Ar-N₂, RT-relaxation cross-sections and rate const., analytical approx. (*Russian*) 4-5335
 Ar-N₂ mixtures, e-beam pumped, N₂(B³ π_u) and N₂(C³ π_u) vibr. temps. 4-28490
 Ar-N₂(CO₂), binary mixtures, thermal cond. at high press. 4-29232

argon continued

- Ar-N₂(O₂) mixtures, perturbation theory, thermodynamic props. 4-20316
 Ar-Ne⁴⁺, L-shell excitation 4-19195
 Ar-O₂ gas mixture for reactive ion sputtering of Si, Ar metastable states (*French*) 4-34837
 Ar-S₂ gas mixture, light localisation and amplification during flow (*Russian*) 4-49340
 Ar-s-tetrazine, mixed complexes, rot. struct., laser induced fluoresc. 4-54779
 Ar¹⁷⁺-H⁺, Stark broadened Lyman- β -lines emission, depend. on plasma composition 4-10890
 Ar¹⁷⁺-H⁺ plasmas, low-freq. elec. microfield 4-44803
 Ar+Al⁺, L-X-ray spectrum, 25 vacancy prod., fluoresc. yield 4-19197
 Ar+Ar⁺, electron transfer reactions, low energy, mol. dynamics calcs. 4-10065
 Ar+Ar⁺ doubly differential cross-section determ. using time of flight energy analyser 4-27625
 Ar+Ar⁺, charge stripping, collision gas press. depend. 4-33521
 Ar+Ar²⁺, single and double electron transfer reactions, time of flight meas. 4-3397
 Ar+Ar³⁺(Ar⁴⁺), L-MM Auger spectra 4-9950
 Ar+Ar⁶⁺, single-electron capture, energy gain spectra 4-49149
 Ar+Ar⁶⁺(P⁺)(Sb⁺)(In⁺), charge transfer cross section meas. 4-49157
 Ar+BaO, rot. and vibronic relax. rates, fluoresc. meas. 4-57533
 Ar+Be(B)(C), cross-sections for one-electron capture 4-19219
 Ar+C slow collisions, differential Ar L- and C K-shell vacancy production 4-23795
 Ar+C²⁺, state-selective electron capture 4-14553
 Ar+Cⁿ⁺(Oⁿ⁺), electron capture cross sections 4-14537
 Ar+CO, IR lines, broadening coeffs., temp. dependence 4-23690
 Ar+CO₂, line widths and shifts, collision-induced phase shifts effects 4-1241
 Ar+CO₂⁺, dissoci., charge exchange, predissoc. 4-38341
 Ar+Ca(4s5p $^1\text{P}_1$), electronic energy transfer, radiative lifetimes, spin and fine struct. changing cross sections 4-1248
 Ar+Cl₂(O₂), penning ionisation and ion pair form., secondary electron emission 4-33516
 Ar+Cl⁻(Ti⁻) collisions, electron detachment cross section 4-9964
 Ar+Cl¹⁶⁺, quasimolecular K-radiation, interference effects 4-18978
 Ar+Cl^{q+} ($q=8-12$), electron capture into metastable states, delayed Auger electron meas. 4-14540
 Ar+D₂, collision-induced mol. fluoresc., intensity, vibr. lifetime meas. 4-23746
 Ar+D₂⁺, collisional dissoci. and charge exchange cross sections 4-12356
 Ar+difluorodiazirine, mode to mode vibr. energy transfer, classical trajectory study 4-14514
 Ar+Fe²⁴⁺, double K excitation cross sections at intermediate velocity, X-ray transitions obs. 4-19193
 Ar+Fe²⁶⁺, high velocity asymmetric and near-asymmetric collisions, charge exchange cross sections 4-5348
 Ar+Fe²⁶⁺, total charge transfer cross sections 4-33525
 Ar+H, collisional ionisation 4-9883
 Ar+H₂, transport and relax. cross sections, close coupling calcs., Raman spectra 4-38279
 Ar+H₂⁺, charge exchange, c³ Π_u state population, predissoc. 4-49144
 Ar+H₂⁺(H₃⁺)(He⁺), electron loss, single differential cross-sections calcs. 4-9943
 Ar+H₂⁺ reactions, inert gas dihydrides prod. 4-51985
 Ar+H₂⁺ selectively excited rovibronic states, collisional quenching 4-9923
 Ar+H₃⁺, collision, neutral H₃ prod. 4-19217
 Ar+H⁺ doubly differential electron detachment cross-sections, target depend. 4-38316
 Ar+H⁺(Li⁺)(Na⁺)(K⁺), keV collisions, electron detachment, scaling law 4-9904
 Ar+H⁺(O⁻), energy distrib. of detached electrons 4-9963
 Ar+H⁺, differential scatt., orbiting struct. meas. 4-9893
 Ar+H⁺, dissoci. charge exchange, translational spectrosc. obs. 4-10071
 Ar+H⁺, H(2P) excitation, charge-changing collisions, polarisation obs. 4-10030
 Ar+H⁺, K-K shell electron capture in asymmetric collisions at high and intermediate energies 4-10051
 Ar+H⁺, L-shell ionisation 4-14518
 Ar+H⁺, multiple ionis., δ -electron spectrosc. obs. 4-9899
 Ar+H⁺ collisions, ionisation cross sections for 5 to 4000 KeV H⁺ in gases 4-9973
 Ar+H⁺(H₂⁺)(He⁺)(³He²⁺), simple collision systems, target ionisation and projectile electron loss 4-54847
 Ar+H⁺(H₂⁺)(He⁺) collision, ion induced L₃-subshell alignment of Ar 4-43959
 Ar+H⁺(He⁺), multiple ionis. by charge transfer and direct ionis. 4-10032
 Ar+H⁺(H⁻)(H⁻), charge transfer cross section, expt. data compilation 4-42621
 Ar+He^{q+} close atomic collisions, He ion charge distrib. anomalous effect 4-54848
 Ar+He^{q+}, vel. depend. total scatt. cross sections 4-5327
 Ar+He^{q+} Penning ionis. and collisional destruction investig. 4-10011
 Ar+He^{q+}(2⁵), product angle-vel. distrib. for doubly differential cross section 4-9935
 Ar+I₂, energy transfer from high vibr. states, scaling behaviour 4-38298
 Ar+K⁺ collisions, differential large angle scatt. 4-10001
 Ar+KCl(KF)(CsCl)(CsF) collisions, model pots. 4-19166
 Ar+K(Na), extended multiproperty anal. model pot. calc. 4-5319
 Ar+K(4P_{3/2}), fine struct. transitions, polarisation effects 4-9887
 Ar+Kr, two-electron transitions, 3p-vacancy prod. 4-19208
 Ar+Krⁿ⁺ collisions ($q=13, 25, 27$), multipole ionisation, projectile charge state effect 4-9978
 Ar+Li, 4²D-4²F excitation transfer 4-43968
 Ar+Li₂⁺, rot. energy transfer, scaling laws 4-54843
 Ar+methane, collisions, rainbow scatt. 4-43946
 Ar+methane, vibr. relax., rot. energy transfer influence 4-5331
 Ar+methane-d₄, vibr. deactivation rate const., laser fluoresc. study 4-49128
 Ar+N₂, prod. of N₂(A_u=0-3), detection by laser induced fluoresc. 4-14510
 Ar+N₂⁺, charge exchange, ab initio calcs. 4-10066
 Ar+N₂⁺, collisional excitation, 1-2000 eV 4-10005
 Ar+N₂O mixtures, Raman Q branch, collision broadening, in direct vibr. dephasing 4-1246
 Ar+N⁺, charge transfer reactions 4-28552

argon continued

- Ar+NO, rot. inelastic collisions, polarisation and M-depend. effects 4-43952
 Ar+NO inelastic collisions, quantum calcs. 4-23781
 Ar+NO⁺(O₂⁺)⁺Ar⁺+NO(O₂), charge transfer, vibronic and FS state reactions 4-10067
 Ar+NO⁺→Ar⁺+NO, reaction cross-sections, vibronic state depend. 4-23799
 Ar+Na, selective population transfer, two step collision model 4-19147
 Ar+Na⁺(K⁺), ions, and charge exchange cross-sections, 0.5 to 7.0 keV 4-10038
 Ar+Ne, Ar L-shell excitation, statistical model 4-49138
 Ar+Ne, slow collisions, 3dσ excitation 4-5338
 Ar+Ne⁺ collisions, single- and double-electron capture cross sections 4-43976
 Ar+Ne⁺ collision, thermal energy ions, cross-section 4-9908
 Ar+O, cross section measurements with selectively detected O¹S beam atoms 4-14517
 Ar+O³⁺, ionising collision, electron loss to continuum cusps, linewidths 4-10023
 Ar+Rb collision, broadening of level crossing signals 4-23778
 Ar+Rb⁺, ejected electron spectra, Barker-Berry effect 4-9955
 Ar+S¹³⁺, resonant transfer and excitation collisions, vacancy sharing 4-19225
 Ar+S¹⁵⁺ collisions, K-K charge transfer interference struct., impact param. depend. 4-19244
 Ar+Sm^{q+} collisions, (q=52 to 54), M-subshell effects in electron capture 4-19248
 Ar+tetrafluoromethane gas mixtures, depolarisation ratios 4-10814
 Ar+Xe²⁺, one electron capture reactions, drift tube study 4-43948
 Ar+ZnH, rot. and spin-rot. collision transfers 4-38292
 Ar⁺+air, charge transfer cross section meas. 4-49157
 Ar⁺+Ar doubly differential cross-section determ. using time of flight energy analyser 4-27625
 Ar⁺+Ar(N₂) electron transfer reactions, low energy, mol. dynamics calcs. 4-10065
 Ar⁺+H₂(N₂)(O₂), charge transfer reaction, 10 eV region 4-10064
 Ar⁺+methane, atomic capture cross section meas. 4-21458
 Ar⁺+N₂, charge exchange, ab initio calcs. 4-10066
 Ar⁺+N₂, charge transfer reaction at low and intermediate energies, crossed beam study 4-57542
 Ar⁺+N₂, charge transfer reaction below 0.1 eV 4-10068
 Ar⁺+Na, charge transfer, final state distrib. M and L depend. 4-19252
 Ar⁺+Na, charge transfer, final state distrib., vel. depend. 4-19253
 Ar⁺+OCS reactions, emission spectra study 4-3381
 Ar⁺+H₂(He)(CH₄)(Ar)(CO₂)(Xe), charge stripping, collision gas press. depend. 4-33521
 Ar⁺+N₂, collision-induced mass-analysed ion kinetic energy spectrum, probability theory anal. 4-33494
 Ar¹⁷⁺+Ne, K Auger spectra 4-9953
 Ar¹⁸⁺+N, electron capture cross section in highly excited Ar¹⁸⁺ p states 4-14544
 Ar²⁺+Ar(N₂)(O₂)(CO)(CO₂)(methane)(ethane), single and double electron transfer reactions, time of flight meas. 4-3397
 Ar²⁺+He, low energy electron capture cross sections 4-14550
 Ar²⁺+He(Ne), state-selective electron capture 4-14553
 Ar²⁺+He(Ne)(Kr), state-selective electron capture studied by translational attenuation method 4-19223
 Ar³⁺+Ar, L-MM Auger spectra 4-9950
 Ar³⁺+He, electron capture energy loss spectra 4-14547
 Ar³⁺+He, single e⁻ capture, energy loss spectra diff. cross sections 4-43979
 Ar³⁺+Xe, autoionising states form. and decay 4-9957
 Ar⁴⁺+Ar, L-MM Auger spectra 4-9950
 Ar⁴⁺+Au, L X-rays, ang. distrib. 4-19200
 Ar⁴⁺+Kr, Kr M-NN Auger spectra 4-9951
 Ar⁵⁺+He(Ne)(H₂), Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 Ar⁵⁺+He(Ne)(H₂), electron loss peak, charge state depend. 4-9944
 Ar⁶⁺+Ar(Ne), single-electron capture, energy gain spectra 4-49149
 Ar⁶⁺+He(Ne)(H₂), Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 Ar⁶⁺+He(Ne)(H₂), electron loss peak, charge state depend. 4-9944
 Ar⁶⁺+Ne, K Auger spectra 4-9953
 Ar⁷⁺+H, electron capture, electronic state population 4-14552
 Ar⁷⁺+H, electron capture, ionisation, crossed beam coincidence study 4-19177
 Ar⁸⁺+H (q=4 to 9), ionisation collisions, time-of-flight analysis 4-9980
 Ar⁸⁺+H(H₂), electron capture cross section for low vel. ions, q=2 to 10 4-19232
 Ar⁸⁺+He, electron capture and transfer ionisation cross section 4-49154
 Ar⁸⁺+He(Ne)(H₂), Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
 Ar⁹⁺+inert gas atom, charge transfer cross-sections 4-54857
 Ar₂, electron impact ionisation prod. of Ar₂⁺ 4-12357
 Ar₂, inner valence shell photoionisation spectra 4-9841
 Ar₂⁺ mass-identified ions transverse diffusion in parent gases 4-38934
 Ar₂⁺ microwave ion source, energy anal. 4-48251
 Ar₂⁺ unimol. and collision-induced dissociation 4-12357
 Ar₂+He*, van der Waals mol., Penning ionisation study 4-33515
 Ar₂+Xe(Kr), van der Waals bond exchange, ang. and vel. distrib. 4-21454
 Ar₃, dissociation dynamics, time depend. SCF approx. 4-3383
 Ar₃, inner valence shell photoionisation spectra 4-9841
 Ar_n cluster beam, form. and fragmentation, scatt. anal. 4-28586
 Ar_n+He scattering, TOFS anal. 4-19316
 Ar₁, 3pⁿl configs., oscillator strengths, g-values, LS coupled basis function 4-33341
 Ar(P₁) collisional deexcitation rate consts., temp. depend., 4-10002
 Ar(P₂) collisional deexcitation rate consts., temp. depend., 4-10002
⁴⁰Ar/³⁹Ar ages for Barberton Mountain komatiites 4-41820
⁴¹Ar, continuous interference free stream production for ¹³¹I monitoring system 4-54517
 Ar*+Ar collisions at thermal energies, time-of-flight spectra 4-38274
 Ar⁺ cluster ions, metastable dissociation 4-5532
 CO/N₂/Ar quadrupole glass, mol. rotations, dielec. studies 4-29350
 CO₂-Ar CW gasdynamic laser emitting at 18.4 μm 4-10278
¹²C⁶⁺+Ar charge changing collisions study using recoil ions 4-14568
 CdSe:Ag, Ar film, photoelec. props., electron density and mobility 4-25402

argon continued

- H₂-Ar shock tube, H₂ CARS intensity meas. behind shock waves 4-33403
 He-Ar, thermal diffusion factors, temp. depend. 4-15055
 He-Ar-N₂ mixtures, e-beam pumped, N₂(B³π_g) and N₂(C³π_u) vibr. temps. 4-28490
 He+A₂²⁺(Ne²⁺)(Kr²⁺), low energy electron capture cross sections 4-14550
 Hg-Ar mixture, low pressure discharges, electron mobility calcs. 4-39031
 InP:Ar⁺, high resistive layers obtained by ion implantation (French) 4-55853
 K+Ar collisions, coherence in oriented K at. 4-38277
 Li⁺ in Ar, drift and diffusion calc., basis set expansion with non-Gaussian weight functions 4-38936
 (N₂)₁₋₄-Ar, dilute films adsorbed on graphite, orientational ordering 4-20483
 Ne-Ar plasma prod. by RF discharge, electron energy distrib. function 4-29239
 Si:Ar, high-dose implanted, radiation damage 4-11195
 a-Si:Ar, stopping cross sections for MeV He ions 4-24880
 Si:B:Ar, ion implanted, epitaxial regrowth 4-50656
 Sr+Ar, laser assisted collisions, final state distrib., nonadiabatic theory 4-14522
 V, effect of Ar sputtering on H₂ permeation, sputtering both sides 4-25091
 Xe-Ar mixture, tunable VUV light pulse generation via two-photon reson. four-wave mixing scheme, Kr isotope density detect. appls. 4-1101
- argon compounds**
 pentacene-Ar complexes, van der Waals vibr. modes 4-9751
 Ar-cyanogen van der Waals complex, struct. and props., mol. beam RF and microwave spectra 4-43868
 Ar-H₂ (HD), van der Waals mol., rot. and vibr. predissociation complex coordinate coupled channel formalism 4-19118
 Ar-H₂, van der Waals mol., photodissoc. cross section 4-5301
 Ar-HD, IR spectrum, photodissoc. cross sections and lineshapes calc., predissoc. 4-49021
 ArCO₂⁺ dissociation energy 4-33560
 ArF, ²Σ⁺-²Σ transition, CNDO, INDO calcs. 4-33321
 ArF discharge pumped laser improved energy output 4-44091
 ArF* laser, discharge, with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 ArH⁺, gas target collision, H⁺ loss reaction study 4-21458
 Ar₂* excimer, ab initio CI relativistic calcs. with spin-orbit coupling 4-18914
- arithmetic (digital)** *see digital arithmetic*
Armco iron *see iron*
armouring (cables) *see cable sheathing*
aromatic compounds *see organic compounds*
ARPES *see photoemission*
arrays (antenna) *see antenna arrays*
arsenic
see also nuclei with
 amorphous, passivation technique for MBE growth-interruption problems 4-30634
 amorphous, thermal expansion and Grüneisen, coeff. 4-45368
 binding energies, at. and mol., from many body calc. and XPS 4-10177
 clusters, bond energy calcs. 4-10201
 ion implantation in TiSi₃ bilayers on poly-Si 4-29704
 ion source with high charge utilisation efficiency 4-43733
 neutron activation analysis, Br induced error eval. using ⁷⁹Br(n,α)⁷⁶As averaged cross section 4-12430
 pollutant in Tejo Estuary, Portugal 4-36044
 soil chemistry of arsenic compounds 4-3501
 sputtered from GaAs, ionisation probabilities as primary ion energy function 4-46393
 TGS:alanine (As), pyroelec. props. 4-20919
 thermal cond., 2 to 300K, lattice and electronic contribs. 4-6574
 thin films, photographic and holographic characts. (Russian) 4-17987
 universal tight binding band structs. and bonding 4-6701
 vapour deposited yellow films, struct. and optical props., condensation condition effects 4-39722
 yellow, photoinduced paramagnetic states, ESR studies 4-7064
 Al₂O₃:As³⁺, amorphous layer, heavy ion implantation, range parameters, empirical formula (Chinese) 4-6386
 As cps. detection using samplers with glass fiber filters 4-52898
 As-S clusters, stability, mass spectra 4-28582
 As⁺+Ar(air), charge transfer cross section meas. 4-49157
 Asⁿ⁺+inert gas, cross-sections, attenuation coeffs. and Larmor freqs. 4-33495
 As₂, electron impact direct and dissociative ionisation cross-sections 4-28569
 AsI, quadrupole moment, core polarisation and hyperfine struct. 4-18971
 CdTe:As, photoluminescence studies 4-16244
 n-Ge:As, elec. cond. near Anderson transition 4-15922
 n-Ge:As, ion implanted, laser annealed, phonon softening, Raman study 4-15597
 InP:As, ESCA and electron diff. studies (Japanese) 4-20441
 Na₂O-CaO-SiO₂:Ce³⁺, As³⁺ reduced glass, UV irr., photochemical reaction, ESR obs. 4-16094
 P₄, electron impact direct and dissociative ionisation cross-sections 4-28569
 p-Si insulator a-Si:As⁺, laser annealing effects (Korean) 4-40020
 Si:As, amorphous ion-implanted layer, thermal annealing, ellipsometric parameters (Chinese) 4-7483
 Si:As, As retarded diffusion by thermal oxidation 4-11344
 Si:As, depth profile meas. by glancing angle Rutherford backscattering spectrometry 4-46386
 Si:As, donor clusters, ESR study 4-46102
 Si:As, doping from spin-on sources exposed to incoherent light, solar cell prod. 4-15503
 n-Si:As, effect of free carriers on Raman freq. 4-40461
 Si:As, implanted, rapid thermal annealing 4-20218
 Si:As, implanted, struct. modification during annealing 4-50328
 Si:As, ion implantation, annealing behaviour, MeV backscattering anal. 4-45154
 Si:As, ion implanted, controlled diffusion by electron beam heating 4-15699
 Si:As, ion implanted, laser annealed, phonon softening, Raman study 4-15597

arsenic continued

- n-Si:As, ion implanted, laser annealed, Brillouin study of phonon softening 4-40466
 Si:As, ion implanted, pulsed electron beam annealing 4-15536
 Si:As, ion implanted, rapid isothermal annealing with electron beam system 4-15539
 Si:As, ion implanted, transient enhanced diffusion during short time annealing 4-39594
 Si:As, ion implanted As behaviour under transient heating by incoherent light 4-24836
 Si:As, polycryst., solubility of implanted As 4-34508
 Si:As, polycrystalline, effectiveness of diffusion sources 4-20404
 Si:As, Rutherford backscattering with continuous sample rotation, ion beam dosimetry 4-46385
 Si:As CVD polycryst. film, impurity effect on grain growth 4-6674
 Si:As high conc. diffusion, profile estimation using unified analytic approx. 4-50333
 Si:As superheavily doped SOS films, absorption edge studies 4-2982
 Si:As/Si bilayer films, As diffusion along grain boundaries 4-34725
 Si:As⁺, channelled ion implantation at 300°C, distrib. and lattice location 4-11167
 Si:As⁺, extremely shallow n⁺-p junctions, low temp. process for annealing 4-50324
 Si:As⁺, high dose ion implanted, annealing behaviour 4-15500
 Si:As⁺, ion implantation, Boltzmann transport equation based 2D model for impurity distrib. determ. 4-29454
 Si:As⁺, MeV ion implantation, extended defect reduction and planar n-p-n transistor fabrication 4-2220
 Si:As⁺ ion implanted wafers, IR transient annealing (*Chinese*) 4-20222
 a-Si:As⁺ layers, pulsed laser melting study 4-34535
 Si:B, carrier profiles meas. by IR ellipsometry 4-45175
 Si:B(As), ion implanted, ESR study 4-16096
 Si:P:As, double-donor system, metal-insulator transition, elec. cond. meas. 4-15824
 Si-SiO₂ interface defect centres, EPR, effect of As⁺ implantation 4-46108
 Si₃N₄:As⁺, amorphous layer, heavy ion implantation, range parameters, empirical formula (*Chinese*) 4-6386
 SiO₂:As⁺, amorphous layer, heavy ion implantation, range parameters, empirical formula (*Chinese*) 4-6386
 SiO₂:As⁺ ion implanted layers in MOS struct. (*Chinese*) 4-20221
 SnO₂:As thin film, ion implanted, elec. props. 4-35099
 (YSmLuCa)₃(FeGe)₃O₁₂:As bubble garnet films, mag. and struct. props. 4-56744

arsenic alloys*see also arsenic compounds*

- As-S-Te system, glass form. and props. 4-11295
 Al-As-Te glass system, elec. switching phenomena 4-6843
 As₂Ge₂Se_{70-x} chalcogenide glasses and melts, thermal and elec. cond. 4-11528
 Co₂Re₂As₁₂, preparation, cryst. struct., elec. and mag. props. 4-29387
 Cu-As, diffusion induced grain boundary migration, colour metallography 4-21409
 Fe₂Re₂As₁₂, preparation, cryst. struct., elec. and mag. props. 4-29387
 Hf-As-Ta system, ¹⁸¹Ta electric quadrupole interaction, TDPAC study 4-46149
 MnAs intermetallic cpd., mag. props., spin fluctuation theory, APW calc. 4-51062
 MnAs, mag. transition kinetics (*Russian*) 4-6976
 Mn_{1-x}Ti_xAs, mag. phase transition, effect of structural distortions 4-35173
 NiPd₂As₃ system, phase equilib. 4-35615
 Ni₂Re₂As₁₂, preparation, cryst. struct., elec. and mag. props. 4-29387
 Pb-Sb-As, model alloy, creep and ratcheting study 4-12131
 Pb-Sb-As alloy tubes, thick flanged, subjected to steady axial mech. loading and transient thermal loading, ratcheting and creep 4-26000
 Pd-M-As (M=Au,Ag,Cu), metallic glass forming ability by splat cooling (*German*) 4-39157
 Se-As, amorphous, structural relax., annealing, DTA study (*French*) 4-30719
 Se-Sn-As chalcogenide glass and cryst. cpds., ¹¹⁹Sn Mossbauer studies 4-56836

arsenic compounds*see also arsenic alloys*

- As₂H₄, outer valence ionic energies, Green's function ab initio calcs. 4-18917
 As₂S₃/Sb₂S₃ heterostructure based photothermoplastic material, production and characts. (*Russian*) 4-35061
 As₂S₃Se_{3-x} chalcogenide glass, struct. and bonding, NQR study 4-44970
 chalcogenides, disordered, radiation processes and radiolysis (*Russian*) 4-11179
 intercalation cpd. with graphite, graphite-AsF₆⁻, charge transfer and density of states 4-39749
 polyacetylene:AsF₆⁻, heavily doped, ESR study 4-2805
 soil chemistry of arsenic compounds 4-3501
 A₂-S(Se)(Ge-Se) glass IR optical fibre cable for continuous CO laser transmission, design and expt. study 4-38610
 Ag-As-Se vitreous system, recombination parameters and photoinjected carrier distrib. (*Russian*) 4-39934
 Ag₃As₃, ionic cond. meas. 4-11339
 Ag₃As₃, Raman scatt. and phase transitions 4-16200
 Ag₃As₃, Raman scatt. study of cation sublattice disordering 4-35450
 As cpds. detection using samplers with glass fiber filters 4-52898
 As-B^{VI} chalcogenide glasses for quantum electronics, physico-chem. parameters and characts. (*Russian*) 4-24732
 As-chalcogenide system, Raman and IR vibr. spectra studies 4-46254
 As-Ge-Se chalcogenide glass, optical fibre prep. (*Japanese*) 4-49591
 As-Ge-Se glass-ceramic, IR transmission props. 4-28794
 As-S chalcogenide glass, optical fibre prep. (*Japanese*) 4-49591
 As-S glass, fibre waveguides for middle IR range, optical losses below 1 dB/m 4-55204
 As-S-Br system, noncrystalline struct., Raman spectra 4-40429
 As-S(Se) amorphous chalcogenide films, photodarkening, thickness dependence 4-40382
 As-Se, thin film, optical recording kinetics (*Russian*) 4-30427
 As-Se amorphous system, medium range order and crystallisation 4-44972
 As-Se chalcogenide glass, bulk, powdered and thin film, photostruct. changes 4-45323

arsenic compounds continued

- As-Se chalcogenide glass film, plasma effects on light transmission and solubility 4-34656
 As-Se films, photo-induced microhardness changes, composition depend. 4-29521
 As-Se glass, fibre waveguides for middle IR range, optical losses below 1 dB/m 4-55204
 As-Se-I, glass, long-wave IR reflection spectra 4-51253
 AsF₃, elec. hyperfine interaction, TDPAC method 4-28428
 AsF₃ intercalation cpd. with graphite, C₈(AsF₃), NMR and X-ray absorpt. study (*French*) 4-40254
 AsF₃ intercalation cpd. with graphite, C-C bond length, ¹³C NMR 4-51141
 AsF₆⁻ intercalation cpd. with nitromethane and graphite, NMR study 4-40253
 As₂Ge₃Te₄₁ glassy semicond., elec. transport props., influence of cryst. inclusions 4-15904
 AsH₃NH₂, outer valence ionic energies, Green's function ab initio calcs. 4-18917
 AsI, spectroscopic consts., chemiluminescence, near-IR spectra 4-49020
 As₂O₃, temporary mechanoluminesc. spectra 4-7252
 AsOCl, matrix isolation IR spectra (*German*) 4-14421
 As₂S₃, amorphous, photodarkening process 4-2227
 As₂S₃ amorphous films, photostructural transformation, quantum output, spectral and field dependence (*Russian*) 4-20344
 As₂S₃ amorphous films on polycrystalline Ag₂S substrates, photochemical reactions, Raman study 4-7739
 As₂S₃, amorphous semiconductor glass struct., X-ray diffr. 4-2083
 As₂S₃ amorphous thin films, struct., Fourier anal. method (*Russian*) 4-44966
 As₂S₃ chalcogenide glass films, photoluminescence polarisation 4-46307
 As₂S₃ chalcogenide glass, time resolved photoluminescence and localised states 4-46309
 As₂S₃, chemical bonding and heat of formation 4-24733
 As₂S₃ glass, medium range order and optical props., Raman scatt. study 4-44971
 As₂S₃ glass, photoinduced changes and energy states (*Russian*) 4-56395
 As₂S₃, low-temperature thermal expansion of disordered solids 4-39547
 As₂S₃ waveguide, integrated-optic Fourier processor using acoustooptic deflector and Fresnel lenses 4-24244
 As₂S₃ with SF₆ and Br₂, laser control of the flow of resonant molecules through capillaries 4-5963
 As₂S₃Ag film, photostimulated diffusion study (*Russian*) 4-50588
 As₂S₃Fe chalcogenide glasses, optical and electronic props. 4-45782
 As₂S₃Sb₂S₃ glassy semiconductor heterostruct. based photothermoplastic material (*Russian*) 4-17998
 As₂S₃Ag system, photographic process quantum yield (*Russian*) 4-17995
 As₂S₃As₂Se₃ glasses, photoacoustic spectra 4-15389
 As₂S₃As₂Te₃ system, glass-cryst. transitions, DTA and X-ray microprobe anal. study 4-52026
 As₂S₄, electronic struct., ab initio and CI calcs. 4-1025
 As₂S₃-x molten phase, viscosity, rel. to struct. 4-20388
 (As₂S₃)_{1-x}(Sb₂S₃)_x glasses, far IR and Raman spectra 4-20960
 As₂S₃Se_{3-x} chalcogenide glass, polarised room temp. Raman scatt. studies 4-46255
 As₂S₃-Te_x chalcogenide layers, photostructural changes (*German*) 4-20113
 As₂S₃, Fermi surface and magnetothermoelec. EMF quantum oscills. 4-34863
 AsSb₂S₃CdSe heterostructure, EBIC study 4-50918
 AsSe amorphous chalcogenide films, photostruct. transformations 4-45322
 AsSe-ester-tolan struct., I-V characts. and photovoltaic effect 4-6835
 As₂Se₃Se, chalcogenide glass, photoluminescence fatigue 4-51341
 As₂Se₃, amorphous, anomalous transient photocurrent 4-20689
 As₂Se₃, amorphous, transient photocurrent quantum efficiency, spectral depend. 4-45831
 As₂Se₃, amorphous and cryst., luminesc. centres, time resolved photoluminesc. and photoinduced absorpt. meas. 4-46310
 As₂Se₃ amorphous films, elec. and photoelec. props. controllability 4-45790
 As₂Se₃ chalcogenide glasses, lux-ampere characts., temp. and energy depend. 4-45829
 As₂Se₃ chalcogenide glass system, photostruct. change and photoacoustic effect 4-46308
 As₂Se₃, chemical bonding and heat of formation 4-24733
 As₂Se₃, glassy and liquid, transient photoconductivity meas. 4-39980
 As₂Se₃, liquid, charged defects, elec. cond. study 4-45792
 As₂Se₃ synthetic cryst., photoluminescence, optical transmission and elec. cond. 4-7236
 As₂Se₃:Cu(Ag), photoelectron and Auger lines, chem. shifts 4-25849
 As₂Se₃:Ni, Fe glassy films, carrier transport 4-15973
 As₄₀Se₆₀/Ge₂₅Se₇₅ multilayered amorphous film struct., long-range interactions 4-20959
 As₄₀Se₆₀-Ge₂₅Se₇₅ multilayered amorphous struct., long-range interaction 4-15951
 As₂Se_{100-x}/Se multilayer photoreceptors, transient photocond. (*Japanese*) 4-30013
 As₂Se₃Cu_x, amorphous, electronic band struct., XPS and Raman scatt. study 4-45591
 As₂(Se₂S₃)_x, heterostructure, EBIC study 4-50918
 As₂(Se₂S₃)_x, amorphous, layer correlations, neutron diffr. study 4-34410
 As₂Se₃-Te_x, cryst. and amorphous struct., X-ray diffr. study 4-2168
 As₂Se₃Te₂Cu(Cd) amorphous film, elec. props., impurity effects 4-45783
 As₂Se₃(Te₃) chalcogenide glasses, photocarrier recomb. and band struct. parameters 4-45830
 (As₂Se₃)_{1-x}(Te₂Se), chalcogenide glasses, elec. cond. and activation energy 4-45795
 As₂Te₃, amorphous, dispersive transport, TOF and transient field effect meas. 4-45784
 As₂Te₃, chemical bonding and heat of formation 4-24733
 As₂Te₃-x glasses, crystn. and local order, DSC, X-ray diffr., and Mossbauer studies 4-2084
 Cu_x(As₄₀Se₆₀)_{100-x} system glasses, elec. and optical props. for x=5 to 30 4-45788
 Ge_{22.5}As₁₀Se_{67.5}, sputtered film, photodarkening effect 4-30548
 Ge₁₀As₄₀Se_{52.5}, sputtered film, photodarkening effect 4-30548
 Hg-As-Se vitreous system, recombination parameters and photoinjected carrier distrib. (*Russian*) 4-39934

association continued

- violations of the noncrossing rule due to special symmetry and alternance 4-14355
 water-organic hydrophobic mols. mixtures, assoc., H^+ mag. relax. rates 4-30945
 Ag^+ surface complexes as SERS-active sites on Ag electrodes 4-26222
 $Al_2O_3 \cdot 2SiO_2$, mullite, form. from oxides in Al-Si thin films, electron diff. exam. 4-29843
 Ar-S₂ gas mixture, light localisation and amplification during flow (*Russian*) 4-49340
 $Be + H_2$, C_{2v} insertion, multireference coupled-cluster method calcs. 4-43774
 $Be + H_2 \rightarrow BeH_2$, multiconfig. coupled-cluster theory, test 4-21431
 Br_2 , energy transfer collisions and unimolecular reaction in liq. Ar 4-26183
 C III, photorecombination rates calc. for 5000 to 100000K electronic temps. (*Russian*) 4-8387
 $CH_3OH_2^+ + methanol$, assoc. reaction sequences, initiation 4-35875
 CN^+ ion + molecule reactions, kinetics, selected ion flow tube obs. 4-46750
 $CO-H_2$ discharge, plasmachemical conversion to hydrocarbons (*French*) 4-15320
 $Cl^- + Cl_2$ complex form., dissoc., ion induced dipole pot. 4-12341
 Co complex, cobalt (II) 3-amino-5-methylisoxazole, mol. reorientation, assoc., 1H NMR study 4-56793
 $Cr(H_2O)_5OH^{2+}$ anation by DL-alanine in aq. soln., kinetics and mechanism 4-51997
 Cu complex, copper (II) 3-amino-5-methylisoxazole, mol. reorientation, assoc., 1H NMR study 4-56793
 Cu_2S-GeS_2 (SnS_2), intermolecular interaction, phase equilibr. 4-55961
 $Cu_2Se-GeSe_2$ ($SnSe_2$), intermolecular interaction, phase equilibr. 4-55961
 DyI_3 , evaporation, Knudsen cell mass spectra 4-50480
 DyI_3-CsI system, vapour phase complex formation, Knudsen cell mass spectra 4-51978
 DyI_3-NaI system, vapour phase complex formation, Knudsen cell mass spectra 4-51978
 GaAs, precipitation, in chloride, and chloride-hydride processes, partial pressure diagrams 4-57083
 H-bonded complexes, assoc., thermodynamic parameters, dielec. relax. meas. 4-2872
 H_2 , σ $B^1\Sigma_u^+$ state, vibronically excited, chem. reactions, H_4 prod. 4-48962
 HCNO, adsorption on Rh, mol. dissoc., AES, EELS, TDS studies 4-41258
 HF-electron interaction, associative detachment and vibr. excitation 4-5477
 $HF + NH_3$, proton transfer reaction, hydration effect, quantum chemical approx. 4-21450
 $HSO_4^-(H_2SO_4)_m$ acid cluster, ($m=0, 1, 2, 3, 4$), hydration studies of atmospheric interest 4-33580
 $He^+ + 2He \rightarrow He_2^+ + He$ association reaction, temp. depend. 4-41208
 $He^{2+} + H(ls)$, charge transfer cross sections, HeH^{2+} quasimolecule 4-10015
 $He(^3P) + Ne$, autoionisation width for Penning and associative ionisation cross sections 4-9932
 $He(^5P) + He$, laser excited, thermal energy collisions, associative ionisation of Hornbeck-Molnar type 4-9931
 I_2 , complex form. with substituted pyridines, visible transition, blue shift 4-30969
 I_2 , photodissociation and recombination, computer simulation 4-16668
 KH_2 , insertion into graphite, struct. study (*French*) 4-39266
 LiBr aqueous solns., thermophysical props. correlation 4-24704
 LiSCN, quadrupole form. const. UV absorpt. spectra 4-49046
 $Mo(V)-Ni(II)$ interionic interacts. in HCl soln., EPR and NMR relax. investig. 4-23722
 N_2 , pulsed discharge, contraction at medium press., thermal cond. and diffusion times 4-39021
 $N_2^+ + 2N_2 \rightarrow N_4^+ + N_2$, low temp. ion-molecule association, appl. to interstellar clouds 4-21463
 $N_2^+ + N_2$, association reaction, rate coeff. determ. 4-57532
 $N_2^+ + N_2$, ternary association reactions, ion mobility meas. using mass spectrometer ion source 4-13723
 $N_2^+ + N_2 + M \rightarrow N_4^+ + M$, three-body ion-mol. assoc. reaction, temp. depend. 4-41208
 $N_2^+ + N_2 \rightarrow N_4^+$ association reactions, temp. depend. 4-41205
 $Na^*(np) + Na(3s)$, associative ionisation and 2-photon laser induced collisional ionisation 4-9933
 $Na(3P) + Na(3P)$, energy transfer and associative ionisation 4-9919
 Ne_3^+ ions, dissoc. recombination with electrons, electron temp. depend. 4-16649
 Ni complex, nickel 3-amino-5-methylisoxazole, mol. reorientation, 1H NMR study 4-56793
 Ni^{2+} + malonate ion, chelation kinetics, inhibition by β -cyclodextrin 4-51973
 O plasma, microwave discharge, O dissoc. and recombination 4-2022
 O plasma, microwave discharge, O dissoc. and recombination study 4-2023
 $O_2^+ + 2O_2 \rightarrow O_4^+ + N_2$, low temp. ion-molecule association, appl. to interstellar clouds 4-21463
 $O_2^+ + O_2 + M \rightarrow O_4^+ + M$, three-body ion-mol. assoc. reaction, temp. depend. 4-41208
 $O_2^+ + O_2 \rightarrow O_4^+$ association reactions, temp. depend. 4-41205
 O_3 formation rate in ozoniser, gas press. and comp. effects 4-30970
 OH-aromatics, addition reaction rate consts., adduct unimol. decay 4-30964
 Pt (111), C and O adsorbate diffusion and recombination kinetics 4-31028
 Rb + Rb, collisional ionisation and energy pooling process, mechanism 4-9934
 RbXe van der Waals mols., form. and breakup rates in He and N_2 4-16624
 S_2N_4 , protonation, MNDO calcs. 4-12334
 Si_3N_4 form. from SiO_2 4-46480
 TaS_2 (2H) intercalation reaction kinetics, TDPAC study 4-30944
 W-halogen lamps containing dibromomethane, role of CO, chem. equilibr. calc. 4-16645

association factor (liquids) *see* association of liquidsassociation of gases *see* association

association of liquids

- see also colloids*
 alkylsulphonates, simple, in D_2O solns., ^{13}C spin-lattice relax. studies 4-1178
 alkylsulphonates, in D_2O solns., ^{13}C spin-lattice relax. studies 4-1178
 alloys, binary, association and quadrupolar nuclear spin relax. rate 4-46137
 alloys, binary, two cluster regular associated model (*French*) 4-39087
 n-butane in water, site-site correl. functions, Monte Carlo results 4-50168
 n-butanol systems, mol. association, US vel. meas. 4-10947
 4-cyano-4'-n-alkoxybiphenyl mixtures, with chiral additions, reentrant polymorphism 4-20353
 dinucleoside monophosphates, perturbation of C-O stretch freqs. by assoc. in aq. soln., Raman study 4-9776
 ethyl acetate binary liq. mixtures, excess thermodynamics props., US study 4-39400
 glycerine-water mixtures with paramagnetic ions, mol. association 4-2271
 liquid struct., statistical theory 4-34387
 metallic binary solutions, strongly associated, configurational entropies, short range order effects (*French*) 4-39086
 methane in water, site-site correl. functions, Monte Carlo results 4-50168
 methanol-chloroform(acetone)(tetrachloromethane), mixtures, molar excess enthalpies using isothermal dilution calorimeter 4-25055
 methanol-chloroform-acetone(benzene-tetrachloromethane), mixtures, molar excess enthalpies using isothermal dilution calorimeter 4-25055
 molecular liquids, binary liquid mixtures, association, US study 4-50437
 rhodamine dye ionic associates with org. liqs., fluoresc. quenching, elemental analysis methods development 4-52033
 thiopivalic acid, self-association in solns., PMR chem., shift study 4-41199
 Li-Pb solutions, nonideal, N_2 , O_2 and H_2 solubilities, chem. theory 4-45337

associative ionisation

- atom + atom collisions, laser induced chemi-ionisation, semiclassical limit 4-9928
 nonlocal potentials calcs. 4-38306
 $He + He$, Penning- and associative-ionisation, electron spectra 4-33519
 $Ne + Ne$, Penning- and associative-ionisation, electron spectra 4-33519

astatine

- see also nuclei with*
 No entries

astatine compounds

- Be-As dilute alloys, ion implanted, $^{209,210}At$ nuclear orientation 4-34928

ASTERISK spectroscopy *see* Raman spectroscopyasteroid satellites *see* planetary satellites

asteroids

- 3/1 Kirkwood gap, planar-elliptical restricted three-body problem anal. 4-13232
 1982 DB, asteroid with Earth crossing orbit, discovery obs. 4-58402
 1983 RD, ephemeris (1983 November 2 to 1984 January 21) 4-8419
 1983 SA, precise positions and ephemeris 4-8418
 1983 TB, Apollo, ephemeris (1983 November 12 to 1984 January 1) 4-8421
 1983 TB, Apollo asteroid, improved values for precise position (1983 October 12 and 13) 4-17422
 1983 TB, Apollo asteroid, orbital elements and ephemeris (1983 December 12 to 1984 March 1) 4-22342
 1983 TB, Apollo asteroid, precise positions, orbital elements, and ephemeris 4-3947
 1983 TB, fast-moving asteroid, identity of orbital elements with Geminid meteors 4-8417
 1983 TB, fast-moving object, precise and approximate positions (1983 October 11 to 13) 4-3946
 1983 TB, IRAS obs. 4-42523
 1983 TB, precise positions, orbital elements, and ephemeris 4-8420
 1983 VA, Apollo asteroid, precise position, improved orbital elements, and ephemeris 4-22343
 1983 VA, Apollo asteroid, precise positions, orbital elements, and ephemeris 4-17421
 1983 VA, new fast-moving asteroid, approximate and precise positions (1983 November 1 to 3) 4-13233
 1983 VB, fast-moving asteroid, precise positions (1983 November 6 and 8) 4-13235
 1983 VB, new fast-moving asteroidal object, approximate positions (1983 November 6 and 8) 4-13234
 1983 XF, asteroid with cometary orbit, discovery, precise positions, and orbital elements 4-27030
 1983 XF, ephemeris (1984 January 1 to March 21) 4-27031
 1984 AB, asteroid in similar orbit to Mars, ephemeris (1984 January 1 to March 21) 4-31783
 1984 ephemerides of minor planets 4-17652
 409 Aspasia, rotation period and V-light curve 4-42353
 astrometric positions, 1977- to 1982, meas. at Chorzow Observatory 4-8416
 astrometric positions, obs. at ESO La Silla-GPO 4-13230
 astrometric positions for six objects (1981 to 1982) 4-8415
 astrometric reduction of minor planets plates, appl. of PDS astrometry of PSS plates 4-53013
 Ceres, 10 μm polarimetry rel. to thermal inertia and rot. pole orientation 4-53079
 Ceres, surface mineralogy from spectral obs. 4-13237
 classification, numerical taxonomy approach 4-3948
 41 Daphne, shape and pole coords. 4-27027
 423 Diotima, large C-type asteroid, rot. and satellite implications 4-13228
 423 Diotima, rotation period and V-light curve 4-42353
 ephemerides, Bureau des Longitudes 1984 change 4-22304
 45 Eugenia, 85 microns far infrared flux obs. 4-58401
 15 Eunomia, 85 microns far infrared flux obs. 4-58401
 52 Europa, rot. period anal. 4-27028
 1566 Icarus, general relativistic effects on orbital motion 4-8369
 interplanetary dust produced by asteroid collisions 4-3957
 7 Iris, 85 microns far infrared flux obs. 4-58401
 Kirkwood gaps analysis, planar circular restricted three-body problem 4-42355

asteroids continued

- 21 Lutetia, M-type asteroid, photometry, 1981 and 1983, light curves, and rot. period (*Russian*) 4-31785
 21 Lutetia, phase angle effect on lightcurve shape 4-42354
 main belt asteroids, detect. of silicate emission features in 8 to 13 μm spectra 4-53080
 mass determination method using Mars orbit perturbations meas. by Viking lander 4-58387
 Matthew Fontaine Maury's missing star in Sagittarius, asteroid hypothesis 4-27099
 meridian observations from Tokyo Astron. Observatory (1977 to 1979) 4-31778
 Minor Planet Circulars 8183-8214, precise posns., elements, ephemerides, and new nos. 4-22344
 Minor Planet Circulars 8215-8322, precise posns. elements, ephemerides, and new nos. 4-27034
 Minor Planet Circulars 8323-8436, precise posns., elements, ephemerides, new nos. and names 4-27035
 Minor Planet Circulars 8437-8480, precise posns., elements, ephemerides, and new nos. 4-31784
 Minor Planet Circulars 8481-8578, precise positions, elements, ephemerides, new nos. and names 4-42356
 motion near 2:1 commensurability, von Zeipel approach 4-13238
 occultations of catalogue stars in 1984 and 1985, predictions 4-17420
 olivine-rich asteroids, spectrophotometry rel. to meteorite-asteroid connection 4-47565
 orbits, mean anomaly and perihelion length anal. 4-22341
 origin, effects of sweeping Jovian 7:3, 3:2 and 2:1 resonances 4-13229
 2 Pallas, 85 microns far infrared flux obs. 4-58401
 Pallas, IR spectrum rel. to comp. and relation to primitive meteorites 4-53081
 Pallas, occultation of AGC 3+181844, asteroid charact. (*Russian*) 4-53083
 Pallas, size and shape from 1983 May 29 occultation of 1 Vulpeculae 4-47564
 Pallas occultation of 1 Vul, event timings, star components dimensions/luminosity/separation 4-27130
 201 Penelope, photoelectric light curves and rot. period 4-13231
 precise positions of minor planets, meas. at Sydney Observatory (January to October 1982) 4-27033
 radial velocities, meas. and comparison with standard vel. stars 4-3979
 rotation rate depend. on diameter, type and family 4-58400
 rotational periods and photometric obs. 4-27029
 size, relationship with spin freq. 4-27032
 size and shape from stellar occultations 4-47564
 small main belt asteroids, photoelectric light curve survey 4-53082
 SNC meteorites, origin from asteroid belt 4-27048
 source of meteorites, review 4-47572
 space missions 4-31728
 surface optical properties, quantitative anal. 4-36629
 Tautenburg 1982 Schmidt survey results (*German*) 4-53078
 Trojan asteroid, Brown's conjecture for restricted three-body problem 4-42294
 Vesta, occultations of AGK3+19°418 and AGK3+19°410, predicted photometric amplitudes from UVB photometry 4-13236
 Vesta, surface mineralogy from spectral obs. 4-13237

astigmatism *see vision defects*

astroarchaeology

No entries

astrobiology *see extraterrestrial life*astroblemes *see meteorite craters*

astrometry

- 1983 SA, precise positions (1983 September 12) 4-8418
 1983 TB, Apollo asteroid, improved values for precise position (1983 October 12 and 13) 4-17422
 1983 TB, Apollo asteroid, precise positions (1983 October 12 to 16) 4-3947
 1983 TB, fast-moving object, precise and approximate positions (1983 October 11 to 13) 4-3946
 1983 TB, precise positions, 1983 October 12 to 27, orbital elements and ephemeris 4-8420
 1983 VA, Apollo asteroid, precise position, 1983 October 27, orbital elements, and ephemeris 4-22343
 1983 VA, Apollo asteroid, precise positions, 1983 November 11, orbital elements and ephemeris 4-17421
 1983 VA, new fast-moving asteroid, approximate and precise positions (1983 November 1 to 3) 4-13233
 1983 VB, fast-moving asteroid, precise positions (1983 November 6 and 8) 4-13235
 1983 XF, newly-discovered asteroid, precise positions, 1983 November 28 to 1984 January 2, and orbital elements 4-27030
 VY Aquarii, cataclysmic variable, new outburst, visual magnitude estimates, and precise position 4-17519
 asteroids, astrometric positions, 1977 to 1982, meas. at Chorzow Observatory 4-8416
 asteroids, astrometric positions for six objects (1981 to 1982) 4-8415
 asteroids, meridian observations from Tokyo Astron. Observatory (1977 to 1979) 4-31778
 asteroids, positions obs. at ESO La Silla-GPO 4-13230
 atmosphere slant paths refr. computation, comparative accuracy of calc. methods (*Russian*) 4-42165
 α Aurigae (Capella), determ. of true nodal quadrant from photographic speckle obs. 4-47657
 Berkeley 28, open cluster, age, luminosity, radius, reddening and distance (*French*) 4-53235
 AZ Cancri (=LP 425-140), flare star, parallax and absolute magnitude 4-8486
 cataclysmic variables, spectroscopy, positions and finding charts 4-27086
 CCD astrometry, results from KPNO parallax programme 4-3974
 celestial reference system construction, use of quasar separation meas. (*Russian*) 4-13169
 2CG 195+04 ('Geminga') optical counterpart, precise position and BVR photometry 4-27207
 2CG 195+04 (Geminga), precise position of optical counterpart 4-17611
 2CG 195+04 (Geminga), proper motion of optical candidate 4-53309
 Comet Bradfield (1984a), precise position (1984 January 9) 4-31792
 Comet Bradfield (1984a), precise positions, 1984 January 11 to 15, orbital elements and ephemeris 4-31793
 P/Comet Clark (1983w), recovery and precise position (1983 December 15) 4-22353
 P/Comet Crommelin (1983n), precise position, 1983 October 27, orbital elements and ephemeris 4-13254
 P/Comet Crommelin (1983n), precise positions (1984 January 20 to 22) 4-36636
 P/Comet Crommelin (1983n), precise positions and nuclear magnitude (1984 January 1 and 3) 4-31794
 Comet Hartley-IRAS (1983v), precise and approximate positions (1983 November 4 to 23) 4-17462
 Comet Hartley-IRAS (1983v), precise positions (1983 December 5 to 8) 4-22349
 Comet Hartley-IRAS (1983v), precise positions and total magnitude estimates 4-17464
 P/Comet Kowal-Vavrova (1983t), precise positions, 1983 September 28, and improved orbital elements 4-13255
 P/Comet Kowal-Vavrova (1983t), precise positions (1983 May 31) 4-3956
 Comet Meier (1978 XXI), precise positions (1979 April 22 to 30) 4-42362
 Comet Panther (1981 II), precise positions (1981 February 27 to 28) 4-8416
 P/Comet Taylor (1983u), recovery and precise positions (1983 November 3 to 11) 4-13257
 comets, precise positions of six objects (October 1980 to September 1982) 4-8427
 Crab Nebula, precise position of low-freq. compact radio source from occultation obs. (*Russian*) 4-53258
 current state and future development, review (*Russian*) 4-42290
 16 and 61 Cygni, visual binary stars, photographic measures (1977-81) 4-53220
 double and multiple star components for Hipparcos mission, catalogue (*French*) 4-3940
 double stars, accurate equatorial components of known or new components (*French*) 4-13208
 galactic clusters, astrometric determ. of mass segregation and membership probabilities 4-27139
 General Catalogue of Stars with the System of Photoelectric Astrolabes in China, errors anal. (*Chinese*) 4-58393
 geodynamic observatories at Irkutsk/Simeiz/Potsdam, latitude and longitude from astrometric obs. (*German*) 4-12742
 Hermonceaux catalogues of stars for 1950.0, first, second, and third catalogues 4-3942
 HH 7-11, optical detect. and precise position of exciting source (SSV-13) 4-13404
 Hipparcos project report (1983) 4-3901
 International Reference Stars and Hipparcos mission 4-53015
 IRAS 0453-44P03, 20 micron position, IR photometry, and spectrum 4-36748
 Jupiter satellites, positions obs. at ESO La Silla-GPO 4-13230
 LP 630-1, Z 4-58479
 millisecond pulsars, precise positions of optical candidates 4-22417
 Minor Planet Circulars 8183-8214, precise posns. for asteroids and Minor Planet comets 4-22344
 Minor Planet Circulars 8215-8322, precise posns. for asteroids and 20 comets 4-27034
 Minor Planet Circulars 8323-8436, precise posns. for asteroids and 14 comets 4-27035
 Minor Planet Circulars 8437-8480, precise posns. for asteroids and 17 comets 4-31784
 Minor Planet Circulars 8481-8578, precise positions for asteroids and 16 comets 4-42356
 minor planets, precise positions meas. at Sydney Observatory (January to October 1982) 4-27033
 Moon, meridian observations (1963-1977) 4-13216
 Moon, orientation of axes of inertia determ. from Earth-based astrometry (*Russian*) 4-53070
 multiple stars, accurate equatorial components of known or new components (*French*) 4-13208
 NGC 3222, 3227, precise positions of nuclei and of supernova in galaxy (NGC 3227) 4-22410
 NGC 5466, globular cluster, proper motions and membership of stars above horizontal branch 4-13382
 NGC 6910, open cluster, determ. of relative stellar proper motions (*Russian*) 4-42506
 Nova Trianguli 1983, precise position and photographic magnitude (1983 October 8) 4-4016
 PDS astrometry and photometry, appl. to NGS-Palomar Sky Survey plates 4-53013
 photographic astrometry of Galilean satellites, filter technique 4-58388
 photographic stellar astrometry and photometry, effects of grain noise 4-17400
 planets, meridian observations from Tokyo Astron. Observatory (1977 to 1979) 4-31778
 positions for 15 stars 4-58440
 PSR 1953+290, 6.1-ms pulsar, precise positions and magnitudes of optical candidates 4-22416
 PSR 1953+290, binary millisecond pulsar, precise positions of optical candidates 4-22417
 Pulkovo horizontal meridian circle, peculiarities in behaviour of orientation parameters (*Russian*) 4-53046
 R 825, Z 4-58479
 radio sources, extragalactic reference frame objects, catalogue 4-42323
 stars, conversion matrix of FK 4-based positions (epoch 1950.0) to epoch 2000.0 positions 4-26982
 stars, meridian obs. with Carlsberg Automatic Meridian Circle at Brorfelde (1982-3) 4-36592
 stars, Tycho project involving Hipparcos satellite (*Danish*) 4-42291
 stars in Orion Nebula region, proper motion membership anal. 4-13300
 stellar parallaxes and proper motions, results for 30 stars 4-3976
 stellar scintillation, spectrum of star image motions from vertical circle obs. (*Russian*) 4-42164
 stellar trigonometric parallaxes, results from KPNO CCD astrometry 4-3974
 supernova in NGC 1365, BV photometry, 1983 November 27, and precise position 4-17535
 supernova in NGC 3227, photographic magnitude and precise position 4-22410
 supernova in NGC 3227, precise position and photographic magnitude 4-17533
 supernova in NGC 4258, radio discovery and precise radio position 4-22412

astrometry continued

astrometry continued

- supernova in NGC 4419, precise position 4-36694
 technical advances and expected results, review 4-22307
 Tokyo Astronomical Obs., Time and Latitude Bulletins (April to June 1983) 4-31744
 Tokyo Astronomical Obs., Time and Latitude Bulletins (January to March 1983) 4-22305
 Tokyo Astronomical Obs., Time and Latitude Bulletins (July-September 1983) 4-47528
 transit instruments, azimuth absolute determ. from prime vertical/meridian obs. of stars (*Chinese*) 4-8389
 trigonometric parallaxes for southern hemisphere stars 4-3975
 36 Ursae Majoris A, astrometric detect. of unseen companion 4-22438
 V0332+53, X-ray transient, precise position of optical counterpart 4-17556
 variable stars, astrometric meas. by HIPPARCOS, predicted accuracy 4-22381
 visual binaries, photographic measures from Torino Observatory (1976-1982), errors 4-53218
 visual binaries, photographic measures of 62 stars at Torino Observatory 4-53219
 visual binary stars, interferometric obs. (*Russian*) 4-13371
 visual binary stars, micrometer meas. at Lick Observatory 4-58481
 visual binary stars, photographic measures (1977-81) 4-53220
 visual binary stars 4-27123
 W 1082, common proper motion pair with large proper motion, positional obs. 4-58479

astronautics *see space research***astronomical catalogues**

- see also astrometry*
 AGK2 double/multiple stars with BD numbers not in Index Catalogue (*French*) 4-4048
 Ap stars, catalogue of observed periods (*French*) 4-53062
 bipolar and cometary nebulae, photographic and photometric obs. 4-53061
 RS Canum Venaticorum binary star systems, catalogue and database 4-36594
 CCDM, double and multiple star components for Hipparcos mission (*French*) 4-3940
 2 CG catalogue, of galactic gamma-ray sources 4-22483
 2CG catalogue, props. of COS-B gamma-ray sources 4-3943
 disc galaxies, early-type, sensitive H I detection survey 4-31915
 DM catalogues stars, correspondence with LMC nebulae and star clusters 4-53065
 double stars, accurate equatorial components of known or new components (*French*) 4-13208
 dwarf galaxies in Virgo 4-27013
 EIC-1 sources, identification with stars in BD and HD catalogues 4-36747
 EIC-1 unidentified sources, JHK photometry 4-36750
 elliptical galaxies with shells, catalogue 4-13412
 galaxy catalogues, geometrical anal. method 4-17401
 General Catalogue of Stars with the System of Photoelectric Astrolabes in China, errors anal. (*Chinese*) 4-58393
 General Catalogue of Trigonometric Parallaxes and Supplement, variable stars identification 4-8489
 H I diameters for 238 galaxies 4-36591
 Herbig Ae/Be stars with nebulosity, catalogue, wind parameters and luminosities 4-36593
 Herstromceux catalogues of stars for 1950.0, first, second, and third catalogues 4-3942
 Index Catalogue, list of double and multiple star components identified as DM stars (*French*) 4-53064
 Index Catalogue of visual double stars, DM numbers, corrections and additions (*French*) 4-53063
 interferometric binary stars, list of standards 4-22339
 interstellar 220.0 nm band, second catalogue of equivalent widths and statistical anal. 4-13207
 late type stars, chromospheres, Ca II K-line and H α line profiles, atlas 4-42325
 Merged Catalogue of Galaxies in machine-readable form 4-53066
 multiple stars, accurate equatorial components of known or new components (*French*) 4-13208
 planetary nebulae, index and cross-identification 4-13209
 planetary nebulae distances, catalogue 4-42324
 quasistellar and Seyfert objects, second Byurakan spectral sky survey 4-17411
 radio sources, intermediate-strength, from GB/GB2 1400 MHz surveys, VLA obs. and optical identifications 4-17409
 radio sources in northern Milky Way 6-cm patrol, catalogue and obs. of source variability 4-31767
 radiosources, extragalactic reference frame objects, catalogue 4-42323
 Seyfert galaxies and quasistellar objects, second Byurakan spectral sky survey 4-17411
 Shternberg spectrophotometric catalogue, homogeneity, photometry anal. 4-27014
 Shternberg State Astronomical Institute spectrophotometric star catalogue standard stars, effective temps. and surface gravity 4-36679
 SKYMAP, stellar number densities for 0.0 to 9.0 mag. 4-17410
 solar wind high-speed plasma streams (1975-78) 4-17412
 southern galactic WR stars, near-IR spectra catalogue 4-27012
 spectroscopic binaries with orbital elements, lists (*French*) 4-4047
 stars, meridian obs. with Carlsberg Automatic Meridian Circle at Brorfelde (1982-3) 4-36592
 stars at high b, photographic UBVR mags. 4-3941
 UBVR data (1976-82) as supplement to General Catalogue 4-53067
 UV excess galaxies, list V, nature and finding charts 4-42322
 Wolf-Rayet ring nebulae, atlas and types 4-42519
 H II regions in late type galaxy M83 (=NGC 5236) 4-4093
 H II regions in M83, catalogue rel. to star form. 4-13385

astronomical ephemerides

- 1983 RD, ephemeris (1983 November 2 to 1984 January 21) 4-8419
 1983 SA, ephemeris (1983 November 2 to 1984 March 1) 4-8418
 1983 TB, Apollo, ephemeris (1983 November 12 to 1984 January 1) 4-8421
 1983 TB, Apollo asteroid, orbital elements and ephemeris (1983 October 18 to November 3) 4-3947
 1983 TB, Apollo asteroid, orbital elements and ephemeris (1983 December 12 to 1984 March 1) 4-22342

astronomical ephemerides continued

- 1983 TB, orbital elements and ephemeris (1983 October 29 to November 12) 4-8420
 1983 VA, Apollo asteroid, orbital elements and ephemeris (1983 November 20 to December 2) 4-17421
 1983 VA, Apollo asteroid, orbital elements and ephemeris (1983 December 22 to 1984 February 10) 4-22343
 1983 XF, ephemeris (1984 January 1 to March 21) 4-27031
 1984, ephemerides and event calendar for Belgium (*French*) 4-13487
 1984 AB, asteroid in similar orbit to Mars, ephemeris (1984 January 1 to March 21) 4-31783
 1984 British Astronomical Association Handbook 4-30
 1984 ephemerides of minor planets 4-17652
 1984 observer's handbook, RAS Canada 4-31
 artificial satellites, ephemerides calcs. (*Russian*) 4-13167
 asteroidal occultations of catalogue stars in 1984 and 1985, predictions 4-17420
 ZZ Aurigae, eclipsing binary, ephemerides, mass ratio, evolutionary status, visible obs. (*Chinese*) 4-58467
 IU Aurigae, eclipsing binary in triple system, orbit, ephemeris, mass and UVB photometry 4-31866
 BASIC program for calculation of ephemerides (*French*) 4-31763
 Bureau des Longitudes new 1984 ephemerides 4-22304
 Comet Bradfield (1984a), parabolic orbital elements and ephemeris (1984 January 1 to March 1) 4-31793
 Comet Cernis (1983i), ephemeris (1983 December 12 to 1984 February 10) 4-17465
 Comet Cernis (1983i), ephemeris (1984 January 1 to 31) 4-13249
 P/Comet Crommelin (1983n), ephemeris (1983 Dec.-1984 Apr.) 4-42366
 P/Comet Crommelin (1983n), orbital elements and ephemeris (1983 December 12 to 1984 April 10) 4-13254
 P/Comet Encke, revised ephemeris (1984 January 21 to May 30) 4-13250
 P/Comet Halley (1982i), 1985-7 apparition, manual for observations (book) 4-42617
 P/Comet Harrington (1953 VI), secular decel. anal. and ephemerides (1987 to 1988) 4-42361
 Comet Hartley-IRAS (1983v), elliptical orbital elements and ephemeris (1983 December 12 to 1984 January 21) 4-22349
 P/Comet Hartley-IRAS (1983v), ephemeris, (1983 December 27 to 1984 February 5) 4-22348
 Comet Hartley-IRAS (1983v), ephemeris (1984 Jan.-Mar.) 4-42367
 P/Comet Hartley-IRAS (1983v), ephemeris (1984 January 1 to June 9) 4-22354
 P/Comet Hartley-IRAS (1983v), orbital elements and ephemeris (1984 February 10 to April 10) 4-42369
 Comet Hartley-IRAS (1983v), parabolic orbital elements and ephemeris (1983 November 2 to December 22) 4-17462
 P/Comet IRAS (1983j), ephemeris (1984 January 1 to March 1) 4-22351
 Comet IRAS (1983o), ephemeris (1983 December 12 to 1984 April 30) 4-22352
 P/Comet Kowal-Vavrova (1983i), orbital elements and ephemeris (1983 May 6 to November 22) 4-3956
 Comet Shoemaker (1983p), ephemeris (1983 December 12 to 1984 January 21) 4-22350
 P/Comet Taylor (1983u), recovery and ephemeris (1983 November 2 to 1984 April 30) 4-13257
 Earth-Moon system, motion in modern tabular ephemerides 4-42289
 Galilean satellites, 1984 eclipse ephemeris 4-27037
 DQ Herculis (Nova 1934), 71 second oscils. ephemeris 4-17527
 Landsat-4 on-board ephemeris determination utilizing the Global Positioning System 4-22301
 Minor Planet Circulars 8183-8214, ephemerides for two asteroids and one comet 4-22344
 Minor Planet Circulars 8215-8322, ephemerides for 96 asteroids and one comet 4-27034
 Minor Planet Circulars 8323-8436, ephemerides for 81 asteroids and six comets 4-27035
 Minor Planet Circulars 8437-8480, ephemerides for 41 asteroids 4-31784
 Minor Planet Circulars 8481-8578, ephemerides for 89 asteroids and 8 comets 4-42356
 V339 Persei, eclipsing binary, light curve, orbital period and ephemeris 4-47646

astronomical instruments

- see also astronomical observations; astronomical techniques; astronomical telescopes; planetaria; radiotelescopes*
 7.5 m optical telescopes of future, optical systems and auxiliary instrumentation 4-22322
 absolute cavity radiometer, He-cooled, solar and lab. irradiance meas. appls. 4-13045
 automatic developing machine for large photographic plates 4-22328
 automatic photographic plate measuring machine for astronomical meas. 4-53050
 balloon-borne instrument for high-resolution astrophysical spectroscopy in 20-8000 keV range 4-3928
 bolometer, composite, using Au absorbing film, for millimetre astronomy 4-48195
 CCD camera for astrometry, appl. to KPNO parallax programme 4-3974
 CCD instruments, origin and props. of ghost images 4-47540
 CCD X-ray detectors, charge diffusion effects 4-17397
 CORAVEL, photoelectric radial vel. scanner 4-27137
 CORONA, instrument package for obs. of hot interstellar medium 4-58358
 cross-shaped apertures array as band-pass filters for submillimetre wave astronomy 4-24147
 Diffuse IR Background Experiment design for NASA's Cosmic Background Explorer, stray light suppression principle and conceptual appl. 4-58384
 Earth neutron activity, effect on Cl-Ar solar neutrino expt. 4-12914
 Far Ultraviolet Spectroscopic Explorer, stellar spectra mission, description 4-42284
 fibre optic multi-object spectroscopy at Anglo-Australian telescope 4-31762
 fibre optic spectrography for obs. of galaxies, Medusa instrument 4-22327
 filter, universal birefr., for solar obs., precision tuning and improved stability 4-13199
 for PDS microdensitometers 4-22330

astronomical instruments continued

- frequency standards for VLBI, review (*Polish*) 4-53057
 gamma ray detectors 4-4113
 gamma-ray spectrometer aboard solar flare obs. satellite HINOTORI 4-3927
 giant underground detector for neutrino flux estimates from collapsing massive stars 4-17384
 Giotto mission to Halley's comet, dust anal. instruments, calibration/dev. 4-26974
 gravitational wave detector, low-dissipation support 4-32161
 heterodyne spectrometer for astronomical meas. at 10 microns 4-3933
 image orthicon type transmitting TV tubes, particular features of different tubes (*Russian*) 4-42313
 image orthicon type transmitting TV tubes, redistrib. of secondary electrons over target (*Russian*) 4-42312
 imaging escape gated MWPC for hard X-ray astronomy 4-22319
 International Solar Polar Mission, dust expt. 4-31740
 International Solar Polar Mission, Energetic Particle Composition Expt. 4-31734
 International Solar Polar Mission, interstellar neutral-gas expt. 4-31735
 International Solar Polar Mission, mag. field instrumentation and data streams processing 4-31731
 International Solar Polar Mission, solar flare X-rays/cosmic γ -ray burst instrumentation 4-31739
 International Solar Polar Mission, solar wind ion comp. spectrometer 4-31733
 International Solar Polar Mission, solar wind plasma expt. 4-31732
 IR focal plane array low-background meas. 4-13201
 IUE detection system, photometric calibration curve rel. to reality of interstellar absorpt. feature at 280 nm 4-47680
 Kitt Peak CCD camera, computer control system 4-36587
 meeker camera, automatic control system (*Dutch*) 4-47539
 near-millimetre radome window material for astronomical telescope building 4-3926
 multiplex imaging spectrometer for low energy X-ray astronomy 4-27003
 Nagoya University 1.5 m EHF telescope with acousto-optical spectrometers for interstellar CO vel. 4-13194
 Nanjing University solar tower telescope and associated multiple spectrograph (*Chinese*) 4-58383
 neutrino observation programme at Moscow State Univ., 4-36550
 optical detectors for spectroscopy, review 4-36586
 orreries and jovialium of Romer, historical review (*Danish*) 4-13210
 photographic plate measuring machine, GALAXY 4-8398
 photometric processor for electron-analogue transformation of lunar images, appl. to colour mapping of Moon 4-42321
 portable telescope, photometer and data-recording system 4-36585
 Pulkovo horizontal meridian circle, automatic zenith distance setting system (*Russian*) 4-31758
 Pulkovo horizontal meridian circle, peculiarities in behaviour of orientation parameters (*Russian*) 4-53046
 Rapid Alternate Detection System, gated pulse-counting photometric system, capability and procedure 4-17396
 satellite-borne X-ray instrumentation for plasma characts. determ. 4-58356
 scanning CCD photometer, BVRI obs. of colour distrib. in early-type galaxies 4-31914
 solar EUV spectrographs, calibration in space, use of coronal emission lines 4-22333
 solar vector magnetograph, design, operation and obs. (*Japanese*) 4-42307
 space sensor low background IR calibration facility 4-13200
 Space Telescope and other orbiting instruments 4-53047
 Space Telescope High Resolution Spectrograph for UV astronomy, characts. 4-17391
 Space Telescope main ring, precise thermal control test demonstration 4-13193
 spaceborne 8 mm radiometer system for cosmic background radiation meas. (*Russian*) 4-53010
 spacecraft borne instrument for X-ray fluoresc. anal. of Solar System minor bodies 4-53012
 spectrometer, grazing incidence, designs using variable line-space gratings 4-22852
 spectrophotometer using acoustooptic filter under microcomputer programmable control 4-42311
 stellar spectrograph, EUV, using radial groove gratings 4-22886
 stellar spectrography, simulators 4-4182
 stellar spectrophotometer with photon counting, digital control panel 4-36588
 sub-beam prism on Schmidt telescope use for faint objects magnitude calibration 4-22326
 Tenma, Japanese X-ray astronomical satellite, equipment (*Japanese*) 4-3900
 TV-coupled image intensifiers for optical tracking of artificial satellites 4-53048
 Z 4-58386

astronomical observations

- see also gamma-ray astronomical observations; infrared astronomical observations; radioastronomical observations; ultraviolet astronomical observations; visible astronomical observations; X-ray astronomical observations
 Centaurus A (NGC 5128), obs. and models 4-22472
 R Coronae Borealis stars, spectral energy distrib. (*Russian*) 4-42463
 cosmic ray showers from direction of Centaurus A, Adelaide array obs. 4-47507
 cosmic rays, anomalous He component in heliosphere during 1965 and 1972 to 1977 solar minima 4-13159
 P Cygni, B1 Ia⁺ hypergiant, spectral energy distrib. rel. to distance, temp. and luminosity 4-27077
 flat spectrum radioresources 4-58528
 Geminga, negative search for gravitational waves from astronomical gamma-ray source 4-42833
 geodynamic observatories at Irkutsk/Simeiz/Potsdam, latitude and longitude from astrometric obs. (*German*) 4-12742
 interplanetary magnetic field, magnitude disturbance obs. rel. to Venus-comet encounter 4-3898
 Loop I (North Polar Spur), major interstellar feature, review 4-4105
 Mars, Viking Lander I imaging obs. over 3.3 Martian years 4-27026
 Mauna Kea, obs. of atmospheric emission spectrum in 20- μ m window 4-58284

astronomical observations continued

- Mauna Kea Observatory, seeing meas. from IR speckle interferometry 4-22089
 quasar-like galactic nuclei, relation between nonthermal radiation intensity and Balmer lines widths (*Russian*) 4-13436
 R127, S Doradus variable intermediate between Of and WN, photometry and spectrum 4-8476
 solar neutrino flux, periodic vars. rel. to standard model of Sun (*German*) 4-31809
 stellar remnants from recent supernovae, review of obs. 4-42487
 Titan, results from photometric and spectrophotometric obs. (*Russian*) 4-42359
 Venus, lightning geographic distrib. from Pioneer Venus Orbiter obs. 4-47563
 Venus, obs. of upper cloud layer and supracloud haze 4-42333
 Venus, Venera meas. of bow shock and magnetosphere 4-36624
 Venus gravity field, Pioneer Venus Orbiter navigation results 4-53073
 Venus interaction with solar wind, review of obs. 4-36622

astronomical observatories

- Bulgarian National Observatory, site characts. and equipment (*Norwegian*) 4-42306
 Canary Islands, telescope siting 4-31752
 Kitt Peak, water vapour meas. from spectroscopic obs. 4-58243
 La Palma, development of Observatorio del Roque de los Muchachos 4-58382
 La Palma observatory site, Canary Islands, technical and seeing conditions (*Swedish*) 4-13192
 Learmonth Solar Observatory 4-31751
 Mauna Kea, comparison of observing conditions on summit cones and shield volcano 4-36489
 Mills Observatory, Dundee, location, history and instruments 4-3924
 Nobeyama Radio Observatory 4-26994
 Pulkovo Observatory, automatic zenith distance setting system for horizontal meridian circle (*Russian*) 4-31758
 Royal Observatory Edinburgh, research and facilities 4-42619

astronomical spectra

- see also atmospheric spectra; stellar spectra
 248°-5°, new planetary nebula, spectral anal. 4-17579
 250 1156+295, 1981 outburst, obs. anal. and model 4-8592
 0735+178, BL Lac object, variability, multifrequency obs. and calcs. 4-53261
 1038+528 A and B, quasars, spectral-index maps from VLBI study 4-47721
 active galactic nuclei, geometry, gas-cloud kinematics, line profiles 4-36739
 active galactic nuclei, O II and S II forbidden lines, form. and gas parameters 4-17596
 active galactic nuclei, X-ray spectra and interstellar interactions 4-58514
 AO 0235+164, BL Lac object, variable absorpt. lines, self-consistent kinematic model 4-8559
 Arakelian 120, Seyfert 1 galaxy, H β emission line profile 4-31913
 asteroids, detect. of silicate emission features in 8 to 13 μ m spectra of main belt objects 4-53080
 atomic line identification lists, supplement to bibliography 4-32003
 AE Aurigae, runaway star, line of sight CO, UV obs. 4-53166
 automated spectral classification 4-8403
 automatic classification of Haute Provence Observatory objective prism spectra (*French*) 4-8405
 automatic spectral classification as pattern recognition problem (*French*) 4-8406
 Becklin-Neugebauer object, 2-5 μ m spectroscopy 4-17572
 bipolar and cometary nebulae, photographic and photometric obs. 4-53061
 bipolar nebula in bok globule, photometric and spectroscopic obs. 4-22458
 broad emission features in QSOs and active galactic nuclei, Fe II line strengths calcs. 4-31746
 butadiynyl, microwave spectra, transitions, rot. and hyperfine const., astrophysical appl. 4-28432
 4C 21.53, components distances, UHF obs. 4-4103
 4C 26.42, radio galaxy in Abell 1795, discovery of assoc. extended optical line emission 4-47691
 3C 273, interstellar absorpt. lines due to Galaxy halo 4-8541
 3C 273, IR spectra and dust characts. 4-47702
 3C 273, obs. of O I 844.6 nm and Na I 589.3 nm emission lines 4-22479
 3C 66A, BL Lac object, X-ray spectra time var. 4-58518
 Carina Nebula, giant H II region in absorption, interstellar lines 4-53237
 Carina Nebula, H16 α line and 1.4 GHz continuum obs. of extended low density ionised gas 4-53243
 Centaurus A, gamma-ray lines and nucleus massive black hole accretion disc plasma 4-13455
 Ceres, surface mineralogy from spectral obs. 4-13237
 classification, use of binned photometry at Geneva Observatory 4-8404
 P/Comet Grigg-Skjellerup (1982 IV), search for 10-micron silicate feature 4-53099
 Comet IRAS-Araki-Alcock (1983d), discovery of S₂ in UV spectrum 4-13248
 comets, C II lines excitation by photoionisation of C I 4-3919
 comets, CO and CS, expected and observed profiles 4-31798
 comets, H₂O fluoresc. mechanisms and inner coma thermodynamics 4-42363
 comets, IR molecular emission detection possibilities 4-53096
 comets, IR photometry of dust 4-53098
 comets, OH and OD radicals, photodissociation lifetimes 4-13253
 compact sources, spectral and variability constraints 4-8600
 cosmic microwave background, spectrum in Hoyle-Narlikar cosmology 4-22487
 cosmic microwave background spectrum, review 4-31934
 Crab Nebula, gamma-ray spectral index in 5 to 100 MeV energy range (*Russian*) 4-53256
 Crab Nebula, near-IR spectrophotometry of bright filament 4-8547
 cyanoethynyl, microwave spectra, transitions, rot. and hyperfine const., astrophysical appl. 4-28432
 Cygnus Loop, struct. and emission spectrum of nonradiative shock wave 4-31880
 Cygnus X-3, distance from anal. of intervening matter spectra 4-4035
 Cygnus-X region, H16 α recomb. line survey 4-53297

astrometry continued

- supernova in NGC 4419, precise position 4-36694
- technical advances and expected results, review 4-22307
- Tokyo Astronomical Obs., Time and Latitude Bulletins (April to June 1983) 4-31744
- Tokyo Astronomical Obs., Time and Latitude Bulletins (January to March 1983) 4-22305
- Tokyo Astronomical Obs., Time and Latitude Bulletins (July-September 1983) 4-47528
- transit instruments, azimuth absolute determ. from prime vertical/meridian obs. of stars (*Chinese*) 4-8389
- trigonometric parallaxes for southern hemisphere stars 4-3975
- 36 Ursae Majoris A, astrometric detect. of unseen companion 4-22438
- V0332+553, X-ray transient, precise position of optical counterpart 4-17556
- variable stars, astrometric meas. by HIPPARCOS, predicted accuracy 4-22381
- visual binaries, photographic measures from Torino Observatory (1976-1982), errors 4-53218
- visual binaries, photographic measures of 62 stars at Torino Observatory 4-53219
- visual binary stars, interferometric obs. (*Russian*) 4-13371
- visual binary stars, micrometer meas. at Lick Observatory 4-58481
- visual binary stars, photographic measures (1977-81) 4-53220
- visual binary stars 4-27123
- W 1082, common proper motion pair with large proper motion, positional obs. 4-58479

astronautics *see space research***astronomical catalogues***see also astrometry*

- AGK2 double/multiple stars with BD numbers not in Index Catalogue (*French*) 4-4048
- Ap stars, catalogue of observed periods (*French*) 4-53062
- bipolar and cometary nebulae, photographic and photometric obs. 4-53061
- RS Canum Venaticorum binary star systems, catalogue and database 4-36594
- CCDM, double and multiple star components for Hipparcos mission (*French*) 4-3940
- 2 CG catalogue, of galactic gamma-ray sources 4-22483
- 2CG catalogue, props. of COS-B gamma-ray sources 4-3943
- disc galaxies, early-type, sensitive H I detection survey 4-31915
- DM catalogues stars, correspondence with LMC nebulae and star clusters 4-53065
- double stars, accurate equatorial components of known or new components (*French*) 4-13208
- dwarf galaxies in Virgo 4-27013
- EIC-1 sources, identification with stars in BD and HD catalogues 4-36747
- EIC-1 unidentified sources, JHK photometry 4-36750
- elliptical galaxies with shells, catalogue 4-13412
- galaxy catalogues, geometrical anal. method 4-17401
- General Catalogue of Stars with the System of Photoelectric Astrolabes in China, errors anal. (*Chinese*) 4-58393
- General Catalogue of Trigonometric Parallaxes and Supplement, variable stars identification 4-8489
- H I diameters for 238 galaxies 4-36591
- Herbig Ae/Be stars with nebulosity, catalogue, wind parameters and luminosities 4-36593
- Herstmonceux catalogues of stars for 1950.0, first, second, and third catalogues 4-3942
- Index Catalogue, list of double and multiple star components identified as DM stars (*French*) 4-53064
- Index Catalogue of visual double stars, DM numbers, corrections and additions (*French*) 4-53063
- interferometric binary stars, list of standards 4-22339
- interstellar 220.0 nm band, second catalogue of equivalent widths and statistical anal. 4-13207
- late type stars, chromospheres, Ca II K-line and H α line profiles, atlas 4-42325
- Merged Catalogue of Galaxies in machine-readable form 4-53066
- multiple stars, accurate equatorial components of known or new components (*French*) 4-13208
- planetary nebulae, index and cross-identification 4-13209
- planetary nebulae distances, catalogue 4-42324
- quasistellar and Seyfert objects, second Byurakan spectral sky survey 4-17411
- radio sources, intermediate-strength, from GB/GB2 1400 MHz surveys, VLA obs. and optical identifications 4-17409
- radio sources in northern Milky Way 6-cm patrol, catalogue and obs. of source variability 4-31767
- radiosources, extragalactic reference frame objects, catalogue 4-42323
- Seyfert galaxies and quasistellar objects, second Byurakan spectral sky survey 4-17411
- Shternberg spectrophotometric catalogue, homogeneity, photometry anal. 4-27014
- Shternberg State Astronomical Institute spectrophotometric star catalogue standard stars, effective temps. and surface gravity 4-36679
- SKYMAP, stellar number densities for 0.0 to 9.0 mag. 4-17410
- solar wind high-speed plasma streams (1975-78) 4-17412
- southern galactic WR stars, near-IR spectra catalogue 4-27012
- spectroscopic binaries with orbital elements, lists (*French*) 4-4047
- stars, meridian obs. with Carlsberg Automatic Meridian Circle at Brorfelde (1982-3) 4-36592
- stars at high b, photographic UVBv mags. 4-3941
- UBV data (1976-82) as supplement to General Catalogue 4-53067
- UV excess galaxies, list V, nature and finding charts 4-42322
- Wolf-Rayet ring nebulae, atlas and types 4-42519
- H II regions in late type galaxy M83 (=NGC 5236) 4-4093
- H II regions in M83, catalogue rel. to star form. 4-13385

astronomical ephemerides

- 1983 RD, ephemeris (1983 November 2 to 1984 January 21) 4-8419
- 1983 SA, ephemeris (1983 November 2 to 1984 March 1) 4-8418
- 1983 TB, Apollo, ephemeris (1983 November 12 to 1984 January 1) 4-8421
- 1983 TB, Apollo asteroid, orbital elements and ephemeris (1983 October 18 to November 3) 4-3947
- 1983 TB, Apollo asteroid, orbital elements and ephemeris (1983 December 12 to 1984 March 1) 4-22342

astronomical ephemerides continued

- 1983 TB, orbital elements and ephemeris (1983 October 29 to November 12) 4-8420
- 1983 VA, Apollo asteroid, orbital elements and ephemeris (1983 November 20 to December 2) 4-17421
- 1983 VA, Apollo asteroid, orbital elements and ephemeris (1983 December 22 to 1984 February 10) 4-22343
- 1983 XF, ephemeris (1984 January 1 to March 21) 4-27031
- 1984, ephemerides and event calendar for Belgium (*French*) 4-13487
- 1984 AB, asteroid in similar orbit to Mars, ephemeris (1984 January 1 to March 21) 4-31783
- 1984 British Astronomical Association Handbook 4-30
- 1984 ephemerides of minor planets 4-17652
- 1984 observer's handbook, RAS Canada 4-31
- artificial satellites, ephemerides calcs. (*Russian*) 4-13167
- asteroidal occultations of catalogue stars in 1984 and 1985, predictions 4-17420
- ZZ Aurigae, eclipsing binary, ephemerides, mass ratio, evolutionary status, visible obs. (*Chinese*) 4-58467
- IU Aurigae, eclipsing binary in triple system, orbit. ephemeris, mass and UVB photometry 4-31866
- BASIC program for calculation of ephemerides (*French*) 4-31763
- Bureau des Longitudes new 1984 ephemerides 4-22304
- Comet Bradfield (1984a), parabolic orbital elements and ephemeris (1984 January 1 to March 1) 4-31793
- Comet Cernis (1983j), ephemeris (1983 December 12 to 1984 February 10) 4-17465
- Comet Cernis (1983j), ephemeris (1984 January 1 to 31) 4-13249
- P/Comet Crommelin (1983n), ephemeris (1983 Dec.-1984 Apr.) 4-42366
- P/Comet Crommelin (1983n), orbital elements and ephemeris (1983 December 12 to 1984 April 10) 4-13254
- P/Comet Encke, revised ephemeris (1984 January 21 to May 30) 4-13250
- P/Comet Halley (1982i), 1985-7 apparition, manual for observations (book) 4-42617
- P/Comet Harrington (1953 VI), secular decel. anal. and ephemerides (1987 to 1988) 4-42361
- Comet Hartley-IRAS (1983v), elliptical orbital elements and ephemeris (1983 December 12 to 1984 January 21) 4-22349
- P/Comet Hartley-IRAS (1983v), ephemeris, (1983 December 27 to 1984 February 5) 4-22348
- Comet Hartley-IRAS (1983v), ephemeris (1984 Jan.-Mar.) 4-42367
- P/Comet Hartley-IRAS (1983v), ephemeris (1984 January 1 to June 9) 4-22354
- P/Comet Hartley-IRAS (1983v), orbital elements and ephemeris (1984 February 10 to April 10) 4-42369
- Comet Hartley-IRAS (1983v), parabolic orbital elements and ephemeris (1983 November 2 to December 22) 4-17462
- P/Comet IRAS (1983j), ephemeris (1984 January 1 to March 1) 4-22351
- Comet IRAS (1983o), ephemeris (1983 December 12 to 1984 April 30) 4-22352
- P/Comet Kowal-Vavrova (1983t), orbital elements and ephemeris (1983 May 6 to November 22) 4-3956
- Comet Shoemaker (1983p), ephemeris (1983 December 12 to 1984 January 21) 4-22350
- P/Comet Taylor (1983u), recovery and ephemeris (1983 November 2 to 1984 April 30) 4-13257
- Earth-Moon system, motion in modern tabular ephemerides 4-42289
- Galilean satellites, 1984 eclipse ephemeris 4-27037
- DQ Herculis (Nova 1934), 71 second oscils. ephemeris 4-17527
- Landsat-4 on-board ephemeris determination utilizing the Global Positioning System 4-22301
- Minor Planet Circulars 8183-8214, ephemerides for two asteroids and one comet 4-22344
- Minor Planet Circulars 8215-8322, ephemerides for 96 asteroids and one comet 4-27034
- Minor Planet Circulars 8323-8436, ephemerides for 81 asteroids and six comets 4-27035
- Minor Planet Circulars 8437-8480, ephemerides for 41 asteroids 4-31784
- Minor Planet Circulars 8481-8578, ephemerides for 89 asteroids and 8 comets 4-42356
- V339 Persei, eclipsing binary, light curve, orbital period and ephemeris 4-47646

astronomical instruments

- see also astronomical observations; astronomical techniques; astronomical telescopes; planetaria; radiotelescopes*
- 7.5 m optical telescopes of future, optical systems and auxiliary instrumentation 4-22322
- absolute cavity radiometer, He-cooled, solar and lab. irradiance meas. appls. 4-13045
- automatic developing machine for large photographic plates 4-22328
- automatic photographic plate measuring machine for astronomical meas. 4-53050
- balloon-borne instrument for high-resolution astrophysical spectroscopy in 20-8000 keV range 4-3928
- bolometer, composite, using Au absorbing film, for millimetre astronomy 4-48195
- CCD camera for astrometry, appl. to KPNO parallax programme 4-3974
- CCD instruments, origin and props. of ghost images 4-47540
- CCD X-ray detectors, charge diffusion effects 4-17397
- CORAVEL, photoelectric radial vel. scanner 4-27137
- CORONA, instrument package for obs. of hot interstellar medium 4-58358
- cross-shaped apertures array as band-pass filters for submillimetre wave astronomy 4-24147
- Diffuse IR Background Experiment design for NASA's Cosmic Background Explorer, stray light suppression principle and conceptual appl. 4-58384
- Earth neutron activity, effect on Cl-Ar solar neutrino expt. 4-12914
- Far Ultraviolet Spectroscopic Explorer, stellar spectra mission, description 4-42284
- fibre optic multi-object spectroscopy at Anglo-Australian telescope 4-31762
- fibre optic spectrography for obs. of galaxies, Medusa instrument 4-22327
- filter, universal birefr., for solar obs., precision tuning and improved stability 4-13199
- for PDS microdensitometers 4-22330

astronomical instruments continued

- frequency standards for VLBI, review (*Polish*) 4-53057
 gamma ray detectors 4-4113
 gamma-ray spectrometer aboard solar flare obs. satellite HINOTORI 4-3927
 giant underground detector for neutrino flux estimates from collapsing massive stars 4-17384
 Giotto mission to Halley's comet, dust anal. instruments, calibration/dev. 4-26974
 gravitational wave detector, low-dissipation support 4-32161
 heterodyne spectrometer for astronomical meas. at 10 microns 4-3933
 image orthon type transmitting TV tubes, particular features of different tubes (*Russian*) 4-42313
 image orthon type transmitting TV tubes, redistrib. of secondary electrons over target (*Russian*) 4-42312
 imaging escape gated MWPC for hard X-ray astronomy 4-22319
 International Solar Polar Mission, dust expt. 4-31740
 International Solar Polar Mission, Energetic Particle Composition Expt. 4-31734
 International Solar Polar Mission, interstellar neutral-gas expt. 4-31735
 International Solar Polar Mission, mag. field instrumentation and data streams processing 4-31731
 International Solar Polar Mission, solar flare X-rays/cosmic γ -ray burst instrumentation 4-31739
 International Solar Polar Mission, solar wind ion comp. spectrometer 4-31733
 International Solar Polar Mission, solar wind plasma expt. 4-31732
 IR focal plane array low-background meas. 4-13201
 IUE detection system, photometric calibration curve rel. to reality of interstellar absorpt. feature at 280 nm 4-47680
 Kitt Peak CCD camera, computer control system 4-36587
 meteor camera, automatic control system (*Dutch*) 4-47559
 near-millimetre radome window material for astronomical telescope building 4-3926
 multiplex imaging spectrometer for low energy X-ray astronomy 4-27003
 Nagoya University 1.5 m EHF telescope with acousto-optical spectrometers for interstellar CO vel. 4-13194
 Nanjing University solar tower telescope and associated multiple spectrograph (*Chinese*) 4-58383
 neutrino observation programme at Moscow State Univ., 4-36550
 optical detectors for spectroscopy, review 4-36586
 orreries and jovialium of Romer, historical review (*Danish*) 4-13210
 photographic plate measuring machine, GALAXY 4-8398
 photometric processor for electron-analogue transformation of lunar images, appl. to colour mapping of Moon 4-42321
 portable telescope, photometer and data-recording system 4-36585
 Pulkovo horizontal meridian circle, automatic zenith distance setting system (*Russian*) 4-31758
 Pulkovo horizontal meridian circle, peculiarities in behaviour of orientation parameters (*Russian*) 4-53046
 Rapid Alternate Detection System, gated pulse-counting photometric system, capability and procedure 4-17396
 satellite-borne X-ray instrumentation for plasma characts. determ. 4-58356
 scanning CCD photometer, BVRI obs. of colour distrib. in early-type galaxies 4-31914
 solar EUV spectrographs, calibration in space, use of coronal emission lines 4-22333
 solar vector magnetograph, design, operation and obs. (*Japanese*) 4-42307
 space sensor low background IR calibration facility 4-13200
 Space Telescope and other orbiting instruments 4-53047
 Space Telescope High Resolution Spectrograph for UV astronomy, characts. 4-17391
 Space Telescope main ring, precise thermal control test demonstration 4-13193
 spaceborne 8 mm radiometer system for cosmic background radiation meas. (*Russian*) 4-53010
 spacecraft borne instrument for X-ray fluoresc. anal. of Solar System minor bodies 4-53012
 spectrometer, grazing incidence, designs using variable line-space gratings 4-22852
 spectrophotometer using acoustooptic filter-under microcomputer programmable control 4-42311
 stellar spectrograph, EUV, using radial groove gratings 4-22886
 stellar spectrograph, simulators 4-4182
 stellar spectrophotometer with photon counting, digital control panel 4-36588
 sub-beam prism on Schmidt telescope use for faint objects magnitude calibration 4-22326
 Tenma, Japanese X-ray astronomical satellite, equipment (*Japanese*) 4-3900
 TV-coupled image intensifiers for optical tracking of artificial satellites 4-53048
 Z 4-58386

astronomical observations

- see also gamma-ray astronomical observations; infrared astronomical observations; radioastronomical observations; ultraviolet astronomical observations; visible astronomical observations; X-ray astronomical observations
 Centaurus A (NGC 5128), obs. and models 4-22472
 R Coronae Borealis stars, spectral energy distrib. (*Russian*) 4-42463
 cosmic ray showers from direction of Centaurus A, Adelaide array obs. 4-47507
 cosmic rays, anomalous He component in heliosphere during 1965 and 1972 to 1977 solar minima 4-13159
 P Cygni, B1 Ia⁺ hypergiant, spectral energy distrib. rel. to distance, temp. and luminosity 4-27077
 flat spectrum radio sources 4-58528
 Geminga, negative search for gravitational waves from astronomical gamma-ray source 4-42833
 geodynamic observatories at Irkutsk/Simeiz/Potsdam, latitude and longitude from astronomic obs. (*German*) 4-12742
 interplanetary magnetic field, magnitude disturbance obs. rel. to Venus-comet encounter 4-3898
 Loop I (North Polar Spur), major interstellar feature, review 4-4105
 Mars, Viking Lander 1 imaging obs. over 3.3 Martian years 4-27026
 Mauna Kea, obs. of atmospheric emission spectrum in 20- μ m window 4-58284

astronomical observations continued

- Mauna Kea Observatory, seeing meas. from IR speckle interferometry 4-22089
 quasar-like galactic nuclei, relation between nonthermal radiation intensity and Balmer lines widths (*Russian*) 4-13436
 R127, S Doradus variable intermediate between Of and WN, photometry and spectrum 4-8476
 solar neutrino flux, periodic vars. rel. to standard model of Sun (*German*) 4-31809
 stellar remnants from recent supernovae, review of obs. 4-42487
 Titan, results from photometric and spectrophotometric obs. (*Russian*) 4-42359
 Venus, lightning geographic distrib. from Pioneer Venus Orbiter obs. 4-47563
 Venus, obs. of upper cloud layer and supracloud haze 4-42333
 Venus, Venera meas. of bow shock and magnetosphere 4-36624
 Venus gravity field, Pioneer Venus Orbiter navigation results 4-53073
 Venus interaction with solar wind, review of obs. 4-36622

astronomical observatories

- Bulgarian National Observatory, site characts. and equipment (*Norwegian*) 4-42306
 Canary Islands, telescope siting 4-31752
 Kitt Peak, water vapour meas. from spectroscopic obs. 4-58243
 La Palma, development of Observatorio del Roque de los Muchachos 4-58382
 La Palma observatory site, Canary Islands, technical and seeing conditions (*Swedish*) 4-13192
 Learmonth Solar Observatory 4-31751
 Mauna Kea, comparison of observing conditions on summit cones and shield volcano 4-36489
 Mills Observatory, Dundee, location, history and instruments 4-3924
 Nobeyama Radio Observatory 4-26994
 Pulkovo Observatory, automatic zenith distance setting system for horizontal meridian circle (*Russian*) 4-31758
 Royal Observatory Edinburgh, research and facilities 4-42619

astronomical spectra

- see also atmospheric spectra; stellar spectra
 248°-5° new planetary nebula, spectral anal. 4-17579
 250 1156+295, 1981 outburst, obs. anal. and model 4-8592
 0735+178, BL Lac object, variability, multifrequency obs. and calcs. 4-53261
 1038+528 A and B, quasars, spectral-index maps from VLBI study 4-47721
 active galactic nuclei, geometry, gas-cloud kinematics, line profiles 4-36739
 active galactic nuclei, O II and S II forbidden lines, form. and gas parameters 4-17596
 active galactic nuclei, X-ray spectra and interstellar interactions 4-58514
 AO 0235+164, BL Lac object, variable absorpt. lines, self-consistent kinematic model 4-8559
 Arakelian 120, Seyfert 1 galaxy, H β emission line profile 4-31913
 asteroids, detect. of silicate emission features in 8 to 13 μ m spectra of main belt objects 4-53080
 atomic line identification lists, supplement to bibliography 4-32003
 AE Aurigae, runaway star, line of sight CO, UV obs. 4-53166
 automated spectral classification 4-8403
 automatic classification of Haute Provence Observatory objective prism spectra (*French*) 4-8405
 automatic spectral classification as pattern recognition problem (*French*) 4-8406
 Becklin-Neugebauer object, 2-5 μ m spectroscopy 4-17572
 bipolar and cometary nebulae, photographic and photometric obs. 4-53061
 bipolar nebula in Bok globule, photometric and spectroscopic obs. 4-22458
 broad emission features in QSOs and active galactic nuclei, Fe II line strengths calcs. 4-31746
 butadiynyl, microwave spectra, transitions, rot. and hyperfine const., astrophysical appl. 4-28432
 4C 21.53, components distances, UHF obs. 4-4103
 4C 26.42, radio galaxy in Abell 1795, discovery of assoc. extended optical line emission 4-47691
 3C 273, interstellar absorpt. lines due to Galaxy halo 4-8541
 3C 273, IR spectra and dust characts. 4-47702
 3C 273, obs. of O I 844.6 nm and Na I 589.3 nm emission lines 4-22479
 3C 66A, BL Lac object, X-ray spectra time var. 4-58518
 Carina Nebula, giant H II region in absorption, interstellar lines 4-53237
 Carina Nebula, H16 α line and 1.4 GHz continuum obs. of extended low density ionised gas 4-53243
 Centaurus A, gamma-ray lines and nucleus massive black hole accretion disc plasma 4-13455
 Ceres, surface mineralogy from spectral obs. 4-13237
 classification, use of binned photometry at Geneva Observatory 4-8404
 P/Comet Grigg-Skjellerup (1982 IV), search for 10-micron silicate feature 4-53099
 Comet IRAS-Araki-Alcock (1983d), discovery of S₂ in UV spectrum 4-13248
 comets, C II lines excitation by photoionisation of C I 4-3919
 comets, CO and CS, expected and observed profiles 4-31798
 comets, H₂O fluoresc. mechanisms and inner coma thermodynamics 4-42363
 comets, IR molecular emission detection possibilities 4-53096
 comets, IR photometry of dust 4-53098
 comets, OH and OD radicals, photodissociation lifetimes 4-13253
 compact sources, spectral and variability constraints 4-8600
 cosmic microwave background, spectrum in Hoyle-Narlikar cosmology 4-22487
 cosmic microwave background spectrum, review 4-31934
 Crab Nebula, gamma-ray spectral index in 5 to 100 MeV energy range (*Russian*) 4-53256
 Crab Nebula, near-IR spectrophotometry of bright filament 4-8547
 cyanoethynyl, microwave spectra, transitions, rot. and hyperfine const., astrophysical appl. 4-28432
 Cygnus Loop, struct. and emission spectrum of nonradiative shock wave 4-31880
 Cygnus X-3, distance from anal. of intervening matter spectra 4-4035
 Cygnus-X region, H16 α recomb. line survey 4-53297

astronomical spectra continued

- DA 240, optical jet identification as foreground spiral galaxy, optical/SHF/UHF obs. 4-13420
dense molecular clouds, use of methyl acetylene as temp. probe 4-47541
diatomic molecules, conversion formulae between radiative lifetimes and other dynamical variables 4-26989
diatomic molecules electronic transitions, Franck-Condon factors, r-centroids and assoc. quantities 4-33451
dwarf galaxies near NGC 1023, star form. bursts and interstellar content 4-47704
Egg Nebula (AFGL 2688), supergiant extended circumstellar shell, C I obs. 4-3982
electron impact polarisation, anal. for Stokes parameter Q 4-3918
elliptical galaxies, multivariate anal. 4-31923
flat radio spectrum quasars, complete samples, spectrophotometry and cosmological implications 4-53299
flat spectrum radio sources, identification and nature 4-8590
formyl ion (HCO^+), first obs. of J=4-3 transition 4-27159
galactic centre, far IR O I and III spectra 4-53268
galactic radio continuum radiation from Cassiopeia-Perseus region, obs. of extended steep spectrum feature 4-27209
galaxies, 21-cm vels. and calibration of Las Campanas redshift survey 4-31912
galaxies, E and S0-type, radial vels. from optical obs. 4-53270
isolated galaxies, H I 21 cm redshift distrib. 4-31903
galaxies, IR 21 cm linewidth-absolute magnitude relation and Hubble constant 4-42572
galaxies, luminosity-H I width relation rel. to global value of Hubble constant 4-31901
galaxies, O abundance in low surface brightness objects 4-8576
nearby galaxies, spectral indices from radio continuum survey at 0.4, 0.8, 4.8 and 10.7 GHz 4-31916
galaxies active nuclei, reddening corrections and intrinsic Balmer decrement of narrow-line regions 4-53273
galaxies with giant H II region nuclei, extinction, dust emission and IR spectra 4-47701
Galaxy centre, gamma ray continuum and 511 keV line mechanism 4-27185
gamma ray sources, line obs. 4-4118
H 1011+091, broad absorpt.-line QSO, spectral obs. 4-17613
H II regions, compact, NH_3 non-metastable lines, SHF obs. 4-13397
Herbig-Haro objects, UV and visible data anal. 4-47682
high-resolution spectroscopy of galaxies and QSOs, optical and UV results 4-22336
Hyperion, near-IR spectrophotometry and compositional implication 4-53087
IC 2082 galaxy cluster, appl. of fibre optic 4-31762
IC 5063, radiogalaxy, rot. curve and extended ionised nebulosity spatial struct. 4-13427
intergalactic H_2 towards quasars (*Chinese*) 4-58503
interstellar 220.0 nm band, second catalogue of equivalent widths and statistical anal. 4-13207
interstellar absorption feature at 280 nm attributed to proteins, reality disputed 4-47680
interstellar absorption lines, effects of ionisation by hot white dwarfs 4-27148
interstellar acetaldehyde, microwave A-state transitions obs. in radio source (Sagittarius B2) 4-13403
interstellar Ca and Na depletion, density depend., UV and visible obs. 4-31890
interstellar diffuse bands, vibronic origin 4-4065
interstellar diffuse clouds, C-bearing diatomic mol., abundances 4-4071
interstellar dust, implications of amorphous C 3.4 micron absorpt. band 4-8555
interstellar extinction curve, rel. of coliform bacteria 4-4066
interstellar formaldehyde towards compact H II regions, densities and isotope ratios 4-13401
interstellar ice grains in interstellar space, rel. to astron. spectra 4-31888
interstellar lines, ions origin (*Russian*) 4-53255
interstellar lines in spectra of extragalactic sources, IUE obs. of Markarian 509, Arakelian 120 and (3C 273) 4-47669
interstellar methylidyne (CH) in diffuse clouds, optical obs. 4-42511
interstellar molecular clouds, dust grains IR spectrum rel. to gas temp. 4-42509
interstellar molecules, 2-mm radio searches 4-4067
interstellar molecules, ab initio calcs. for protonated ions with second-row atoms 4-47677
interstellar NH_3 in region between Orion MC-1 and MC-2, spectra of NH_3 clumps 4-27143
interstellar OH, 18-cm absorpt. line obs. rel. to O isotopic abundance ratios 4-27145
interstellar OH, rot. excited, emission and absorpt. towards H II regions 4-42517
interstellar radiofrequency absorption lines, linear polarisation and mag. field direction 4-13394
interstellar UV extinction, effects of shock processing of dust grains 4-31882
intracluster gas, characts. and X-ray emission 4-58522
Io torus, S III $^3\text{S}_{2-}^3\text{P}_{21}$ transition identification 4-17423
IR compact protostellar sources, 4.6 μm absorption feature identification 4-53238
IR sources, 3-4 μm spectra and identification of interstellar organic features 4-47674
IRAS 0453+44P03, IR photometry and spectrum obs. 4-36748
irregular galaxies, anomalous emission regions, line ratios 4-53281
jets from young stars, discoveries and spectra 4-13312
Jovian planets, diode laser and Fourier transform spectra of ethane 4-5216
Jupiter, evidence for disequilib. of ortho and para H_2 from Voyager IRIS meas. 4-22345
Jupiter, methane and NH_3 bands, longitudinal var. 4-13242
Jupiter, optical props. of NH_3 ice from far IR to near UV 4-51215
Jupiter, Voyager FIR spectra, unidentified features 4-13239
K648, planetary nebula in globular cluster M15, IUE and optical obs. 4-58493
Kleinmann Low Nebula, spectra and abundances 4-42555
Kleinmann-Low Nebula, 3 mm region, unidentified lines identification possibilities 4-27142
BL Lacertae objects (polarised QSOs), spectral energy distrib. from 0.35 to 3.5 micron photometry 4-22474
line core-saturation method with partial redistribution 4-53031

astronomical spectra continued

- line formation in compact X-ray sources, gas flows nature 4-58377
line profile coefficient for stimulated emission 4-8381
LMC giant interstellar shells, H I profiles, UHF obs. 4-42520
M16, H II region-mol. cloud, interaction with HD 168183 wind-driven shock 4-47679
M17 SW, emission nebula, ionisation stratification models and obs. 4-13393
M1-2 (=VV 8), probable young planetary nebula, UV spectrum obs. 4-31879
M31, high resolution H I line survey 4-42546
M33 globular clusters, age/metallicities, spectrophotometry 4-13377
M3A, radio source in M3, radio spectrum rel. to identification as extragalactic object 4-27195
M42 Herbig-Haro objects, discovery and high vel. mol. flow obs. 4-53249
M82, redshift and space distrib. of CO J=2-1 emission 4-27176
M83, IUE spectra rel. to starburst in nucleus 4-13432
Markarian 1239, 1298, Seyfert galaxies, spectroscopic obs. and redshifts 4-53274
Markarian 303 and 313, spectral and morphological characts. 4-42527
Markarian 421, BL Lac object, UV spectra var. 4-53262
Markarian 509, Seyfert 1 galaxy, obs. of ionised gas outflow 4-13414
Markarian galaxies, spectral anal. 4-42526
maser lines formation in disc shells with axisymmetric motion 4-36582
methanol rotational transitions from OMC-1 at 242 GHz 4-27162
methylcyanoacetylene in TMC-1, detect., hyperfine struct. and column density 4-47676
methylene, rot. transition freq. and line strengths (8-4384 microns) 4-43871
methylidyne, interstellar excitation 4-42302
MG 2016+112, new gravit. lens system optical emission line redshift 4-47720
molecular cloud dense cores, submillimetre CO rot. lines 4-47675
molecular cloud IR sources, absorpt. of dust grain origin, IR obs. 4-17581
molecular clouds H_2O heating, line transfer and thermal balance in warm dusty medium 4-13395
molecular clouds in galactic centre, survey, OH UHF obs. 4-27190
molecular clouds showing NH_3 emission, CO J=2-1 line obs. 4-27160
molecules, EHF and THF laboratory spectra 4-26993
multielectron atoms models, atomic spectroscopy (*Polish*) 4-53041
multiple scattering and phase var. of equivalent widths for various phase functions 4-22308
N49, supernova remnant in LMC, kinematics and struct. from spectroscopic obs. 4-31878
N63A, supernova remnant and assoc. H II regions in LMC, kinematics and struct. from spectroscopic obs. 4-31877
Nagoya University 1.5 m EHF telescope with acousto-optical spectrometers for interstellar CO vel. 4-13194
NGC 1052, elliptical galaxy, spectra anal. and nucleus photoionisation models 4-42543
NGC 1068, Seyfert 2 galaxy, decomposition of emission-like profiles in active nucleus 4-31905
NGC 1068, Seyfert 2 galaxy, obs. of highly ionised nebulosity 4-42531
NGC 1218 (3C 78), S0 galaxy, spectrum of radio jet and radio source core 4-58506
NGC 1275, emission-line vels. rel. to collision between galaxy and accretion flow 4-27175
NGC 1275, Seyfert galaxy, nucleus emission lines var. on scale of a day 4-42528
NGC 1569, irregular galaxy, CO emission, star form. and centre region characts. 4-53264
NGC 2024, mol. cloud, radio-recomb. line intensities and electron parameters 4-8553
NGC 2814.m irregular galaxy spectrophotometric investigation of condensation 4-17587
NGC 2903, vel. field of ionized gas in spiral galaxy 4-22465
NGC 4151, Seyfert galaxy, spectrum obs. rel. to interstellar gas in nucleus 4-17586
NGC 4151, Seyfert galaxy, variability of strong UV emission lines (February 1978 to May 1980) 4-22468
in NGC 4214 and 4670, blue galaxies, star form. props., UV/visible obs. anal. 4-8560
NGC 4449, irregular galaxy, ionised gas motion and comp. 4-42539
NGC 4593, Seyfert 1 galaxy, far UV spectra var. 4-58517
NGC 4696 in Centaurus cluster, accreting intracluster gas, UV and visible obs. 4-58524
NGC 5128, nucleus IR var. and overall spectrum 4-42541
NGC 5128, radiogalaxy, globular cluster system characts. 4-53267
NGC 5189, planetary nebula, emission line profiles rel. to kinematic struct. of condensations 4-22460
NGC 604, giant extragalactic H II complex, internal kinematics 4-42510
NGC 6221, barred spiral galaxy, gas dynamics 4-47700
NGC 628 (M74), face-on spiral galaxy, H I line profile and radial vel. field 4-58501
NGC 628 (M74), spiral galaxy, determ. of radial gradient of O/H ratio 4-47707
NGC 6677, UV-excess galaxy, and compact, companion, spectrophotometric and morphological study (*Russian*) 4-31928
NGC 7026, bipolar planetary nebula, high resolution spectra 4-42516
NGC 7027, planetary nebula, detect. of Ni II and additional dust features from 5.2 to 7.5 μm obs. 4-13389
NGC 7469, Seyfert 1 galaxy, UV spectra anal. 4-53278
NGC 7635 (Bubble Nebula), spectroscopic obs. of inhomogeneities 4-13387
NGC 7662, planetary nebula, electron temp. determ. from O IV lines 4-13386
North Polar Spur, X-ray anal. and plasma temp. and abundances 4-58499
OH 471, spectral obs. of quasar in 350-850 nm region 4-31932
OJ 287, BL Lac object, quasi-simultaneous UV/visible obs. during 1983 active period 4-13426
olivine-rich asteroids, spectrophotometry rel. to meteorite-asteroid connection 4-47565
OQ 172, quasar, optical spectrum obs. (*Russian*) 4-53308
Orion A, mol. cloud, radio-recomb. line intensities and electron parameters 4-8553
Orion molecular cloud, methyl cyanide and cyanoacetylene detect., EHF obs. 4-8543
Orion Molecular Cloud 1 ridge, sources IR obs. and nature 4-22456

astronomical spectra continued

- outer planets spectra, HD vibr. bands laboratory anal. 4-9783
 Pallas, IR spectrum rel. to comp. and relation to primitive meteorites 4-53081
 parabolic nebula around OB⁻ star LSS 3027, interference filter photographs 4-36730
 Parsamian 13, cometary nebula with T Tau star, grain nature, IR/visible obs. 4-4060
 PKS 0237-233, QSO, chance coincidences and alleged CO absorpt. line systems (*Russian*) 4-47719
 PKS 0400-181, nearby spiral galaxy obs. 4-8591
 PKS 0521-36, BL Lac object, UV spectra var. 4-53262
 PKS 0548-322, BL Lac object, X-ray spectra time var. 4-58518
 PKS 2251+113, UV spectrum and broad line region in QSO 4-22478
 planetary atmospheres, high-resolution IR spectroscopy 4-22335
 southern planetary nebulae, H₂ distrib. and spectra 4-36727
 planetary nebulae, misclassified and misidentified, spectroscopic obs. 4-22462
 planetary nebulae, models of evolutionary sequences 4-27151
 planetary nebulae, Ne V abundances and electron densities, IR lines anal. 4-53252
 planetary nebulae in LMC, spectroscopy rel. to plasma diagnostics and abundances 4-4059
 major planets, high-resolution obs. of methane 6815 Å band 4-53084
 major planets, interpretation of 6818.9 Å methane feature on Jupiter, Saturn and Uranus 4-53085
 planets, surface characts. and frost grains 4-27021
 propane IR absorpt. band intensities and band model param., astron. appl. 4-43877
 protoplanetary nebulae, ground-based IR spectrophotometry 4-13450
 protostellar clouds, predicted submillimetre-wave spectra 4-47598
 QSO 1216+158, in Virgo cluster field, identification, redshift and spectral/photometric characts. 4-13454
 QSO 2300-189, underlying galaxy nature and jet precession due to comparison interaction 4-47722
 QSO candidates with UV excesses, spectroscopic nature and redshifts 4-8595
 QSOs, broad-band X-ray spectra 4-53302
 QSOs, distrib. of gaps in emission line redshifts 4-4107
 QSOs, origin of continuum and line spectra 4-36746
 QSOs, redshift distribution, effects of emission line identification 4-36745
 QSOs producing X-ray background, optical emission characts. 4-53301
 quasar H I Lyman α - β clouds producing absorption, O abundance 4-4106
 quasar-like galactic nuclei, relation between nonthermal radiation intensity and Balmer lines widths (*Russian*) 4-13436
 quasars, broad-line region, emitting gas anal. 4-47723
 quasars, Fe II emission anal., model for interstellar plasma 4-53306
 quasars, forbidden line emission within broad-line kinematic models 4-8594
 quasars, gas cloud kinematics, geometry and line profiles 4-36739
 quasars, low freq. radio recomb. lines, obs. prospects 4-13448
 quasars, luminosity indicators rel. to determ. of cosmological deceleration parameter 4-4128
 quasars, radio recombination lines, excited levels in hydrogenic ions in nonthermal radiation 4-27199
 quasars, relative intensities of H I lines from collisional excitation model 4-17606
 quasars, signatures of intervening metagalactic-medium shock waves 4-36744
 quasars, X-ray spectral properties correl. with Fe II optical emission 4-58532
 quasars and radio galaxies, emission line widths as luminosity criterion 4-58531
 quasars of low redshift with absorpt. systems, UV/visible obs. 4-17608
 quaser spectroscopy, implications for constancy of constants 4-22480
 quasistellar and Seyfert objects, second Byurakan spectral sky survey 4-17411
 quasistellar objects, broadband spectral evolution of radio polarisation rotators 4-17603
 radio elliptical galaxies, gravit. well and internal gas obs. 4-53287
 radio recombination lines from extragalactic objects, 4.8 GHz search 4-42554
 radio sources from NRAO-Bonn S4 survey, spectral indices rel. to 10.8 GHz flux density vars. 4-36743
 resonance line radiation transfer in expanding cylinder comoving frame 4-53202
 SS 0014+81, most luminous quasar, obs. of C IV and Lyman absorpt. line forest 4-27198
 Sagittarius B2, 3 mm region, unidentified lines identification possibilities 4-27142
 satellite-borne X-ray instrumentation for plasma characts. determ. 4-58356
 Saturn, Voyager FIR spectra, unidentified features 4-13239
 Seyfert 1 and 2 galaxies, differences in spectra and luminosity (*Russian*) 4-47708
 Seyfert galaxies, continuum and line spectra from narrow-band photoelectric photometry 4-17585
 Seyfert galaxies, forbidden line emission within broad-line kinematic models 4-8594
 Seyfert galaxies, meas. of stellar and nonstellar continua rel. to nonthermal near-IR emission 4-31904
 Seyfert galaxies, nuclei IR spectra and dust characts. 4-47702
 Seyfert galaxies and candidates, spectral classifications 4-4079
 Seyfert galaxies and quasistellar objects, second Byurakan spectral sky survey 4-17411
 Seyfert galaxies nuclei, accretion discs rel. to broad line profiles and asymmetries 4-4090
 Seyfert galaxies nuclei, H I lines relative intensities from collisional excitation model 4-17606
 Seyfert I galaxies, UV spectra anal. 4-42542
 Seyfert intermediate galaxies, narrow-line regions 4-4080
 Sharpless 252, H II region, Ha vel. study 4-4061
 Sharpless 58, identification as planetary nebula, spectral anal. 4-17579
 Simeiz 22, thin filamentary emission nebula, forbidden-line morphology (*Russian*) 4-53259
 SiO masers, multilevel model 4-8374
 spherically symmetric synchrotron sources, radio spectra 4-42557
 spiral galaxies, nuclei Byurakan classification and radio spectra 4-42529
 star formation regions, IR spectra 4-17577

astronomical spectra continued

- Stark widths and shifts, of reson. lines of neutral atoms and singly charged ions 4-8377
 Sw St 1, compact planetary nebula, physical conditions, visible/UV obs. 4-31889
 synchrotron radiation, EM radiation spectrum in helical mag. field 4-53024
 synchrotron sources with spherical symm., radio spectra (*Chinese*) 4-58527
 Tc-1, low-excitation planetary nebula, IUE obs. 4-36731
 thioformyl ion (HCS⁺), interstellar, obs. in cold molecular clouds 4-8546
 Titan, results from photometric and spectrophotometric obs. (*Russian*) 4-42359
 UGC 76081, double galaxy, H I absorpt. line profile 4-31917
 Uranian satellites, near-IR spectrophotometry and compositional implication 4-53087
 UV continua, contribution of high-vel. absorbing cloudlets 4-13453
 UV continuum galaxies, search for Seyfert features, visible spectra 4-42525
 Venus, 300-800 nm spectra (from Venera 9 and 10) 4-42348
 Venus, atm. comp. 4-42346
 Venus, near-IR spectra of cloud structs. on dark side 4-42331
 Venus, stratosphere absorption spectra and CS₂ and SO₂ near UV absorpt. cross-sections (*French*) 4-28453
 Venus atmosphere, H₂O absorption band spectra, Venera 13 and 14 lander obs. 4-36560
 Venus mesosphere, ¹²C/¹³C ratio 4-3944
 Vesta, surface mineralogy from spectral obs. 4-13237
 VV 48 and VV 219, interacting galaxy pairs, rot. curves 4-13439
 Vy 2-2, compact nebula, VLA obs. of OH line emission 4-13388
 W3, mol. cloud, radio-recomb. line intensities and electron parameters 4-8553
 W3(OH), model for H II region based on radio recomb. line obs. (*Russian*) 4-31898
 W49B, supernova remnant, radio and X-ray spectra 4-58494
 soft X-ray background, spectral obs. and evidence for line emissions 4-42563
 X-ray sources, thermal interpretation of X-ray spectra 4-8599
 X-ray spectra from optically thin plasmas 4-58375
 YM29, planetary nebula, N/O and He/H ratios rel. to classification 4-22461
 (α, γ), A=20-56, threshold-27 MeV, gamma prod. cross sections, gamma astronomy appl. 4-43496
 AIO, blue-green B² Σ^+ -X² Σ^+ band, radiative lifetimes 4-5291
 C II, UV lines excitation by photoionisation of C I 4-3919
 C III, photorecombination rates calc. for 5000 to 100000K electronic temps. (*Russian*) 4-8387
 C IV absorption in 0215+015, visible obs. BL Lac object 4-4078
 C₂ towards χ Oph, HD 154368, 147889 and 149404, visible obs. 4-31892
 CH ²I, N=1, J=3/2 A-doubling 700 MHz transition search 4-17571
 CO (J=6-5) emission at 691 GHz from Orion Nebulae, IRTF obs. 4-27158
 CO₂, determ. of vibr. distrib. in nonequilibrium rarefied flows from 15 μ m band spectrum 4-9767
 CS, interstellar, approximate collisional excitation rates for CS+H₂ (J=0) 4-13179
 CS, multitransition EHF study of interstellar dense molecular cloud cores 4-53241
 Cr I, relative oscillator strengths meas. for transitions from levels a⁷S₃, a⁸S₂ and a⁹D₄ 4-58373
 CuH(D), electronic states, r-centroids, Franck-Condon factors, RKR pot. energy curves 4-5290
 Fe, ⁵⁶Fe and ⁵⁷Fe states electron excitation cross sections, astron. appl. 4-33543
 H I absorption in double galaxy UGC 66081, line profile and radial vels. 4-31917
 H I Balmer lines, Stark broadening 4-13178
 H I spin temperatures in H I clouds 4-13396
 H I towards compact radio sources at low latitudes, spectra anal. 4-27150
 H II regions, effect of heavy element opacity on struct. 4-13390
 H II regions, H76 α survey and galactic electron temperature and element gradients 4-8567
 H II regions in low surface brightness spiral galaxies, spectrophotometry 4-4094
 H II regions in solar neighbourhood, Ne abundances from Ne II 12.8 μ m line 4-13400
 H₂ detection at 2 μ m for six planetary nebulae 4-42513
 HNC, interstellar, obs. of mol. emission within central 10 parsecs of Galaxy 4-27147
 H₂O masers assoc. with IR sources, search 4-27201
 H₂O⁺, Franck-Condon factors and photon scatt. coeff. 4-14437
 H₂O, (A=16, 17, 18), atlas of line positions and intensities between 0 and 4350 cm⁻¹, book 4-17650
 Li-like ions, collision strengths for inner shell excitation transitions 4-53036
 NH₂, 3_{1,2}-2_{2,0} J=7/2⁵/2 rotational transition from OMC-1 at 242 GHz 4-27162
 NI isoelectronic series, ground config., multiconfiguration HF Breit-Pauli approx. 4-48921
 Ne V, electron impact excitation rates for fine-struct. transitions 4-53035
 O II 372 nm forbidden doublet, optical detection of Monogem ring filament 4-53247
 OH coma in comets, UHF obs. 4-42364
 S⁺ emission lines in Io plasma torus, longitudinal asymmetry 4-13240
 SO₂, interstellar, obs. in cold molecular clouds 4-8546
 Si II, Stark broadening of spectral lines 4-8378
 Si III, Stark broadening of spectral lines 4-8378
 Si IX, electron impact excitation rates for fine-struct. transitions 4-53035
 Si isoelectronic series, S III to Sn XXXVII forbidden lines, transition probabilities 4-14369
 Ti II, electron impact excitation cross sections from visible/UV spectra 4-10105

astronomical spectroscopy see astronomical spectra; spectroscopy

astronomical techniques

- see also astrometry; radioastronomical techniques
 10 μ m polarimetry, appl. to determ. of thermal inertia and pole orientation of asteroids 4-53079
 action integrals in stellar dynamics, evaluation from orbital spectra 4-22443

astronomical techniques continued

- American Association of Variable Star Observers, annual meeting, Cambridge, Massachusetts (1982 October 29 to 30) 4-22503
- artificial satellite orbits, method for short and long-period terms elimination from Hamiltonian (*Russian*) 4-47546
- artificial satellites, space orientation determ. from specular refl. (*Russian*) 4-42278
- asteroid classification, numerical taxonomy approach 4-3948
- asteroids astrometry, appl. of PDS astrometry and photometry of NGS-Palomar Sky Survey plates 4-53013
- astrometry, conversion matrix of FK 4-based stellar positions (epoch 1950.0) to epoch 2000.0 positions 4-26982
- astrometry, current state and future development (*Russian*) 4-42290
- astrometry, technical advances and expected results 4-22307
- astrometry using CCD camera, results from KPNO parallax programme 4-3974
- atmosphere refraction, method of calc. for three-dimensional inhomogeneous atmosphere (*Russian*) 4-31645
- atmosphere slant paths refr. computation, comparative accuracy of calc. methods (*Russian*) 4-42165
- atmospheric optics, image reconstruction after degradation by turbulent atmosphere (*French*) 4-42177
- automated quasar detection method 4-47543
- automated spectral classification in astronomy 4-8403
- automatic classification of Haute Provence Observatory objective prism spectra (*French*) 4-8405
- automatic spectral classification as pattern recognition problem (*French*) 4-8406
- automatic star counting, appl. to southern globular cluster NGC 6809 (M55) 4-53230
- automatic structural pattern recognition method for galaxies morphological type determ. (*French*) 4-53055
- background restitution using histogram of local contrast 4-31764
- Balmer line vars. meas. in Ap stars, appl. to H β vars. in 73 Draconis 4-8473
- binary star evolution calc. technique 4-31859
- binary-star interferometry, standard stars 4-22339
- binned photometry at Geneva Observatory, use in spectral classification 4-8404
- CCD photometry, obs. of M67 stars useful as BVRI standards 4-47660
- CCD spectroscopy in red and near IR 4-17407
- celestial mechanics, general algorithm for determ. of $T_j^{(n)}$ and $Z_j^{(n)}$ in Hori's method 4-42293
- Cepheid variables, light max. phase determ. via least-squares cubic approximation 4-31840
- comet dust grain chemical analysis, by mass spectrometry method 4-42314
- computation method for combined perturbations on orbit of close artificial satellite (*Chinese*) 4-8401
- computational method for artificial satellites orbit perturbation due to air drag (*Chinese*) 4-8402
- conference on statistical methods in astronomy at Strasbourg, France (September 1983) 4-36789
- coronagraphy image enhancement method involving brightness subtraction 4-36658
- data analysis methods for future planetary exploration plans 4-17417
- deconvolution method, appl. to lunar occultations of stars 4-27009
- digital photon-counting speckle interferometry 4-38400
- Doppler imaging of spotted stars, appl. to RS CVn star HR 1099, obs. 4-17403
- double-star speckle interferometry, nonisoplanaticity effect on shift-and-add algorithm 4-47545
- electron-analogue transformation of lunar images, appl. to colour mapping 4-42321
- ephemerides, BASIC program for calculation (*French*) 4-31763
- equivalent width meas. for standard stars from photographic plates 4-4052
- extragalactic distance scale calibration 4-8400
- factor analysis, appl. to results from obs. of faint radio meteors 4-42373
- galaxies two-point correl. function, use as indicator of nonlinear cosmological clumping (*Russian*) 4-13464
- galaxy integral spectrum use for star form. rate determ. (*Russian*) 4-53058
- Galaxy models construction method (*Russian*) 4-47709
- galaxy photometry, obs. of 109 Virgo cluster galaxies to serve as standards 4-53292
- gamma-ray astronomy, imaging methods 4-22338
- gamma-ray astronomy application of solar power satellites 4-17399
- gamma-ray emission use for interstellar H $_2$ distrib. determ. 4-3939
- geometrical analysis of catalogues of galaxies, implications for clustering models 4-17401
- gravitation waves search, use of International Solar Polar Mission Doppler data 4-31766
- gravitational lens parameters, determ. via image interferometry (*Russian*) 4-13205
- gravitational wave detection by means of pulsar timing obs., effect of interstellar electron density fluctuations 4-36983
- gravitational wave detection by study of solar system body oscils. 4-47537
- high-resolution spectroscopy of galaxies and QSOs, optical and UV results 4-22336
- image analysis of Voyager Jupiter and Saturn images 4-17408
- image processing, rank-type spike detector (*Russian*) 4-13203
- indirectional statistics, appl. to cosmological asymmetry discovered by Birch 4-58391
- interferometric and micrometric measurements of close visual binaries separation (*Russian*) 4-17405
- interferometry, appl. to obs. of visual binary stars (*Russian*) 4-13371
- intermediate type stars, normal and chem. peculiar, abundance determ. methods 4-31765
- IR photometry, re-evaluation of 20- μ m magnitude system 4-53051
- IR photometry of comets, photometric system and appl. to obs. of dust 4-53098
- IR speckle interferometry, appl. to astronomical seeing meas. at Mauna Kea 4-22089
- IR spectroscopy, anal. of atmospheric emission in 20- μ m window 4-58284
- near-IR spectroscopy, deblending of lines from atmospheric H $_2$ O 4-58243
- IR spectroscopy, heterodyne spectrometer for meas. at 10 microns 4-3933

astronomical techniques continued

- IR spectroscopy, high-resolution, of planetary atmospheres, review 4-22335
- iris diaphragm photometry, correction for nonuniform background fogging (*German*) 4-53053
- IUE blaze function for Mg II lines in UV region 4-42318
- Kepler's equation in celestial mechanics, soln. using methods of iteration 4-42292
- laser use for optical const. determ. of large refracting telescope 4-17402
- light curve synthesis for eclipsing binary stars, new program package 4-53054
- lunar astrometry, determ. of orientation of axes of inertia from Earth-based astrometry (*Russian*) 4-53070
- lunar laser ranging, effect of Earth and lunar tides (*Chinese*) 4-58064
- mass determination method using Mars orbit perturbations meas. by Viking lander 4-58387
- maximum entropy image reconstruction 4-3937
- membership probabilities determ. in galactic clusters, astrometric method 4-27139
- meteorite fission track dating method using fluorapatite, high-temp. annealing study 4-22331
- methyl acetylene as mol. cloud temp. probe 4-42317
- methyl acetylene use as temp. probe of dense molecular clouds 4-47541
- Moon-Earth distance measurement, design of lidar system 4-27005
- neutrino observation programme at Moscow State Univ., 4-36550
- neutron stars, internal temp. determ. from glitch and vortex creep anal. 4-47640
- observations, systematic errors separation procedure (*Russian*) 4-13204
- occultation astronomy, portable telescope, photometer and data-recording system 4-36585
- orbit perturbations calc. method for artificial satellites 4-58353
- out-of-focus imaging, appls. in amateur astronomy 4-27007
- panoramic photometry reduction, asymmetric clipping algorithm 4-53052
- PDS astrometry and photometry, appl. to NGS-Palomar Sky Survey plates 4-53013
- period determ. for suspected variable stars, appls. of visual obs. (*French*) 4-36691
- photographic astrometry of Galilean satellites, filter technique 4-58388
- photographic resolution with small aperture Newtonians 4-36589
- photographic stellar astrometry and photometry, effects of grain noise 4-17400
- photographic surface photometry of galaxies and nebulae, modified calibration method 4-3936
- photometric astronomy software (book) 4-53369
- photometric techniques for galaxies anal. (*Japanese*) 4-31920
- photopolarimetry and Doppler spectrometry of zodiacal light 4-27045
- planetary surface ruggedness estimation method 4-8409
- progress in optics, book 4-47768
- R-method for globular cluster He abundance determ. 4-22444
- radial gravity anomalies estimation from line of sight accel. data. 4-27023
- radio-wave polarisation measured with two crossed monopoles on spacecraft 4-42316
- resonance perturbations in geostationary satellite orbits, determ. method (*Russian*) 4-13167
- satellite optical telescopes, sunlight interference due to scatt. from rocket exhausts 4-3903
- satellite scanning techniques for planetary surface imagery 4-17280
- scanning CCD photometry, BVRI obs. of colour distrib. in early-type galaxies 4-31914
- SETI, appl. of Karhunen-Loeve anal. of wide band signals 4-31768
- sextant use for Moon distance and Earth mass 4-8681
- solar activity determined for aurora occurrence records 4-8443
- solar bidimensional spectroscopy, with universal birefringent filter 4-42319
- solar EUV spectrographs, calibration in space, use of coronal emission lines 4-22333
- solar flare loop shape determ. using geometrical technique 4-13265
- solar limb darkening data, integration methods for spectral irradiance calcs., comparison 4-17406
- solar neutrino passage, Te detection by resonance multiphoton ionisation mass spectrometry 4-22106
- solar orbiting spacecraft tracking expt. to test general relativity and solar interior 4-47989
- solar spectral constant determ. from ground-based spectroradiometry, atmospheric limitations 4-22090
- solar wind shock wave normal determination method using several spacecraft 4-26966
- source function of star with extended atm., limb darkening anal. 4-36678
- Spacelab, scientific accomplishments of first mission 4-53003
- speckle interferometry, statistical evaluation of spectral band 4-27576
- speckle masking, triple correlation theory and appl. 4-27006
- spectral line core-saturation method with partial redistribution 4-53031
- spectroscopic binaries parameters determ., iterative methods 4-42315
- spectroscopy, optical detectors review 4-36586
- spectrum scanning, PDS computer program (SCANN) 4-3938
- star catalogue computer data-base facilities of ESA for astronomical satellite operation 4-53056
- star radial vel. determ. 4-17404
- stars differential rotation detect., use of tracer method 4-47542
- stellar atmospheres time-dependent calcs., thermodynamic quantities computation 4-8450
- stellar occultations by comets used for coma dust opacity determ. 4-27008
- stellar photographic photometry, determ. and calibration of photographic stellar image profiles 4-58390
- stellar photometry, ten-colour mol. indices for NH, CN, CH and C $_2$ in warm C stars 4-31836
- stellar speckle image reconstruction, phase unwrapping method along radial coordinates 4-47544
- stellar spectra energy distrib., method for comparison with model energy curves 4-13206
- stellar spectrophotometry by photon counting, digital control panel 4-36588
- submillimetre ground-based astronomy, resonant grids use for submillimetre filters 4-8399
- Sun, local continuous spectrum level determ. from Fraunhofer lines Voigt anal. 4-36590
- sunspots, mag. vector determ. method (*Chinese*) 4-8438
- supernova detection in Galaxy appl. of long-term correlated obs. (*Russian*) 4-53193

astronomical techniques continued

- temperature determ. in planetary nebulae, appl. of O IV line spectra 4-13386
- three-body problem, general case, bounded orbits, moment of inertia lower bound 4-58366
- transit instruments, azimuth absolute determ. from prime vertical/meridian obs. of stars (*Chinese*) 4-8389
- Tycho UVB photometry system of Hipparcos 4-8407
- UV bidimensional detection of astron. objects using new optical designs, book contrib. 4-53059
- uvby β photometry, reliability and effects of removal of interference filters 4-58489
- uvby photometry, accuracy of reduction algorithm 4-58389
- VR1 photometry, relations between Johnson and Kron-Cousins systems 4-22337
- wavefront method for gravitational lens images 4-22313
- X-ray fluorescence analysis of Solar System minor bodies from spacecraft 4-53012
- X-ray microchannel plate detectors, soft X-ray energy resolution 4-58386
- H α profiles, correction method for distortion due to underlying absorpt. lines 4-47642
- ¹²⁹I dating of meteorites and lunar rock, tandem accelerator mass spectrometric meas. 4-3935

astronomical telescopes

see also radiotelescopes

- 7.5 m optical telescopes of future, optical systems and auxiliary instrumentation 4-22322
- adaptive main mirror telescope design, review 4-8390
- adaptive optics systems and technology, conf., San Diego, CA, USA (Aug. 1982) 4-6
- artificial satellites electro-optical surveillance in daylight, reflected sunlight detection 4-22324
- aspherical mirrors, geometrical parameters in Hartmann test 4-24122
- atmosphere-telescope system, instantaneous impulse response statistical props. 4-36487
- atmosphere-telescope system with adaptive compensation for random wavefront tilt, MTF derivation 4-13026
- atmosphere-telescope system with adaptive optics, optical transmission function and resolving power 4-26804
- Bulgarian National Observatory, site characts. and equipment (*Norwegian*) 4-42306
- Canary Islands telescopes, siting and descriptions 4-31752
- EXOSAT, mission and telescopes (*Swedish*) 4-42279
- far IR optical filter of woven scrim polypropylene laminate for solar studies 4-40387
- German infrared laboratory, European Space Lab 1987, instrumentation (*German*) 4-58354
- GIRL, infrared astronomical telescope design 4-31755
- ground based telescope optical specification 4-42309
- hard X-ray imaging expt. with coded mask telescope prototype 4-8388
- Hinotori X-ray telescope for solar flare imaging (*Japanese*) 4-42308
- far infrared balloon-borne 750 mm Cassegrain telescope 4-36583
- International Solar Polar Mission, Heliosphere Instrument for Spectra, Composition and Anisotropy at Low Energies 4-31736
- IRAS infrared telescope design 4-31756
- Kavalur Observatory telescope development 4-31757
- large deployable reflector concept for orbiting submm-IR telescopes in 1990s 4-26995
- large mirror system optical quality requirements 4-33729
- LDR, an orbiting, submm-IR telescope for the 1990s 4-3931
- magnitude limit, stars from SAs down to 21^m for amateur equipment 4-42320
- Mills Observatory, Dundee, location, history and instruments 4-3924
- mirror, large astronomical, material parameters that determ. surface accuracy 4-19610
- mirror blank fabrication, expts. with waffleplate and honeycomb casting 4-10472
- multiple mirror telescope, recent developments 4-3929
- multiple mirror telescope servo control system 4-31761
- Nanjing University solar tower telescope and associated multiple spectrograph (*Chinese*) 4-58383
- Newall 25" refractive telescope, objective lens optical const./design anal. method 4-17402
- NNTT, progress report 4-3930
- optical components at European Southern Observatory automated interferometric evaluation 4-38641
- optical fibre astronomical use at Anglo-Australian Observatory 4-8392
- OSS-3/7 telescopes, image motion compensation 4-17394
- photoelectric photometry with small telescopes 4-58392
- photographic resolution with small aperture Newtonians 4-36589
- Pinhole/Occulter Facility, hard X-ray imaging and optical coronagraph 4-22323
- pointing and tracking, Forth appl. 4-31760
- portable telescope, photometer and data-recording system 4-36585
- Ritchey-Chretien telescope for STARLAB 4-47524
- Ritchey-Chretien telescopes, better but bigger prime focus corrector lenses 4-22320
- satellite clusters for stellar interferometry 4-58360
- satellite optical telescopes, sunlight interference due to scatt. from rocket exhausts 4-3903
- satellite-borne instrumentation for plasma characts. determ. 4-58356
- Schmidt telescope wide-field fibre-optical coupler for spectroscopy, differential atm. refr. effects 4-36584
- shuttle IR telescope facility fused SiO₂ mirror evaluation 4-8391
- SNEG-2M3 instrument on Venera 13 and 14 for cosmic γ -ray bursts 4-47522
- Solar Optical Telescope-Control system on Space Shuttle 4-17393
- Space Telescope, thermal control test demonstration on simulated main ring assembly 4-13193
- Space Telescope and other orbiting instruments 4-53047
- Space Telescope FOC obs. of galaxies, cosmological predictions 4-27183
- Space Telescope High Resolution Spectrograph for UV astronomy, characts. 4-17391
- spaceborne IR telescopes and detectors 4-22321
- STARLAB, international observatory in Earth orbit 4-47524
- stray radiation generation, meas. and control, conf., Los Angeles, CA, USA (Jan. 1983) 4-53337
- sub-beam prism on Schmidt telescope use for faint objects magnitude calibration 4-22326

astronomical telescopes continued

- submillimetre telescope design using nonstandard representations of aspheric surfaces 4-49475
- three-mirror telescopes, general props. and design considerations 4-31753
- three-mirror telescopes, optimisation and practical designs 4-31754
- transit instruments, azimuth absolute determ. from prime vertical/meridian obs. of stars (*Chinese*) 4-8389
- tubes, elastic swing elimination of suspended cages 4-13197
- two-mirror telescope systems, differential formulas 4-13196
- UV bidimensional detection of astron. objects using new optical designs, book contrib. 4-53059
- Venera 13 and 14, Konus instruments, obs. and improvements 4-47521
- XMM satellite, instrumentation and mission 4-58359
- Zeiss 3.5 m astronomical telescope 4-8396
- ZIP telescope no.2, out of field of view rejection meas. 4-58385

astronomy see astronomy and astrophysics

astronomy and astrophysics

- see also astroarchaeology; astronomical catalogues; astronomical instruments; astronomical observations; astronomical observatories; astronomical spectra; clusters of galaxies; cosmology; extraterrestrial life; galaxies; gamma-ray astronomy; infrared astronomy; intergalactic matter; interplanetary matter; interstellar magnetic fields; occultations; planetary radioastronomy; solar system; stars; ultraviolet astronomy; X-ray astronomy
- 3M Color Slide 1000, sensitivity for astrophotography 4-27010
- AAS Division for Planetary Science, 15th annual meeting at Ithaca, USA (Oct. 1983) 4-22505
- adiabatic wave equations for stellar pulsations, new set of eqns. (*Russian*) 4-42303
- Alfven waves, high- β energy-flux-conserving equilibria 4-3912
- American Association of Variable Star Observers, annual meeting, Cambridge, Massachusetts (1982 October 29 to 30) 4-22503
- American Association of Variable Star Observers, spring meeting, Quebec City, Canada (1983 May 21 to 23) 4-22504
- American Astronomical Society, 163rd meeting at Las Vegas, USA (January 1984) 4-36771
- annual review of astronomy and astrophys., vol.21, book 4-17659
- astrometry, conversion matrix of FK 4-based stellar positions (epoch 1950.0) to epoch 2000.0 positions 4-26982
- Astronomical Science Group of Ireland, December 1982 Meeting at Maynooth, Ireland 4-42583
- Astronomical Society of India, 8th meeting, Gorakhpur, India (1982 November) 4-3
- Astronomische Gesellschaft, assembly, Kiel, Germany (1983 September 26 to 30) 4-27236
- atmosphere refraction, method of calc. for three-dimensional inhomogeneous atmosphere (*Russian*) 4-31645
- atmosphere-telescope system with adaptive compensation for random wavefront tilt, MTF derivation 4-13026
- atom self-alignment of excited states, and application to solar magnetometry 4-33362
- atomic line identification lists, supplement to bibliography 4-32003
- balloon observations from France, historical discussion 4-13212
- book on Earth in relation to Universe 4-27260
- Bulgaria, review of astronomy (*Norwegian*) 4-42306
- Canadian Astronomical Society, 14th meeting, Victoria, British Columbia (1983 June 26 to 30) 4-27233
- conference at Kona, Hawaii (June 1983) 4-13476
- data compendium (book) 4-42611
- diatomic molecules, conversion formulae between radiative lifetimes and other dynamical variables 4-26989
- dipole magnetic field, effect on toroidal config. topology around gravitating body 4-22310
- double-diffusive convection problems, bounds for growth of perturbation 4-5895
- dynamical astronomy div. of AAS, 14th regular meeting, Chicago (June 1983) 4-8634
- Einstein-Cartan theory, interior soln. of axially symmetric body 4-13555
- electron-atom collision processes 4-31747
- ephemerides, BASIC program for calculation (*French*) 4-31763
- equivalent index-atmosphere, correction formulae for astronomical refr. (*Chinese*) 4-8313
- Eudoxos' planetary theory, mathematical model 4-36595
- European Southern Observatory photographic work for Quick Blue Survey (*Danish*) 4-13211
- extragalactic database creation (*French*) 4-53068
- extraterrestrial life, related astrophysical topics, conf. at College Park, Maryland (November 1979) 4-13485
- galactic research trends 4-4077
- general relativistic theory of continuous media, thermodynamic fluctuations 4-36972
- gravitational equilib. of multi-body fluid system, implications for form. of multiple stars 4-58426
- gravitational radiation emission from astronomical objects, theory 4-32128
- Gregorian Calendar, historical aspects and rules 4-47547
- Guinness book of astronomy facts and feats, second edition 4-27263
- high-energy astrophysics, gamma rays and neutrinos as complementary probes 4-4120
- images of sky at various wavelengths, features 4-36596
- KdV solitons in EHD, theory 4-3917
- de Lalande, Jerome (1732 to 1807) (*French*) 4-27016
- life and related topics (book) 4-42640
- literature, searching and reviewing, guide for research students 4-31769
- magnetogasdynamics, unsteady isothermal flow of gas behind exponential shock 4-3913
- MHD convective flow of rarefied gas along vertical porous plate, thermal and mass diffusion 4-53025
- multielectron atoms models, atomic spectroscopy (*Polish*) 4-53041
- neutrons in astrophysics, review 4-58371
- Newtonian gravitation, nonlinear and Lorentz-invariant version 4-3921
- observing conditions on Mauna Kea, comparison of summit cones and shield volcano 4-36489
- optically thin plasma, review 4-58375
- optically thin plasma in galactic sources, conf. papers review 4-58380
- outburst objects Hertzprung and Popovic, identification as plate defects 4-47716
- physics of stars, book 4-36670
- plasma, conf. at Nice, France (November 1982) 4-53348

astronomy and astrophysics continued

- protonated ions with second-row atoms, ab initio SCF and CI calcs. 4-47677
- quantum mech. model for Weizsacker formula 4-27787
- radiative processes, course book 4-36834
- review (*German*) 4-27819
- rotating gaseous disks, gravitational instability with mag. field 4-26991
- Royal Observatory Edinburgh, research and facilities 4-42619
- seeing measurements at Mauna Kea, results from IR speckle interferometry 4-22089
- shear layer in MHD flows, Kelvin-Helmholtz instabilities 4-8384
- short communications in astronomical literature, increase in length with time 4-42574
- SIMBAD Data Base, improvements 4-53069
- Space 2000 conference at Paris, France (September-October 1982) 4-1
- spectral line polarisation by electron impact, anal. for Stokes parameter Q 4-3918
- Stark widths and shifts, of reson. lines of neutral atoms and singly charged ions 4-8377
- stellar scintillation, spectrum of star image motions from vertical circle obs. (*Russian*) 4-42164
- thermonuclear reaction rates, revised and updated values 4-22318
- Thomas-Fermi atom in strong mag. field, weak ionisation limit 4-48938
- units and nomenclature for engineers and physicists 4-8410
- weak interactions of leptons and quarks, book 4-53385
- $^{10}\text{B}(\text{p},\gamma)$, 0.07-2.2 MeV, ^{11}C level structure 4-4797
- $^{12}\text{C}(\text{p},\text{Li})$, Be, 37, 40 MeV, fragmentation cross section meas. 4-32896
- Li-like ions, collision strengths for inner shell excitation transitions 4-53036
- Nb; quarked, primordial formation from free anti-quark and nucleus provided by vacuum 4-4645
- Si II, Stark broadening of spectral lines 4-8378
- Si III, Stark broadening of spectral lines 4-8378

astronomy computing

- see also computerised instrumentation
- automated quasar detection method 4-47543
- automatic structural pattern recognition method for galaxies morphological type determ. (*French*) 4-53055
- background restitution using histogram of local contrast 4-31764
- BASIC program for computing horizontal coordinates of the Moon (*German*) 4-31745
- RS Canum Venaticorum binary star systems, catalogue and database 4-36594
- CCD camera at Kitt Peak National Observatory, computer control system 4-36587
- Cepheid variables, light max. phase determ. via least-squares cubic approximation 4-31840
- electron-analogue transformation of lunar images, appl. to colour mapping 4-42321
- ephemerides, BASIC program for calculation (*French*) 4-31763
- European Space Agency software engineering standards 4-52892
- galactic structure, computer simulations of Belousov-Zhabotinsky reaction 4-30923
- meteor camera control system (*Dutch*) 4-47539
- occultation astronomy, portable telescope, photometer and data-recording system 4-36585
- panoramic photometry reduction, asymmetric clipping algorithm 4-53052
- photographic plate measuring machine, GALAXY 4-8398
- photometric astronomy software (book) 4-53369
- SCANN, PDS spectrum scanning program, description 4-3938
- Spacelab experiments, versatile ground data display system 4-3925
- star catalogue computer data-base facilities of ESA for astronomical satellite operation 4-53056
- Strasbourg Stellar Data Center data base, SIMBAD, description 4-4055

astrophysics computing

- see also computerised instrumentation
- automated spectral classification 4-8403
- automatic spectral classification as pattern recognition problem (*French*) 4-8406
- binary star evolution calc. technique 4-31859
- binned photometry at Geneva Observatory, use in spectral classification 4-8404
- RS Canum Venaticorum binary star systems, catalogue and database 4-36594
- data analysis methods for future planetary exploration plans 4-17417
- Einstein's equations, slowly rigidly rot. solns. from nonrotating classical solns., algorithm 4-8512
- image processing, rank-type spike detector (*Russian*) 4-13203
- light synthesis program for binary stars, new package 4-53054
- planetary surface ruggedness estimation method 4-8409
- spectra from Haute Provence Observatory objective prism, automatic classification (*French*) 4-8405

asynchronous generators

- wind-driven, behaviour anal. 4-57648

ATM forces see intermolecular forces**atmosphere, solar** see solar atmosphere**atmosphere, terrestrial** see terrestrial atmosphere**atmosphere, upper** see upper atmosphere**atmospheric acoustics**

- acoustic-gravity waves, dispersion in atm. (*Chinese*) 4-3788
- bistatic acoustic sensing, sound speed vertical profile restoration (*Russian*) 4-52935
- bistatic scheme for atm. radioacoustic sounding 4-52900
- Doppler SODAR for meas. of vertical wind fluctuations 4-47457
- earthquake produced upward propagating sound waves causing ionospheric disturbances 4-58340
- El Chichon volcano, Mexico, seismic and microbarograph obs. of volcanic explosions 4-52661
- fireball meteors, MHD mechanism for radio wave generation rel. to acoustic effects 4-42372
- fog, sound wave scatt. by random inhomogeneities 4-19644
- foggy atmosphere, sound dispersion and absorption 4-3812
- ground, acoustic impedance calc. for spherical wave (*French*) 4-19643
- ground, acoustic propagation, numerical model (*French*) 4-10488
- HF acoustic mini-sounder for boundary layer wind and temp. 4-31663
- impulse reflection for acoustic impedance determ. near ground 4-44277
- infrasonic detector array signal detection filters 4-13056
- infrasonic and subsonic disturbance meas., design of microbarograph 4-22122

atmospheric acoustics continued

- machines and installations, design aspects 4-28907
- meteorological sodar, optimum freq. calcs. 4-47453
- monostatic sodar for lower troposphere temp. turbulence meas. (*Russian*) 4-52933
- propagation of acoustic and magnetosonic waves 4-10489
- radioacoustic sounding of atmosphere, max. ranges (*Russian*) 4-42204
- radioacoustic sounding of turbulent atm., signal power and range (*Russian*) 4-52934
- seismic vibrator on ice floe causing atm. acoustic field 4-12993
- shock wave rise times, vibr. relaxation effect 4-17222
- snow avalanches, acoustic emission study 4-22023
- snow surface, sound propagation, theory 4-24283
- sounddrops, influence of gravity on sound propag. 4-24292
- three-component sonic anemometer/thermometer system for general micrometeorological research 4-31664
- thunder in Britain during June 1982, abnormally frequent occurrence 4-52871
- transition radiation of acoustic gravity waves for vertically moving point mass source 4-14830
- turbulent atmosphere, acoustic line-of-sight propagation near ground 4-14829
- winds, sodar measurements, spectral anal. 4-26750

atmospheric boundary layer

- acid smut fallout from plume, model 4-16816
- advective evaporation fog, props. calc. using horizontally nonuniform boundary layer model 4-31584
- aerosol concentration in marine boundary layer, production and loss model 4-52791
- aerosol deposition onto grassland, filtration model 4-17211
- air pollution dispersal, Lagrangian trajectory model 4-31137
- air pollution transport in deep fjord valley, SF_6 tracer study 4-12502
- North Atlantic, air-sea heat exchange calcs. (*Russian*) 4-12928
- Atlantic Ocean, atm. aerosol deposition, depend. on surface layer characts. 4-26339
- baroclinic instability and frontogenesis, with Ekman boundary layer dynamics and geostrophic momentum approximation 4-47379
- blowing snow, theory for turbulent snow-air mixture 4-22038
- Boulder Atmospheric Observatory for boundary layer research 4-3841
- broad valley wind channeling, theory 4-47354
- buoyant plumes, wind tunnel modeling, near field dispersion 4-57810
- Cabauw, Netherlands, boundary layer profiles and turbulence 4-47359
- canopy layer, Reynolds stress struct. 4-47364
- chemically reactive species in surface layer, conc. and flux profile theory 4-31556
- Chesapeake Bay, USA, deposition of hydrocarbons from atmosphere 4-17212
- cloudy convective boundary layer, obs. of shallow convection 4-42015
- coastal nuclear plants, thermal inertial boundary layer model, meteorological modelling 4-22061
- conference at Erice, Sicily (February 1978) 4-53361
- conference on coastal zone meteorology/air-sea interactions at The Hague, Netherlands (May 1982) 4-22526
- convective boundary layer, air quality models, prediction uncertainty 4-41394
- convective mixed layer, turbulent fluctuations mol. dissipation, height depend. 4-42008
- convective mixing layer, interfacial scales of temp. and humidity fluctuation (*French*) 4-58236
- convective planetary boundary layer, turbulent exchange mean vertical coeff. 4-36437
- convective rolls in marine boundary layer and associated surface roughness 4-47274
- convective surface layer height over Red Sea coast 4-26737
- cooling tower plume rise expts. at The Geysers, California, USA 4-52792
- cyclone during AMTEX '75, diabatic effects of latent heat release/boundary layer moisture 4-36430
- Czechoslovakia, climatological processing of atmospheric landscape component 4-12974
- dewfall rate in arid region, study using data from Wangara, Australia 4-26774
- diffusion in boundary layer, theory of turbulence classification schemes 4-17206
- digital data acquisition and signal processing system for an atmospheric boundary layer wind tunnel 4-22034
- vertical dispersion from elevated source into neutral boundary layer model 4-26735
- dispersion in diabatic surface layer, random walk model 4-26772
- diurnal variations of mixing depth and transport flow, by numerical model 4-42012
- dust dry-fall onto sea surface, theory 4-42071
- energy balance across surface of Earth influenced by urbanisation, obs. at Vancouver, Canada 4-26734
- engineering meteorology (book) 4-47795
- evapotranspiration and soil moisture balance using boundary layer model 4-52770
- flow model, finite element anal. of log-linear element 4-53455
- radiation fog, optical and phys. props. at nighttime 4-31571
- marine fog, probability forecasting using model output statistics scheme 4-52825
- radiation fog development, influence of soil moisture, pollution and vertical exchange 4-47353
- fog structure and occurrence, review 4-26791
- forest canopy in winter, O_3 , CO_2 and particle fluxes for deciduous forest 4-42013
- forest in subalpine zone, cloud water deposition to canopy 4-52805
- general circulation model with planetary boundary layer parameterisation 4-52817
- global ocean monthly mean wind stress 4-41929
- gravity waves, generation and characts. 4-58263
- heat burst of 1976 May 29, assoc. temp., humidity, cloud and wind characts. 4-36427
- HF acoustic mini-sounder for boundary layer wind and temp. 4-31663
- horizontal roll vortices over differentially heated surface, forest fire 4-17240
- hurricane translation, effect on boundary layer winds and convection 4-17230
- hydrocarbon deposition to Chesapeake Bay, USA 4-17212
- ice build-up on cylinders in clouds, ice density study 4-22037

atmospheric boundary layer continued

- inversion-capped planetary boundary layer, horizontal roll vortices 4-31564
- jet at ultra-low level during nocturnal inversion, fluctuations (*Chinese*) 4-58251
- Kalpakkam, Madras, India, coastal site atm. stability and terrain roughness 4-31566
- land breeze linear theory 4-17231
- land surface energy balance at Kohlen, W Germany 4-47355
- land/sea breezes in bay area with nearby mountains 4-17205
- low-level wind response to mesoscale pressure systems 4-31565
- marine, energy and momentum transfer to sea waves (*Russian*) 4-52731
- marine boundary layer, effective irradiation numerical anal. (*Chinese*) 4-17213
- marine boundary layer, growth of convectively mixed layer 4-42002
- marine boundary layer, IR spectral radiance depend. on moisture distrib., stratification effects 4-12983
- mesoscale diffusion and pollution dispersion, effect of vertical wind shear (*Chinese*) 4-13003
- mesoscale lateral meanders in stable nighttime boundary layer 4-26747
- meteorological sodar, optimum freq. calcs. 4-47453
- METROMEX programme for urban meteorology, book 4-53378
- microclimatology, temp. and humidity evolution and fluxes (*French*) 4-26755
- molecular dissipation of turbulent fluctuations 4-42014
- monthly wind stress over world ocean, error estimates (1870-1976) 4-22042
- Mt. Dushak-Erekdag, USSR, surface layer temp. field, turbulent characts. 4-26776
- near-field dispersion from instantaneous sources in surface layer 4-42006
- Niamey (Niger), surface humidity and turbidity parameters 4-47360
- nocturnal boundary layer, temp. profile evolution, energy and turbulence effects 4-47365
- nocturnal boundary layer depth variability 4-36469
- obstacle in stratified wind field, influence of velocity shear (*Russian*) 4-31610
- ocean surface layer meteorology, symposium, Kiel, Germany (May 1978) 4-47742
- ocean surface layers, heat transfer near air-water interface (*Russian*) 4-12931
- ocean wave-wind interaction, calc. of energy transfer from atmos. 4-41970
- ocean-atmosphere gas transfer coefficients from air interfacial gas flux 4-31567
- ocean-atmosphere system, seasonal thermal evolution model (*Russian*) 4-52725
- particle trajectories determination in presence of turbulent-vel. variance gradient 4-42009
- planetary boundary layer, diffusion eqns. stability 4-47348
- planetary boundary layer, stratified and baroclinic, integral parametrisation method 4-36438
- planetary boundary layer, vortex circulation struct. (*Chinese*) 4-47325
- planetary boundary layer, wind and turbulence coeff. vertical profiles (*German*) 4-17214
- planetary boundary layer, wind profiles 4-31569
- planetary boundary layer jet struct. over China (*Chinese*) 4-42028
- plume dispersion in convective boundary layer, expts. at Mt. Isa, Australia 4-52794
- plume dispersion in convective boundary layer, model 4-52802
- plume dispersion over complex terrain, Gaussian model study 4-52793
- plume rise within convective boundary layer, laboratory expts. 4-31549
- plume turbulent diffusion and meandering, by Lagrangian model 4-31552
- plume vertical dispersion in complex terrain, theory 4-52235
- pollution and turbulence phenomena, conf., Atlanta, USA (March 1981) 4-42607
- pollution concentrations inconsistently predicted using mixing height concept 4-16810
- pollution dispersal calculation including pollutant radiative effects 4-16817
- pollution dispersal from Kincaid power station, Illinois, USA 4-21602
- pollution plume trapping by elevated inversion, theory 4-12961
- power station effluent plume dispersion, obs. at Kincaid Station, Illinois, USA 4-21603
- probability distrib. of wind and temp. fields (*Russian*) 4-17220
- radiative heat transfer, effect of aerosol characts., 4-47322
- road traffic induced turbulence and wind velocities 4-26748
- Rome, Italy, summer wind rel. to surface thermal regime 4-58265
- rotating boundary layer flows over obstacles, laboratory simulation 4-12996
- sea and land breezes, role of Coriolis force, historical note 4-47320
- sea breeze linear theory 4-17231
- sea breeze superimposed on mean flow model 4-26769
- sea-air flux of transient chem. cpds., stagnant film model 4-42081
- shear flow wave motions (*Russian*) 4-49834
- snow drifts on mountain ridge slopes 4-22009
- snowfall, theory for turbulent snow-air mixture 4-22038
- South Park Area Cumulus Experiment, mesoscale convective complex, mountain generated component 4-47334
- South Park Area Cumulus Experiment mesoscale convective complex, mature complex evolution/struct. 4-47335
- Southern Hemisphere, sea level zonal wind and press. gradients 4-36447
- stably stratified turbulent shear flow by Malkus' theory 4-42011
- stationary waves, topographically forced, influence of critical latit. in barotropic model 4-47377
- severe storms, evolution of elevated mixed layers 4-8274
- stratocumulus clouds in Africa and Europe, radiative props. 4-42166
- surface layer, airborne IR radiometry 4-58312
- surface layer over paddy-field, vorticity and its transport 4-42010
- surface layer with neutral and unstable stratification, wind and temp. profiles (*Russian*) 4-52838
- N Taiwan, winter rainfall influenced by diurnal boundary layer winds 4-52820
- temperature, spatial derivatives in turbulent flow, effect of parallel sensors configuration 4-42007
- temperature microstructure over Tianjin, China (*Chinese*) 4-58249
- temperature profiles determ. from microwave radiation, influence of clouds and rain 4-42040
- three-component sonic anemometer/thermometer system for general micrometeorological research 4-31664
- thunderstorm, meteorological tower obs. of turbulence (*Chinese*) 4-13002

atmospheric boundary layer continued

- Todos Santos Bay, Baja California, Mexico, sea- and land-breezes 4-8276
- trace gas budget model for marine boundary layer 4-42097
- turbulence, von Karman's const. 4-42126
- turbulence and dispersion of smoke-plume, wind-tunnel expts. 4-52801
- turbulence characteristics during front passage 4-26778
- turbulence mesolayer theory 4-10655
- turbulent diffusion modelling and pollutant transport 4-58264
- turbulent energy model of stratified flow 4-26738
- turbulent flow, resistance and heat transfer, similarity theory (*Russian*) 4-8252
- turbulent fluctuations of wind/temp./humidity, obs. intercomparison between aircraft 4-31683
- NE United States, urban pollutant plume transport in boundary layer 4-52800
- urban area, temp. field local isotropy 4-31579
- valley winds rel. to temp. stratification and valley area-height distrib. 4-47352
- vegetation canopy air flow coupling to ambient flow, theory 4-26733
- velocity and stress profile of planetary boundary layer, Ekman-layer eqns. 4-26736
- vertical air motion calculated from limited horizontal wind data 4-17205
- vertical coherence and phase delays of strong winds 4-26732
- vertical temperature profile from O emission at 58 GHz (*German*) 4-13074
- wind at ocean surface, Seasat SAR radar meas. method 4-13102
- wind counter-currents in broad valleys, theory 4-47354
- winds estimation 4-26847
- CO₂, air pollution uptake by oceans 4-22001
- CO₂ laser radiation pulses, nonlinear power attenuation 4-3823
- I₂ and iodine cpds. exchange between ocean and atmos. 4-41987
- O₃ ground level concs. at Madrid, Spain, diurnal variability 4-17207
- SO₂ concs. in Agra city, Uttar Pradesh, India, Gaussian prediction model 4-16811

atmospheric chemistry

see also atmospheric composition

- acid generation in polluted troposphere, chemical calcs. 4-3798
- acid rain in NW England, ionic composition and acidification process 4-31136
- aerosols in weather modifying expts., ice nucleation props., chem. kinetic theory appl. 4-12979
- air pollutants in troposphere, 2-D photochem. model 4-42078
- air pollution dispersal, Lagrangian trajectory model 4-31137
- Antarctic coastal clouds, biogenic nuclei 4-31616
- atmosphere, Big Bend National Park, USA, aerosols and pollutant precipitation chem. 4-41402
- broadband low noise 205 GHz radiometer for satellite microwave limb sounder instrument 4-17395
- carbon cycle models of atmosphere-ocean system 4-3799
- chlorocarbon emissions and effect on O₃ in stratosphere, photochem. model 4-42077
- dayglow, N I (⁴S-P) reson. multiplet origin from N₂ dissociative excitation 4-14436
- E-region electron energy balance, effect of O fine struct. excitation by electron collisions 4-31717
- El Chichon volcanic eruption cloud, 2-D model simulation 4-31462
- fog chemistry in polluted Californian atmosphere 4-42094
- heterogeneous atmos. chemistry, book 4-47802
- ion mobility and reaction rate coeff. in stratosphere, new cluster ion source/ion drift cell apparatus 4-42246
- ion transport appl. in direct tropospheric ion sampling and mass identification 4-42245
- lower atmosphere (book) 4-8667
- lower atmosphere (book) 4-36840
- marine boundary layer, trace gas budget model 4-42097
- nonmethane anthropogenic hydrocarbons in troposphere, photochemistry 4-42080
- photochemical time constants of minor constituents in middle atmosphere 4-52980
- pollution photochemical models for O₃, NO₂, PAN 4-52803
- polycyclic aromatic hydrocarbon (PAH) on diesel particulates, chem. conversion by O₃ 4-52230
- primitive atmosphere, H₂O and CO photochem. reactions producing H₂ and organic cpds. 4-42179
- residence times for trace gases, 2-D numerical model 4-22035
- S-cycle and biothermostasis, atm. albedo and cooling var. 4-13016
- solar radiation influence 4-31583
- stratosphere, trace gas concentration temporal variations, causes 4-42047
- surface layer chemically reactive species, mean concs. and flux profiles 4-31556
- thunderstorm atmosphere, ball lightning and high-temp. physicochem. processes 4-52864
- transient-trace gas transport in cumulus cloud, photochemical model 4-42075
- trichlorofluoromethane anion + H-CHFCF₂ + Cl⁻, reactivity and energy surface, SCF-HF ab initio study 4-21425
- upper atmosphere chemical composition and temperature, model for mean mol. weight 4-3863
- urban fog chemistry, model for production of H⁺, NO₃⁻, SO₄²⁻ 4-42076
- volcanic plume from Mt. St. Helens 1980 eruption, stratospheric plume chemistry 4-42106
- CO₂ atmos. conc. during last 120000 years, ocean phosphate extraction model 4-42072
- CS₂, chemical reactions for atmospheric conditions 4-42049
- ClO + NO₂ + M → ClONO₂, recombination reaction, rate constant and isomer production 4-42114
- HNO₃, removal from atm. by rain and snow scavenging 4-52796
- HO₂ and rel. species, interactions and reactions, ab initio MO study 4-46748
- HSO₄⁻ (H₂SO₄)_m acid cluster, (m=0, 1, 2, 3, 4), hydration studies of atmospheric interest 4-33580
- I₂ and iodine cpds. exchange between ocean and atmos. 4-41987
- methane, release and consumption by forest soils 4-47371
- odd N distrib. in middle atmosphere, numerical simulation (*Russian*) 4-42054
- NO, auroral chemistry, γ-band radiation, UV obs. 4-19077
- NO₂ in Oslo, Norway, pollutant conc. in city streets 4-57809
- NO₂ photodissociation coefficient in lower atmosphere 4-42046

atmospheric chemistry continued

- NO₂, stratospheric wintertime latitudinal gradients, theory- and LIMS data 4-12987
 2NO₂+NaCl→NOCl+NaNO₃ laboratory meas. and atmospheric implications 4-22046
 NO₂+O₃→N₂O₅ reaction kinetics study 4-42048
 NO₃ and HONO formation in nighttime urban atmosphere 4-42079
 NO₂ chemical partitioning along isobaric parcel trajectories 4-42119
 N₂O₅ release and consumption by forest soils 4-47371
 N₂O₅+H₂O gas phase reaction 4-12333
 O⁺+NO→NO₂⁺, temp. depend. reaction and spectral emissions 4-41198
 O₂⁺ chemistry of F-region and subtropical airglow anomaly 4-42253
 O₂⁺ dissociative recombination in upper atmosphere, and O(S) spectral line profile 4-26909
 O₂⁺+N, upper atm. reaction and 755.5 nm emission 4-21427
 O₃ concentrations affected by N₂O and chlorofluoromethane pollution 4-12964
 O₃ destruction in upper stratosphere, role of NO transport from troposphere 4-58325
 O₃ in troposphere over Colorado Mts., USA, due to air pollution chemistry 4-42050
 O₃, laser chem. and stratospheric nonlinear optics 4-3826
 O₃, latitudinal variations in troposphere, photochem. model 4-42098
 O₃ layer, status of studies of anthropogenic impact (*Russian*) 4-42052
 O₃ transport by planetary waves, theoretical model 4-42099
 O(¹S) excitation and aurora 557.7 nm emission 4-42258
 O(¹S) excited state prod. in aurora, impulse response anal. of 5577 Å emissions 4-58333
 O(¹S) formed in O₂⁺ dissociative recombination in upper atmosphere 4-26909
 SO₂ conversion to sulphate and sulphite aerosols, humidity and temp. effects 4-46920
 SO₂ lifetime in atmosphere, obs. based on cosmic ray produced ³⁸S 4-31557
 SO₂+OH reaction mechanism for atm. pollution conditions 4-17208

atmospheric composition

see also *atmospheric chemistry; atmospheric structure*

- acid rain in NW England, ionic composition and acidification process 4-31136
 aerosol concentration in marine boundary layer, production and loss model 4-52791
 aerosol deposition onto grassland, filtration model 4-17211
 aerosol in eastern Arizona, USA, of natural origin 4-17210
 aerosol of Ohio River Valley, USA 4-12966
 aerosol over Bermuda, sources of sulphate and vanadium 4-12968
 aerosol particle motion influenced by gravity waves (*Russian*) 4-52834
 aerosol scavenging by charged raindrops, for sub-micron aerosol 4-26765
 aerosol size distribution during condensational growth 4-17209
 aerosols, elemental tracers of distant regional pollution 4-46913
 aerosols, secondary ambient aerosol formation as function of humidity 4-42093
 air pollutants in troposphere, 2-D photochem. model 4-42078
 Antarctic ice samples, 20000 BP, quartz microparticles 4-52866
 Arctic aerosol, elemental composition obs. made in Greenland 4-52804
 Arctic haze pollution, contribution of Noril'sk smelter in USSR 4-17242
 asbestos content measurement by transmission electron microscopy method 4-17271
 Athens, Greece, ambient air negative ion density, effect of wind speed and direction 4-42129
 auroral thermosphere, O conc. from EISCAT obs. 4-22195
 Balmer alpha line intensity meas. using photon counting photometer 4-58355
 Beijing, China, pollution depend on meteorological conditions (*Chinese*) 4-13001
 E Canada, turbidity in AD 1968 to 1978 period 4-26744
 carbon cycle models of atmosphere-ocean system 4-3799
 carbon tetrachloride, vertical distrib. in stratosphere 4-8301
 carbonyls in urban fog, cloudwater and rainwater in USA 4-12970
 Chesapeake Bay, USA, deposition of hydrocarbons from atmosphere 4-17212
 cluster ion source/ion drift cell apparatus for stratosphere ion anal. 4-42246
 components concentrations and distribution (book) 4-36840
 D-region, ion composition 4-58334
 dust dry-fall onto sea surface, theory 4-42071
 El Chichon, volcanic eruption cloud obs. at. in stratosphere at Frascati, Italy 4-31595
 El Chichon volcanic aerosol cloud in stratosphere, far IR spectroscopic obs. 4-31596
 El Chichon volcanic eruption cloud aerosol in stratosphere 4-31593
 El Chichon volcanic eruption cloud in stratosphere, aerosol cloud formation 4-31592
 El Chichon volcanic eruption cloud over Europe 4-31594
 El Chichon volcanic eruption in 1982, obs. of stratosphere aerosol mass 4-3800
 El Chichon volcano, comp. of plume gases and particles 4-36338
 El Chichon volcano, Mexico, eruption cloud characts. 4-31461
 emission spectroscopy over 3.5-13 µm wavelength range using UARS based cryogenic etalon spectrometer 4-8323
 forest canopy in winter, O₃, CO₂ and particle fluxes for deciduous forest 4-42013
 gas emissions from Mount St. Helens 4-12838
 heavy metal deposition from atm. in Sweden 4-46919
 Hungary, rainwater NO₂ and NH₄ content since 1900 AD 4-21599
 hydrocarbon deposition to Chesapeake Bay, USA 4-17212
 ice particles in the atmosphere 4-31572
 impurity composition and conc. remote determ. by spectroscopic methods 4-21609
 ion sampling device for troposphere 4-42245
 ionosphere, O₂⁺, NO⁺ and O⁺ vertical distrib. from airglow and plasma obs. 4-22204
 Los Angeles, USA, chemistry of urban fog and mist 4-16813
 marine boundary layer, trace gas budget model 4-42097
 mesosphere, temp. vars. during solar eclipses rel. to O₂ density and press. vars. 4-52846
 methane, atm. conc. at Mirny station, Antarctica (*Russian*) 4-12990
 methane, in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
 methane, sources, sinks and seasonal cycles 4-42096
 methyl chloroform, vertical distrib. in stratosphere 4-8301
atmospheric composition continued
 Mexico City, particulate air pollution, elemental composition obs. 4-52232
 middle atmosphere, numerical response to 11-year solar cycle 4-58326
 Minnesota and Wisconsin, USA, rainwater acidity, summer 1981 obs. 4-52795
 Nagoya City, Japan, aerosol light scatt. coeff. study 4-13022
 Namib Desert aerosol composition and origin 4-12967
 negative ion comp. and H₂SO₄ vapour in upper stratosphere 4-26758
 negative ion obs. in upper stratosphere, and inferred trace gas concs. 4-42123
 New Jersey, USA, urban area pollution chemical composition 4-16814
 New York State, USA, acidity of rainwater in AD 1966 to 1978 period 4-31134
 northern Nigeria, Saharan dust rel. to solar radiation obs. 4-26770
 nitrate and nitrite in ice cores from Himalayan glacier 4-47372
 organic acids in precipitation of remote areas 4-42095
 Equatorial Pacific, airborne dust chem. composition 4-42109
 N Pacific, continental dust blown in from Asia 4-42108
 particulate elemental composition rel. to particle density 4-26757
 photoacoustic non-resonant cell, acoustically decoupled, appl. to atm. trace gas analyses 4-41406
 polycyclic aromatic hydrocarbons in air of Los Angeles, California, USA 4-31558
 Portland, Oregon, USA, aerosol light scatt. and carbonaceous composition 4-52798
 rainwater chemical composition samplers, contamination by dry deposition 4-52897
 residence times for trace gases, 2-D numerical model 4-22035
 sea-air flux of transient chem. cpds., stagnant film model 4-42081
 Southern Hemisphere, water vap. transport seasonal variations 4-8260
 NW Spain, condensation nuclei obs. at Villanueva 4-52799
 St. Louis, Missouri, USA, sulphate in air and rain, mesoscale variability 4-46918
 St. Louis, USA and Vienna, Austria, pollution aerosol observations 4-52231
 stratospheric irregularities and fluctuations, far IR emission obs. 4-42168
 stratospheric trace gas concentration temporal variations, causes 4-42047
 sulphate aerosols from historical volcanism, rel. to European dry fogs and Greenland acid precip. 4-17128
 sulphate in stratosphere due to AD 1982 eruptions of El Chichon and Mystery Volcano 4-3744
 surface layer chemically reactive species, mean concs. and flux profiles 4-31556
 thermosphere, temp./comp./global circulation, depend. on mag. disturbances 4-22190
 thermosphere composition, temperature and density in MSIS-83 empirical model 4-26902
 trace elements in tropical Pacific aerosol at Eniwetok Atoll 4-42107
 trace gases in stratosphere, latitudinal distribution 4-42111
 trace metal content of aerosol over Tennessee, USA 4-42092
 transient trace gas transport in cumulus cloud, photochemical model 4-42075
 troposphere, negative ions comp. meas. 4-26756
 troposphere OH concentration determ. by long-path laser absorpt. procedure 4-42191
 turbidity at Dhahran, Saudi Arabia, solar radiation obs. 4-52809
 upper atmosphere chemical composition and temperature, model for mean mol. weight 4-3863
 vertical mixing-ratio profile resolution of atm. constituents from solar spectra 4-3818
 volatile inventories of Venus, Earth and Mars, rel. to origin and evolution of Venus atmosphere 4-36626
 volatile organic compounds in atmosphere of USA, of natural occurrence 4-17204
 volcanic aerosol and ash in stratosphere, from El Chichon eruption 4-31598
 volcanic aerosol from El Chichon eruption and stratospheric light absorpt. 4-31638
 volcanic aerosol in stratosphere from El Chichon eruption 4-31597
 volcanic aerosol in stratosphere from El Chichon eruption 4-31599
 volcanic aerosol optical thickness, El Chichon 1982 eruption 4-3820
 volcanic ash and aerosol from AD 1982 El Chichon eruption 4-31602
 volcanic ash in stratosphere from El Chichon eruption 4-31600
 volcanic eruption cloud from El Chichon optical obs. of stratosphere 4-3821
 volcanic eruption of El Chichon, Mexico, atmospheric effects 4-42723
 volcanic plume from Mt. St. Helens 1980 eruption, stratospheric plume chemistry 4-42106
 volcanic sulphate aerosol in stratosphere, from El Chichon eruption 4-31601
 Washington, DC, USA, acid rain and Lagrangian meteorology 4-31135
 water vertical transport affected by stratospheric aerosol layer 4-17243
 X-ray fluorescence analysis appl. to environmental monitoring 4-7908
 Yukon Territory, Canada, radioactivity levels in 40 year snow core 4-52810
 As cpds. detection using samplers with glass fiber filters 4-52898
⁷Be, deposition flux to land and sea surface 4-42113
 Br in Arctic atmosphere, obs. of gas phase and particulate Br contents 4-42083
 CO, atm. conc. at Mirny station, Antarctica (*Russian*) 4-12990
 CO in atmosphere of Moscow, USSR, conc. variations in AD 1970 to 1982 period (*Russian*) 4-52835
 CO, in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
 CO₂ and climate change 4-22068
 CO₂ atmos. conc. during last 120000 years, ocean phosphate extraction model 4-42072
 CO₂ atmospheric levels in pre-industrial era 4-31570
 CO₂ conc. in ice age from ¹³C content 4-17239
 CO₂ concs. obs. made at Hawaii in support of HAMEC project 4-42211
 CO₂ conc. variability at Barrow, Alaska, during winter 4-42091
 CO₂ concentration, contrib. from global deforestation 4-31125
 CO₂ in mid-troposphere, conc., mathematical model 4-58267
 CO₂ in Mount St. Helens gas plume, emission rates meas. 4-12858
 CO₂ in stratosphere and troposphere over Australia, var. with time 4-52830
 CO₂, measurement of air samples, design of IR laser spectrometer 4-42210
 CO₂ variations over past 30000 yrs., lake sediments ¹⁴C anal. 4-58273
 CO₂ warming of Earth, implications of Australia climatic variations anal. 4-31625

atmospheric composition continued

- COS, in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
¹³C/¹²C ratio since 1400 AD, from tree ring studies 4-42090
¹⁴C distribution, effect of CO₂ pollution (1860-1950) 4-26338
 Fe, ionic and neutral, conc. in thermosphere, origin 4-42251
 H₂ in Mount St. Helens crater plume, contrib. to ground H conc. on south flank of mountain 4-12859
 HNO₃, in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
 HNO₃, removal from atm. by rain and snow scavenging 4-52796
 H₂O₂ in rainwater, concentration measurement technique 4-52241
 H₂O₂ in rainwater of Tokyo, Japan 4-52241
 H₂O₄ and HSO₃ vapour in stratosphere during El Chichon eruption period 4-26761
 H₂SO₄ stratospheric aerosol due to 1982 volcanic eruption of El Chichon 4-22056
 He isotopes in nature and measurement methods (book) 4-47799
 I₂ and iodine cpds. exchange between ocean and atmos. 4-41987
 methane, release and consumption by forest soils 4-47371
 Mg, ionic and neutral, conc. in thermosphere, origin 4-42251
 odd N distrib. in middle atmosphere, numerical simulation (*Russian*) 4-42054
 NH₃, sampling techniques field comparison 4-52916
 NH₄NO₃ aerosol, NH₃ and HNO₃ loss rates 4-31554
 NO, air pollution in rural midwestern USA 4-12965
 NO in mesopause region, radiowave absorpt. anal. 4-42252
 NO, in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
 NO increase rel. to radiowave absorption enhancement following magnetic storms 4-31709
 NO, transport from thermosphere to upper stratosphere 4-58325
 NO₂, air pollution in rural midwestern USA 4-12965
 NO₂ daytime var. from ground-based IR spectra 4-31606
 NO₂ distrib. in high-latitude stratosphere 4-42101
 NO₂, in stratosphere, distrib. and horizontal transport 4-42102
 NO₂, in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
 NO₂ stratospheric conc. profile at Haute Provence, France 4-12985
 NO₂ stratospheric wintertime latitudinal gradients, theory and LIMS data 4-12987
 N₂O, atm. conc. at Mirny station, Antarctica (*Russian*) 4-12990
 N₂O emission from agricultural soil following fertilizer application 4-42082
 N₂O, in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
 N₂O, release and consumption by forest soils 4-47371
 N₂O, release to atmos. from USA Gulf Coast wetlands 4-12988
 NOCl, form. by reaction of NO₂ with NaCl 4-22046
 Na in upper atmos., altitude profile showing wave-like struct. 4-22194
 O₂ and O₃ conc. in upper atmosphere and mesosphere during solar eclipse 4-58324
 O₃, absolute absorpt. cross sections at 294 and 223K in 310 to 350 nm range 4-33419
 O₃, air pollution in rural midwestern USA 4-12965
 O₃ conc. in upper stratosphere in AD 1958 to 1980 period 4-42112
 O₃ conc. measurement, implications of new UV absorpt. cross-sections 4-3822
 O₃ conc. profile meas. at Natal, Brazil 4-42088
 O₃ concentrations affected by N₂O and chlorofluoromethane pollution 4-12964
 O₃ content, season and latitude depend. 4-58226
 O₃ content, status of studies of anthropogenic impact (*Russian*) 4-42052
 O₃ diurnal variation in Harima district, Japan, urban and rural sites 4-31559
 O₃, effects of atm. trace gases 4-42156
 O₃ global monitoring, by method involving study of surface press. variations 4-42061
 O₃, global var. in stratosphere/troposphere rel. to temp. and water vapour 4-31581
 O₃ ground level concs. at Madrid, Spain, diurnal variability 4-17207
 O₃ in lower troposphere, of stratospheric origin 4-12963
 O₃ in mesosphere, equatorial profiles from Solar Maximum Mission 4-58244
 O₃ in stratosphere, obs. and remote sensing method using XeCl laser 4-42212
 O₃, in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
 O₃ in troposphere over Colorado Mts., USA, due to air pollution chemistry 4-42050
 O₃, interannual variations of global total ozone 4-42089
 O₃, latitudinal variations in troposphere, photochem. model 4-42098
 O₃ measurement at low latitude in Brazil 4-42124
 O₃ monitoring, UV absorption O₃ photometer, for use on stratospheric balloons 4-26866
 O₃ stratospheric layer monitoring by laser radar 4-8320
 O₃ total content, medium scale disturbances during southern hemisphere summer 4-42005
 O₃ total ozone content in AD 1923 to 1955 period 4-26743
 O₃ total trends, satellite obs., sampling errors 4-31580
 O₃ transport by planetary waves, theoretical model 4-42099
 O₃ transport due to planetary waves during stratospheric warming 4-42060
 OH profile in stratosphere from NO₂ and HNO₃ satellite obs. 4-3806
 Pb and ²¹⁰Pb in aerosol and rain of Wisconsin USA, deposition mechanisms 4-42085
 S aerosol, concs. in coastal environment rel. to air masses origins (*French*) 4-58240
 S in sea-salt aerosol, annual production rate 4-42084
 S pollutants in snow from several Canadian cities 4-3506
 SO₂ concs. in Agra city, Uttar Pradesh, India, Gaussian prediction model 4-16811
 SO₂, emission rates from Mount St. Helens (1980 March 29 through December) 4-12857
 SO₂ in stratosphere following El Chichon volcanic eruption 4-31603
 SO₂ injection by explosive volcanic eruptions into stratosphere 4-31604
 Se in marine air particulates and in gas phase 4-42086
 V in aerosol over Bermuda, North Atlantic 4-12968

atmospheric density see *atmospheric pressure and density*

atmospheric disturbances see *atmospheric movements; thunderstorms*

atmospheric duct see *atmospheric electromagnetic wave propagation*

atmospheric dynamics see *atmospheric movements*

atmospheric electricity

- see also *atmospheric electromagnetic wave propagation; atmospheric ionisation; atmospherics; aurora; electrojets; ionosphere; lightning; thunderstorms*
 aerosol scavenging by charged raindrops, for sub-micron aerosol 4-26765
 air conductivity probe transducer 4-58304
 airborne dust, electric charge meas. using semiautomatic method 4-31149
 auroral arc electric field, effects of neutral gas vortex distrib. 4-22189
 auroral electrojet-radiowave interactions, effect on polar substorms 4-22215
 auroral inverted-V electron spectra, manifestation of current driven ion-acoustic turbulence 4-42264
 cloud, streamers propagation through large population of neutral droplets 4-42127
 cloud formed from ice crystals, electrostatic charge 4-42118
 conductivity tensor in the atmospheric dynamo equation 4-58336
 droplet electric charging by propagating positive streamer 4-12984
 electrojets in the explosive phase of a substorm 4-22266
 electrostatic potentials mapping from ionosphere into magnetosphere 4-12787
 F-region, currents and induced plasma instability, inhomogeneities origin 4-22206
 field response to substorms, MITHRAS results 4-22279
 ionosphere, conductivities, irregularities effects, numerical anal. 4-26917
 ionosphere, current modification by strong disturbances 4-47482
 ionosphere, directional electric currents due to wind shear 4-3870
 ionosphere, dynamic model of plasma convection, field aligned currents and polar regions struct. 4-22208
 ionosphere, equivalent current systems estimation from geomag. data 4-3872
 ionosphere, polar cap region, elec. field and current 4-17325
 ionosphere, polar cap region elec. field/current/Joule heat dissipation rate 4-17325
 ionosphere currents enhancement due to solar flare radiation, geomag. field oscils. 4-22214
 ionosphere electric currents and fields due to thunderstorm sources 4-58337
 ionosphere electric fields and currents determination using ground magnetometer data 4-8354
 ionosphere L current system by multi-layer model (*Chinese*) 4-31711
 ionosphere longitudinal currents, anal. from injected Ba clouds obs. 4-22213
 ionosphere meridional electric field formation process 4-3868
 lightning surge, actual pulse shape, propagating inducing and induced power mathematical modelling 4-58241
 low-frequency (<1 Hz) elec. noise in stratosphere, due to turbulence 4-42116
 magnetosphere, dayside field-aligned currents effects on polar cusps 4-26951
 magnetosphere, electrostatic double layers and plasma evacuation in current-driven systems 4-3910
 magnetosphere, Landau damping of plasma waves in presence of electrostatic field 4-47505
 magnetosphere, longitudinal currents 4-47499
 magnetosphere, magnetic-field-aligned electric fields, physical mechanisms 4-36539
 magnetosphere, ring current conditions rel. to ionosphere subauroral electron temp. peak 4-8346
 magnetosphere currents, past and present studies review 4-58345
 magnetospheric-ionospheric current system rel. to homogeneous polar auroral arcs 4-47486
 measurement of electric field vector using spherical field meter 4-8332
 upper mesosphere, influence of elec. fields on radar meas. of winds 4-22049
 MF night-time sky wave, field strength and fading for south-north propagation in Japan (*Japanese*) 4-36536
 quiet plasmasphere, field-aligned currents 4-8344
 sunrise effect and ionosphere potential var. 4-31613
 thermosphere, high-latitude, effect of realistic elec. conds. on neutral circulation 4-58328
 thundercloud electric fields, dynamic interactive computer model 4-58234
 thunderstorm electrification, rel. to constant pot. of rimed ice 4-31615
 thunderstorm electrification mechanism, elec. charge separation during ice deform. and fracture under temp. gradient 4-31614
 thunderstorms, structure, lightning and elec. field (book) 4-47769
 tornado vortices and elec. discharges 4-52844
 tropical deep convective systems, dynamics and elec. activity 4-47318
 Vishakapatnam, India, elec. pot. gradient 4-42128
 western auroral electrojet, intensity depend. on solar wind and geomag. dipole orientation 4-22265
 whistlers, nonlinear scatt. by electrostatic fluctuations 4-24562
- atmospheric electromagnetic wave propagation**
 see also *atmospheric light propagation; ionospheric electromagnetic wave propagation; magnetospheric electromagnetic wave propagation; tropospheric electromagnetic wave propagation*
 4 GHz rain and ice depolarization meas. in Sitka, Alaska 4-36440
 19 GHz digital radio-relay and the weather, attenuation considerations 4-3801
 50-70 GHz band, for space communications 4-8278
 60 GHz satellite communication band, propag. characs. 4-26739
 altimeter readings, wet path length correction, use of two-freq. radiometer, optimum config. 4-17315
 atmospherics reception equipment transforming signal to audible sound pattern (*German*) 4-31689
 EISCAT obs. of auroral thermosphere 4-22195
 Hall's model for Arctic's radio interference approximation 4-52867
 HF sky waves at oblique incidence, auroral absorption prediction 4-13009
 IR transmission in supersaturated water vapour, laser photoacoustic spectroscopy 4-42120
 mesosphere, gravity-wave motions, partial radio reflection meas. over Australia 4-52978
 mesosphere, seasonally dependent generation mechanisms of radar echoes 4-22050
 equatorial mesosphere, VHF radar backscatt. indicating turbulence 4-22055
 microwave absorpt. by atmospheric water vapour at 31.6 GHz 4-22052
 microwave attenuation due to rain, theory 4-22053

atmospheric electromagnetic wave propagation continued

- microwave propag. and absorpt. above breakdown threshold, plasma heating 4-52845
- microwave propagation expts. carried out using OTS satellite 4-58257
- microwave radiation from Earth surface, transport eqn. rel. to polarisation 4-21931
- microwave satellite links, atmospheric/ionospheric effects, EM wave propagation study 4-58261
- millimeter regions for satellite communication (spread spectrum considerations) 4-58262
- millimetre wave extinction cross-section due to water droplets 4-31573
- mm wave propagation in winter, conf., April 1983, Arlington, USA 4-27227
- mm wave propagation through falling snow 4-31575
- mm wave propagation through turbid atm. 4-31574
- mm waves, used for anti-jam/low probability-of-intercept communication systems 4-8280
- multiple scattering in coherent radiowave propagation through rain 4-36439
- OTS propagation tests 4-17221
- radio wave methods for remote sensing of the atmosphere 4-58291
- radiowave attenuation and scatt., radar system appl. (book) 4-47796
- radiowave depolarisation due to ice clouds, on satellite radiopath 4-22051
- radiowave propagation through precipitation studies, design of radar monitoring system (*Japanese*) 4-36527
- radiowaves, 10 kHz to 1000 THz (*German*) 4-52843
- satellite radar altimetry using dual-freq. microwave radar, atmospheric effects 4-13101
- short distance propagation of radio waves of frequency 40 kHz—peculiar aspects of propagation of the low frequency radio waves on winter anomaly days (*Japanese*) 4-52850
- submillimetre waves in atmosphere, $7 \cdot 10^{-1}$ window anomalous attenuation 4-42051
- VHF radar echoes from thermosphere and mesosphere, study of air motions 4-42248
- VHF radar Fresnel backscatt. depend. on pulse length 4-22054
- VLF daytime spectral parameters of atmospherics rel. to azimuth angles 4-58335

atmospheric electron precipitation

- see also aurora; radiation belts
- auroral FUV spectral emission dependence of electron energy and neutral atmos. 4-8342
- auroral electron excitation of O(¹S) state, impulse response anal. of 5577 Å emissions 4-58333
- auroral electrons, characts. depend. on geomag. conditions 4-22212
- auroral inverted-V electron spectra, manifestation of current driven ion-acoustic turbulence 4-42264
- auroral protons and electrons, energy input distributions 4-8343
- D-region production rate determined by riometer method 4-47488
- electron cyclotron waves causing pitch angle diffusion of plasma shut electrons 4-22218
- electron precipitation poleward boundary and IMF interaction with magnetosphere 4-13137
- impulsive precipitation from radiation belts and concurrent mag. field changes 4-22270
- inverted-V precip. events, rel. to struct. and morphology of F-region irregularities 4-22254
- ionosphere, low-energy electron precip., scintillations and total electron content in auroral oval 4-22253
- kinetic energy sources from ionosphere/magnetosphere system double layer struct. 4-13124
- midlatitude post-storm electron precipitation belt characts., absorpt. increase anal. 4-22230
- narrow energy spectral peak of electrons from slot region 4-8352
- pulsating aurora, ionospheric elec. fields and EXB drifts 4-13118
- pulsating aurora mechanism 4-13117
- radiation belt electrons, precip. during mag. storms 4-8345
- westward travelling surge, auroral radio absorpt., electron precipitation effects 4-17326
- whistler induced charged particle precipitation during solar wind disturbance 4-8356
- whistlers in magnetosphere associated with energetic precipitation 4-26943

atmospheric elementary particle precipitation

- see also atmospheric electron precipitation; atmospheric proton precipitation
- energy transfer to thermosphere, correl. with troposphere press. var., solar wind driven features 4-36475
- ionosphere, particle precip. sources of TIDs 4-22248
- neutral atom collisions following neutralisation of precipitating ions 4-19163

atmospheric energetics see atmospheric movements**atmospheric humidity**

- see also hygrometers
- aerosol, laser radiation propag. under breakup conditions 4-1449
- aerosol backscattering, relative humidity effect at 0.694 and 10.6 μ m wavelength 4-42161
- altimeter readings, wet path length correction, use of two-freq. radiometer, optimum config. 4-17315
- Antarctic coastal clouds, biogenic nuclei 4-31616
- Arabian Sea, 1979 June 16 monsoonal onset-vortex, subsynoptic scale props. 4-42033
- NE Arabian Sea, moisture budget during 1979 premonsoon and monsoon onset 4-52819
- E Atlantic Intertropical Convergence Zone, struct., energetics, sensible heat, moisture budgets 4-17226
- boundary layer fluctuations, obs. intercomparison between aircraft 4-31683
- Cabauw, Netherlands, boundary layer profiles and turbulence 4-47359
- clear sky moisture profiles from 183 GHz water vapour line satellite obs. 4-13054
- cloud, streamers propagation through large population of neutral droplets 4-42127
- convective mixed layer, turbulent fluctuations mol. dissipation, height depend. 4-42008
- convective mixing layer, interfacial scales of temp. and humidity fluctuation (*French*) 4-58236
- cyclone during AMTEX '75, diabatic effects of latent heat release/boundary layer moisture 4-36430

atmospheric humidity continued

- Czechoslovakia, climatological processing of atmospheric landscape component 4-12974
- heat burst of 1976 May 29, assoc. temp., humidity, cloud and wind characts. 4-36427
- hurricanes, latent heat release in NWP models, use of lower saturation criteria 4-36435
- ice accretions grown on power lines, microstructure, atm. water content/temp./vel. effects 4-12945
- ice crystals, depolarisation effects on dual-polarised communication link 4-22040
- India, monsoon climate, classification and moisture regime stability 4-58279
- Indian Ocean area, precipitable water content during 1979 summer monsoon 4-22036
- Kitt Peak, water vapour meas. from spectroscopic obs. 4-58243
- lidar remote sensing method 4-22097
- marine boundary layer, IR spectral radiance depend. on moisture distrib., stratification effects 4-12983
- maritime stratus clouds, optical pulse broadening estimates 4-52884
- measurement, thin-film resistance humidity sensor using crosslinked polymer 4-58289
- METEOSAT-1 water vapour channel data 4-31582
- microclimatology, temp. and humidity evolution and fluxes (*French*) 4-26755
- microwave dual channel radiometer for water content determ. 4-3836
- microwave radiometry for sea surface temp., wind speed and atm. water content determ. 4-47420
- microwave remote sensing, effect of water vapour dimer (*Chinese*) 4-42186
- moist available potential energy in limited region, budget (*Chinese*) 4-47327
- Niamey (Niger), surface humidity and turbidity parameters 4-47360
- photographic layer thermostat aging exp. results (*Russian*) 4-48241
- polar stratosphere clouds, form., role of aerosols, temp., humidity 4-17234
- profiles from VISSR Atm. Sounder radiance obs. 4-17286
- radar/radiometer profiler system for temp., wind, humidity remote sensing 4-3837
- remote sensing by mm wave radiometry 4-3835
- remote sensing by satellite far IR method 4-3832
- remote sensing lidar system operating as a meteorological tower 4-3842
- remote sensing of oceanic region humidity by Nimbus-7 microwave radiometry 4-58292
- remote sensing of vertical profiles by ground-based microwave radiometry (*Chinese*) 4-13083
- remote sensing technique using lidar 4-22096
- Sierra Nevada winter storms, cloud ice crystals and supercooled liquid water distrib. 4-47362
- Southern Hemisphere, water vap. transport seasonal variations 4-8260
- Southern Plains, USA, low-precipitation severe thunderstorms, vertical wind and moisture profiles 4-47341
- squall line cloud cluster in GATE, water budget and winds 4-8294
- stack height, effect of humidity (*German*) 4-16815
- storms, liquid water content along ice particle trajectories 4-13049
- storms, moist convection and energy considerations 4-47340
- mixed stratocumulus cloud layers, saturation point budgets and thermodynamics 4-47381
- stratosphere aerosol layer influence on vertical water transport 4-17243
- stratosphere of USA, water vap. content variations in AD 1964 to 1982 period 4-36457
- stratosphere water vapour abundance influenced by tropical tropopause 4-8270
- stratus clouds in California, temp. and humidity rel. to radiative effects 4-42167
- supersaturated water vapour, IR laser photoacoustic spectroscopy 4-42120
- total water vapour content from near-IR solar radiance meas. (*Chinese*) 4-58308
- troposphere, temp. and moisture retrieval from VAS data, effect of surface data addition 4-47361
- water content of stratocumulus and cumulus clouds, heterogeneous distrib. and bimodal drop spectra (*French*) 4-58238
- water distrib. in cyclones, meas. by scanning multichannel microwave radiometers 4-22064
- water vapour, vertical distrib., effect on air mass/solar irradiance determ. 4-8295
- wind speed and direction depend. of temp and humidity of weather station 4-52870
- H₂O₂ ($A=16, 17, 18$), atlas of line positions and intensities between 0 and 4350 cm⁻¹, book 4-17650
- O₃, global var. in stratosphere/troposphere rel. to temp. and water vapour 4-31581
- SO₂ conversion to sulphate and sulphite aerosols, humidity and temp. effects 4-46920

atmospheric ionisation

- see also atmospheric radioactivity; ionosphere
- Athens, Greece, ambient air negative ion density, effect of wind speed and direction 4-42129
- auroral ionosphere, electron plasma density deduced from lower oblique resonance measurements 4-52989
- cloud, streamers propagation through large population of neutral droplets 4-42127
- D-region, ion composition 4-58334
- D-region, ionisation by solar radiation, radiowave absorpt. use for NO conc. determ. 4-42252
- D-region heavy ion ledge, transition height from incoherent scatter obs. 4-52984
- D-region ionising solar flares, correl. with sunspots morphology/mag. fields 4-13287
- droplet electric charging by propagating positive streamer 4-12984
- E-region, wind shear rel. to sporadic-E phenomenon, Dynasonde meas. 4-22245
- F-region at high latitudes, O⁺ relative abundance, EISCAT obs. 4-22238
- F-region, auroral zone, struct. and morphology of irregularities 4-22254
- F-region, HF radar studies of small-scale irregularities at very high latitudes 4-22251
- F-region, plasma irregularities movements rel. to tropical spread-F 4-13127

atmospheric ionisation continued

- ion sampling and mass identification apparatus 4-17282
- ionosphere, effect of electrons precip. from radiation belt 4-8345
- ionosphere, ion density rel. to conductivity and circulation of high-latit. neutral thermosphere 4-58328
- ionosphere, ionisation due to cosmic ray interactions (*French*) 4-31722
- ionosphere, main trough and assoc. E_s-layer 4-22243
- ionosphere, night-time post-storm absorpt. increases and electron precipitation belt characts. 4-22230
- ionosphere, radar obs. of high-latit. irregularities 4-22250
- ionosphere, theories of high-latit. irregularities 4-22249
- ionosphere irregularities at high latit., Alouette-ISIS radio wave studies 4-22252
- ionosphere sunrise effect, in atm. elec. 4-31613
- meteor trails, MHD mechanism for radio waves generation by bright fireballs 4-42372
- meteor trails, scattering of radiowaves, freq. distortion 4-22211
- microwave beams interaction and ionized region production 4-47481
- microwave propag. and absorpt. above breakdown threshold, plasma heating 4-52845
- negative ion comp. and H₂SO₄ vapour in upper stratosphere 4-26758
- negative ion obs. in upper stratosphere, and inferred trace gas concs. 4-42123
- trough studies from Millstone Hill rel. to plasmopause/magnetosphere boundary 4-22244
- upper atmosphere, photoelectron energy spectra struct. in 2 to 5 eV range, obs. and theory 4-22225
- Na⁺ vertical drift 4-31713
- O₂⁺+NO, charge exchange collision at ionospheric altitudes 4-3871

atmospheric light propagation

- aerosol absorbing droplets, propag. effects on pulsed light beams 4-28625
- aerosol background continental characts. from mountain top obs., in Arizona 4-26753
- aerosol backscattering, relative humidity effect at 0.694 and 10.6 μ m wavelength 4-42161
- aerosol backscattering of a laser beam, radiative transfer eqn. 4-1349
- aerosol heating and vaporisation by pulsed light beams 4-28624
- aerosol optical depth, estimation from multispectral scanner data via channel correl. method 4-52961
- aerosol single-scatt. albedo in Arctic, determ. from ground-based solar irradiance meas. 4-47411
- aerosol size distrib. from simple inversion method 4-8328
- aerosol-scattered laser radiation at 1 micron, lateral coherence study 4-36488
- aerosols, Angstrom's wavelength exponent rel. to Junge's particle size distrib. exponent 4-47407
- aerosols, normalised scatt. diagram with power law for particle size distrib. 4-19373
- astronomical refraction, method of calc. for three-dimensional inhomogeneous atmosphere (*Russian*) 4-31645
- attenuators with structured vertical distrib., effect on air mass/solar irradiance determ. 4-8295
- chromaticity of path radiance, appl. to atmospheric correction of Landsat data 4-31704
- cloud optical depth determ. 4-47429
- cloud optical depth determ. from sunlight intensity, use of photodiode radiometer 4-47429
- direct/diffuse/global solar radiation estimation, daily and monthly, using sunshine duration meas. 4-52860
- dual filter method for turbulence profile characts., system response, graphical method 4-26850
- Earth albedo 4-47400
- El Chichon 1982 eruptions, stratosphere transmission at 340 nm, lidar method 4-22121
- equivalent index-atmosphere, correction formulae for astronomical refr. (*Chinese*) 4-8313
- extinction meas. of He-Ne laser light rel. to aerosol particle conc. (*Chinese*) 4-58283
- far infrared, anomalous attenuation in 7-10 cm⁻¹ window 4-42051
- forward multiple scattering corrections as a function of detector field of view 4-1350
- geodetic leveling, atmospheric temperature stratification causing refraction error 4-58302
- high altitude resolution profiles, C_n², importance on coherence lengths 4-3819
- image passed through randomly inhomogeneous medium, quasimode correction 4-14643
- image transmission rel. to remote sensing, correction for variable viewing and illumination geometries 4-22142
- inclined tropospheric optical link, refr. index fluctuations structural const. determ., expt. study 4-36490
- incoherent backscatter radar, power ratio estimation for heterodyne receiver with square law detect. 4-47431
- laser beams, focused, thermal distortions, numerical modelling 4-3825
- laser optical links, thermal blooming of an optical carrier in the atmosphere 4-58285
- retroreflected laser radiation fluctuations in turbulent atm. 4-52880
- laser radiation propag., numerical anal. 4-3824
- Lidar, simplified data acquisition of aerosol concentration in atmosphere (*German*) 4-22124
- lidar backscatter altitude depend. in lower troposphere (*Russian*) 4-13024
- lidar observation analysis 4-52879
- lidar observations of stratospheric aerosol layer at 26 km altitude over Kingston, Jamaica 4-58229
- marine aerosol effects on atm. transmission, particle size spectrometers intercomparison 4-26854
- Mie scattering phase function, power series expansion 4-1347
- narrow light beam in turbid atmos., polydisperse aqueous aerosol, irradiance distrib. 4-31647
- near-IR atmospheric precipitation sensing device 4-31681
- Niamey (Niger), surface humidity and turbidity parameters 4-47360
- nonredundant aperture mask construction for obs. through turbulent atm. (*Ukrainian*) 4-5551
- nuclear winter, global consequences of multiple nucl. explosions 4-46911
- optical communication system using receiver with memory, effects of atm. turbulence 4-19382
- partially coherent light beam intensity fluctuations in a turbulent atm. 4-36486
- Peking University, China, turbidity, atm. transparency spectrum and aerosol characts. (*Chinese*) 4-47404

atmospheric light propagation continued

- polar stratosphere clouds, form., role of aerosols, temp., humidity 4-17234
 - polarised light, expansion of Mie scatt. matrices in generalised spherical functions 4-53027
 - Portland, Oregon, USA, aerosol light scatt. and carbonaceous composition 4-52798
 - pulse broadening estimates in maritime stratus clouds 4-52884
 - radiation in atm. (book) 4-8661
 - radiation transfer above inhomogeneous non-Lambertian reflective ground 4-42176
 - radiative transfer through aerosol cloud, calcs. 4-26802
 - rainfall-induced optical phase fluctuations in the atmosphere 4-13025
 - Rayleigh-scattering line profiles 4-22081
 - receiver with spatial-frequency filtering, information signal isolation for turbulent atm. channel 4-44197
 - refraction errors in geodetic levelling of S California 4-31402
 - refraction haloes, polarisation and intensity distrib., ice crystal effects 4-26799
 - scattering by randomly oriented cubes and parallelepipeds, geometric ray tracing theory 4-1333
 - scattering from aerosols, refr. index and particle size distrib. 4-12981
 - Schmidt telescope wide-field fibre-optical coupler for spectroscopy, differential atm. refr. effects 4-36584
 - scintillation in Shanghai, aperture smoothing factor, appl. in laser engineering (*Chinese*) 4-58282
 - slant paths refraction, comparative accuracy of calc. methods (*Russian*) 4-42165
 - falling snow, optical extinction at visible and IR frequencies 4-31632
 - falling snow, visible and IR transmittances 4-31633
 - stochastic medium, asymptotic formula for the random intensity (*Russian*) 4-52881
 - stratocumulus clouds in Africa and Europe, radiative props. 4-42166
 - stratosphere aerosols, Angstrom coeff. from inversion algorithm 4-47408
 - stratosphere volcanic dust cloud of AD 536, cloud optical and physical characts. 4-41848
 - stratus clouds in California, radiative effects 4-42167
 - sunlight, limits on determ. of solar spectral const. from ground-based spectroradiometry 4-22090
 - sunlight extinction by pollutant aerosols in Washington DC 4-47406
 - temperature meas. using pure rot. Raman lidar, crosstalk severity 4-52895
 - transmittance measurement by base method, effect of atm. conditions and optoelectronic instrum. parameters 4-36492
 - turbid media light pulse propagation theory (*Russian*) 4-17262
 - turbidity determination from diffuse and direct sunlight anal. 4-52917
 - turbulent layer, diff. by opaque half-plane 4-17263
 - volcanic aerosols, optical depth determ. from brightness of lunar eclipses 4-36491
 - water aerosol, laser radiation propag. under breakup conditions 4-1449
 - West Africa, troposphere/stratosphere aerosols extinction coeff. at 1 micron 4-26803
 - CO₂ laser pulses, atmospheric propag. 4-47403
 - CO₂ laser radiation pulses, nonlinear power attenuation in atm. near ground 4-3823
- atmospheric measuring apparatus**
see also air pollution detection and control; ionospheric measuring apparatus; meteorological instruments
- 300 MHz EM radiation, lightning discharges electrostatic field meas. (*French*) 4-44027
 - absolute cavity radiometer, He-cooled, solar and lab. irradiance meas. appls. 4-13045
 - active cavity radiometer spatial input response, cosine law observance over input angles extending beyond the Earth limb 4-13046
 - air pollution measurement with optical spectrometer of repetitive-scanning derivative type 4-21606
 - airborne lidar systems for atmospheric observations 4-26350
 - aircraft intercomparisons of turbulence meas. during JASIN 4-31683
 - atmospherics reception equipment transforming signal to audible sound pattern (*German*) 4-31689
 - balloon utilising IR terrestrial radiation for lift, meteorological applications 4-17277
 - Boulder Atmospheric Observatory for boundary layer research 4-3841
 - broadband low noise 205 GHz radiometer for satellite microwave limb sounder instrument 4-17395
 - buoy and mooring system design, for meas. of atmos. and ocean variables 4-8336
 - drifting buoy for ocean and atmos. monitoring, design and telemetry system 4-3853
 - cloud droplet size and conc. measurement, with FSSP infrared airborne equipment 4-26825
 - cloud near infrared properties measurement, airborne radiometer design 4-42170
 - cloud water sampler and pollutant trajectories anal. 4-26348
 - cluster ion source/ion drift cell apparatus for stratosphere ion anal. 4-42246
 - compensated aerological no-lift balloons for long-term dry-air parcel directories 4-47427
 - condensation nucleus counter design for stratospheric operation 4-42209
 - cryogenic etalon spectrometer performance on upper atmospheric research satellite 4-8323
 - cryogenically cooled sensors and Fourier transform spectrometers, conf., San Diego, CA, USA (Aug. 1982) 4-4142
 - 4-22136
 - DMSR microwave temp. sounder, data anal. 4-22136
 - Doppler Imaging System for thermosphere dynamics obs. 4-42235
 - dual filter method for turbulence profile characts., system response, graphical method 4-26850
 - Dynamics Explorer Fabry-Perot interferometer, image detector 4-17267
 - electronic wind direction indicator, using 16 LED wind compass card 4-36506
 - Fourier cryogenic spectrometer for IR emission anal. 4-8322
 - Fourier transform spectrometer for atm. ambient temp. absolute radiometry 4-8321
 - halipad measurements, sampling errors due to pad finite size 4-58297
 - HF acoustic mini-sounder for boundary layer wind and temp. 4-31663
 - hot-wire anemometer for direct neutral temp. meas. in mesosphere 4-31686
 - humidity sensor, using crosslinked polymer film 4-58289
 - infrasound and subsonic disturbance meas., design of microbarograph 4-22122

atmospheric measuring apparatus continued

- integrating sphere as a precision radiometric calibration source 4-13044
- ion sampling and mass identification apparatus 4-17282
- ion sampling device for troposphere 4-42245
- IR radiometer for airborne meas. of atm. surface layer 4-58312
- IR radiometer for net IR sky irradiance meas. 4-22128
- K_a-band scatterometer meas. at three azimuths 4-22161
- laser radar for measuring atm. conditions *(Japanese)* 4-58306
- laser remote sensing using CO₂ IR heterodyne systems, signal-to-noise ratios 4-22102
- Lidar, simplified data acquisition of aerosol concentration in atmosphere *(German)* 4-22124
- light radiance in air and sea, measurement techniques 4-26894
- lightning flash counters development and field evaluation 4-52938
- Active Magnetospheric Particle Tracer Explorers program for solar wind magnetosphere studies 4-3851
- methane measurement using semiconductor laser apparatus 4-3515
- microwave scatterometer for wind direction on ocean surface 4-22162
- multichannel Fabry-Perot interferometer on Dynamic Explorer spacecraft, Doppler line profile anal. 4-47415
- near-IR atmospheric precipitation sensing device 4-31681
- nephelometer for atm. scatt. indicatrices meas., accuracy characts. analysis 4-52949
- NEXRAD-A Doppler radar system for weather recognition and forecasting 4-17312
- noise meas., techniques and instruments 4-47455
- parallel sensors configurations, effect on temp. spatial derivatives in turbulent flow 4-42007
- particle size spectrometers intercomparison, marine aerosol effects on atm. transmission 4-26854
- photoacoustic non-resonant cell, acoustically decoupled, appl. to atm. trace gas analyses 4-41406
- photodiode radiometer for cloud optical depth determ. 4-47429
- photometer to measure incident and reflected sunlight under polar conditions 4-31676
- photometric imaging expt., on Spacelab 1, appl. to meas. of optical and UV emissions 4-26855
- photon counting photometer for Balmer alpha line intensity meas. in night sky 4-58355
- polycyclic aromatic hydrocarbon detectors, choice of filter material 4-31558
- precision polar nephelometer for atm. aerosol characts. meas. 4-12981
- pressure sensor calibration using behavioural modelling 4-26830
- pulse Doppler weather radars, practical algorithms for mean vel. estimation 4-26814
- radar for precipitation studies, dual polarisation mm wave system 4-3834
- radar for tropospheric and radiocommunication research, S-band FM-CW system *(Dutch)* 4-22132
- radar receiver calibration using behavioural modelling 4-26830
- radar system made by Mitsubishi *(Japanese)* 4-26852
- radar/radiometer profiler system for temp., wind, humidity remote sensing 4-3837
- radiation detectors, effects of wind gusts on thermal detectors 4-26865
- radio emission measurement equipment, two-channel radiotelescope 4-17288
- radiometer, total-power type, design using SAW compressive receivers, mesospheric meas. appl. 4-22176
- rain chemical sampler, design of automated apparatus 4-57814
- rain intensity maxima dependence on measuring time, instrumentation 4-47350
- raindrop and hailstone size meas. apparatus, influence of instrument out-of-level alignment 4-26826
- rainfall instrumentation package with improved sampling, using microcomputer 4-31693
- rainfall measurement by radar, accuracy compared to raingauges 4-58293
- raingauge errors due to out-of-level alignment and presence of wind 4-26826
- rainwater chemical composition samplers, contamination by dry deposition 4-52897
- remote sensing lidar system operating as a meteorological tower 4-3842
- rocket-borne IT photometer for 1.27 μ m airglow meas. 4-8331
- satellite for meteorological work, operated by Japan, GMS-2 4-53004
- Seasat scatterometer wind meas., accuracy comparison with JASIN expt. 4-52903
- falling snow, equipment to measure mass concentration 4-31673
- snow measurement apparatus for snow characteristics relevant to atm. optics 4-31675
- falling snow measuring instruments 4-31674
- spherical field meter for electric field vector meas. 4-8332
- sunphotometer handheld design for network operation 4-22103
- thermal lens spectrophotometry with Ar⁺ laser excitation, for NO₂ determ. 4-12395
- severe thunderstorm instrumentation, ground based transportable system 4-3844
- thunderstorm instrumentation and meas. techniques, conf., Washington DC, USA (April 1982) 4-36784
- TIROS-N Operational Vertical Sounder data communication and processing system 4-31651
- tornado monitoring instruments (TOTO) deployed to obs. storms in Texas and Colorado, USA 4-3795
- UV absorption O₃ photometer, for use on stratospheric balloons 4-26866
- visibility measurement, design of automated equipment 4-26829
- VLF location of intracloud and ground stroke lightning, polarisation errors of direction finding equipment 4-42241
- water droplet measuring instruments comparison of different devices 4-3843
- water vapour and liq. meas. by dual channel microwave radiometry 4-3836
- wind scatterometers, satellite mounted, design 4-26888
- As cpds. detection using samplers with glass fiber filters 4-52898
- CO₂ measurement with IR laser spectrometer for flask samples 4-42210
- NO₂ photodissociation coefficient in lower atmosphere, balloon-borne instrumentation 4-42046
- OH radical in stratosphere, balloon borne lidar meas. system and obs. 4-42213

atmospheric measuring instruments see atmospheric measuring apparatus**atmospheric motion see atmospheric movements****atmospheric movements**

- see also atmospheric turbulence; wind*
- acoustic-gravity waves, refr. waveguides 4-13186
- Adriatic sea level, effect of planetary atm. waves frictionless influence 4-21986
- advection effect on dual-Doppler radar obs. of wind field, errors minimisation 4-13051
- aerosol particle motion influenced by gravity waves *(Russian)* 4-52834
- air pollution long-range transport by forward trajectory model 4-31551
- air pollution transport, model sensitivity anal., perturbation theory appl. 4-46908
- air pollution transport in deep fjord valley, SF₆ tracer study 4-12502
- air quality simulation models; numerical advection schemes 4-12960
- Antarctic middle atmosphere, summer circulation 4-52979
- antitriptic flow, integral approach *(German)* 4-17216
- Arabian Sea, 1979 June 16 monsoonal onset-vortex, subsynoptic scale props. 4-42033
- E Asia, barotropic energy conversion before and after October 1978 cold wave *(Chinese)* 4-42026
- asymmetric vorticity couplet in upper troposphere near GARP cloud cluster 4-52813
- N Atlantic, blocking of 1978 December 17-18, numerical simulation 4-47342
- western North Atlantic, unexpected cyclogenesis in June 1981 AD 4-17217
- E Atlantic Intertropical Convergence Zone, struct., energetics, sensible heat, moisture budgets 4-17226
- AVE-SESAME V (20-21 May 1979), meso β -scale interactions of thunderstorm 4-26731
- baroclinic effects in low latitude atm. *(Chinese)* 4-47330
- baroclinic instability, numerical models for synoptic disturbances at mid-latitudes 4-36467
- baroclinic instability and frontogenesis, with Ekman boundary layer dynamics and geostrophic momentum approximation 4-47379
- baroclinic instability inducing mean motions, atm. appl. 4-24459
- baroclinic instability of zonal flow, study of eddy momentum flux direction 4-36461
- barotropic blocking model, predictability 4-58213
- barotropic flow in β -planes, simple truncated models 4-58216
- barotropic model prediction, appl. of semi-implicit integration scheme 4-52847
- barotropic-baroclinic instability, large scale topographic effects *(Chinese)* 4-58220
- Barrow, Alaska, polluted air masses transport 4-41398
- binary typhoons in NW Pacific, interaction and movement *(Chinese)* 4-58248
- blocking, observational data and predictability 4-58214
- blocking and nonblocking periods, spectral energy and enstrophy budgets 4-36445
- blocking flow patterns reinforced by jetstream eddies 4-26764
- blocking-like solutions of potential vorticity eqn. 4-42066
- boundary layer, gravity waves generation 4-58263
- boundary layer, shear flow wave motions *(Russian)* 4-49834
- boundary layer, stably stratified turbulent shear flow by Malkus' theory 4-42011
- boundary layer, turbulent diffusion modelling and pollutant transport 4-58264
- NE Brazil, rainfall anomalies and large-scale circulation 4-42147
- broad valley wind channeling, theory 4-47354
- buoyant plumes, wind tunnel modelling, near field dispersion 4-57810
- Cabauw, Netherlands, boundary layer profiles and turbulence 4-47359
- California, Catalina eddy event anal. 4-42035
- North China Plain, rain forecasting anal. and low systems movements *(Chinese)* 4-42023
- S China Sea, meridional and latitudinal circulations *(Chinese)* 4-58221
- circulation in low latitude monsoon regions (July 1979) *(Chinese)* 4-58250
- circulation of mid-troposphere/sea surface temp. gradient assoc. 4-36405
- circulation over southern hemisphere rel. to Antarctic *(Russian)* 4-47369
- circulation patterns during glacial inception 4-47388
- climate model, synoptic cloud generation in low resolution spectral model 4-42149
- cloud, ice-nucleus sources, propag. by diffusion 4-26779
- cloud entrainment, rel. to heterogeneous distrib. of water content and bimodal drop spectra *(French)* 4-58238
- cloudy convective boundary layer, obs. of shallow convection 4-42015
- compensated aerological no-lift balloons for long-term dry-air parcel directories 4-47427
- conference on coastal zone meteorology/air-sea interactions at The Hague, Netherlands (May 1982) 4-22526
- conference on geophysical fluid dynamics, at Vienna, Austria (August 1982) 4-8639
- continental polar air formation from maritime polar air 4-36466
- convection electric fields at ionospheric altitudes, obs. 4-31719
- convective condensation heating and unstable mode *(Chinese)* 4-58247
- convective eddy, basic and meridional motion, lab. model 4-47385
- cooling tower plume rise expts. at The Geysers, California, USA 4-52792
- linear Couette flow with beta effect, study of barotropic and baroclinic instabilities 4-36468
- cumulus cloud parameterisation scheme for heat, moisture and momentum fluxes 4-47349
- cumulus convection mechanism, wave-CISK theory for divergence generated gravity waves 4-42070
- deep fronts initial formation, perturbation analysis of intensification 4-26767
- dispersion equation, finite differencing scheme 4-36048
- dynamics of predictability of three-component Lorenz model of shallow convection 4-58210
- E-layer movements followed with HF pencil beam radar 4-26929
- Earth rotation rate changes due to atmos. angular momentum 4-41696
- eddy fluxes during a blocking episode 4-36462
- El Chichon volcanic eruption cloud, 2-D model simulation 4-31462
- El Chichon volcanic eruption cloud over Europe 4-31594
- El Nino winter (1982-3), climatic anomalies and circulation 4-41931
- El Nino/Southern Oscillation phenomena, meteorological aspects 4-42134
- engineering meteorology (book) 4-47795

atmospheric movements continued

- equatorial atmosphere, nonlinear dynamics, zonal model (*Russian*) 4-8251
- equatorial middle atmosphere, Kelvin wave identification 4-31611
- equatorial waves, weak interactions in one-layer model 4-22043
- equatorial waves in weak interactions in one layer model, appl. 4-22044
- equatorially trapped waves at 2300 mb level rel. to meridional wave convergence 4-58231
- W Europe, anal. of 500 mbar flows in successive ECMWF forecasts (September 1982) 4-42039
- Europe, SO₂ and SO₄ long-range transport numerical modelling 4-36050
- explosive cyclogenesis associated with cyclones in polar air streams 4-42031
- extratropical cyclone tracks and available pot. energy 4-36446
- F-region, HF radar studies of small-scale irregularities at very high latits. 4-22251
- F-region main trough, equatorward movement over Halley Bay, Antarctica 4-22242
- finite-amplitude baroclinic waves, growth and decay 4-17223
- finite-amplitude Eliassen-Palm theorem in isentropic coords. 4-17224
- flow numerical modelling, effect of high resolution orography 4-8304
- flow stability of homogeneous atmosphere of finite thickness, theory 4-52865
- forecasting H₃₀₀ field over a hemisphere, transport eqn. soln. 4-22059
- quasi-geostrophic frontogenesis over topography 4-36465
- GARP Atlantic Tropical Experiment, deep convection rel. to large-scale circulation 4-52812
- general circulation, adjoint functions for sensitivity anal. of atm. models 4-42067
- general circulation, influence of critical latit. on topographically forced stationary waves 4-47377
- general circulation, nonlinear evolution of localised perturbations on β -plane (*Russian*) 4-41935
- general circulation, shallow water eqns. theory 4-8259
- general circulation by ECMWF model, envelope orography for reduction of systematic errors 4-26762
- general circulation changes due to E. equatorial Pacific sea temp. anomalies 4-8309
- general circulation during spring 1983, associated with El Nino 4-52828
- general circulation few-component model involving heat transfer from ground 4-17249
- general circulation influenced by Tibet Plateau, theory (*Chinese*) 4-13004
- general circulation long-period waves excited by periodic source 4-17248
- general circulation model with planetary boundary layer parameterisation 4-52817
- general circulation models applied to Hamburg GCM, climate states test 4-47338
- general circulation of middle atmosphere, influence of gravity waves 4-42064
- global circulation during special observation periods of FGGE, energetics anal. 4-47375
- gravity field changes due to passage of cold fronts 4-13072
- gravity wave damping due to secondary harmonic generation (*Russian*) 4-17219
- gravity wave formation due to jet stream (*Chinese*) 4-12999
- gravity waves in mesosphere, numerical model of wave breaking 4-42103
- gravity waves of short-period, statistical props. and source mechanisms 4-8263
- gravity waves-convective storm interaction, case study 4-58232
- SW Great Plains of USA, winter low-level jet formation due to synoptic cyclogenesis 4-52821
- Grosswetterlangen circulation, Markov chain analysis (*German*) 4-31620
- HF propagation problems 4-3878
- hurricane translation, effect on boundary layer winds and convection 4-17230
- inertial waves energy intensity 4-8300
- internal gravity waves in troposphere and ionosphere, origin from cumuli clouds (*Russian*) 4-52839
- internal wave dissipation in contained rotating stratified fluid 4-34113
- inversion-capped planetary boundary layer, horizontal roll vortices 4-31564
- ionosphere, acoustic and MHD waves 4-24
- ionosphere, correl. of equatorial scintillation at 327 MHz over 3.2 km baseline 4-13129
- ionosphere, dynamic model of plasma convection, field aligned currents and polar regions struct. 4-22208
- ionosphere, obs. of gravity waves in auroral zone 4-22247
- ionosphere, plasma irregularities movements rel. to tropical spread-F 4-13127
- ionosphere, plasma parameters calc. method and hydrodynamic eqns. soln. 4-22112
- ionosphere, power spectra of equatorial scintillation at 327 MHz 4-13130
- ionosphere, solar cycle and seasonal vars., Chatanika incoherent scatter radar obs. 4-22239
- ionosphere, struct. and dynamics of winter polar cap F-region 4-22203
- ionosphere, TID sources location by chain of rapid-run ionosondes in Quebec 4-22248
- ionosphere convection, long-line meas. at high latits. 4-22255
- ionosphere internal Alfvén gravity waves 4-10642
- ionosphere plasma convection at high-latitude rel. to IMF orientation 4-26922
- ionosphere waves excitation by solar flare radiation, effect on mag. field 4-22214
- isolated synoptic scale structures 4-26740
- jet at ultra-low level during nocturnal inversion, fluctuations (*Chinese*) 4-58251
- jet between typhoon and Pacific subtropical high, effect on heavy rain storms (*Chinese*) 4-42025
- jet stream and February 1975 Middle East storm 4-26730
- jetstream eddy vorticity forcing of blocking flow fields 4-26764
- Karman's vortex street instability, quantitative model 4-42044
- kinetic energy maintenance 4-42125
- kinetic energy spectra, aircraft obs. 4-3792
- Lagrangian time-mean flow, conservation of pseudoenergy 4-47378
- large-scale atmospheric dynamics, book 4-36828
- large-scale circulation spectral model, effects of horizontal diffusion on baroclinic development 4-26766
- large-scale weather systems, mean flow interaction/shape/propag. 4-8284
- limited area atmospheric model, nonlinear normal mode initialization mechanism 4-52831
- linear predictability: effects of stationary forcing 4-58217

atmospheric movements continued

- linear waves, unified soln. (*Chinese*) 4-47326
- long-distance transport, model simulations compared to observations 4-31550
- long-wavelength modes in stratosphere, radiative damping theory 4-36463
- lower atmosphere dynamical response to upper atmos. forcing 4-31586
- Machenhauer's initialization scheme for circulation and forecasting studies, convergence props. 4-52816
- Machenhauer non-linear normal mode initialisation, solns. existence 4-36443
- magnetopause boundary layers, mag. field/plasma fluxes and solar wind interactions 4-17352
- magnetosphere, convective instability of obliquely propagating EM modes 4-13143
- magnetosphere convection rel. to global dynamic models of thermosphere and ionosphere 4-36535
- magnetotail, proton bursts dynamics during current layer tearing instability devel. 4-42272
- Meso-Scale Atmospheric Circulations, book 4-4174
- mesopause, semidiurnal tidal wind over central Europe, vertical phase gradient (*German*) 4-17320
- mesopause region, turbulent heating and cooling and influence on winds 4-13115
- mesoscale convective complexes at midlatitude 4-8275
- mesoscale convective system, role of divergent and rotational winds to severe storms 4-52814
- mesoscale diffusion and pollution dispersion, effect of vertical wind shear (*Chinese*) 4-13003
- mesoscale wavenumber spectra from Global Atmospheric Sampling Program data 4-3793
- mesosphere, gravity waves break-up rel. to winter-time radar echoes 4-22050
- mesosphere and lower thermosphere tides, waves and wind, August 1980 obs. 4-42249
- middle atmosphere, numerical response to 11-year solar cycle 4-58326
- mixing and dispersion by 2-D turbulence, statistical theory (*Russian*) 4-12991
- moist quasi-geostrophic barotropic instability theory 4-42056
- momentum transport by a line of cumulonimbus 4-8293
- monsoon circulation in winter over E Asia and Pacific 4-8268
- monsoon depressions, role of baroclinic processes 4-8277
- monsoon in East Asia, zonal and meridional harmonic anal. 4-36472
- monsoon low-freq. variability, influence of cooling due to evaporation of wet ground 4-36453
- Mount St. Helens, ash eruptions (1980), movements and radar obs. 4-12867
- mountain waves over British Isles, aircraft obs. and momentum flux 4-26771
- moist mountain waves simulated by compressible model 4-52826
- near-field dispersion from instantaneous sources in surface layer 4-42006
- non-equilibrium states of Earth's atmosphere, energy equation theory 4-42045
- nonlinear inertia-gravity waves, Korteweg-de Vries eqn. and solns. (*Chinese*) 4-42003
- nonlinear waves in barotropic atmosphere model (*Chinese*) 4-12998
- North America, 500 mb height anomalies classification 4-58224
- North polar vortex rel. to stratospheric aerosol spatial changes 4-12986
- extratropical Northern Hemisphere, seasonal mean vertical velocity fields 4-8272
- Northern Hemisphere, winter extratropical circulation, persistent anomalies anal. 4-42032
- Northern Hemisphere 500 mb height analyses in AD 1946 to 1979 period 4-8271
- Northern Hemisphere circulation, interannual variability and predictability 4-8261
- northern hemisphere winter, intraseasonal circulation and outgoing long-wave radiation modes 4-36432
- Northern Hemisphere winter stratosphere zonal momentum balance 4-8273
- obstacle in stratified wind field, influence of velocity shear (*Russian*) 4-31610
- Oklahoma, United States, thunderstorm cloud tops, motions and temp. 4-47337
- Oklahoma multicell storm, hail growth, trajectories and form. 4-8292
- operational weather forecasting, quasi-Lagrangian regional model 4-47343
- orographic mesoscale flow numerical modeling, application of terrain height variance spectra 4-42069
- orography and Rossby effect influences on atmospheric wave motions 4-22058
- South Pacific, circulation features var. during FGGE (January 10-27 1979) 4-42034
- N Pacific, continental dust blown in from Asia 4-42108
- central equatorial Pacific, zonal wind changes rel. to El Nino 4-22057
- Pacific Ocean, equatorial sea surface temp. anomalies, influence on extratropical circulation via Rossby waves 4-8242
- Pacific Ocean, sea surface temp. and surface press. correl., role of atm. circulation (*Chinese*) 4-47269
- Pacific Ocean, tropical precipitation surges, correl. with midlatitude troposphere flow via planetary waves 4-8285
- particle trajectories determination in presence of turbulent-vel. variance gradient 4-42009
- physical properties (book) 4-8667
- planetary boundary layer, diffusion eqns. stability 4-47348
- planetary boundary layer, vortex circulation struct. (*Chinese*) 4-47325
- planetary boundary layer jet struct. over China (*Chinese*) 4-42028
- planetary wave dispersion in wintertime troposphere 4-36460
- planetary wave forecast model, influence of latent heating in tropics 4-8267
- planetary wave modelling of stratosphere and lower mesosphere 4-26763
- planetary wave prediction model, influence of tropical winds 4-8266
- planetary wave propag. rel. to predictability 4-58218
- stationary planetary wave response to tropospheric forcing 4-42062
- planetary wave-wave nonlinear interactions in stratosphere 4-42063
- plume dispersal from Kincaid Power Plant, second-order closure model using meteorological data 4-3510
- plume dispersion in convective boundary layer, expts. at Mt. Isa, Australia 4-52794
- plume dispersion over complex terrain, Gaussian model study 4-52793
- plume vertical dispersion in complex terrain, theory 4-52235

atmospheric movements continued

- plumes consisting of SO_x , NO_x and hydrocarbons, transport to background troposphere 4-12962
- Polar Basin, Beaufort-Laptev sea region, dynamic climatology (1975-6 summers) 4-42016
- pollutant concentrations and transport, estimation from remote sensing data 4-16821
- pollutant dispersion, appl. of Prigogine diffusion theorem 4-42042
- pollutant long-range transport in Europe 4-31139
- pollutants transport, elemental tracers of distant regional pollution aerosols 4-46913
- pollutants transport, S aerosol concs. in coastal environment rel. to air masses origins (*French*) 4-58240
- pollution long-range transport, models involving chem. reactions 4-16812
- pollution long-range transport in Canada and USA, AES-LRT model 4-31591
- pollution long-range transport processes and models, review 4-12500
- precipitation system displacement, study via asynchronous correl. method (*French*) 4-58237
- predictability of a large atmospheric model 4-58215
- primitive equation model, statistical equilb. soln. 4-36444
- primitive equation models on bounded extratropical region, static initialisation 4-36442
- primitive equation models with finite-element vertical discretization scheme 4-52823
- quasi-geostrophic baroclinic disturbance, devel. characts. 4-3789
- quasi-geostrophic waves of finite amplitude, theory 4-31589
- quasi-three dimensional climate model 4-31627
- quasi-geostrophic motion of barotropic and baroclinic fluid (*Russian*) 4-52836
- radioactive plumes trajectories, 3-D potential flow model 4-54258
- rainbands belonging to midlatitude cyclones 4-42058
- rapidly travelling planetary-scale instability 4-47373
- ring current proton drift, assoc. Pc 5 with large azimuthal wavenumber 4-17353
- Rossby wave overreflection 4-36471
- Rossby wave propagation in regions of small vorticity gradient 4-36464
- barotropic Rossby waves in presence of uniform westerly current, theory (*Russian*) 4-52832
- rotating boundary layer flows over obstacles, laboratory simulation 4-12996
- rotation rate from 1963-27A orbital inclination 4-26977
- Saudi Arabia desert, heat low during May 1979, thermal stratification and radiation 4-36426
- sea and land breezes, role of Coriolis force, historical note 4-47320
- semi-implicit primitive eqn. models of atmos., stability study 4-8256
- SKYHI general circulation model Eliassen-Palm diagnostics of wave-mean flow interaction 4-58230
- slantwise ascent of 2-D horizontal air tube subject to moist symmetric instability 4-42057
- smoke from nuclear war, global atmos. effects, GCM simulations 4-47401
- South Asia High, struct. and time-freq. field characts. (*Chinese*) 4-47329
- South Park Area Cumulus Experiment, mesoscale convective complex, mountain generated component 4-47334
- South Park Area Cumulus Experiment mesoscale convective complex, mature complex evolution/struct. 4-47335
- Southern Hemisphere, water vap. transport seasonal variations 4-8260
- Southern Hemisphere circulation in summer, medium scale wave occurrence 4-36470
- Southern Oscillation and sea surface temp., GFDL general circulation model anal. 4-47270
- stability and wind speed meas. by SASS 4-26782
- stationary flows of barotropic ideal fluid, variational principles and stability 4-47275
- stationary Rossby wave embedded in barotropic monsoon zonal flow, stability anal. 4-52848
- storm flow structure, effect on hail growth 4-17229
- storms, moist convection and energy considerations 4-47340
- stratified shear flows, long nonlinear waves theory 4-47276
- stratosphere, potential vorticity distrib. rel. to breaking planetary waves 4-3805
- stratosphere, tidal winds at high-latitude in summer 4-42104
- stratosphere, transient waves and O_3 , N_2O transport 4-17233
- stratosphere, vertical fine struct. of flow 4-42100
- stratosphere gravity waves observed by hot-air balloon 4-17277
- stratosphere wind errors/initial states/forecast skill in GLAS general circulation model 4-36424
- subsynoptic-scale unstable baroclinic waves, generation by surface friction 4-17236
- surface differential heating driven flow, linear model 4-47393
- surface layer over paddy-field, vorticity and its transport 4-42010
- synoptic solitary eddies, displacement mechanism (*Russian*) 4-42053
- synoptic-scale circulation, conversion between available potential to kinetic energy 4-47351
- Texas, heavy rains and synoptic-scale features, modification by widespread convection 4-47346
- thermal waves induced motion 4-17383
- thermosphere, acoustic gravity waves anal., from HF radiowaves digitisation 4-8340
- thermosphere, dynamic response to extended eastward auroral electrojet during geomag. disturbance 4-42235
- thermosphere, high latitude circulation and temp. structure near December solstice 4-26904
- thermosphere, high-latitude, effect of realistic elec. conds. on neutral circulation 4-58328
- thermosphere, high-latitude, neutral wind and ion convection meas. 4-22197
- thermosphere, substorm simulation and long-lived vortex 4-26907
- thermosphere, temp./comp./global circulation, depend. on mag. disturbances 4-22190
- thermosphere and upper mesosphere, air motions studied by VHF radar 4-42248
- thermosphere gravity waves, response of F-region, effect of plasma diffusion 4-22229
- thermosphere gravity waves, response of F-region, plasma diffusion effects 4-22229
- thermosphere neutral gas flow, effects of auroral arcs 4-22189
- thermosphere neutral wind field, spatial mapping strategies 4-58329
- three-dimensional baroclinic waves, asymptotic development theory 4-36459

atmospheric movements continued

- Tibet Plateau influence on global circulation (*Chinese*) 4-13000
 - tornado, Sacramento, California, 1978 February 5, anal. of parent vortex circulation 4-47380
 - tornado-like vortex, energy of formation 4-44601
 - tornado-like vortices, axisymmetric numerical vortex model 4-36449
 - tornado-like vortices, theory for two-cell vortices 4-36450
 - tornadoes, multiple vortex phenomena linear anal. 4-17232
 - transient eddy heat flux parameterization on beta-plane 4-42065
 - transient trace gas transport in cumulus cloud, photochemical model 4-42075
 - travelling ionospheric disturbances, study of horizontal dispersion 4-26926
 - travelling weather systems in large-scale atmospheric flow model 4-22069
 - triadic models, forced and unforced 4-36441
 - tropical atmosphere, large-scale response to transient convection 4-47383
 - tropical atmospheric flow, baroclinic and barotropic kinetic energies 4-8269
 - tropical waves, numerical expts. 4-3794
 - troposphere circulation, biennial oscills. at mid-latitudes, simulation 4-26777
 - troposphere flow, unified three-dimensional instability theory of onset of blocking and cyclogenesis 4-47376
 - upper troposphere tropical easterly jet, combined, barotropic-baroclinic instability study 4-47384
 - turbulence originating from convectively stable internal waves 4-42073
 - two layer frontal model, energy anal. 4-17235
 - two-layer flow resonances in rotating channel on an f-plane over sinusoidal topography 4-34157
 - typhoon track forecasts for middle latitudes, use of satellite cloud feature anal. 4-31692
 - typhoons, generation and development effect of ambient flow (*Chinese*) 4-47324
 - NE United States, urban pollutant plume transport in boundary layer 4-52800
 - unstable waves at high latitude, filtering out in global grid-point models 4-47421
 - upper atmosphere, convection pattern at high-latitude 4-8339
 - upper atmosphere, gravity wave propagation at mid-latitude influenced by neutral winds 4-58323
 - upper atmosphere, meas. using Poker Flat MST radar as meteor radar 4-22246
 - upper atmosphere, wind seasonal variations in lower thermosphere 4-22192
 - upper atmosphere, zonal wind annual and semiannual fluctuations 4-22198
 - upper atmosphere rotation rate and density from 1980-43A orbit 4-26906
 - upper atmosphere semidiurnal wind dependence on geomagnetic activity 4-22193
 - upper atmosphere wind shear causing wave-like Na altitude profile 4-22194
 - upper atmosphere winds, variations due to seasons and solar cycle 4-17322
 - Urals affecting upper atmosphere airglow and wind velocities (*Russian*) 4-13116
 - USA, mesoscale convective complexes during 1982 AD 4-52827
 - vertical air motion calculated from limited horizontal wind data 4-17205
 - vertical air velocity in rain, Doppler radar method 4-47425
 - Walker circulations and teleconnections forced by equatorial heating, dynamics 4-17225
 - wave conditional instability of second kind (wave-CISK), cumulus parameterisation schemes 4-47382
 - wave energy propagation away from steady sources in barotropic non-divergent atm. 4-8287
 - wave motions from high level cloud space-time spectra anal. 4-31607
 - wave motions in lower thermosphere 4-17323
 - wind counter-currents in broad valleys, theory 4-47354
 - Yangtze region, China, heavy rainfall from low-level jet stream (*Chinese*) 4-47332
 - zonal circulation change rel. to mid-latitude meridional cell (*Chinese*) 4-42024
 - zonal flow acceleration at mid-latitude, by baroclinic instability mechanism 4-42055
 - zonal harmonic wave five, rel. to medium scale disturbances in total O_3 4-42005
 - zonal-averaged dynamical model of middle atmosphere at solstices 4-26903
 - CO_2 diffusive and advective transport, mathematical model 4-58267
 - CO_2 pollution affecting climate, general circulation model study 4-42151
 - ^{85}Kr pollution mesoscale dispersion by numerical models 4-12501
 - NO_x transport from thermosphere to upper stratosphere 4-58325
 - Na^+ vertical drift 4-31713
 - O_3 transport by planetary waves, theoretical model 4-42099
 - O_3 transport due to planetary waves during stratospheric warming 4-42060
 - ^{90}Sr , prediction of fallout transport and vertical. profile in aerated zone (*Japanese*) 4-43664
- atmospheric noise** see *atmospherics*
- atmospheric optics**
 see also *airglow; atmospheric light propagation; sky brightness; sunlight; twilight*
 adaptively compensated atm.-telescope system, optical transmission function and resolving power 4-26804
 aerosol effects, chromaticity of path radiance rel. to atmospheric correction of Landsat data 4-31704
 aerosol IR optical absorption constants 4-22083
 aerosol optical properties measurement by lidar technique 4-22094
 aerosol optical properties retrieval from aureole and extinction data 4-3817
 aerosol optical props. meas. by lidar technique, calibration and data anal. 4-22095
 aerosol radiative transfer models 4-47405
 albedo of atmosphere and land surface influenced by tropospheric aerosol (*Russian*) 4-31640
 albedo of Earth surface, data set for weather forecasting 4-31587
 E. Antarctic ice cores, microparticle props., implications for palaeoclimate (30000 yr record) models 4-31626
 Arctic aerosol influence of atmospheric radiation budget 4-31629
 arctic haze absorpt. of solar radiation and climate effects 4-47409

atmospheric optics continued

- Arctic haze influence on solar radiation budget 4-13019
 astronomical seeing on Mauna Kea, comparison of summit cones and shield volcano 4-36489
 atmosphere-telescope system, instantaneous impulse response statistical props. 4-36487
 Big Bend National Park, USA, pollution and visibility 4-41402
 E Canada, turbidity in AD 1968 to 1978 period 4-26744
 Canary Islands, telescope siting 4-31752
 cirrus cloud, IR emissivity and optical props. (*Russian*) 4-31641
 cloud and fog, structure and optical properties, conf., May 1980, Williamsburg, USA 4-22524
 cloud backscatter and extinction as visible and IR freqs. 4-42172
 cloud monitoring by laser methods, review 4-26898
 cloud top structure and phase, lidar polarisation obs. 4-26741
 overshooting cloud top temperature remote sensing by satellite, influence of view angle 4-26831
 clouds, IR reflection and transmittance, 1-2.5 μm , airborne radiometer obs. 4-42170
 clouds, radiative characts. rel. to microphysics and geometric shapes 4-26805
 ice clouds optical properties, review 4-26806
 clouds simulated in laboratory expts. using cotton or styrofoam 4-3846
 colors of icebergs, frozen waterfalls and snow 4-26800
 contrast transmission influenced by rain 4-31636
 Dhahran, Saudi Arabia, turbidity from solar radiation obs. 4-52809
 diffraction by opaque half-plane in turbulent atmos. 4-17263
 El Chichon eruption cloud in stratosphere and solar spectral extinction 4-31637
 far infrared, anomalous attenuation in 7-10 cm^{-1} window 4-42051
 far infrared emissions from stratosphere, obs. of fluctuating emissions 4-42169
 radiation fog, optical and phys. props. at nighttime 4-31571
 radiation fog development, influence of soil moisture, pollution and vertical exchange 4-47353
 fog optical attenuation rel. to liq. water content, UV to far infrared 4-13020
 geodetic leveling, atmospheric temperature stratification causing refraction error 4-58302
 Great Plains of USA, visible albedo depend. on order zenith angle 4-41924
 ground based telescope optical specification 4-42309
 Guinness book of weather facts and feats, second edition 4-17661
 halo displays, assoc. atm. ice crystals at ground level, collection and characts. 4-26752
 ice cloud monitoring by laser methods, review 4-26899
 ice Ic, occurrence in nature 4-31617
 image formation in turbulent atmos., reconstruction of degraded images (*French*) 4-42177
 far infrared absorpt. in CO_2 15 μm region, parameterization for climate studies 4-36485
 far infrared radiation budget estimation technique, by satellite radiance obs. 4-26827
 IR emission study using balloon-borne cryogenic Fourier spectrometer 4-8322
 Japan, visibility, climatological anal. and effects of wind 4-31639
 La Palma observatory site, Canary Islands, technical and seeing conditions (*Swedish*) 4-13192
 land surface absorption of insolation, model for surface with protrusions 4-22086
 Landsat MSS images radiometric registration, atm. scatt. components determ. method 4-17275
 laser beam dual-wavelength adaptive optical systems 4-22085
 laser beam propagation through aerosol, lateral coherence of off-axis IR radiation 4-36488
 laser beams in cloud, multiple scatt. theory 4-26807
 laser pulsed propagation through fog and cloud, for blue-green beam 4-26808
 retroreflected laser radiation fluctuations in turbulent atm. 4-52880
 laser remote sensing using CO_2 IR heterodyne systems, signal-to-noise ratios 4-22102
 Latrobe Valley, Australia, pollution characts. rel. to wind and visibility 4-12505
 lidar backscatter altitude depend. in lower troposphere (*Russian*) 4-13024
 lidar equation solution, two-component, significance of extinction/backscatter ratio and boundary value term 4-26797
 lidar remote sensing of wind and optical backscatt., influence of snow and fog 4-31635
 lightning, light intensity variation with height and time, of subsequent return strokes 4-42074
 luminosity coefficient for light reflected from semi-infinite media (*Russian*) 4-13023
 mean transparency function, model (*Russian*) 4-8312
 measurement of visibility, design of automated equipment 4-26829
 modulation transfer function for atm.-telescope system with adaptive optics 4-13026
 Nagoya City, Japan, aerosol light scatt. coeff. study 4-13022
 northern Nigeria, Saharan dust rel. to solar radiation obs. 4-26770
 noctilucent cloud, orientation of light scattering particles 4-3860
 nomenclature used for light scatt., absorpt. and extinction 4-31630
 peroxyacetylnitrate (PAN) in atmosphere, possible greenhouse effect heating 4-52797
 pollution haze colour obs. at Denver, Colorado, USA 4-13021
 pollution plume visibility meas. by telerradiometric and sensitometric methods 4-52240
 Portland, Oregon, USA, aerosol light scatt. and carbonaceous composition 4-52798
 propagation in atmosphere with fluctuating optical props. (*Russian*) 4-31642
 refraction effects on vertical angle meas., dissertation 4-47413
 refraction haloes, polarisation and intensity distrib., ice crystal effects 4-26799
 Sahara dust investigation using network of Italian Sun photometers, extinction models 4-8298
 Sahara dust program, vertical particle mass loading determ. using extinction models 4-8299
 Sahel drought and associated land surface albedo changes 4-42121
 scattering indicatrices measurement, accuracy characts. of nephelometer 4-52949
 seeing, effect on lunar crescent length 4-31646

atmospheric optics continued

- seeing measurements at Mauna Kea, results from IR speckle interferometry 4-22089
 shadow bands during total solar eclipses, characts. and nature as turbulence effect 4-42178
 shortwave radiation field in cloudless vertical nonhomogeneous atmos. (*Russian*) 4-52882
 falling snow, optical extinction at visible and IR frequencies 4-31632
 falling snow, visible and IR transmittances 4-31633
 snow affecting laser beam propagation theory 4-31634
 snow cover optical properties 4-31530
 solar aureole data anal. with Mie scatt. phase function 4-1347
 solar radiation absorption by land surface below optically thin atmos. 4-22087
 stars occulted by Moon, diffraction pattern affected by atmos. turbulence 4-17263
 stellar scintillation, spectrum of star image motions from vertical circle obs. (*Russian*) 4-42164
 stochastic medium, asymptotic formula for the random intensity (*Russian*) 4-52881
 stratus cloud in Arctic, optical props. depend. on microstructure 4-47410
 superior mirage data inversion for temp. profile determ. 4-26751
 supernumerary bows in rain shower 4-26798
 photo-tachometer using He-Ne laser, noise sources in distance meas. instrument 4-36526
 transmittance measurement by base method, effect of atm. conditions and optoelectronic instrum. parameters 4-36492
 transparency of cloudless atmos., water vapour effects 4-17264
 turbid media light pulse propagation theory (*Russian*) 4-17262
 twilight, stars and planets visibility, solar activity and atm. attenuation effects 4-31644
 far UV atmospheric optics at 320 nm 4-26801
 UV attenuation of solar irradiance between 191 and 207 nm in stratosphere 4-42173
 visibility impairment over eastern USA, instrumental meas. and visual obs. compared 4-36493
 visibility in horizontal direction, influence of nonuniform ground reflectance 4-22082
 volcanic aerosol from El Chichon eruption and stratospheric light absorpt. 4-31638
 volcanic aerosol optical thickness, El Chichon 1982 eruption 4-3820
 volcanic cloud from El Chichon eruption, cloud optical props. 4-42171
 volcanic dust cloud from Mt. St. Helens eruption, obs. of radiative properties 4-42175
 volcanic eruption cloud from El Chichon optical obs. of stratosphere 4-3821
 winter obscuration effects at visible, IR and mm wavelengths 4-31631
 wintertime optics, conf., April 1983, Arlington, USA 4-27227
 CO_2 15 μm band absorption and emission parameterisation scheme 4-42174
 CO_2 for infrared radiative parameterization in climate model 4-42153
 H_2O vapour, spectral absorpt. of far IR CO_2 laser beam 4-22084
 O^+ UV dayglow at 834 Å, obs. and radiative transfer model 4-22202
- atmospheric pollution** *see air pollution*
- atmospheric precipitation**
see also ice; rain; snow
 N America, precipitation climate of corn belt from tree ring records 4-26795
 atmosphere, Big Bend National Park, USA, aerosols and pollutant precipitation chem. 4-41402
 Britain South Coast, 1983 June 5 storms, characts. and devel. 4-26780
 Climax I and II cloud seeding expts., treatment differences estimation 4-13055
 cloud seeding and ice/supercooled water distrib. 4-47362
 cloud seeding experiments with dry ice, numerical simulation 4-31577
 cloud simulation, aids research in forecasting rain, hail and snow 4-47390
 cold stratified clouds, precipitation model (*Chinese*) 4-42029
 conference on precipitation scavenging, dry deposition and resuspension at Santa Monica, USA (November-December 1982) 4-47761
 convective storm in weakly sheared wind, obs. of airflow and precipitation 4-36452
 Czechoslovakia, climatological processing of atmospheric landscape component 4-12974
 data simulation, use of Markov chain modelling 4-58317
 dewfall rate in arid region, study using data from Wangara, Australia 4-26774
 EHF/SHF propag. on ETS-II to Kasima link, precipitation model (*Japanese*) 4-22062
 engineering meteorology (book) 4-47795
 England and Wales, precipitation spatial patterns in AD 1861 to 1970 period 4-58268
 Europe, temp., press. and precipitation patterns in a warmer world 4-47399
 forest in subalpine zone, cloud water deposition to canopy 4-52805
 Franz Josef glacier, recession, climatic effects 4-12954
 frequency distrib. of total precip., anal. (*German*) 4-8281
 general circulation model of precipitation changes 4-36479
 global water budget variations, conf. at Oxford, England (August 1981) 4-42602
 Greenland, acid precip., 1500 BC to AD 1500, rel. to historical volcanism 4-17128
 hail detection dual-wavelength radar system, attenuation correction 4-47363
 hail growth, effect of storm flow struct. 4-17229
 hail patterns in Grossversuch IV expt., statistical anal. 4-12944
 hailcloud formation from merging of clouds (*Chinese*) 4-42030
 hailfalls measurement by hailpad network, meas. errors evaluation (*French*) 4-58239
 hailstorm of Central High Plains, National Hail Research Expt. 4-31986
 hailstorms of Central High Plains, National Hail Research Expt., case studies 4-31987
 hydrometeors reorientation aircraft accel. flow 4-47367
 ice formation on cylinders (aircraft), wind tunnel expts. 4-58228
 ice formation on cylinders (aircraft) simulation model 4-58227
 Illinois, USA, floods, streamflow and related climatic conditions 4-31528
 India, monsoon climate, classification and moisture regime stability 4-58279
 instrument errors due to out-of-level alignment and presence of wind 4-26826

atmospheric precipitation continued

- isotopic geochemistry in hydrosphere (book) 4-53382
- meteorological radar, optimal reflectivity processing for precipitation anal. 4-47426
- microstructure of clouds and rain, review 4-26790
- microwave radio systems, tropospheric irregularities influence on dynamic behaviour 4-36477
- microwaves/MM waves, propag. and scattering in atmospheric precip., review 4-3807
- upper Midwestern United States, anal. of unusual winter (1982 to 1983) 4-42004
- millimeter wave propagation through precipitation, relationship of cross polarisation discrimination to attenuation 4-22065
- Oklahoma multicell storm, hail growth, trajectories and form. 4-8292
- organic acids in precipitation of remote areas 4-42095
- Pacific Ocean, equatorial region, 1982-3 climate anomaly and air-sea interactions 4-13018
- Pacific Ocean, equatorial sea surface temp. anomalies, effect on precipitation/extratropical climate 4-8242
- Pacific Ocean, tropical precipitation surges, correl. with midlatitude troposphere flow via planetary waves 4-8285
- pluvimeters in afforested mountain basins, precipitation meas. accuracy, comparisons 4-26727
- Potomac River, USA, streamflow since 1730, drought anal. from tree ring obs. 4-47307
- Potsdam, precipitation, radiation balance and dryness index spectral behaviour (*German*) 4-17256
- radiative transfer effect on ice crystals falling in atm., mass/heat budgets 4-8289
- river flooding, probability calc. via CRUE model 4-36417
- Sakhalin Island, USSR, river flow rates and assoc. storms precipitation 4-26726
- South Park Area Cumulus Experiment, mesoscale convective complex, mountain generated component 4-47334
- South Park Area Cumulus Experiment mesoscale convective complex, mature complex evolution/struct. 4-47335
- Southern Plains, USA, low-precipitation severe thunderstorms, vertical wind and moisture profiles 4-47341
- spatial and temporal scales involved in cloud and precipitation processes 4-26789
- Stocking, New Zealand, variations, rel. to climate 4-12955
- storms, graupel and hail devel., simulation 4-13049
- N Taiwan, winter rainfall influenced by diurnal boundary layer winds 4-52820
- multicellular thunderstorm, study of lightning and precipitation characts. 4-42115
- multicellular thunderstorm over Colorado, USA, air motion and hail formation 4-42059
- Toronto, Canada, forecast accuracies for temp. and precipitation 4-31590
- weather/solar data anal., relevance to building services 4-52811
- Wester Ross, NW Scotland, precipitation gradients 4-26781

atmospheric pressure *see atmospheric pressure and density***atmospheric pressure and density**

- air pressure change detection using thermal sensors 4-27591
- artificial satellite with atmospheric drag, advances in motion 4-17377
- Asian monsoon, press. struct. and wind pattern anal. 4-12980
- Australia, rainfall and Southern Oscillation indices, seasonal relationships (1932-74) 4-47339
- Darwin, Australia, press. anomalies rel. to Indian monsoon rainfall prediction 4-22045
- density at 280 km altitude, determ. from spin drag data of COSMOS 54 rocket 4-31708
- drag effect on artificial satellite orbits (*Russian*) 4-13165
- El Nino winter (1982-3), climatic anomalies and circulation 4-41931
- equatorial atmosphere, nonlinear dynamics, zonal model (*Russian*) 4-8251
- Europe, temp., press. and precipitation patterns in a warmer world 4-47399
- explosive cyclogenesis associated with cyclones in polar air streams 4-42031
- Fourier analysis method to filter away tidal oscillations in pressure recordings 4-31588
- ionosphere, thermal plasma density in environment of space shuttle 4-58344
- ionospheric cavitons and related nonlinear phenomena 4-22232
- long-period variations of solar semidiurnal barometric oscill. 4-42061
- low-level wind response to mesoscale pressure systems 4-31565
- measuring apparatus, calibration of press. sensor using behavioural modelling 4-26830
- mesoscale rawinsonde data anal., use of dynamical constraints 4-3791
- mesosphere, temp. vars. during solar eclipses rel. to O₂ density and press. vars. 4-52846
- monsoon in East Asia, zonal and meridional harmonic anal. 4-36472
- numerical models calc. of press. gradient term (*Chinese*) 4-13005
- Pacific Ocean, sea surface temp. and surface press. correl., role of atm. circulation (*Chinese*) 4-47269
- remote sensing, atmospheric pressure and sea state from satellites, short-pulse multicolour laser altimeters appl. of sea state by satellite laser altimetry method 4-26896
- remote sensing of atmos. press. profile by laser method 4-22100
- satellite orbital decay prediction (*Japanese*) 4-42286
- sea level changes of low-freq. correl. to atmos. press. microfluctuations (*Russian*) 4-52726
- semi-annual var. in density from 1972-05B orbit 4-26905
- Southern Hemisphere, sea level zonal wind and press. gradients 4-36447
- Southern Oscillation and sea surface temp., GFDL general circulation model anal. 4-47270
- Southern Oscillation Index and Indian rainfall, teleconnections and siege of time 4-12971
- Southern Oscillation used for Indian summer monsoon rainfall long range forecasting 4-36431
- stratospheric irregularities and fluctuations, far IR emission obs. 4-42168
- surface ocean waves induced by moving region of press. (*Russian*) 4-12924
- thermosphere, density fluctuations and turbulence from Dynasonde meas. 4-22245
- thermosphere composition, temperature and density in MSIS-83 empirical model 4-26902
- tropical cyclone intensity estimation, use of satellite stereoscopic technique 4-42193
- atmospheric pressure and density continued**
- troposphere, press. var. rel. to thermosphere charged particle flux regions, solar wind driven features 4-36475
- upper atmosphere, density model and drag on artificial satellites (*Chinese*) 4-8402
- upper atmosphere, diurnal density var. rel. to change in satellite mean anomaly 4-26976
- upper atmosphere rotation rate and density from 1980-43A orbit 4-26906
- vertical mode initialization in a limited area data assimilation experiment 4-47345
- atmospheric propagation** *see atmospheric electromagnetic wave propagation*
- atmospheric proton precipitation**
- see also aurora; radiation belts*
- auroral protons and electrons, energy input distributions 4-8343
- magnetospheric source mechanism, pitch-angle scattering in magnetotail 4-3869
- middle atmosphere, numerical response to precip. vars. during 11-year solar cycle 4-58326
- atmospheric radiation**
- see also aurora*
- 7555 nm emission from upper atm., O₂⁺ + N reaction 4-21427
- Advanced Very High Resolution Radiometer, IR data, atm. effects removal method 4-31669
- aerosol radiative transfer models 4-47405
- Afghanistan's solar energy resources 4-31074
- albedo of Earth surface, data set for weather forecasting 4-31587
- Arctic aerosol influence of atmospheric radiation budget 4-31629
- arctic haze absorpt. of solar radiation and climate effects 4-47409
- Arctic haze influence on solar radiation budget 4-13019
- auroral emissions, meas. by Spacelab 1 photometric imaging expt. 4-26855
- auroral kilometer radiation, generation by maser synchrotron instability 4-36540
- auroral kilometer radiation from field-aligned plasma density enhancements 4-58332
- auroral kilometer radiation second-harmonic emissions 4-26945
- beam-global radiation correlations for Bet Dagan, Israel 4-52851
- beam-global radiation data anal. for Bet Dagan, Israel, utilizability curve 4-52852
- Bering Sea, thermal energy exchange across sea surface, radiation flux obs. 4-26700
- book 4-8661
- boundary layer, vertical temp. profile from O emission at 58 GHz (*German*) 4-13074
- broadband low noise 205 GHz radiometer for satellite microwave limb sounder instrument 4-17395
- circumsolar sky radiation, flux density 4-3814
- cirrus cloud, IR emissivity and optical props. (*Russian*) 4-31641
- climate theory and radiation budget studies, satellite obs. 4-22079
- climatic data harmonic anal. using FFT 4-52878
- clouds, radiative characts. rel. to microphysics and geometric shapes 4-26805
- clouds, radio emission rel. to microstruct. 4-42132
- clouds, temp. and thickness determ. from satellite microwave radiometry 4-47430
- cloudy atmosphere infrared cooling by numerical model 4-8315
- cooling of atmosphere on global scale due to the IR thermal emission 4-22074
- corrections to remotely sensed sea surface temp. determ., two-satellite method 4-31668
- cosine law observance of active cavity radiometer spatial input response over input angles extending beyond the Earth limb 4-13046
- daily total solar radiation monthly mean values estimation for Australia 4-42138
- Dhahran, Saudi Arabia, turbidity from solar radiation obs. 4-52809
- diffuse sky measurements and determination of corrected shadow band multiplication factors 4-22063
- diffuse solar irradiance estimation evaluation from global and direct normal irradiance measurements 4-26275
- diffuse solar radiation measurement, investigation of accuracy of shading ring corrections 4-52873
- diffuse solar UV, visible and IR hourly radiation, monthly means (*Japanese*) 4-3802
- diffuse/global radiation ratios comparison for data collected at Davis, California 4-52853
- diffuse/global solar radiation computation from cloud cover observations 4-52862
- direct/diffuse/global solar radiation estimation, daily and monthly, using sunshine duration meas. 4-52860
- El Chichon eruption cloud in stratosphere and solar spectral extinction 4-31637
- El Chichon volcanic cloud effects on N tropics radiation budget 4-31605
- electron cyclotron maser emission rel. to kilometer radiation 4-1377
- ELF and VLF emissions from topside ionosphere; rel. to IMF sector struct. 4-47503
- engineering meteorology (book) 4-47795
- far infrared emissions from stratosphere, obs. of fluctuating emissions 4-42169
- flat-plate solar collector transient response for periodic solar intensity variation 4-26315
- forest fires, SHF emission, radiometric detect., tree canopy effects 4-31705
- global outgoing longwave radiation, lagged correl. with short-term climate var. 4-58271
- global solar radiation tilt models evaluation, K_d and K_t ratios correlation 4-26276
- hiss emissions from plasmasphere 4-13152
- hourly all-sky solar radiation model, based on meteorological parameters 4-42136
- far infrared radiation budget estimation technique, by satellite radiance obs. 4-26827
- infrared sky radiation in Geneva, radiative Earth-sky deficit 4-52861
- ionosphere, stimulated EM emissions during HF heating 4-22236
- IR emission spectra in 20-μm window, obs. from Mauna Kea 4-58284
- IR radiometer for net IR sky irradiance meas. 4-22128
- IR transmittance determ. from tropical sky radiance 4-42184
- Ireland, summer weather in AD 1881 to 1981 period 4-17253
- Kuwait, downward IR sky radiation, expt. meas. 4-42001

atmospheric radiation continued

- land surface absorption of insolation, model for surface with protrusions 4-22086
- lightning, light intensity variation with height and time, of subsequent return strokes 4-42074
- lion roar radioemissions from magnetosheath, stability analysis 4-3885
- long wave radiation emittance over United States, calc. methods 4-17294
- long-wavelength modes in stratosphere, radiative damping theory 4-36463
- lower atmosphere (book) 4-8667
- magnetosphere, ELF and VLF hiss rel. to electrons precip. from radiation belt 4-8345
- magnetosphere, ground-observed VLF chorus as indicator of wave-particle interactions 4-58346
- marine boundary layer, effective irradiation numerical anal. (*Chinese*) 4-17213
- marine boundary layer, IR spectral radiance depend. on moisture distrib., stratification effects 4-12983
- meteorological data Fourier analysis for typical annual time function calc. 4-52859
- meteorological data correlations, application to solar energy heating systems annual performance prediction 4-58256
- microwave emission, appl. of Kalman filter to radiometric sensing of temp. profiles 4-22137
- microwave radiation, anal. of DMSP temp. sounder data 4-22136
- microwave radiation, influence of clouds and rain on temp. profiles determ. 4-42040
- microwave radiometry for sea surface temp., wind speed and atm. water content determ. 4-47420
- multichannel IR sea surface remote sensing, at. transmittivity effects 4-31652
- multisatellite Earth radiation budget expts., cloud anal., orbit selection for max. coverage 4-36564
- northern Nigeria, Saharan dust rel. to solar radiation obs. 4-26770
- nightglow, OH Meinel bands, O I green line and O₂, photometry 4-58330
- northern hemisphere winter, intraseasonal circulation and outgoing long-wave radiation modes 4-36432
- Oklahoma tornadic storms, 1979 May 2, radiative transfer calcs. 4-8291
- outgoing longwave radiation rel. to short-term climate var. 4-58270
- North Pacific, thermal energy exchange across sea surface, radiation flux obs. 4-26700
- Penang, Malaysia, UV solar radiation dangerous to health 4-12969
- peroxyacetylnitrate (PAN) in atmosphere, possible greenhouse effect heating 4-52797
- photometer to measure incident and reflected sunlight under polar conditions 4-31676
- photovoltaic solar energy systems, stand-alone, loss-of-power probabilities estimation 4-41319
- plasmasphere hiss generation by whistler mode instability 4-13151
- Potsdam, precipitation, radiation balance and dryness index spectral behaviour (*German*) 4-17256
- propagation in atmosphere with fluctuating optical props. (*Russian*) 4-31642
- radiances in stratosphere, aerosol extinction determ. 4-47408
- radiative transfer effect on ice crystals falling in atm., mass/heat budgets 4-8289
- radio emission from fireball meteors, MHD generation mechanism 4-42372
- radio emission measurement equipment, two-channel radiotelescope 4-17288
- radio-noise emission exhibiting geomagnetic aftereffect and relation to Pc 1 4-26934
- radiotelegraphic auto-alarm receiver, test methods of operation characteristics against atmospheric radio noise at 500 kHz (*Japanese*) 4-47389
- Sahara dust investigation using network of Italian Sun photometers, extinction models 4-8298
- Sahara dust program, vertical particle mass loading determ. using extinction models 4-8299
- Saudi Arabia desert, heat low during May 1979, thermal stratification and radiation 4-36426
- sea surface emittance, effect on temp. meas. 4-26885
- sea surface temperature, atm. correction method for Advanced Very High Resolution Radiometer data 4-31670
- shortwave integrating sphere precision calibration source 4-13044
- shortwave radiation field in cloudless vertical nonhomogeneous atmos. (*Russian*) 4-52882
- solar irradiance estimating numerical model, errors 4-42139
- solar irradiation measurement data comparison for six sites 4-42137
- solar power available at ground level determ. using satellite mean., for solar collector system optimisation 4-7826
- solar radiant heat energy received at Earth's surface, mesoscale variability assessment 4-52854
- solar radiation absorption by land surface below optically thin atmos. 4-22087
- solar radiation intensity determ. accuracy for solar installations design 4-16761
- solar radiation potential in Turkey 4-58255
- solar spectral model for direct normal and diffuse horizontal irradiance 4-52857
- solar system simulation climatic data statistical anal. 4-7827
- solar technologies and potential, applications 4-7824
- solar UV in 115-317 nm region, intensity on 17th May 1982 AD 4-42411
- SOLMET clear sky global solar radiation model comparative evaluation 4-52856
- mixed stratocumulus cloud layers, coupled convective and radiative fluxes rel. to thermodynamics 4-47381
- stratocumulus clouds in Africa and Europe, radiative props. 4-42166
- stratosphere, satellite IR radiometer obs. of breaking planetary waves 4-3805
- stratus clouds in California, radiative effects 4-42167
- surface downward longwave radiation determ. from satellite remotely sensed data 4-47433
- surface global radiation from satellite obs. 4-3858
- temperature measurement of upper atm. 4-58298
- terrestrial solar spectra modelling and measurement, relation to solar cell short circuit currents 4-52164
- thermal atmospheric radiation meas., Manresa, Spain 4-52858
- thermodynamic limits, effects of temp., intensity and atmospheric conditions 4-26293

atmospheric radiation continued

- tilted-plane solar radiation data using Liu-Jordan correlation for Yugoslavia 4-52855
- total/diffuse/direct solar radiation correlations with sunshine duration 4-52863
- triggered VLF emissions, quasistatic theory 4-42273
- troposphere, temp. and moisture retrieval from VAS data, effect of surface data addition 4-47361
- twilight, troposphere-stratosphere radiation field, spherical model 4-26759
- unresolved cloud effects on remote sensing of diseased vegetation 4-42158
- utilizable solar radiation above a threshold level for Lyon, France 4-41321
- UV solar radiation influence on atmospheric chemistry 4-31583
- UV solar radiation intensity of Sun in 121 to 317 nm region 4-42410
- UV variability of Sun in 235 to 287 nm region 4-42409
- VAS and RAOB geopotential anal., adjustment using quasi-geostrophic coords. 4-47414
- vertically inhomogeneous atmospheres, radiative transfer, multi-layer discrete ordinate method 4-47412
- VISSR Atmospheric Sounder radiance data, use for atm. temp./moisture profiles 4-17286
- VLF emissions from magnetosphere, wave normal directions and emission mechanisms (*Japanese*) 4-36542
- volcanic cloud from El Chichon eruption, cloud optical props. 4-42171
- volcanic dust cloud from Mt. St. Helens eruption, obs. of radiative properties 4-42175
- weather/solar data anal., relevance to building services 4-52811
- Yemen Arab Republic diurnal global insulation 4-12447
- Z mode radiation from auroral zones, cyclotron maser emission mechanism 4-26944
- CO₂ 15 μ m band absorption and emission parameterisation scheme 4-42174
- H₂O in cyclones, microwave emission meas. by scanning multichannel microwave radiometers 4-22064
- O I green and red lines atm. emission, effect of ionosphere heating by radiowaves 4-58322
- OH mid-winter nightglow intensities in N polar region 4-42255
- atmospheric radioactivity**
see also fallout
- coal power plants, escaping radioactivity 4-52236
- environmental radioactivity at Ispra, Italy (*Italian*) 4-7907
- fallout over Great Britain and in S Hemisphere, AD 1981 and 1982 conc. obs. 4-52238
- nuclear research reactor buildings, air radioactivity due to gaseous wastes (*Hungarian*) 4-52504
- pollution dispersal and deposition following release from point source 4-12504
- stratosphere fallout residence time determined using Antarctic snow obs. 4-41992
- Yukon Territory, Canada, radioactivity levels in 40 year snow core 4-52810
- ⁷Be, deposition flux to land and sea surface 4-42113
- ¹⁴C produced by cosmic rays during last 5000 years, affected by solar activity 4-26794
- ⁸⁵Kr pollution mesoscale dispersion by numerical models 4-12501
- ²¹⁰Pb, deposition flux to land and sea surfaces 4-42113
- ²¹⁰Pb fallout rate in California, USA 4-46909
- Rn atmospheric concentration over Oviedo, Spain, 1975-80, absorbed doses (*Spanish*) 4-42021
- Rn daughters, content inside houses (*Swedish*) 4-3508
- Rn, radioactive decay products in rainwater, model calc. (*Japanese*) 4-22047
- ²²²Rn, atmospheric conc. over Oviedo, Spain (*Spanish*) 4-42022
- ²²²Rn daughter prods. near land-sea discontinuities by gamma spectrometry 4-8330
- SO₂ lifetime in atmosphere, obs. based on cosmic ray produced ³⁸S 4-31557
- atmospheric spectra**
see also atmospheric optics
- aerosol IR optical absorption constants 4-22083
- airglow observations and ionosphere ions vertical distrib. determ. 4-22204
- artificial satellites, spectral emission due to interaction with atmos. 4-3902
- aurora 557.7 nm emission and O(¹S) excitation 4-42258
- aurora FUV spectral emission dependence of electron energy and neutral atmos. 4-8342
- auroral hard X-ray spectra, angular distrib. and polarisation 4-26914
- clear sky moisture profiles, satellite obs. used for clear sky moisture profiles 4-13054
- dayglow, N I (⁴S-⁴P) reson. multiplet origin from N₂ dissociative excitation 4-14436
- Dhahran, Saudi Arabia, turbidity from solar radiation obs. 4-52809
- Doppler Imaging System for thermosphere dynamics obs. 4-42235
- Doppler shift measurements by IR gas correlation spectroscopy 4-52894
- El Chichon eruption cloud in stratosphere and solar spectral extinction 4-31637
- El Chichon volcanic aerosol cloud in stratosphere, far IR spectroscopic obs. 4-31596
- emission line profiles, image detector for Dynamics Explorer Fabry-Perot interferometer 4-17267
- far infrared absorpt. in CO₂ 15 μ m region, parameterization for climate studies 4-36485
- infrared spectral absorpt. by water vapour, obs. of solar spectra 4-22088
- IR emission spectra in 20- μ m window, obs. from Mauna Kea 4-58284
- mask correlation spectrometry for pollutant conc. remote sensing 4-57816
- nightglow, OH Meinel bands, O I green line and O₂, photometry 4-58330
- nightglow, space-borne photographic obs. of visible and near IR spectra 4-31710
- photometric imaging of atm. emissions, expt. for Spacelab 1 4-26855
- polar mols., atm. pollutants, microwave rot. spectra 4-7909
- pollution haze colour obs. at Denver, Colorado, USA 4-13021
- Raman spectra obs. using lidar, gas components and water aerosol 4-52883
- Rayleigh-scattering line profiles 4-22081
- stratosphere, O₃ absolute absorpt. cross sections in UV (*French*) 4-38193
- stratospheric irregularities and fluctuations, far IR emission obs. 4-42168
- temperature measurement of upper atm. 4-58298

atmospheric spectra continued

- UV attenuation of solar irradiance between 191 and 207 nm in stratosphere 4-42173
 vertical mixing-ratio profile resolution of atm. constituents from solar spectra 4-3818
 volcanic aerosol from El Chichon eruption and stratospheric light absorpt. 4-31638
 volcanic aerosol optical thickness, El Chichon 1982 eruption 4-3820
 volcanic cloud from El Chichon eruption, cloud optical props. 4-42171
 water vapour, supersaturated, IR laser photoacoustic spectroscopy 4-42120
 AlO, blue-green $B^2\Sigma^+X^2\Sigma^+$ band, radiative lifetimes 4-5291
 H₂O, near-IR meas. of water vapour over Kitt Peak 4-58243
 H₂O pure rotation band, N₂-broadened halfwidths, QFT theory 4-26796
 H₂O⁺, Franck-Condon factors and photon scatt. coeff. 4-14437
 H₂O⁺ (A=16, 17, 18), atlas of line positions and intensities between 0 and 4350 cm⁻¹, book 4-17650
 N₂, atm. temp. meas. using pure rotational Raman lidar 4-3828
 NO₂, daytime var. from ground-based IR spectra 4-31606
 N₂O band modelling, numerical methods 4-42160
 N₂O, IR transmittance band model 4-42159
 N₂O line broadening, temp. depend., Fourier transform meas. 4-38250
 N₂(c'⁴ Σ_u^+ → a'¹ Π_g) in aurora 4-26912
 O, ¹S state emission line profile at 5577 Å of nightglow emissions 4-26909
 O I 5577 Å emissions in aurora, impulse response anal. 4-58333
 O I 630 nm nightglow red line progressive intensifications over Japan 4-52981
 O I airglow, Doppler shift meas. rel. to spatial mapping of thermospheric neutral wind field 4-58329
 O I green and red lines emission, effect of ionosphere heating by radio-waves 4-58322
 O₂ 1.27 µm airglow meas. using rocket-borne IR photometer 4-8331
 O₂, atm. temp. meas. using pure rotational Raman lidar 4-3828
 O₃, absolute absorpt. cross sections at 294 and 223K in 310 to 350 nm range 4-33419
 O₃ in mesosphere, equatorial profiles from Solar Maximum Mission 4-58244
 O₃ monitoring, UV absorption O₃ photometer, for use on stratospheric balloons 4-26866
 O₃, UV absorpt. cross-sections between 310 and 350 nm 4-3822
 O₃, UV spectral absorpt. at 195K, 240 to 350 nm region 4-38195

atmospheric structure

- see also atmospheric composition*
 D-region and winter anomaly 4-47475
 dynamical structure of squall-line type thunderstorms 4-58233
 high altitude resolution profiles, C_n², importance on coherence lengths 4-3819
 ionosphere, correl. of equatorial scintillation at 327 MHz over 3.2 km baseline 4-13129
 ionosphere, estimation of struct. from Dynasonde meas. 4-22245
 ionosphere, power spectra of equatorial scintillation at 327 MHz 4-13130
 ionosphere, struct. and dynamics of winter polar cap F-region 4-22203
 marine boundary layer, IR spectral radiance depend. on moisture distrib., stratification effects 4-12983
 tropical cyclones, book 4-35
 turbulence mechanism for large structure form. 4-31622

atmospheric techniques

- see also air pollution detection and control; geophysical equipment; ionospheric measuring apparatus; ionospheric techniques; meteorological instruments; weather forecasting*
 Advanced Very High Resolution Radiometer, IR data, atm. effects removal method 4-31669
 Advanced Very High Resolution Radiometer sea surface temp. data, atm. correction method 4-31670
 aeronomy methods of National Physical Laboratory, UK, work done during 1982 AD 4-48062
 aerosol, refractive index and microstructure meas. by multifreq. laser probe (Russian) 4-13032
 aerosol levels estimation from multispectral scanner data, channel correl. method 4-52961
 aerosol optical depth determ., appl. of meas. of lunar eclipses brightness 4-36491
 aerosol optical properties measurement by lidar technique 4-22094
 aerosol optical props. meas. by lidar technique, calibration and data anal. 4-22095
 aerosol size distrib. from simple inversion method 4-8328
 air conductivity probe transducer 4-58304
 airborne IR radiometry for surface layer obs. 4-58312
 altimeter readings, wet path length correction, use of two-freq. radiometer, optimum config. 4-17315
 Antarctic weather station equipment for sending meteorological data via geostationary satellites 4-52891
 asbestos content measurement by transmission electron microscopy method 4-17271
 asynchronous correlation method, appl. to study of motion of precip. system (French) 4-58237
 atmospherics reception equipment transforming signal to audible sound pattern (German) 4-31689
 automatic pattern extraction and collection applied to radar derived rain maps 4-52912
 backscattered radar polarisation used to meas. raindrops shape 4-8326
 balloon utilising IR terrestrial radiation for lift, meteorological applications 4-17277
 barotropic prediction of monsoon depressions, appl. of semi-implicit integration scheme 4-52847
 base method for transmittance meas., effect of atm. conditions and optoelectronic instrum. parameters 4-36492
 bistatic acoustic sensing, sound speed vertical profile restoration (Russian) 4-52935
 bistatic scheme for atm. radioacoustic sounding 4-52900
 Boulder Atmospheric Observatory for boundary layer research 4-3841
 boundary layer, vertical temp. profile from O emission at 58 GHz (German) 4-13074
 boundary layer winds estimation, wind turbine siting appl. 4-26847
 bulk aerodynamic method for parameterization of water vapour flux over water surface 4-31495
 drifting buoy for ocean and atmos. monitoring, design and telemetry system 4-3853

atmospheric techniques continued

- charge neutral magnetopause current sheet, stability determ. rel. to tearing modes 4-47495
 clear sky moisture profiles from 183 GHz water vapour line satellite obs. 4-13054
 climate prediction, implications of post-glacial arid episodes in Ethiopia 4-22072
 climate reconstruction from tree rings, methodology and preliminary results for England 4-13012
 climatology, estimation of missing data 4-12975
 cloud analysis method over snow covered regions, remote sensing 4-31671
 cloud cover estimation by satellite imagery, 2-D histogram procedure 4-26824
 cloud cover extent judgement by human observers, consistency of method 4-13033
 cloud droplet size and conc. measurement, with FSSP infrared airborne equipment 4-26825
 cloud microstructure measurement techniques 4-26897
 cloud monitoring by laser methods, review 4-26898
 cloud optics simulated in laboratory using cotton and styrofoam models 4-3846
 overshooting cloud top temperature remote sensing by satellite, influence of view angle 4-26831
 clouds, temp. and thickness determ. from satellite microwave radiometry 4-47430
 combined dual wavelength radar and polarisation meas. for raindrop distrib. parameters 4-8327
 computer graphics interactive system for radar and satellite data compositing 4-3830
 conference on statistical climatology at Tokyo, Japan (November-December 1979) 4-53362
 COPT 81 experiment (Tropical Deep Convection), tropical lightning EM meas. (French) 4-47394
 covariate ratio procedure for treatment differences estimation, appl. to Climax I and II expts. 4-13055
 cryogenically cooled sensors and Fourier transform spectrometers, conf., San Diego, CA, USA (Aug. 1982) 4-4142
 diffuse solar irradiance estimation evaluation from global and direct normal irradiance measurements 4-26275
 diffuse solar radiation measurement, investigation of accuracy of shading ring corrections 4-52873
 discriminant analysis, appl. to meteorology 4-58320
 Doppler line profile analysis for a multichannel Fabry-Perot interferometer 4-47415
 Doppler radar measurement of vertical air velocity in rain 4-47425
 Doppler SODAR for meas. of vertical wind fluctuations 4-47457
 dual Doppler radar data for wind field, boundary condition, optimisation determ. based on variational concept 4-13052
 dual-Doppler radar data for wind field, filtering/interpolation by variational method 4-13050
 dual-Doppler radar obs. of wind field, errors due to temporal var., minimisation algorithm 4-13051
 dual-wavelength radar system for hail detect., attenuation correction 4-47363
 electric field vector meas. using spherical field meter 4-8332
 estimation problem for generalised linear model, optimum linear restriction, appl. to climatic data 4-58276
 exponential smoothing use for estimation of climatic elements 4-58319
 extreme-value analysis by Gumbel and Weibull methods 4-3852
 filtering techniques for global grid-point models 4-47421
 fir leaves as thermometers for Mount St. Helens, May 18 1980 eruption 4-13085
 fog diagnostics by sound wave scattering 4-19644
 forecasting, extension of Thompson's (1969) scheme to multiple times 4-31684
 geopotential fields numerical anal., interpolation weights covariance matrix (German) 4-47417
 GEOS scientific satellite, electrostatic charging at geostationary orbit 4-42234
 ground-based radiometric sensing of temp. profiles, Kalman filter appl. 4-22137
 hailfalls measurement by hailpad network, meas. errors evaluation (French) 4-58239
 hailpad measurements, sampling errors due to pad finite size 4-58297
 humidity profile determination, lidar method 4-22097
 humidity profiling of atmosphere, by mm wave radiometric remote sensing 4-3835
 humidity remote sensing by lidar method 4-22096
 humidity vertical profile, by ground-based microwave remote sensing (Chinese) 4-13083
 ice cloud monitoring by laser methods, review 4-26899
 ice particles development, simulation method for storm graupel and hail 4-13049
 icing conditions for aircraft in clouds, detection of cloud conditions using radar 4-22039
 impulse response estimation, appl. to anal. of auroral O I 5577 Å emissions 4-58333
 incoherent backscatter radar, power ratio estimation for heterodyne receiver with square law detect. 4-47431
 indirect methods for obtaining solar radiation data (Spanish) 4-36524
 infrared imaging by Meteosat-2, pixel anal. of rectified images 4-22148
 far infrared radiation budget estimation technique, by satellite radiance obs. 4-26827
 infrasonic detector array signal detection filters 4-13056
 initialisation method for planetary boundary layer jet stream numerical anal. (Chinese) 4-42028
 IR emission study using balloon-borne cryogenic Fourier spectrometer 4-8322
 IR transmittance determ. from tropical sky radiance 4-42184
 Landsat MSS images radiometric registration, atm. scatt. components determ. method 4-17275
 laser monitoring of atmospheric aerosols, lidar eqn. soln for single freq. sounding 4-8314
 laser radar meas. of atmospheric conditions, instrumentation and meas. techniques (Japanese) 4-58306
 laser remote sensing using CO₂ IR heterodyne systems, signal-to-noise ratios 4-22102
 lidar method for stratosphere transmission at 340 nm 4-22121
 lidar remote sensing of minor species, pulse repetition freq. considerations 4-22098

atmospheric techniques continued

- light radiance in air and sea, measurement techniques 4-26894
lightning atmospheric meas., techniques and instruments 4-47455
lightning detection network established in eastern USA 4-17276
long wave radiation emittance over United States, calc. methods 4-17294
long-path laser absorpt. procedure for troposphere OH conc. determ. 4-42191
magnetosphere, electrostatic potentials mapping from ionosphere obs. projection 4-17287
magnetospheric electron flux determination at geosynchronous orbit by riometer method 4-47488
Active Magnetospheric Particle Tracer Explorers program for solar wind magnetosphere studies 4-3851
magnetospheric research of IMS programme, book 4-47801
Markov chain modelling, use of precipitation data simulation 4-58317
Markov chain use for modelling weather data 4-58314
mask correlation spectrometry for pollutant conc. remote sensing 4-57816
McIDAS III, interactive meteorological data access and anal. system 4-3827
meteorological radar, optimal reflectivity processing for precipitation anal. 4-47426
meteorological radar, signal processing, autocorrelation function and Doppler spectral moments 4-47424
meteorological sodar, optimum freq. calcs. 4-47453
meteorological variables meas., general considerations 4-8279
meteorological-element fields recovery from sparse station network meas. 4-26869
meteorology, algorithms for mean vel. estimation by pulse Doppler weather radars 4-26814
METEOSAT-1 water vapour channel data 4-31582
micropulsation polarisation measurement by satellite magnetometry method 4-26948
microwave radiometry for sea surface temp., wind speed and atm. water content determ. 4-47420
microwave remote sensing of humidity, effect of water vapour dimer (*Chinese*) 4-42186
millimetre wave gas/aerosol spectrophone, diesel smoke appls. 4-26817
minimum cross-entropy spectral analysis method for palaeoclimate O isotope data 4-13057
missing daily max. and min. temp. estimation methods 4-31682
mm wave propagation studies, meas. method to study turbidity effects 4-31574
monitoring of environment and climate in USSR, state observational system 4-36494
monostatic sodar for lower troposphere temp. turbulence meas. (*Russian*) 4-52933
multisatellite Earth radiation budget expts., cloud anal., orbit selection for max. coverage 4-36564
noise meas., Aiya noise meter versus ARN-2 recorder 4-31694
numerical model-reality intercomparison tests using small sample statistics 4-17285
objective analysis, generalised representation 4-42041
palaeoclimatology, appl. of correl. of Alaskan varve thicknesses with climatic parameters 4-36421
particle analysis using forward scattering data 4-42162
particle size distrib. estimation from forward scattering data 4-42163
particle trajectories determination in presence of turbulent-vel. variance gradient 4-42009
photometric imaging of atm. emissions, expt. for Spacelab 1 4-26855
planetary boundary layer, stratified and baroclinic, integral parametrisation method 4-36438
pollen data calibration methods for climatology 4-31658
pollution detection, elemental tracers of distant regional pollution aerosols 4-46913
pollution from domestic wood burning, estimation of contrib. to total pollution 4-3507
pollution particulates measurement by filter media and optical reflectance method 4-16824
pollution plume visibility meas. by teloradiometric and sensitometric methods 4-52240
pressure profile remote sensing method using lidar 4-22100
pressure sensor calibration using behavioural modelling 4-26830
pressure variations, Fourier analysis method to filter away tidal oscillations 4-31588
radar application to eruption columns anal. 4-12867
radar for meteorological research, control and data acquisition by computer program 4-3840
radar for precipitation studies, dual polarisation mm wave system 4-3834
radar for tropospheric and radiocommunication research, S-band FM-CW system (*Dutch*) 4-22132
radar method, ground clutter rejection technique 4-3839
multiple-Doppler radar networks design, choice of optimum radar location 4-26828
radar observations for clear air and clouds (book) 4-47796
radar receiver calibration using behavioural modelling 4-26830
radar used for precipitation research, conf., June 1983, Paris, France 4-36778
radio wave methods for remote sensing of the atmosphere 4-58291
radioacoustic sounding of atmosphere, max. ranges (*Russian*) 4-42204
radioacoustic sounding of turbulent atm., signal power and range (*Russian*) 4-52934
radiometry using Fourier transform spectrometers 4-8321
radiowave measurements affected by particle impacts on antenna 4-8329
radiowave probing, conf., Fairbanks, Alaska (Aug. 1982) 4-22129
radiowave propagation through precipitation studies, design of radar monitoring system (*Japanese*) 4-36527
rain measurement by radar methods, review of techniques 4-3838
rain rate estimation by dual-freq. radar, algorithm 4-3809
rain remote sensing over Gulf of Mexico by satellite microwave radiometry 4-58296
raindrop and hailstone size meas. apparatus, influence of instrument out-of-level alignment 4-26826
rainfall estimation schemes, use of different satellite data, appl. to Great Plains States 4-13053
rainfall measurement by radar, accuracy compared to raingauges 4-58293
raingauge errors due to out-of-level alignment and presence of wind 4-26826
rainwater chemical composition samplers, contamination by dry deposition 4-52897

atmospheric techniques continued

- Raman spectra obs. using lidar, gas components and water aerosol 4-52883
regression changes detection in climatic data 4-58316
remote sensing, atmospheric pressure and sea state from satellites, short-pulse multicolour laser altimeters appl. of sea state by satellite laser altimetry method 4-26896
remote sensing, coherent wideband processing of distributed radar targets 4-22141
remote sensing, conf., Liverpool (Dec. 1982) 4-47764
remote sensing, Japanese satellite development related to international cooperation 4-22174
remote sensing by thermal IR imaging, multi-spectral information interpretation 4-21953
remote sensing by thermal microwave obs., optimal wavelengths (*Russian*) 4-13068
remote sensing lidar system operating as a meteorological tower 4-3842
remote sensing methods in environmental studies, conf., April 1983, Brussels, Belgium 4-25
remote sensing of Earth, European Space Agency future Earth obs. programmes 4-52890
sampling techniques for NH₃, field comparison 4-52916
satellite for meteorological work, operated by Japan, GMS-2 4-53004
satellite images used to infer rainfall, pattern recognition techniques 4-17295
satellite measurements of marine aerosols 4-26893
satellite stereoscopic technique for tropical cyclone intensity estimation 4-42193
scattering indicatrices measurement, accuracy characts. of nephelometer 4-52949
Seasat measurements of wind and waves on selected passes over JASIN, accuracy 4-52904
Seasat scatterometer wind meas., accuracy comparison with JASIN expt. 4-52903
slant paths refraction computation, comparative accuracy of calc. methods (*Russian*) 4-42165
falling snow, equipment to measure mass concentration 4-31673
snow amount forecasting, automated guidance 4-47344
snow cover free water content measurement to electrical and non-electric methods 4-31677
snow cover remote sensing at night using moonlight illumination 4-13041
snowfall measurement accuracy for weather stations in High Arctic 4-31534
solar spectral constant determ. from ground-based spectroradiometry, atmospheric limitations 4-22090
Spacelab, scientific accomplishments of first mission 4-53003
Spanish meteorological systems, weather data acquisition and appls. (*Spanish*) 4-52951
statistical analysis of rainfall by power transformation 4-26746
statistical prediction method for climatic extreme value and return period for small samples 4-58318
statistical techniques for data anal. in climatology 4-58313
surface acoustic wave delay lines for minor species conc. anal. 4-31146
surface downward longwave radiation determ. from satellite remotely sensed data 4-47433
surface global radiation and cloudiness from satellite obs. 4-3858
temperature and humidity dependence on wind speed and direction 4-52870
temperature and moisture thermal sounding, profile retrieval algorithms 4-22105
temperature meas. using pure rot. Raman lidar, crosstalk severity 4-52895
temperature measurement, anal. of DMSP microwave temp. sounder data 4-22136
temperature measurement techniques for upper atm., radiative transfer anal. 4-58298
temperature measurement using pure rotational Raman lidar 4-3828
temperature monitoring on global scale in northern hemisphere, statistical problems 4-17258
temperature obs. statistical method for quality control in developing countries 4-13039
temperature profiles determ. from microwave radiation, influence of clouds and rain 4-42040
temperature remote sensing by satellite radiometric technique (*Russian*) 4-31696
thermal detector of radiation, gusts of wind effect determ. 4-26865
thermosphere neutral wind field, spatial mapping strategies 4-58329
severe thunderstorm instrumentation, ground based transportable system 4-3844
thunderstorm instrumentation and meas. techniques, conf., Washington DC, USA (April 1982) 4-36784
time-series separation into components, appl. to temp. and climatic data 4-58315
tornado monitoring instruments (TOTO) deployed to obs. storms in Texas and Colorado, USA 4-3795
total water vapour content from near-IR solar radiance meas. (*Chinese*) 4-58308
tracer techniques for parameterizing atms. dispersion, review 4-3845
tropical cyclone evolution monitoring by satellite microwave imaging 4-3831
tunable EHF radar for rainfall rate, meas. accuracy 4-47428
turbidity determination from diffuse and direct sunlight anal. 4-52917
clear air turbulence forecasting using MST radar method 4-42105
two-satellite method for atm. corrections to sea surface temp. determ. 4-31668
typhoon track forecasts for middle latitudes, use of satellite cloud feature anal. 4-31692
unified analysis-initialisation technique for weather forecasting 4-42192
vehicle particulate emissions and resuspended matter meas. with high volume sampler 4-52243
very-long-baseline interferometry, coherence loss and delay observation error anal. 4-4454
VHF Doppler radar measurements of synoptic wind data 4-47422
visibility measurement, design of automated equipment 4-26829
VISSR Atmospheric Sounder data use for atm. temp./moisture profiles 4-17286
VLF emissions characts., use of cross-spectral phase methods 4-3882
VLF location of intracloud and ground stroke lightning, polarisation errors of direction finding equipment 4-42241
water droplet measuring instruments comparison of different devices 4-3843

atmospheric techniques continued

- water vapour and liq. meas. by dual channel microwave radiometry 4-3836
- weather forecasting, anal. of differences between successive ECMWF forecasts (September 1982) 4-42039
- weather hazards detection, appl. of Doppler radar to turbulence and wind shear obs. 4-22134
- wind, humidity and sea surface temp. remote sensing by Nimbus-7 microwave radiometry 4-58292
- wind and optical backscatt. remote sensing by lidar, influence of snow and fog 4-31635
- wind at ocean surface, Seasat SAR radar meas. method 4-13102
- wind direction statistics calc. with computer routine 4-52899
- wind meas. by airborne radar pulse Doppler method 4-3833
- wind measurement in mesosphere, stratosphere and troposphere, results from Poker Flat MST radar 4-22048
- wind measurement in upper atmosphere, appl. of Poker Flat MST radar as meteor radar 4-22246
- wind measurement in upper mesosphere, influence of elec. fields on radar meas. 4-22049
- wind remote sensing by SAR satellite radar method 4-22147
- wind remote sensing over sea by over-the-horizon-radar 4-42243
- wind remote sensing using Doppler shift meas. by IR gas correlation spectroscopy 4-52894
- wind speed extreme values, extrapolation methods comparison (*German*) 4-13075
- windrose statistical analysis techniques 4-31656
- winter design temperatures estimation from daily minimum temp., appl. in USA 4-47423
- X-ray fluorescence analysis, environmental monitoring appl. 4-7908
- As cpds. detection using samplers with glass fiber filters 4-52898
- CO₂ conc. measurement accuracy during Hawaii HAMEC project 4-42211
- CO₂ increase effects, satellite-based detection 4-26868
- H₂O vapour remote sensing by satellite far IR method 4-3832
- H₂O₂ in rainwater, concentration measurement technique 4-52241
- H₂S detection using SAW delay lines 4-31146
- O₃ conc. measurement, implications of new UV absorpt. cross-sections 4-3822
- O₃ global monitoring, by method involving study of surface press. variations 4-42061
- O₃ in stratosphere, obs. and remote sensing method using XeCl laser 4-42212
- O₃ layer monitoring by laser radar 4-8320
- O₃ total content determ. by Chappuis-band optical method 4-26743
- OH profile in stratosphere from NO₂ and HNO₃ satellite obs. 4-3806
- OH radical in stratosphere, balloon borne lidar meas. system and obs. 4-42213
- ²²²Rn daughter prods. near land-sea discontinuities by gamma spectrometry 4-8330
- SO₂ detection using SAW delay lines 4-31146

atmospheric temperature

- see also *atmospheric thermodynamics*
- Alaska, annual temps., 1700 to 1906, from varve thicknesses 4-36421
- anomalous temperature fields with short meridional and long zonal scales 4-42068
- Arctic and Antarctic temp. records indicative of recent warming 4-17241
- arctic haze absorpt. of solar radiation and climate effects 4-47409
- North Atlantic, air-sea heat exchange calcs. (*Russian*) 4-12928
- Atlantic-European area, air temp./sea surface temp. (1876 to 1973) (*German*) 4-17257
- auroral ionosphere, ion temp., vars. due to gravity waves 4-22247
- auroral thermosphere, neutral-temp. profile from EISCAT obs. 4-22195
- boundary layer, vertical temp. profile from O emission at 58 GHz (*German*) 4-13074
- boundary layer flow model, finite element anal. of log-linear element 4-53455
- boundary layer fluctuations, obs. intercomparison between aircraft 4-31683
- Cabauw, Netherlands, boundary layer profiles and turbulence 4-47359
- climate, temperature variability of free-atmosphere 4-17261
- climate changes due to E. equatorial Pacific sea temp. anomalies 4-8309
- climate models with periodic and stochastic forcing, appl. to ice ages 4-47400
- climate sensitivity, evaporation-limited tropical temps. as constraint, energy balance model 4-8311
- overshooting cloud top temperature remote sensing by satellite, influence of view angle 4-26831
- clouds, temp. and thickness determ. from satellite microwave radiometry 4-47430
- cloudy atmosphere infrared cooling by numerical model 4-8315
- convective mixed layer, turbulent fluctuations mol. dissipation, height depend. 4-42008
- convective mixing layer, interfacial scales of temp. and humidity fluctuation (*French*) 4-58236
- cooling of atmosphere on global scale due to the IR thermal emission 4-22074
- Cromwell basin, New Zealand, cold season inversion freqs., acoustic sounder meas. 4-12995
- cryosphere of Northern Hemisphere, temp. sensitivity (*Russian*) 4-52876
- Czechoslovakia, climatological processing of atmospheric landscape component 4-12974
- D-region, electron energy distrib. rel. to auroral absorpt. event 4-58343
- determination of temp. profiles from microwave radiation, influence of clouds and rain 4-42040
- E-region, temps. rel. to field-aligned currents in quiet plasmasphere 4-8344
- E-region electron energy balance, effect of O fine struct. excitation by electron collisions 4-31717
- Edinburgh, Scotland, 1721-1975 July-August air temp., tree ring anal. 4-58272
- central England, monthly and annual mean temps., correl. 4-42144
- England, temp. and rainfall reconstruction from tree rings 4-13012
- equatorial middle atmosphere, wind and temp. struct. 4-31611
- Europe, temp., press. and precipitation patterns in a warmer world 4-47399
- exosphere at high latitudes, solar cycle/seasonal vars. 4-22196
- extreme-value analysis by Gumbel and Weibull methods 4-3852
- forcing of sea surface temp. anomalies at mid-latitudes 4-21976
- global temperature effected by cloud cover distrib. 4-22075

atmospheric temperature continued

- global thermal conditions statistics in northern hemisphere, empirical model 4-17258
- Great Britain, temp. seasonal variations in AD 1861 to 1980 period 4-36481
- ground-based microwave radiometric sensing, appl. of Kalman filter 4-22137
- heat burst of 1976 May 29, assoc. temp., humidity, cloud and wind characts. 4-36427
- HF acoustic mini-sounder for boundary layer wind and temp. 4-31663
- Late Holocene summer temp. vars. in Northern Hemisphere, comparison of evidence 4-36483
- ice accretions grown on power lines, microstructure, atm. water content/temp./vel. effects 4-12945
- increase at 24 km level, El Chichon volcanic cloud effects on N tropics 4-31605
- infrared sky radiation in Geneva, radiative Earth-sky deficit 4-52861
- ionosphere, electron density and temp. vars. during mag. storms 4-8347
- ionosphere, heating by radiowaves, effect on O I red/green lines emission 4-58322
- ionosphere, Intercosmos-18 meas. of subauroral electron temp. peak 4-8346
- ionosphere, solar cycle and seasonal vars., Chatanika incoherent scatter radar obs. 4-22239
- ionosphere, thermal electron temps. in environment of space shuttle 4-58344
- ionosphere electr. temp. var. due to artificial radiowave interactions 4-22210
- Ireland, summer weather in AD 1881 to 1981 period 4-17253
- mean hemispheric temperature, estimation of probability of spontaneous climatic transition (*Russian*) 4-42148
- measurement techniques for upper atm. 4-58298
- Melbourne region, Australia, remotely sensed and in-situ temp. meas. 4-31568
- mesopause level temperature variations during winter solstice at 78°N 4-42250
- mesopause region, turbulent heating and cooling and influence on winds 4-13115
- mesosphere warming/cooling over tropics, 1979 Jan.-Feb. rocketsonde data 4-42247
- mesosphere, hot-wire anemometer for direct neutral temp. meas. 4-31686
- mesosphere, temp. vars. during solar eclipses 4-52846
- mesosphere, vertical temp. gradient rel. to summer-time radar echoes 4-22050
- microclimatology, temp. and humidity evolution and fluxes (*French*) 4-26755
- microstructure over Tianjin, China (*Chinese*) 4-58249
- microwave sounding, anal. of DMSP passive radiometer data 4-22136
- middle atmosphere, numerical response to 11-year solar cycle 4-58326
- upper Midwestern United States, anal. of unusual winter (1982 to 1983) 4-42004
- missing daily max. and min. temp., estimation methods 4-31682
- monthly degree day normals for USA, estimation by fast method 4-47319
- Mt. Dushak-Erekdag, USSR, surface layer temp. field, turbulent characts. 4-26776
- multichannel IR sea surface remote sensing, at. temp. effects 4-31652
- Netherlands, forecasting of objective probabilistic temperature 4-52818
- nocturnal boundary layer, temp. profile evolution, energy and turbulence effects 4-47365
- non-sinusoidal seasonal vars. in mid-latitudes 4-52841
- Northern Hemisphere, spatial and temporal characts. of surface air temp. vars. 4-12972
- Northern Hemisphere mean surface air temp. var. (1656 to 1975) 4-58277
- Novosibirsk, USSR, temp. forecasting using optimal piecewise-linear regression model 4-22060
- nuclear war effects and long-term biological consequences 4-46912
- nuclear winter, global consequences of multiple nucl. explosions 4-46911
- numerical models of atmosphere, temperature utilization theory (*Chinese*) 4-13005
- ocean surface layers, heat transfer near air-water interface (*Russian*) 4-12931
- ocean-atmosphere system, seasonal thermal evolution model (*Russian*) 4-52725
- Oklahoma, United States, thunderstorm cloud tops, motions and temp. 4-47337
- Oklahoma tornadic storms, 1979 May 2, cloud/temp./rel. struct. 4-8290
- Oklahoma tornadic storms, 1979 May 2, V pattern/internal warm region explanations 4-8291
- peroxyacetylnitrate (PAN) in atmosphere, possible greenhouse effect heating 4-52797
- polar stratosphere clouds, form., role of aerosols, temp., humidity 4-17234
- profiles from VISSR Atm. Sounder radiance obs. 4-17286
- radar/radiometer profiler system for temp., wind, humidity remote sensing 4-3837
- radiometry using Fourier transform spectrometers 4-8321
- Raman lidar, pure rot., for atm. temp. meas. 4-52895
- Raman lidar, pure rotational, for atm. temp. meas. 4-3828
- Red River, Winnipeg, Canada, 19th century breakup/freezup, climatic implications 4-13015
- remote sensing lidar system operating as a meteorological tower 4-3842
- remote sensing of atm. temp. by satellite radiometric technique (*Russian*) 4-31696
- remote sensing of sea surface temp. by Nimbus-7 microwave radiometry 4-58292
- Rome, Italy, air temp. (1782-1975), effects of natural events/human activity 4-3816
- Rome, Italy, summer wind rel. to surface thermal regime 4-58265
- Rothamsted, England, monthly extreme air temp. and air frost probability 4-42143
- routine observations statistical method for quality control in developing countries 4-13039
- satellite sounding, accuracy improvement 4-47366
- satellite thermal sounding of temp. and moisture, profile retrieval algorithms 4-22105
- sea surface temp. rel. to wind speed meas. by SASS 4-26782
- solar eclipse causing stratosphere and mesosphere perturbations 4-58235
- solar eclipse of Feb. 1980 over India, temperature profile obs. 4-17244

atmospheric temperature continued

- southern hemisphere, mean temp. in upper stratosphere (*Russian*) 4-47370
- Southern Plains, USA, low-precipitation severe thunderstorms, temp. profiles and cloud characts. 4-47341
- spatial derivatives in turbulent flow, effect of parallel sensors configuration 4-42007
- Stocking, New Zealand, variations, rel. to climate 4-12955
- middle stratosphere, temp. variability and trends 4-42043
- stratosphere warmings after El Chichon and Agung eruptions 4-47347
- stratosphere/mesosphere winter temp. increases over Antarctica (*Russian*) 4-47369
- stratospheric irregularities and fluctuations, far IR emission obs. 4-42168
- stratus clouds in California, temp. and humidity rel. to radiative effects 4-42167
- superior mirage data inversion for temp. profile determ. 4-26751
- surface layer of atmos., probability distrib. of wind and temp. fields (*Russian*) 4-17220
- surface layer with neutral and unstable stratification, wind and temp. profiles (*Russian*) 4-52838
- surface temperature, effect of trace gases 4-42156
- surface temperature history from borehole temp. gradients anal. 4-42217
- temosphere, high latitude circulation and temp. structure near December solstice 4-26904
- thermosphere, temp./comp./global circulation, depend. on mag. disturbances 4-22190
- thermosphere composition, temperature and density in MSIS-83 empirical model 4-26902
- thermosphere heating due to upward energy flux of semidiurnal tide 4-3862
- thermosphere temperature from UV aurora mol. rot. spectra 4-3861
- three-component sonic anemometer/thermometer system for general micrometeorological research 4-31664
- time-series separation into components, appl. to temp. and climatic data 4-58315
- tornadoes associated with hurricanes, genesis, vorticity and temp. 4-36428
- Toronto, Canada, forecast accuracies for temp. and precipitation 4-31590
- tropical cyclone intensity estimation, use of satellite stereoscopic technique 4-42193
- tropopause in tropics, longitude regions of lower temperature 4-8270
- troposphere, temp. and moisture retrieval from VAS data, effect of surface data addition 4-47361
- turbulence characteristics in boundary layer during front passage 4-26778
- turbulence in lower troposphere, meas. with monostatic sodar (*Russian*) 4-52933
- upper atmosphere, auroral zone temperatures 4-26901
- upper atmosphere chemical composition and temperature, model for mean mol. weight 4-3863
- upper temperature charges during a 24-hour period rel. to nightglow variations 4-22199
- urban area, boundary layer temp. field local isotropy 4-31579
- valley winds rel. to temp. stratification and valley area-height distrib. 4-47352
- vertical lapse rate in troposphere, and its relation to surface temp. (*Russian*) 4-12992
- volcanic eruption climate perturbations causing tree ring frost damage 4-26679
- volcanic eruption plume from El Chichon, study of stratosphere temp. changes 4-42087
- Washington, USA, Pacific cyclones rainbands in occlusions 4-17228
- wind speed and direction depend. of temp and humidity of weather station 4-52870
- winter design temperatures estimation from daily minimum temp., appl. in USA 4-47423
- zonal temperature fluctuation variance, latitude depend. (*Russian*) 4-52837
- zonal temperature variability, generation through fluctuating meridional energy transports, energy balance climate model anal. 4-8310
- CO₂ increase and atmos. temp. rise? a different view 4-52808
- CO₂ pollution affecting climate, general circulation model study 4-42151
- CO₂ warming of Earth, implications of Australia climatic variations anal. 4-31625
- O₃, global var. in stratosphere/troposphere rel. to temp. and water vapour 4-31581
- SO₂ conversion to sulphate and sulphite aerosols, humidity and temp. effects 4-46920

atmospheric thermodynamics

- see also *atmospheric temperature*
- E Atlantic Intertropical Convergence Zone, struct., energetics, sensible heat, moisture budgets 4-17226
- blocking and nonblocking periods, spectral energy and enstrophy budgets 4-36445
- Cabauw, Netherlands, boundary layer profiles and turbulence 4-47359
- climate models with periodic and stochastic forcing, appl. to ice ages 4-47400
- climate sensitivity, evaporation-limited tropical temps. as constraint, energy balance model 4-8311
- climatic aspects of land surface processes, albedo and energy balance 4-22080
- coastal nuclear plants, thermal inertial boundary layer model, meteorological modelling 4-22061
- convective condensation heating and unstable mode (*Chinese*) 4-58247
- convective mixing layer, heat and moisture fluxes rel. to scales of temp. and humidity fluctuations (*French*) 4-58236
- cooling due to S-cycle and biothermostasis 4-13016
- cooling of atmosphere on global scale due to the IR thermal emission 4-22074
- cyclone during AMTEX '75, diabatic effects of latent heat release/boundary layer moisture 4-36430
- ecosystem energetics (book) 4-8665
- energy cycle 4-8286
- F-region, plasma heating-induced instability for inhomogeneities origin 4-22206
- global angular momentum and energy balance 4-22070
- global circulation during special observation periods of FGGE, energetics anal. 4-47375
- heat exchange with ocean, effect on oceanic wave propag. 4-21978

atmospheric thermodynamics continued

- heat transfer through fluid layer with recirculating flow between concentric/eccentric spheres 4-38825
 - hurricanes, latent heat release in NWP models, use of lower saturation criteria 4-36435
 - ionosphere, estimation of turbulent energy dissipation and winds from Dynasonde meas. 4-22245
 - ionosphere, heating and wave interactions 4-26919
 - ionosphere, polar cap region, Joule heating dissipation 4-17325
 - latent heat energy advection, effect of weather forecast anal. (*Chinese*) 4-42023
 - mechanical power processed by Earth, estimate 4-8302
 - moist available potential energy in limited region, budget (*Chinese*) 4-47327
 - motion induced by thermal waves 4-17383
 - operational weather forecasting, quasi-Lagrangian regional model 4-47343
 - planetary boundary layer, stratified and baroclinic, integral parametrisation method 4-36438
 - plasmaphase thermal plasma heating 4-42263
 - pseudoenergy conservation in Lagrangian time-mean flow, appl. to non-linear waves theory 4-47378
 - radiative heat transfer, effect of aerosol characts. 4-47322
 - Saudi Arabia desert, heat low during May 1979, thermal stratification and radiation 4-36426
 - storms, moist convection and energy considerations 4-47340
 - mixed stratocumulus cloud layers, saturation point budgets 4-47381
 - stratus clouds in California, radiative effects 4-42167
 - transfer processes, appl. of Prigogine diffusion theorem 4-42042
 - upper atmosphere, equinox tidal heating 4-58327
 - Walker circulations and teleconnections forced by equatorial heating, dynamics 4-17225
 - wave conditional instability of second kind (wave-CISK), cumulus parameterisation schemes 4-47382
 - zonal temperature variability, generation through fluctuating meridional energy transports, energy balance climate model anal. 4-8310
- atmospheric turbulence**
- acoustic line-of-sight propagation near ground 4-14829
 - auroral inverted-V electron spectra, manifestation of current driven ion-acoustic turbulence 4-42264
 - backscattered waves, turbulent atmosphere effect 4-26784
 - boundary layer, CO₂ laser radiation pulses, nonlinear power attenuation 4-3823
 - boundary layer, gravity waves generation and triggering of turbulence 4-58263
 - boundary layer, molecular dissipation of turbulent fluctuations 4-42014
 - boundary layer, stably stratified turbulent shear flow by Malkus' theory 4-42011
 - boundary layer, turbulence and dispersion of smoke-plume, wind-tunnel expts. 4-52801
 - boundary layer, turbulence mesolayer theory 4-10655
 - boundary layer, turbulent diffusion modelling and pollutant transport 4-58264
 - boundary layer, turbulent flow, resistance and heat transfer, similarity theory (*Russian*) 4-8252
 - boundary layer, von Karman's const. 4-42126
 - boundary layer during thunderstorm, turbulence fine struct. (*Chinese*) 4-13002
 - boundary layer fluctuations, obs. intercomparison between aircraft 4-31683
 - boundary layer turbulence, pollution, diffusion, conf., Atlanta, USA (March 1981) 4-42607
 - boundary layer turbulent characts. during front passage 4-26778
 - Cabauw, Netherlands, boundary layer profiles and turbulence 4-47359
 - canopy layer, Reynolds stress struct. 4-47364
 - clean air turbulence near the tropopause, Poker Flat radar obs. 4-42105
 - cloud turbulent wind pulsations (*Russian*) 4-52833
 - conference on coastal zone meteorology/air-sea interactions at The Hague, Netherlands (May 1982) 4-22526
 - conference on planetary boundary layer physics at Erice, Sicily (February 1978) 4-53361
 - convective boundary layer, air quality models, prediction uncertainty 4-41394
 - convective mixed layer, turbulent fluctuations mol. dissipation, height depend. 4-42008
 - convective planetary boundary layer, turbulent exchange mean vertical coeff. 4-36437
 - convective surface layer height over Red Sea coast 4-26737
 - diffusion in boundary layer, theory of turbulence classification schemes 4-17206
 - dual filter method for turbulence profile characts., system response, graphical method 4-26850
 - effects on thermal detector of radiation 4-26865
 - energy decay predictability on large scale 4-55395
 - Eulerian-Lagrangian relationships in Monte Carlo models of turbulent diffusion 4-31553
 - geostrophic turbulence, stable baroclinic eddies and self-exciting dynamos in rot. fluid systems 4-31624
 - geostrophic turbulence transition, in rot. annulus, dimens. meas. 4-1699
 - gravity wave generated turbulence, from convectively stable internal waves 4-42073
 - ground based telescope optical specification 4-42309
 - high altitude resolution profiles, C_n², importance on coherence lengths 4-3819
 - horizontal roll vortices over differentially heated surface, forest fire 4-17240
 - inversion-capped planetary boundary layer, horizontal roll vortices 4-31564
 - ionosphere, estimation of turbulent energy dissipation and winds from Dynasonde meas. 4-22245
 - ionosphere, thermal plasma turbulence in environment of space shuttle 4-58344
 - jetstream eddy vorticity forcing of blocking flow fields 4-26764
 - large scale flow influenced by small scale horizontal diffusion 4-26766
 - laser remote-sensing meas., signal averaging limitation removal 4-47458
 - light propagation in turbulent layer, diff. by opaque half-plane 4-17263
 - liquid metal flows and magnetohydrodynamics, conference, Beer-Sheva, Israel (March 1981) 4-27246
 - magnetosphere, high-latitude dayside 4-22277

atmospheric turbulence continued

- mesoscale diffusion and pollution dispersion, effect of vertical wind shear (*Chinese*) 4-13003
 mesoscale lateral meanders in stable nighttime boundary layer 4-26747
 equatorial mesosphere, VHF radar backscatt. indicating turbulence 4-22055
 microwave radio systems, tropospheric irregularities influence on dynamic behaviour 4-36477
 mixing and dispersion by 2-D turbulence, statistical theory (*Russian*) 4-12991
 Mt. Dushak-Erekdag, USSR, surface layer temp. field, turbulent characts. 4-26776
 nocturnal boundary layer, temp. profile evolution, energy and turbulence effects 4-47365
 nonredundant aperture mask construction for obs. through turbulent atm. (*Ukrainian*) 4-5551
 optical communication system using receiver with memory, effects of atm. turbulence 4-19382
 partially coherent light beam intensity fluctuations in a turbulent atm. 4-36486
 particle trajectories determination in presence of turbulent-vel. variance gradient 4-42009
 planetary boundary layer, wind and turbulence coeff. vertical profiles (*German*) 4-17214
 plume dispersion in convective boundary layer, model 4-52802
 plume rise within convective boundary layer, laboratory expts. 4-31549
 plume turbulent diffusion and meandering, by Lagrangian model 4-31552
 radioacoustic sounding of atmosphere, range limit due to turbulence (*Russian*) 4-42204
 radioacoustic sounding of turbulent atm., signal power and range (*Russian*) 4-52934
 receiver with spatial-frequency filtering, information signal isolation for turbulent atm. channel 4-44197
 relative diffusion in turbulent media: the fractal dimension of clouds 4-58245
 remote sensing of turbulence, wind shear and gust fronts, appl. of Doppler radar 4-22134
 road traffic induced turbulence and wind velocities 4-26748
 scintillation in Shanghai, aperture smoothing factor, appl. in laser engineering (*Chinese*) 4-58282
 shadow bands during total solar eclipses, characts. and nature as turbulence effect 4-42178
 shock wave rise times, vibr. relaxation effect 4-17222
 stratosphere, vertical fine struct. of flow 4-42100
 structure formation from three-dimens. turbulence inverse cascade 4-31622
 surface layer of atmos., probability distrib. of wind and temp. fields (*Russian*) 4-17220
 surface layer with neutral and unstable stratification, wind and temp. profiles (*Russian*) 4-52838
 temperature, spatial derivatives in turbulent flow, effect of parallel sensors configuration 4-42007
 temperature turbulence meas. with monostatic sodar (*Russian*) 4-52933
 temperature variance induced by turbulence, appl. of Kalman filter to radiometric meas. 4-22137
 thermosphere and upper mesosphere, air motions studied by VHF radar 4-42248
 lower thermosphere turbulence during mag. storms, calc. from E_s -layer parameters 4-26900
 VHF and UHF anticyclonic propagation, experimental studies 4-42133

atmospheric wind *see wind***atmospherics**

- see also atmospheric electromagnetic wave propagation; whistlers*
 lightning atmospheric meas., techniques and instruments 4-47455
 magnetosphere, ELF and VLF his rel. to electrons precip. from radiation belt 4-8345
 noise meas., Aiya noise meter versus ARN-2 recorder 4-31694
 radio emission from fireball meteors, MHD generation mechanism 4-42372
 radio noise, lightning activity global distribution 4-8296
 reception equipment transforming signal to audible sound pattern (*German*) 4-31689
 stepped-rise of atmospherics activity obs. at Calcutta, India 4-13119
 sub-microsecond struct. of EM waves radiated by thunderstorms (*French*) 4-47395
 thunderstorm global distribution, Ionospheric Sounding Satellite obs. of atmospherics 4-22041
 VLF atmospherics, sunset effect 4-26918
 VLF chorus, fine-struct. as indicator of wave-particle interactions in magnetosphere plasma 4-58346
 VLF daytime spectral parameters of atmospherics rel. to azimuth angles 4-58335
 VLF location of intracloud and ground stroke lightning, polarisation errors of direction finding equipment 4-42241
 whistlers, propagation distance and polarisation characts., expt. study, Moshiri, Japan, January 1983 (*Japanese*) 4-36537

atom-atom collisions

- includes reactive collisions*
 alkali metal atoms+H reson. interactions, polarisabilities and van der Waals coeffs. 4-48961
 eigenvalue method appl. to CARA and REIC. 4-14520
 electronic state coherences, laser field-collisional reactions 4-9881
 electronic transitions, mol. models 4-33511
 excited atoms, slow collisions, ionisation processes investigated using plasma electron spectroscopy 4-9936
 fluorescence spectra and optical collision rates in strong driving field 4-54836
 heavy-ion reactions, atomic excitations, nuclear reactions influence 4-1255
 inert gas+ $Mg^+(Mg)$ collisions, 3p state excitation calcs. 4-23784
 inert gas atoms+H, charge transfer cross section, expt. data compilation 4-42621
 inert gases collisions, dipole moments and interaction potentials in collision-induced absorption 4-14523
 intermediate and high energy collisions 4-14500
 laser induced chemi-ionisation, semiclassical limit 4-9928
 laser-induced chemiionisation theory 4-14373
 light-heavy-light atom systems, vibr. bonding 4-19174

atom-atom collisions continued

- nonreactive, dissoc. and reactive polyatomic collisions, kinematic apse and j_p-preserving propensities 4-28532
 optical collisions in strong laser fields 4-14521
 polarisation, atomic collision induced, influence of nuclear spin (*French*) 4-28534
 polarisation analysis of two atoms excited in a single collision 4-43964
 Rydberg atom+atom thermal collisions, Faddeev Watson expansion appl. 4-19215
 Rydberg atom+inert gas atom, elec. field effects, hydrogenic wave functions, parabolic coordinates 4-19149
 Rydberg atom+rare gas atom quasi elastic state changing collisions 4-19148
 Rydberg atom-rare gas atom collisions at thermal energies 4-33491
 Rydberg states transition, interaction pot. 4-33518
 Rydberg-neutral collisions, impulse approx. validity study 4-43957
 slow atomic collisions, quantum theory 4-33490
 time dependent screened potentials for atomic scattering problems 4-19120
 two-photon radiative collisions, phase control of at. scatt. states 4-14505
 Ar, deexcitation rate consts. by ats. and mols., temp. depend. 4-33509
 Ar-He(Kr)(Ne), collision induced dipole moment, ab initio HF treatment 4-54593
 Ar+C slow collisions, differential Ar L- and C K-shell vacancy production 4-23795
 Ar+Ne* collision, thermal energy ionis. cross-section 4-9908
 Ar*+Ar collisions at thermal energies, time-of-flight spectra 4-38274
 Au+U, asymmetric collision, δ -electron spectrosc. obs. of inner quasiatomic shells 4-9900
 Br+Pb, asymmetric collision, δ -electron spectrosc. obs. of inner quasiatomic shells 4-9900
 Ca+He(Ar)(Kr)(Ne)(Xe), electronic energy transfer, radiative lifetimes, spin and fine struct. changing cross sections 4-1248
 Ca+inert gas atoms, reson. line, absolute absorpt. coeff. 4-18968
 H-like atoms, relativistic, discrete level transitions cross-sections 4-1299
 H+H₂(N₂)(O₂)(H₂O)(C(C cpds.)), charge transfer cross-sections determ. 4-14527
 H+He, electron loss into continuum, H⁺ form. 4-9903
 H+He collisions, double differential distrib. prod. by collisional electron loss 4-38305
 H+He(Ne)(Ar), collisions below 1 keV 4-9885
 H+inert gas atoms, collisional ionisation 4-9883
 H+inert gas atoms, excitation examined by obs. Balmer-alpha and Balmer-beta emissions 4-9939
 H+Na, excitation cross sections to Na(3p) level 4-19181
 H(1s)+H(1s), total cross sections H(2s) and H(2p) prod., close-coupling nonexchange calcs. 4-5324
 H(1s)+H(2s) collisions, ion pair production 4-9938
 He, deexcitation rate consts. by ats. and mols., temp. depend. 4-33509
 He+alkali metals, j_{lm}-j_{lm} transitions cross sections 4-5340
 He+H, Rydberg states transition, interaction pot. 4-33518
 He+H⁺(H), electron capture and loss into continuum 4-10022
 He+He, 2P excitation at various substate combinations 4-9886
 He+He, elastic and inelastic collision kinetics with spin-orientation 4-28535
 He+He(1S) thermal collisions, collisional depopulation rate meas. 4-19183
 He+inert gas, diabatic pot. interaction 4-5341
 He+Na, Penning ionisation cross sections calc. 4-9937
 He+Ne, He 2P₁ state quenching by Ne 4-38123
 He+Ne, He 2P₁-S₀ radiative transition probability 4-23659
 He+Ne, He 2P₁-level decay kinetics 4-33499
 He+Ne, nonresonance excitation transfer 4-9889
 He+Rb, elastic and inelastic collision kinetics with spin-orientation 4-28535
 He+Rb(Cs), transition cross sections within second and third n²P levels, quantum-mechanical calcs. 4-9940
 He^m+He, inelastic scatt. channels investigated using optical spectroscopy 4-9890
 He*+He(Ne)(Ar), vel. depend. total scatt. cross sections 4-5327
 He*+He(1S), scatt. cross sections, pot. energy curves 4-33309
 He*+Ne, collisional polarisation transfer, even-odd isotope effects 4-19000
 He*(2S)+Ar, product angle-vel. distrib. for doubly differential cross section 4-9935
 He(3P)+Ne, autoionisation width for Penning and associative ionisation cross sections 4-9932
 He(5S)+He, laser excited, thermal energy collisions, associative ionisation of Hornbeck-Molnar type 4-9931
 I 1.3 μ m transition, transition probability and collision broadening 4-9721
 I+Au(Br) deep inelastic collisions at 795 and 840 MeV, nuclear reaction time effect on δ -electron emission 4-9997
 I+Au(Pb)(Bi)(U), asymmetric collision, δ -electron spectrosc. obs. of inner quasiatomic shells 4-9900
 K+Ar collisions, coherence in oriented K at. 4-38277
 K+Ar(Kr), extended multiproperty anal. model pot. calc. 4-5319
 K(4P)+inert gas atoms, coherence obs. 4-9888
 K(4P_{3/2})+Ar(He), fine struct. transitions, polarisation effects 4-9887
 Kr+Kr(Ar) two-electron transitions, 3p-vacancy prod. 4-19208
 Li+Li, long-range electrostatic and dispersion interactions calc. 4-49111
 Li+Li(He)(Ar), 4²D-4²F excitation transfer 4-43968
 Li(2s)+Na(3s), excitation cross sections, polarisation of impact radiation, coherence parameters 4-9884
 Na resonance excitation in Na+Na and Na+Na₂ interactions 4-1247
 Na, resonant collisions of nS and nD Rydberg atoms 4-9697
 Na vapour, optically excited to 3P state, collisional processes, asymptotic calc. 4-43958
 Na+Ar(He)(Ne), selective population transfer, two step collision model 4-19147
 Na+Ar(Kr), extended multiproperty anal. model pot. calc. 4-5319
 Na+Na, laser reson. radiation excitation at 3²S-3²P transition wavelength 4-9891
 Na+Na, long-range electrostatic and dispersion interactions calc. 4-49111
 Na+Na multiphoton-assisted radiative collisions in a strong field regime 4-14524
 Na+Na-Na₂⁺+e⁻, laser induced reaction 4-26176
 Na+Xe, multipole relax. and transfer cross sections 4-28540
 Na+Xe, state changing collisions obs. 4-23797
 NaNe quasibound mols. binary formation obs. in Na spin relax. 4-57554

atom-atom collisions continued

- Na(²P)+Xe collisions, total differential cross section calc. 4-54842
 Na*(np)+Na(3S), associative ionisation and 2-photon laser induced collisional ionisation 4-9933
 Na(3P)+Na(3P), energy transfer and associative ionisation 4-9919
 Ne 2p³sp atom, collisional depopulation rate coeff., laser based determ. 4-43954
 Ne-Ar(Kr), collision induced dipole moment, ab initio HF treatment 4-54593
 Ne+Ar, Ar L-shell excitation, statistical model 4-49138
 Ne+He metastable atoms, chemi-ionisation reactions at high energy 4-1249
 Ne+He(Ne), 633 nm line shift and width, nonlinear absorpt. meas. during mag. scanning 4-18991
 Ne+Ne, coupling matrix elements calcs. 4-19138
²¹Ne prod. spin exchange collisions with optically pumped Rb vapour 4-1254
 O+Ar(Kr)(Xe), energy-dependent cross sections for extinction 4-14517
 O+H⁺(H(s))(H(2s))(H⁻), collisional electron capture, loss and excitation, cross-sections 4-10029
 Pb+Cm, coupling matrix elements calcs. 4-19138
 Rb+Ar collision, broadening of level crossing signals 4-23778
 Rb+He, Rydberg-atom thermal collisions, Faddeev Watson expansion appl. 4-19215
 Rb+He collision, broadening of level crossing signals 4-23778
 Rb+Kr collision, broadening of level crossing signals 4-23778
 Rb+Ne collision, broadening of level crossing signals 4-23778
 Rb+Rb, collisional ionisation and energy pooling process, mechanism 4-9934
 Rb+Rb, fine structure changing collision cross section within low lying n²D states 4-38310
 Rb+Rb, quenching of Rydberg state, appl. to elastic electron scatt. 4-19214
 Rb+Xe, collision, broadening of level crossing signals 4-23778
 Rb+Xe, Rb spectral line shapes, universal stationary phase treatment 4-18993
 Rb*+Rb*, Penning ionisation cross sections 4-19210
 Sr+Ar, laser assisted collisions, final state distrib., nonadiabatic theory 4-14522
 Sr+Ca, laser induced transition, multi-state problem 4-9892
 Tl+He, collisional shift and adiabatic broadening of ground state Tl hyperfine transition lines 4-49126
 Tl+Kr, collisional shift and adiabatic broadening of ground state Tl hyperfine transition lines 4-49126
 Tl+Xe, collisional shift and adiabatic broadening of ground state Tl hyperfine transition lines 4-49126
 U+inert gas atoms, velocity changing collisions in saturated absorpt. 4-19179
 U+U, positron creation and K-hole excitations, coupled channel calcs. 4-1255
 Xe+Xe* collision pairs, two-photon laser spectroscopy 4-38140
 Yb+Xe, dissimilar state superposition, total scatt. cross section vel. depend. 4-23777

atom-ion collisions

- includes reactive collisions*
see also charge exchange
 δ-electron ejection anisotropy at polar and azimuthal angles 4-28548
 alkali atom+alkali ion collisions, selective valence electron transfer 4-23806
 alkali atom+H₂⁺, near reson. dissoc. charge exchange, keV energies 4-10072
 alkali atom+H⁺, electron capture and excitation 4-10057
 anisotropic L X-ray emission in ion-atom collisions 4-19143
 asymmetric, electron capture, intermediate to high velocity 4-10040
 asymmetric atom-ion collisions, binding correction for inner shell ionisation 4-9991
 asymmetric collision, electron capture, thesis 4-49159
 asymmetric heavy ion-atom collisions, inner-shell vacancy prod. 4-19134
 atom+ion, ionizing collisions, electron loss to continuum cusps, linewidths 4-10023
 atom+ion collisions, electron capture to continuum at asymptotically high vels. 4-10024
 atom+negative ion collision, electron detachment, dynamical complex potential 4-38308
 atom+negative ion collision, electron detachment, time-depend. theory, propagator model 4-38307
 atom+stripped ion, electron capture peak shape, screened electron interaction effects 4-10021
 atomic shape, linear and circular light polarisation study 4-9882
 charge changing cross section, effective charge 4-5342
 charge exchange, ionisation, variational continuum distorted waves 4-14533
 charge exchange involving ion excitation, asymptotic theory, cross section calc. 4-33526
 charge transfer and simultaneous excitation for RTE 4-9998
 charged particle collisions, double excitation and ionisation competing mechanism interference at high vels. 4-10112
 continuous energy state model for charge transfer in multiply charged ions impact on atoms 4-19240
 cross section calc. in glow discharge 4-15323
 differential cross sections in ion-neutral charge exchange collisions 4-19229
 electron capture in high energy collisions, total cross section computation 4-10014
 electron capture to continuum peak screened pots. 4-10017
 electron detachment in slow anions impact on atoms 4-9965
 electron detachment in slow negative ion-atom collisions 4-9966
 electron loss to continuum cusps, algebraic calcs. 4-19187
 electron swarms in gases and liquids, conf., Innsbruck, Austria (Aug. 1983) 4-31970
 electronic and atomic collisions, conf., Berlin, Germany, (July-Aug. 1983) 4-15
 fast highly charged ions in gas targets, electron capture 4-14532
 fast ion+atom collisions, doubly differential ionis. cross-section calcs. 4-9942
 gas ionisation and electron capture cross-sections from proton impact 4-19185
 gases, effective charges from stopping powers of heavy ions 4-19916
 heavy atoms, ionisation by polarised relativistic protons, ionisation cross section 4-1263

atom-ion collisions continued

- heavy atoms+relativistic ions, K-shell excitation and ionisation, semiclassical approx. 4-19139
 heavy ion+atom, slow collisions, L-shell and M-shell vacancy prod. mechanisms 4-54837
 heavy ion+fast light atom, electron capture, angular distrib. peak study 4-38320
 heavy ion-atom collisions at 1.4 MeV N⁻¹, L₁ X-ray transition anisotropy 4-43960
 heavy-ion collisions, inner-shell excitation processes, electron-electron interaction effect 4-43966
 high energy, differential electron-capture cross-sections, Thomas peak, expt. and theory 4-54856
 high energy atom-molecule scattering at small angles 4-28550
 highly charged ion+atom collisions, low energy autoionis. electron emission, spectra 4-10026
 hydrogenic Rydberg atoms+H⁺, ion scatt., classical-trajectory Monte Carlo calcs. 4-1262
 hydrogenlike atoms, ionisation by polarised relativistic protons, ionisation cross section 4-1263
 hydrogenlike ions, arbitrary states, charged particle impact excitation, Coulomb-modified Glauber amplitudes 4-1240
 inelastic collisions, inverted cusps in electron spectra near zero electron vel. 4-38311
 inert gas+Asⁿ⁺, cross-sections, attenuation coeffs. and Larmor freqs. 4-33495
 inert gas+Mg⁺(Mg) collisions, 3p state excitation calcs. 4-23784
 inert gas+Xe⁺, charge transfer and fine struct. transitions, 2 to 20 keV 4-10033
 inert gas atom+alkali ion, interaction pots. calcs. 4-49125
 inert gas atom+ion charge transfer cross-sections 4-54857
 inert gas atoms+(H⁺)(H⁻), charge transfer cross section, expt. data compilation 4-42621
 inert gas atoms+H⁺(He⁺), multiple ionisation cross sections meas. 4-23803
 inert gas ions, ionising collisions, ns⁰np^k 1S state Auger study 4-33380
 inner shell excitation and ionisation, projectile electron screening effect 4-19175
 ion-ion collision, resonant two-electron charge exchange (Russian) 4-54860
 ion-ion collisions, charge transfer and ionisation processes 4-37
 ionic-covalent collision interactions, pot. energy curves 4-33520
 K-shell ionisation cross sections, relativistic corrections 4-48997
 K-vacancy probabilities, impact parameter depend., in gas and solid-target collision systems 4-49139
 L-shell excitation 4-19195
 L-shell X-ray production cross sections of ⁴⁸Cd, ⁵⁰Sn, ⁵⁷Te, ⁵³I and ⁵⁶Ba for alpha particles 4-18975
 light atom+heavy highly stripped ion, δ-electron emission in strong projectile field 4-9947
 light-ion stopping power, low-velocity predicted Z₂ structure and gas-solid difference 4-1239
 molecular ions+gas targets, H⁺ loss meas. 4-21458
 multicharged ion+neutral atom, charge stripping cross-sections calcs. 4-9946
 multiply charged projectile+light target collisions, electron capture study 4-14542
 nonperturbative effects in inner-shell ionization 4-9990
 phase integrals and perturbed stationary states 4-9905
 radiative electron capture, off-shell Coulomb wavefunction 4-14535
 radiative electron capture, strong-pot. Born theory 4-5345
 rare earth atom+¹H⁺(²He⁺), M-shell X-ray production cross-sections 4-19182
 relativistic calcs., review 4-33496
 resonant charge transfer cross sections determ. by drift tube techniques 4-38322
 rotational coupling in asymmetric ion-atom collisions 4-19133
 second row ion collisions, charge state distrib., inner- and outer-shell contribs. separation 4-5347
 semiclassical approximation of the time-dependent Dirac equation with first order perturbation theory and finite difference method 4-19139
 simultaneous charge transfer and excitation 4-54851
 slow atomic collisions, fast continuum electron emission 4-9901
 slow atomic collisions, quantum theory 4-33490
 time dependent HF theory appl., many-body aspects 4-28531
 time dependent screened potentials for atomic scattering problems 4-19120
 transfer ionization and Coulomb ionization in collisions of multiply charged ions with atoms 4-19245
 trichlorofluoromethane anion+H-CH₂Cl₂+Cl⁻; reactivity and energy surface, SCF-HF ab initio study 4-21425
 two-electron systems, ion+atom collisions, Hartree-Fock calcs. 4-10054
 vacancy alignment, effect of screening by projectile electrons 4-19201
 Ag+Ag collisions at 17, 26, 40 MeV collision energy highly promoted mol. orbitals, direct ionisation 4-19196
 Al, inner-shell excitations, density-effect 4-9982
 Al⁺+Ar, L-X-ray spectrum, 25 vacancy prod., fluoresc. yield 4-19197
 Ar+Ar⁺(Ar⁴⁺), L-MM Auger spectra 4-9950
 Ar+As⁺(P⁺)(Sb⁺)(In⁺), charge transfer cross section meas. 4-49157
 Ar+CO⁺, dissoc. charge exchange, predissoc. 4-38341
 Ar+D₂⁺, collisional dissoc. and charge exchange cross sections 4-12356
 Ar+H₂⁺(H₃⁺)(He⁺), electron loss, single differential cross-sections calcs. 4-9943
 Ar+H₃⁺, collision, neutral H₃ prod. 4-19217
 Ar+H⁺ doubly differential electron detachment cross-sections, target depend. 4-38316
 Ar+H⁻(Li⁻)(Na⁻)(K⁻), keV collisions, electron detachment, scaling law 4-9904
 Ar+H⁺, dissoc. charge exchange, translational spectrosc. obs. 4-10071
 Ar+H⁺, H(2P) excitation, charge-changing collisions, polarisation obs. 4-10030
 Ar+H⁺, K-K shell electron capture in asymmetric collisions at high and intermediate energies 4-10051
 Ar+H⁺, multiple ionis., δ-electron spectrosc. obs. 4-9899
 Ar+H⁺(H₂⁺)(He⁺)(He²⁺), simple collision systems, target ionisation and projectile electron loss 4-54847
 Ar+H⁺(H₂⁺)(He⁺) collision, ion induced L₃-subshell alignment of Ar 4-43959
 Ar+H⁺(He⁺), multiple ionis. by charge transfer and direct ionis 4-10032

atom-ion collisions continued

- Ar+He^{q+} close atomic collisions, He ion charge distrib. anomalous effect 4-54848
 Ar+He*⁺ Penning ionis. and collisional destruction investig. 4-10011
 Ar+N₂⁺→Ar⁺+N₂, state selected reaction threshold photoelectron-photoion coincidence obs. 4-10069
 Ar+NO inelastic collisions, quantum calcs. 4-23781
 Ar+NO⁺(O₂⁺)→Ar⁺+NO(O₂), charge transfer, vibronic and FS state reactions 4-10067
 Ar+NO⁺→Ar⁺+NO, reaction cross-sections, vibronic state depend. 4-23799
 Ar+Na⁺(K⁺), ionis. and charge exchange cross-sections, 0.5 to 7.0 keV 4-10038
 Ar+Rb⁺, ejected electron spectra, Barker-Berry effect 4-9955
 Ar+Si¹⁵⁺ collisions, K-K charge transfer interference struct., impact param. depend. 4-19244
 Ar⁺+H₂(He)(CH₄)(Ar)(CO₂)(Xe), charge stripping, collision gas press. depend. 4-33521
 Ar²⁺+Ar, single and double electron transfer reactions, time of flight meas. 4-3397
 Ar²⁺+He(Ne), state-selective electron capture 4-14553
 Ar²⁺+He(Ne) (Kr), state-selective electron capture studied by translational attenuation method 4-19223
 Ar³⁺+He, electron capture energy loss spectra 4-14547
 Ar³⁺+He, single e⁻ capture, energy loss spectra diff. cross sections 4-43979
 Ar⁵⁺+He(Ne)(H₂), Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 Ar⁶⁺+He(Ne)(H₂), electron loss peak, charge state depend. 4-9944
 Ar⁶⁺+Ar(Ne), single-electron capture, energy gain spectra 4-49149
 Ar⁶⁺+He(Ne)(H₂), Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 Ar⁶⁺+He(Ne)(H₂), electron loss peak, charge state depend. 4-9944
 Ar⁸⁺+H, electron capture, electronic state population 4-14552
 Ar⁸⁺+He(Ne), Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
 Au+light ion impact, L-subshell ionisation 4-19178
 Au+N⁺, L-shell ionis., 3.0-18.2 MeV 4-23794
 Au+N²⁺ (Ar⁴⁺), L X-rays, ang. distrib. 4-19200
 B³⁺+He electron capture collision, relative population between B²⁺(2s) and B²⁺(2p) meas. 4-1238
 Ba+Mg⁺ collisions, total charge transfer cross-sections 4-54858
 Be⁴⁺+H, charge transfer collisions with translation factors 4-14564
 Beⁿ⁺+Ne^{q+}, multiple ionization of slow recoil ions in fast heavy-ion atom collisions 4-9979
 C target, solid and gaseous, charge-changing cross section by hydrogenic ions impact 4-43962
 C+H⁺, K-K shell electron capture in asymmetric collisions at high and intermediate energies 4-10051
 C²⁺+He(Ne)(Ar), state-selective electron capture 4-14553
 C³⁺+He, state-selective electron capture 4-14553
 C⁹⁺+He(Ar), electron capture cross sections 4-14537
 CO₂²⁺, double electron transfer reactions time-of-flight meas. 4-5343
 CO₂⁺+H reactions, const. rate coeff. 4-51986
 CO₂⁺+H₂(H) reactions, quasi-static drift tube study 4-41211
¹²C⁶⁺ Ar charge changing collisions study using recoil ions 4-14568
 Cl fast ions, Z₂ oscill. of mean charge states after passage through thin foils 4-1260
 Cl⁻+Ar(Na)(Mg) collisions, electron detachment cross section 4-9964
 Cl⁻+inert gases, electron detachment cross section 4-1251
 Cl¹¹⁺+He collisions, K X-ray prod. cross section meas. 4-9987
 Cl¹⁶⁺+Ar, quasimolecular K-radiation, interference effects 4-18978
 Cl¹⁷⁺+Ar(Kr)(S), electron capture into metastable states, delayed Auger electron meas. 4-14540
 Cs+H₂⁺ dissoci. charge exchange, translational spectrosc. obs. 4-10071
 Cu, inner-shell excitations, density-effect 4-9982
 Cu+Sn⁴⁺, K-shell excitation, rot. coupling, vacancy prod. probabilities 4-19176
 D⁻+inert gas (H₂), detached electron prod., energy spectra 4-9959
 D⁻+inert gas atom, detachment collision, electrostatic vs. dynamical coupling 4-10027
 D⁺+H, n-body problem, reduction to (n-1)-body problem 4-17737
 Dy+He²⁺, ionisation, ang. correl., L X-ray and α particle scatt. 4-28546
 F⁻+He collisions, electron detachment study by differential time of flight energy loss study 4-9970
 F⁻+inert gas collisions, double electron detachment 4-54849
 F⁷⁺+He(Ne), electron capture, F K-Auger emission spectra meas. 4-23805
 F⁸⁺+He, (q=6,7,8), electron capture processes, energy-gain spectroscopy 4-54859
 Fe²⁴⁺+Ar, double K-excitation cross sections at intermediate velocity, X-ray transitions obs. 4-19193
 Fe²⁶⁺+Ar(He)(Ne), total charge transfer cross sections 4-33525
 Fe²⁶⁺+He(Ar), high velocity asymmetric and near-asymmetric collisions, charge exchange cross sections 4-5348
 Fe⁺+inert gases (q=12 to 21), coincidence meas. of recoil-ion charge-state spectra prod. by ionisation and charge transfer at 1.4 MeV/u 4-9977
^{158,160}Gd+He⁺, K-shell ionisation cross section meas. from intensity ratios of K X-rays to 2⁺→0⁺ γ-rays 4-54153
 H⁺ electron capture in large angle scatt. 4-10042
 H⁺ heavy ion collisions, charge equilb. 4-19249
 H+Ar^{q+} (q=4 to 9), ionisation collisions, time-of-flight analysis 4-9980
 H+Ar^{q+}(C³⁺)(O⁴⁺), electron capture, ionisation, crossed beam coincidence study 4-19177
 H+Ar^{q+}(Ne^{q+}), electron capture cross section for low vel. ions 4-19232
 H+B⁵⁺(C⁵⁺)(O⁵⁺), charge capture, fully quantal calcs. 4-14560
 H+B⁵⁺(C⁶⁺), charge transfer cross sections 4-14531
 H+Be⁺(2s) collision, several-electron basis set calcs. 4-9897
 H+C³⁺, charge transfer cross-sections, distorted wave calcs. 4-38283
 H+C⁶⁺(N⁶⁺)(N⁷⁺)(O⁸⁺), X-ray emission cross sections meas. 4-28544
 H+C⁶⁺(O⁸⁺)(Ne¹⁰⁺), electron capture, sublevel Stark mixing 4-14565
 H+C⁹⁺ (q=3 to 6), ionisation collisions, time-of-flight analysis 4-9980
 H+CO₂⁺(CH₃⁺) reactions, flow drift tube expt. 4-41212
 H+C(N)(O)(Ne) multiply charged ions collisions, electron capture at low keV energies 4-19234
 H+Dy⁹⁺(Ta⁹⁺)(Re⁹⁺)(Au⁹⁺)(U⁹⁺) collisions total electron capture cross sections charge depend., nonmonotonic behaviour for q=4 to 25 4-19233

atom-ion collisions continued

- H⁺+fully stripped ions, double- and single-ionisation cross sections ratio 4-9976
 H+H⁺, H⁻ collisional electron detachment Born cross sections leading to H⁰ in 1S, 2S and 2P final states 4-9962
 H+H⁺, electron capture, close-coupling calc. 4-19220
 H+H⁺, electron capture, differential cross section ang. distrib. 4-1259
 H+H⁺, electron capture, second order Brinkman-Kramers approx. calcs. 4-10049
 H+H⁺, electron capture into highly excited states 4-10053
 H+H⁺, small-angle scatt., elastic differential cross-sections calcs. 4-38276
 H+H⁺ collision, electron transfer and excitation cross-section 4-38319
 H+He²⁺, electron capture, close-coupling calc. 4-19220
 H+heavy ions, electron capture processes, cross sections 4-13491
 H⁺ions, charge exchange, quantum electrodynamic approach 4-14530
 H+multicharged ion, charge transfer, exponential distorted-wave approx. calcs. 4-38318
 H+multiply charged fully stripped ion, charge exchange, theoretical cross section data 4-47773
 H+multiply charged fully stripped ion, charge exchange, theoretical cross section data 4-47774
 H+O₂, vibr. energy transfers, pot. hypersurfaces 4-21459
 H+O₂²⁺ (q=3 to 6), ionisation collisions, time-of-flight analysis 4-9980
 H+O³⁺ thermal energy collision, change transfer and fine struct. excitation 4-19216
 H+X^{q+}, state-selective electron capture, energy gain/loss spectra 4-14554
 H+X^{q+}→H⁺+X^{(q-1)+} cross beam expt., electron transfer coincidence meas. 4-19231
 H+X^{q+}→X^{(q-1)+}+H⁺, electron capture in slow collisions, q>1 4-19230
 H+Xe⁺, charge transfer and fine struct. transitions, 2' to 20 keV 4-10033
 H⁻+(He)(Ne)(Ar), energy distrib. of detached electrons 4-9963
 H⁻+H₂(N₂)(O₂)(H₂O)(C)(C cpds.), charge transfer cross-sections determ. 4-14527
 H⁻+He(Ar)(Xe) collisions, electron detachment cross sections in energy range 500 to 2000 eV 4-9968
 H⁻+inert gas (H₂)(N₂)(O₂), detached electron prod., energy spectra 4-9959
 H⁻+inert gas atom, detachment collision, electrostatic vs. dynamical coupling 4-10027
 H⁻+Kr collisions, autodetaching state excitation 4-9969
 H⁻+Na, excitation cross sections to Na(3p) level 4-19181
 H⁻+Ne(He) collisions, electron detachment cross sections 4-9967
 H⁺+Ag(In)(Sn)(I), L-subshell ionisation cross section and L-X-ray production 4-9926
 H⁺+Ar(Cu)(Kr)(Ag)(Xe), L-shell ionisation 4-14518
 H⁺+Au(Bi)(Pb)(U), M-subshell ionisation cross sections X-ray prod. cross sections 4-9927
 H⁺+Gd(W), K-shell ionisation cross sections 4-1250
 H⁺+H, differential cross sections meas. 4-9895
 H⁺+H, electron transfer and excitation, triple-centre basis calcs. 4-10055
 H⁺+H, resonant charge exchange mechanisms 4-49155
 H⁺+H, slow atomic collisions, quantum theory 4-33490
 H⁺+H electron exchange, linear Stark effect in eikonal calcs. 4-54638
 H⁺+H₂(N₂)(O₂)(H₂O)(C)(C cpds.), charge transfer cross-sections determ. 4-14527
 H⁺+H⁺, neutralisation process, full CI calcs. 4-14529
 H⁺+H⁻ collisions, electron detachment 4-43963
 H⁺+H(I_s), charge transfer, variational continuum distorted waves 4-14533
 H⁺+H(I_s)→H(nlm)+H⁺, electron capture into highly excited states 4-10016
 H⁺+He, density matrix describing electron transfer determ. 4-19228
 H⁺+He, low energy scatt., semiclassical Regge-Pole description 4-9894
 H⁺+He(Ar), differential scatt., orbiting struct. meas. 4-9893
 H⁺+He(Ne)(Ar)(Kr) collisions, ionisation cross sections for 5 to 4000 KeV H⁺ in gases 4-9973
 H⁺+He(Ne)(Ar)(Kr)(H₂)(N₂)(CO)(O₂)(methane)(CO₂), ionis. and electron capture cross-sections 4-19185
 H⁺+K(Na), charge transfer to metastable 2S level of H 4-38321
 H⁺+Kr(Xe), elastic scatt. and charge exchange at E_{cm}=0.5-30 eV 4-9879
 H⁺+Li, electron capture, two-centre AO expansions 4-54852
 H⁺+Li, electron capture cross section, H excited state form. 4-33522
 H⁺+Mg, electron capture contrib. to 2p-vacancy prod. 4-49152
 H⁺+Ne, collective dipole polarisation, time-depend. variational density functional method 4-19180
 H⁺+Ne collisions, double ionisation cross sections 4-9974
 He ion, MeV region, Zr oscill. of equilb. mean charge 4-19250
 He, ionisation by collision with fast protons 4-1257
 He isoelectronic series above n=2 continuum, autoionis. states positions and widths 4-9949
 He+Ar²⁺(Ne²⁺)(Kr²⁺), low energy electron capture cross sections 4-14550
 He+Au¹⁵⁺, transfer ionisation and excitation, correl. two-electron effects 4-43977
 He+Au¹⁷⁺, emergent charge states, coincidence with forward electron spectra 4-9956
 He+Be⁺(2s), collisional excitation, several electron atomic basis calcs. 4-19189
 He+C⁴⁺, charge exchange, multiple scatt. theory appl. 4-14543
 He+C⁶⁺(N⁶⁺)(O⁶⁺)(Ne⁶⁺), electron capture into different (n_i) states 4-14556
 He+C⁶⁺(N⁷⁺)(O⁸⁺) collisions, electron capture study by multichannel model 4-19235
 He+C⁹⁺(N⁹⁺)(O⁹⁺), electron capture processes, final state anal. 4-14548
 He+closed-shell ion repulsive interactions, beam and transport meas. 4-28533
 He+Fe⁺(Ne⁺), electron capture, final state anal., translational energy spectra 4-14549
 He+H₂⁺(H₂⁺), dissoci. states, mol. excitation and alignment 4-10012
 He+H⁻ fast collision, electron loss double peak in forward direction 4-9945
 He+H⁻ doubly differential electron detachment cross-sections, target depend. 4-38316

atom-ion collisions continued

- He+H⁻(L⁻)(Na⁻)(K⁻), keV collisions, electron detachment, scaling law 4-9904
 He+H⁺, elastic scatt., excitation and ionisation 4-9878
 He+H⁺, electron capture, orthogonality effects on initial and final states 4-10050
 He+H⁺, electron capture and excitation collisions 4-23708
 He+H⁺, H(2P) excitation, charge-changing collisions, polarisation obs. 4-10030
 He+H⁺, K-K shell electron capture in asymmetric collisions at high and intermediate energies 4-10051
 He+H⁺, parity-unfavoured autoionising states, excitation cross-sections calcs. 4-9958
 He+H⁺, triplet state excitation 4-9896
 He+H⁺(H₂⁺)(He⁺)(He²⁺) simple collision systems, target ionisation and projectile electron loss 4-54847
 He+H⁺(H), electron capture and loss into continuum 4-10022
 He+H⁺(He⁺)(Li⁺)(Li²⁺)(Li³⁺), autoionisation spectra 4-9948
 He+H⁺(He²⁺) collisions, Hartree-Fock calcs. 4-10054
 He+H⁺(He²⁺)(Li³⁺) collisions, double ionisation cross section, 4KL8 calcs. 4-9975
 He+H⁺(Li³⁺)(Be⁴⁺)(C⁶⁺)(O⁸⁺) electron capture cross-sections, untruncated distorted wave approx. calcs. 4-38317
 He+He²⁺, one and two electron capture, time-dependent HF description 4-23802
 He+light ion collisions in time-depend. HF theory, excitation and charge transfer cross sections 4-10019
 He+N⁺, two-electron capture, N³⁺ autoionisation, electron spectra 4-49147
 He+NO⁺, collision induced dissociation kinetic energy distrib. 4-7702
 He+Ne⁺, Ne 2p³3p level excitation, oscillatory total cross section 4-54846
 He+Ne^{q+}, q=2-5, electron capture cross sections 4-19221
 He+Ne^{q+}(Ar^{q+})(Kr^{q+})(Xe^{q+}), electron capture and transfer ionisation cross section 4-49154
 He+O²⁺, charge transfer cross-sections, distorted wave calcs. 4-38283
 He+Si¹¹⁺, electron capture and loss cross sections 4-14534
 He⁺+2He→He₂⁺+He association reaction, temp. depend. 4-41208
 He⁺+H(He⁻) charge transfer and ionisation processes 4-10056
 He⁺+He, autoionisation spectra in electron energy range 3-2000 eV 4-19207
 He⁺+He, elastic scatt. and charge exchange at E_{cm}=0.5-30 eV 4-9879
 He⁺+He, excitation mechanism at various collision energies 4-19142
 He⁺+He, He I 1sndD levels impact excitation, level crossing signals 4-28409
 He⁺+Ne, Ne 2p³3p level excitation, oscillatory total cross section 4-54846
 He²⁺+H, charge transfer cross section, mol. calcs. 4-14561
 He²⁺+H, electron capture cross sections, coupled channel approx. 4-49158
 He²⁺+H collisions, electron capture and excitation cross section 4-43961
 He²⁺+H collisions in presence of a laser field, charge transfer cross section calc. 4-14566
 He²⁺+H(1s), excitation and ionisation cross sections calc. 4-14526
 He²⁺+H(1s), charge transfer cross sections, HeH²⁺ quasimolecule 4-10015
 He²⁺+He, electron capture, global transfer cross sections calc. 4-5346
 He²⁺+Li collisions, charge transfer calc. 4-19236
 He²⁺+Li collisions, electron capture cross section calc. 4-19237
 He²⁺+Li collisions, two electron capture at high energies 4-19238
 He²⁺+Cs, two-step electron capture, long-lived metastable He₂⁻ prod. 4-43829
 I+Ag collisions at 63 MeV collision energy, highly promoted mol. orbitals, direct ionisation 4-19196
 I+Au(Br) deep inelastic collisions at 795 and 840 MeV, nuclear reaction time effect on δ-electron emission 4-9997
 K⁺+Ar collision, differential large angle scatt. 4-10001
 Kr ions+Kr(Xe), ionisation and inelastic energy losses, differential meas. 4-49151
 Kr+Ar⁴⁺, Kr M-NN Auger spectra 4-9951
 Kr+Cs⁺, ejected electron spectra, Barker-Berry effect 4-9955
 Kr+Kr⁺, quasimol. prod., Auger spectrosc. 4-19132
 Kr+N₂H⁺, endothermic proton transfer reaction, role of internal energy and translational energy 4-57543
 Kr+Na⁺(K⁺), ionis. and charge exchange cross-sections, 0.5 to 7.0 keV 4-10038
 Kr⁺+Kr, low MeV collisions, autoionisation spectra 4-19206
 Kr¹⁸⁺+inert gases, coincidence meas. of recoil-ion charge-state spectra prod. by ionisation and charge transfer at 1.4 MeV/u 4-9977
 Kr²⁺+He(Ne), low-lying state transitions, ion energy-loss 4-14519
 Kr²⁺+Ne, electron capture, ion energy-loss spectra 4-14551
 Kr²⁺+Ne, one electron capture reactions, drift tube study 4-43948
 Kr⁴⁺+He (q=7 to 25), one-electron capture cross sections, R_c depend. 4-43973
 Kr^{q+}+Kr, K-shell excitation by K-to L-shell charge transfer 4-9994
 Kr^{q+}+Ne(Ar)(Kr) collisions (q=13, 25, 27), multipole ionisation, projectile charge state effect 4-9978
 Li⁺ fast ion impact on gas targets and C-foils, autoionis. 4-11203
 Li+C⁶⁺(O⁸⁺), state-selective electron capture cross sections 4-14557
 Li+H⁺, excitation and electron capture in inelastic collisions, 2-15 keV 4-10000
 Li+H⁺, charge transfer collisions, one-active-electron model 4-10058
 Li+He⁺, charge exchange cross-sections calcs. 4-10060
 Li+Na⁺ collision, dynamical state representation 4-9906
 Li⁺+He, excitation mechanism, coherence study 4-19140
 Li⁺+He collision, pot. curves and non-adiabatic coupling matrix elements 4-43947
 Li²⁺+Ar(He), electron capture and loss, Li metastable ion form. 4-14538
 Li²⁺+H, charge exchange cross sections 4-14563
 Li³⁺+H, charge exchange, impact parameter depend. 4-14562
 Li³⁺+H, laser induced charge-transfer cross section collision, perturbation approach 4-49140
 Mg+H₂⁺, dissociative near-reson. charge exchange, theory 4-49142
 Mg+H₂⁺, near reson. dissociation charge exchange, keV energies 4-10072
 Mg+H₂⁺, dissociation charge exchange, translational spectrosc. obs. 4-10071
 N+Ar¹⁸⁺, electron capture cross section in highly excited Ar¹⁸⁺ p states 4-14544
 N+Fe³³⁺(Fe²⁶⁺), electron capture cross section in high p Rydberg states 4-14545

atom-ion collisions continued

- N⁺+Ar, charge transfer reactions 4-28552
 N²⁺+He(Ne), state-selective electron capture 4-14553
 N₂⁺+He(Ne)(Ar) collisional excitation, 1-2000 eV 4-10005
 Na+1 to 25 keV H(1s), charge changing cross section meas. 4-49153
 Na+Ar⁺(Na⁺), charge transfer, final state distrib. M and L depend. 4-19252
 Na+Ar⁺(Na⁺), charge transfer, final state distrib., vel. depend. 4-19253
 Na+H₂⁺ dissociation charge exchange, translational spectrosc. obs. 4-10071
 Na+H⁺, electron detachment, free electron scatt. approx. calcs. 4-9960
 Na+H⁺(H₂⁺)(H₃⁺), emission cross-sections and reson. radiation polaris. 4-10004
 Na+K⁺, Rydberg states, collisional ang. momentum mixing 4-19146
 Na+Li⁺, charge exchange, coherence effects study 4-14528
 Na+Li⁺, charge transfer reactions, core-independent parameters calcs. 4-10059
 Na+Li⁺ collision, dynamical state representation 4-9906
 Na⁺+Na, 3p-3d transition, alignment and orientation studies 4-19141
 Na⁺+Na, low energy differential scatt. 4-43956
 Ne⁹⁺+Ne, K X-ray spectra, quenching cross section 4-18977
 Ne, charge transfer to multicharged recoil ions in a Penning trap 4-5349
 Ne+Ar, slow collisions, 3da excitation 4-5338
 Ne+closed-shell ion repulsive interactions, beam and transport meas. 4-28533
 Ne+Fr^q(q=6, 8, 9), δ-electron emission, triple differential probabilities meas. 4-19186
 Ne+H⁻ doubly differential electron detachment cross-sections, target depend. 4-38316
 Ne+H⁻(D⁻) collisions, electron detachment 4-9925
 Ne+H⁻(Li⁻)(Na⁻)(K⁻), keV collisions, electron detachment, scaling law 4-9904
 Ne+H⁺, ionisation branching ratios and cross sections, VUV spectra 4-10115
 Ne+H⁺, K-K shell electron capture in asymmetric collisions at high and intermediate energies 4-10051
 Ne+H⁺, Ne multiple outer shell ionisation 4-1252
 Ne+He⁺, He(3P) prod., ang. correl. meas. 4-9999
 Ne+He⁺, Penning ionis. and collisional destruction investig. 4-10011
 Ne+K⁺, ionis. and charge exchange cross-sections, 0.5 to 7.0 keV 4-10038
 Ne+Ne⁺, quasimol. prod., Auger spectrosc. 4-19132
 Ne+Ne⁺(Ne¹⁰⁺)(Ar⁶⁺)(Ar¹⁷⁺), K Auger spectra 4-9953
 Ne⁺+Ne, coupled multichannel calc. in energy range 5-300 keV 4-19137
 Ne²⁺+He(Ne)(Ar) collisions, single- and double-electron capture cross sections 4-43976
 Ne²⁺+Xe, electron capture, transfer ionisation, translational spectra 4-38313
 Ne⁴⁺+Ne, excited projectile states, electron capture 4-14558
 Neⁿ⁺+Neⁿ⁺, multiple ionization of slow recoil ions in fast heavy-ion atom collisions 4-9979
 Ne^{q+}+Ar, L-shell excitation 4-19195
 Ne^{q+}+H₂O vapour collisions, reaction rate consts. 4-19251
 Ne^{q+}+He, (q=7,8,9), electron capture processes, energy-gain spectroscopy 4-54859
 Ni+90 MeV Ni, 1sσ and 2pσ radiation, impact parameter depend. 4-19205
 Ni+Xe^{q+}, K-shell excitation, rot. coupling, vacancy prod. probabilities 4-19176
 O+H⁺(H(1s))(H(2s))(H⁻), collisional electron capture, loss and excitation, cross-sections 4-10029
 O+O⁺, quasimol. prod., Auger spectrosc. 4-19132
 O⁺+He(Ne)(Ar), energy distrib. of detached electrons 4-9963
 O²⁺+Ar, ionising collision, electron loss to continuum cusps, linewidths 4-10023
 O²⁺+He, excitation, alignment of O²⁺ (H-like ion), plane wave Born approx. 4-38304
 O^{q+}+He(Ar), electron capture cross sections 4-14537
 O₂⁺+Ne(Ar)(Kr), collisional relax. of vibr. excited O₂⁺ 4-9916
²⁰⁸Pb, small impact parameter K-shell ionisation probabilities and δ-electron spectra 4-19192
 Rb+Xe, polarisation exchange between electronic spin and nucl. spin (Japanese) 4-43853
 Rb⁺+Rb, symmetric reson. charge transfer, transition probability, total cross section 4-54854
 Si¹¹⁺+He, one-electron capture cross sections, R_c depend. 4-43973
 Si³⁺+Ar, resonant transfer and excitation collisions, vacancy sharing 4-19225
 Si³⁺+He, one-electron capture cross sections, R_c depend. 4-43973
 S⁶⁺+Au, L₂-vacancy alignment at small impact parameters, X-ray detection 4-19199
 S^{q+}+C, radiative electron capture, L-shell nonequilibrium effect 4-14536
 SF₆⁺+D→SF₆⁻+DF(v), vibr. energy disposal, flowing afterglow IR chemiluminesc. 4-51983
 SF₆⁺+H→SF₆⁻+HF(v), vibr. energy disposal, flowing afterglow IR chemiluminesc. 4-51983
 SO₂, electron affinity, flowing afterglow study 4-33523
 Si fast ions, Z₂ oscill. of mean charge states after passage through thin foils 4-1260
 Sm^{q+}+Ar(Xe) collision, (q=52 to 54), M-subshell effects in electron capture 4-19248
 Sm^{q+}+Xe collisions, (q=52 to 54), electron capture at 3.6 MeV/u 4-19247
 Sr+Mg⁺ collisions, total charge transfer cross-sections 4-54858
 Ti⁺+Ar(Na)(Mg) collisions, electron detachment cross section 4-9964
 U+Pb collisions, K-ionisation probability at high energies 4-9995
 U+Sn(Kr), inner-shell vacancy prod. 4-19134
 U+Th, narrow positron lines 4-54841
 U+U, narrow positron lines 4-54841
 U+U collisions, K-ionisation probability at high energies 4-9995
 U+U deep inelastic collisions at 7.5 MeV/amu, X-ray emission probabilities and nuclear time delay 4-9996
 U^{q+}+inert gases (q=30 to 48), coincidence meas. of recoil-ion charge-state spectra prod. by ionisation and charge transfer at 1.4 MeV/u 4-9997
 U(IV)+U(VI) electron exchange reaction for isotope separation 4-738
²³⁸U+²³²Th, positron prod. in overcrit. Coulomb field 4-9993
²³⁸U+²³⁸U, positron prod. in overcrit. Coulomb field 4-9993
 Xe+Ar³⁺, autoionising states form. and decay 4-9957

atom-ion collisions continued

- $\text{Xe} + \text{K}^+$, ionis. and charge exchange cross-sections, 0.5 to 7.0 keV 4-10038
 $\text{Xe} + \text{Ni}$, inner-shell vacancy prod. 4-19134
 $\text{Xe}^{2+} + \text{He}^+$ collisions, reson. state population by charge transfer excitation, flow drift tube study 4-38286
 $\text{Xe}^{2+} + \text{Ar}$, one electron capture reactions, drift tube study 4-43948
 $\text{Xe}^{2+} + \text{Xe}$, K-shell excitation by K- to L-shell charge transfer 4-9994
 $\text{Xe}^{2+} + \text{Xe}$ collisions, ($q=44$ to 47), electron capture at 3.6 MeV/u 4-19247
 $\text{Zr}^{20+} + \text{inert gases}$, coincidence meas. of recoil-ion charge-state spectra prod. by ionisation and charge transfer at 1.4 MeV/u 4-9977

atom-molecule collisions

see also atom-molecule reactions; molecular rotational-vibrational energy transfer

- alkali atom + molecule, differential cross-sections, vibr. interference structs. 4-9907
 atom + alkyl halide, nonadiabatic processes, neutral excitation and ion pair prod. channels 4-10003
 atom + diatom collisions, rot. excitation of the initially rot. mols. 4-19170
 atom + diatom inelastic collisions, phase-corrected coupled-states approx. 4-23779
 atom + diatomic mol., rot. excitation, attractive well effect on ang. distrib. 4-49123
 atom + polyatomic mol. collision, vibr. modes, anharmonic coupling 4-9913
 atom-diatom collisions, vibronic excitation, time depend. quantal anal. 4-33513
 atom-rigid rotor collisions, rot. inelastic, m-transitions 4-38295
 collinear collisions, energy transfer, vibr. transition probabilities, Landau-Teller model 4-1245
 Ehrenfest's principle for inelastic collisions 4-19145
 electron swarms in gases and liquids, conf., Innsbruck, Austria (Aug. 1983) 4-31970
 excitation functions for rotational excitation in atom rigid-rotor collisions 4-19169
 hot atom + CO_2 , vibr. excitation, diode laser probe investig. 4-49135
 inelastic collisions without use of target states 4-38291
 inert gas + (CS_2)_n cluster, collisional ionis. 4-10206
 inert gas + methane, ν_3 deactivation, photoacoustic obs. 4-38300
 inert gas atoms + metal halides, dissoc. excitation, rate consts., emission obs. 4-41178
 inert gas atoms + $\text{O}_2(\text{Cl}_2)$, penning ionisation and ion pair form., secondary electron emission 4-33516
 inert gases metastable state detection in swarm expt. by energy transfer to N_2 4-33363
 intermolecular potentials from scatt. data 4-19171
 intramolecular dynamics, regular and irregular, collisional perturbation, quantum mech. study 4-49122
 kinetically isolated subsystems of rot. levels 4-19038
 laser induced fluoresc. study using injection heat pipes 4-32323
 methane + Ar, vibr. relax., rot. energy transfer influence 4-5331
 methyl iodide + $\text{Na}(\text{K})(\text{Rb})$, differential reaction cross sections obs. 4-12354
 nonadiabatic semiclassical scatt., self-consistent matrix propagator method appl. 4-35856
 nonreactive, dissoc. and reactive polyatomic collisions, kinematic apse and j_z -preserving propensities 4-28532
 2-pentanone + He, low energy collisions of threshold, kinetic to internal energy conversion 4-33493
 quantal rot. rainbows 4-19158
 radiation transition observation in atom + mol. system 4-28530
 Rydberg atom + molecule collision, excitation and ionisation, classical calcs. 4-19212
 tetrafluoromethane + Ar gas mixtures, depolarisation ratios 4-10814
 three-atom system, collision dynamics, Faddeev eqn. calcs. in diabatic electronic basis 4-23782
 two-point potential model, complex pot. surfaces 4-23635
 vibration excitation on collision with atom (or mol.) in presence of IR laser beam 4-23783
 Ar, deexcitation rate consts. by ats. and mols., temp. depend. 4-33509
 Ar + BO_2 , excited state dynamics studied by laser induced fluoresc. meas., radiative lifetimes 4-38222
 Ar + BaO, rot. and vibronic relax. rates, fluoresc. meas. 4-57533
 Ar + CO, IR lines, broadening coeffs., temp. dependence 4-23690
 Ar + CO_2 , line widths and shifts, collision-induced phase shifts effects 4-1241
 Ar + D_2 , collision-induced mol. fluoresc., intensity, vibr. lifetime meas. 4-23746
 Ar + difluorodiazirine, mode to mode vibr. energy transfer, classical trajectory study 4-14514
 Ar + H_2 , transport and relax. cross sections, close coupling calcs., Raman spectra 4-38279
 Ar + $\text{KCl}(\text{KF})(\text{CsCl})(\text{CsF})$ collisions, model pots. 4-19166
 Ar + methane, collisions, rainbow scatt. 4-43946
 Ar + NO, rot. inelastic collisions, polarisation and M-depend. effects 4-43952
 Ar_n cluster beam, form. and fragmentation, scatt. anal. 4-28586
 Ar_n + He scattering, TOFS anal. 4-19316
 Be + H_2 , multiref. many-body perturbation theory appl., vertical insertion pathways 4-33291
 Be₂ + H collisions, pot. energy surface calc. 4-33578
 Br + H_2 , quenching of $\text{Br}^*(^3\text{P}_{1/2})$, electronic degrees of freedom, classical model 4-33503
 CF₂ (A $^1\text{B}_1$), KrF laser excited, photophys., $^1\text{B}_1$ collisional removal rates 4-1204
 CF₂(A $^1\text{B}_1$), KrF laser excited, photophys., deactivation by inert gases 4-1203
 CO + He metastable atoms, chemi-ionisation reactions at high energy 4-1249
 CO₂ + Xe, multiple collision rot. rainbows, meas. and scatt. calc. comparison 4-1243
 Cs + iodomethane, electron transfer, differential cross-sections, ionic exit channel selection 4-10074
 Cs + O₂ (NO), electron and ion prod., absolute total cross sections 4-33512
 Cs + O₂(NO), vibronic excitation, time depend. quantal anal. 4-33513
 D + (OH), rate consts., quasi-classical trajectories 4-9703
 D + H_2 , differential cross sections, mol. beam meas., pot. energy surface 4-57541

atom-molecule collisions continued

- $\text{F} + \text{H}_2$, role of angular momentum match in state-to-state reactive scattering and product rotational state distributions 4-51996
 H collisions with neutral atmospheric gases, differential cross sections 4-19163
 $\text{H} + \text{H}^+$ equilibrated beam in O_2 Balmer β radiation excitation cross section 4-10006
 H -like atoms, Coulomb excitation by molecular cluster of point charges 4-19191
 $\text{H} + \text{CO}_2$, hot atom laser induced fluoresc. expts. 4-41241
 $\text{H} + \text{CO}(\text{NO})$, translation to vibr. energy transfer, CO vibr. state distrib. 4-14513
 $\text{H} + \text{H}_2$, boundary trajectories in collision-induced dissociation 4-41176
 $\text{H} + \text{H}_2$, collisional ionisation 4-9883
 $\text{H} + \text{H}_2(\text{N}_2)(\text{O}_2)(\text{H}_2\text{O})(\text{C})(\text{C}$ cpds.), charge transfer cross-sections determ. 4-14527
 $\text{H} + \text{O}_2$, state to state cross sections, classical trajectory calcs., reaction mechanism 4-46752
 $\text{H}_2 + \text{F}(\text{Br})$ collisions, in laser field, rot. wave approx. limitations 4-38278
 $\text{H}_2 + \text{He}$, collision induced translation rot. spectra 4-38285
 $\text{H}_2 + \text{He}$ collisions, vibr. transitions in forced Morse oscill., algebraic approach 4-28537
 $\text{H}_2 + \text{He}$ metastable atoms, chemi-ionisation reactions at high energy 4-1249
 $\text{H}_3^+ \rightarrow \text{H}_2 + \text{H}^+$ in Ar, dissociation, electron capture and electron loss cross sections 4-9930
 $\text{HCl} + \text{He}^*$ collisions, Penning ionisation optical spectroscopy, Franck-Condon distrib. 4-38303
 He collisions with neutral atmospheric gases, differential cross sections 4-19163
 He , deexcitation rate consts. by ats. and mols., temp. depend. 4-33509
 $\text{He} + \text{CO}$ collisions, close coupled scatt. calc. comparison with meas. at $E_{\text{cm}} = 27.7$ meV 4-19168
 $\text{He} + \text{D}_2$ collisional excitation at low keV energies 4-10007
 $\text{He} + \text{D}_2$ collisions at low keV energies 4-19162
 $\text{He} + \text{H}_2$, chemi-ionisation, interaction pot. long-range component 4-43969
 $\text{He} + \text{H}_2$, Penning ionisation, diatomics-in-mols. model, pot. energy surface 4-38302
 $\text{He} + \text{H}_2$, scatt. calcs. using time-depend. semiclassical methods 4-38280
 $\text{He} + \text{H}_2$, semiclassical collision theory with Feynman path integral formalism, perturbation stationary state 4-54827
 $\text{He} + \text{H}_2$ reson. energy and autoionisation widths, semiempirical DIM calcs. 4-28543
 $\text{He} + \text{HF}$, rot. inelasticity, interaction pot., cross section computation 4-38294
 $\text{He} + \text{HF}$, vibr.-rot. deexcitation, state-to-state cross-sections calcs. 4-9912
 $\text{He} + \text{HF}$ collisions, vibr. and rot. inelasticity calc. 4-19165
 $\text{He} + \text{methane}$, Penning and dissoc. ionisation 4-43967
 $\text{He} + \text{N}_2(\text{CO})$, high energy scatt., obs. of vibr. 'rainbow' 4-9918
 $^3\text{He} + \text{CO}$, vibr. relax., rot. sudden approx. calcs. 4-5329
 $^4\text{He} + \text{CO}$, vibr. relax., rot. sudden approx. calcs. 4-5329
 $^4\text{He} + \text{CO}$, vibr. deactivation rate consts. for CO, semiclassical study 4-23785
 $\text{He}^* + \text{Ar}_2$, van der Waals mol., Penning ionisation study 4-33515
 $\text{Hg} + \text{NO}$, excited state relax const., time resolved laser induced fluoresc. meas. 4-28398
 I 1.3 μm transition, transition probability and collision broadening 4-9721
 $\text{I} + \text{I}_2$ spin-orbit excitation, relativistic parameterised extended Huckel calcs. 4-33326
 $\text{I} + \text{O}_2$, press. broadening of $^2\text{P}_{1/2} - ^2\text{P}_{3/2}$ transition 4-14367
 $\text{I} + \text{O}_2$ collisions, I translational and superline relax. 4-19164
 $\text{I}_2 + \text{He}$ (Ar), energy transfer from high vibr. states, scaling behaviour 4-38298
 $\text{I}_2 + \text{He}(\text{Xe})$, vibr. and rot. inelastic collisions, ang. momentum limitation 4-19156
 $\text{K} + \text{iodomethane}$, electron transfer, differential cross-sections, ionic exit channel selection 4-10074
 $\text{K} + \text{N}_2(\text{H}_2)$ collisions, 4^2P K at. multipole relax. 4-43965
 $\text{K} + \text{N}_2(\text{H}_2)$ collisions, transitions between 4^2P Zeeman sublevels 4-19161
 $\text{Li}_2 + \text{He}$, rot. transfer, reorientation, polarisation scaling laws 4-38293
 $\text{Li}_2 + \text{He}(\text{Ar})$, rot. energy transfer, scaling laws 4-54843
 $\text{Li}^* + \text{Xe}$, rot. and vibr. inelastic collision rate const. 4-5333
 methane- $\text{d}_4 + \text{He}(\text{Ne})(\text{Ar})(\text{Kr})$, vibr. deactivation rate const., laser fluoresc. study 4-49128
 $\text{Mg} + \text{H}_2^+$, dissociative near-reson. charge exchange, theory 4-49142
 $\text{N}_2 + \text{Ar}$, RT-relaxation cross-sections and rate consts., analytical approx. (Russian) 4-5335
 $\text{N}_2 + \text{He}$ metastable atoms, chemi-ionisation reactions at high energy 4-1249
 $\text{NO}_2 + \text{He}$, NO_2 excited state quenching, fluoresc. obs. 4-9816
 $\text{N}_2\text{O} + \text{Ar}$ mixtures, Raman Q branch, collision broadening, in direct vibr. dephasing 4-1246
 $\text{N}^* + \text{acetaldehyde}$ (formic acid), collision, NH radical prod. 4-24666
 $\text{N}^* + \text{methanol}$ collision, NH radical prod. 4-24665
 Na resonance excitation in Na + Na and Na + Na_2 interactions 4-1247
 $\text{Na} + \text{Na}_2$, laser reson. radiation excitation at $3^5\text{S} - 3^3\text{P}$ transition wavelength 4-9891
 $\text{Na} + \text{O}_2(\text{SF}_6)$ (methylhalides), chemi-ionisation, laser optogalvanic effects 4-23801
 $\text{Na}^* + \text{N}_2$ collision complex, fluoresc. emission spectrum 4-18981
 $\text{Na}^* + \text{SO}_2 \rightarrow \text{Na}^* + \text{SO}_2^+$, crossed beam investig. 4-10073
 $\text{Na}^*(^3\text{p}) + \text{H}_2$ collisions, polarisability studies in nonadiabatic quenching process 4-19173
 $\text{Ne} + 1,3$ -butadiene(allylene)(acetylene)(benzene)(CO_2)(cyclohexane)(ethylene), collisional ionisation 4-57537
 $\text{Ne} + \text{HD}$, recoupled states approx., state-selected differential and integral cross sections calc. 4-54840
 $\text{Ne} + \text{KCl}(\text{KF})(\text{CsCl})(\text{CsF})$ collisions, model pots. 4-19166
 $\text{Ne} + \text{methane}$ collisions, anisotropic interaction from differential energy loss spectra 4-19160
 O collisions with neutral atmospheric gases, differential cross sections 4-19163
 $\text{O} + \text{H}_2$, rate consts., quasi-classical trajectories 4-9703
 $\text{O} + \text{N}_2(\text{NO})(\text{O}_2)$, energy-dependent cross sections for extinction 4-14517
 O_2^+ , vibrationally excited, collisional relax. and reaction 4-19209
 $\text{O}_2 + \text{He}$ metastable atoms, chemi-ionisation reactions at high energy 4-1249
 $\text{O}_2 + \text{Na}(\text{K})(\text{Cs})$, ion-pair form., vibr. timing effect, pot. energy surface, surface-hopping calcs. 4-14515

atom-molecule collisions continued

- Xe-H₂ mixture, excitational cross-section, shock-tube meas. 4-43955
 Xe+SF₆, collisional ionisation kinematics 4-19211
 ZnH+Ar(He), rot. and spin-rot. collision transfers 4-38292

atom-molecule reactions

see also atom-molecule collisions

- alkali earth metal atom + halogen mol. chemiionisation reaction 4-21452
 hexafluoroazomethane, solid solns. matrix isolation, decomposition by photon and atom bombardment 4-35915
 hot atom + HBr(H₂) reactions, product internal energy distrib., CARS meas. 4-23703
 hot atom + molecule reactions, product internal energy distrib., CARS meas. 4-23703
 inert gas atoms + metal halides, dissociation, excitation, rate consts., emission obs. 4-41178
 intramolecular dynamics, regular and irregular, collisional perturbation, classical dynamics 4-21432
 isotope separation, laser-enhanced chemical reaction method 4-19291
 methane + B(C)(Al), C-H insertion reaction, activation barriers, semiempirical calcs. 4-51962
 methane + H⁺(D⁺)(N⁺), ion association reaction, drift tube meas. 4-41209
 methane mol. ions, He(Ar)(Xe) collision induced dissociation, press. and target gas effects 4-35873
 methyl iodide + Na(K)(Rb), differential reaction cross sections obs. 4-12354
 methylpropyldichlorosilane + K(Na) vapour reaction, possibility of control 4-21422
 multidimensional tunneling probabilities, least action variational method 4-16647
 naphthalene, intramol. nonuniform tritium distrib., by nuclear recoil reaction 4-12358
 nonreactive, dissociation and reactive polyatomic collisions, kinematic apse and j_z-preserving propensities 4-28532
 PS + charge transfer mols. in bilayer membrane, reactivities, temp. depend. 4-49188
 reactive scattering, quantum mech. collision resonances, probability densities 4-7695
 trichlorofluoromethane anion + H-CHFCF₂+Cl⁻, reactivity and energy surface, SCF-HF ab initio study 4-21425
 uracil, intramol. nonuniform tritium distrib., by nuclear recoil reaction 4-12358
 Al + F₂, crossed beam collisions, AlF(a²π) vibr. distrib. 4-12342
 Ar + N₂, prod. of N₂(A,v=0-3), detection by laser induced fluorescence. 4-14510
 Ar₂+Xe(Kr), van der Waals bond exchange, ang. and vel. distrib. 4-21454
 Ba + bromomethane, crossed beam reaction, BaBr product vibr./rot. 4-21453
 Ba + NO₂(N₂O)(O₃), single-collision chemiluminescence study 4-21442
 Be + H₂, C_{2v} insertion, multireference coupled-cluster method calcs. 4-43774
 Be + H₂ → BeH₂, multiconfig. coupled-cluster theory, test 4-21431
 Br + HCO(HO₂), reaction kinetics at 298K 4-51987
 CO₂⁺ + H₂ reactions, const. rate coeff. 4-51986
 Cl + BrN₃, chemiluminesc. reactions, vibr. excitation 4-12336
 Cl + dimethylmercury, kinetics and mechanism, Fourier transform IR study 4-7708
 Cl + H₂Se, IR chemiluminesc. obs. 4-21435
 Cl + H₂(D₂)(HD), vibr. excitation, pot. energy barrier, quasiclassical trajectory study 4-3391
 Cl + HBr → HCl + Br reaction, rate consts. determ. using mass spectrometric anal. 4-12346
 Cl + HCl(DCl)(MuCl), reaction probabilities, rate coeffs., variational transition state theory, tunnelling approx. 4-35881
 Cl + MuCl(HCl)(DCl) collinear reactions, exact quantum and vibr. adiabatic quantum, semiclassical and quasiclassical study 4-7712
 Cl + vinyl bromide, bromochloro vinyl radical form. 4-30933
 Cu + H₂, dissociation, ab initio effective pot. CI calcs. 4-46757
 D + (OH), rate consts., quasi-classical trajectories 4-9703
 D + H₂, differential cross sections, mol. beam meas., pot. energy surface 4-57541
 D + H₂, exchange reactions, rate consts., EPR and thermometric meas. 4-57535
 D + H₂, reactions, reduced dimensionality quantum rate consts. 4-12335
 D + H₂, reactive scatt., infinite order sudden approx. 4-46751
 D + H₂ → HD + H, reactive scatt., rate consts., adiabatic T matrix theory 4-21445
 F + BrN₃, chemiluminesc. reactions, vibr. excitation 4-12336
 F + D₂, pot. energy surface, reaction attributes, cross sections and reson. features depend. 4-30925
 F + D₂(H₂) reactive scatt., infinite order sudden approx. 4-46751
 F + D₂ → FD + D, product ang. distrib., quasiclassical trajectory study 4-21441
 F + ethylene reaction prod. fluoroethyl radical, HF mol. elimination study 4-30931
 F + H₂, HF product state distrib. at enhanced collision energies 4-21465
 F + H₂, pot. energy surfaces calc. 4-30924
 F + H₂, role of angular momentum match in state-to-state reactive scattering and product rotational state distributions 4-51996
 F + H₂, state to state reactive scatt., product rot. state distrib. 4-21457
 F + H₂ reactions in a laser field 4-3388
 F + H₂O, OH and OD radical form., UV photoelectron spectra 4-43920
 F + H₂Se, IR chemiluminesc. obs. 4-21435
 F + H₂(HD)(D₂), hot atom reaction, cross-sections, trajectory method 4-3422
 F + HBr, IR chemiluminesc. obs. 4-21435
 F + I₂, I(P_{1/2}) form., branching fraction and rate consts. 4-30950
 F + ICl (IBr)(I₂), IF vibr. product state distrib. laser induced fluorescence. 4-35886
 F + methyl nitrite-d₀(-d₃), reaction, FON stabilisation in Ar matrix, IR spectrosc. obs. 4-30963
 F + NH₃(ND₃) reaction, vibr. energy partitioning 4-51967
¹⁸F + tetrafluoromethane, nucl. recoil hot atom reactions mechanism study 4-35929
 H + Br₂(Cl₂)(NO₂)(NO₂Cl)(PCl₃), chemiluminesc., product distrib. 4-38145
 H + CH₃, reaction rate const. 4-14353
 H + CO₂, hot atom laser induced fluorescence. expts. 4-41241
 H + Cl₂(SCl₂)(PCl₃), IR chemiluminesc., product distrib. 4-38146

atom-molecule reactions continued

- H + D₂, vibr.-rot. distrib. at translational energies 0.55 and 1.30 eV 4-16616
 H + D₂ → HD + D, chemical exchanges product quantum state distrib. 4-21440
 H + F₂, collinear chem. reaction, uniform asymptotic swallowtail approx. 4-41190
 H + H₂, boundary trajectories in collision-induced dissociation 4-41176
 H + H₂, cross section thresholds, quasiclassical trajectory and quantum reactive scatt. calcs. 4-26186
 H + H₂, exchange reactions 4-54594
 H + H₂, rot. inelastic reactive scatt., reaction path Hamiltonian 4-12337
 H + H₂(FH)(FD), pot. energy surface, hyperspherical description, nonadiabatic effects 4-46741
 H + H₂ → H₂ + H, pot. energy surface, barrier height 4-35877
 H + HF(H₂) reactive scattering, quantum mech. collision resonances, probability densities 4-7695
 H + HS → H₂ + S, transition state geometry, activation barrier, ab initio SCF CI calcs. 4-26182
 H + O₂, hot atom-laser induced fluorescence. expts. 4-46753
 H + O₂, state to state cross sections, classical trajectory calcs., reaction mechanism 4-46752
 H + OH exchange, quantum model 4-26191
 H + n-alkanes, kinetic isotope effects for H abstractions 4-57544
 H₂ + H(O)(F)(Cl), 2D hindered internal rotations. 4-46754
 H₂⁺ + He(Ne)(Ar) reactions, inert gas dihydrides prod. 4-51985
 He⁺ + molecule reactions, optical and electron spectrosc. investig. 4-10009
 He⁺ + SO₂ reactions, optical and electron spectrosc. investig. 4-10009
 Hg halides + Xe(P₂), Dissoc. excitation reactions, HgX B(2Σ⁺) vibr. distrib. 4-26188
 Hg + halogen containing mols., chemiluminesc., emission spectra of HgX where X = halogen 4-26210
 HgTe-metal chem. reactions, thermodynamic props. 4-57539
 I + HI, interplay of vibrational and van der Waals type bonding 4-43941
 I + Mu(HI)(MuH), pot. energy surface, hyperspherical description, nonadiabatic effects 4-46741
 Li isotope separation, laser-enhanced chemical reaction method 4-19291
 Li + FH(FD), quantum and quasiclassical collinear reactive probabilities calc., isotope effects 4-46740
 Li + H₂O interaction, pot. energy surface, DIM calcs. 4-3378
 Li + Na₂ → NaLi + Na exchange reactions, prod. state anal. by laser induced fluorescence. 4-3382
 N + NH₂, reaction rate consts., laser-induced fluorescence. 4-21430
 N + O₂⁺, upper atmosphere reaction and 755.5 nm emission 4-21427
 N + trichloroethylene, reaction mechanism and kinetics 4-16617
 N⁺ + N₂(CO₂), ion association reaction, drift tube meas. 4-41209
 NF₃ + Ca(Sr)(Ba), integral reactive cross sections for chemiionisation 4-51964
 Na + HCl, crossed mol. beam reaction study 4-21451
 Na + K₂ → NaK + K exchange reactions, prod. state anal. by laser induced fluorescence. 4-3382
 O + allyl chloride reaction, chem. branching, press. depend. investig. 4-30942
 O + D₂O, energy partitioning, prod. state distrib., spectroscopic anal. 4-35882
 O + ethylene, H-atom yield meas. by Lyman-α-reson. fluorescence, rate consts. determ. 4-16619
 O + ethylene(propylene)(propylene-d₆), rate consts. determ. using laser photolysis-chemiluminesc. technique 4-30952
 O + H₂, rate consts., quasi-classical trajectories 4-9703
 O + halogens, chem. reaction, electronic excited product emission study (German) 4-57555
 O + NO → NO^{*}, temperature dependence at press. of 1 torr 4-41198
 O + OH reaction, var. transition state theory 4-26194
 O + pyridine reaction rate const., 323-473K 4-30962
 O + trifluoriodomethane, reactive scatt., reaction products 4-41192
 O₂⁺, vibrationally excited, collisional relax. and reaction 4-19209
 O(P) + fluoroolefins, reaction studied using MINDO/3 techniques 4-26177
 O(P) + H₂, singlet-triplet surface crossings and low temp. rate enhancement 4-30955
 S + OCS, adiabatic and diabatic reactions, S₂ internal state distrib. 4-12344
 SF₆ + Ca(Sr)(Ba), integral reactive cross sections for chemiionisation 4-51964
 SF₆ + D-SF₅⁻ + DF(v), vibr. energy disposal, flowing afterglow IR chemiluminesc. 4-51983
 SF₆ + H-SF₅⁻ + HF(v), vibr. energy disposal, flowing afterglow IR chemiluminesc. 4-51983
 Xe + IBr, reaction, electronically excited XeBr form. 4-7696
 Xe₂ + Kr, van der Waals bond exchange, ang. and vel. distrib. 4-21454
 Zn + N₂O → ZrO⁺ + N₂, chemiluminescent oxidation dynamics 4-35910

atom probe field ion microscopy

- adsorption, atom-probe studies (Japanese) 4-39685
 focusing-time-of-flight atom probe with channeltron as signal detector 4-32383
 Poschenrieder lens with TOF atom-probe, numerical anal. 4-37252
 steel, austenitic stainless, composition of Cr depleted zone, atom probe field ion microscopy 4-16403
 steel, pressure vessel, neutron irradiation, APFIM study 4-45192
 thin film analysis, surface segregation, silicide formation 4-43137
 time-of-flight atom probe (French) 4-32385
 time-of-flight atom-probe field-ion microscopy, single atom mass anal. 4-37260
 CdTe, atom probe spectra study 4-20062
 Fe, chemisorption of H₂, atom-probe study 4-2458
 Fe-Ba alloys, triaxially modulated microstructure, APFIM-TEM studies 4-46494
 Ni, chemisorption of H₂, atom-probe study 4-2458
 Ni-Al(14 at.%), isothermal ageing, nucleation and growth of γ'-precipitates 4-3139
 Pt-Ir alloy, surface segregation and diffusion kinetics study using time-of-flight atom-probe field ion microscope 4-34645
 Si, field ion microscopy and atom probe microanal. 4-20062
 Si-W(Ni)(Pt) interface, silicide formation, atom probe and field ion microscopy study 4-34804
 W ions, field evaporated, charge state in pulsed-field at probe 4-57078

atom-surface impact

- see also *sputtering*
 alkali halides, atom-surface pot., role of ionic quadrupolar deform. 4-35541
 attractive atom-surface interaction, saturation effects in positronium 4-40593
 coalescent resonances in atom-surface scattering 4-57054
 Debye-Waller factor for atom-surface diffraction, hard wall model 4-24943
 diffraction intensities, inversion for structural determination 4-7302
 diffraction of neutral atoms and molecules from crystalline surfaces, review, book contrib. 4-21096
 elastic scattering, selective adsorption, Wigner R-matrix theory 4-7292
 graphite (0001), selective adsorption and interaction pot. for He atom scatt. from adsorbed Xe layer 4-35542
 graphite (0001), Xe coated, He scatt., selective adsorption reson. close-coupling calcs. 4-21092
 hot periodic surface, at. scatt. intensity model (*Russian*) 4-7303
 inelastic collisions, conf., Middelfart, Denmark, Sept. 1982 4-8643
 inelastic scatt. of atoms and mols. 4-11992
 metal surface, atom impact, negative ion sputtering 4-11982
 metal surface, atom scatt., resonant charge exchange, surface ionisation 4-11985
 metal surface, He atom scatt., theoretical aspects 4-30591
 metal surface, He diff., elimination of class of pots. 4-57058
 metal surface, inelastic ion and atom collisions, charge transfer 4-11981
 metal-He scatt., repulsive interaction 4-46411
 multiphonon energy transfer in atom-surface scattering 4-51431
 one-phonon atom-surface scattering, potcutoff calc. 4-30584
 resonance in atom diff. by cryst. surface 4-25842
 scattering from rough surfaces, Markovian model 4-7301
 scattering from stepped surface, quantum mech. time-depend. simulation 4-16282
 Van der Waals pot., multiple contributions 4-57059
 Ag (111), He atom inelastic scatt., anomalous peaks 4-35540
 Ag (111), one-phonon scatt. of He atoms 4-21095
 Ag (111), scatt. of n-H₂, p-H₂, n-D₂, o-D₂, selective adsorption reson. 4-25843
 Au (111) surface He atom scatt. 4-3009
 Au surface, H interaction, atomic level shift and broadening 4-11983
 C foil, atom (ion)(molecule) impact, excited atom emission, population investig. 4-43831
 Cu surface, stepped, He at. scatt., quantum mech. time-depend. simulation 4-16282
 H, one-dimensional at boundary, bound states and scattering 4-22558
 LiF+He beam, resonance in atom diff. by cryst. surface 4-25842
 NaCl (001), selective adsorption of ⁴He, diff. expts. 4-51442
 Ne, Ne** form, and autoionis. at Mg surface 4-9954
 Ni (110), Ne atom diffraction 4-35538
 Ni (110), surface magnetism, spin-polarised metastable He atom deexcitation spectroscopy 4-35539
 Pd (110), Ne atom diffraction 4-35538
 Pt (111), adsorption of CO, thermal He scatt. study 4-34794
 Pt (111) with adsorbed Xe, He gas-solid transition, thermal He scatt. method 4-29588
 Se, metastable He*(²S) and Ne*(²P_y) at. impact, deexcitation mechanisms, electron spectra 4-30585
 Ta target, metastable H (2s) radiative deactivation at surface 4-11995
 W (110), K ion and atom scatt., gas-surface pot. determ. from hyperthermal scatt. 4-30592
 W (110) surface, Na and H⁺ scatt., charge transfer 4-11981

atomic absorption spectroscopy

- air pollution monitoring and estimation using Na-deposit as indicator, paper mill vicinity (*Japanese*) 4-41397
 analytical techniques and speciation, review 4-41290
 atomic anal. instrument using optogalvanic spectroscopy 4-22846
 atomiser, half-closed, form. of absorbing layer of atoms 4-12428
 background correction, Smith-Hieftje system 4-12412
 background correction method 4-35955
 biological samples, powdered, direct determ. using inner miniature cup in Zeeman AAS 4-3443
 demountable cathode lamp, appl. to atomic absorption and fluorescence spectroscopy 4-12408
 dimethylmercury, determ. in air 4-12519
 electrothermal, performance investig. 4-41288
 flame spectrophotometer, slot burner with thermal evaporator 4-52074
 geochemical analytical methods (book) 4-8657
 graphite furnace, atomisation processes computer modelling 4-12431
 graphite furnace, automation using general purpose laboratory workstation 4-8881
 metals and metalloids, trace and ultratrace determ. in biological materials by AAS, review 4-41293
 meteorite, lithophile elements in chondrules of Mafra H-4 chondrite 4-42383
 methylmercury chloride, determ. in air 4-12519
 multielement analysis, sequential, by automated atomic absorption 4-12409
 nuclear solutions containing U, Th and fission products, AAS determ. of metallic and rare earth impurities 4-46810
 spectrophotometer, atomic absorpt. AAS-3, of VEB Carl Zeiss Jena 4-26246
 temperature gradient lamp 4-1455
 thermal atomisation mechanism, review 4-12427
 thermochemical meas. instrument 4-41282
 trace element determination in solids, using DC plasma atomiser in Zeeman AAS 4-3441
 trace metals, determ. in wastewater, spectrosc. method using Zeeman effect background correction 4-12417
 Zeeman atomic absorption spectroscopy, optimum mag. field calc. (*Russian*) 4-7764
 Ag, determ. in marine sediments, Zeeman corrected graphite furnace AAS method 4-46811
 AgGaS₂ films, polycrystalline and amorphous, growth by flash evaporation, elec. props. 4-45562
 C furnace, for sample introduction into metastable N plasma 4-13674
 Hg_{1-x}Cd_xTe crystals, low temp. synthesis 4-7354
 InAs₂Se₃ Czochralski grown, impurity distrib., Hall meas., at. absorpt. anal. 4-11170
 Ni, impurity diffusion of Cu, 1080-1613K, atomic absorpt. analysis (*Japanese*) 4-34714

atomic absorption spectroscopy continued

- a-Si:P films, plasma deposition, doping, cond. meas. 4-39717
 Sn-plate, passivation layers, comp., struct. and props. 4-57484
 YAG:Nd, absorpt.-spectrophotometric analysis of Nd conc. 4-52073
 (YBiCa)₃(FeSi)₂O₁₂ epitaxial garnet films, Bi content, chemical analysis, Faraday rotation 4-2797
atomic beam electric resonance
 No entries
atomic beam magnetic resonance
¹⁶Er ground state ³H₆, hyperfine structure and Zeeman interactions meas., hexadecapole interaction determ. 4-28396
¹⁶Er I, hyperfine struct., atomic beam laser RF double reson. 4-18966
atomic beams
 see also *atom-molecule reactions; atom-surface impact; atomic beam electric resonance; atomic beam magnetic resonance; particle velocity analysis; plasma-beam interactions*
 Bell's inequalities, photon scatt. with Doppler shift in atomic cascade 4-54886
 cold atom intense stationary flow formed by laser deceleration of atomic beam 4-49186
 gasdynamic method of reducing phase volume 4-37251
 inert gas atoms, metastable level excitation in crossed electron and gas dynamical at. beams 4-43827
 laser cooled and trapped atoms, conf., Gaithersburg, MD, USA (April 1983) 4-21
 laser spectroscopy for supersonic molecular beams (*Chinese*) 4-49184
 metal surface study by nucl. spin polarised alkali atoms 4-40242
 polarized nuclear beams in 6 MV tandem accelerator, expts (*German*) 4-19299
 production in electron impact heated H₂ dissoci. oven, dissoci. fraction meas. 4-14612
 Rydberg at. beam prod. by electron impact, quantum state distrib. 4-19277
 Rydberg atom beam transmission through micrometre size slits, atomic dimension meas. 4-5517
 saddle field source for energetic neutral beam prod. 4-44006
 state-selected TOF anal. by laser technique 4-19298
 supersonic secondary beams, skimmer interaction, absolute intensity calibration 4-49183
 Al, continuous monitoring during MBE 4-12026
 Al+F₂, crossed beam collisions, AlF(a²π) vibr. distrib. 4-12342
 Ca I, even-parity Rydberg states, Stark effect study 4-5169
 Cs atom, on-axis, velocity analysis by time-of-flight method 4-54887
 Cs atomic beam, laser diode optical pumping 4-38131
 Cs, multiphoton ionis., photoelectron energy and ang. distribis. 4-9739
 D, atomic beams polarisation by collisional pumping 4-38314
 D beams, evaluation of RF transition efficiency 4-14633
 Er I, ground config. 4f¹²6s² isotope shift, crossed second order effects 4-1088
 Ga, continuous monitoring during MBE 4-12026
 H, atomic beams polarisation by collisional pumping 4-38314
 H-H⁺ equilibrated beam in O₂ Balmer β radiation excitation cross section 4-10066
 H+X^{q+} → H⁺+X^{(q-1)+} cross beam expt., electron transfer coincidence meas. 4-19231
 He (2³S), thermal source for highly polarised metastable atoms 4-23842
 He+closed-shell ion repulsive interactions, beam and transport meas. 4-28533
 He+He, differential cross section meas. 4-14574
 Na, electron small-angle scatt., elastic and inelastic 4-5366
 Na, nuclear spin determ. in collinear laser spectra using RF mag. reson. and Larmor precession 4-48967
²³Na atomic beam, hyperfine sublevel population by laser induced fluorescence spectroscopy 4-38354
 Ne+closed-shell ion repulsive interactions, beam and transport meas. 4-28533
 Ne(2p³ns,nd'), autoionisation resonances, multichannel quantum defect anal. 4-1095
³²S¹³⁺ Lamb shift, reson. meas. 4-54642
 TaI atomic beam, Doppler-free spectroscopy 4-23641
 U+U deep inelastic collisions at 7.5 MeV/amu, X-ray emission probabilities and nuclear time delay 4-9996
atomic clocks
 see also *frequency measurement; time measurement*
 frequency standards, appl. of radially stratified dielectric-loaded cavities 4-48066
 frequency standards, use of wall coated cells 4-239
 performance, development and appl. (*French*) 4-22763
 precision remote comparison of frequency by means of a TV signal (*Japanese*) 4-17880
 specifying performance for atomic standards 4-53649
 Cs atomic reference frequency and clock supply, parallel processing freq. keeping algorithm (*Japanese*) 4-32241
 Cs beam frequency standards, Zeeman shift meas. technique 4-37065
atomic clusters
 alkali metals, secular eqns., diatomic group theoretical calcs. 4-49205
 crystal growth, adsorbed atom distrib. relative to clusters during nucleation 4-24750
 diffusion controlled deposition, cluster statistics and scaling 4-29371
 main-group atoms polyhedral clusters, electronegativity equalisation and electronic struct. 4-33356
 metal clusters, Huckel method appl. 4-23577
 microclusters, condensation, magic nos. and Coulomb explosion, review 4-23852
 properties, estimation method, theory 4-19317
 quartz:AlO₄, ab initio SCF MO calcs. 4-44010
 rare gas type atom microclusters, morphology statistical statics 4-49201
 Ar_n cluster beam, form. and fragmentation, scatt. anal. 4-28586
 Ar_n+He scattering, TOFS anal. 4-19316
 Ar_n⁺ cluster ions, metastable dissoci. 4-5532
 As clusters, bond energy calcs. 4-10201
 As-S clusters, stability, mass spectra 4-28582
 Be_n clusters (n=7, 10, 13), low-lying electronic states 4-33578
 C clusters, bond energy calcs. 4-10201
 Cu_n (X=2 to 5), UV-visible absorpt. and fluoresc. excitation spectra in solid Xe 4-28585
 He₃ clusters, dipole polarisability three-body contrib. 4-48949
 He_n clusters, supersonic free jet expansion, magic numbers, condensation onset 4-1312
 Li, HMO approx. (*Russian*) 4-10197

atomic clusters continued

- LiF, cryst., ionic clusters, three-body energies 4-49204
- N_4^+ , cluster ions, metastable disoc. 4-5532
- Na_x^+ clusters, (x2-8), supersonic jet, photoionisation, mass spectra 4-54897
- P clusters, bond energy calcs. 4-10201
- Pb clusters, formation in supersonic nozzle expansions 4-14621
- S clusters, bond energy calcs. 4-10201
- SiO_2 , surface clusters, zero-freq. modes in vibr. calcs. 4-15604
- Zn_x clusters (x=1-6), electronic struct. rel. to bulk Zn 4-28583

atomic collision processes *see atomic inelastic collisions; elastic scattering of atoms and molecules***atomic electric moment**

- atomic deform. induced by metallic surface, quadrupole moment calc. 4-49110
- ground state atoms, interelectronic potentials, Coulomb contrib. (Spanish) 4-38038
- inert gas atom pairs, dipole moments and polarisabilities 4-43793
- interelectronic potentials, exchange contrib. (Spanish) 4-38039
- $K+N_2(H_2)$ collisions, 4P K at. multipole relax. 4-43965
- O isoelectronic sequence, electric dipole transitions, MCHF and BP results 4-54597
- Sc to Ni elements, Sternheimer antishielding, 3d contrib. 4-33310
- Zn isoelectronic series, E1, E2, E3, M1 and M2 transition calcs. 4-38125

atomic electron configuration interactions *see atomic electron correlations***atomic electron correlations**

- atomic, mol. and solid state theory conf., Flagler Beach, USA, March 1983 4-31952
- atoms and ions, correl. energy, universal Gaspar function, HF wave functions 4-33342
- configuration mixing within the 3s-3p subshell 4-28377
- DIAB program, quantum chem. energy hypersurfaces, non-adiabatic transformation 4-9700
- inner-shell ionisation probing of at. struct. and dynamics 4-19028
- selfinteraction corrected local correlation energy functionals 4-5147
- superposition of configurations in screening theory 4-28384
- two-electron atoms, doubly excited states, electron correls. 4-1069
- two-electron system, correl., diabatic states 4-38082
- Ar I $3p^4p$ configuration, crossing fields calc. of Zeeman sublevels 4-28400
- Ar, KLL Auger spectra energies and intensities 4-19111
- ArI, $3p^4nl$ configs., oscillator strengths, g-values, LS coupled basis function 4-33341
- B, isoelectronic sequence, ground-state fine struct. 4-23621
- Be and its isoelectronic series, Slater Xalpha method and local exchange-correlation pots. 4-23603
- Be, electric props., electron correls. and many-body perturbation theory approach 4-33332
- Be, electronic shells, momentum space, correl. effects 4-33340
- Be, ground state correl. energy, multiconfig. perturbation theory calcs. 4-14337
- Be, interaction energy, intra atomic correl. effects, exchange perturbation calcs. 4-23613
- Be isoelectronic series, quasidegeneracy effects, coupled doubly excited CI and linear coupled pair calcs. 4-33334
- Be, photoabsorpt., electron correl. effect 4-43854
- Be, Slater Xalpha method and exchange correl. effect 4-23602
- Be, third-order correl. energies calc. using first-order pair functions 4-23620
- Be, use of energy constraint for refinement of electron momentum distributions 4-38080
- Ca, photoionisation, CI calcs. R-matrix method 4-5187
- Cu, gaussian 4f functions, SCF and GTO calcs. 4-48950
- Fe, excitation energies, frozen orbital approx. at CI level 4-48952
- H atoms, four, arranged isosceles trapezoid form, variational versions of CEPA 4-33331
- H^++H^- , neutralisation process, full CI calcs. 4-14529
- He double-electron photoionis. cross-section, CI calcs. 4-1112
- He, doubly excited states, classification and supermultiplet struct. 4-48957
- He, doubly excited states, energies and widths, electron correl. and relativistic effects 4-54616
- He, electron impact ionisation, satellite spectrum, CI wavefunctions calcs. 4-19266
- He, eleven state electron scatt. calc. 4-5384
- He, photoabsorpt., electron correl. effect 4-43854
- He, resonance photoionisation to He^+ (N=2), cross-sections calcs. 4-1116
- He, third-order correl. energies calc. using first-order pair functions 4-23620
- He-like atoms, relativistic at. struct. theory 4-33301
- Kr I $4p^55p$ and $4p^66p$ configs., crossing fields calc. of Zeeman sublevels 4-28400
- Li isoelectronic series, fine struct. and transition wavelengths for $1s2s2p^4P$ and $1s2p2p^4P$ states 4-38348
- Li, Li^{2+} and Li^- , static dipole polarisability, all-electron CI calcs. 4-23624
- Li, photoabsorpt., electron correl. effect 4-43854
- $Na+Li^+$, charge exchange, coherence effects study 4-14528
- Ne, van der Waals interaction pots., basis set superposition effects in electron correl. calcs. 4-23772
- Ne-like system, first-order wavefunctions, Rayleigh-Schrodinger perturbation theory 4-54614
- O, fine struct. excitation by electron collisions and E-region electron energy balance cooling 4-31717
- p^{n+} , Auger and radiative deexcitation 4-19027
- Xe 5s-subshell photoionisation processes, ionic configuration-interaction effects 4-9734

atomic electron impact excitation*see also electron spectra*

- alkali atoms, electron elastic and inelastic collisions in presence of nonresonant laser field 4-14575
- astronomical environments, electron-atom collision processes 4-31747
- atom-electron collisions, ang. correls. 4-54866
- atom-electron collisions, polarisation phenomena 4-54862
- attractive and repulsive forces 4-5442
- Born reactance matrix for cross section calc. 4-33472
- collisional electron transfer into the continuum of ionic projectiles 4-43972

atomic electron impact excitation continued

- double excitation and ionisation competing mechanism interference at high vels. 4-10112
- doubly-excited atoms, electronic correlations, hyperspherical description, graphical representation of radial and angular correlations 4-5414
- drag of electrons by photons 4-38130
- electron impact excitation, autoionisation, post collision interaction 4-10128
- electron impact excitation, fine struct. transitions 4-10139
- electron scattering, local energy-depend. optical pots. calcs. 4-19256
- electron-photon correlation studies of spin exchange, spin orbit and quantum beats 4-19286
- electronic and atomic collisions, conf., Berlin, Germany, (July-Aug. 1983) 4-15
- free-free transitions in intense high-frequency laser fields 4-38139
- gas, neg. differential cond. from electron scatt. models 4-44791
- gas laser systems, role of electron scatt. 4-28653
- ground and low-lying excited states, electron impact direct excitation, Wannier theory 4-38333
- He 2^1P_1 state quenching by Ne 4-38123
- higher-order model for inelastic electron atom scatt. 4-1277
- hydrogenic ions, in dense plasmas, electron impact excitation, plasma screening effects 4-44798
- inert gas atoms, electron impact excitation of metastable levels 4-19283
- inert gas atoms, metastable level excitation in crossed electron and gas dynamical at. beams 4-43827
- inert gas excited atom alignment by electron collision in plasma of positive column 4-5993
- inert gases, electron impact excitation, grandparent and nonvalence reson. 4-5151
- inner-shell ionization by relativistic electron impact 4-43991
- ions, Compton profiles, electron inelastic scatt. investig. 4-19275
- ions-electron scatt. cross-sections, exchange perturbative treatment 4-10132
- light atoms, electron mean excitation energies, analytical calc. 4-5422
- neutron induced atomic excitation and neutron moderation 4-37694
- one-electron atom (ion), electron scatt., momentum space coupled channels optical method 4-10091
- orientation and spin exchange in electron-atom collisions 4-43990
- photoemission cross-sections for VUV light standard 4-5428
- positive ions, electron impact excitation cross section, Coulomb-Born approx. 4-10137
- radiative electron-atom collision cross sections 4-14582
- resonance energies and widths, calcs. from poles of multichannel T matrix 4-38330
- resonant scattering in the presence of an electromagnetic field 4-9187
- Rydberg at. beam prod. by electron impact, quantum state distrib. 4-19277
- Rydberg states, Born electron impact excitation 4-19276
- scattering amplitudes, including relativistic effects, using SCATTAM-PREL program 4-28561
- scattering amplitudes, observable quantity, using OBSERVABLES program 4-28566
- screened atom, electron bremsstrahlung spectrum classical approach 4-10107
- spectral line electron broadening, quadrupole-quadrupole effect 4-43849
- spectral line polarisation, anal. for Stokes parameter Q 4-3918
- spin-polarised atoms, electron impact excitation, electron-photon coincidence study 4-33539
- stepwise electron and laser excitation 4-5427
- time-dependent Hartree Fock eqn., wave packet soln. 4-9673
- variable phase method, low freq. radiation, coordinate rot. method 4-28560
- variational linear algebraic equations method 4-5416
- Ag, 20-400 eV electron impact excitation, autoionising transitions, ejected-electron spectrum 4-14579
- Ar, $2p_4$ level, anisotropy excitation, radiative relax., lifetime meas. 4-23662
- Ar, electron impact $2p_{3/2}$ shell alignment 4-5440
- Ar, electron impact excitation, mass spectra study 4-49169
- Ar, electron scatt., optical model, charge polarisation, adiabatic model 4-33535
- Ar, L_3 -shell alignment tensor, electron-electron coincidence obs. 4-5443
- Ar, metastable states, electron impact excitation functions 4-14578
- Ar, positron collisions, positronium form. 4-23823
- Ar^{4+} , KLL dielectronic recomb. reson. obs. 4-5463
- Ar^{n+} , highly ionised, dielectronic recomb. 4-5470
- Ar-He, flow fields generated by opposed free jets, optical and mass spectrometric meas. 4-34155
- Au, electron bombardment, two photon bremsstrahlung emission 4-10109
- B III, oscillator strengths and electron impact excitation cross sections calc. 4-1274
- Ba, electron impact, ultrasoft X-ray emission 4-19281
- Ba I single electron impact, double ionis. and excitation, absolute, cross-sections meas. 4-38336
- Ba, laser-pumped, time resolved excitation and ionisation 4-19016
- C ions, electron impact excitation cross sections 4-13488
- C V, ground state, electron impact excitation, R-matrix method study 4-49167
- CV, electron impact 2^3S excitation 4-5425
- $Ca^{2+}(2p^2p^0-2p^2^2D)$, electron impact excitation cross sections 4-10138
- Ca, 2p Auger spectrum, 3d orbital collapse 4-9743
- Ca XV, electron impact excitation, fine struct. transitions 4-10139
- Ca^+ dielectronic recomb. collision cross-section, crossed-beam meas. 4-5464
- Cd, electron impact excitation, spectral lines, emission cross sections 4-23824
- CdII, 5^2S-5^2P transition, EELS study 4-10131
- Co, bremsstrahlung spectrum, energy depend. of high energy tip 4-5455
- Cr to Cu atoms, $M_{2,3}$ shell Auger and autoionisation spectra 4-48996
- Cs, electron impact excitation, Auger electron spectrum 4-9742
- Cs, electrons low energy scatt., elastic and inelastic cross sections, reson. struct. 4-54864
- CuI, electron elastic scatt. and excitation, ang. distrib. 4-10136
- Fe, $^3P^0$ and $^3D^0$ states excitation cross sections, astron. appl. 4-33543
- Fe IX, electron collisional excitation rate coeffs. in theta pinch 4-54871
- Fe ions, X, XV-XXVI, electron impact excitation collision strengths, distorted-wave calcs. 4-36807
- Fe VIII, electron collisional excitation rate coeffs. in theta pinch 4-54871
- Fe XI, electron collisional excitation rate coeffs. in theta pinch 4-54871

atomic electron impact excitation continued

- Fe XVII, suprathermal electron direct collisional pumping, X-ray gain enhancement 4-28408
 Fe^{4+} , electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
 Gd, electron impact excitation, effective cross-sections determ. 4-19282
 H atom, electron direct reactions, approximations 4-3375
 H atoms, electron scatt. above ionisation threshold 4-43989
 H atoms 4-19261
 H, electron collisions, laser polarisation effect 4-19264
 H, electron impact excitation, second order multiple scatt. approx. 4-5417
 H, electron impact excitation, differential cross section 4-5420
 H, electron impact excitation, 1s-2p, orientation, alignment and differential cross-sections 4-5434
 H, electron impact excitation, second-order Born and Faddeev-Watson approxs. 4-19267
 H, electron inelastic scatt., eikonal expansion 4-19271
 H, electron mean excitation energies, analytical calc. 4-5422
 H, electron scatt., local energy-depend. optical pots. calcs. 4-19256
 H, electron scatt., schwinger variational linear algebraic equations method 4-5409
 H, electron scattering, coupled-channels optical calc. appl. 4-5419
 H electron-photon excitation cross-sections 4-38337
 H, higher-order model for inelastic electron atom scatt. 4-1277
 H, positron inelastic scatt., coupled-static approx. 4-43993
 H, pseudostate expansion in electron excitation scatt. 4-5418
 H, pseudostate model of electron shadow scattering 4-5365
 H, Stark mixed $n=2$ states, excitation and decay, electron-photon coincidence obs. 4-5438
 H^- , electronic correlations, hyperspherical description in bound and continuum states 4-5413
 H-like atoms, electron elastic and inelastic collisions in presence of nonresonant laser field 4-14575
 $\text{H} + e^- + h\nu \rightarrow \text{H}(2s) + e^-$, simultaneous electron-photon excitation 4-14583
 H+heavy ions, electron capture processes, cross sections 4-13491
 He, $2^1\text{P}_1\text{-S}_1\text{S}_0$ radiative transition probability 4-23659
 He 2^1S state, positron excitation 4-14580
 He, 3^1P state, electron-photon coincidence and λ -parameter 4-5436
 He, doubly excited states, classification and supermultiplet struct. 4-48957
 He, electron and positron impact excitation, second order distorted wave model 4-19268
 He, electron impact excitation of 2^1S and 2^1S states, high resolution study 4-5421
 He, electron impact excitation from 2^1S and 2^3S states 4-5424
 He electron impact excitation of $3^1\text{P}(3^1\text{D})$ states, complex scatt. amplitudes 4-5429
 He, electron impact excitation of 2^1P state, orbital angular momentum transfer 4-5430
 He, electron impact excitation of 2^1P state, orientation 4-5437
 He electron impact excitation of 1^1S - 1^3S transitions, differential cross-sections 4-5451
 He, electron scattering, quasifree scatt. model for the imaginary part of the optical pot. 4-10103
 He, electron-photon ang. correls., symm. props. 4-5435
 He, electron-photon angular correlations for 2^1P state 4-5439
 He electron-photon excitation cross-sections 4-38337
 He, electronic correlations, hyperspherical description in bound and continuum states 4-5413
 He, eleven state electron scatt. calc. 4-5384
 He, metastable state, inelastic differential electron scatt. 4-5423
 He, positron collisions, positronium form. 4-23823
 He simultaneous electron-photon excitation, quadrupole effect 4-14584
 He subexcitation electron energy distrib., stopping cross sections 4-10102
 He, electron impact excitation, metastable atoms yield, resonances 4-5410
 He^- triply excited states, electronic correlations, hyperspherical description of radial and angular correlations 4-5415
 He^+ Wannier ridge reson. 4-5150
 He^+ dielectronic recomb. cross-section 4-19285
 He^+ electron impact 1s-2s excitation, modified Glauber approx. 4-54867
 He^+ electron impact excitation, Coulomb-Born approx. 4-10104
 He^+ electron impact excitation, modified Glauber approx. 4-10133
 He^+ electron impact excitation cross section, Coulomb-Born approx. 4-10137
 He^+ electron impact excitation calcs. 4-19284
 He-like ions, electron impact excitation, modified Glauber approx. 4-10133
 He-like ions, electron impact excitation collision strengths and excitation rates 4-10134
 He-like ions, electron scatt. cross-sections, reson. effect 4-5469
 He-like ions electron impact 2^3S excitation 4-5425
 He(2^1S) metastable states, electron impact excitation differential cross sections 4-33540
 Hg, electron elastic and inelastic, $6s6p^2$ resonances 4-5383
 Hg, electron impact excitation, 254 nm line radiation polarisation 4-5445
 Hg, electron impact excitation of 7^3S_1 -state by polarised electrons 4-5446
 Hg, electron impact excitation of 6^3P_1 state 4-5447
 Hg, electron impact excitation, Stokes' parameters calcs., relativistic R-matrix method 4-33541
 Hg, electron impact studies, threshold excitation and metastable excitation functions 4-5412
 Hg, impact radiation prod. by polarised electrons, circular polarisation 4-23822
 Hg, polarised electrons collisions, electron-photon coincidences meas. 4-54869
 In, electron impact excitation, autoionising state, $\text{nsnp}(n+1)p$ configs. 4-10114
 K, electron and positron total scatt. cross sections 4-5402
 K, electron impact excitation, near threshold, of lower at. levels 4-19280
 K, electron scatt., differential, small angle, anomalous effects 4-19278
 Kr electron impact excitation of lowest excited state ang. correls. 4-5441
 Kr, electron-photon ang. correl. with spin-orbit interactions 4-5433
 Kr excimer at small interatomic distances, keV electron impact excitation 4-9711
 Kr excimers, electron impact excitation, emission from outer turning points of the vibr. states 4-9710
 Kr, metastable states, electron impact excitation functions 4-14578

atomic electron impact excitation continued

- Kr, Rydberg states, threshold excitation, post collision interaction 4-10129
 Kr, slow electron superelastic collisions, impact deexcitation 4-38275
 La, bremsstrahlung spectrum, energy depend. of high energy tip 4-5455
 Li, electron and positron collisional cross sections, modified Glauber approx. 4-1270
 Li, electron impact excitation of 3S state, intermediate energy 4-5453
 Li, electron scattering total cross sections 4-54861
 Li II, electron impact 2^3S excitation 4-5425
 Li, slow electron scatt., elastic and inelastic, cross-sections calcs. 4-5426
 Li-like ions, collision strengths for inner shell excitation transitions 4-53036
 Mg, electron impact excitation, L_1 shell alignment 4-19272
 Mg II, electron impact, monoenergetic, reson. doublet excitation 4-19279
 Mg II, excitation by electron impact 4-54868
 Mg, photoionization near threshold 4-38136
 Mg XI, electron excitation collision rates rel. to emission line ratios in Sun 4-58374
 Mg^+ dielectronic recomb. cross-section, extrinsic elec. field effect 4-5467
 $^{24}\text{Mg}^+$ dielectronic recomb. cross-section meas. 4-5465
 MgII^+ electron elastic scatt. and excitation, ang. distrib. 4-10136
 Mo^{40+} , electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
 Na, electron impact excitation of 3^1P state, scatt. parameters 4-5431
 Na, electron small-angle scatt., elastic and inelastic 4-5366
 Na, electron-photon coincidence expts., Stokes parameter anal. 4-5432
 Na II, III spectral transitions in ultrasoft X-ray range, electron-impact excitation cross sections 4-9712
 Na, polarised, electron impact excitation 4-5448
 Ne 1s level, Zeeman states, electron excitation cross sections meas. by laser-induced fluoresc. 4-5408
 Ne, electron impact excitation, optical pumping transition, hyperfine struct. 4-10144
 Ne, electron impact excitation of $2p$ levels at low energy 4-43992
 Ne, electron impact excitation cross sections 4-49166
 Ne, electron impact inner shell excitation cross-sections 4-5452
 Ne, electron scatt. reson. 4-5152
 Ne, electron scattering, quasifree scatt. model for the imaginary part of the optical pot. 4-10103
 Ne, electronic excitation of $2p^3 3p$ levels, Hanle effect meas. of lifetimes 4-18992
 Ne, metastable states, electron impact excitation functions 4-14578
 Ne V, electron impact excitation rates for fine-struct. transitions 4-53035
 Ne-like ions, suprathermal electron direct collisional pumping, X-ray gain enhancement 4-28408
 Ni^{8+} , electron impact excitation-autoionisation 4-5461
 O, fine struct. excitation by electron collisions and E-region electron energy balance cooling 4-31717
 O ions, electron impact excitation cross sections 4-13488
 O VIII, electron impact 2^3S excitation 4-5425
 O VIII electron impact excitation collision strengths and excitation rates 4-10134
 O-like ions, collision strength depend. of level populations 4-8385
 OV, electron-impact excitation, collision strengths, excitation rate coeff. 4-10135
 Rb, atom-electron collisions, excitations, semi-classical model 4-3012
 S III $^3\text{S}_2 \rightarrow ^1\text{P}_{21}$ transition identification and collision strength in Io torus 4-17423
 Se^{32+} , electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
 Si IX, electron impact excitation rates for fine-struct. transitions 4-53035
 Si XIII, electron impact 2^3S excitation 4-5425
 Ti II, excitation cross sections from visible/UV spectra 4-10105
 TI, electron impact excitation, autoionising state, $\text{nsnp}(n+1)p$ configs. 4-10114
 TI II energy levels, effective cross sections for electron-impact excitation 4-33542
 Tm, electron impact excitation, effective cross-sections determ. 4-19282
 Tm, electron-impact excitation study 4-49168
 Tm excitation cross sections, agreement between theoretical and expt. values 4-28567
 U, atomic field bremsstrahlung 4-10108
 W, bremsstrahlung spectrum, energy depend. of high energy tip 4-5455
 Xe, electric polarisability and electron scatt. length from electron cyclotron resonance absorpt. spectra 4-5411
 Xe, electron elastic and inelastic scatt., relative differential cross sections in energy range 15 to 80 eV 4-5368
 Xe, electron excitation, connection between giant reson. and bremsstrahlung 4-5155
 Xe, electron impact, low energy, high-Rydberg atom probe 4-33544
 Xe, electron-photon ang. correl. with spin-orbit interactions 4-5433
 Xe, metastable states, electron impact excitation functions 4-14578
 Xe, outer shells, single-electron momentum distribs., relativistic effects obs. 4-54870
 Xe, Rydberg states, threshold excitation, post collision interaction 4-10129
 Xe, slow electron superelastic collisions, impact deexcitation 4-38275
 Xe^{8+} , resonant excitation double autoionisation 4-9729
 Yb, electron impact, reson. effects 4-23819
 ZnII, electron elastic scatt. and excitation, ang. distrib. 4-10136
 ZnII, electron excitation, $4^1\text{S} \rightarrow 4^1\text{P}$ transition, ang. distrib. 4-10130

atomic electron impact ionisation

see also electron spectra

- alkali atoms, electron elastic and inelastic collisions in presence of nonresonant laser field 4-14575
 alkali metal atoms polarised, polarised electron impact, ionis. and ns-np excitation asymmetry 4-5444
 alkali metal ions, electron impact, single and multiple ionisation cross-sections 4-5456
 alkaline earth atoms, electron impact ionisation, HF vel. distrib. 4-19273
 alkaline earth metal ions, electron impact, single and multiple ionisation cross-sections 4-5456
 astronomical environments, electron-atom collision processes 4-31747
 atom-electron collisions, ang. correls. 4-54866
 atom-electron collisions, polarisation phenomena 4-54862
 Born reactance matrix for cross section calc. 4-33472
 collisional electron transfer into the continuum of ionic projectiles 4-43972

atomic electron impact ionisation continued

- Coulomb interaction in final state, three-body formalism 4-10118
 double excitation and ionisation competing mechanism interference at high vels. 4-10112
 electron impact excitation, autoionisation, post collision interaction 4-10128
 electronic and atomic collisions, conf., Berlin, Germany, (July-Aug. 1983) 4-15
 impulse approx. correction 4-10125
 inert gas atom, electron impact inner-shell and subshell ionisation, VUV emission 4-5390
 inert gas atoms, ionisation energies, valence orbital momentum distrib., electron spectra 4-23817
 intermediate energy electron reson. ionisation exchange effects 4-10126
 ionisation threshold law derivation 4-1276
 ions, Compton profiles, electron inelastic scatt. investig. 4-19275
 ions, electron impact ionisation, classical binary encounter approx. calcs. 4-5462
 ions, multiply charged, electron impact ionisation rates and cross-sections, Born-Coulomb approx. 4-14581
 light atoms and ions, electron impact ionisation cross section 4-47775
 low-Z elements, K-shell satellite intensity 4-38335
 many-electron atom, shake-up processes accompanying electron transitions 4-5189
 metal ions, singly charged, electron impact ionis. cross-sections 4-5460
 one-electron atom (ion), electron scatt., momentum space coupled channels optical method 4-10091
 orbital probing by binary e,2e spectrosc. and orbital density topography 4-10171
 orientation and spin exchange in electron-atom collisions 4-43990
 positron impact ionisation, triple escape threshold behaviour 4-5473
 positron scatt., positronium form. inexact target wave functions 4-5471
 post-collision interaction, Auger line shift 4-19026
 relativistic electron beam in neutral gas, space charge neutralisation dynamics 4-44041
 time-dependent Hartree Fock eqn., wave packet soln. 4-9673
 total electron-atom and electron-molecule scattering cross-sections by photoelectron spectroscopy 4-14479
 triple ionisation function, threshold law 4-10147
 Z=9-29, electron induced multiple ionisation inner shell direct contrib. 4-10113
 Al, K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 Ar, electron impact ionisation of 3p and 2p, triple differential cross-sections 4-5450
 Ar electron impact K inner shell ionisation threshold behaviour 4-10117
 Ar K shells, electron impact ionisation, threshold behaviour 4-5407
 Ar²⁺, electron impact ionisation cross-sections meas. 4-5459
 Ar⁺, electron impact ionisation cross-sections 4-10140
 Ar₂, electron impact ionisation prod. of Ar₂⁺ 4-12357
 Au, ionisation, L_{α1} X-ray satellite 4-18973
 Au, nuclear excitation during ionisation 4-27832
 B²⁺, dielectronic recomb. through 1s²2s-1s²2p excitation 4-5466
 Ba, electron impact, ultrasoft X-ray emission 4-19281
 Ba I single electron impact, double ionis. and excitation, absolute, cross-sections meas. 4-38336
 Ba, laser-pumped, time resolved excitation and ionisation 4-19016
 Be isoelectronic series, electron impact Auger ionisation cross-sections calcs. 4-5457
 C⁺, electron impact ionisation cross-sections 4-5458
 C³⁺, dielectronic recomb. through 1s²2s-1s²2p excitation 4-5466
 Cd electron impact autoionisation, mass spectra energy scale calibration implications 4-49165
 Cd, even parity ¹D₂ autoionizing level, electron-electron coincidence spectra 4-10119
 Cl²⁺, electron impact ionisation cross-sections meas. 4-5459
 Cs, electrons low energy scatt., elastic and inelastic cross sections, reson. struct. 4-54864
 Cu, K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 F²⁺, electron impact ionisation cross-sections meas. 4-5459
 Fe XVII, suprathermal electron direct collisional pumping, X-ray gain enhancement 4-28408
 Fe⁺, electron impact ionis. cross-sections 4-5460
 Fe²⁺, electron impact ionisation cross-sections meas. 4-5459
 H atoms, electron scatt. above ionisation threshold 4-43989
 H, electron impact ionisation, eikonal exchange amplitude 4-10110
 H, electron impact ionisation triple differential cross sections 4-10124
 H, electron impact ionisation triple differential cross section, distorted wave model 4-10127
 H, electron impact ionisation, triple differential cross sections, second-order effects 4-19269
 H, electron inelastic scatt., eikonal expansion 4-19271
 H, electron scatt., schwinger variational linear algebraic equations method 4-5409
 H, fast electron impact ionisation, second Born term 4-10111
 H, ionisation by fast electrons, triple differential cross section calc. 4-23820
 H, positron impact, positronium form. in excited s-states 4-1275
 H, positron scatt., ideal space theory 4-5472
 H-like atoms, electron elastic and inelastic collisions in presence of nonresonant laser field 4-14575
 H₂ discharge, collisional processes, efficiencies and rate coeffs. 4-55678
 He, electron impact excitation, high energy, impulse approx., kinematical correction 4-43994
 He electron impact ionisation, high energy, absolute triple differential cross-sections 4-5449
 He, electron impact ionisation triply differential cross sections 4-10120
 He, electron impact ionisation, double differential cross sections, energy sharing 4-10121
 He, electron impact ionisation at intermediate energy, asymmetric conditions 4-10122
 He, electron impact ionisation, obs. of n=1, 2, 3 states 4-10123
 He, electron impact ionisation, triple and double differential cross sections for energy sharing kinematics 4-14577
 He, electron impact ionisation, satellite spectrum, CI wavefunctions calcs. 4-19266
 He, electron impact ionisation, triple differential cross sections, second-order effects 4-19270
 He, electron impact ionisation at small momentum transfer, quantum-defect anal. 4-23825
 He, fast electron impact ionisation, second Born term 4-10111

atomic electron impact ionisation continued

- He, ground-state orbitals, momentum space chem., electron spectra 4-23818
 He, laser assisted electron impact ionization 4-14585
 He-like ions, electron impact excitation collision strengths 4-36809
 He+e→H⁺+Ze, nonrelativistic many particle scatt. theory 4-609
 Hg electron impact autoionisation, mass spectra energy scale calibration implications 4-49165
 I⁺, electron impact double ionisation, cross section meas. 4-10142
 In, electron impact excitation, autoionising state, nsnp(n+1)p configs. 4-10114
 Ir, ionisation, L_{α1} X-ray satellite 4-18973
 Kr²⁺, electron impact ionisation cross sections 4-10140
 Li isoelectronic series, electron impact Auger ionisation cross-sections calcs. 4-5457
 Li, K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 Li²⁺, electron impact ionisation, triple differential cross section calcs. 4-33538
 Li-like ions, inner-shell excitation, collision strengths 4-36810
 N₂, electron impact ionisation cross sections 4-10106
 N₂⁺, electron impact ionisation cross-sections 4-5458
 Na, electron impact ionisation, spin depend. near threshold meas. 4-23821
 Na, K-shell electron double ionisation cross section, power-law Z depend. 4-10116
 Na, laser modified electron scattering from a slowly ionizing atom 4-14586
 Na, vapour, excited by high intensity laser, electron spectra of ionisation 4-14588
 Na vapour, resonantly excited by CW laser, electron spectra of ionisation 4-14587
 Ne, electron impact ionisation 4-10115
 Ne positive column discharge, optogalvanic effects 4-19926
 Ne-like ions, suprathermal electron direct collisional pumping, X-ray gain enhancement 4-28408
 Niⁿ⁺, electron impact excitation-autoionisation 4-5461
 O, electron impact ionisation cross sections 4-10106
 Si, electron impact K-shell ionisation cross-sections, for 4 to 10 keV 4-5454
 Ti²⁺, electron impact ionisation cross-sections meas. 4-5459
 Tl, electron impact excitation, autoionising state, nsnp(n+1)p configs. 4-10114
 U, ionisation, L_{α1} X-ray satellite 4-18973
 W⁺, electron impact ionis. cross-sections 4-5460
 Xe, electron impact ionisation, 7800-9200K 4-43995
 Xe, electron impact L₃ inner shell ionisation, threshold behaviour 4-10117
 Xe, ionisation-yield fluctuations due to electron energy degradation 4-19274
 Xe ions, electron impact double ionisation 4-10141
 Xe L₃ shells, electron impact ionisation, threshold behaviour 4-5407
 Xeⁱ⁺ (i=1, 2, 3, 4), electron impact single and multiple ionisation, cross section meas. 4-10142
 Zn electron impact autoionisation, mass spectra energy scale calibration implications 4-49165
- atomic electron scattering** *see* **atomic electron impact excitation**; **atomic electron impact ionisation**; **elastic scattering of electrons by atoms and molecules**
- atomic emission spectroscopy**
 demountable cathode lamp, appl. to atomic absorption and fluorescence spectroscopy 4-12408
 dye low-cost tunable laser systems, chemical anal. appls. 4-28714
 geochemical analytical methods (book) 4-8657
 graphite, KOH adsorption on basal surface, UPS, AES, LEED studies 4-2462
 inductively coupled plasma spectrometer, Leeman Labs. Plasma-Spec, features 4-12415
 inductively coupled plasma spectrometry, precision investig. 4-12405
 inductively coupled plasma technique, multielement anal., principles and appls. 4-12410
 intra-alkali matrix effects in the inductively coupled plasma 4-32316
 metal β-diketonates introduction into an ICP, injection method study 4-3437
 sequential inductively coupled plasma spectrometer, Atom Scan 2000, design considerations 4-12407
 He⁺, 1s2s2p³P state, relativistic effects 4-38056
 He⁺ wafer, large diameter, appl. of surface treatment apparatus, RHEED and AES meas. (*Japanese*) 4-3270
 Si/SiO₂ interface, Rh-doping effect on interface props. (*Chinese*) 4-20728
 Sn, determ. of trace amounts by ICP AES 4-35954
- atomic energy** *see* **nuclear power**
- atomic excited states**
see also **atomic metastable states**; **atomic resonant states**
 alkali atoms, excited states, photoionisation cross sections using quantum defect theory 4-54649
 alkali metal atoms, excited state, photoionisation, zeros in dipole matrix elements 4-1114
 alkali metal atoms, excited states, photoionisation threshold cross-sections calcs. 4-19020
 alkali metal atoms, Rydberg states, quadratic, Zeeman effect 4-18982
 alkali metal atoms+H reson. interactions, polarisabilities and van der Waals coeffs. 4-48961
 alkaline earth atoms, Rydberg states, Doppler-free 2-photon laser spectrosc. obs. 4-18960
 alkaline-earth atoms, penetration effects in high-l Rydberg states 4-9698
 atom-atom collisions, Rydberg states transition, interaction pot. 4-33518
 atoms self-alignment, astrophysical laboratory appl. 4-33362
 bound excited states, density-functional formalism, Levy functional calcs. 4-43830
 1,3-trans-butadiene, ns Rydberg series, two-photon reson. multiphoton ionisation 4-23761
 collision induced polarisation, influence of nuclear spin (*French*) 4-28534
 desorbed neutral atoms from solid surfaces, electronic excitations 4-11984
 doubly-excited atoms, electronic correlations, hyperspherical description, graphical representation of radial and angular correlations 4-5414
 dynamic polarisability 4-1078
 electron swarms in gases and liquids, conf., Innsbruck, Austria (Aug. 1983) 4-31970

atomic excited states continued

- excited matrix expansion coeffs. in powers of $1/Z$, optical electron contrib. 4-38059
 giant resonances obs. in atomic photoionisation 4-54647
 ground and low-lying excited states, electron impact direct excitation, Wannier theory 4-38333
 He 2^1P_1 state quenching by Ne 4-38123
 high Rydberg atoms, photoionisation by CO_2 laser radiation study 4-18949
 hot excited atoms prod. in collisionally aided radiative transitions 4-1077
 hydrogenic atoms in mag. fields, energy spectrum anal. 4-23656
 hydrogenic Rydberg atoms, elec. field ionis., complex energy states calcs. 4-23633
 hydrogenic Rydberg atoms + H^+ , ion scatt., classical-trajectory Monte Carlo calcs. 4-1262
 inert gas atom, electron impact inner-shell and subshell ionisation, VUV emission 4-5390
 neutral beam stopping cross-section in fusion plasmas, enhancement due to multistep collision processes 4-44838
 plasma, nonequil., atomic distrib. over excited states 4-49927
 radiation field interaction, soluble models 4-48984
 resonance fluorescence, projection operator method 4-5165
 resonant atoms, statistical quantum electrodynamics 4-48895
 resonantly enhanced multiphoton ionisation, UPS 4-38134
 Rydberg at. beam prod. by electron impact, quantum state distrib. 4-19277
 Rydberg atom, review of current developments 4-54621
 Rydberg atom + atom thermal collisions, Faddeev Watson expansion appl. 4-19215
 Rydberg atom + inert gas atom, elec. field effects, hydrogenic wave functions, parabolic coordinates 4-19149
 Rydberg atom + molecule collision, excitation and ionisation, classical calcs. 4-19212
 Rydberg atom beam transmission through micrometre size slits, atomic dimension meas. 4-5517
 Rydberg atom-rare gas atom collisions at thermal energies 4-33491
 Rydberg atoms, quadratic Zeeman effect, perturbation theory, WKB approx. 4-28402
 Rydberg atoms in external fields, ion detect. technique appls. 4-18944
 Rydberg atoms in external mag. field, perturbation theory, polarisability and Stark effect 4-5133
 Rydberg states, Born electron impact excitation 4-19276
 Rydberg states decay in highly charged ion field, electron transfer cross section determ. 4-28388
 sputtered atom, outer shell excitation, laser fluoresc. spectroscopy, Auger effect 4-9718
 three Coulomb-bound particles, expectation values and wavefunctions calcs. 4-4245
 two-electron atoms, doubly excited states, electron correls. 4-1069
 two-level system with relaxing excited states, excitation by short light pulses 4-19001
 Al, inner-shell excitations, density-effect 4-9982
 Al np^2P_1 and nf^2F_1 Rydberg states determ. by two-photon MPT spectra 4-5161
 Al $^{10+}$, doubly excited, transitions between quartet levels 4-5339
 Ar, $3p^24s$ excited states, photoionis. 4-1110
 Ar, $3p^24s$ excited states, photoionisation partial cross sections 4-1103
 Ar, deexcitation rate consts. by ats. and mols., temp. depend. 4-33509
 Ar, highly excited lines, Van der Waals broadening coeffs. 4-18989
 Ar $^{2+}+He$, single e^- capture, energy loss spectra diff. cross sections 4-43979
 Ar(3P_1) collisional deexcitation rate consts., temp. depend., 4-10002
 Ar(3P_1) collisional deexcitation rate consts., temp. depend., 4-10002
 Ar $^+$ + Ar collisions at thermal energies, time-of-flight spectra 4-38274
 B III, core excited states, EUV spectra 4-38116
 B III, oscillator strengths and electron impact excitation cross sections calc. 4-1274
 B III quartet system study 4-38108
 Ba, aligned $6snd^13D_2$ Rydberg states, photoionis., $5d7d$ state effects 4-1133
 Ba I $5dn1$, even doubly excited states, two-step optogalvanic spectrosc. obs. 4-18964
 Ba III excited state prod. by electron impact excitation of Ba I 4-38336
 Ba, odd-parity Rydberg states, population, high resolution laser spectrosc. investigation 4-18962
 Ba, perturbed Rydberg spectra in external fields, multichannel quantum defect theory 4-9696
 Ba, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 BaI, electron shake-up in two-photon excitation of core electrons to Rydberg autoionizing states 4-5191
 Be, high Rydberg states, laser spectrosc. investig. 4-18969
 Be $^+$, triply excited three-electron atomic systems and beam-gas electron spectroscopy 4-38103
 C fragments from beam foil. excited CO , Auger electron line shape 4-28547
 C IV ions in laser plasma, population inversion 4-14372
 C, X-ray emission model for laser produced plasma on perspex 4-10828
 Ca, excited levels in human platelet aggregation, photoionic detection method 4-26561
 Ca I, even-parity Rydberg states, Stark effect study 4-5169
 Ca, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 Ca(4^1P_1), collisional quenching, time-resolved emission investig. 4-23650
 Cr, matrix isolated, time resolved ODR, emission and excited state absorpt. spectra 4-23649
 Cs, $6d$ excited state photoionisation 4-54650
 Cs, $6p$ and $7p$ subshells, excited, photoionis. cross-section calcs. 4-1127
 Cs atomic beam, laser diode optical pumping 4-38131
 Cs, autoionising continua, Rydberg series, UV spectra 4-9728
 Cs, excited states, photoionisation threshold cross-sections calcs. 4-19020
 Cs I, quantum defects of nS , nP and nD levels 4-38111
 CsI, excited states, radiative lifetimes, laser induced fluoresc. 4-48976
 Cu atoms, photoexcited, dioxygen activation 4-14349
 Cu atoms in inert gas matrices, MCD spectra, excited state spin-orbit coupling const. 4-54637
 Cu, inner-shell excitations, density-effect 4-9982
 Cu, photoluminesc. spectra in Xe cryomatrix (Russian) 4-28397
 Cu + H_2 dissoci., ab initio effective pot. CI calcs. 4-46757
 Dy, $4f^{16}6s^2$ config. hyperfine struct. 4-49173
 F isolated ions, at. spin precessions obs. on recoil through weak transverse mag. fields 4-33553

atomic excited states continued

- H, collisional transition between Rydberg states, adiabatic mechanism 4-38312
 H, excited state, quadratic Zeeman effect in weak mag. field 4-43847
 H, Landau excited states, autoionisation widths and energies in mag. fields 4-28410
 H, positron impact, positronium form. in excited s-states 4-1275
 H, prod. by atom (ion)(mol.) impact on C foil, population investig. 4-43831
 H, quadratic Zeeman effect for highly excited states 4-23657
 H, Rydberg states, perturbation theory 4-18942
 H, Rydberg states, quadratic, Zeeman effect 4-18982
 H, spectroscopy in intense mag. field (French) 4-5192
 H $^+$, electron capture by beam-foil interaction, $n=3$ states polarisation 4-28557
 H + H $^+$, electron capture into highly excited states 4-10053
 H + inert gas atoms, excitation examined by obs. Balmer-alpha and Balmer-beta emissions 4-9939
 H $^+$ + H(1s) - H(nlm) + H $^+$, electron capture into highly excited states 4-10016
 H $^+$ + Li, electron capture cross section, H excited state form. 4-33522
 H(2S), e^- elastic scatt. in two-potential eikonal approx. 4-23814
 He, atmospheric, discharge pumped, excited state population, time resolved meas. 4-24643
 He atoms, electronically oriented, tensor polarizability meas. by quantum beat method 4-5511
 He, deexcitation rate consts. by ats. and mols., temp. depend. 4-33509
 He, doubly excited states, transition probability distrib. over radiative and radiationless decay channels 4-5167
 He, doubly excited states, classification and supermultiplet struct. 4-48957
 He, doubly excited states, energies and widths, electron correl. and relativistic effects 4-54616
 He, highly excited, microwave ionis., anticrossings role 4-9740
 He I, $1sn^2D$ levels impact excitation by He $^+$ + He collision, level-crossing signals 4-28409
 He Lamb shift, $1s2p-1s3d$ transitions fluoresc. obs. 4-23652
 He, muonic, excited states, hyperfine struct., approx. methods 4-19303
 He, Rydberg levels, radiative lifetimes, high freq. deflection technique 4-18995
 He $^+$, doubly excited states, Bohr-Rydberg spectrum 4-18941
 He, triply excited states, electronic correlations, hyperspherical description of radial and angular correlations 4-5415
 He $^+$, excited state, prod. by atom (ion)(mol.) impact on C foil, population investig. 4-43831
 He + H, Rydberg states transition, interaction pot. 4-33518
 He + He, Penning- and associative-ionisation, electron spectra 4-33519
 He $^+$ + He, excitation mechanism at various collision energies 4-19142
 He(2^1S) collisional deexcitation rate consts., temp. depend., 4-10002
 Hg, excited states, radiative decay, quenching in pulsed discharge afterglow 4-33373
 I($^2P_{1/2}$) form. from F + I $_2$ reaction, branching fraction and rate consts. 4-30950
 K $_2$, ground and Rydberg states, model pot. calcs., core polarisation effects 4-19127
 Kr electron impact excitation of lowest excited state ang. correls. 4-5441
 Kr, electron-photon ang. correl. with spin-orbit interactions 4-5433
 Kr isoelectronic series, direct SCF calc. of excited level structs. 4-43795
 Kr, resonantly enhanced multiphoton ionisation, UPS 4-38134
 Kr, Rydberg states, threshold excitation, post collision interaction 4-10129
 Li $3d$ states under combined action of internal coupling and external mag. field 4-18948
 Li, circular Rydberg states, prod. in at. beam 4-1076
 Li, oscillator strengths and excitation cross sections for forbidden transitions 4-54640
 Li, triply excited three-electron atomic systems and beam-gas electron spectroscopy 4-38103
 Li $^+$ excited states, lifetime and hyperfine struct. 4-9723
 Li-like ions, collision strengths for inner shell excitation transitions 4-53036
 Li $_2^+$, ground and Rydberg states, model pot. calcs., core polarisation effects 4-19127
 $^6Li^+$, He-like, excited $1s2s^3S_1$ and $1s2p^3p$ hyperfine multiplets, laser-microwave spectroscopy 4-33552
 Mg, high Rydberg states, laser spectrosc. investig. 4-18969
 Mo I, at. const. (f_{λ}, g_{λ}) determ. using hook method 4-38126
 Mo, matrix isolated, time resolved ODR, emission and excited state absorpt. spectra 4-23649
 N, high Rydberg, ang. distribs., time of flight spectra 4-54872
 N II, Rydberg series, VUV spectra 4-23646
 N $^{4+}$, doubly excited states, energy values, wave functions, autoionisation, dielectronic satellites 4-38110
 NO, fluoresc. of A $^2\Sigma^+$, B $^2\Pi$ and C $^2\Pi$ states excited by I at. lines 4-14363
 N* + acetaldehyde(formic acid), collision, NH radical prod. 4-24666
 N* + methanol collision, NH radical prod. 4-24665
 N** Rydberg state ang. distrib. from N $_2$ -electron impact 4-5495
 Na, high Rydberg state atoms, fine struct. quantum beats 4-23631
 Na vapour, optically excited to $3P$ state, collisional processes, asymptotic calc. 4-43958
 Na + Ar $^+$ (Na $^+$), charge transfer, final state distrib. M. and L. depend. 4-19252
 Na + Ar $^+$ (Na $^+$), charge transfer, final state distrib., vel. depend. 4-19253
 Na + K $^+$, Rydberg states, collisional ang. momentum mixing 4-19146
 Na + Xe, state changing collisions obs. 4-23797
 Na $_2^+$, ground and Rydberg states, model pot. calcs., core polarisation effects 4-19127
 Na* + CO $_2$ (N $_2$ O), collision, nonreson. electronic to vibr. energy transfer 4-9920
 Na* + N $_2$, electronic to electronic-vibr.-rot. energy transfer, mol. beam investig. 4-9921
 Na* + SO $_2$ - Na $^+$ + SO $_2^-$, crossed beam investig. 4-10073
 Na(3P) + Na(3P), energy transfer and associative ionisation 4-9919
 Ne $2p^33p$ atom, collisional depopulation rate coeff., laser based determ. 4-43954
 Ne, electron impact excitation, optical pumping transition, hyperfine struct. 4-10144
 Ne, Rydberg series, optogalvanic spectrosc. investigation 4-18947
 Ne VIII, excitation rate coeff. in theta pinch 4-38109

atomic excited states continued

- Ne+1,3-butadiene(allylene)(acetylene)(benzene)(CO₂)(cyclohexane)(ethylene), collisional ionisation 4-57537
 Ne+Ar, slow collisions, 3dσ excitation 4-5338
 Ne+Ne, Penning- and associative-ionisation, electron spectra 4-33519
 Ne+Ne⁺, excited projectile states, electron capture 4-14558
 Ne²⁺+Ne(N₂), K X-ray spectra, quenching cross section 4-18977
 Ne*+Ar collision, thermal energy ions, cross-section 4-9908
 O₂ X-ray emission model for laser produced plasma on perspex 4-10828
 O³⁺, amplified spontaneous emission in 1035 Å 4-19033
 O(S) excited state prod. in aurora, impulse response anal. of 5577 Å emissions 4-58333
 Rb, excited states, photoionisation threshold cross-sections calcs. 4-19020
 Rb, excited states, photoionisation cross sections calc. using central-field calcs. 4-54649
 Rb Rydberg atoms in crossed electric and mag. fields, evidence for Pauli quantisation 4-43828
 Rb+He, Rydberg atom thermal collisions, Faddeev Watson expansion appl. 4-19215
 Rb+Rb, collisional ionisation and energy pooling process, mechanism 4-9934
 Rb+Rb, quenching of Rydberg state, appl. to elastic electron scatt. 4-19214
 Rb⁺+Rb^{*}, Penning ionisation cross sections 4-19210
 Si⁴⁺, beam foil excited Rydberg states, field ionisation techniques 4-19213
 Si I, non-penetrating Rydberg states, rel. to solar emission 4-23628
 Sr, collisional perturbations, Rydberg lineshapes, ionisation detect. 4-23673
 Sr, excited states, photoionisation cross sections calc. using central-field calcs. 4-54649
 Sr ions, hyperfine interactions meas. by collinear fast beam laser spectroscopy 4-33554
 Sr, Rydberg states, hyperfine struct. and isotope shifts 4-18951
¹⁵⁹Tb, 4f⁶6s² config. hyperfine struct. 4-49173
 Tm, highly excited states, laser spectroscopy 4-54620
¹⁶⁹Tm, 4f⁶6s² config. hyperfine struct. 4-49173
 U, high-lying levels, optogalvanic detect. 4-18946
 Xe, electron impact, low energy, high-Rydberg atom probe 4-33544
 Xe, electron-photon ang. correl. with spin-orbit interactions 4-5433
 Xe, RF discharge, Rydberg states, optogalvanic study 4-23629
 Xe, Rydberg and autoionizing levels, RF optogalvanic detect. 4-18945
 Xe, Rydberg states, threshold excitation, post collision interaction 4-10129
 Xe, Rydberg states diamag. behaviour, RF optogalvanic study 4-38132
 Yb, Rydberg states, high resolution three-photon spectra 4-1137
 Zn vacuum-arc plasma, excited-state densities, spectroscopic study 4-6219

atomic explosions see nuclear explosions

atomic fine structure

- alkali atoms, photoelectron polarisation in resonant two-photon ionisation with superstrong continuous excitation 4-19013
 alkali metal atoms, multiphoton ionisation, electron polarisation 4-1107
 atom electron scatt. amplitudes, including relativistic effects, using SCAT-TAMPREL program 4-28561
 collisional fine-structure transitions between ²D_{3/2} and ²D_{5/2} atomic states, quantum close-coupling model 4-5322
 quantum Hall effect use for fine struct. const. determ. 4-18958
 Al¹⁰⁺, doubly excited, transitions between quartet levels 4-5339
 Ar⁺ fine struct. transitions, collision strength calcs. 4-18967
 Ar⁺+Ar collisions at thermal energies, time-of-flight spectra 4-38274
 B III, core excited states, EUV spectra 4-38116
 B, isoelectronic sequence, ground-state fine struct. 4-23621
 Ca, 2p Auger spectrum, 3d orbital collapse 4-9743
 Ca, black-body radiation shifts in ground and metastable levels 4-1089
 Ca I, even-parity Rydberg states, Stark effect study 4-5169
 Ca XV, electron impact excitation, fine struct. transitions 4-10139
 Ca+He(Ar)(Kr)(Ne)(Xe), electronic energy transfer, radiative lifetimes, spin and fine struct. changing cross sections 4-1248
 CsI, excited states, radiative lifetimes, laser induced fluoresc. 4-48976
 Fe XXI, electron impact excitation, fine struct. transitions 4-10139
 H, fine struct. studied using laser spectroscopy 4-38516
 He, doubly excited states, energies and widths, electron correl. and relativistic effects 4-54616
 He+Rb(Cs), transition cross sections within second and third n²P levels, quantum-mechanical calcs. 4-9940
 K⁺, photodetachment, spin correl. study 4-23669
 K(4f_{3/2}) + Ar(He), fine struct. transitions, polarisation effects 4-9887
 Li isoelectronic series, fine struct. and transition wavelengths for 1s2s2p ⁴P and 1s2p2p ⁴P states 4-38348
 Li⁺, Lamb shift 4-54641
 Mg, black-body radiation shifts in ground and metastable levels 4-1089
²⁴Mg, fluoresc. ³P₁-³P₀ fine-struct. transition, freq. meas. 4-1084
 NI isoelectronic series, ground config., multiconfiguration HF Breit-Pauli approx. 4-48921
 Na, d-state fine struct. in electric field 4-5514
 Na, high Rydberg state atoms, fine struct. quantum beats 4-23631
 Na, multiphoton ionis., dynamic Stark effect influence on electron ang. distibs. 4-9736
 Na, photoelectron ang. distibs. in multiphoton ionisation, dynamic Stark effect influence 4-48995
 Na+Na(Na₂), laser reson. radiation excitation at 3²S-3²P transition wavelength 4-9891
 Na(34d), fine struct., elec. field depend., field ionisation quantum beat technique 4-19290
 Ne I, 2p³2p-2p³3s transition probabilities and fine struct. 4-54643
 Ne⁺ fine struct. transitions, collision strength calcs. 4-18967
 O, fine struct. excitation by electron collisions and E-region electron energy balance cooling 4-31717
 PbI, fine structure and HFS anal. of odd config. 4-38089
 Rb+H₂(D₂), (5P) fine struct. transition, mol. rot. energy effects 4-9922
 Rb+Rb, fine structure changing collision cross section within low lying n²D states 4-38310
 Xe⁺+inert gas (H)(methane), charge transfer and fine struct. transitions, 2 to 20 keV 4-10033

atomic fluorescence

- applicability of RF burst injecting pulsed hollow cathode lamps, transient emission characteristics (Japanese) 4-29275
 atom+atom optical collisions in strong laser fields 4-14521

atomic fluorescence continued

- Auger and radiative level width approx. invariance and fluoresc. yield 4-54635
 Bell's inequalities, photon scatt. with Doppler shift in atomic cascade 4-54886
 collisionally perturbed atoms, fluorescence spectra and optical collision rates in strong driving field 4-54836
 complex atomic ions, radiative recomb. coeffs. 4-1267
 cooperative resonance fluorescence from two atoms experiencing different driving fields 4-23651
 dressed atom approach to resonance fluorescence 4-9715
 EM fields with simultaneous one- and two-photon generation at common at. transition, statistical props. 4-33372
 hollow-cathode discharge with laser excitation, use for atomic fluoresc. investig. 4-49185
 homonuclear diatomic mol., photodissociation, interference in at. fluoresc. 4-1226
 hot excited atoms prod. in collisionally aided radiative transitions 4-1077
 inert gas atom, electron impact inner-shell and subshell ionisation, VUV emission 4-5390
 inner shell fluorescence polarisation and ang. distrib. variations 4-1086
 K-vacancy probabilities, impact parameter depend., in gas and solid-target collision systems 4-49139
 laser cooled and trapped atoms, conf., Gaithersburg, MD, USA (April 1983) 4-21
 laser excited vapour, dressed atom approach to fluorescence and absorpt. spectra 4-9716
 laser microprobe plume, at. fluoresc., spatial and temp. characts., atm. effects 4-35953
 level-crossing detection by photon statistics 4-5182
 metal vapour, sputtered, at. lifetimes determ. using laser-induced fluoresc. 4-5178
 nonstationary incident radiation, reson. Raman scatt. and reson. fluoresc. (German) 4-18997
 one-point Friedrichs model, photon-atom interaction study 4-32080
 photon correlations due to four-photon processes in resonance fluorescence 4-28412
 pulsed laser measurement method (Spanish) 4-38351
 resonance energy transfer, S-matrix use in relativistic treatment 4-33351
 resonance fluorescence, correlation signals, photon scatt. amplitudes interpretation 4-14364
 resonance fluorescence, projection operator method 4-5165
 resonant atoms, statistical quantum electrodynamics 4-48895
 sputtered atom, outer shell excitation, laser fluoresc. spectroscopy, Auger effect 4-9718
 squeezing in resonance fluorescence 4-43846
 three-level atom, quantum beats in two-photon reson. fluoresc. 4-5166
 time-resolved laser-induced fluoresc., polarisation effects 4-22844
 two-level atom, near or adsorbed on metal surface, reson. fluoresc. 4-33369
 two-level atom, reson. fluoresc. intensity correl., laser-field fluctuation effects 4-23653
 two-level atom fluorescence spectrum correlated photon statistics 4-28649
 two-level atoms, photon correlations between the lines in the spectrum of resonance fluorescence 4-54633
 two-state atom, sub-poissonian photon statistics and squeezed states in reson. fluoresc. 4-23936
 Ag, average L-shell fluorescence yield meas. 4-18980
 Al⁺+Ar, L-X-ray spectrum, 25 vacancy prod., fluoresc. yield 4-19197
 Ar, 2p_{1/2} level, anisotropy excitation, radiative relax., lifetime meas. 4-23662
 Ar gas continua in a barrier discharge 4-5163
 Ar-He, flow fields generated by opposed free jets, optical and mass spectrometric meas. 4-34155
⁷⁵As K-shell fluorescence yield, sum peaks anal. from ⁷⁵Se EC 4-27838
 Ba, electron impact, ultrasoft X-ray emission 4-19281
 Br, multiphoton laser-induced fluoresc. studies 4-23648
 C II, prod. in vacuum arc, UV fluoresc. by optical pumping with line radiation 4-54636
 C II UV enhanced fluoresc. due to combined effects of selective optical pumping and collisional transfer 4-48986
 Ca⁺ dielectronic recomb. collision cross-section, crossed-beam meas. 4-5464
 Ca+He(Ar)(Kr)(Ne)(Xe), electronic energy transfer, radiative lifetimes, spin and fine struct. changing cross sections 4-1248
 Cd, average L-shell fluorescence yield meas. 4-18980
 Cd inner shell fluorescence polarisation and ang. distrib. variations 4-1086
 Cd, photoionisation, Cd⁺ fluoresc. radiation linear polarisation 4-33377
 Cr, matrix isolated, ground and excited state absorpt., fluoresc. 4-23741
 Cr, matrix isolated, time resolved ODR, emission and excited state absorpt. spectra 4-23649
 Cs resonance filter, spectral characts. 4-1469
 CsI, excited states, radiative lifetimes, laser induced fluoresc. 4-48976
¹³³Cs, 7²P_{1/2} and 7²P_{3/2} state polarisability consts. 4-38347
 Cu atoms, photoexcited, dioxygen activation 4-14349
 Cu, UV-visible absorpt. and fluoresc. excitation spectra in solid Xe 4-28585
 D, RF plasma discharge, Stark-broadened line profile, radiation redistribution 4-14366
 Fe, fluoresc. investig. in hollow-cathode discharge with laser excitation 4-49185
 Fe II, fluoresc. rel. to broad emission features in QSOs and active galactic nuclei 4-31746
 H, Stark mixed n=2 states, excitation and decay, electron-photon coincidence obs. 4-5438
 H-H⁺ equilibrated beam in O₂ Balmer β radiation excitation cross section 4-10006
 H⁺+Au(Bi)(Pb)(U), M-subshell ionisation cross sections X-ray prod. cross sections 4-9927
 H⁺+Cs(Rb)(K)(Na), charge exchange collisions, Lyman-alpha emission cross-sections 4-10035
 He, 3¹P state, electron-photon coincidence and λ-parameter 4-5436
 He, electron impact excitation of 2¹P state, orientation 4-5437
 He, electron-photon ang. correls., symm. props. 4-5435
 He, electron-photon angular correlations for 2¹P state 4-5439
 He inner shell fluorescence polarisation and ang. distrib. variations 4-1086
 He Lamb shift, 1s2p-1s3d transitions fluoresc. obs. 4-23652
 He⁺, scatt. and interaction from NiFe surface, optical radiation 4-11994

atomic fluorescence continued

- He⁺ + molecule reactions, optical and electron spectrosc. investig. 4-10009
 He⁺ + SO₂ reactions, optical and electron spectrosc. investig. 4-10009
 Hg, electron impact excitation, 254 nm line radiation polarisation 4-5445
 Hg, polarised electrons collisions, electron-photon coincidences meas. 4-54869
 Hg, quenching by NO, excited state relax const., time resolved laser induced fluoresc. meas. 4-28398
 I, average L-shell fluorescence yield meas. 4-18980
 I, multiphoton laser-induced fluoresc. studies 4-23648
 In, average L-shell fluorescence yield meas. 4-18980
 K + N₂(H₂) collisions, ⁴P K at. multipole relax. 4-43965
 K + N₂(H₂) collisions, transitions between ⁴P Zeeman sublevels 4-19161
 Kr electron impact excitation of lowest excited state ang. correls. 4-5441
 Kr gas continua in a barrier discharge 4-5163
²⁴Mg⁺, dielectronic recomb. cross-section meas. 4-5465
²⁴Mg, fluoresc. ³P₁-³P₀ fine-struct. transition, freq. meas. 4-1084
 Mo, average L-shell fluorescence yield meas. 4-18980
 Mo, fluoresc. investig. in hollow-cathode discharge with laser excitation 4-49185
 Mo II, radiative lifetimes meas. using laser induced fluoresc. technique, oscillator strengths 4-18979
 Mo, matrix isolated, time resolved ODR, emission and excited state absorpt. spectra 4-23649
 NO, fluoresc. of A²Σ⁺, B²Π and C²Π states excited by I at. lines 4-14363
 Na atom, D line broadening by K, Rb and Cs 4-38129
 Na, electron impact excitation of ³P state, scatt. parameters 4-5431
 Na, electron-photon coincidence expts., Stokes parameter anal. 4-5432
 Na, nuclear spin determ. in collinear laser spectra using RF mag. reson. and Larmor precession 4-48967
 Na, radiatively excited levels in acetylene-O₂ flames collisional population redistrib. 4-1085
 Na resonance excitation in Na + Na and Na + Na₂ interactions 4-1247
 Na + H⁺(H₂⁺)(H₃⁺), emission cross-sections and reson. radiation polaris. 4-10004
²³Na atomic beam, hyperfine sublevel population by laser induced fluorescence spectroscopy 4-38354
 Na⁺ + N₂ collision complex, fluoresc. emission spectrum 4-18981
 Nb, average L-shell fluorescence yield meas. 4-18980
 Nb II, radiative lifetime, time resolved laser induced fluoresc. 4-28399
 Ne I s level, Zeeman states, electron excitation cross sections meas. by laser-induced fluoresc. 4-3408
 Ne 2p³p atom, collisional depopulation rate coeff., laser based determ. 4-43954
 Ne 633 nm line shift and width, nonlinear absorpt. meas. during mag. scanning 4-18991
 Ne glow discharge, local temp. of atoms meas. by polarisation spectroscopy 4-50117
 Ne lifetimes and collision quenching cross sections, laser induced time resolved fluoresc. spectra 4-48977
 Ne + Kr, excitation transfer in charge-transfer reactions of multicharged ions 4-28553
 Rb + Rb, fine structure changing collision cross section within low lying n²D states 4-38310
 Sn, average L-shell fluorescence yield meas. 4-18980
 Sr, radiation trapping by time-delayed two-photon absorpt., time depend. study 4-54655
 Sr-inert gas spectra, polarisation of redistributed light, spectral satellites and interatomic pots. 4-14358
 Ta photon induced L shell X-ray intensity ratios 4-48975
 W photon induced L shell X-ray intensity ratios 4-48975
 Xe gas continua in a barrier discharge 4-5163
 Xe + Xe* collision pairs, two-photon laser spectroscopy 4-38140
 Xe⁺ + He⁺ collisions, reson. state population by charge transfer excitation, flow drift tube study 4-38286
 Zr, average L-shell fluorescence yield meas. 4-18980

atomic fluorescence spectroscopy *see* **atomic emission spectroscopy****atomic forces**

- alkali metal atom spin relax. in quasi-mol. complex 4-38055
 p-allylbenzene mol. cryst., intra- and intermol. interaction study 4-56957
 atomic deform. induced by metallic surface, quadrupole moment calc. 4-49110
 atomic threshold laws, long range interactions 4-54832
 continuum charged particles in Coulomb field, asymptotic wavefunctions 4-1234
 Coulomb interactions, exchange integral upper bound 4-33479
 dipole moment, induced by neighbourhood of surface (French) 4-38269
 force sum rule and static electronic polarisability 4-14597
 inert gas atoms, interaction energies from trial density function in Thomas-Fermi-Amaldi-Dirac formulation 4-38068
 interatomic potentials, electron-gas model, calc. programs 4-9873
 multipole interaction, irreducible tensor expansion appls. 4-43944
 natural optical activity and retarded interaction of atoms in the field of coherent radiation 4-10274
 two-channel interactions, QDT anal. 4-1236
 Be, interaction energy, intra atomic correl. effects, exchange perturbation calcs. 4-23613
 H-H⁺ long-range force, momentum density interpretation 4-49117
 He*, oscillator strengths, atomic Fues potential 4-5292
 K vapour, thermal cond. coeff. and ³Σ_g⁺ interaction pot. determ. 4-10808
 Mo(V)-Ni(II) interionic interacts. in HCl soln., EPR and NMR relax. investig. 4-23722
 Ne, van der Waals interaction pots., basis set superposition effects in electron correl. calcs. 4-23772
 Ne-H₂, van der Waals mol., pot. energy surface, ab initio calcs. 4-5154
 Xe monolayer-atom three-body interactions 4-29807

atomic hyperfine structure

- see also* **Lamb shift**
 alkali metal atom spin relax. in quasi-mol. complex 4-38055
 alkaline earth atoms, Rydberg states, Doppler-free 2-photon laser spectrosc. obs. 4-18960
 atomic fine structure constant determ. using quantum Hall effect 4-18958
 atoms, relativistic SCF calcs. with local density approx., core-exchange polaris. 4-38087
 determination by high-resolution optogalvanic spectrosc. 4-18961

atomic hyperfine structure continued

- four-electron ions, high-Z, l-struct. in hydrogenic states 4-18957
 heavy atoms, hyperfine interactions calc. using Dirac wave functions 4-33300
 historic survey 4-32021
 Hund's rule, quantum mech. formulation 4-5139
 hyperfine interactions conf., Groningen, Netherlands (July 1983) 4-31958
 I₂, ²P_{1/2}-²P_{3/2} transition emission cross section determ. 4-9725
 laser spectroscopy appl. 4-33346
 level-crossing optogalvanic spectroscopy 4-17952
 one-electron atoms, decay rates of metastable states and 2S-states of muonic atoms 4-38360
 rare-earth atoms, quadrupole moments and Sternheimer effect, muonic atom meas. 4-4754
 valence s electron, isotope shift and hyperfine struct. 4-23625
 Ag atoms in vacuum, diamag. and cryst. inert gas matrices, mag. and opt. props., review (Russian) 4-14360
¹⁰⁷Ag, ⁵P_{3/2} state, hyperfine struct. and lifetime meas. 4-54644
²⁷Al ⁵p²P_{1/2} level, hyperfine structure 4-49175
 AsI, quadrupole moment, core polarisation and hyperfine struct. 4-18971
 Au, pionic, 3d state anomalous strong interaction shifts and widths 4-49191
 Ba, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 Bi I, hyperfine structure intensity measurements as a tool for quadrupole radial integral determination 4-49174
 Bi II, hyperfine structure intensity measurements as a tool for quadrupole radial integral determination 4-49174
 Br, ²P_{1/2}-²P_{3/2} transition emission cross section determ. 4-9725
 Ca, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 Cs atomic beam, laser diode optical pumping 4-38131
 Cs, M₁ amplitude and hyperfine mixing between 6S_{1/2}-7S_{1/2} states 4-33555
 Cs, parity violation meas. from 6S-7S transition hyperfine component 4-33556
 Cs resonance filter, spectral characs. 4-1469
¹³³Cs, ⁷2P_{1/2} and ⁷2P_{3/2} state polarisability consts. 4-38347
¹³³Cs ⁷2P_{3/2} state mag. sublevel parametric reson. 4-9719
 D, muonic hyperfine effects 4-10187
^{161,163}Dy, 4f⁹6s² config. hyperfine struct. 4-49173
¹⁶⁷Er ground state ³H₆ hyperfine structure and Zeeman interactions meas., hexadecapole interaction determ. 4-28396
¹⁶⁷Er I, hyperfine struct., atomic beam laser RF double reson. 4-18966
 F isolated ions, at. spin precessions obs. on recoil through weak transverse mag. fields 4-33553
 H, discrete quantum mechanics fundamental length bounds determ. 4-17734
 H, spin current density and hyperfine interaction 4-36853
 H, surface spin relax. for lowest two hyperfine states 4-19190
 He, muonic, excited states, hyperfine struct., approx. methods 4-19303
 He, muonic, hyperfine struct., perturbation theory calcs. 4-49193
 In optical-optical double reson. expts. with optogalvanic detect. 4-18963
¹¹³In 7p²P_{1/2,3/2} level, hyperfine structure 4-49175
 Li⁺ excited states, lifetime and hyperfine struct. 4-9723
^{6,7}Li⁺, He-like, excited 1s₂²S₁ and 1s2p ³P hyperfine multiplets, laser-microwave spectroscopy 4-33552
 Lu, hyperfine struct., isotope shift, 542.2 nm line study 4-18985
 Mo I, hyperfine struct., isotope shift, laser RF double reson. study 4-33366
 Na, electron-photon coincidence expts., Stokes parameter anal. 4-5432
 Na + Na(Na₂), laser reson. radiation excitation at ³S-³P transition wavelength 4-9891
²³Na atomic beam, hyperfine sublevel population by laser induced fluorescence spectroscopy 4-38354
 Ne, electron impact excitation, optical pumping transition, hyperfine struct. 4-10144
 O isoelectronic sequence, forbidden transitions, multiconfig. HF calcs. with Breit-Pauli corrections 4-18921
 Pbl, fine structure and HFS anal. of odd config. 4-38089
 Pb, pionic, 3d state anomalous strong interaction shifts and widths 4-49191
 Rb, hyperfine struct. and isotope shift studied using laser spectroscopy 4-22543
⁸⁷Rb, hyperfine 0-0 transitions, nutation and relax. (Chinese) 4-1070
 Sr ions, hyperfine interactions meas. by collinear fast beam laser spectroscopy 4-33554
 Sr, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 TaI atomic beam, Doppler-free spectroscopy 4-23641
¹⁵⁹Tb, 4f⁹6s² config. hyperfine struct. 4-49173
 Ti + He, collisional shift and adiabatic broadening of ground state Ti hyperfine transition lines 4-49126
 Ti + Kr, collisional shift and adiabatic broadening of ground state Ti hyperfine transition lines 4-49126
 Ti + Xe, collisional shift and adiabatic broadening of ground state Ti hyperfine transition lines 4-49126
¹⁶⁷Tm, 4f⁹6s² config. hyperfine struct. 4-49173
²³⁵U II, hyperfine struct., laser-RF double reson. 4-5159
 Yb, Rydberg states, high resolution three-photon spectra 4-1137

atomic inelastic collisions

- see also* **atom-atom collisions**; **atom-ion collisions**; **atom-molecule collisions**; **atom-molecule reactions**; **atomic electron impact excitation**; **atomic electron impact ionisation**; **beam foil spectra**; **ionisation of atoms**
 adiabatic switching factors 4-5326
 asymmetric, δ-electron spectrosc. obs. of inner quasiautomatic shells 4-9900
 atomic, mol. and solid state theory conf., Flagler Beach, USA, March 1983 4-31952
 charged particle inelastic collision, first Born approx. applicability 4-5328
 collision experiments at border line between classical and quantum mechanics 4-33500
 complex coordinate rotation method, atomic collision appl., review 4-19128
 Coulomb capture of negative mesonic particles, atomic capture ratios, probe appl. 4-19305
 dense gases, density fluctuations, binary collision effects 4-42846
 diatomic collision system, collective charge flow dynamics 4-14504
 diatomic systems, coupling matrix elements calcs. 4-19138
 double differential cross-sections, binary encounter approx. calcs. with screening 4-9902
 electron's path through phase space during heavy ion impact 4-19135

atomic inelastic collisions continued

- electron swarms in gases and liquids, conf., Innsbruck, Austria (Aug. 1983) 4-31970
- electron transitions from discrete levels into continuum due to radial coupling in slow atomic collisions 4-19257
- electronic and atomic collisions, conf., Berlin, Germany, (July-Aug. 1983) 4-15
- electronic struct. theory 4-33501
- excimer molecules, potential curves, characteristics of radiative transitions 4-19126
- excitation processes assoc. with heavy ion collisions, semiclassical calcs. 4-38284
- fast asymptotic package for calc. collision parameters 4-14494
- fine structure transitions between $^2D_{3/2}$ and $^2D_{5/2}$ atomic states, quantal close-coupling model 4-5322
- four-wave light mixing spectroscopy of atoms, Doppler narrowing and collision-induced Zeeman coherence 4-19516
- heavy particle collisions, intermediate energies, distorted wave calcs. 4-38283
- heavy particle collisions 4-19152
- heavy particles inelastic scatt., derivation of Glauber approx. 4-5351
- heavy projectile inelastic scatt. Glauber approx. inconsistency 4-9898
- high energy atom-molecule scattering at small angles 4-28550
- high energy regime, review 4-19151
- hot excited atoms prod. in collisionally aided radiative transitions 4-1077
- inner shell direct ionization in slow atomic collisions 4-19136
- inner shell vacancy transfer studied with highly ionized, decelerated heavy ions 4-19226
- inner-shell ionisation during nucl. reson. scatt., low energy approx. calcs. 4-19184
- ion kinetic energy spectra from mass spectrometers, expt. considerations 4-37244
- ion-surface interaction, collisional excitation, anisotropic interaction 4-11993
- light absorpt. and emission 4-19144
- light scattering investig. 4-19153
- limit set to the density of the scattering target by double collisions 4-5357
- multichannel quantum defect analysis of diatomic predissociation and inelastic atomic scattering 4-54828
- multiple ionisation effects due to recoil in atomic collisions 4-14502
- multiple scatt. ang. distrib. in foil transmission, variational calc. 4-28549
- multiple levels, collisional transition rates, effect of optical alignment 4-28545
- multipole interaction, irreducible tensor expansion appls. 4-43944
- muonic Coulomb capture probabilities calcs. from electron binding energies 4-38282
- natural optical activity and retarded interaction of atoms in the field of coherent radiation 4-10274
- negative muon capture, classical trajectory Monte Carlo calcs. 4-19150
- photoexcited autoionising atom, initial state population, collisional broadening, radiative recombination 4-28536
- photon correlation effects in charged-particle scattering in a radiation field 4-5325
- position sensitive particle detector with delay line readout, construction performance 4-14525
- quasimolecules, neutral, formed from neutral atoms or ions, ground states at pot. minima 4-9875
- relativistic collisions, new theoretical treatment 4-14347
- relaxation characteristic determ. of at. levels and transitions by nonlinear spectroscopy in strong mag. field 4-10364
- resonant state dynamics, paradoxical prop. analysis 4-18950
- self-consistent interactions, transition amplitudes, variational determ. 4-33492
- semiclassical off-shell wavefunctions and T-matrix elements 4-19188
- slow atomic collisions, fast continuum electron emission 4-9901
- Stark effect, broadening by ion perturbers 4-5170
- stationary states, SCF procedure using algebraic approach and maximum entropy formalism 4-38040
- stepwise electron and laser excitation 4-5427
- symmetric resonant charge transfer, impact parameter method, at. two-state expansion 4-54854
- thermally averaged collision-broadened line shape, van der Waals pots. 4-23661
- three-atom system, collision dynamics, Faddeev eqn. calcs. in diabatic electronic basis 4-23782
- time dependent Coulomb problem, var. soln. 4-9880
- time-dependent Hartree Fock eqn., wave packet soln. 4-9673
- two-level atoms, photon correlations between the lines in the spectrum of resonance fluorescence 4-54633
- two-level-atom population vel. redistribution induced by strong light beam and collisions 4-33498
- Ar at low density, Rayleigh light scatt., collision-induced depolarisation 4-18959
- Ar(1P) collisional deexcitation rate consts., temp. depend., 4-10002
- Ar(3P) collisional deexcitation rate consts., temp. depend., 4-10002
- Ba, UV absorpt. spectrum, induced transitions obs., collision-induced phenomena 4-23645
- Ca(4^1P), collisional quenching, time-resolved emission investig. 4-23650
- D, RF plasma discharge, Stark-broadened line profile, radiation redistribution 4-14366
- H (2s) metastable states, radiative deactivation at metallic surfaces 4-11995
- H atom, negative muon capture, classical trajectory Monte Carlo calcs. 4-19150
- H, collisional transition between Rydberg states, adiabatic mechanism 4-38312
- H, surface spin relax. for lowest two hyperfine states 4-19190
- H⁺ stopping power in H₂ and He gases 4-38281
- He I 2^3P-3^1D intercombination satellite, collision induced, kilometre path-length absorpt. meas. 4-14359
- He(2^1S) collisional deexcitation rate consts., temp. depend., 4-10002
- Kr, shock-heated at electron densities from $1.5 \times 10^{19} \text{ m}^{-3}$, ionisation relax. 4-14503
- Li 3d states under combined action of internal coupling and external mag. field 4-18948
- Ne, lifetimes and collision quenching cross sections, laser induced time resolved fluoresc. spectra 4-48977
- Sr, collisional perturbations, Rydberg lineshapes, ionisation detect. 4-23673

atomic inelastic collisions continued

- Sr-inert gas spectra, polarisation of redistributed light, spectral satellites and interatomic pots. 4-14358
- Sr+He(Ne)(Kr), Sr reson. line broadening, absorpt. coeff. 4-18986
- atomic interaction potential** *see atomic forces*
- atomic magnetic moment**
see also gyromagnetic ratio
- coherent radiation emission, quantum beats 4-33374
- inert gas atom pairs, dipole moments and polarisabilities 4-43793
- magnetic dipole moment measurement 4-53406
- ^{107}Ag , $5^2P_{3/2}$ state, hyperfine struct. and lifetime meas. 4-54644
- AsI, quadrupole moment, core polarisation and hyperfine struct. 4-18971
- Cs, M1, amplitude and hyperfine mixing between $6S_{1/2}$ - $7S_{1/2}$ states 4-33555
- ^{167}Er ground state 3H_6 , hyperfine structure and Zeeman interactions meas., hexadecapole interaction determ. 4-28396
- H, diamagnetism, adiabatic invariant elementary derivation 4-18916
- H, stationary states energy and mag. moment 4-18893
- K+N₂(H₂) collisions, 4^2P K at. multipole relax. 4-43965
- Mo I, hyperfine struct., isotope shift, laser RF double reson. study 4-33366
- Na, nuclear spin determ. in collinear laser spectra using RF mag. reson. and Larmor precession 4-48967
- Zn isoelectronic series, E1, E2, E3, M1 and M2 transition calcs. 4-38125
- atomic mass**
see also isotopes; mass spectra; nuclear mass
- isotope dilution meas. validity using at. wt. determ. 4-33561
- single atom counting with accelerators, atomic mass spectrometry 4-48244
- He, mass anal. by atom-probe field in microscopy 4-37260
- W, single atom mass anal. by atom-probe field ion microscopy 4-37260
- atomic metastable states**
- electron swarms in gases and liquids, conf., Innsbruck, Austria (Aug. 1983) 4-31970
- inert gas atoms, electron impact excitation of metastable levels 4-19283
- inert gas atoms, metastable level excitation in crossed electron and gas dynamical at. beams 4-43827
- inert gas atoms+O₂(Cl₂), penning ionisation and ion pair form., secondary electron emission 4-33516
- inert gases metastable state detection in swarm expt. by energy transfer to N₂ 4-33363
- one-electron atoms, decay rates of metastable states and 2S-states of muonic atoms 4-38360
- thermally produced, characterisation using reson. ionisation mass spectrometry 4-16709
- Ar metastable and resonant state radial density distrib. in plasma positive column (French) 4-15319
- Ar, metastable states, electron impact excitation functions 4-14578
- Ar²⁺:Ar(N₂)(O₂)(CO)(CO₂)(methane)(ethane), single and double electron transfer reactions, time of flight meas. 4-3397
- Ar-O₂ gas mixture for reactive ion sputtering of Si, Ar metastable states (French) 4-34837
- Ba, laser excited, photoionis. 4-1130
- Ba+NO₂(N₂O)(O₃), single-collision chemiluminescence study 4-21442
- C³⁺ (n=1-3), excitation by C foil, metastable function yield 4-12003
- Ca, 1D metastable state, elec. quadrupole transition probabilities 4-5173
- Ca, black-body radiation shifts in ground and metastable levels 4-1089
- Cd(I) DC excited visible triplet, reabsorption effect, line shapes, intensities 4-43838
- Cl¹⁹⁺+Ar(Kr)(S), electron capture into metastable states, delayed Auger electron meas. 4-14540
- F⁷⁺ (n=2,3,4), excitation by C foil, metastable function yield 4-12003
- F⁷⁺+He(Ne), electron capture, F K-Auger emission spectra meas. 4-23805
- Fe, thermally produced, characterisation using reson. ionisation mass spectrometry 4-16709
- H (2s) metastable states, radiative deactivation at metallic surfaces 4-11995
- H, metastable 2s state, electrons elastic scatt. at intermediate energies 4-1271
- H+He(Ne)(Ar), collisions below 1 keV 4-9885
- H⁺+O, collisional electron capture, loss and excitation, cross-sections 4-10029
- H⁺+K(Na), charge transfer to metastable 2S level of H 4-38321
- H, 2^1P_1 - S^1S_0 radiative transition probability 4-23659
- He 2^1S metastable atoms, adsorbed on metal, deexcitation processes, effect of surface electronic struct. 4-33381
- He (2^1S), thermal source for highly polarised metastable atoms 4-23842
- He, electron impact excitation from 2^1S and 2^3S states 4-5424
- He II, 2p state, lifetime meas. 4-18994
- He, metastable state, inelastic differential electron scatt. 4-5423
- He, relaxation rate meas., diffusion length determ. for arbitrary shape vessel 4-39003
- He⁺, electron impact excitation, metastable atoms yield, resonances 4-5410
- He-acetylene flame, diffusion reaction, spectroscopic studies 4-21471
- He+H₂, chemoionisation, interaction pot. long-range component 4-43969
- He+methane, Penning and dissociation 4-43967
- He+Ne(H₂)(N₂)(O₂)(CO), chemi-ionisation reactions at high energy 4-1249
- He^m+He, inelastic scatt. channels investigated using optical spectroscopy 4-9890
- He₂⁺, long-lived metastable states obs. 4-43829
- $^4\text{He}^+$, muonic, metastable ions, lifetime and quenching rate meas. 4-49192
- He*+He(Ne)(Ar), vel. depend. total scatt. cross sections 4-5327
- He*+molecule reactions, optical and electron spectrosc. investig. 4-10009
- He*+Ne, collisional polarisation transfer, even-odd isotope effects 4-19000
- He*+Ne⁺→Ne*+He⁺(1^2S), charge transfer cross-sections meas. 4-10031
- He*+SO₂, reactions, optical and electron spectrosc. investig. 4-10009
- He*+Ne(AR), Penning ionis. and collisional destruction investig. 4-10011
- He*(2^1S) impact on Se surface, deexcitation mechanisms, electron spectra 4-30585
- He*(2^1S)+Ar, product angle-vel. distrib. for doubly differential cross section 4-9935

atomic metastable states continued

- He(2S) metastable states, electron impact excitation differential cross sections 4-33540
 He(5³P)+He, laser excited, thermal energy collisions, associative ionisation of Hornbeck-Molnar type 4-9931
 Hg, electron impact studies, threshold excitation and metastable excitation functions 4-5412
 Kr, metastable states, electron impact excitation functions 4-14578
 Li metastable quartet atoms, meas. in hollow-cathode discharge, XUV laser proposal 4-43841
 Li²⁺+Ar(He)(N₂), electron capture and loss, Li metastable ion form. 4-14538
 Mg, black-body radiation shifts in ground and metastable levels 4-1089
²⁴Mg, fluoresc. ³P₁-³P₀ fine-struct. transition, freq. meas. 4-1084
 Mo I, hyperfine struct., isotope shift, laser RF double reson. study 4-33366
 Mo, thermally produced, characterisation using reson. ionisation mass spectrometry 4-16709
 N⁺+Ar, charge transfer reactions 4-28552
 N⁺+H₂(D₂), chemiluminescence, NH⁺(ND⁺) emission 4-21461
 Na, laser excited, photoionis. 4-1130
 Na metastable quartet atoms, meas. in hollow-cathode discharge, XUV laser proposal 4-43841
 Na*(np)+Na(3S), associative ionisation and 2-photon laser induced collisional ionisation 4-9933
 Ne, electron impact excitation, optical pumping transition, hyperfine struct. 4-10144
 Ne, metastable states, electron impact excitation functions 4-14578
 Ne, optical pumping, optogalvanic detection 4-18999
 Ne positive column discharge, optogalvanic effects 4-19926
 Ne, transient opto-galvanic effect (Chinese) 4-49923
 Ne⁴⁺, electron capture into metastable states, delayed X-ray emission 4-14539
 Ne²⁺+Xe, electron capture, transfer ionisation, translational spectra 4-38313
 Ne*(³P₂) impact on Se surface, deexcitation mechanisms, electron spectra 4-30585
 Ne(2p'ns',nd'), autoionisation resonances, multichannel quantum defect anal. 4-1095
 Ni, thermally produced, characterisation using reson. ionisation mass spectrometry 4-16709
 O ¹S metastables, time-of-flight spectra meas. from O₂ electron impact dissociation 4-14517
 O⁸⁺ (n=1-4), excitation by C foil, metastable function yield 4-12003
 O⁸⁺, electron capture into metastable states, delayed X-ray emission 4-14539
 Re, thermally produced, characterisation using reson. ionisation mass spectrometry 4-16709
³²S¹⁵⁺ Lamb shift, reson. meas. 4-54642
 Sn, metastable population inversion, antiStokes Raman laser expts. 4-44145
 Sr, ¹D metastable state, elec. quadrupole transition probabilities 4-5173
 Tl, metastable population inversion, antiStokes Raman laser expts. 4-44145
 Xe afterglow plasma, interactions between metastable Xe atoms 4-24522
 Xe, metastable states, electron impact excitation functions 4-14578

atomic orbitals *see atomic structure***atomic orbitals calculations**

- see also GO calculations; GTO calculations; STO calculations*
 ab initio program for quantum chem. calc. (Chinese) 4-9656
 atomic billiard ball orbital theory appl. to MO calcs. 4-33319
 directed hybrid atomic orbital generation program, Fock matrix transference in SAMO-type procedures 4-14326
 electron capture cross sections, coupled channel approx. 4-49158
 energy matrix expansion coeffs. in powers of 1/Z, optical electron contrib. 4-38059
 Fock space effective Hamiltonians 4-8768
 Gaussian orbital calcs., Roothaan HF program 4-18889
 group theoretical treatment 4-1018
 heavy atoms, core electron binding energies 4-9668
 inert gas atoms, electron and positron electron scatt., polarised orbital method 4-19259
 information theoretic appraisal of various s-Orbitals 4-23569
 multiplets, half-capacity configs. 4-18925
 orbital probing by binary e,2e spectrosc. and orbital density topography 4-10171
 transition metal atoms, valence at. orbitals, Slater functions 4-14317
 two-electron integrals equalities, symmetry operators effect 4-54582
 Ar+N₂⁺, charge exchange, ab initio calcs. 4-10066
 Ar⁺+N₂, charge exchange, ab initio calcs. 4-10066
 Be⁺ 3d³⁵S multiplets, half-capacity configs. 4-18925
 Fe, excitation energies, frozen orbital approx. at CI level 4-48952
 H atom, coherent states, quasi-classical props. 4-14323
 H, electron and positron electron scatt., polarised orbital method 4-19259
 H⁺, photodetachment cross section, polarised orbital method 4-9731
 H+Be⁺(2s) collision, several-electron basis set calcs. 4-8997
 H⁺+Li, electron capture, two-centre AO expansions 4-54852
 He- 2p³⁵S₀ multiplets, half-capacity configs. 4-18925
 He⁺, electron impact excitation, Coulomb-Born approx. 4-10104
 He+C⁶⁺(N⁷⁺)(O⁸⁺) collisions, electron capture study by multichannel model 4-19235
 He²⁺+Li, single electron capture cross sections, AO expansion method 4-54853
 He²⁺+Li collisions, charge transfer calc. 4-19236

atomic polarisability

- alkali atoms, photoelectron polarisation in resonant two-photon ionisation with superstrong continuous excitation 4-19013
 alkali halide crystals, in-crystal polarizabilities of alkali and halide ions 4-39843
 alkali metal atoms+H reson. interactions, polarisabilities and van der Waals coeffs. 4-48961
 alkaline earth and chalcogenide ions, polarisabilities and sizes calc. 4-49181
 alkane linear chain optical prop. calc. 4-49924
 atoms and ions with core holes, polarisability 4-33276
 beam-foil scatt. and transmissions, atomic and nuclear polarisation 4-33514
 Clausius-Mossotti eqn., alternative derivation 4-32006
 closed shell atomic and ionic systems, static quadrupole polarisability 4-33304

atomic polarisability continued

- collision induced polarisability anisotropy, depolarised light scatt. 4-9781
 collision induced polarisation, influence of nuclear spin (French) 4-28534
 filled shell atoms, static dipole polarisability, coupled perturbation theory 4-28367
 first-row atoms, static multipole polarisabilities, London dispersion coeffs. calcs. 4-18919
 force sum rule and static electronic polarisability 4-14597
 heavy closed-shell atoms, polarisabilities from relativistic local density approx. 4-14596
 highly excited states, dynamic polarisability 4-1078
 hydrogenic bound states, multipole polarisabilities 4-48924
 inert gas atom pairs, dipole moments and polarisabilities 4-43793
 isotope shift calc., polarisability effects 4-28406
 orientation angular distrib. from mol. photodissociation 4-28518
 polarisation analysis of two atoms excited in a single collision 4-43964
 resonantly driven J=1/2 to J=1/2 atoms, in ring cavity polarisation switching and optical bistability 4-14750
 Rydberg atoms in external mag. field, perturbation theory, polarisability and Stark effect 4-5133
 Rydberg transition dipole matrix elements from sum frequency generation spectra 4-18970
 self-alignment of excited atoms 4-33362
 Ag, atomic dipole polarisabilities and electron affinities 4-23589
 Ag isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 AsI, quadrupole moment, core polarisation and hyperfine struct. 4-18971
 Au isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 Ca I, even-parity Rydberg states, Stark effect study 4-5169
 Cd I, Rydberg transition dipole matrix elements from sum frequency generation spectra 4-18970
 Cs, M₁ amplitude and hyperfine mixing between 6S_{1/2}-7S_{1/2} states 4-33555
¹³³Cs, ⁷²P_{1/2} and ⁷²P_{3/2} state polarisability consts. 4-38347
 Cu, atomic dipole polarisabilities and electron affinities 4-23589
 Cu isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 D, atomic beams polarisation by collisional pumping 4-38314
 H atom, ground state behaviour in weak electric and mag. fields 4-33358
 H, atomic beams polarisation by collisional pumping 4-38314
 H, multipole polarisabilities and shielding factors, discrete and continuum contribs. 4-9686
 H, pseudostate model of electron shadow scattering 4-5365
 H, Rydberg states, perturbation theory 4-18942
 H, static multipole polarisabilities, London dispersion coeffs. calcs. 4-18919
 He, electrically oriented, tensor polarizability meas. by quantum beat method 4-5511
 He, static multipole polarisabilities, London dispersion coeffs. calcs. 4-18919
 Hg photoionisation, strong interchannel coupling study 4-38137
 K(4p_{3/2})+Ar(He), fine struct. transitions, polarisation effects 4-9887
 Li, Li⁺ and Li⁻, static dipole polarisability, all-electron CI calcs. 4-23624
 Na, ground state, photoionisation cross section, close-coupling calcs. 4-19007
 Na*(3p)+H, collisions, polarisability studies in nonadiabatic quenching process 4-19173
 Sr+Ar, laser assisted collisions, final state distrib., nonadiabatic theory 4-14522
 Xe, 5p⁶ state, spin polarisation transfer from circularly polarised synchrotron radiation to photoelectrons 4-33379
 Xe, electric polarisability and electron scatt. length from electron cyclotron resonance absorpt. spectra 4-5411
- atomic positron scattering** *see atomic electron impact excitation; atomic electron impact ionisation; elastic scattering of electrons by atoms and molecules*
- atomic potentials** *see atomic forces*
- atomic power** *see nuclear power*
- atomic reactors** *see fission reactors*
- atomic resonant states**
- atomic collision experiments at border line between classical and quantum mechanics 4-33500
 complex virial theorem and complex scaling for resonant wavefunctions 4-5149
 cooperative resonance fluorescence from two atoms experiencing different driving fields 4-23651
 drag of electrons by photons 4-38130
 dressed atom approach to resonance fluorescence 4-9715
 dynamics of resonant states, paradoxical prop. analysis 4-18950
 EM fields with simultaneous one- and two-photon generation at common at. transition, statistical props. 4-33372
 fluorescence, correlation signals, photon scatt. amplitudes interpretation 4-14364
 four-wave light mixing spectroscopy of atoms, Doppler narrowing and collision-induced Zeeman coherence 4-19516
 hollow-cathode discharge with laser excitation, use for atomic fluoresc. investig. 4-49185
 inert gases, electron impact excitation, grandparent and nonvalence reson. 4-5151
 intermediate energy electron reson. ionisation exchange effects 4-10126
 line shapes, complex, of at. reson., exact eqns. 4-38124
 multilevel atom motion in reson. light fields 4-18998
 photon correlations due to four-photon processes in resonance fluorescence 4-28412
 photon echo quantum beats in mag. field, use in determ. g factors and angular momenta 4-19522
 resonance energy transfer, S-matrix use in relativistic treatment 4-33351
 squeezing in resonance fluorescence 4-43846
 statistical quantum electrodynamics 4-48895
 three-level atom in V config., third-order nonlinear spectra of strong bichromatic field 4-14362
 two-electron systems, reson. photoabsorpt. near n=2 and n=3 thresholds 4-1093
 two-level atom, behaviour in strong multimode synchronised radiation field 4-33376
 two-state atom, sub-poissonian photon statistics and squeezed states in reson. fluoresc. 4-23936
 Ar II three level system, weak nonlinear resonances 4-18943

atomic resonant states continued

- Ar metastable and resonant state radial density distrib. in plasma positive column (*French*) 4-15319
 Ba²⁺, inner 4d shell photoionisation, orbital collapse 4-9732
 Be⁺, elastic electron scatt. cross section (*Russian*) 4-23816
 C V, ground state, electron impact excitation, R-matrix method study 4-49167
 Ca, photoionisation, CI calcs. R-matrix method 4-5187
 Cs, electrons low energy scatt., elastic and inelastic cross sections, reson. struct. 4-54864
 Cs vap., sub-Doppler-broadened magnetic field resonances in the resonant stimulated electronic Raman scattering of multimode laser light 4-38531
 Cs⁺, inner 4d shell photoionisation, orbital collapse 4-9732
 Fe, fluoresc. investig. in hollow-cathode discharge with laser excitation 4-49185
 Gd, giant reson. profiles obs. 4-54648
 H, narrow near-threshold reson. in strong mag. fields 4-38106
 H, quasi-Landau reson. electron vibr. motion 4-5135
 He, 2¹P₁-S₁S₂ radiative transition probability 4-23659
 He, eleven state electron scatt. calc. 4-5384
 He, resonance photoionisation to He⁺ (N=2), cross-sections calcs. 4-1116
 He⁻, 1s2s2p²p⁰ reson., cross sections, complex transformations, probability amplitude calcs. 4-33288
 He⁻, electron impact excitation, metastable atoms yield, resonances 4-5410
 He⁻, photodetachment, 1s2p2p⁺ 4P^o reson. obs. 4-1129
 He⁻, Wannier ridge reson. 4-5150
 He⁺, electron impact excitation calcs. 4-19284
 He-like ions, forbidden lines, reson. effects 4-23640
 Hg, electron elastic and inelastic, 6s6p² resonances 4-5383
 Hg, electron impact studies, threshold excitation and metastable excitation functions 4-5412
 K, electron impact excitation, near threshold, of lower at. levels 4-19280
 Kr VII, energy-level and lifetime meas. 4-48981
 La³⁺, inner 4d shell photoionisation, orbital collapse 4-9732
 Li resonance line lasing at 670.7 nm, LiI photodissociation 4-23967
 Mg II, electron impact, monoenergetic, reson. doublet excitation 4-19279
 Mg XI, ground state, electron impact excitation, R-matrix method study 4-49167
 Mg⁺, elastic electron scatt. cross section (*Russian*) 4-23816
 Mn, 3d subshell photoionisation with excitation, reson. struct. 4-5186
 Mo, fluoresc. investig. in hollow-cathode discharge with laser excitation 4-49185
 N I (S⁴P) reson. multiplet, origin from N₂ dissociative excitation, dayglow appl. 4-14436
 Na, resonant collisions of nS and nD Rydberg atoms 4-9697
 Na vapour, resonantly excited by CW laser, electron spectra of ionisation 4-14587
 Na⁺+N₂ collision complex, fluoresc. emission spectrum 4-18981
 Na⁺(3p)+H₂ collisions, polarisability studies in nonadiabatic quenching process 4-19173
 Ne, 2p^{1/2} ns', nd' autoionis. reson. 4-1098
 Ne, electron scatt. reson. 4-5152
 Ne(2p³ns,nd'), autoionisation resonances, multichannel quantum defect anal. 4-1095
 OV, electron-impact excitation, collision strengths, excitation rate coeff. 4-10135
 Pb, reson. states, decay into exit channel, counterbalancing contrib. 4-14351
 Rb+Ar collision, broadening of level crossing signals 4-23778
 Rb+He collision, broadening of level crossing signals 4-23778
 Rb+Kr collision, broadening of level crossing signals 4-23778
 Rb+Ne collision, broadening of level crossing signals 4-23778
 Rb+Xe, collision, broadening of level crossing signals 4-23778
³²S¹⁵⁺ Lamb shift, reson. meas. 4-54642
 Se, X-ray photoemission, reson. effect 4-43856
 Se, electron elastic scatt. below first inelastic threshold, relativistic phase shift anal. 4-5370
 Xe, inner 4d shell photoionisation, orbital collapse 4-9732
 Xe⁺+He⁺ collisions, reson. state population by charge transfer excitation, flow drift tube study 4-38286

atomic scattering factors see crystal atomic structure; crystallography; lattice dynamics

atomic spectra

see also atomic fluorescence; atomic hyperfine structure; atomic spectral line breadth; atomic structure; beam-foil spectra; conversion electron spectra; radiative corrections; Russell-Saunders coupling; Stark effect; Zeeman effect

- Aleksandrov and Zapasskii experiment and the Raman effect 4-9708
 alkaline earth atoms, Rydberg states, Doppler-free 2-photon laser spectrosc. obs. 4-18960
 atom+atom optical collisions in strong laser fields 4-14521
 atom-atom collisions, electronic transitions, mol. models 4-33511
 atom-atom collisions, Rydberg states transition, interaction pot. 4-33518
 atom-ion collisions, anisotropic L X-ray emission 4-19143
 atomic anal. instrument using optogalvanic spectroscopy 4-22846
 atomic negative ions strong-field photodetachment spontaneous photorelaxation 4-48993
 atomic photoabsorption, oscillator strength mag. field induced redistrib. 4-5174
 atoms, K-X-ray spectra, origin of α satellite 4-54630
 atoms and ions, spectral parameters, HF functions, orthogonalisation procedure 4-33313
 Bell's inequalities, collective effects in atomic-cascade tests 4-9707
 conference on atomic physics, Göteborg, Sweden (Aug. 1982) 4-17639
 discrete-continuum coupling in atomic and molecular systems, bifurcation theoretic anal. 4-43861
 electron impact polarisation, anal. for Stokes parameter Q 4-3918
 energy levels, radiative corrections in strong EM field 4-1075
 four-electron ions, high-Z, l-struct. in hydrogenic states 4-18957
 ground states, optical pumping, multiphoton excitation, quantum beat spectra 4-48999
 heavy atoms, field isotope shifts calc. for optical spectral lines 4-28407
 heavy ion-atom collisions at 1.4 MeV N⁷⁺, L₁ X-ray transition anisotropy 4-43960
 high-resolution spectroscopy with ultrashort laser pulses (*German*) 4-4474
 hydrogenic atoms in mag. fields, energy spectrum anal. 4-23656

atomic spectra continued

- inert gas discharge lamps, emission spectra for Raman spectrometer calibration 4-6215
 ions and atoms spectra, progress in study and current level of knowledge 4-32018
 isospin basis for n₁(N₁)n₂(N₂) electron configs. 4-33278
 kaonic atoms, level shifts, rel. to K⁻-nucleus scatt. lengths 4-23131
 laser spectroscopy in presence of gravitational fields 4-24069
 light elements, soft X-ray forward Rayleigh scatt., bound-bound transitions in dispersion relation 4-9713
 line identification lists, supplement to bibliography 4-32003
 Mg lines in spectra of M-type red giants, soln. of nonLTE problem (*Russian*) 4-17511
 multielectron atoms models, atomic spectroscopy (*Polish*) 4-53041
 optical transitions, gauge invariance and independence 4-5156
 optogalvanic spectroscopy, intermodulated and double reson., in hollow cathode 4-17955
 plasma, K-shell spectrum, level populations, Lyman series fine struct. opacity influence 4-24625
 plasma, nonequil., atomic distrib. over excited states 4-49927
 radiation field interaction, soluble models 4-48984
 radiative transitions, Hartree-Fock and random phase approximations 4-43835
 radiative transitions, quantum defect theory 4-38259
 relativistic studies of atoms and ions with complex configurations 4-33347
 relaxation characteristic determ. of at. levels and transitions by nonlinear spectroscopy in strong mag. field 4-10364
 resonant atoms, statistical quantum electrodynamics 4-48895
 Rydberg states decay in highly charged ion field, electron transfer cross section determ. 4-28388
 Rydberg transition dipole matrix elements from sum frequency generation spectra 4-18970
 spectroscopy, rel. to at. phys. 4-37212
 spectroscopy trends 4-17958
 Stark widths and shifts, of reson. lines of neutral atoms and singly charged ions 4-8377
 stimulated atomic transitions 4-22550
 sub-Doppler spectroscopy in atomic physics, review 4-19301
 three-level atom, bichromatic field interaction, sum third order freq. mixing 4-1136
 three-level atom in V config., third-order nonlinear spectra of strong bichromatic field 4-14362
 transition, intermodulated optogalvanic spectrosc. obs. 4-17954
 transition metal ions, unfilled d shells, interaction parameter depend. on degree of ionisation 4-38060
 two-channel coupling, symmetry anal., quantum defect theory 4-33388
 two-channel interactions, QDT anal. 4-1236
 two-electron systems, reson. photoabsorpt. near n=2 and n=3 thresholds 4-1093
 two-level atom, interaction with quantised radiation, equilib. soln. 4-23664
 two-level atoms, photon correlations between the lines in the spectrum of resonance fluorescence 4-54633
 two-photon reson., coherent transition phenomena, polarisation features 4-19032
 X-ray spectra, screening doublet calcs. 4-54631
 τ leptonic atoms, τ mass determ. from spectra 4-10189
 Ag atoms, in polar matrices, mag. and optical props., review (*Russian*) 4-14361
 Ag atoms in vacuum, diamag. and cryst. inert gas matrices, mag. and opt. props., review (*Russian*) 4-14360
 Ag I-like array 4d¹⁰5s-4d⁹5s5p of I VII through Eu XVII 4-48972
 Ag XI to XIV, laser-produced plasma, 4p-5s transitions 4-38117
 Al atomic beams density monitoring, during MBE 4-12026
 Al np²P₁ and n²F_J Rydberg states determ. by two-photon MPT spectra 4-5161
 Al⁺+Ar, L-X-ray spectrum, 25 vacancy prod., fluoresc. yield 4-19197
 Ar gas continua in a barrier discharge 4-5163
 Ar I, 4p-nd transition probabilities, visible and near-IR obs. 4-5162
 Ar III, ns²np⁶ ¹S₀ state, Auger spectra 4-33380
 Ar ions impinging on foils, K X-rays, high resolution meas. 4-19204
 Ar, K-shell spectrum, level populations, Lyman series fine struct. opacity influence 4-24625
 Ar, two-photon transition probability, RPA calcs. 4-49000
 Ar⁺, fine struct. transitions, collision strength calcs. 4-18967
 Ar⁺+He, single e⁻ capture, energy loss spectra diff. cross sections 4-43979
 Ar⁺+Ar collisions at thermal energies, time-of-flight spectra 4-38274
 AsI, quadrupole moment, core polarisation and hyperfine struct. 4-18971
 Au, relative intensity meas. of L-shell X-rays in energy range 17 to 60 keV 4-43848
 B, doubly ionised, high resolution EUV spectra 4-19078
 B III, core excited states, EUV spectra 4-38116
 Ba, binding energies, L level X-ray absorpt. spectra 4-48968
 Ba, f-symmetric final state wavefunction collapse, absorpt. spectra 4-33365
 Ba I, 5p photoabsorption spectra high resolution UV obs. 4-38119
 Ba I 5dnl, even doubly excited states, two-step optogalvanic spectrosc. obs. 4-18964
 Ba, laser pumped vapour, IR forward scatt. meas., resonant ionisation behaviour 4-5158
 Ba, odd-parity Rydberg states, population, high resolution laser spectrosc. investigation 4-18962
 Ba, perturbed Rydberg spectra in external fields, multichannel quantum defect theory 4-9696
 Ba, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 Ba, two-step autoionisation, config. mixing 4-1096
 Ba, UV absorpt. spectrum, induced transitions obs., collision-induced phenomena 4-23645
 Be, high Rydberg states, laser spectrosc. investig. 4-18969
 Be-like ions, level populations in astrophysical plasma 4-53040
 Bi, relative intensity meas. of L-shell X-rays in energy range 17 to 60 keV 4-43848
 C I 1560 and 1657 Å multiplet, Skylab SO82-B obs. of Sun 4-31805
 C I spectral line isotope shifts, appl. to radioactive dating 4-9722
 C I-IV photoionisation cross-section spectra 4-48994
 C II, UV lines excitation by photoionisation of C I 4-3919
 Ca, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 Ca XIX, dielectronic satellites, wavelength and energy levels meas. 4-38058

atomic spectra continued

- Ca + inert gas atoms, reson. line, absolute absorpt. coeff. 4-18968
 Ca(Ca⁺), spectral line emission from arc plasma in air with Ca and F, optimum temps. 4-1890
 Ca(Ca⁺), spectral line emission and radiation intensity in arc plasma in air with Ca and F 4-1891
 Ca(4³P), collisional quenching, time-resolved emission investig. 4-23650
 Cd, electron impact excitation, spectral lines, emission cross sections 4-23824
 Cd I, Rydberg transition dipole matrix elements from sum frequency generation spectra 4-18970
 Cd II, 5²S to 5²D transition, electron energy loss spectra and cross sections 4-23808
 Cd 19⁺, Cu I like lines in laser produced plasma 4-5157
 Ce, M-series X-ray emission spectrum, excitation energy depend. 4-18972
 Cl 16⁺, 1s Lamb shift, H-like X-ray spectrum 4-48974
 Cl 16⁺ + Ar, quasimolecular K-radiation, interference effects 4-18978
 Cl III, three-lowest config. anal., UV region 4-54628
 Cr I, relative oscillator strengths meas. for transitions from levels a²S_{3/2}, a²S_{1/2} and a²D_{3/2} 4-58373
 Cr, matrix isolated, ground and excited state absorpt., fluoresc. 4-23741
 Cr, matrix isolated, time resolved ODR, emission and excited state absorpt. spectra 4-23649
 Cs, 6s to 7s M1 transition meas. using crossed electric and mag. fields 4-23642
 Cs, autoionising continua, Rydberg series, UV spectra 4-9728
 Cs, f-symmetric final state wavefunction collapse, absorpt. spectra 4-33365
 Cs I, quantum defects of nS, nP and nD levels 4-38111
 Cs, intensity ratios of ²D_{5/2,3/2}—²S doublets in two-photon absorpt. spectrum 4-43860
 Cu atoms, photoexcited, dioxygen activation 4-14349
 Cu isoelectronic sequence from Ru 15⁺ to Sn 21⁺, spectra and energy levels of ions 4-23647
 Cu₂(X=2 to 5), UV-visible absorpt. and fluoresc. excitation spectra in solid Xe 4-28585
 Er I, ground config. 4f¹²6s² isotope shift, crossed second order effects 4-1088
 Er II, second spectrum, IR and visible obs. 4-48969
⁶³Eu, L-emission spectrum, diagram lines, forbidden and quadrupole transitions 4-43844
 F I-VII photoionisation cross-section spectra 4-48994
 F VII spectra and energy levels in 400 to 6000 Å range 4-38120
 Fe, ³P^o and ³D^o states electron excitation cross sections, astron. appl. 4-33543
 Fe I, oscillator strengths rel. to solar Fe abundance (*Russian*) 4-42403
 Fe II, line strengths calcs. rel. to broad emission features in QSOs and active galactic nuclei 4-31746
 Fe²⁴⁺ + Ar, double K excitation cross sections at intermediate velocity, X-ray transitions obs. 4-19193
 Fe(I) multiphoton ionisation reson. of Fe carbonyls 4-5304
 Ga atomic beams density monitoring, during MBE 4-12026
 Ga VI, 3d⁸-3d⁴4p transition study, 200-270 Å range 4-54629
 Gd, giant reson. profiles obs. 4-54648
 Ge¹⁸⁺, highly ionised in Mg I through Cl I sequences, mag. dipole transition 4-54626
 H I Balmer lines, Stark broadening 4-13178
 H, spectroscopy in intense mag. field (*French*) 4-5192
 H, two-photon transition amplitudes, optical and X-ray freq. regions 4-19031
 H-like atoms, 2P—1S transition, corrections to exponential decay law 4-43850
 H-like ions, alignment of 2P states, K X-ray emission 4-19198
 H-like ions in dense plasma, X-ray emission profile calcs. (*French*) 4-48971
 He, doubly excited states, classification and supermultiplet struct. 4-48957
 He forbidden line satellites, plasma elec. field determ. 4-50067
 He I 2³P-3¹D intercombination satellite, collision induced, kilometre path-length absorpt. meas. 4-14359
 He II 587.6 nm line absorption in main-sequence stars ε Eri and κ Ceti 4-22372
 He⁺, doubly excited states, Bohr-Rydberg spectrum 4-18941
 He-like atoms, relativistic at. struct. theory 4-33301
 He-like ions, alignment of 2P states, K X-ray emission 4-19198
 He-like ions, forbidden lines, resonances, effects 4-23640
 He-like ions in dense plasma, X-ray emission profile calcs. (*French*) 4-48971
 He+H, Rydberg states transition, interaction pot. 4-33518
 He+Ne, He 2¹P₁-level decay kinetics 4-33499
 He¹⁰⁺ + He, inelastic scatt. channels investigated using optical spectroscopy 4-4980
 He⁴⁺ + molecule reactions, optical and electron spectrosc. investig. 4-10009
 He⁴⁺ + SO₂ reactions, optical and electron spectrosc. investig. 4-10009
 Hg, binding energies, L level X-ray absorpt. spectra 4-48968
 Hg, new lines in VUV region 4-54627
 Hg photoionisation, strong interchannel coupling study 4-38137
 Hg, polarised electrons collisions, electron-photon coincidences meas. 4-54869
 Hg, yellow doublet, holographic Fourier transform spectroscopy, infinite resolution (*Chinese*) 4-53767
 I, ²P_{1/2}—²P_{3/2} transition, O₂ press. broadening 4-14367
 I 1.3 μm transition, transition probability and collision broadening 4-9721
 I II, absorpt. spectrum in 1040 to 1600 Å region 4-9709
 In²⁰⁺, Cu I like lines in laser produced plasma 4-5157
 K atoms, VUV emission spectra 4-54625
 K dense vapour jet IR spectroscopy 4-18965
 Kr excimer at small interatomic distances, keV electron impact excitation 4-9711
 Kr excimers, electron impact excitation, emission from outer turning points of the vibr. states 4-9710
 Kr gas continua in a barrier discharge 4-5163
 Kr III, ns²np⁶ S₀ state, Auger spectra 4-33380
 Kr low-level resonant ionisation detect. using tunable VUV light 4-1101
 Kr, shock-heated at electron densities from 1.50×10¹⁹ m⁻³, ionisation relax. 4-14503
 Kr, ultrasoft X-ray emission spectra interpretation 4-38122
 Kr⁺ + Kr, low MeV collisions, autoionisation spectra 4-19206

atomic spectra continued

- La XIII 4d²-4d⁵p transition array anal., Rh I isoelectronic series 4-48973
 Li metastable quartet atoms, meas. in hollow-cathode discharge, XUV laser proposal 4-43841
 Li-like ions, collision strengths for inner shell excitation transitions 4-53036
 Li + C⁹⁺(O⁸⁺), state-selective electron capture cross sections 4-14557
^{6,7}Li⁺, He-like, excited 1s2s ³S₁, and 1s2p ³P hyperfine multiplets, laser-microwave spectroscopy 4-33552
 Lu, hyperfine struct., isotope shift, 542.2 nm line study 4-18985
 Mg, high Rydberg states, laser spectrosc. investig. 4-18969
 Mg II h-line in sunspot umbrae, SMM UVSP obs. 4-53126
 Mg XI line ratios in Sun, R-matrix calcs. 4-58374
 Mn I-XXV, at. energy levels and Grotrian diagrams 4-22530
 Mn-like ions from YXV to AgXXIII, 3p-3d transitions studied in low inductance vacuum sparks, line strengths 4-1080
 Mo, matrix isolated, time resolved ODR, emission and excited state absorpt. spectra 4-23649
 Mo VII, energy levels, UV spectra 4-33367
 Mo XIII, Zn-like 4s-4p transitions including intercombination lines 4-43842
 Mo XVII, energy levels, transition wavelengths and oscill. strengths 4-18924
 N I (4s²P) reson. multiplet, origin from N₂ dissociative excitation, dayglow appl. 4-14436
 N I-V photoionisation cross-section spectra 4-48994
 N II, Rydberg series, VUV spectra 4-23646
 N⁴⁺, doubly excited states, energy values, wave functions, autoionisation, dielectronic satellites 4-38110
 NI isoelectronic series, ground config., multiconfiguration HF Breit-Pauli approx. 4-48921
 Na II, III spectral transitions in ultrasoft X-ray range, electron-impact excitation cross sections 4-9712
 Na, K-shell electron double ionisation cross section, power-law Z depend. 4-10116
 Na metastable quartet atoms, meas. in hollow-cathode discharge, XUV laser proposal 4-43841
 Na, nuclear spin determ. in collinear laser spectra using RF mag. reson. and Larmor precession 4-48967
 Na, yellow doublet, holographic Fourier transform spectroscopy, infinite resolution (*Chinese*) 4-53767
 Na yellow doublet line relative oscillator strength determ. using intracavity photointerferometry 4-32334
 Na + Na multiphoton-assisted radiative collisions in a strong field regime 4-14524
 Na* + N₂ collision complex, fluoresc. emission spectrum 4-18981
 Nb IX, 4p-4d transition, VUV spectra 4-43839
 Nb to Sb, relaxation energy shift in L X-ray emission spectra 4-1083
 Nb XII, Zn-like, 4s-4p transitions including intercombination lines 4-43842
 Nd II, IR spectra and isotope shift 4-38114
 Ne, 2p³3s ²P₂-2p³3p¹ transition, intermodulated optogalvanic spectrosc. obs. 4-17954
 Ne 3d level population mechanism in weakly ionised decaying Ne plasma at medium press. 4-5181
 Ne, hollow cathode discharge optogalvanic double reson. spectroscopy 4-22848
 Ne I sequence, allowed 2p³3l-2p⁵3l' and forbidden 2p³3s(3P₀-3P₁) transitions 4-31807
 Ne isoelectronic series, (Z=14 to 100), line strength calc., 1/Z perturbation theory 4-33371
 Ne, Rydberg series, optogalvanic spectrosc. investigation 4-18947
 Ne, shock wave, radiative emission props. 4-29131
 Ne, two-photon transition probability, RPA calcs. 4-49000
 Ne V, electron impact excitation rates for fine-struct. transitions 4-53035
 Ne VII, pinch plasma, spectral line intensity ratios 4-5175
 Ne⁷⁺ fine struct. transitions, collision strength calcs. 4-18967
 Ne⁺ isoelectronic series, atomic X-ray transition probabilities, dipole length velocity and accel. comparison 4-43843
 Ne + H⁺ (electron), branching ratios and cross sections, VUV spectra 4-10115
 Ne⁹⁺ + N₂(Ne), K X-ray spectra, quenching cross section 4-18977
 Ni II, struct. and line-strengths in extreme JK coupling 4-5160
 Ni-90 MeV Ni, 1s_σ and 2p_σ radiation, impact parameter depend. 4-19205
 O I 5577 Å emissions in aurora, impulse response anal. 4-58333
 O I 630 nm nightglow red line progressive intensifications over Japan 4-52981
 O I-VI photoionisation cross-section spectra 4-48994
 Pb, optical rot., parity nonconservation 4-14371
 Pb, relative intensity meas. of L-shell X-rays in energy range 17 to 60 keV 4-43848
 Rb atom, high resolution spectroscopy using dye laser (*French*) 4-5583
 Rb, intensity ratios of ²D_{5/2,3/2}—²S doublets in two-photon absorpt. spectrum 4-43860
 Rb Rydberg atoms in crossed electric and mag. fields, evidence for Pauli quantisation 4-43828
 Ru I, radiative lifetimes and solar Ru abundance 4-48980
 S, gamma-ray scatt. cross sections determ. 4-5188
 S II spectrum from sliding spark discharge, configurations, ab initio calcs. 4-1082
 S, new lines in VUV region 4-54627
 S VII from laser plasma, 3s-3p and 3p-3d transitions 4-5164
 S XII, solar emission lines, density depend. 4-22360
 S¹³⁺ + Ar, resonant transfer and excitation collisions, vacancy sharing 4-19225
 S⁶⁺ + Au, L₃-vacancy alignment at small impact parameters, X-ray detection 4-19199
 Sbl UV absorpt. spectra, flash pyrolysis technique 4-38118
 Se¹⁸⁺, highly ionised in Mg I through Cl I sequences, mag. dipole transition 4-54626
 Si II, Stark broadening of spectral lines 4-8378
 Si III, Stark broadening of spectral lines 4-8378
 Si III emission line intensity ratios in Sun 4-8433
 Si IX, electron impact excitation rates for fine-struct. transitions 4-53035
 Si isoelectronic series, S III to Sn XXXVII forbidden lines, transition probabilities 4-14369
 Si X, solar emission lines, density depend. 4-22360
 Sm autoionisation level laser spectroscopy 4-9727

atomic spectra continued

- Sm^{III}+Ar(Xe) collision, (q=52 to 54), M-subshell effects in electron capture 4-19248
 Sn VII, UV spectra 4-54624
 Sr ions, hyperfine interactions meas. by collinear fast beam laser spectroscopy 4-33554
 Sr, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 Sr-inert gas spectra, polarisation of redistributed light, spectral satellites and interatomic pots. 4-14358
 Ta, relative intensity meas. of L-shell X-rays in energy range 17 to 60 keV 4-43848
 Ta atomic beam, Doppler-free spectroscopy 4-23641
 Th, IR emission spectra 4-23643
 Ti II, electron impact excitation cross sections from visible/UV spectra 4-10105
 Ti ions excited by C-foils, K X-ray emission 4-19202
 Ti XXI, dielectronic satellites, wavelength and energy levels meas. 4-38058
 Ti XXII, dielectronic satellite spectra 4-38121
 Tm muonic atom, neutral current effects 4-33557
 U, high-lying levels, optogalvanic detect. 4-18946
 U hollow cathode discharge, relative enhancement of ²³⁵U optogalvanic signal 4-43840
 U, IR emission spectra 4-23643
 U V ¹S₀ level, 5f² config, parametric anal. 4-48970
 Xe, 5p⁵ state, spin polarisation transfer from circularly polarised synchrotron radiation to photoelectrons 4-33379
 Xe, electron excitation, connection between giant reson. and bremsstrahlung 4-5155
 Xe, f-symmetric final state wavefunction collapse, absorpt. spectra 4-33365
 Xe gas continua in a barrier discharge 4-5163
 Xe II classified spectral lines, 2100-6750 Å range 4-33368
 Xe IX, extreme UV spectra, 4d-mp, nf transitions 4-1081
 Xe, ultrasoft X-ray emission spectra interpretation 4-38122
 Xe VII extreme UV spectra, 4d-mp, nf transitions 4-1081
 Xe VIII 4-1081
 Xe-He mixture, afterglow, recomb. population of Xe excited states 4-20056
 Xe-like ions, 4f orbital collapse, time depend. HF tech. 4-9666
 Xe+Xe⁺ collision pairs, two-photon laser spectroscopy 4-38140
 Zn^{II}, highly ionised in Mg I through Cl I sequences, mag. dipole transition 4-54626
 Zr XI, Zn-like, 4s-4p transitions including intercombination lines 4-43842

atomic spectral line breadth

- atom+atom optical collisions in strong laser fields 4-14521
 Auger and radiative level width approx. invariance and fluoresc. yield 4-54635
 collisionally perturbed atoms, fluorescence spectra and optical collision rates in strong driving field 4-54836
 electron broadening, quadrupole-quadrupole effect 4-43849
 equivalent width meas. for standard stars from photographic plates 4-4052
 four-wave light mixing spectroscopy of atoms, Doppler narrowing and collision-induced Zeeman coherence 4-19516
 Fraunhofer line profiles 4-53141
 inert gases, hollow cathode discharge, Stark shift and broadening, optogalvanic spectra 4-23654
 resonant absorption, complex line shapes, exact, eqn. 4-38124
 resonant atoms, statistical quantum electrodynamics 4-48895
 thermally averaged collision-broadened line shape, van der Waals pots. 4-23661
 third row elements, L₁ XPS spectra, many-body calcs. 4-33378
 three-level system, level degeneracy, saturation spectroscopy 4-54639
 two-level atoms, photon correlations between the lines in the spectrum of resonance fluorescence 4-54633
 Ag, 20-400 eV electron impact excitation, autoionising transitions, ejected-electron spectrum 4-14579
 Ar highly excited lines, Van der Waals broadening coeffs. 4-18989
 Ar II three level system, weak nonlinear resonances 4-18943
 Ar, inner shell photoionisation, ang. momentum exchange 4-9741
 Ar, L₁ XPS spectra, many-body calcs. 4-33378
 Ar, stimulated Rayleigh-Brillouin gain spectra, spectral line shapes 4-5655
 Ar+CO₂, line widths and shifts, collision-induced phase shifts effects 4-1241
 Au, pionic, 3d state anomalous strong interaction shifts and widths 4-49191
 Ba, UV absorpt. spectrum, induced transitions obs., collision-induced phenomena 4-23645
 Be, Auger and shape reson., second order dilated electron propagator appl. 4-23671
 Be-like ions, resonance lines, electron impact line widths 4-48979
 C fragments from beam foil excited CO, Auger electron line shape 4-28547
 C I, Stark parameters, plasma-broadened line in wall-stabilised arc 4-5171
 Ca II H and K line profiles in SB solar flare 4-53131
 Ca+inert gas atoms, reson. line, absolute absorpt. coeff. 4-18968
 Ca(Ca⁺), spectral line emission from arc plasma, in air with Ca and F, optimum temps. 4-1890
 Cd, electron impact excitation, spectral lines, emission cross sections 4-38224
 Cd(I) DC excited visible triplet, reabsorption effect, line shapes, intensities 4-43838
 Cr II 4s²D-4p⁴F⁰ spectral lines, Stark widths and shifts meas. 4-28401
 Cu atoms in inert gas matrices, MCD spectra, excited state spin-orbit coupling const. 4-54637
 D₂, electron impact excitation/dissociation, atomic Balmer line shape 4-5494
 Fe I and II solar lines, equivalent widths oscillator strengths and Fe abundance 4-36647
 H Balmer-β polarisation line shape from H₂ electron impact dissoc. 4-54873
 H I, Balmer beta profile in low density H pulsed plasma 4-50065
 H I Balmer lines, Stark broadening 4-13178
 H I Lyman α and β line profiles of SB flare, OSO-8 LPSP obs. 4-53131
 H Stark effect, renormalised series technique anal. 4-32078

atomic spectral line breadth continued

- H₂, electron impact excitation/dissociation, atomic Balmer line shape 4-5494
 He, doubly excited states, energies and widths, electron correl. and relativistic effects 4-54616
 He, HF discharge, spectroscopic and probe investigs. 4-50115
 He-like ions, energy level shifts, polarisation 4-28405
 I, ²P_{1/2}-³P_{1/2} transition, O₂ press. broadening 4-14367
 Kr atomic linewidth spatial variation, optogalvanic signal obs. in hollow cathode discharge 4-18988
 La XIII 4d⁹-4d⁸5p transition array anal., Rh I isoelectronic series 4-48973
 Li⁺CH₄ collisions, kinematic line broadening reduction in Auger electron spectra of fast ion beams 4-14508
 Mg II h and k line profiles in SB solar flare 4-53131
 Mn-like ions from YXV to AgXXIII, 3p-3d transitions studied in low inductance vacuum sparks, line strengths 4-1080
 N I (²S-⁴P) reson. multiplet, origin from N₂ dissociative excitation, day-long appl. 4-14436
 Na atom, D line broadening by K, Rb and Cs 4-38129
 Ne 633 nm line shift and width, nonlinear absorpt. meas. during mag. scanning 4-18991
 Ni II, struct. and line-strengths in extreme jK coupling 4-5160
 O, ³S state emission line profile at 5577 Å of nightglow emissions 4-26909
 O I, Stark parameters, plasma-broadened line in wall-stabilised arc 4-5171
 Pt, pionic, 3d state anomalous strong interaction shifts and widths 4-49191
 Rb+Xe, Rb spectral line shapes, universal stationary phase treatment 4-18993
 S I, Stark parameters, plasma-broadened line in wall-stabilised arc 4-5171
 Sr, collisional perturbations, Rydberg lineshapes, ionisation detect. 4-23673
 Sr+He(Ne)(Kr), Sr reson. line broadening, absorpt. coeff. 4-18986
 Th, IR emission spectra 4-23643
 Ti+He, collisional shift and adiabatic broadening of ground state Ti hyperfine transition lines 4-49126
 Ti+Kr, collisional shift and adiabatic broadening of ground state Ti hyperfine transition lines 4-49126
 Ti+Xe, collisional shift and adiabatic broadening of ground state Ti hyperfine transition lines 4-49126
 Tm, electron-impact excitation study 4-49168
 U, IR emission spectra 4-23643
 U+inert gas atoms, velocity changing collisions, in saturated absorpt. 4-19179
 Xe, RF discharge, Rydberg states, optogalvanic study 4-23629
 Xe+Xe⁺ collision pairs, two-photon laser spectroscopy 4-38140
 Yb, Rydberg states, high resolution three-photon spectra 4-1137
 Yb⁺, autoionisation, narrow low-lying state positions and widths 4-19002

atomic structure

- see also *atomic electron correlations; atomic excited states; atomic fine structure; atomic orbitals calculations; atomic polarisability; atomic spectra; nuclear screening; Russell-Saunders coupling; triplet state*
 1/Z perturbation theory, first-order pair functions, in l-separated Hylleraas basis set 4-18891
 2n-ion problem, classical periodic solns. 4-23637
 actinides, hydration energy and electronic struct. 4-54604
 A.E. Haas's hydrogen atom model (Danish) 4-38025
 alkaline earth atoms, Rydberg states, Doppler-free 2-photon laser spectrosc. obs. 4-18960
 asymptotic neutrality of large-Z ions 4-47919
 atomic and mol. props., finite element method calcs. 4-18895
 atomic valency as spontaneously broken symmetry response 4-23570
 atoms, mol. and solids, relativistic effects, conf., Vancouver, Canada, Aug. 1981 4-36796
 atoms and ions, correl. energy, universal Gaspar function, HF wave functions 4-33342
 atoms and ions, spectral parameters, HF functions, orthogonalisation procedure 4-33313
 bound-free dipole matrix elements and zeros, initial state props. depend. 4-1056
 bound-state eigenvalues, calc. method 4-9670
 calculations using small- and medium-scale computers 4-33281
 conference on atomic physics, Goteborg, Sweden (Aug. 1982) 4-17639
 Coulomb Green's functions appl. to He-like energy level calcs. 4-18892
 cross sections, complex transformations, probability amplitude calcs. 4-33288
 density matrix and density functional theory with a Gaussian wavepacket basis 4-32064
 density-functional theory for time-dependent systems 4-48894
 discrete-continuum coupling in atomic and molecular systems, bifurcation theoretic anal. 4-43861
 effective Bose condensate, density function and dynamics theory 4-54584
 electronic states, effect on thermodynamic functions, Langmuir theory 4-50643
 energy levels, radiative corrections in strong EM field 4-1075
 Epton bit plot graphics, electron density maps 4-18910
 exotic three-particle systems, ground state energy, var. calcs. (Russian) 4-38359
 first row atoms, valence and core region energies in Thomas-Fermi theory 4-9677
 Fock space effective Hamiltonians 4-8768
 form factors, relativistic HFS modified, small, angle Rayleigh scatt. of photons 4-4164
 fundamental constants, impact of atomic physics 4-17874
 ground state atoms, interelectronic potentials, Coulomb contrib. (Spanish) 4-38038
 high-Z atoms, Lamb shift 4-38096
 Hohenberg-Kohn theorem and non-V-representable densities 4-5122
 Hund's rule, quantum mech. formulation 4-5139
 hydrogenic atom, Dirac eqn., algebraic approx. 4-33285
 hydrogenic atom in semi-infinite space, energy levels, variational method 4-5140
 hydrogenic atoms expectation values, inversion symmetry 4-5120
 hydrogenic bound states, multipole polarisabilities 4-48924
 hydrogenic Rydberg atoms, elec. field ions, complex energy states calcs. 4-23633
 inelastic collisions, electronic struct. theory 4-33501

atomic structure continued

- inert gas atoms, ionisation energies, valence orbital momentum distrib., electron spectra 4-23817
 inner-shell ionisation probing of at. struct. and dynamics 4-19028
 interelectronic potentials, exchange contrib. (*Spanish*) 4-38039
 isospin basis for atoms in relativistic approximation 4-33348
 isospin basis for $n_1(N_1)n_2(N_2)$ electron configs. 4-33278
 L_1 - L_{II} separation, theoretical and exptl. values 4-33312
 lanthanides, hydration energy and electronic struct. 4-54604
 Legendre transformed density functional theory derivatives reduction 4-33274
 light-ion stopping power, low-velocity predicted Z_2 structure and gas-solid difference 4-1239
 main-group atoms polyhedral clusters, electronegativity equalisation and electronic struct. 4-33356
 many-electron atoms, relativistic kinetic energy operator, matrix representation 4-38084
 many-electron atoms, relativistic two-body interaction 4-48959
 many-electron systems, relativistic theory 4-38090
 metallic elements, Auger energy shift 4-38138
 multielectron atoms models, atomic spectroscopy (*Polish*) 4-53041
 multilevel systems, adiabatic following 4-38133
 multiplet levels, collisional transition rates, effect of optical alignment 4-28545
 muonic atom prompt fission, muon energy levels and final probability 4-38356
 n-electron atom problem, classical periodic solns. 4-23637
 negative ion form., max. no. of binding particles 4-33277
 nontransition elements, atomic core, empirical chemical pot. 4-38024
 one-electron atom, Dirac eqn. basis-set expansion without var. collapse, fourth-back free-particles Foldy-Wouthuysen transformation 4-9654
 open shell calcs. techniques, radiative and relativistic corrections 4-38093
 p-block elements, π electron density, reactivity of 2 and 3 element molecules (*Japanese*) 4-38046
 p-block elements, π electron density, reactivity of 3 and 4 element molecules (*Japanese*) 4-38047
 particle-hole formalism, Fock space Hamiltonians construction 4-33283
 pseudopotential calcs. from at. energy levels 4-43776
 quantum chemical calcs. using Floating Point Systems Inc. model 164 attached processor 4-38029
 relativistic ab initio calcs., pseudopotential and perturbation theory method 4-38102
 relativistic corrections, numerical DF calcs. 4-38095
 relativistic effects calcs. from Schrodinger wave function 4-38097
 relativistic effects incidence 4-38091
 relativistic N-electron problem formulation 4-38092
 relativistic studies of atoms and ions with complex configurations 4-33347
 shielding efficiencies determined from atomic spectroscopy for use in semiempirical SCF-MO calculations 4-1074
 spectral line emission from arc plasma in air with Ca and F, optimum temps. 4-1890
 spectroscopic investigation using optogalvanic detect. 4-17951
 spontaneous radiative coupling of at. energy levels 4-54586
 superheavy atom, bound electron energy 4-18887
 Thomson atom, quantisation through Wilson Sommerfeld rules 4-36852
 total energies and electron affinities, local spin-density approx. exact exchange extension 4-28571
 transition metal ions, unfilled d shells, interaction parameter depend. on degree of ionisation 4-38060
 two-channel coupling, symmetry anal., quantum defect theory 4-33388
 two-electron atom, exact coeffs. for low-order terms in wave function 4-22612
 two-electron atoms, 1S states, exact solns. for few particle Schrodinger eqn. 4-22613
 two-electron system, correl., diabatic states 4-38082
 Al I, 3s 3p 4p configurations, Slater-Condon theory 4-14320
 Ba isoelectronic sequence, $n=2$ configurations, level values 4-5183
 Be, electronic shells, momentum space, correl. effects 4-33340
 Be, energy surface, DF discrete basis 4-48905
 Be, ground state correl. energy, multiconfig. perturbation theory calcs. 4-14337
 Be isoelectronic series, quasidegeneracy effects, coupled doubly excited CI and linear coupled pair calcs. 4-33334
 Be, struct., DF discrete basis calcs. 4-1039
 Be, use of energy constraint for refinement of electron momentum distributions 4-38080
 Be- $3d^5$ 5S multiplets, half-capacity configs. 4-18925
 Be⁺ ions stored in quadrupole RF trap and cooled by sideband excitation, energetic props. 4-23592
 Be²⁺, two-electron at. wave functions, asymptotic behaviour 4-54595
 Be-like ions, level populations in astrophysical plasma 4-53040
 C- $4f^7$ 8S_0 multiplets, half-capacity configs. 4-18925
 Ca XIX, dielectronic satellites, wavelength and energy levels meas. 4-38058
 Cd⁺ ($4d^{-1}$ $^2D_{5/2}$) state alignment after photoionisation using synchrotron radiation 4-1128
 Cm, oxidation states in gas phase (*French*) 4-14610
 Co III, three-lowest config. anal., UV region 4-54628
 Cu isoelectronic sequence from Ru¹⁵⁺ to Sn²¹⁺, spectra and energy levels of ions 4-23647
 Er II, second spectrum, IR and visible obs. 4-48969
 F VII spectra and energy levels in 400 to 6000 Å range 4-38120
 Fe atom, spin polarised internal conversion coeffs. 4-43789
 Fe in superstrong mag. fields, ground state energy/binding energy 4-38032
 Ga I, autoionising levels investig. 4-1100
 H atom, Ermakov invariants and electron ray path eqns. 4-36935
 H atom, ground state behaviour in weak electric and mag. fields 4-33358
 H atom, near surface of semi-infinite substrate, physisorption, var. calcs. 4-48916
 H atom as projection of homogeneous space 4-5123
 H, classical random electrodynamics 4-43790
 H, confined in box, electric field influence 4-48896
 H, energy levels and wavefunctions in mag. fields 4-23591
 H, energy levels in mag. field, perturbation series summation 4-14299
 H, ground state, nonlinear extra-atomic relax., anal. 4-43797
 H, ground state energy shift, role of virtual photon cloud 4-9724
 H in strong magnetic fields, atom behaviour, variational calcs. 4-18954
 H, interaction with Au surface atom level shift and broadening 4-11983
 H, minimum basis set calcs., Dirac eqn., algebraic approx. 4-33285

atomic structure continued

- H muonic atom, muon transfer to He, charge exchange mechanism 4-33567
 H nonrelativistic atom, connection with harmonic oscillator, continuum case 4-22614
 H, one-dimensional at boundary, bound states and scattering 4-22558
 H, relativistic energy levels, spinor method calc. (*Chinese*) 4-54587
 H, spectroscopy in intense mag. field (*French*) 4-5192
 H, Stark mixed $n=2$ states, excitation and decay, electron-photon coincidence obs. 4-5438
 H, stationary states energy and mag. moment 4-18893
 H to U atoms, shell struct., radial momentum distrib., nonrelativistic SCF calcs. 4-54590
 H up to Kr, shielding efficiencies determined from atomic spectroscopy for use in semiempirical SCF-MO calculations 4-1074
 H wave functions, three-term recursion relations 4-53515
 H⁺, ground state wavefunctions, energies and binding energies in uniform mag. field 4-38057
 H⁺, two-electron at. wave functions, asymptotic behaviour 4-54595
 H-containing mol., H bonds, atomic charges from IR intensities 4-43876
 H-like atom, ground state energy, polynomial perturbation 4-14314
 H-like atoms, relativistic, discrete level transitions cross-sections 4-1299
 H-like atoms, $Z=10-40$, energy levels, quantum electrodynamic calcs. 4-36808
 He, doubly excited states, classification and supermultiplet struct. 4-48957
 He, electron-photon angular correlations for 2^1P state 4-5439
 He exchange effects, singlet-triplet splitting, semiclassical model 4-38050
 He, ground state energy and binding energy in superstrong mag. fields 4-38032
 He, ground state wavefunctions, energies and binding energies in uniform mag. field 4-38057
 He, ground-state orbitals, momentum space chem., electron spectra 4-23818
 He in strong magnetic fields, atom behaviour, variational calcs. 4-18954
 He isoelectronic sequence, var. calcs. 4-43800
 He isoelectronic sequence, ground states, ang. eigenfunctions 4-54579
 He, isoelectronic series, energy-density eqn. for isoelectronic changes, Z-depend. of electrostatic pot. 4-28356
 He, polarisation propagator based on AGP state, appl. 4-33294
 He to Ba ions, shell struct., radial momentum distrib., nonrelativistic SCF calcs. 4-54590
 He, two-electron at. wave functions, asymptotic behaviour 4-54595
 He⁻, $1s2s2p^2P$ state, relativistic effects 4-38056
 He⁻ $2p^3$ 4S_0 multiplets, half-capacity configs. 4-18925
 He-like atoms, relativistic at. struct. theory 4-33301
 He-like ions, ($Z=2$ to 10), quantum defect theory treatment of lsns and $1snp$ series 4-14321
 He-like isoelectronic series, ground state, Coulomb Green's function variables 4-48902
 In I, autoionising levels investig. 4-1100
 Kr isoelectronic series, direct SCF calc. of excited level structs. 4-43795
 Kr VII, energy-level and lifetime meas. 4-48981
 Li, valency electron spatial distrib. 4-29302
 Li⁺, two-electron at. wave functions, asymptotic behaviour 4-54595
 Li isotope atomic struct., expt. investigation in 6 MV tandem accelerator (*German*) 4-19299
 Lu to Rn ions, shell struct., radial momentum distrib., nonrelativistic SCF calcs. 4-54590
 Mg, photoionization near threshold 4-38136
 Mg⁺ ions stored in quadrupole RF trap and cooled by sideband excitation, energetic props. 4-23592
 Mn I-XXV, at. energy levels and Grotrian diagrams 4-22530
 Mo VII, energy levels, UV spectra 4-33367
 Mo XVII, energy levels, transition wavelengths and oscill. strengths 4-18924
 Na, resonant collisions of nS and nD Rydberg atoms 4-9697
 Ni II, struct. and line-strengths in extreme jK coupling 4-5160
 O isoelectronic sequence, forbidden transitions, multiconfig. HF calcs. with Breit-Pauli corrections 4-18921
 O isoelectronic sequence, electric dipole transitions, MCHF and BP results 4-54597
 P II, $3s^2$ 3p 4p configurations, Slater-Condon theory 4-14320
 radial probability density, textbook graph scale error 4-36869
 Rb Rydberg atoms in crossed electric and mag. fields, evidence for Pauli quantisation 4-43828
 S II spectrum from sliding spark discharge, configurations, ab initio calcs. 4-1082
 Si I, $3s^2$ 3p 4p configurations, Slater-Condon theory 4-14320
 Si II, $3s$ 3p 4p configurations, Slater-Condon theory 4-14320
 Sn VII, UV spectra 4-54624
 Sr ions, hyperfine interactions meas. by collinear fast beam laser spectroscopy 4-33554
 Ti XXI, dielectronic satellites, wavelength and energy levels meas. 4-38058
 Ti I, autoionising levels investig. 4-1100
 U, high-lying levels, optogalvanic detect. 4-18946
 atomic structure, crystals see crystal atomic structure
 atomic weight see atomic mass
 atoms
 see also exotic atoms; helium atoms; hydrogen neutral atoms; positronium
 Bell's Inequalities, exptl. tests in atomic physics 4-17753
 conference on atomic physics, Goteborg, Sweden (Aug. 1982) 4-17639
 ATR tubes see gas-discharge tubes; radar equipment
 attaching see joining processes
 attenuation see absorption; dispersion (wave); scattering; transmission
 attenuation measurement
 acoustic, reflected ultrasound signals, spectral-shift and spectral-difference approaches 4-55286
 backscattering techniques for optical fibre cables (*Spanish*) 4-5729
 bolometric transducers of through type as multifunctional microwave comparison meters 4-32277
 Jemelle-Lessive line, test and transmission characteristics (*French*) 4-14801
 laser beams, by intermediate frequency substitution method 4-28740
 optical attenuator for communication systems testing (*Czech*) 4-53725

attenuation measurement continued

optical multiprobe fibre attenuation meas., restricted launch conditions 4-38625

OTS propagation tests 4-17221

attenuators

optical, for communication systems testing (*Czech*) 4-53725

attitude control

astronomical telescopes in space, sunlight interference due to scatt. from rocket exhausts 4-3903

satellite orientation using IR Earth sensor, conical lens design 4-49484

Solar Optical Telescope Control system on Space Shuttle 4-17393

space vehicles, gravitational orbit-attitude coupling for very large spacecraft 4-42280

audio acoustics

see also *audio recording; audio systems; hearing; speech*

Bearsville's recording studios, remodelling of Control Room B 4-55271

Fort Worth Museum of Science and History audio installation 4-19662

multidriver arrays, acoustical and electrical interaction 4-10496

audio amplifiers see *audio-frequency amplifiers***audio discs** see *video and audio discs***audio equipment**

see also *audio-frequency amplifiers; audio-frequency oscillators; gramophones; loudspeakers; microphones; pick-ups; video and audio discs*

Douzenko Film Studio, sound studio complex design (*Russian*) 4-10497

FFT analyser to narrow information gap 4-55284

audio-frequency amplifiers

auditoriums, MCR system for multiple-channel amplification of reverberation 4-24302

fluxgate magnetometer bearing, using tuned amplifier, audible indicator 4-13660

audio-frequency oscillators

musical instruments, tuning generator, precision design, quartz ref. (*German*) 4-14850

audio oscillators see *audio-frequency oscillators***audio recording**

see also *video and audio discs*

Bearsville's recording studios, remodelling of Control Room B 4-55271

instructional machine, audio and video signal recording and repro. method improvement 4-47820

audio systems

see also *acoustic devices; acoustic equipment*

Bearsville's recording studios, remodelling of Control Room B 4-55271

Fort Worth Museum of Science and History installation 4-19662

microphones in sound reinforcement system, gain calculation and meas. 4-49629

monolithic sound generators, for alarm, musical and others sounds generation (*Dutch*) 4-28952

stereophony in cinematography (*Russian*) 4-43097

auditory activity see *hearing***auditory evoked potentials** see *bioelectric potentials; hearing***auditory perception** see *hearing***Auger deexcitation** see *Penning ionisation***Auger effect**

AES for quantitative surface anal., theory 4-21075

AES for surface analysis of thin films, review 4-12433

alloys, Auger line shape 4-57047

amino acid overlayers on metals, secondary ion emission and AES study 4-46413

atom-electron collisions, polarisation phenomena 4-54862

Auger electron spectroscopy, quantitative, review 4-18017

backscattered electron imaging with scanning Auger electron spectroscopy 4-7784

backscattering factor, effects of electron energy and angle of incidence 4-35528

β - brass surface phase transformation, Auger scanning microscope obs. (*Japanese*) 4-30852

carbon tetrafluoride, core-level photoelectron and Auger shape reson. phenomena 4-54800

chemisorbed atoms, Auger CVV spectra, surface plasmon effects 4-40581

compositional and chemical state analysis of surfaces and thin films 4-46830

concentration profile determ. by AES, improved accuracy 4-41294

conference, Bourg Saint Maurice, France (Jan. 1983) 4-47750

delta function integrals for recombination problems 4-50700

dielectric solids, latent ion damage tracks, model for form. 4-48871

elastic scatt. effect on effective inelastic MFP, Auger, XPS signal attenuation 4-30573

electron emission and relax. mechanisms, XPS and AES appls. (*French*) 4-51459

electron impact excitation, autoionisation, post collision interaction 4-10128

electron initiated electron spectroscopy, EELS, AES and secondary electron spectra (*French*) 4-51427

electron spectrometer, calibration-alignment reproducibility, use of cylindrical mirror analyser 4-18018

electron spectroscopy fundamentals 4-51418

electron spectroscopy results, comparison, reproducibility and errors (*French*) 4-51419

electron-electron multi-coincidence apparatus 4-13734

ferromagnetic solids, spin polarisation of Auger electrons 4-11975

graphite (0001), K absorption and intercalation, LEED and AES studies 4-29786

graphite intercalation cpds., valence band, from AES 4-51417

graphite-Cs intercalation cpd., CsC₈ and CsC₂₄, charge transfer and Auger spectra 4-40583

graphite-Cs intercalation cpd., valence band, from AES 4-51417

III-V semiconductors, LEC and horizontal Bridgman growth, anion inclusions, scanning AES study 4-20216

inelastic loss contrib. sequential method 4-16277

inner-shell ionisation probing of at. struct. and dynamics 4-19028

inner-shell photoionisation near threshold, energy shift of emitted X-rays 4-1124

instrumental characteristics of AES for quantitative electron spectroscopy (*Japanese*) 4-43145

ion bombardment, diffusionless thermalisation reaction capture model 4-21485

ion excited Auger electron emission, role of recoil atoms 4-57060

Auger effect continued

ion-induced kinetic electron emission from solids, review 4-3013

L-LM Coster-Kronig and LM-MMM satellite energies, solid state, theoretical studies 4-57046

many-electron atom, shake-up processes accompanying electron transitions 4-5189

materials, composition-depth profiling using Auger electron spectroscopy 4-11972

mesoatoms, muon conversion coeff. in transition surface currents model, nuclear deformation 4-1296

metal surface, low energy He⁺ ion scatt., Auger vs. reson. neutralisation 4-30590

metallic elements, Auger energy shift 4-38138

metallic glasses, electron spectroscopy, review, book, contrib. 4-40610

metallurgy, catalysis and semicond. technology appls. 4-51420

metals, group VIII (*Russian*) 4-34779

metals, surface props. (*Czech*) 4-39640

methane, Auger transition rates calc., exchange interaction effect 4-49099

MeV ion bombardment, Auger electron emission 4-46403

MeV ion bombardment, Auger electron emission from solids 4-46402

minimum detectable mass expression in EELS, EPMA and AES 4-26258

monochromatized Ag L α X-rays as a source for higher energy XPS 4-48273

montmorillonite containing exchangeable divalent cations, XPS 4-57067

muonic atoms, conversion processes, nonradiative excitation, X-ray emission 4-1295

overlayers, quantitative anal. using Auger technique 4-25163

photon-induced post collisional Auger decay, two-pot. complex coordinate formalism 4-54651

pionic atoms, Auger electron emission from pion capture in nuclear emulsions (*Bulgarian*) 4-28576

post-collision interaction, Auger line shift 4-19026

profiles, classical and quantal, due to inner shell photoionisation 4-43859

quantitative Auger anal., use of peak to background ratio 4-35525

radiative and Auger level width approx. invariance and fluoresc. yield 4-54635

radiolabelled blood cells, dosimetry 4-16993

rare earth hexaborides, thermionic electron emitter, high temp. surface composition 4-29752

rare earths, L-series Auger electrons, expt. and theoretical spectra 4-1134

RHEED-LEED-AES in-situ meas. apparatus and appl. to MBE and metal oxidation 4-39065

scanning Auger electron microscope for quantitative AES anal. of solid surface 4-21079

scanning Auger microscopy, backscattered electron detection sensitivity 4-48256

scanning microscopy, sensitivity enhancement limits 4-32390

semiconductor, Auger recombination, screening 4-2998

semiconductor, plasma transport and laser annealing, transport props., Auger lifetime 4-20247

semiconductor device analysis appl. sample modulation technique 4-32386

semiconductor lasers, Auger recombination processes, review (*Japanese*) 4-19458

semiconductor microelectronic materials, sputter ion depth profiling limitations 4-3015

semiconductors, Auger processes, overlap integrals 4-51416

semiconductors, electron-hole drops, props., collective aspects 4-25243

SOI struct. form. by O₂⁺ ion implantation, buried SiO₂ layer characts. 4-34512

solar cell, conductive Ag paste ohmic contact, SEM and AES study 4-31090

solar window films, multicharacteristic, sputtering system for fabrication 4-30631

spectroscopy, background intensity signal normalisation 4-32389

sputtered atom, outer shell excitation, laser fluoresc. spectroscopy, Auger effect 4-9718

steel, austenitic stainless, anodically formed passive films, struct. and stability in H₂SO₄ 4-57469

steel, austenitic stainless, BN precipitation on surface 4-16398

steel, austenitic stainless, He(H) doped, fracture surface, Auger spectroscopy 4-12162

steel, austenitic stainless, intergranular SSC, Cr depletion near grain boundaries, Auger spectrosc. (*Japanese*) 4-25962

steel, austenitic stainless, metal-oxide interface study using sputter ion plating 4-25167

steel, austenitic stainless, passive film composition in elevated temp. solns. 4-57467

steel, Cr-Mo, temper embrittled, containing rare earth additions, Auger anal. of fracture surfaces 4-26055

steel, Cr-Mo-V, heat treatment, creep rel. to P addition 4-12110

steel, fracture surface, flake form. mechanism (*Chinese*) 4-3204

steel, high speed, AISI M2, hot deformability, impurity effects, AES studies 4-51731

steel, HSLA, ductile fracture, influence of P segregation to particle/matrix interface 4-7538

steel, mobile impurities study by AES 4-29461

steel, Ni-Cr and Cr-Mn-Si, temper brittleness, grain boundary segregation of P, AES (*Chinese*) 4-3205

steel, stainless, impact energy rel. to impurity levels and heat treatment 4-12166

steel, Ti-implanted, friction and wear props. and vacuum carburization, AES study 4-21330

surface analytical technique comparison to SIMS 4-46831

surface layers of single cryst., electron spectroscopy and localisation of moderate energy electrons 4-20437

surface spectroscopy 4-17961

Teflon, photon impact F KVV Auger spectra, chem. effects 4-54807

TEM analyser development 4-4503

ternary compound thin film solar cells, review 4-31091

thin film monolayer overgrowth, quantitative AES method 4-21077

thin film surface anal., comparative study of methods 4-52076

threshold spectroscopy and appl. in SEM 4-50151

Sd transition metals, double hole binding energy shifts, rel. to AES results 4-3002

valence band density of states, CVV-type Auger peaks 4-57056

vibrational broadening in Auger and photoelectron spectroscopy 4-57072

Ag (111), Cl adsorption, LEED, Auger effect and desorption studies 4-29802

Auger effect continued

- Ag-Co electrodeposits, Auger anal. for light elements 4-45174
 Ag-Cu multilayer thin film structures, sputter profiling, depth resolution improvement by cooling 4-21090
 Ag₂S₃, XPS and Auger electron study of metal insulator transition 4-15825
 Al (111) with Sn and Pb monolayers, coverage and core level binding energies 4-25153
 Al, anodised, Auger electron spectroscopy of porous layers 4-57489
 Al, Auger electron emission excited by low-energy Ar⁺ bombardment (*Chinese*) 4-7290
 Al, ion induced Auger emission and work function 4-46380
 Al, KLL Auger process, plasmon gain satellites 4-11974
 Al, KLV-Auger spectra, energy distrib. of electrons 4-30570
 Al, polycrystalline, Ar⁺ ion bombard., secondary electron ang. distrib. 4-51441
 Al, surface, electron and ion excitation, Auger effect 4-11973
 Al/Sb thin film couples, grain boundary interdiffusion and surface cpd. form. 4-15721
 Al-O system, electron bombardment effects on AES spectra (*French*) 4-50364
 Al-Si, low temp. surface Si segregation, AES study 4-6636
 Al-Zn-Mg, 7075, slow fatigue crack growth rel. to heat treatment, microstructure and humid environment 4-40973
 AlAs-GaAs:Zn disordered superlattices, diffusion and interdiffusion processes 4-34716
 AlF₃, photon impact F KVV Auger spectra, chem. effects 4-54807
 Al₂O₃, barrier anodic coatings, electrolyte byproducts incorporation, AES study 4-41105
 Al₂O₃, electron-induced desorption (*Russian*) 4-50357
 Al₂O₃ layer characterisation for Al sheet adhesive joints (*German*) 4-16542
 Al₂O₃ RF sputtered thin films, O₂ partial press. effects-on props. 4-56161
 Al₂O₃-Al interface, Auger depth profile 4-57048
 Ar, Auger transitions, multiconfiguration Dirac-Fock calcs. 4-14374
 Ar, electron impact 2p_{3/2} shell alignment 4-5440
 Ar III, ns²np⁶ 1S₀ state, Auger spectra 4-33380
 Ar, KLL Auger spectra energies and intensities 4-19111
 Ar, L₂₃ shell alignment tensor, electron-electron coincidence obs. 4-5443
 Ar+Ar⁺ (Ar⁺), L-MM Auger spectra 4-9950
 Ar+H⁺ (H₂⁺) (He⁺) collision, ion induced L₂₃-subshell alignment of Ar 4-43959
 Ar⁺+He(Ne)(H₂), Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 Ar⁺+He(Ne)(H₂), Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 Ar⁺+H₂, Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
 Ar⁺+He(Ne), Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
 As₂Se₃:Cu(Ag), photoelectron and Auger lines, chem. shifts 4-25849
 Au electroplated electrical contacts, failure mechanisms study 4-12436
 Au strongly adhesive electrodes on Melinex, phys. props. and microstruct. 4-15794
 Au/Co bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
 Au/Cu bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
 B₄C coated B fibre reinforced Ti, interfacial compositions Auger electron spectroscopy 4-3372
 Ba, 5p hole states, reson. photoelectron spectra 4-19009
 BaBe thermionic electron emitter, high temp. surface composition 4-29752
 Be (0001) surface oxidation studies 4-57398
 Be, Auger and shape reson., second order dilated electron propagator appl. 4-23671
 Be⁺, elastic electron scatt. cross section (*Russian*) 4-23816
 Be⁺, triply excited three-electron atomic systems and beam-gas electron spectroscopy 4-38103
 Bi (0001), adsorption of O₂, kinetic, electronic and structural features 4-25160
 Bi films, N₂⁺ ion bombarded, oxidation inhibition, elec. resist. and AES studies 4-41033
 C films, diamondlike, surface anal. by AES and LEED 4-20515
 C foil fast at. and mol. ion impact, Auger electron emission 4-11202
 C fragments from beam foil excited CO, Auger electron line shape 4-28547
 C target, solid and gaseous, charge-changing cross section by hydrogenic ions impact 4-43962
 C thin films, refl. and transmission Auger anal. 4-46381
 CO adsorbed mols. on Ni(100), Auger line shapes, angle depend. changes 4-35524
 CO, Auger transitions anal. using SCF Xalpha multiple scatt. method 4-23601
 CO, comparison of autoionisation and PES 4-5295
 CO, core-level photoelectron and Auger shape reson. phenomena 4-54800
 CO₂ oxidation on kinked Pt (321) surfaces 4-31023
 CO₂⁺, electron impact dissoci., ion kinetic energy spectroscopy, predissoc., appearance energies 4-38341
 CO₂, Auger transitions anal. using SCF Xalpha multiple scatt. method 4-23601
 CO₂, core-level photoelectron and Auger shape reson. phenomena 4-54800
 Ca, 2p Auger spectrum, 3d orbital collapse 4-9743
 CdS-CuInSe₂ thin film solar cells, interface activity 4-36013
 Cd₂SnO₂ reactively deposited films, ion bombardment effect on composition 4-50694
 CdTe epilayer-Cs, AES and work function study of deposition 4-25837
 CdTe substrate large single crystal growth by Bridgman method, material eval. 4-21120
 Cl¹⁺+Ar(Kr)(S), electron capture into metastable states, delayed Auger electron meas. 4-14540
 Co (1010) and polycryst. surfaces, oxidation, 300 to 700K, AES study, struct. and temp. effects 4-30860
 Co, black, solar absorber, photodesorption (*Korean*) 4-39670
 Co-Cr-Mo-Zr, amorphous ribbons, corrosion resistance in 1N HCl 4-16559
 Co-Cr-W-C-Ti alloy, Ti ion implantation effects on friction and surface chem. 4-7606
 Co-Ni alloys, surface composition, AES determ. 4-7775

Auger effect continued

- Cr (100), Br₂ chemisorption, cpd. form. and corrosion 4-29804
 Cr (110), chemisorption and surface reaction of Br₂ 4-56152
 Cr solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
 Cr to Cu atoms, M₂₃ shell Auger and autoionisation spectra 4-48996
 Cr₂O₃-Cr (black chrome) selective solar absorber coating electrode position, Periodic Current Reversal effects 4-36028
 Cs, electron impact excitation, Auger electron spectrum 4-9742
 Cu (110), clean and O-covered, H₂S adsorption kinetics, AES studies 4-29806
 Cu (111) and (100), adsorption of Pb, secondary electron emission changes 4-57049
 Cu, adsorption of O₂, electrochem. determ. and AES study 4-34798
 Cu, adsorption of Pb-Sn double monolayers, AES, secondary electron emission obs. 4-39697
 Cu, Auger vacancy satellite spectra, LMM, metallic renormalisation 4-3001
 Cu film on Ru (0001), electronic states, geometric struct. 4-25179
 Cu-Mn, surface segregation and oxidation, XPS and AES study 4-15751
 Cu-Ni surface alloys, prep. by Ni(CO)₄ decomp., ellipsometry, AES, LEED, ion depth profiling 4-41259
 Cu-Pd diffusion couples, diffusion-induced grain boundary migration, TEM, AES studies 4-20415
 Cu-Sb, creep cavity surfaces and grain boundaries, chem. comp. study 4-48429
 Cu-Zn (28.2at.%), depth of profile, Ar⁺ bombardment; Auger spectra 4-35535
 Cu-Zr, glassy and cryst., oxidation, XPS, AES studies 4-35772
 Cu₂Au (100), O₂ adsorption, Auger electron spectra studies 4-45506
 Cu/Ni, interaction of O₂ with (110) surface, AES, XPS, work function meas. 4-40582
 Cu₂P, P LVV Auger and electron energy loss spectra 4-21076
 Cu₂S-CdS thin film solar cells, stability study 4-26287
 Cu₂Zr_{1-x} amorphous sputtered films, X-ray reflectometry, AES and ESCA studies 4-45555
 ErMn₂(Fe)₂(Co)₂(Ni)₂, hydrogenation kinetics and surface compositions, AES study 4-2440
 F⁺+He(Ne), electron capture, F K-Auger emission spectra meas. 4-23805
 Fe (001), adsorption of Se, LEED, AES, and work function meas. 4-20495
 Fe ions passing through Be, C, Al and Cu foils, equilb. charge state distrib., microscopic anal. 4-19194
 Fe island formation on MoS₂, AES and work function meas. 4-39726
 Fe, resonant emission of secondary electrons with γ-ray recoilless absorption 4-16125
 Fe-Al(Ti), high temp. alloys, radiotracer studies of C permeation through oxide scales 4-35759
 α-Fe-Cr, bright nitrided alloys, grain boundary segregation, AES 4-7471
 Fe-Cr alloys, surface segregation and adsorption, anal. with backscattered ions 4-29623
 α-Fe-Mo, bright nitrided alloys, grain boundary segregation, AES 4-7471
 α-Fe-Si, bright nitrided alloys, grain boundary segregation, AES 4-7471
 Fe-Si, high-silicon steel, Si segregation during oxidation, AES study 4-3292
 Fe-Si (6.3 at.%), nonequilb. surface segregation of C, AES study 4-56127
 Fe-Si systems, surface segregation, electron spectroscopy study 4-46426
 Fe₃B₁₂, ferromag., electron spin polarisation in inner-shell excitations 4-30571
 Fe₇Co₁₈B₁Si₁, metallic glass, surface oxidation study by AES 4-41101
 FeMoS₂ thin layer, surface oxidation tribological props. (*French*) 4-35730
 Fe₃P, P LVV Auger and electron energy loss spectra 4-21076
 Ga-Sn, liquid, surface segregation, AES study 4-29736
 GaAs, band struct., Auger recombination 4-39772
 GaAs, etching in RF discharge through mixtures of trichlorofluoromethane and O₂ 4-16521
 GaAs, MBE grown surface, preservation and regeneration, RHEED, AES, UPS, ESCA studies 4-21146
 GaAs oxide film, plasma grown, Auger anal. 4-34827
 GaAs, photoenhanced oxidation, and O₂ chemisorption, AES study 4-16523
 GaAs, surface electronic props. and surface geometry 4-6856
 GaAs/Au-Ge ohmic contacts, redistributed component mapping after laser annealing 4-34806
 GaAs-Al(Ag)(Fe), MBE, growth mechanisms, electron diff., AES, EELS studies 4-20525
 GaAs-Ga_{1-x}Al_x superlattices, MOCVD growth and struct. study 4-20498
 GaAs-oxide interface, AES depth profiles anal., electron escape depth (*Chinese*) 4-6894
 GaAs-Pt interface anal. by Rutherford backscatt. and AES (*Chinese*) 4-39692
 GaAs-SiO₂ interface, AES depth profiles anal., electron escape depth (*Chinese*) 4-6894
 GaAsP, form. by ion implantation and annealing, Schottky contact study 4-50317
 GaP, P LVV Auger and electron energy loss spectra 4-21076
¹⁵¹Gd, decay, fluorescence and Auger electron yields for L-subshells (*Russian*) 4-5190
 Ge (111), chemisorption of Pb, LEED and AES meas. 4-15763
 Ge (111)-Pb interface, growth and struct. LEED, AES, and SEM study 4-20502
 a-Ge films, short range order, vacuum deposition angle depend. 4-50203
 Ge, heteroepitaxial growth on Si (111)7×7 and Si (100)2×1 substrates, AES study 4-25171
 Ge, heteroepitaxial vacuum deposition on Si (111), 5×5 superstruct., LEED and AES studies (*Japanese*) 4-39719
 Ge ordered overlayer growth on Si (111) under ultrahigh vacuum conditions 4-39734
 Ge solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
 Ge/GaAs (110) interface form.; MBE growth, effect of substrate temp. 4-6671
 Ge-Se, amorphous, XPS and AES chem. shifts 4-21104
 GeSe₂:Cu(Ag), photoelectron and Auger lines, chem. shifts 4-25849
 H, ground state, nonlinear extra-atomic relax., anal. 4-43797
 HCl, KLL Auger spectra energies and intensities 4-19111
 He 2S metastable atoms, adsorbed on metal, deexcitation processes, effect of surface electronic struct. 4-33381

Auger effect continued

- He*(2S) impact on Se surface, deexcitation mechanisms, electron spectra 4-30585
- HfN sputtered coating on stainless steel, adhesion and mech. props. 4-7603
- Hg_{0.8}Cd_{0.2}Te, anodic film HgTeO₃ composition 4-50660
- Hg_{1-x}Cd_xTe, characterisation of oxide layers and depth profiling 4-50695
- In, Auger spectra, N₂₃, anomaly 4-57045
- In_{1-x}Al_xAs epilayers on InP substrates, deposition and props. 4-30638
- In_{0.72}Ga_{0.28}As superlattice, Zn diffusion induced disorder, AES study 4-20407
- InGaAsP lasers, Auger recomb. temp. depend., expt. study 4-33697
- InGaAsP lasers, gain guided, threshold characts. rel. to Auger recomb. 4-14689
- InGaAsP-InP double heterostructure, electron-hole plasma, luminescence and Auger studies 4-56426
- In_{0.72}Ga_{0.28}As_{0.4}P_{0.6}, band-to-band Auger recomb., effect of anisotropic band parameters 4-45810
- In_{1-x}Ga_xAs_{1-y}P_y/InP heterojunction interface, LPE grown, compositional transition layer study using AES 4-25165
- InP (110), ion bombarded and annealed, AES, SAM and RHEED study 4-20745
- InP, band struct., Auger recombination 4-39772
- InP, etching in RF discharge through mixtures of trichlorofluoromethane and O₂ 4-16521
- InP, plasma anodic oxidation, AES study 4-26073
- InP-Al(Au)(Ag) interface and Schottky diodes formation (French) 4-56430
- InSb MOS structures, film and interface anal. 4-56154
- In_{2-x}Sn_xO_{3-y} thin film passive solar windows produced by reactive evaporation, surface anal. and optical props. 4-30549
- Ir-Ce alloys, surface composition, AES and thermionic work function 4-21074
- Ir-Ce-Mo(Rc) alloys, surface composition, AES and thermionic work function 4-21074
- Kr III, ns²np⁶ S₀ state, Auger spectra 4-33380
- Kr to Xe, 3s and 3p linewidths, free-atom calc. 4-54652
- Kr+Ar⁴⁺, Kr M-NN Auger spectra 4-9951
- Kr+Kr⁺, quasimol. prod., Auger spectrosc. 4-19132
- LaF₃, photoexcited Auger transitions, post-collision interaction, solid-state screening effect 4-40580
- LaNi₅, surface poisoning and regenerating by sulphides 4-41247
- Li compounds, anal. by AES chemical effects 4-21507
- Li, triply excited three-electron atomic systems and beam-gas electron spectroscopy 4-38103
- Li⁺CH₄ collisions, kinematic line broadening reduction in Auger electron spectra of fast ion beams 4-14508
- LiCl, high resolution Cl L_{2,3} X-ray spectra, configuration interaction 4-11969
- LiF, decay process of Li 1s-core exciton 4-29895
- LiF, electron-induced desorption (Russian) 4-50357
- Mg, electron impact excitation, L₃ shell alignment 4-19272
- Mg, ion induced Auger emission and work function 4-46380
- Mg, KL_{2,3}-L_{2,3}V satellite Auger transitions, SCF Hartree-Fock calc. 4-40578
- Mg, KLL Auger process, plasmon gain satellites 4-11974
- Mg, KLV-Auger spectra, energy distrib. of electrons 4-30570
- Mg, surface, electron and ion excitation, Auger effect 4-11973
- Mg⁺, elastic electron scatt. cross section (Russian) 4-23816
- MgF₂, photon impact F KVV Auger spectra, chem. effects 4-54807
- Mn, surface oxidation, XPS and Auger studies 4-35774
- Mo films, sputter-deposited, elec. resist. and plasma etching, AES study 4-46435
- Mo, halogen desorption, LEED, AES and work function meas. 4-45521
- Mo, intergranular embrittlement by O (Japanese) 4-35688
- Mo, polycrystalline, vacuum annealing, O desorption from grain boundaries, ductility recovery (Japanese) 4-35639
- MoS₂ films, RF sputtered lubricant, environmental stability and wear rel. to crystallite orientation 4-51828
- MoSe₂ (0001) Van der Waals surface struct., LEED, AES, and electrochem. meas. 4-34765
- N₂, correl. effects, Auger spectrum calcs., Green's function method 4-19106
- Na, ion induced Auger emission and work function 4-46380
- Na, KLL Auger process, plasmon gain satellites 4-11974
- Na, surface, electron and ion excitation, Auger effect 4-11973
- NaCl, high resolution Cl L_{2,3} X-ray spectra, configuration interaction 4-11969
- NaF (100) photon-stimulated Na⁺ and F⁺ desorption, Auger decay mechanism 4-6660
- NaF, photon impact F KVV Auger spectra, chem. effects 4-54807
- Nb, halogen desorption, LEED, AES and work function meas. 4-45521
- Nb₃Al_{1-x}B_x(C_x), A15 phase, ion implanted, cryst. struct. and supercond. transition temp. 4-34444
- NbN films, thermal oxidation, 20 to 400°C, AES studies 4-12209
- NbN films, thermal oxidation, Auger spectra study 4-57379
- NbN supercond. films, prep. and transition temp. 4-15778
- Nb₂O₅/Nb, thin anodic oxide film, AES depth profiles, quantitative evaluation 4-20446
- Nb₃Sn, bronze-processed, chem. comps. near grain boundaries, AES study 4-2212
- Ne, electron impact inner shell excitation cross-sections 4-5452
- Ne, K-shell photoelectron satellite threshold meas. 4-23670
- Ne+Ar, slow collisions, 3da excitation 4-5338
- Ne+Ne⁺, quasimol. prod., Auger spectrosc. 4-19132
- Ne+Ne⁺(Ne¹⁰⁺(Ar⁶⁺)(Ar¹⁷⁺)), K Auger spectra 4-9953
- Ne*(P₂) impact on Se surface, deexcitation mechanisms, electron spectra 4-30585
- Ni (001), laser annealing for surface cleaning, AES and LEED studies 4-16538
- Ni (001), mol. S₂ chemisorption, LEED, AES, work function meas. 4-39689
- Ni (110), clean and with adsorbed O, surface anal. by AES induced by surface channelled ions 4-30588
- Ni (111) with Sn and Pb monolayers, coverage and core level binding energies 4-25153
- Ni island formation on MoS₂, AES and work function meas. 4-39726
- Ni, oxidation, reduction of surface oxide by CO and H₂, ellipsometry, AES 4-41260
- Auger effect continued
- Ni, polycrystalline, grain boundary segregated S, chemical state, AES and XPS obs. 4-35633
- Ni silicides, ion beam induced surface modification, AES study 4-7297
- Ni silicides, oxidation behaviour, XPS and AES studies 4-30842
- Ni solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
- Ni, transpassive films, appl. of angle-resolved XPS and AES depth profiling 4-57422
- Ni-Al-Mo, rapidly solidified prealloyed powders by laser spin atomization 4-57139
- Ni-Cr bilayers and alloys, silicate formation, phase separation and layer sequence reversal 4-50668
- Ni-Cr polycrystalline alloy, C and Si bulk-to-surface segregation meas. by AES 4-29638
- Ni-Cr-Al-Zr, surface comp., quantitative Auger microprobe study 4-35527
- Ni-Cu, radiation-induced segregation, Auger electron spectra studies 4-25037
- Ni-Mo-W (33, 17 wt%), superalloy, embrittlement and ductility rel. to phase struct. 4-51801
- NiO (111), epitaxial film on Ni (111), reduction by mol. H₂, investig. (French) 4-31026
- NiSi films, Si L_{2,3} VV Auger lineshape, chem. environment effects 4-11970
- NiSi-Ni₂Si, phase segregation, principal component anal. method with AES 4-7782
- Ni-Au-Ge ohmic contacts to GaAs, metallurgical props., Auger depth profiling, contact resist. meas. 4-30050
- Ni(110) surface, effect of O₂ exposure after ion bombardment, ellipsometric and AES study 4-57399
- O³⁺, amplified spontaneous emission in 1035 Å 4-19033
- O+O⁺, quasimol. prod., Auger spectrosc. 4-19132
- OCS, core-level photoelectron and Auger shape reson. phenomena 4-54800
- P cpts., KLL Auger and core-level photoelectron shifts 4-19014
- P⁴⁺, Auger and radiative deexcitation 4-19027
- PH₃, KLL Auger spectra energies and intensities 4-19111
- PbS oxidised layer, Auger spectra 4-16278
- Pb_{1-x}Sn_xTe based injection lasers, threshold current, temp. depend. 4-49363
- PbTe:In, impurity chemical states, thermodynamic anal., Auger electron anal. 4-50321
- Pd, adsorption of CO on (111) surface, photoemission spectra, C KVV Auger spectroscopy; 4-30605
- Pd, coadsorbed H and CO, methanol decomp. and interactions, TDS, LEED, AES studies 4-41256
- Pd film growth on Si (111) 7×7 surface, struct., low energy ion scatt. study 4-45542
- Pd thin film with adsorbed O₂ and CO, Auger, electron loss spectra studies 4-50645
- Pd-Cu thin films, surface composition, work function, AES and broken bond calc. studies 4-25137
- Pd-InP (110) interface, Auger study of Pd₃P formation 4-3000
- Pd-Si, amorphous alloy, ageing 473K, crystallisation, atmosphere effect, Mossbauer effect, AES (Japanese) 4-6270
- Pd-SiC interface, form. and oxidation, AES and EELS study 4-15771
- Pd₃Si, form. at interface of (111)Si and Pd sputtered layers, mass spectroscopy study 4-25177
- Pd₃Si-Pd₂Si, phase segregation, principal component anal. method with AES 4-7782
- Pt (111), adsorption of NO, XPS, LEED, and AES study 4-45500
- Pt (111)/Cu system, growth and alloy form., LEED, AES and desorption studies 4-29808
- Pt-Cu alloys, ethene chemisorption and surface segregation, AES studies 4-29803
- PtSi cosputtered coatings, high temp. stability, Schottky diode studies 4-29840
- PtSi-Pt₂Si, phase segregation, principal component anal. method with AES 4-7782
- RbCl, high resolution Cl L_{2,3} X-ray spectra, configuration interaction 4-11969
- Rh (100), NO chemisorption and decomposition, desorption studies 4-45512
- Rh (111), adsorption of benzene and naphthalene, LEED, AES, and thermal desorption study 4-29796
- Rh (111), benzene adsorption, LEED, EELS, desorption and Auger studies 4-45527
- Rh, adsorption of HCNO, mol. dissoc., AES, EELS, TDS studies 4-41258
- Ru (001), coadsorption of H₂O and Na, AES study 4-2461
- Ru (100), Cl adsorption, UPS, AES, LEED, work function and desorption studies 4-29805
- S deposition on W surface under electron bombardment (Japanese) 4-46379
- Si (111), Ag adsorption, ion scatt., LEED and AES studies 4-45507
- Si (111), electron activated stepwise oxidation and nitridation, AES study 4-35741
- Si (111) Ga and In adsorption, LEED, AES and photoemission spectra studies 4-45520
- Si, Auger electron emission excited by low-energy Ar⁺ bombardment (Chinese) 4-7290
- Si, dynamic holography, charact. relax. times, optical props. (Russian) 4-5563
- Si, electron impact K-shell ionisation cross-sections, for 4 to 10 keV 4-5454
- Si, impurity identification, transmission and reflection optical microscopy metallographic techniques 4-30886
- Si, laser annealing, in depth O contamination, IR, AES and ESCA studies (Chinese) 4-55856
- Si, laser-induced free-carrier absorption, Auger constant 4-34536
- Si, metallurgical grade, metallic particulate defects, scanning AES study 4-45148
- Si, minority carrier lifetime, SEM cathodolum. assessment 4-35499
- Si p-n junction anal. by ion-induced Auger electrons, surface pot. 4-25841
- Si single crystal wafers, native oxide film thickness meas. by AES and XPS 4-32230
- Si, surface, electron and ion excitation, Auger effect 4-11973
- Si, surface damage caused by H containing plasmas 4-24879

Auger effect continued

- Si thin surface layer oxidation by high dose $^{16}\text{O}_2^+$ ion implantation, volume changes meas. 4-45163
 Si:B, laser implanted, AES and SIMS study 4-34519
 Si:F, porous, distrib. determ. using nuclear reactions, XPS and Auger anal. 4-45170
 Si:Ga, ion irradiation effects from liq. metal ion source, SIMS anal. conditions simulation 4-45164
 a-Si:H, luminescence quantum efficiency 4-40506
 a-Si:H, recrystallisation, AES obs. 4-40579
 Si:O semi-insulating film, characterisation by XPS, IR spectra, Auger and thermal analyses 4-45564
 a-Si:P sputtered coating, P diffusion, Auger spectra study 4-45422
 Si/electrolyte interface, surface states induced by metal atoms 4-30068
 Si-Al interfaces, metal adsorption, chem. bonding states, AES with MBE technique studies 4-21078
 Si-SiO₂ interface, AES depth profiles anal., electron escape depth (Chinese) 4-6894
 Si-SiO₂ MOS struct., interface state generation 4-50947
 Si-V interface, chemical reaction and Schottky-barrier form. 4-45535
 Si-W interface, WS₂ form., photoemission, AES, work function meas. 4-45536
 SiC, doped with (B,C) or (Al,C), pressureless sintering, microstructures 4-57155
 SiC, electron-induced desorption (Russian) 4-50357
 SiC:H, amorphous films for solar cell window layer, compositional study 4-39730
 a-SiC:H film, phys. props. 4-40438
 SiH₄, LLL Auger spectra energies and intensities 4-19111
 Si₃N₄, Auger electron emission excited by low-energy Ar⁺ bombardment (Chinese) 4-7290
 Si₃N₄ CVD films, AES anal. electron and ion beam effect 4-51421
 Si₃N₄ film, photo-CVD by direct pyrolysis, elec. and optical props. 4-40661
 Si₃N₄ layers, plasma deposition, charact. 4-34815
 Si₃N₄ plasma enhanced deposition, encapsulant for GaAs:Si 4-50693
 Si₃N₄ sputtered coating on stainless steel, adhesion and mech. props. 4-7603
 SiO₂, electron-induced desorption (Russian) 4-50357
 SiO₂ film on Si, space distrib. of chem. composition 4-11418
 SiO₂ surface composition changes during ion and electron bombardment, temp. depend. 4-25136
 SiO₂ ultra thin film struct. and growth kinetics on Si (111) surface 4-56179
 a-Si_{1-x}Sn_x:H, sputter assisted plasma CVD films, props. 4-40439
 Sn, Auger spectra, N₂₃, anomaly 4-57045
 Sn, liq. and solid, oxidation, 25-240°C, LEELS and Auger study 4-26098
 Ta, halogen desorption, LEED, AES and work function meas. 4-45521
 Ta-Al-N alloy, anodised thin film capacitor, Auger electron spectroscopy, dielec. loss study (Japanese) 4-7125
 Ta₂O₅/Ta, thin anodic oxide film, AES depth profiles, quantitative evaluation 4-20446
 TaSi₂ thin films, temp. depend. of elec. and struct. props. 4-30098
 Ti films, evaporated, elec. resist. and Auger electron APS, O diffusion effects 4-20741
 Ti, oxidation, stoichiometry and oxide thickness, AES, EELS and micro-gravimetry studies 4-16537
 Ti thin film oxidation, elec. and optical methods meas. 4-26087
 Ti-Al-Cr-Mo-V, impurity distrib. study 4-11174
 Ti-Al-V, rapidly solidified prealloyed powders by laser spin atomization 4-57139
 Ti-silicide formation on Si (111), EELS and AES 4-35531
 TiB₂ thin film, RF diode sputtering and props. 4-3072
 TiC single cryst., surface interaction study with H ions by AES and flash desorption spectroscopy 4-51433
 TiC(N) sputtering coatings for fusion applications 4-20528
 Ti₂O₃, Co₂O₃, pyrolytic films, Auger and vibr. spectrosc., electrochem. and photoelectrochem. meas. 4-46382
 Ti overlayers, quasi-one-dimensional, CDW study 4-56246
 W (110), adsorption of acetylene, electron spectroscopic study 4-20488
 W (110), high resolution Auger spectra 4-35526
 W, adsorption of Au, work function, AES and electron backscattering studies 4-6645
 W, adsorption of S, effects of electron bombard. and coadsorbed species 4-50640
 W, CVD coating on Si wafer, props. 4-2477
 W, halogen desorption, LEED, AES and work function meas. 4-45521
 W, plastically deformed, Auger electron intensity meas. 4-30572
 W, sintered, Ni-Fe activated, AES study of C and P segregation 4-46613
 W/C multilayered films, anal. by AES (French) 4-29848
 WS₂ films, property depend. on plasma CVD conditions (Japanese) 4-45556
 Xe (111), surface effects on Auger electron energies 4-2999
 Xe ions, electron impact double ionisation 4-10141
 Y(Rh_{1-x}Ru_x)₂B₄, role of p-d hybridisation in T₁ variation 4-11618
 Yb-Al (110) interface, electron spectroscopy study 4-56155
 Zn, Auger vacancy satellite spectra, LMM, metallic renormalisation 4-3001
 ZnO, surface electronic props. and surface geometry 4-6856
 ZnO:C, compacted powder, plasma deposition of C, A ion bombardment, annealing, AES 4-6392
 ZnSe MBE growth on GaAs(GaP), vacuum thermal treatment and substrate cleaning effects, AES study 4-12029
 Zr overlayers on Pt(100) surface, structural and chemisorptive props., LEED and AES study 4-50616
 Zr, oxidation, XPS, AES studies 4-35772
 Zr, polycrystalline, O₂(N₂)(CO)(N₂O) adsorption, AES and ESCA studies 4-15767
 Zr-Ni amorphous films form. by solid state reactions 4-45553
 ZrB₂ thin film, RF diode sputtering and props. 4-3072

Auger electrons see Auger effect

Auger recombination see Auger effect; electron-hole recombination

Auger showers see cosmic ray showers and bursts

Auger spectra see Auger effect

Auger spectroscopy see Auger effect

augmented plane wave calculations see APW calculations

aural null direction finders see radio direction-finding

aurora

- see also airglow; atmospheric electron precipitation; atmospheric proton precipitation; atmospheric spectra
 557.7 nm emission and O(¹S) excitation 4-42258
 AD 1883 to 1931 period, obs. by Wilson Bentley in USA 4-3865
 auroral arc classification scheme based on elec. fields assoc. with arcs 4-42257
 arcs, effect on thermosphere neutral gas flow 4-22189
 quiet auroral arcs formation, ionosphere-magnetosphere convection model 4-42256
 boundary vars. and IMF during magnetic quiet times 4-26913
 conference of polar aurora, Aug. 1982, Leeds, England 4-8638
 D-region absorption event, relation to electron energy distrib. of auroral plasma 4-58343
 dayside aurora, shift, effects of mag. substorm var. and interplanetary mag. fields 4-17325
 diffuse aurora, rel. to struct. and morphology of F-region irregularities 4-22254
 FUV spectral emission dependence of electron energy and neutral atmos. 4-8342
 global distrib. and open field line region of magnetosphere 4-26915
 hard X-ray spectra, angular distrib. and polarisation 4-26914
 HF sky waves at oblique incidence, auroral absorption prediction 4-13009
 International Polar Years research programmes 4-13028
 kilometer radiation from field-aligned plasma density enhancements 4-58332
 occurrence frequency as measure of solar activity 4-8443
 omega bands with eastward drift, in morning sector of auroral oval 4-22219
 photometric imaging of atm. emissions, expt. for Spacelab 1 4-26855
 Pi 2 amplitude and polarization in active auroral region 4-47497
 protons and electrons, energy input distributions 4-8343
 pulsating aurora, ionospheric elec. fields and E×B drifts 4-13118
 pulsating aurora mechanism 4-13117
 quiet period Universal Time variations of 630 nm emissions 4-26911
 Second International Polar Year ionospheric research during 1932 and 1933 AD 4-13029
 small-scale auroral arc deformations, theoretical model 4-8341
 temperature of thermosphere from UV aurora mol. rot. spectra 4-3861
 far UV nighttime emissions between 300 and 900 Å, features due to O⁺ 4-26910
 westward travelling surge, auroral radio absorpt., electron precipitation effects 4-17326
 winter polar cap F-region, auroral struct. and dynamics 4-22203
 NO formation in polar aurora and γ-band spectra NO, γ-band radiation, UV obs. 4-19077
 NO₂* emissions and temp. depend. of O+NO→NO₂* reaction 4-41198
 N₂(c'¹Σ⁺→a'¹Π_g) emission bands 4-26912
 O I 5577 Å emissions, impulse response anal. anal. 4-58333

auroral ionisation see aurora

austenitizing see heat treatment

austenitic stainless steel

- aluminised layer, struct. and phase comp. after heat treatment 4-3158
 anodic oxidation in conc. NaOH soln., depth-comp. profiles 4-41072
 anodically formed passive films, struct. and stability in H₂SO₄ 4-57469
 antiferromagnetic ordering study (Russian) 4-51026
 austenitic-martensitic phase transformation, PIXE anal. 4-46504
 boronized layers, in-depth phase anal. by glow discharge optical emission spectroscopy (Chinese) 4-16572
 cellular precipitation in Al- and Ti-containing alloys 4-40800
 cold drawing, deform. and transform. textures (Japanese) 4-35628
 coloration by immersion in hot chromic-sulphuric acid solns. 4-7645
 composition of Cr depleted zone, atom probe field ion microscopy 4-16403
 corrosion, Co release rate in neutral water, temp. depend. 4-48658
 corrosion, localised, electrochem. prevention 4-57476
 corrosion, pit and crevice growth meas. 4-57478
 corrosion, pitting and crevice, role of sulphide inclusions, review 4-21364
 corrosion cracking susceptibility rel. to heat treatment 4-41053
 corrosion fatigue, electrochem. aspects 4-21392
 corrosion fatigue crack, growth Cl⁻ conc. influence on SUS 304 4-12237
 corrosion fatigue cracking in NaCl and HCl solns., review (Japanese) 4-51874
 corrosion in H₂SO₄ containing Cl⁻ and Cu⁺ (German) 4-35761
 corrosion resistance rel. to Cr substitution 4-7640
 crack distribution under creep 4-35698
 creep, effect of grain size (Korean) 4-16443
 creep cavitation in neighbourhood of stress concentrations in type 304 4-3194
 creep crack growth in type 316 4-26029
 creep curve eval. technique for type X6CrNi 1811 (German) 4-12135
 creep deform. and damage, under fatigue loading (Japanese) 4-26051
 creep life, const. tensile load at 550°C 4-40898
 creep rel. to struct., 900-1000°C 4-21287
 creep resistance and temp. depend. of LMFBR structural elements of X6CrNi 1811 (1.4948) (German) 4-12134
 crevice corrosion resist. meas. by potentiodynamic method 4-41116
 deformed, heat resist., struct. fineness influence 4-57272
 dissolution and passivation kinetics in organic media, H₂O effect 4-57465
 dual phase, phase and strain hardening, structure factors 4-7481
 ductile fracture of surface flaws, crit. parameters 4-12155
 ductility rel. to high temp. carburisation 4-16437
 elastic moduli of types 304, 310, 316, press. depend., Gruneisen const. 4-51710
 elbow plastic buckling loads, Southwell method, type 304 appl. 4-30777
 erosion-corrosion resistance of pump materials in static and flowing H₂SO₄ (German) 4-16541
 failure analysis of a control system hydraulic line 4-12191
 failure analysis of welded helium tanks 4-23158
 failure behaviour in torsion 4-7565
 failure temperature conditions, effect on struct. and props. 4-40979
 fatigue, high temp. low cycle, influence of N content 4-40943
 fatigue, low cycle, at FBR temps., effects of strain rate and strain wave form. (Japanese) 4-3228
 fatigue, low-cycle life, combined influence of reactor irradi. and holds 4-12176
 fatigue and fracture toughness testing at liquid He temp. 4-3310

austenitic stainless steel continued

- fatigue behaviour, low-cycle, interstitial N content influence (*French*) 4-40983
 fatigue crack growth in thin sections 4-30784
 fatigue deformation, dynamic strain ageing 4-21312
 fatigue in H_2 4-7564
 fatigue of annealed and cold-worked samples 4-7563
 fatigue testing, low-cycle method 4-7668
 FBR fuel pin cladding, strain due to power cycles 4-27967
 ferromagnetic traces at 4.2K 4-51100
 fibre reinforced Al alloy, effect of surface treatment of fibre (*Korean*) 4-57141
 fracture along grain boundaries, cavity growth control mechanisms 4-16509
 fracture surface of He(H) doped stainless steel, Auger spectroscopy study 4-12162
 fuel element cladding, eutectic penetration induced rupture in EBR-II driver elements 4-18605
 fusion reactor first wall test pieces, thermomechanical testing in ESURF of type 316 4-9400
 He ion implantation and bubble growth, TEM studies 4-11307
 heat resisting, precipitation hardened, low cycle fatigue, temp. and strain rate depend. 4-3250
 heat treated, erosion behaviour rel. to mech. props. 4-7607
 heat treated, fatigue damage, positron annihilation detection (*German*) 4-16586
 heat-resisting, creep rupture strength (*Japanese*) 4-3227
 high temperature ageing of Alloy 800, carbide precipitation struct., TEM obs. 4-40826
 hip joint endoprosthesis, fracture-proof anchorage stem development 4-31370
 hot corrosion-oxidation behaviour in Na_2SO_4 and transition metal salts 4-57409
 hot ductility and NbC precip. 4-57305
 hot ductility and NbC precipitation, intergranular microvoids coalescence fracture mode (*Japanese*) 4-46566
 intergranular attack, continuous cooling sensitisation, C content effect 4-51853
 intergranular corrosion, Cr depletion, electrochemical obs. 4-12245
 intergranular SSC, Cr depletion near grain boundaries, Auger spectrosc. (*Japanese*) 4-25962
 intergranular stress corrosion cracking, γ -ray effects (*Japanese*) 4-57394
 ion irradiated, cavity nucleation calcs. 4-29487
 irradiated and non-irradiated samples, fatigue suppression for LMFBR materials of type X6CrNi 1811 (*German*) 4-12189
 isochronous stress creep strain behaviour 4-40892
 LMFBR claddings, cold worked, ion irradi., void swelling, and dose depend. 4-39351
 low cycle fatigue, creep sensitive temp. range 4-30796
 low cycle fatigue life of SUS 321, thermal ageing effect 4-3249
 low cycle life in reactor irradi., kinetic failure criteria 4-7576
 low cycle multiaxial fatigue, crack initiation in type 316L 4-3257
 low temp. resistivity study (*Chinese*) 4-2584
 martensitic transform., internal friction study on H10N7K10M5 4-40779
 martensitic transform. propag. vel., acoustic emission freq. spectrum anal. 4-46506
 martensitic transitions, H charging effect 4-40777
 metal-oxide interface study using sputter ion plating 4-25167
 metallographic study of α - σ phase transform. 4-30883
 metastable, effect of transform. plasticity on dimens. stability. (*Czech*) 4-40783
 microstructure, phase transform. in Duplex 316L 4-7447
 neutron irradiated, fatigue crack propag., influence of He 4-57318
 neutron radiation strengthening, 240-650°C (*Russian*) 4-40806
 nonstabilised, Ni-Cr-(Mo), low-cycle fatigue strength 4-7544
 open circuit potential, meas. in water at 250°C, effect of chromate and nitrate additions 4-16535
 oxidation, influence of cold work 4-35760
 oxidation and decontamination mechanisms in LWRs 4-26114
 oxidation in presence of Na_2SO_4 and $NiSO_4$, 650-1000°C 4-16554
 oxide film morphology and struct. in dissociating N_2O_4 4-35776
 passivation improvement by W addition 4-57471
 passivation rel. to W additions 4-41050
 passive, film breakdown initial stages in 3% NaCl 4-57452
 passive behaviour in H_2SO_4 by corrosion under friction 4-57454
 passive film composition in elevated temp. solns. 4-57467
 passive film formation and characterisation 4-57468
 passive-transpassive transition, study of film 4-57474
 passivity breakdown inhibition by Mo addition in chloride solns. up to 250°C 4-57457
 pipe welds, discrimination of US indications 4-26140
 pitting corrosion above breakdown pot. 4-21356
 pitting resistance after passivation in dil. HNO_3 4-21355
 plastic behaviour after superimposing prestrains in type 304 4-3179
 plastic deformation, early stages, TEM study 4-21268
 plate, centre-cracked, elastic-plastic anal. on stable crack growth, benchmark study 4-29014
 precipitation behaviour, review 4-7473
 precipitation of σ -phase, crystallographic characs., TEM obs. 4-16396
 precipitation of implanted He after pulse loading 4-55921
 precipitation strengthened, microstructure and strength rel. to hot working 4-40834
 pressurised pipe under bending, J determ. by VCE method, PWR appl. of 304 steel 4-30823
 prestrained strips, yielding props. 4-40891
 pulse generator conductor failure analysis 4-12315
 PWR, ferritic and austenitic steel circuits 4-23176
 radiation swelling pattern for GCR, neutron effects for Cr-Ni steel (*Russian*) 4-15547
 reactor creep, 30-650°C, dislocation structure (*Russian*) 4-51735
 refractory, corrosion behaviour (*French*) 4-21379
 repassivation, pH effect 4-12247
 repassivation pot. of corrosion pits 4-57453
 SCC, consequences of depassivation and repassivation 4-57480
 SCC, crystallographic fracture appearance 4-57483
 SCC of annealed and sensitised specimens in deaerated chloride/sulphate solns. at 290°C 4-26082
 SCC susceptibility of subzero treated specimens (*Japanese*) 4-41077
 sensitisation, effects of C content and grain size 4-51848
 shutdown and ratcheting below creep range 4-12132
 shutdown tests at elevated temp. 4-46703

austenitic stainless steel continued

- simple two-bar structure, creep props., theoretical and expt. investigation 4-51739
 stable passivity limits testing of 304L in H_2SO_4 4-12275
 strain ageing rel. to stress relaxation 4-57277
 stress corrosion cracking under compressive stress, fracture surface struct. (*Chinese*) 4-57386
 stress corrosion of an ironer sheet (*German, English*) 4-16555
 stress corrosion tests of type 316L steel, real surface stresses development (*French*) 4-41093
 stress-induced martensite, transform. to austenite by ion implantation 4-21208
 strips, dislocation and phase struct. changes, caused by plastic deform. (*Polish*) 4-30752
 structure and mech. props. at 20°C for A286 type steel (*French*) 4-46510
 surface fatigue crack initiation and propag. on smooth cylindrical specimens (*Japanese*) 4-51790
 surface layer quantitative X-ray phase anal. 4-44893
 swelling under electron irradi., applied stress effect 4-29478
 swelling velocity under irradiation (*Russian*) 4-50368
 thermal neutron irradi., solution annealed, microstruct. rel. to the content 4-29483
 thermodynamics of formation of $NaCrO_2$ corrosion product 4-30851
 thermomechanical response to cyclic uniaxial deform. 4-57282
 transgranular SCC, rel. to γ precipitation 4-12231
 two layered with low C steel, composite plate, fatigue crack propag. 4-12143
 type 316, annular channel, TRAN expt. B-1, fuel crust stability study 4-23367
 type 316, He^+ irradiated, dose rate depend. of critical dose on blistering 4-39353
 types 316L and 321, hydrogen induced delayed failure 4-3211
 US inspection of corrosion fatigue cracks in welds 4-26117
 US weld evaluation, artificial intelligence appl. 4-26161
 void swelling, solute Ti effects in electron irradiation of type 316 4-15535
 weld, US inspection, acoustic impedance mismatch 4-21401
 weld metal, microstruct., neutron diff. study 4-16422
 weld metals, long term heating, morphology and deterioration prevention 4-3160
 welded, corrosion in marine atmosphere 4-12240
 welded, SCC in $MgCl_2$ soln. with NaI additions 4-21354
 welded joints in thick plates, US flaw detectability 4-7659
 weldments, fatigue crack growth (*Japanese*) 4-51792
 weldments, US inspection, false defect indications 4-12287
 wire, torsion fatigue strength (*Japanese*) 4-46598
 BN precipitation on surface 4-16398
 C movement by liquid Na in type 304 (*Spanish*) 4-28150
 Cr-Mn, radiation-stimulated transforms. in struct. 4-57230
 Cr-Ni, radiation-stimulated transforms. in struct. 4-57230
 Cr-Ni, weld joints, low-temp. cyclic crack resist. 4-51809
 Cr-Ni-Mo, transient creep kinetics 4-30760
 Cr-Ni-Mo, transient creep, subboundary struct., TEM obs. 4-30761
 Cu-Mo-containing 4-57473
 Fe-austenitic stainless steel system, annealing, interdiffusion, 1023-1373K 4-15715
 Fe-Cr-Ni, electron irradi., defect props., elec. resist. meas., comp. depend. 4-58777
 H_2 permeation const. meas. 4-56080
 Ni-Cr-Al-C, low-cycle fatigue (*French*) 4-30807
 Sb-doped 25 Cr-20 Ni, creep behaviour 4-30755
 T exposed, ion beam profiling of 3He 4-16589
 T solubility, gas absorption and liq., scintillation counting 4-56020

austenitic steel

- see also *austenitic stainless steel*
 ageing, hardening and microstructure of Fe-Ni-Mn based steel (*Russian*) 4-51677
 corrosion defect detection by pulsed eddy currents (*German*) 4-30873
 isothermal martensitic transformation, stress relax. (*Russian*) 4-51658
 metastable, weld joint, deform. martensite influence on low-temp. cyclic crack resist. 4-51805
 mosaic size and microdistortion, X-ray line profile analysis, functional graphic method (*Chinese*) 4-6224
 precipitation hardening, heat treatment effect on struct. and props. 4-21245
 precipitation-hardening, with Pb impurity, thermocyclic treatment effect on props. 4-40845
 radiation creep at stresses exceeding elastic limit 4-6413
 stable crack extension measurement, using elec. pot. method 4-49778
 two phase, austenitisation, struct. and hardness (*Russian*) 4-25980
 Cr-Mn and Cr-Ni, weld joints, low-temp. cyclic crack resist. 4-51809
 Cr-Mo, austenite nucleation and growth, memory effect 4-21206
 Cr-Ni, irradi. in HVEM, interstitial migration, role of C and Ti (*French*) 4-34545
 Fe-Cr-Mn, unstable, strain-induced α' martensite form. (*Russian*) 4-25957
 He ion implanted He bubble nucleation at grain boundaries, TEM studies 4-25034
 Mn-Al, cryogenic structural materials appl. 4-51720
 Mn-Al, nonmag. and cryogenic, mech. props. (*Chinese*) 4-16466
 Mn-Al-Cr, nonmag. and cryogenic, mech. props. (*Chinese*) 4-16467
 Mn-Cr, microstructure and precipitates 4-21293
 Nb bearing austenite, dynamic precipitation during high strain rate compression testing 4-40798

austenitising see heat treatment**Autler-Townes effect see Stark effect****autoalignment model see Hanle effect****autoionisation****see also Auger effect**

- acetylene, solid, valence-shell photoemission, partial cross sections and autoionisation reson. 4-51448
 atom, photoelectron spectrum near autoionising level, confluence of coherence 4-43858
 atom, strong-field laser-induced autoionisation, double-reson. effects 4-48987
 atomic discrete state decay, radiative emission and autoionisation interference 4-19003
 atoms, autoionising reson., four wave mixing, spontaneous emission and recombination effect 4-19004

autoionisation continued

- atoms, electron impact excitation, autoionisation, post collision interaction 4-10128
- atoms, intermediate energy electron reson. ionisation exchange effects 4-10126
- atoms, laser-induced autoionisation, second continuum coupling 4-48989
- p-benzoquinone anion, time resolved electron energy loss spectra 4-5475
- bound Rydberg states, threshold capture width determ. 4-5496
- diatomic mols., Rydberg states, threshold excitation, post collision interaction 4-10129
- highly charged ion+atom collisions, low energy autoionis. electron emission spectra 4-10026
- ions, $Z=6$ to 30, autoionisation width, relativistic calcs. 4-33349
- laser-induced autoionisation by strong pulse and photoelectron spectrum 4-10097
- molecular autoionising resonances probing using fluoresc. polarisation 4-49827
- molecular photoionisation, shape and autoionising reson., dynamics 4-33460
- multiply charged ion level autoionisation widths averaged over LS 4-48990
- photoexcited autoionising atom, initial state population, collisional broadening, radiative recombination 4-28536
- post-collision interaction, Auger line shift 4-19026
- radiative autoionisation, proposal for short-wavelength laser construction 4-48988
- Ag, 20-400 eV electron impact excitation, autoionising transitions, ejected-electron spectrum 4-14579
- Ba, 5p hole states, reson. photoelectron spectra 4-19009
- Ba, autoionising states, multistep excitation 4-1099
- Ba, autoionising states, two-photon excitation study 4-5184
- Ba, Rydberg state, Penning ionisation, photoionisation, autoionisation, electron spectra 4-1253
- Ba, two-step autoionisation, config. mixing 4-1096
- Bal, electron shake-up in two-photon excitation of core electrons to Rydberg autoionising states 4-5191
- CO, comparison of autoionisation and PES 4-5295
- CO, photoionis. spectrum, 15-40 eV range 4-9845
- CO₂, autoionising resonances probing using fluoresc. polarisation 4-9827
- CO₂, solid, electronic band struct., determined from $h\nu$ -depend. of photoemission 4-34872
- Cd electron impact autoionisation, mass spectra energy scale calibration implications 4-49165
- Cd, even parity ¹D₂ autoionizing level, electron-electron coincidence spectra 4-10119
- Cr to Cu atoms, M_{2,3} shell Auger and autoionisation spectra 4-48996
- Cs, autoionising continua, Rydberg series, UV spectra 4-9728
- D₂, autoionisation Rydberg state spectrum calc. 4-9843
- F, photoionisation from ionisation threshold, ion yield curve 4-43855
- Fe ions passing through Be, C, Al and Cu foils, equilb. charge state distrib., microscopic anal. 4-19194
- Fe²⁴⁺, electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
- Ga I, autoionising levels investig. 4-1100
- H, Landau excited states, autoionisation widths and energies in mag. fields 4-28410
- H₂, autoionisation, reson., two-photon, time development 4-5294
- H₂, autoionisation Rydberg state spectrum calc. 4-9843
- H₂, two-photon autoionisation reson. states, model calcs. 4-23762
- HD autoionisation Rydberg state spectrum calc. 4-9843
- He, doubly excited states, transition probability distrib. over radiative and radiationless decay channels 4-5167
- He, doubly excited states, energies and widths, electron correl. and relativistic effects 4-54616
- He isoelectronic series above $n=2$ continuum, autoionis. states positions and widths 4-9949
- He⁺, electron impact excitation calcs. 4-19284
- He⁺Au³⁺, transfer ionisation and excitation, correl. two-electron effects 4-43977
- He+H₂, Penning ionisation, diatomics-in-mols. model, pot. energy surface 4-38302
- He+H₂ reson. energy and autoionisation widths, semiempirical DIM calcs. 4-28543
- He+H⁺, parity-unfavoured autoionising states, excitation cross-sections calcs. 4-9958
- He+H⁺(He⁺)(Li⁺)(Li²⁺)(Li³⁺), autoionisation spectra 4-9948
- He+Na, Penning ionisation cross sections calc. 4-9937
- He⁺+He, autoionisation spectra in electron energy range 3-2000 eV 4-19207
- He(3¹P)+Ne, autoionisation width for Penning and associative ionisation cross sections 4-9932
- Hg electron impact autoionisation, mass spectra energy scale calibration implications 4-49165
- In, electron impact excitation, autoionising state, nsnp(n+1)p configs. 4-10114
- In I, autoionising levels investig. 4-1100
- K atoms, VUV emission spectra 4-54625
- Kr autoionising state selective multiquantum excitation and stimulated emission obs. 4-48992
- Kr excited state, photoionisation, elec. field induced reson. 4-28411
- Kr, Rydberg states, threshold excitation, post collision interaction 4-10129
- Kr⁺+Kr, low MeV collisions, autoionisation spectra 4-19206
- Li isoelectronic series, dielectronic recombination rate coeffs. 4-38127
- Li⁻ excited states, lifetime and hyperfine struct. 4-9723
- LiHe³⁺, infinitely excited quasimols., stabilisation treatment 4-43925
- Mg, autoionising states, energies and widths 4-19006
- Mg, photoionization near threshold 4-38136
- Mo⁴⁰⁺, electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
- N⁴⁺, doubly excited states, energy values, wave functions, autoionisation, dielectronic satellites 4-38110
- N⁵⁺, autoionisation, electron spectra meas. by Ne⁷⁺+He(H₂) collisions 4-49147
- N₂, Hopfield series, electronic autoionisation, ab initio MQDT calcs. 4-1222
- N₂, Hopfield series, electronic autoionisation, multichannel quantum defect calc., ab initio approach 4-19114
- N₂, vibr. excited formation from NH₃ catalytic decomposition on Pt surface 4-33360

autoionisation continued

- NO, multiphoton ionis. photoelectron spectroscopic obs. on autoionis. processes 4-9832
 - N₂O₄, solid, temp. induced autoionisation, Raman study 4-56909
 - Na vapour, nonlinear third- and fifth-order susceptibilities, induced autoionisation-like resonances 4-28769
 - Ne, 2p^{1/2} ns', nd' autoionis. resons. 4-1098
 - Ne II 2p^{1/2}nl'n'l' autoionisation energy determ. 4-9726
 - Ne, Ne⁸⁺ form. and autoionis. at Mg surface 4-9954
 - Ne, Rydberg series, optogalvanic spectrosc. investigation 4-18947
 - Ne⁺, collision with Mg, Al and Si target, autoionisation state form. 4-25844
 - Ne⁺, Ne⁸⁺ form. and autoionis. at Mg surface 4-9954
 - Ne(2p^{1/2}ns',nd'), autoionisation resonances, multichannel quantum defect anal. 4-1095
 - Ni²⁺, electron impact excitation-autoionisation 4-5461
 - O₂, thermal electron attachment, pulse radiolysis microwave cond. tech. 4-5507
 - OCS, fluoresc. excitation spectra of neutral fragments from photodissoc. by VUV photons 4-9828
 - Pb, reson. states, decay into exit channel, counterbalancing contrib. 4-14351
 - Se²²⁺, electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
 - Sm autoionisation level laser spectroscopy 4-9727
 - Tl, electron impact excitation, autoionising state, nsnp(n+1)p configs. 4-10114
 - Tl I, autoionising levels investig. 4-1100
 - Tm, highly excited states, laser spectroscopy 4-54620
 - Xe ions, electron impact double ionisation 4-10141
 - Xe, Rydberg and autoionizing levels, RF optogalvanic detect. 4-18945
 - Xe, Rydberg states, threshold excitation, post collision interaction 4-10129
 - Xe⁶⁺, resonant excitation double autoionisation 4-9729
 - Xe+Ar³⁺, autoionising states form. and decay 4-9957
 - Yb atoms and ions, autoionising states, electron spectra 4-19005
 - Yb⁻, autoionisation, narrow low-lying state positions and widths 4-19002
 - Zn electron impact autoionisation, mass spectra energy scale calibration implications 4-49165
- automatic frequency control**
- EPR spectrometer control by microprocessor and digital hardware 4-27548
- automatic gain control**
- obstetric US, clinical trial of automatic gain control 4-21749
- automatic test equipment**
- component and materials testing using compound system process computer (German) 4-16587
 - concrete, long term strain meas. computer interface for acoustic strain gauges 4-3333
 - destructive test machine for stress analysis, microprocessor-based monitoring 4-51925
 - fatigue crack growth, computer controlled data collection system 4-3327
 - fatigue testing machinery with kinematic excitation, automation 4-35803
 - fatigue testing system for polymers 4-57510
 - fission reactor materials, automated meas. and recording system to invest. effect of reactor radiative on creep 4-12304
 - fission reactors, PWR, automatic steel section inspection, ultrasonic TOF technique 4-4956
 - gas chromatograph with integrated microcomputer for high resolution detection (German) 4-21509
 - high strain biaxial testing rig for thin walled tubes 4-35790
 - impact testing instrumented system, microcomputer appl. 4-3370
 - IR telescopes MTF determ. 4-43006
 - LEITZ MPV compact MT microscope photometer for automatic eval. on microtest trays 4-3667
 - LMFBR components testing under thermal transients, data acquisition and control 4-18731
 - metals, mechanical test apparatus, tubular specimens under internal H pressure 4-46685
 - myocardial extracellular space meas. using automatic electronic image analyser 4-21853
 - nuclear reactor component gamma radiography, automated systems (German) 4-12313
 - nuclear reactor electrical components under breakdown conditions, automated test equipment (German) 4-9354
 - optical micro-lens, wave aberrations, automatic shear interference system 4-38554
 - servohydraulic fatigue machine, variable amplitude loading, test speed increase 4-3328
 - servohydraulic-controlled load frame for SEM fatigue studies 4-3329
 - shear wave transducer array for real-time digital synthetic aperture imaging system 4-35841
 - steel, inclusion content, computer controlled US cleanliness inspection system 4-30918
 - steel, stainless, computer aided X-ray fluorescence spectroscopy 4-35962
 - steel strip, dissolved C and N interstitials, Snoek effect, automatic bending oscill. pendulum 4-3304
 - superconductors characts. recording, using semiautomated system 4-8919
 - time-of-flight scanner, defect sizing and characterisation performance 4-57515
 - US imaging system, real-time signal processing 4-35840
 - US scan inspection system, production implementation 4-51919
 - US scanning bridge, computerised, for defect imaging of composites 4-35846
 - US signal analyser for automatic inspection of turbine discs 4-51945
 - US signal processing methods for multilayered NDT 4-35843
 - US testing, automated inspection and data collection system 4-51951
 - VHF EM field meas. (French) 4-42935
 - Si-steel sheets, digital testing set for DC magnetic props. (Chinese) 4-13655
- automatic testing**
- compression testing, computer controlled hot plain strain, evaluation (German) 4-16577
 - conductivity standards calibration, semiautomated 4-227
 - fatigue machine, computer-aided calibration 4-32256
 - radiotelegraphic auto-alarm receiver, test methods of operation characteristics against atmospheric radio noise at 500 kHz (Japanese) 4-47389
 - US flow sizing, automation of Born inversion 4-30911

automatic testing continued

Al-Cu, high strength, creep crack growth, study using computerised testing system 4-40964
 Fe, cast, SG, automatic NDT, magnetic characterisation (*French*) 4-16574

automobile industry

fibre reinforced plastics for automotive industry 4-41168

automobiles

air mass flowmeter for test cell instrumentation 4-49909
 exhaust emissions and energy consumption, forecasting by computer 4-16820
 improved operating characteristics of sealed automotive batteries with gas recombination 4-7855
 Pb-acid batteries for electric road vehicles, European development trends 4-7852
 sound level reduction due to defective exhaust system repair 4-14839
 H₂-fuel cells for electric cars, H₂ being produced by electrolysis in nuclear power plants, economics 4-3487
 Pb-acid batteries, light weight and high performance, development 4-7850

autoradiography *see radioisotope scanning and imaging*

autoresonant accelerators *see collective accelerators*

avalanche diodes

see also avalanche photodiodes; IMPATT diodes

GaAs/Si₃Ge₂ avalanche transit diodes, radiation-stimulated gettering of struct. defects 4-30067

avalanche photodiodes

backscatter detectors, optical time-domain reflectometer performance and calibration 4-37152
 electrooptic A/D conversion, performance criteria of components 4-49501
 MBE growth, recent developments, 4-16324
 quantum well structs. and superlattices, appls. pot. 4-45869
 semiconductor superlattices, Z 4-45870
 single 1.3 μ m photon detection at 45 Mbit/s 4-53753
 single-photon counting and timing by avalanche photodiodes 4-17940
 Ge avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 Ge, optoelectronic component surface obs. with optical scanning microscope (*French*) 4-37163
 InGaAs avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 InP avalanche photodiodes, LPE, hole diffusion length, impact ionisation coeffs. 4-40687
 Si avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 Si large area avalanche photodiodes, nucl. scintillation detector appl. 4-998
 Si photodiode wavelength-depend. delay time determ. using picosec. phase fluorometry 4-4466

avalanches, carrier *see impact ionisation*

avalanches, electron *see electron avalanches*

avalanches, electron-hole *see impact ionisation*

avionic systems *see aircraft instrumentation*

Avogadro's number *see constants*

avoided crossing *see energy level crossing*

axicons *see lenses*

Axilrod-Teller-Moto dispersion forces *see intermolecular forces*

axiomatic field theory

η^0 scalar field theory, numerical results in 3-D 4-48319
 $\lambda\phi^4$ in thermo field dynamics, renormalisation and perturbation 4-43160
 $\lambda\phi^4$ model, massless, conformally coupled, spontaneous symm. breaking mechanism in cosmological spacetimes 4-13821
 $\lambda\phi^4$ theory, relations between effective pot. in different dims. 4-32442
 $\lambda\phi^4$ theory with momentum cutoff, perturbative renormalisation from effective lagrangian scaling 4-22909
 σ model, gauged, supersymmetric, symmetry breaking patterns 4-18085
 σ model, improved action from block-spin renormalisation group transformation 4-18074
 σ model, near-critical props. from potential shift 4-13750
 σ model formulation of Yang-Mills theory on four-dimens. hypersphere 4-9033
 σ -model representation of supersymmetric gauge theory 4-53873
 ϕ_1^4 and ϕ_2^4 continuum theories, existence and nontriviality 4-4513
 ϕ_1^4 euclidean field theory, rigorous construction and Borel summability 4-53855
 ϕ_1^4 renormalised field theory, ambiguities, Borel transform singularities 4-37292
 $(\phi_1^4)^*$, renormalisable, short-distance behaviour 4-18092
 $(\phi_1^4)_2$ perturbation theory, semiclassical expansion, leading large order asymptotics 4-22905
 ϕ_1^4 gauge theory, non-triviality, Higgs mass upper bounds 4-43168
 ϕ_1^4 model, constrained, quantisation 4-48303
 ϕ_1^4 model in Euclidean space, renormalised normal product and eqns. of motion 4-43159
 ϕ_1^4 model with self-interacting currents, conoidal waves 4-53871
 ϕ_1^4 theory, continuum limit and improved action in lattice theories 4-4519
 ϕ_1^4 theory, method of uniqueness for multiloop calcs. 4-22939
 ϕ_1^4 theory and ϵ -expansion, self-consistent eqns. 4-48304
 $(\nabla\phi_1^4)^*$ model, IR behaviour from renormalisation 4-27640
 Adler-Bell-Jackiw anomaly as Weyl fermions on a lattice, crystal analogy 4-9022
 anharmonic lattice, generalised Holstein-Primakoff theory 4-13756
 asymmetric lattice gauge theories with fermions, Λ -parameters 4-334
 axial anomaly induced fermion factorisation and effective gauge theory actions 4-13766
 chromoelectric flux distribution in SU(2) lattice gauge theory 4-18064
 compact Abelian lattice gauge theory, Green's function Monte Carlo method appl. 4-4561
 compact U(1) in 2+1 dimensions, finite-lattice Hamiltonian approach 4-4612
 conference, high energy physics, Brighton, England (July 1983) 4-31964
 conference, lattice gauge theories, supersymmetry, unification, Bad Honnef, Germany (June 1983) 4-42598
 conference on high energy physics, Tokyo, Japan (Sept. 1982) 4-13481
 conference on high energy physics recent developments, Schladming, Austria (Mar. 1983) 4-4

axiomatic field theory continued

conference on quark matter formation and heavy ion collisions, Bielefeld, Germany (May 1982) 4-42601
 confining string between 2 heavy quarks in lattice gauge theory, string tension, roughening transition 4-9088
 constrained quenched master field for continuum QCD, lattice gauge theories, large-N quenching 4-18156
 continuum limit and improved actions in lattice field theory 4-32466
 continuum limit improved lattice action, Λ parameters for pure Yang-Mills theory 4-18066
 continuum thermal Wilson loop with space-periodic boundary conditions 4-13779
 covariant lattice blueball fields 4-18155
 CP_2^{N-1} models with quarks, chiral symm. breakdown and PCAC reln. 4-43161
 CP^1 model, instantons on lattice, scaling props., symmetry breaking 4-13810
 CP^{N-1} model, anomalous dimensions and mixing matrix calc. in 1/N order 4-53866
 CP^{N-1} model, meson mass spectrum 4-18073
 CP^{N-1} model solutions, Riemann-Hilbert problem 4-43172
 $CP(n)$ chiral theory, non-self-dual solns. and corresponding gauge fields 4-37268
 deconfinement phase transition, meson mass spectrum on 16^4 lattice, quark effects 4-32473
 Dirac-Kahler lattice regularisation of fermionic degrees of freedom 4-43220
 discrete QCD, Euclidean lattice gauge theory 4-32582
 Eguchi-Kawai reduction at finite temp. for SU($N \rightarrow \infty$) lattice gauge theory 4-18037
 entropy of planar random surfaces on the lattice 4-9026
 Euclidean $\lambda\phi_1^4$ theory, BPZ theorem, Callan's proof 4-37274
 Euclidean ϕ_1^4 theory, Borel transformed perturbation series convergence 4-4516
 Euclidean lattice field theory, random walk simulation, lattice QCD appl. 4-13748
 Euclidean lattice gauge theory, link fermions, Wilson lattice fermion propagator 4-48330
 Euclidean quantum field theory, axioms for renormalisation 4-18031
 Euclidean quantum theory, bottomless action theories stabilisation 4-32462
 Euclidean SU(2) gauge theory solns. 4-48342
 Euclidean SU(2) lattice gauge theory, variational study 4-4547
 fermions in two-dimens. models, bosonisation 4-369
 fermions on lattice, avoiding species doubling via harmonic spinors 4-48348
 finite lattice Z(3) models in two and three dims. 4-22911
 finite temperature symmetry restoring phase transitions, thermal fluctuations 4-48375
 finite temperature twisted Eguchi-Kawai model at low temp. 4-9024
 five-loop renormalization group calculations in the $g\phi^4$ theory 4-18061
 free quark model, Wilson formulation, composite operators in hopping param. expans. 4-13885
 glueball 0^+ mass in lattice gauge theory with mixed SU(2)-SO(3) action 4-22979
 glueball mass spectrum in SU(3) nonAbelian lattice gauge theory 4-18212
 glueball masses on large lattices in SU(2) and SU(3) gauge theories 4-48439
 glueball spectroscopy in strongly coupled lattice gauge theories 4-32589
 ground-state vacuum bubbles collapse in S-matrix formulation 4-48338
 hadron scattering amplitude, asymptotic correlations between phase and modulus 4-32648
 hadron spectrum calcs., finite size problems 4-438
 hadronic mass spectrum, Monte Carlo evaluation on lattice 4-437
 Hamiltonian lattice field theory, connected diagram expansions, gauge model axial string tension 4-53828
 Hamiltonian lattice gauge theories, residual gauge invariance 4-43213
 Hamiltonian lattice gauge theory, Z₂ and U(1), string tension, linked cluster expansion 4-53829
 Hamiltonian lattice models, iterative technique 4-32459
 hamiltonian U(1) lattice gauge theories, analytic approx., weak-coupling behaviour 4-22913
 heavy quark potential in Monte Carlo lattice gauge theory 4-440
 improved lattice actions for nonlinear sigma model and nonAbelian gauge theory 4-374
 infinite range potential lattice gauge model solved by the mean field 4-386
 Ising model correlation functions, difference eqns. and reln. to Z₂ lattice gauge theory 4-42889
 Klein-Gordon eqn., discretised, Liapunov exponents calc. 4-9017
 Klein-Gordon field, semiclassical quantisation, particle definition 4-42813
 Kosterlitz-Thouless scenario, Monte Carlo results for XY phase transition mech. 4-32440
 Laplacian on a random one-dimensional lattice 4-373
 lattice, QCD thermodynamics, Monte Carlo simulations, temp. delimiting of hadronic mass spectrum 4-18208
 lattice action for SU(2) gauge theory and Monte Carlo calc. 4-359
 lattice degeneracies of geometric fermions 4-13792
 lattice dipole gas and $(\nabla\phi)^4$ models, decay of correlations and scaling limit 4-37271
 lattice fermion action, axial vector current anomaly and meson decay constants 4-48315
 lattice fermion fields, 3-D, tetrahedron eqns. 4-53832
 lattice fermionic doubling, random fields in perturbative framework 4-18053
 lattice fermions, alternative formulations 4-13793
 lattice fermions, avoiding species doubling via harmonic spinors 4-377
 lattice fermions, thermal distrib. functions and finite-size effects 4-42851
 lattice fermions and tomography 4-18052
 lattice field theories, continuum limit and improved action 4-13809
 lattice formulation, continuum limit, charges and monopoles, gauge theory 4-384
 lattice formulation of pure gauge fields on coset space, confinement (*Chinese*) 4-43210
 lattice gauge and spin models, pseudo-abelian operators in large-N limit 4-18075
 lattice gauge coupled to Higgs matter field, Coulomb phase, mean field anal. 4-43175
 lattice gauge field theories with matter fields, defect free energies 4-53831

axiomatic field theory continued

- lattice gauge field theory, fast computer system 4-27641
 lattice gauge field theory, Majorana Kahler fermions 4-22940
 lattice gauge field thermodynamics, finite lattice corrections 4-22942
 lattice gauge theories, complex singularities, zeros distrib. 4-383
 lattice gauge theories, double valued representations in cubic 4-D 4-32407
 lattice gauge theories, Nicolai mapping in supersymmetry formulation 4-18042
 lattice gauge theories, nonplanar contours and string tension 4-27654
 lattice gauge theories, numerical results 4-32472
 lattice gauge theories, strong coupling and mean field methods, review 4-53865
 lattice gauge theories, strongly coupled, energy-momentum spectrum 4-22910
 lattice gauge theories, SU(2) and SU(3), Lorentz invariance restoration, glueballs 4-48312
 lattice gauge theories, Susskind fermions at strong coupling 4-376
 lattice gauge theories, UV and IR effects 4-53856
 lattice gauge theories, variational study 4-385
 lattice gauge theories, Wilson fermionic action, block diagonalisation 4-53824
 lattice gauge theories 4-53885
 lattice gauge theories associated with staggered ice vertex model 4-32408
 lattice gauge theories behaviour of order parameters with matter fields 4-32410
 lattice gauge theories with Kogut-Susskind fermions in the strong coupling region 4-32470
 lattice gauge theories with Susskind flavours 4-375
 lattice gauge theory, Bethe-Peierls approx. 4-27667
 lattice gauge theory, defect proliferation due to order parameter multivaluedness 4-32467
 lattice gauge theory, excited glueball states 4-18057
 lattice gauge theory, finite size effects for noninteracting Fermi system 4-18054
 lattice gauge theory, hadronic transitions, $\rho \rightarrow \pi\pi$ calc. 4-27662
 lattice gauge theory, Hamiltonian, inhomogeneous coupling perturbations 4-13749
 lattice gauge theory, improved fermion action on lattice 4-22937
 lattice gauge theory, large-N, phase structure study with variational ansatz 4-18100
 lattice gauge theory, Monte Carlo simulation (*Korean*) 4-13762
 lattice gauge theory, nondegenerate Susskind fermions 4-342
 lattice gauge theory, over-relaxation for Monte-Carlo simulations of multi-quadratic actions 4-27668
 lattice gauge theory, phase transitions at finite temp. 4-13759
 lattice gauge theory, staggered fermions and rotation gauge invariance 4-32413
 lattice gauge theory, stochastic quantisation, Langevin eqn. 4-43225
 lattice gauge theory, string tension evaluation using Monte Carlo simulations 4-22941
 lattice gauge theory, Symanzik's program, addition of Wilson lagrangian 4-4546
 lattice gauge theory, topological objects, non-integer charges and anomalies 4-43223
 lattice gauge theory at large N and strong coupling, meson and baryon masses 4-9025
 lattice gravitinos, Kahler formulation, lattice supergravity 4-47982
 lattice Hamiltonian field theories, spectrum calc., appl. to $\lambda\phi^4$ theory in 1+1 dims. 4-4560
 lattice Hamiltonians, variational ground states 4-43206
 lattice models, stochastic method, path integrals, partition function 4-43233
 lattice QCD, chiral phase transition at strong coupling 4-22981
 lattice QCD, colour charge screening in numerical hopping-parameter expansion 4-22978
 lattice QCD, fermions, hadron spectrum, review 4-43318
 lattice QCD, four-quark crypto-exotic nonet masses, Monte Carlo calc. 4-13875
 lattice QCD, glueball mass calc. from SU(3) gauge fields 4-48428
 lattice QCD, glueball spectrum 4-32583
 lattice QCD, n-flavour, mass inequalities determ., chiral symm. breaking 4-9073
 lattice QCD, numerical anal. 4-22977
 lattice QCD, qqg exotic fields 4-32578
 lattice QCD, simulations with quenched fermions 4-43219
 lattice QCD, strong-coupling expans., chiral symm. breaking, pion mass and decay const. 4-32598
 lattice QCD, volume effects and numerical simulation 4-439
 lattice QCD and gauge theories, deep inelastic scatt. appl. 4-444
 lattice QCD with Wilson-fermions at finite temperature, Monte Carlo calcs., review 4-43319
 lattice QED, chiral symmetry breaking 4-43301
 lattice Schwinger model, Monte-Carlo calc. for d=2 fermion model 4-32471
 lattice SU(3) QCD, hadron spectrum calc., masses, quark paths 4-4633
 lattice SU(N) gauge theories, topological charge, distrib. in SU(2), susceptibility 4-48331
 lattice supersymm., stochastic interpretation 4-4580
 lattice supersymmetry, stochastic quantisation 4-43226
 lattice universality, large N-approx., asymptotic freedom scale parameter 4-18065
 lattices, supersymmetry and Kahler fermions 4-53892
 loop equations, 1/N expansion, strings, model appls., review 4-53931
 Lorentz invariance of six-fold anisotropic Villain gauge theory in four dims. 4-4548
 massive Schwinger model on lattice via local Hamiltonian Monte Carlo method 4-9008
 massive Thirring model, integrable lattice version and linearisation 4-353
 massive Thirring model spectrum, lattice approach 4-9011
 massless $\lambda\phi^4$ theory, vacuum instability 4-13771
 mean-field theory for quenched reduced large-N gauge model 4-22912
 meson and baryon masses, quenched QCD with light Kogut-Susskind quarks on large lattice 4-48440
 microcanonical simulation of fermionic systems 4-22928
 Migdal-Kadanoff recursion eqns. for gauge and spin systems on lattice, dual symm. 4-13763
 Migdal-Kadanoff transformations on dual lattice and bounds on free energies 4-361
 Minkowski lattice, consistent fermion formulation with operator Dirac eqn. approx. 4-9019

axiomatic field theory continued

- mixed action lattice gauge theories, large-N universality of variant actions 4-48281
 N=1 super /Yang-Mills theory, supercurrent anomaly using lattice regularisation 4-32441
 N=2 two-dimensional Wess-Zumino model on the lattice 4-4518
 n-vector model in semi-infinite space, 1/n expansion 4-43200
 non-abelian bosonisation and Wess-Zumino action in two dims. 4-53884
 non-Abelian lattice gauge theory, flux patterns 4-18083
 non-isotropic U(1) lattice gauge theory, layer phase, dimensional reduction 4-53820
 nonequilibrium statistical field theory, GUT cosmology appl., galaxy formation, $\lambda\phi^4$ theory 4-8624
 nonlinear R_2 gauge, Green's functions props. 4-48387
 nonlinear sigma model, supersymm., structure for potential terms 4-329
 nonperturbative field theory and QCD, conf., Trieste, Italy (Dec., 1982) 4-27
 nonperturbative methods in gauge theories, lattices, collective variables, Monte Carlo 4-9037
 nonperturbative QCD, workshop, Stillwater, OK, USA (March, 1983) 4-53353
 nonrenormalisable field theories at temp. 4-43214
 nonsymmetric hopping model, renormalisation group approach using random diffusion eqn 4-9006
 non-topological solitons from functional integrals 4-4554
 O(3) sigma model, Monte Carlo simulation for improved lattice action 4-13745
 O(3) sigma model, two-dims., generalisation 4-9016
 O(4) sigma model, S-matrix and vacuum energy calc., nonAbelian Goldstone bosons 4-13788
 O(n) ϕ^4 - ϕ^6 theory, conformational space renorm. of tricritical exponents 4-48022
 O(N) lattice nonlinear σ -model, lambda scale 4-4574
 O(N) linear and nonlinear σ -models, critical behaviour at large N 4-18030
 O(N) nonlinear σ -model in perturbation theory, continuum limit and action in lattice theories 4-4520
 O(N) scalar model, effective potential for arbitrary N, dynamical symm. breaking 4-13785
 pion-condensed nucleus, external vacuum perturbation, chiral σ model anal. 4-48529
 planar graphs in zero-dimensional theory 4-48350
 planar random surface model, critical props. 4-53854
 Poincare gauge field theory, axially symmetric soln., charged Taub-NUT metric with torsion 4-42779
 principal chiral model, exact soln. 4-32460
 pulsions decay in $(\phi^4_-)_2$ field theory 4-22935
 pure fermionic gauge theories, four-fermion condensates and the Higgs phenomenon 4-43167
 pure gauge fields on coset space of Abelian chiral group, confinement props. (*Chinese*) 4-53962
 QCD, lattice gauge theory from Lagrangian relativistic field theory 4-32478
 QCD, Monte Carlo calcs. with Symanzik's improved action 4-13861
 QCD, perturbative contributions to string tension 4-18161
 QCD, scalar meson spectrum from chiral symm. breakdown, linear sigma model realisation 4-436
 QCD, vanishing bare coupling surfaces, half-dualised action, lattice version 4-9069
 QCD at high temp. with massive quarks and finite quark density, phase structure 4-22980
 QCD phenomenology on small lattice 4-53925
 QCD realistic model, geometric lattice approx. 4-4618
 QCD behaviour and props. computer simulation on 4-dims. space-time lattice 4-32638
 quark matter form. in ultra-relativistic heavy ion collisions, QCD, hadronic fluid dynamics 4-43522
 quenched approximation in some two-dimensional field theories 4-43178
 quenched lattice QCD, mass difference, finite-size systematics 4-32584
 quenched QCD, lattice regularised, spontaneous chiral symmetry breaking 4-48423
 quenched SU(2) lattice gauge theory, hadronic mass spectrum universality and scaling 4-32487
 random lattice field theory, statistical mechanics and stability 4-53834
 random surfaces and the quantum Liouville theory 4-388
 reduced lattice gauge theory in 2-dims., free energy, Eguchi-Kawai model 4-9035
 reduced lattice gauge theory in two dimensions 4-362
 reduced model for large N continuum field theories 4-13776
 reduced twisted chiral model and chiral model on lattice, Schwinger-Dyson eqns. 4-32486
 regularisation of fermion functional integral for Weyl fermions 4-43170
 regularisation of fermion functional integral in gauge field 4-43169
 relativistic spin- $3/2$ wave eqns., acausal Klein-Gordon eqns. from Harish-Chandra degree four 4-22922
 rotation reflection symmetry group representations of 4-dims. cubic lattice 4-18038
 rotational invariant nonlocal lattice gauge model 4-372
 scalar O^4 model, renormalisation group at finite temp. 4-48336
 scalar theory, functional-integral approach to Parisi-Wu stochastic quantisation 4-4551
 self-avoiding and planar random surfaces on the lattice 4-9007
 self-dual gauge fields and sigma models, algebraic structure 4-336
 sigma model, calculus of variations inverse problem, action principle uniqueness 4-22920
 sigma model, chiral solitons stabilisation via vector mesons 4-53859
 SLAC lattice QCD, large distance dominated meson decay codes 4-452
 space-time lattice, planar boundaries, electroweak dynamics 4-411
 spin systems and Griffiths singularities, large-N reduction 4-22914
 spin systems on Cayley trees, gauge analogue 4-387
 stochastic quantisation and mean field approx., XY and Z_N system Fokker-Planck eqn. 4-32438
 stochastic spin-one massive field 4-37293
 string tension in SU(3) lattice gauge theory 4-32465
 string tension measurement in SU(3) lattice gauge theory 4-18091
 strong interaction theory, numerical experiments, QCD, lattices and Monte Carlo form., review (*Russian*) 4-53969
 strongly coupled lattice gauge theory, chiral symmetry breaking 4-13781
 SU(2) adjoint Higgs model, Monte Carlo study at positive temp. 4-13791

axiomatic field theory continued

- SU(2) gauge theory, four-dimensional, lower dimens. confinement mechanism 4-32633
- SU(2) gauge theory mixed action, 1/d corrections to mean-field approx. 4-32483
- SU(2) gauge theory on body centred hypercubic lattice, improved scaling, string tension 4-32423
- SU(2) gauge theory on body-centred hypercubic lattice, average plaquette 4-4562
- SU(2) glueball states with Symanzik tree-level improved action, Monte Carlo calc. 4-22990
- SU(2) lattice gauge theories, nonconfining phase at high temps. 4-48333
- SU(2) lattice gauge theory, 2-D with quarks, Monte Carlo spectra 4-18036
- SU(2) lattice gauge theory, 4-D, lower dimensional confinement mechanisms 4-48317
- SU(2) lattice gauge theory, 4-D phase struct. 4-4544
- SU(2) lattice gauge theory, θ param; Monte Carlo simulation 4-43221
- SU(2) lattice gauge theory, θ vacua by Monte Carlo simulations 4-53825
- SU(2) lattice gauge theory, chiral props. of Wilson fermion 4-4545
- SU(2) lattice gauge theory, energy gap in 2+1 D 4-32411
- SU(2) lattice gauge theory, instantons and string tension, Monte Carlo method 4-48313
- SU(2) lattice gauge theory, instantons and topological charge 4-13795
- SU(2) lattice gauge theory, Monte Carlo calc. of glueball mass 4-27661
- SU(2) lattice gauge theory, Monte Carlo meson spectroscopy study 4-32412
- SU(2) lattice gauge theory, noncompact, quark confinement study 4-32451
- SU(2) lattice gauge theory, scaling of $q\bar{q}$ potential 4-48321
- SU(2) lattice gauge theory, stochastic confinement 4-53833
- SU(2) lattice gauge theory, topological charge 4-13778
- SU(2) lattice gauge theory, universality, Monte Carlo simulations 4-48318
- SU(2) lattice gauge theory with action including six-link loops, string tension meas. 4-358
- SU(2) lattice gauge theory with mixed action, asymptotic freedom 4-13780
- SU(2) lattice gauge theory with quarks, chiral symm. breaking 4-13746
- SU(2) lattice QCD, light pseudoscalars and symmetry restoration 4-48322
- SU(2) nonabelian lattice gauge, Monte Carlo struct. calcs. of glueballs 4-339
- SU(3)*SU(3) sigma model, chiral symm. restoration at finite temp. 4-13790
- SU(3) gauge theory, latent heat calc., lattice corrections 4-13796
- SU(3) gauge theory on 12^4 lattice, Monte Carlo study 4-48347
- SU(3) lattice gauge QCD, Monte Carlo algorithms 4-32414
- SU(3) lattice gauge theory, deconfinement phase transition, critical quark mass 4-18189
- SU(3) lattice gauge theory, glueball mass spectrum calc. 4-4635
- SU(3) lattice gauge theory, heavy-quark pot. 4-48461
- SU(3) lattice gauge theory, Monte Carlo simulation, string tension and deconfinement temp. 4-53857
- SU(3) lattice gauge theory, Monte Carlo simulation algorithm SUUNFA code 4-18034
- SU(3) lattice gauge theory, Monte Carlo simulations, dynamical quark inclusion by pseudo-fermion method 4-32449
- SU(3) lattice gauge theory, static charge ensembles, quark systems 4-13794
- SU(3) lattice gauge theory, topological susceptibility 4-18045
- SU(3) lattice theory, renormalisation calcs. using Monte Carlo methods for hadron masses 4-43231
- SU(5) gauge theory in four dimens., Monte Carlo studies of Wilson loops 4-4565
- SU(N) lattice gauge theories, Migdal-Kadanoff renormalisation, generalised Gaussian soln. 4-48346
- SU(N), lattice gauge theory, QCD twisted reduced model, Hamiltonian and Schwinger-Dyson eqns. 4-32458
- SU(N), U(N) lattice gauge theory, Monte Carlo simulation using LAT-TICE code 4-18033
- SU(N)XSU(N) chiral models, lattice actions 4-360
- SU(N)XSU(N) matrix models, stochastic quantisation for numerical simulation 4-32437
- SU(N) deconfinement phase transitions, quark effects, lattice gauge theory study 4-18112
- SU(N) gauge theories, asymmetric lattice regularisation, one-loop fermion contrib. 4-335
- SU(N) gauge theories, monopole solns., self-dual, generating technique 4-18040
- SU(N) lattice gauge theories, improved QCD scale param. and Monte Carlo calcs. 4-32450
- SU(N) lattice gauge theory, asymptotic freedom scales 4-48326
- SU(N) lattice gauge theory, deconfinement at strong coupling 4-13802
- SU(N) lattice gauge theory, tree level improvement for Wilson fermions 4-48320
- SU(n) principal σ -model, Backlund transformations linearisation, soln. superposition 4-43193
- SU(n) pure lattice gauge theory, global disorder and asymptotic freedom 4-43222
- SU(N) Yang-Mills system, finite temp. lattice calcs., review 4-43232
- supersymmetric field theory, lattice strong coupling approx. 4-32485
- supersymmetric theories, soliton energies 4-13772
- symmetry restoration in lattice QCD with Susskind fermions 4-32469
- temporal gauge for time boundary condition problems, Wilson loop calc. 4-22945
- Thirring model, multi-soliton solns. by reduction method 4-37285
- Thirring model and two dimens. axial model, gauge technique appl. 4-13775
- topological charge in lattice gauge theory 4-53887
- twisted Eguchi-Kawai model, continuum reson 4-43205
- twisted Eguchi-Kawai model, Langevin eqn. anal., eigenvalue distrib. in plaquette matrix 4-32577
- twisted Eguchi-Kawai model in two dimens., numerical anal. 4-13777
- twisted large N fields 4-378
- twisted SU(∞) one point lattice, surviving extrema for action 4-22902
- two flavour SU(N) and SO(N) lattice gauge theories, dynamical symmetry breaking 4-18039
- two-dimensional QED and decoupling of heavy flavours, Monte Carlo simulation 4-13857
- U(1) 4-D lattice gauge theory, simplicial lattice 4-27655

axiomatic field theory continued

- U(1) lattice gauge theory, 2-D with quarks, Monte Carlo spectra 4-18036
- U(1) lattice gauge theory, convergence in continuum limit 4-22904
- U(1) lattice gauge theory, mass gap and string tension in QED₃ 4-13747
- U(1) lattice gauge theory, Monte Carlo calc., massless photon 4-27659
- U(1) lattice gauge theory, Wilson loops, string tension calcs. using LATT code 4-27642
- U(1) lattice gauge theory near the phase transition 4-22932
- U(1) nonisotropic lattice gauge theory, layer phase, dimensional reduction 4-9036
- U(1) symmetric Thirring model, 2-D, excitation spectrum 4-53835
- U(N) gauge theory, stochastic quantisation and large-N limit, lattice gauges 4-13812
- U(N) lattice gauge theories, plaquette determinant for large N, scaling 4-48310
- U(N) lattice gauge theory, chiral symmetry breaking 4-18055
- U(N) lattice gauge theory, quenched master field equations for unitary matrix models 4-9023
- U(N) Thirring model, two-dimens., Noether character of higher local conserved quantities 4-4536
- vacuum decay rate in field-theoretical model 4-48339
- variant action SU(2) lattice theory, four dimens., complex analytic struct. 4-18067
- virtual quark loops effect on meson masses in lattice QCD 4-18164
- volume reduction of lattice gauge systems at finite 4-32432
- Wess-Zumino model, lattice version 4-4573
- Wess-Zumino model, O(N)-symmetric 4-18096
- Weyl's gauge field, Yang-Mills fields and Toda lattice, common eqn. 4-43197
- Wilson-Polyakov lattice gauge theory, factorisation in large-N limit, Schwinger-Dyson eqn. anal. 4-32454
- Yang Mills theory, Bogomolny equation monopole solutions in 1-D 4-22926
- Yang-Baxter algebra representations for Toda field theory 4-43177
- Yang-Mills lattice theory, nonzero temp. and the confinement problem 4-4517
- Z₂ gauge model in (2+1) dimens., finite lattice study 4-9013
- Z₄ lattice gauge theory, 4-dimens., Migdal-Kadanoff recursion relations, perturbative corrections 4-53830
- Z₂ lattice gauge theory, continuum limit 4-32433
- Z(2) Higgs lattice gauge model, mean field calc., phase diagram 4-48311
- Z(4) symmetric ϕ_2^4 theory phases, mass spectrum with quantum kinks 4-43174
- Z(N) Abelian gauge theories, mean-field predictions, phase structure 4-18068
- Z(N) lattice gauge systems with generalised action, phase diagram, mean field approach 4-9014
- ϕ_4^4 field theory, renormalised coupling constant 4-9012

axions see intermediate bosons**backscatter**

- see also particle backscattering*
- aerosol backscattering, relative humidity effect at 0.694 and 10.6 μ m wavelength 4-42161
- aerosol backscattering of a laser beam, radiative transfer eqn. 4-1349
- cross-sections for composite rough surfaces with different mean square slopes 4-49234
- effect of turbulent atmosphere on backscattered waves 4-26784
- elastic wave inversion transformation 4-28950
- elastic wave scattering from multiple voids, US meas. technique 4-30908
- electron bombarded targets, bremsstrahlung spectrum determ. (German) 4-35530
- EM wave scatt. from random discrete scatterers layer, strong fluctuation theory 4-54930
- EM wave scattering by cylindrical scatterer with edge points, numerical analysis using mode matching method (Japanese) 4-33595
- EM waves, three-dimensional randomly inhomogeneous media, backscatt. problem 4-28607
- fibre waveguides multimode, backscatt. characts. 4-10447
- incoherent backscatter radar, power ratio estimation for heterodyne receiver with square law detect. 4-47431
- ionosphere, HF backscatter assoc. with heating 4-22235
- laser Doppler velocimetry by modulating a CO₂ laser with backscatt. light 4-24485
- laser-plasma interaction, time resolved Brillouin spectra 4-15157
- lidar equation solution, two-component, significance of extinction/backscatter ratio and boundary value term 4-26797
- metallic flakes, randomly oriented, backscatter cross sections at optical frequencies, full wave approach 4-19324
- microwave backscattering from terrain at 8-35 GHz, effect of snowcover 4-52943
- multimode light channel based high-performance backscatt. set-up 4-10423
- multimode waveguide, optical beam phase-conjugation by stimulated backscatt. 4-55140
- oil film thickness meas. using airborne laser-induced oil fluoresc. backscatter 4-12514
- optical fibre joint loss measurement using two-point processing 4-24218
- optical fibre single mode, heterodyne time-domain reflectometry, backscatter and fading study 4-28846
- optical fibres, concentric-core, characterisation 4-14795
- optical glories, polarised and cross-polarised, uniform Mie theory 4-28617
- optical links, bidirectional, influence of Rayleigh backscattering on cross-talk attenuation (German) 4-38614
- radar images of ocean waves with long synthesis times 4-42180
- rain droplet shapes, estimation from backscattered radar polarisation meas. 4-8326
- Raman pulse compressor, comparison between one and two dimens. models 4-10370
- US leaky waves, backscattering from liquid-solid interface 4-30909
- CO₂ laser beam upper hybrid resonance absorption in magnetised plasma 4-34269
- α -LiO₂, channelling of 1.0 MeV protons, backscattering spectra (Chinese) 4-29493
- LiNbO₃, channelling of 1.0 MeV protons, backscattering spectra (Chinese) 4-29493

backward wave oscillations *see* backward wave tubes; electromagnetic oscillations

backward wave tubes

see also carcinotrons

semiconductors, impurity conc. and chem. nature, submillimeter BWT spectroscopy 4-35966

two-stage backward wave oscillator free electron laser 4-49382

bacteriorhodopsin *see* proteins

Badgers rule *see* bond lengths; molecular force constants

bag models *see* quark confinement; quark models

bagging *see* packaging

bainitic steel *see* steel

bainitic transformations *see* solid-state phase transformations

balance (physiological) *see* mechanoreception

balanced amplifiers *see* differential amplifiers

balanced input amplifiers *see* differential amplifiers

balances

see also weighing

automated weighing, easy-to-use interface SOFTWEIGH 4-8874

developments in balances 4-53657

double-pair beam balance, dynamic behaviour under free and forced vibrations 4-8875

electronic analytical balances, time-saving appls. 4-8873

electronic balances for verification of standard metallic gauge volume (Rumanian) 4-48121

electronic/mechanical weighers, characts. and weighing principles 4-48088

film wetting balance, accuracy, cross-sectional geometry effect 4-320

lever-arm balanced without prism-bearing plate separation, weighing error elimination 4-4380

microanalytical balances, microprocessor based 4-7766

piezoelectric microbalance based on vibrating quartz wire 4-32239

portable load-cell-based system for weighing U_{F6} cylinders 4-28058

review of weighing systems 4-53656

semimicrobalance, self-compensating electronic anal. (German) 4-22761

under-damped balance, centre of swing estimation formulae 4-8876

Balescu-Lennard theory *see* plasma collision processes

ball lightning *see* lightning

ballistics

see also impact (mechanical); military equipment

No entries

balloons

see also aircraft

astronomical far IR obs., using balloon-borne 750 mm Cassegrain telescope 4-36583

astronomical observations from balloons in France, historical discussion 4-13212

compensated aerological no-lift balloons for long-term dry-air parcel directories 4-47427

meteorological balloon utilising IR terrestrial radiation for lift 4-17277

strain meas. during inflation, launch, ascent and float, using thin film transducer 4-17319

D-T filled glass microballoons, plasma focus expts., neutron prod. 4-34333

banana regime *see* plasma collision processes

band gap *see* energy gap

band model of magnetism

see also Hubbard model

actinide alloys, R-Ni(Co), 3d ferromagnetism onset and spin fluctuations, expt. and band models 4-2755

antiferromagnetic model with Neel states as ground states 4-51018

binuclear unit $t_{2g}^2-t_{2g}^2$, mag. behaviour study 4-20781

CDW, SDW and ferromagnetism, coexistence 4-25507

dilute fluctuating-valence systems, asymmetric Anderson model 4-11661

easy plane ferromagnet, nonlinear collective excitations 4-11726

easy-axis ferromagnet, impurities, anisotropy, spin waves 4-56595

ferromagnetic metallic glass, magnetisation temp. depend. 4-25591

ferromagnetic semiconductor, magnetically dead surface layers, cond. band spin struct. calc. 4-2717

Heisenberg magnetic quantum systems, existence of gap in energy spectrum 4-16006

Hubbard model, delocalised vacancy scatt. by spin fluctuations 4-11663

itinerant ferromagnets, superconductivity mean-field approx. anal. 4-50977

metallic glasses, magnetic props., itinerant electron model 4-56529

metals, hidden ferromagnetism theory 4-35174

metals, itinerant electron magnetism, electron-phonon interactions effect 4-56524

metals, mag., low density electron gas props., collective excitations, quasiparticles 4-25508

periodic Anderson Hamiltonian with orbital degeneracy, ordered states 4-25506

polyenes, triplet-singlet separation and ionisation energy, correl. effects 4-2719

random itinerant-electron spin model, critical behaviour, Hubbard model anal. 4-56527

semimetals, superconducting, ferromagnetism theory (Russian) 4-6942

singlet ground state hexagonal antiferromagnet, triangular spin struct. 4-25562

small aggregates, magnetism, correl. effects 4-2719

systems with dipole interaction, ground state study 4-25196

(TMTSF)₂PF₆, mag. props., SDW state 4-2723

(TMTSF)₂X, mag. susceptibility calcs. 4-51038

transition metal alloys, magnetisation transitions, generalized Slater-Pauling model 4-56525

transition metal monoxides, superexchange, itinerant versus localised picture 4-56603

transition metals, itinerant mag. materials, mag. correlations above T_c 4-56537

weak itinerant ferromagnet, spin fluctuations, self-consistent renormalisation theory 4-30174

weak itinerant ferromagnets, spin fluctuations near T_c 4-2768

CdSe, mag. field reversal at polaritons 4-2524

CeRh₂B₂, itinerant ferromagnet, elec. resist., temp. dependence 4-2612

Co-metalloid alloys, conc. amorphous and cryst., band gap theory of strong ferromagnetism 4-45992

Cr-Fe, itinerant-electron antiferromag., spin glass state, mag. susceptibility 4-51060

band model of magnetism continued

Cu (111) with Co overlayers, mag. props. calcs. 4-11740

Cu(NO)₃·2.5H₂O, quantum stationary mag. states (Russian) 4-6936

EuO(S)(Se), mag. interactions, band model study 4-11662

Fe (110), exchange-split empty energy bands 4-6699

Fe alloys, ferromag., chem. short-range order effects rel. to electronic band struct. 4-6983

Fe, FCC, paramag. susceptibility, effects on spin fluctuations 4-35143

Fe, itinerant ferromagnets, spin dynamics above T_c 4-56642

Fe-metalloid alloys, conc. amorphous and cryst., band gap theory of strong ferromagnetism 4-45992

Fe₃Pt, ground state mag. props. of ordered and disordered alloys 4-20801

Hf_{1-x}Ta_xFe₂, antiferromag. to ferromag. transition, itinerant electron model (Japanese) 4-40173

Hf_{1-x}Ta_xFe₂, itinerant electron magnets, mag. phase transitions study 4-11698

LaRh₂B₄, absence of itinerant-electron ferromagnetism 4-25511

MnO antiferromagnet, mag. interactions, band theory 4-20805

MnS antiferromagnet, mag. interactions, band theory 4-20805

Ni, exchange splitting, temp. depend., spin-polarised photoemission study 4-40162

Ni, ferromagnetic, mag. susceptibility and spin wave energies 4-2742

Ni, itinerant ferromagnets, spin dynamics above T_c 4-56642

Ni-Cu and Ni-Cu-Zn(Al)(Si) alloys, micromagnetism, s-d exchange and spin fluctuations anal. (Rumanian) 4-16042

Ni₂Al, itinerant electron ferromagnet, Curie temperature 4-51051

NiO antiferromagnet, mag. interactions, band theory 4-20805

NiO, optical absorpt. and mag. ordering (Russian) 4-7217

R-Ni(Co), 3d ferromagnetism onset and spin fluctuations, expt. and band models 4-2755

Rh, FCC, paramag. susceptibility, effects on spin fluctuations 4-35143

UN, large orbital movement contrib. to 5f band magnetism 4-6941

Y₂Co₃, mag. supercond.; normal state ⁵⁹Co NMR, itinerant electron ferromagnetism study 4-2840

band-pass filters

see also vocoders

coding images in the frequency domain, applied to human vision system 4-41512

cross-shaped apertures array as band-pass filters for submillimetre wave astronomy 4-24147

dielectric waveguide filters, band-stop/band-pass, coupled grating struct. and characts. 4-14775

far IR band-pass filters, theory and expt. 4-24144

far-IR interferometers, band pass filter for increased resolution 4-53740

grid diffraction props. 4-38392

SAW filters, CS-method of compensating for diffraction distortions 4-28957

speech recognition of Korean using band pass filters based on FFT 4-24305

sub MM filter construction, use of resonant grids 4-8399

WDM transmission using high performance band-pass 4-38629

band structure

see also band structure of crystalline metals and alloys; band structure of crystalline semiconductors and insulators; band structure of semimetals; band theory models and calculation methods; Brillouin zones; conduction bands; degenerate semiconductors; electron energy states of amorphous solids; electron energy states of liquid metals; electron energy states of liquid semiconductors; energy gap; Fermi surface; many-valley semiconductors; valence bands

atomic, mol. and solid state theory conf., Flagler Beach, USA, March 1983 4-31952

cluster method, validity for crystals 4-11428

FCC crystals, band struct. calcs., parameterisation 4-20537

ferromagnet-electron elastic scatt. and emission, electronic struct., relativistic multiple scatt. theory 4-11425

graphite intercalation compound with K, KC₈, ab initio SCF pseudopotential energy band struct. 4-45574

graphite intercalation compounds, conf., Pont-a-Mousson, France (May 1983) 4-42591

graphite intercalation cpds., electronic props., review 4-50703

graphite-alkali intercalation cpds., electronic props. (French) 4-45575

graphite-Ba intercalation cpd., C₆Ba, ¹³³C electronic struct., XPS and UPS studies 4-39755

graphite-H₂SO₄ intercalation cpd., optical reflectivity and band struct. model 4-40404

heavy hole dispersion relation in mag. field 4-34855

ionic crystals, polarisation by point defects, dipole approx. 4-11831

Kronig-Penney model, energy bands and forbidden gaps 4-20530

metal phthalocyanine polymers, electrical cond., role of phthalocyanine ring carbon π -orbitals 4-15802

one-dimensional lattice, electron energy spectrum 4-20534

Peierls-Frohlich system, quasi-one-dimensional, with nearly one third filled band, self-consistent kink lattice 4-15803

periodic Anderson model, one dimensional exact soln., electron correl., singlet ground state energy 4-25274

poly-decker sandwich cpds., one-dimens., crystal orbital investig. tight-binding calcs. 4-56184

polyacene, band struct., one-dimensional conductivity 4-29866

trans-polyacetylene, electronic transition moments and optical absorpt. 4-2941

trans-polyacetylene chain, dimerised, band struct., LCAO calc. with Gaspar-Kohn-Sham pot. 4-20535

quasiperiodic tight-binding model, bandwidths 4-6689

rare earth orthovanadates, electronic struct., rel. to photoelectron and optical spectra 4-39752

s-d mixing in a simple tight binding model, local density of states 4-29868

solar photovoltaic energy converters—fundamentals and advanced concepts 4-7883

solids, quantum mech. description 4-25253

tetrazol porphyrin polysiloxane, band struct., semiempirical crystal orbital model study 4-25199

(TMTSF)₂X, IR study of band struct. and cond. 4-25760

(TMTSF)₂X salts, band struct. anisotropy and supercond. fluctuations 4-25480

(TMTSF)₂X salts, quasi-one-dimensional supercond., quantum fluctuations 4-2692

TMTSF salts, electronic struct., superconductivity and ordered phases (Japanese) 4-39754

(TMTTF)₂X, IR study of band struct. and cond. 4-25760

band structure continued

- H₂O and D₂O ice, cond. band electrons, mobility and trapping 4-29966
 HfS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
 Hg₃₋₄AsF₆, open orbits, induced torque method, Fermi surface model 4-45582
 Ir(CO)₂Cl chains, band struct., geometry and partial oxidation 4-20536
 Mo_{1-x}Nb_xS₂ layered cpds., Li insertion and charge transfer 4-45573
 NbS₂ intercalation with first-row transition metals, band struct., reflectivity anal. 4-29863
 NbS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276
 2H-NbS₂, pure and Cu(pyridine) intercalated, band struct., photoacoustic and reflectivity spectra 4-40475
 NbTe₄, p-d band overlap and electronic struct. 4-39750
 Ni complex, tetrathiosquaratonickel(II), band struct. calc. 4-20533
 Ni complex, tetrathiosquarato nickel (II) polymer, electronic struct., symm. breaking due to interchain interactions 4-34854
 Ni(II) complex, porphyrinato nickel (II), band struct. calcs. 4-29865
 Ni(II) complex, tetrazaporphin nickel (II), band struct. calcs. 4-29865
 TiS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276
 TmS₂, band struct., local density functional approx., self-consistent relativistic linearised APW calc. 4-34853
 VS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276
 ZrS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
 ZrS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276

band structure of crystalline metals and alloys

- for band structure of semiconductor alloys see band structure of crystalline semiconductors and alloys or electron energy states of amorphous solids*
 alkali metal alloys, binding energy, heat of soln., bulk modulus and shear elastic const. 4-50716
 alkaline earth metal monolayers, Be-Ba, electronic struct., cohesive energy, all-electron local density functional calcs. 4-45607
 alloys, crystalline and amorphous, modified CPA theory anal. 4-45577
 cubic metals with spin-orbit interaction, band structure calcs. 4-11427
 granular metals, density of electronic states, tight-binding model 4-45572
 graphite overlayer on Ni (111) geometrical and electronic struct., EELS and photoemission studies 4-39729
 interface with electrolyte, electrorefl. spectra features due to interband transitions 4-56892
 intermetallic compounds, hybridisation and struct. instabilities 4-11470
 metal, non-translational, electronic struct., effect of γ -irradiation (Russian) 4-50710
 metal clusters electronic structure, 'quasi-atomic' picture 4-25206
 metals, FCC layered ultrathin coherent struct., electronic struct. and density of states (Chinese) 4-50903
 metals, hexagonal close packed, glide and electric struct. (French) 4-45254
 rare earth-transition metal alloys, R₂Co_{17-x}T_x, R=Ce, Pr, Sm, Er, Yb, T=Ti-Fe, Cu, Zr, Hf, anisotropy fields 4-6966
 small jellium spheres, self-consistent electronic struct. calcs. 4-39753
 transition metal alloys, disordered, electronic struct. and props. 4-20552
 transition metal alloys, electron correlation calcs. 4-50714
 transition metal alloys, magnetisation, generalised Slater-Pauling curve and energy band calc. 4-30211
 transition metals, electron correlation calcs. 4-50714
 transition metals, electron-phonon interaction, relativistic APW band struct. calc. 4-34886
 transition metals, energy band struct. calc. 4-15813
 transition metals, interatomic Green functions calc. using continued fraction technique 4-39740
 transition metals, interionic interactions, total energy and elastic and bonding props. calc. 4-6726
 transition metals, photoelectron spectra from inner core states 4-30600
 transition metals and alloys, Al₅, electronic struct. and phase stability 4-20549
 V₃Ge-Co(Fe), X-ray emission spectra and electronic struct. (Russian) 4-51411
 Ag, band structure, linear augmented-Slater-type orbital method 4-56187
 Ag, band structure Lambda line, direct transitions, ARUPS studies 4-45612
 Ag, empty electronic states by inverse photoemission 4-45611
 Ag, self-consistent relativistic band struct. calc. 4-29875
 Ag thin film on GaAs (110), valence bands, UPS studies (Chinese) 4-50955
 Ag₂Pd_{1-x}, valence band XPS spectra, multiple scatt. theory anal. 4-51450
 Al, band struct., direct transitions and surface states, angle-resolved photoemission study 4-30044
 Al dilute alloy, electronic struct. calcs. 4-2505
 Al, KLV-Auger spectra, energy distrib. of electrons 4-30570
 Al, surface, electron and ion excitation, Auger effect 4-11973
 Al, X-ray absorption spectra, K and L, APW band struct. calc. 4-2994
 Al-transition metal alloys, K-edge X-ray fine struct. smoothing 4-46367
 Au, appl. of relativistic linear muffin-tin orbital method 4-15806
 Au, band structure Lambda line, direct transitions, ARUPS studies 4-45612
 Au, self-consistent relativistic band struct. calc. 4-29875
 Au thin film on GaAs (110), valence bands, UPS studies (Chinese) 4-50955
 AuAl₃, optical characts. and colour (Russian) 4-51218
 B, intrinsic electronic localisation, isotopic disorder effect in narrow electronic band materials 4-39802
 Be, band struct., lattice vibrs. and mag. props. (Russian) 4-50711
 Be, structural and electronic props., ab initio study 4-6318
 Be, structure factor, γ -ray meas. and band struct. calcs. 4-39205
 Cd-Mg(Hg), press. effect on band struct. (Russian) 4-6697
 Ce, α and γ phases, 4f-related features, photoemission studies 4-57071
 Ce, energy struct. calcs. (Russian) 4-50712
 Ce, γ - and α -, electronic struct., XPS, EELS and bremsstrahlung isochromat 4-25209
 CePd₃, bremsstrahlung isochromat spectra 4-2988
 CePd₃, XANES spectra, exptl. evidence for shake-down peak 4-35518
 Co, critical point energies, soft X-ray APS study 4-7283

band structure of crystalline metals and alloys continued

- Co, FCC, two-photon pair momentum-density distrib., angular correl. for positron annihilation radiation calcs. 4-56198
 Co, ferromagnetic, bulk and surface props., spin polarised electron spectroscopy 4-6698
 Co₉₂Fe₀₈, electronic struct., UPS and KKR calc. studies 4-29876
 Cr, paramagnetic, Fermi surface press. depend., self-consistent calc. 4-11430
 Cr, UPS, valence band spectra meas. 4-46420
 Cs, band struct., lattice vibrs. and mag. props. (Russian) 4-50711
 CsI, eqn. of state and metal-insulator transition 4-50457
 Cu, 3d impurities, self-consistency iterations in electronic-structure calculations 4-20538
 Cu alloys, dilute, Dingle temp., Fermi surface area, de Haas-van Alphen effect 4-2504
 Cu, band struct., nonlocal density approx. 4-39768
 Cu, band structure, effect of Langreth-Mehl gradient correction 4-6694
 Cu, band structure, linear augmented-Slater-type orbital method 4-56187
 Cu, band structure Lambda line, direct transitions, ARUPS studies 4-45612
 Cu, Compton profile anisotropy, density-functional theory 4-25824
 Cu, critical point energies, soft X-ray APS study 4-7283
 Cu, d-bands, local density approx., screened self-interaction correction 4-56201
 Cu, energy band struct. calc. 4-15813
 Cu, multielectron excitations and electronic struct., XPS studies 4-46423
 Cu, self-consistent relativistic band struct. calc. 4-29875
 Cu-Al alloys, γ_2 and δ phases, electronic sp. ht. and electronic struct. 4-56046
 Cu-Pd alloys, electronic struct., density of states and photoemission spectra 4-45610
 Cu_{1-x}Ge_x, single cryst., electronic struct., KKRCPA calc. and ARPES studies 4-29877
 CuZn, B2-ordered, electronic struct. and positron annihilation 4-25207
 Eu, Fermi surface, band struct. and de Haas-van Alphen freqs. calc. 4-2500
 EuPd₃, band struct., bremsstrahlung isochromat spectra 4-39769
 Fe (110), exchange-split empty energy bands 4-6699
 Fe alloys, ferromag. chem. short-range order effects rel. to electronic band struct. 4-6983
 Fe, BCC and FCC, ferromagnetism, lattice parameter depend. 4-20803
 Fe, ferromagnetic, bulk and surface props., spin polarised electron spectroscopy 4-6698
 Fe, ferromagnetic, bulk electronic props., XPS study 4-56202
 Fe, paramagnetic, optical props., interpolation scheme band struct. model 4-7148
 Fe, surface states, mag. exchange splitting and band dispersion 4-20700
 Fe-Ni, electron struct. changes in FCC \rightarrow BCC transitions, XPS study (Russian) 4-50488
 Ir, electronic energy bands and optical props. 4-20550
 K, energy spectrum of incommensurate CDW, energy gaps 4-56200
 K, X-ray K absorpt. and emission spectra 4-7274
 LaPd₃, XANES spectra, exptl. evidence for shake-down peak 4-35518
 Li, energy bands and density of states, linear combination of Gaussian orbital calc. 4-56199
 LuPd₃, band struct., bremsstrahlung isochromat spectra 4-39769
 Mg, KLV-Auger spectra, energy distrib. of electrons 4-30570
 Mg, surface, electron and ion excitation, Auger effect 4-11973
 Mn, momentum density, band struct. calc. 4-34870
 MnAs intermetallic cpd., mag. props., spin fluctuation theory, APW calc. 4-51062
 MnPt₃ ferromag. alloy, electronic struct., spin-polarised APW calc. 4-29874
 Mo, electronic struct., photoemission study 4-7309
 Na, energy spectrum of incommensurate CDW, energy gaps 4-56200
 Na, surface, electron and ion excitation, Auger effect 4-11973
 Nb, superconducting, EM props., band struct. effects 4-30125
 Nb-Mo, elec. props. and band struct. calcs. 4-15152
 NbH₃, valence electron energy spectra, X-ray emission 4-57042
 Nb₂Sn, superconducting, EM props., band struct. effects 4-30125
 NdPd₃, XANES spectra, exptl. evidence for shake-down peak 4-35518
 Ni, critical point energies, soft X-ray APS study 4-7283
 Ni, ferromagnetic, bulk and surface props., spin polarised electron spectroscopy 4-6698
 Ni, heavy particles interacting with degenerate fermions, mass correction 4-50715
 Ni, multielectron excitations and electronic struct., XPS studies 4-46423
 γ -Ni₃Al, electronic struct., alloying effects, DV-X α cluster calc. 4-50713
 Ni₃(Fe_{1-x}Ta_x), transport and elec. props. (Russian) 4-6761
 Ni₃(Fe_{1-x}V_x), transport and elec. props. (Russian) 4-6761
 NiMn, electronic struct., structural and mag. transitions 4-20551
 Pd (111), electronic structure and angle resolved photoemission 4-35041
 Pd, band structure, linear augmented-Slater-type orbital method 4-56187
 Pd-W-H system, mag. and elec. props. (Russian) 4-51033
 PdGa (110), electronic struct., angle-resolved photoemission study 4-30607
 PrPd₃, XANES spectra, exptl. evidence for shake-down peak 4-35518
 Pt, electronic energy bands and optical props. 4-20550
 Rh (001), S catalytic poison effects on electronic struct. 4-25414
 RhAl(Ga)(In) alloys, band struct. and mixed states, photoemission spectra studies 4-25208
 Ru, conduction electrons, Fermi-Dirac distrib., photoemission obs. 4-45608
 Se, X-ray photoemission study of new allotrope 4-12010
 SmPd₃, XANES spectra, exptl. evidence for shake-down peak 4-35518
 UB₁₃, supercond., electronic struct., resonant photoemission 4-35550
 V, band structure, effect of Langreth-Mehl gradient correction 4-6694
 V, electronic structure peculiarities 4-56203
 V₃GaH₄, short range order and electron structure, NMR studies (Russian) 4-51140
 VHo₄, valence electron energy spectra, X-ray emission 4-57042
 V₂Si, band struct., electron-phonon coupling const. 4-45606
 V₂Si-G(Fe)(Co), X-ray emission spectra and electronic struct. (Russian) 4-51411
 W, energy band struct. calc. 4-15813
 W, energy bands and cohesive energy, self-consistent relativistic calc. 4-45609
 YbPd₃, band struct., bremsstrahlung isochromat spectra 4-39769
 Zn, d-bands, local density approx., screened self-interaction correction 4-56201

band structure of crystalline semiconductors and insulators

- see also *conduction bands; energy gap; valence bands*
 actinide chalcogenides, struct., electronic struct. and mag. props. 4-11072
 alkaline earth chalcogenides, vacuum UV refl. spectra in energy range 4 to 40 eV 4-30492
 diamond, band struct. and electron band populations in case of axial channelling 4-25211
 diamond, electronic excitations, self-consistent-field calc. 4-45615
 direct gap semicond., band-edge electrodynamics 4-29867
 elementary semicond. and semicond. compounds with spin-orbit interaction, band structure calcs. 4-11427
 energetic level determination, oscillation processes (Russian) 4-34874
 graphite, angle resolved photoemission, secondary electron emission and band dispersion 4-12011
 graphite single crystal, valence and conduction band dispersions 4-45581
 group V elements, universal tight binding band structs. and bonding 4-6701
 I-III-VI₂ semiconductors, band gap anomaly, chem. and struct. factors 4-45624
 ice, cryst., hexagonal, optical spectra and electronic struct. 4-29880
 III-V compounds, electronic spectra and solid solns., model pseudopot. calc. 4-20562
 III-V semiconductors, effective masses of carriers, temp. depend. 4-25204
 inert gas crystals, band struct. props. at high press. (Russian) 4-2506
 IV-VI ferroelectric semicond., band edge struct., magneto-optical studies 4-25226
 IV-VI semiconductors, covalent bonding props., LCAO method 4-24755
 IV-VI semiconductors, cubic phase instability, unified universal parameter treatment 4-34896
 IV-VI semiconductors, dielectric props. and band struct. calcs. 4-35331
 IV-VI semiconductors, universal tight binding band structs. and bonding 4-6701
 metal bis(dioximates), elec. cond. of partially oxidised stacks, symmetry constraints, band struct. calcs. 4-56217
 narrow gap, band mixing calcs. 4-50717
 optical spectra, energy levels and cryst. field anal. 4-16214
 oxide surfaces, electronic struct. DV-X α cluster calc. 4-11567
 perovskite struct., elec. and mag. props. 4-50806
 α -quartz, band struct., exchange pot. and cut-off radii effects 4-56205
 rare earth hydrides, interstices occupation as probe for electronic struct. 4-2507
 rare earth monosulphides, thermodynamic props. in homogeneity range 4-39537
 rare earth sulphides, 5p states, energy position and chem. interactions 4-2537
 Se, electron struct., cluster approx. 4-15812
 semiconductor, three-band Kane model, many particle effects 4-34858
 semiconductor degenerate materials with nonuniform band struct., elec. current, carrier density 4-50839
 semiconductor quaternary alloy heterojunction band discontinuities 4-45868
 semiconductor superlattices, properties, review 4-6873
 semiconductors, electron-hole drops, props., collective aspects 4-25243
 semiconductors, forbidden-band width, temp. depend., semiempirical calc. 4-56209
 semiconductors, free carrier influence on equilibrium lattice parameter 4-34457
 semiconductors, press. coeffs. of band gaps 4-56188
 strained and photoexcited, Mott and liquid-gas transitions, luminesc. and energy spectra studies 4-56220
 superlattices, band structure, impurity and exciton binding energies, Stark effect (French) 4-25423
 ternary and multinary compounds, electronic struct. calcs. 4-25200
 transition metal compounds, energy band struct. calc. 4-15813
 transition metal diborides, electronic struct., Fermi levels, valence bands, solid-state and cluster calcs. 4-50724
 transition-metal monoborides, band struct., densities of states, bonding, ESCA spectra 4-20563
 AgAlSe₂, band struct., valent state density, pseudopot. calc. 4-39776
 AgAlTe₂, band struct., valent state density, pseudopot. calc. 4-39776
 Al_{1-x}Ga_xIn_{1-x}As, band struct. calcs. 4-20559
 Al_{1-x}Ga_xIn_{1-x}P, band struct., virtual cryst. approx. 4-56215
 Al₂O₃Ni_{1/2}³⁺ Jahn-Teller multimode system, Ham factors and energy levels 4-15860
 Ar, electronic energy bands, density functional theory, self-interaction correction 4-20540
 Ar, solid, band struct., many-body effects, OPW calc. 4-56214
 Ar, solid, ground- and excited state props., perturbation model calc. 4-25218
 AsSb, Fermi surface and magnetothermoelec. EMF quantum oscills. 4-34863
 BN, hexagonal, electronic struct. and core exciton, tight-binding band calc. 4-45625
 BP, diffuse refl. spectra and electron struct. 4-25221
 Ba₂NaNbO₁₅, bronzes, optical, ferroelectric and electronic props. 4-35465
 BaPb_{1-x}Bi_xO₃, electronic struct., self-consistent scalar relativistic linear APW calc. 4-6700
 BaPb_{1-x}Bi_xO₃, plasma energies and electronic struct. 4-25217
 Ba₂Sr_{1-x}Nb₂O₆, bronzes, optical, ferroelectric and electronic props. 4-35465
 BaTiO₃, electronic struct. calcs. 4-11435
 BaTiO₃, perovskite struct., cubic phase, electronic struct. 4-2511
 BaZrO₃ electronic struct. calcs. 4-11435
 Bi, electron irradi., galvanomagnetic props. at 4.2K, rigid-band model 4-35014
 Bi₂O₃, electronic props. rel. to oxidation catalysis 4-29886
 Bi_{1-x}Sb_x alloys, pure and Te doped electron conc. and cyclotron mobility 4-15876
 Bi₂Te₃ and analogs, energy band struct., spectrum nonparabolicity 4-20561
 CO₂, solid, electronic band struct., determined from $h\nu$ -depend. of photoemission 4-34872
 C₂(4) crystalline modification, electronic struct. calcs. 4-11432
 CaTiO₃, perovskite struct., cubic phase, electronic struct. 4-2511
 CdAs₂, topological transition and singularity in density of states of cond. band 4-25220
 CdCN₂, transmission and reflection spectra, optical vibr. 4-56906
 CdCr₂Se₄, ferromag. semicond., reflectance magnetocircular-dichroism spectra and electronic struct. 4-30445

band structure of crystalline semiconductors and insulators continued

- CdGeAs₂, chem. bonding, charge distrib. and electronic props., pseudopot. calc. 4-29410
 CdGeP₂, chem. bonding, charge distrib. and electronic props., pseudopot. calc. 4-29410
 Cd_{1-x}Hg_xTe, cross magnetoresistance meas. and calcs. (Russian) 4-50846
 Cd_{1-x}Hg_xTe, refractive index calc. rel. to freq. and mole fraction 4-40385
 CdIn₂S₄, electronic props., self-consistent pseudopot. study 4-29879
 CdIn₂S₄, single cryst., magnetoresist., cond. band minimum 4-29990
 β -CdIn₂Se₄, energy spectrum, photocond., light absorption and pleochroism spectra 4-25398
 Cd_{1-x}Mn_xTe, electronic struct., reflectivity spectra 4-40471
 CdS, biexciton luminescence and P bands 4-11940
 CdS, bound exciton excited states 4-2521
 CdS, excited exciton states, Fano antiresonance appearance, absorption bands 4-25232
 CdS, zinc-blende and wurtzite phases, electronic band struct., local density approx. 4-6703
 CdS_{1-x}Se_x solid soln. dispersion of localised exciton lifetimes 4-25233
 CdSb, band struct., pseudopot. method study (Russian) 4-6704
 p-CdSb, Shubnikov-de Haas effect and cyclotron reson. meas. 4-39775
 CeCuSi₂, cryst. struct., band struct., and Fermi surface props. 4-6690
 CoSe, X-ray and UV photoelectron spectra 4-43919
 Cr(CO)₆, electronic struct. from X-ray spectra 4-11434
 CrH₃, nonstoichiometric, electron struct. and K emission spectra (Russian) 4-25215
 Cr₂Si, electronic struct. study 4-25219
 Cs compounds, outer core and valence electron pseudopotential 4-45580
 Csl, eqn. of state and metal-insulator transition 4-50457
 CuAlO₂, photoelectric props. and band struct. 4-45827
 CuAlS₂(Se₂), ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuCl, soft X-ray absorpt. and emission, energy bands 4-46366
 CuGaGeS₄, energy band spectra, pseudopot. calc. 4-50723
 CuGaS₂(Se₂), ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuInS₂(Se₂), ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuO, energy band struct. calc. 4-15813
 Fe₂O₄, high temp. phase, band struct. calc. 4-45617
 FeS₄ clusters, electronic struct., hyperfine interaction and radial density, X α calc. 4-29885
 GaAs, band struct., Auger recombination 4-39772
 GaAs, conduction band, dispersion, nonparabolicity and warping 4-45626
 GaAs n-i-p-i doping superlattices, Raman scatt. from elementary excitations 4-56910
 GaAs, nonlocal exchange, correlation and band struct. calcs. 4-20560
 GaAs, optical refr. index dispersion, doping depend. 4-35404
 a-GaAs:H, amorphous and microcryst., electronic struct., photoemission spectra 4-39767
 GaAs/Ga_{1-x}Al_xAs quantum-well struct., hydrogenic donor energy levels, nonparabolicity effects 4-50916
 GaAs-(GaAl)As semiconductor laser, wavelength-stabilized design 4-1410
 GaAs_{1-x}P_x, energy band struct. calcs. 4-29884
 Ga_{1-x}In_xAs_{1-y}P_y, disordered, band calc., variational multiple scatt. method 4-45618
 Ga_{1-x}In_xP, energy band struct. calcs. 4-29884
 n-GaP, bulk photovoltaic effect, band struct. study 4-2634
 GaP, vacancy induced deep levels, density of states change 4-39747
 GaP-ZnSe solid solns., behaviour of electron energy bands 4-50722
 n-GaSb, conduction band parameters, Hall effect and magnetoresist. 4-56370
 GaSe(S), isothermal currents and TSC 4-39912
 Ge, electronic states, symmetry anal. by spin-depend. photoemission 4-15814
 Ge, heavily doped, implanted laser annealed, and bulk grown, photolum. study 4-21031
 Ge, heavily doped, laser annealed, photolum. study 4-21032
 p-Ge, light hole energy spectrum and quasibound Coulomb states 4-25212
 n-Ge, magnetoresist. and band struct. (Chinese) 4-39936
 GeS, band struct. and lifetime determs., angle-resolved photoemission 4-35449
 Ge₂Si_{1-x} solid solns., energy band struct. calc. 4-15817
 (GeTe)_{1-x}(AgSbTe)_x, solid solns., band edge struct. parameters 4-56213
 HfH₂, electronic energy bands calc., APW method, optical props. 4-45619
 Hg_{1-x}Cd_xTe, energy gap bowing calcs. 4-11437
 Hg_{1-x}Cd_xTe, interfaces, defects, oxidation, band structure, bond strength 4-39770
 Hg₂GeSe₄, energy band spectra, pseudopot. calc. 4-50723
 Hg_{1-x}Mn_xTe, IR detector material, band structure, elec. props., mag. props. 4-39937
 n-HgTe, cyclotron resonance, magnetoabsorption 4-34862
 Ho(Rh_{1-x}Ru_x)B₂ supercond., phase diagram and XPS studies 4-50467
 InAs, energy band struct., oscillatory magnetoabsorption spectra study 4-7167
 In_{1-x}Ga_xAs, electronic struct., chem. and struct. disorder effects 4-25216
 In_{0.75}Ga_{0.25}As_{0.6}P_{0.4}, band-to-band Auger recomb., effect of anisotropic band parameters 4-45810
 In_{1-x}Ga_xP solid soln., donor-acceptor recombination, band struct. effects 4-25809
 InP, band struct., Auger recombination 4-39772
 InP, optical refr. index dispersion, doping depend. 4-35404
 InP, vacancy induced deep levels, density of states change 4-39747
 InSb quantum wells, energy level scheme and transport props. 4-40036
 InSe, isothermal currents and TSC 4-39912
 IrO₃, electronic states, XPS studies 4-45623
 KNbO₃, electronic struct. calcs. 4-11435
 LaCu₂Si₂, cryst. struct., band struct., and Fermi surface props. 4-6690
 La₂O₃-Nd₂O₃-Ta₂O₅ system, luminophore design 4-21020
 LaS₂, supercond. and self-consistent electronic struct., comparison with La (Russian) 4-56472
 La_{2/3+x}TiO_{3+2x}, perovskite struct., elec. and mag. props. 4-50806
 LiCl, electronic energy bands, density functional theory, self-interaction correction 4-20540
 LiF(Cl), MC-INDO calcs. of electronic struct. 4-15816
 LiInS₂, ternary cpd., photolum. study 4-30501

band structure of crystalline semiconductors and insulators continued

- LiInSe₂, ternary cpd., photolum. study 4-30501
 Li₃N, electron density distrib., Compton scatt. meas. 4-39771
 Li₂Si, energy band struct. calc. 4-25213
 Li_{1-x}Li_{1+y}MyS₂ (M=V, Cr, Fe), prep., chem. and phys. props. 4-20175
 Mg₂Bi₂, semicond., electronic struct., X-ray spectra and Huckel technique studies 4-29882
 MgIn₂S₄, electronic props., self-consistent pseudopot. study 4-29879
 Mg₂Sb₂, semicond., electronic struct., X-ray spectra and Huckel technique studies 4-29882
 MnSe X-ray and UV photoelectron spectra 4-43919
 Mo(CO)₆, electronic struct. from X-ray spectra 4-11434
 MoO₂, electronic struct., photoemission study 4-7309
 MoO₃, electronic props. rel. to oxidation catalysis 4-29886
 MoO₃, electronic struct., photoemission study 4-7309
 MoS₂(Se₂)(Te₂), X-ray absorpt. spectra 4-16273
 MoTe, single crystals, semiconducting props. and band struct. 4-50851
 NaF(Cl), MC-INDO calcs. of electronic struct. 4-15816
 Na₂KsB cryst., optical props., empirical pseudopot. calc. 4-11858
 Na₂SiO₃, electronic struct. and density of states, LCAO calc. 4-6702
 Na₂SiO₃, α and β phases, electronic struct. and density of states, LCAO calc. 4-6702
 Na₂WO₃ bronze, electronic struct., UPS and EELS studies 4-11433
 NbS₂(Se₂)(Te₂), X-ray absorpt. spectra 4-16273
 Nb_{2/3+x}TiO_{3+y}, perovskite struct., elec. and mag. props. 4-50806
 Ni silicides, electronic struct. and visible and IR reflectivity 4-20557
 NiO, band struct. calc., tight-binding method 4-29881
 NiO, optical props., band struct. calc. 4-30426
 NiSe, X-ray and UV photoelectron spectra 4-43919
 P, black, single cryst., UPS study of band struct. 4-40601
 Pb_{1-x}Ge_xTe, electronic dispersion relation, influence of phase transition 4-34875
 PbI₂, layered cryst., struct. behaviour and phys. props., review 4-40325
 (PbSe)_{1-x}(SnTe)_x, epitaxial films, elec. props., band struct., depend. on composition 4-36208
 Pb_{1-x}Sn_xSe solid soln., dielec. props. and band struct. parameters 4-25224
 Pb_{1-x}Sn_xTe, composition depend. of ferroelectric transition temp. 4-2888
 Pb_{1-x}Sr_xS, electronic struct., Haydock recursion method calcs. 4-29883
 Pb_{1-x}Sr_xS, optical props. and band struct. 4-51298
 PbTe, mag. susceptibility theory 4-46007
 PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
 PdCl₂, optical spectra meas. 4-25778
 PdO crystal and catalyst, local electronic struct., X-ray absorption spectra studies 4-25210
 RbUF₆, electronic struct., cryst. field splitting model (German) 4-25305
 Rh oxides, double, electronic struct. and elec. cond., X-ray emission study 4-50718
 Ru_{1-x}Ir_{1-x}O₂, electronic states, XPS studies 4-45623
 RuO₂, electronic states, XPS studies 4-45623
 SbSI, X-ray L absorption spectra and electronic band struct. 4-2992
 SbSeI crystals, optical props. 4-56961
 SeO₃, electron energy struct. and optical props. 4-34876
 SeS, self-consistent electronic struct. calc. 4-50719
 SeS₄, self-consistent electronic struct. calc. 4-50719
 Se, relativistic corrections to valence and conduction band edges 4-34873
 Si, band struct., optical props., and photoemission valence band spectrum, local pseudopot. calc. 4-29878
 Si, band struct. and electron band populations in case of axial channelling 4-25211
 Si, electronic struct., bond formation and metallisation 4-45614
 Si, electronic struct., cluster approach (Russian) 4-34868
 Si, energy band calcs. using variational cellular model 4-34871
 Si, heavily doped, ion implanted, laser annealed, electronic struct. study 4-15838
 Si, heavily doped, laser annealed, photolum. study 4-21032
 Si, higher cond. bands, crit. point study by angle-resolved photoemission 4-7316
 Si, LCAO model Hamiltonian, 1/d² dependence 4-25210
 Si, surface, electron and ion excitation, Auger effect 4-11973
 Si, tight-binding calc. of bonds using nonlocal pseudopotential (Chinese) 4-20554
 Si, valence electron energy states, amorphisation effects 4-50709
 a-Si:H-Si n-p heterojunction, elec. props. 4-50910
 Si-Ge alloys, electronic and optical props. KKRZ pseudopot. calc. 4-15815
 SiC-10H superlattices, electron energy spectrum, secondary modulation 4-35058
 Sm monochalcogenides, band edge exciton spectra 4-35464
 Sm-B, isostructural phases, average valence of Sm ions 4-55793
 SmSe (100) valence bands, UPS and 4d core reflectance spectra studies 4-57073
 SnCl₂, conduction band, K X-ray absorpt. spectra 4-7272
 SnCl₂·2H₂O, conduction band, K X-ray absorpt. spectra 4-7272
 SrTiO₃, perovskite struct., cubic phase, electronic struct. 4-2511
 Te, relativistic corrections to valence and conduction band edges 4-34873
 TiC (100), bulk band struct. and surface states, photoemission studies 4-11438
 TiC, electronic struct., degree of ionicity in M-C bond 4-56207
 TiN, electronic struct., degree of ionicity in M-C bond 4-56207
 TiN_x, electronic struct., deep levels and valence bands, XPS studies 4-11439
 TiN_{1/2}, band struct., X α calcs. 4-50720
 TiS₂, intercalation cpd. with Na, phase boundaries, NMR study 4-45321
 TiS₂, relativistic corrections to valence and conduction band edges 4-34873
 TiSe, 1T polytype, CDW state, electron-lattice interaction 4-56216
 TiSe₂, relativistic corrections to valence and conduction band edges 4-34873
 TlBr, electronic struct., ab initio calc. 4-50721
 TlCl, electronic struct., ab initio calc. 4-50721
 TlSe, reflectance and thermoreflectance spectra 4-7169
 TmS, band struct. and specific heat (Russian) 4-56206
 U monochalcogenides, magnetooptics and electronic struct. 4-56210
 UAs, electronic struct., lattice parameters, bulk moduli 4-45621
 U₂As₄, Fermi surface, de Haas-van Alphen meas. 4-6693
 UC, charge density at U nucleus, semirelativistic SCF-SW X α calc. 4-2508
 UC, electronic struct., self-consistent LMTO calcs. 4-45620
 UN, electronic struct., self-consistent LMTO calcs. 4-45620

band structure of crystalline semiconductors and insulators continued

- UO, electronic struct., self-consistent LMTO calcs. 4-45620
 UO₂, charge density at U nucleus, semirelativistic SCF-SW X α calc. 4-2508
 α -UO₃, charge density at U nucleus, semirelativistic SCF-SW X α calc. 4-2508
 UP, electronic struct., lattice parameters, bulk moduli 4-45621
 U₂(Pa), Fermi surface, de Haas-van Alphen meas. 4-6693
 U₃(Se)(Te), electronic struct., lattice parameters, bulk moduli 4-45621
 USb, electronic struct., lattice parameters, bulk moduli 4-45621
 VO₂, optical absorpt. spectra and band struct. calcs. (Russian) 4-51301
 YC₃, band struct., CPA, LCAO and APW calcs. 4-56212
 YH₃, electronic struct., X-ray photoemission study 4-39773
 Y₂O₃, electron energy struct. and optical props. 4-34876
 Zn_{1-x}Ga_{0.677}Cr_{0.323}Se₄ single cryst., synthesis, elec. and mag. props. (German) 4-39909
 Zn_{1-x}Mn_xS, electronic struct., reflectivity spectra 4-40471
 Zn_{1-x}Mn_xSe, electronic struct., reflectivity spectra 4-40471
 ZnO single crystals, nonlinear light absorption, two-photon and impurity absorpt. 4-25787
 ZnSb, band struct., pseudopot. method study (Russian) 4-6704
 (ZnSe)_{1-x}(CdTe)_x single crystals, vapour phase growth, surface topography, elec. cond. rel. to comp. 4-16302
 ZrC, electronic struct., degree of ionicity in M-C bond 4-56207
 ZrC-NbC(TaC)(WC) solid solution, creep rate study 4-57285
 ZrC-ZrN, electronic struct. parameters calc. to two-band approx. 4-25225
 ZrH₂, electronic energy bands calc., APW method, optical props. 4-45619
 ZrN, electronic struct., degree of ionicity in M-C bond 4-56207
 ZrS₂, relativistic corrections to valence and conduction band edges 4-34873
 ZrS₂(Se₂)(Te₂), X-ray absorpt. spectra 4-16273
 ZrSe₂, relativistic corrections to valence and conduction band edges 4-34873
- band structure of semimetals**
 group V, cubic phase instability, unified universal parameter treatment 4-34896
 Bi, energy band and electron density calcs. 4-56185
 LiAl(Ga)In, doping effect on elec. transport props. 4-45742
 Sb whiskers, electronic struct. and Fermi surface, strain effects (Russian) 4-45613
 Sb, X-ray L absorption spectra and electronic band struct. 4-2992
- band theory models and calculation methods**
 see also APW calculations; band model of magnetism; band structure; cellular method; free-electron approximation; Hubbard model; KKR calculations; k.p. calculations; Kronig-Penney model; muffin-tin potential; nearly-free-electron approximation; OPW calculations; pseudopotential methods; relativistic band structure calculations; tight-binding calculations
 actinide nitrides, AnN, An=Th-Am, lattice parameters, electronic struct., LMTO, RLMTTO calcs. 4-56211
 amorphous materials, trap statistics and gap density of states calc. method 4-11488
 completely orthonormalised symmetry-adapted atomic orbitals for solid state calculations 4-39741
 crystalline solids, theory of electronic states, appl. of band representations of space groups 4-56186
 delta function integrals for recombination problems 4-50700
 density functional theory, generalised weighted density approach 4-39743
 extended Hubbard model, multicritical behaviour 4-50701
 extended-muffin-tin-orbital energy-band method for a film 4-39744
 FCC crystals, band struct. calcs., parameterisation 4-20537
 gap-free semiconductor, fluctuation model, Fermi level 4-34857
 Jahn-Teller multimode system, Ham factors and energy levels 4-15860
 LMTO method, electron states in cryst. solids, book 4-42610
 localisation in incommensurate potential, multidimensional model 4-39804
 macrocyclic radical ions in columnar stacks, π -electron open-shell cryst. orbital calcs. 4-20642
 metals, optical properties, LMTO calc. 4-25129
 narrow-gap semiconductor, two-band model, energy spectrum and permittivity, renormalisation 4-25223
 nonlocal singular at. pseudopot., norm-conserving, first-principles calc. 4-34847
 one-dimensional crystal model, low-lying energy levels of electrons 4-25201
 one-dimensional lattice, electron energy spectrum 4-20534
 outer core and valence electron pseudopotential 4-45580
 perfect pairing electron correlation effects, self-consistent treatment 4-15805
 α -quartz, band struct., exchange pot. and cut-off radii effects 4-56205
 relativistic linear muffin-tin orbital method, appl. to Au 4-15806
 Se, electron struct., cluster approx. 4-15812
 self-consistency iterations in electronic-structure calculations 4-20538
 small jellium spheres, self-consistent electronic struct. calcs. 4-39753
 solids, electronic energy bands, density functional theory, self-interaction correction 4-20540
 solids, many body systems, perturbation band struct. calcs. 4-2496
 Su-Schrieffer-Heeger model, quarter filled, effect of higher harmonics 4-15799
 substitutional alloys, transport coeffs. in multiorbital models 4-20617
 systems with dipole interaction, ground state study 4-25196
 transition metal compounds, energy band struct. calc. 4-15813
 transition metals, energy band struct. calc. 4-15813
 transition metals, interatomic Green functions calc. using continued fraction technique 4-39740
 Al-transition metal alloys, K-edge X-ray fine struct. smoothing 4-46367
 Al₂O₃:Ni³⁺ Jahn-Teller multimode system, Ham factors and energy levels 4-15860
 B, intrinsic electronic localisation, isotopic disorder effect in narrow electronic band materials 4-39802
 Bi, energy band and electron density calcs. 4-56185
 Cd₂Hg_{1-x}Te, refractive index calc. rel. to freq. and mole fraction 4-40385
 Co, FCC, two-photon pair momentum-density distrib., angular correl. for positron annihilation radiation calcs. 4-56198
 Cr₂Si, phonon and electron densities of states, regularisation method 4-2291

band theory models and calculation methods continued

- Ga_{1-x}In_xAs_{1-y}P_y, disordered, band calc., variational multiple scatt. method 4-45618
 Ge₂Si_{1-x} solid solns., energy band struct. calc. 4-15817
 UC, electronic struct., self-consistent LMTO calcs. 4-45620
 UN, electronic struct., self-consistent LMTO calcs. 4-45620
 V₂Si, phonon and electron densities of states, regularisation method 4-2291

bands (kink) see kink bands**bandwidth compression**

see also vocoders

- laser, mode-locked, as local oscillator in heterodyne ranging system, bandwidth compression 4-19481

bang-bang control

- ankle controls that produce a maximal vertical jump when other joints are locked 4-26468
 antagonistic muscles, optimal control 4-7964
 solar collector loop, cycling rates for bang-bang controllers, effects of temp. settings 4-21582

Bardeen-Cooper-Schrieffer theory see BCS theory**barium**

see also nuclei with

- adsorption on Ge coated W, field emission microscopy study 4-20465
 atom, 5p hole states, reson. photoelectron spectra 4-19009
 atom, aligned 6snd¹³D₂ Rydberg states, photoionis., 5d7d state effects 4-1133
 atom, autoionising states, multiplet excitation 4-1099
 atom, autoionising states, two-photon excitation study 4-5184
 atom, binding energies, L level X-ray absorpt. spectra 4-48968
 atom, f-symmetric final state wavefunction collapse, absorpt. spectra 4-33365
 atom, laser excited, photoionis. 4-1130
 atom, laser pumped vapour, IR forward scatt. meas., resonant ionisation behaviour 4-5158
 atom, laser-pumped, time resolved excitation and ionisation 4-19016
 atom, odd-parity Rydberg states, population, high resolution laser spectrosc. investigation 4-18962
 atom, perturbed Rydberg spectra in external fields, multichannel quantum defect theory 4-9696
 atom, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 atom, two-step autoionisation, config. mixing 4-1096
 atoms, electron impact, ultrasoft X-ray emission 4-19281
 atoms, four-wave mixing, press. induced extra reson. 4-5644
 atoms, L-shell X-ray production cross sections for alpha particles 4-18975
 atoms, laser-excited, superelastic electron scatt. 4-5386
 atoms, UV absorpt. spectrum, induced transitions obs., collision-induced phenomena 4-23645
 clouds released in ionosphere to study wind and longitudinal elec. currents 4-22213
 film on W substrate, adsorption of Cs atoms 4-50644
 ions, ions in preformed anode plasma, collective acceleration 4-5059
 isotopic abundances in Allende meteorite, evidence against extinct super-heavy element 4-36645
 monolayer, electronic struct., cohesive energy, all-electron local density functional calcs. 4-45607
 Rydberg atom, Penning ionisation, photoionisation, autoionisation, electron spectra 4-1253
 structural phase transitions under press. 4-34635
 surface+H⁺ (He ions) impact, L-shell X-ray prod. cross section 4-12004
 vapour, efficient ultrashort pulse freq. conversion from 0.55 to 1.5 μ 4-28768
 Ba I, 5p photoabsorption spectra high resolution UV obs. 4-38119
 Ba I 5dn₁, even doubly excited states, two-step optogalvanic spectrosc. obs. 4-18964
 Ba I single electron impact, double ionis. and excitation, absolute, cross-sections meas. 4-38336
 Ba III excited state prod. by electron impact excitation of Ba I 4-38336
 Ba²⁺, inner 4d shell photoionisation, orbital collapse 4-9732
 Ba²⁺, polarisabilities and sizes calc. 4-49181
 Ba+bromomethane, crossed beam reaction, BaBr product vibr./rot. 4-21453
 Ba+Mg²⁺ collisions, total charge transfer cross-sections 4-54858
 Ba+NF₃(SF₆), integral reactive cross sections for chemionisation 4-51964
 Ba+NO₂(N₂O)(O₃), single-collision chemiluminescence study 4-21442
 BaI, electron shake-up in two-photon excitation of core electrons to Rydberg autoionizing states 4-5191
¹³⁸Ba+H⁺ collisions, total K-shell ionisation cross sections 4-9983
 KCl:Ba²⁺, gamma-ray irradi., Z₁-centres, optical absorpt. spectra, thermolum. studies 4-11945
 KCl:Ba²⁺ solid soln., solvus, single cryst. density studies 4-34655

barium alloys

see also barium compounds

- Al-Ba-Sm, phase equilib. 4-30689
 BaAl₄-type ternary structs., seven possible types 4-2140

barium compounds

see also barium alloys

- Ba(PO₃)₂-AlF₃-BaF₂-CaF₂-SrF₂-MgF₂ optical glass development (German) 4-5675
 BaF₂-GdF₃-ZrF₄ fluoride glass optical fibre prep. (Japanese) 4-49590
 BaFe₂Ti₂O₁₁, R-type hexagonal ferrite, cryst. struct. and cationic distrib. 4-39239
 BaTiO₃-PbTiO₃ system, ferroelec. phase diagram, computer calc. 4-40374
 brockite-like struct., X-ray diff. anal., solid state reactions with Na₂CO₃ 4-2171
 dibarium zinc formate tetrahydrate, EPR study 4-7057
 calcium barium propionate:Mn²⁺, zero-field splitting temp. depend., ESR study 4-11757
 α,ω -dicarboxylato polybutadiene, viscoelastic props., glass transition 4-25069
 intercalation cpd. with graphite, C₆Ba, electronic struct., XPS and UPS studies 4-39755
 intercalation cpd. with graphite, C₆Ba, elec. resist., contactless inductive method anal. 4-39868
 intercalation cpd. with graphite, C₆Ba, positron annihilation studies 4-40565
 ZrF₄-BaF₂-LaF₃ glass fibres for telecommunication appls. 4-28797

barium compounds continued

- Al(PO₃)₂-BaF₂-AlF₃, thermooptical glass, with addition of fluorides of Groups 1-III 4-51246
 B₂O₃-Li₂O-TiO₂-BaO-CuO(Gd₂O₃) vitroceraamics, struct. and partial crystallisation, EPR study 4-46098
 (Ba,La)(Ti,Mn)O₃, PTC materials, prep. from anatase, rutile and BaCO₃ 4-16361
 (Ba,Pb)SnO₃ solid solns., posistor effect 4-50818
 (Ba,Sr)TiO₃-Si struct., memory effects 4-11574
 Ba halide monohydrates, librational modes of H₂O molcs., IR and Raman spectra 4-7182
 Ba- β^* -alumina, preparation, struct. and Raman spectra 4-24795
 Ba²⁺, β^* -alumina, ion transport study 4-25082
 BaAl₂O₄-Al₂O₃ system, ∞ cryst. struct. determ. and phase transitions 4-39223
 BaAl₂Ti₂O₁₄, hollandite, struct., effect of neutron irradi. 4-15542
 Ba₂As₂S₅, prep., cryst. struct. (German) 4-45090
 BaB₆, thermionic electron emitter, high temp. surface composition 4-29752
 BaB₆ thick refractory film, AC cond., freq. depend. of resist., cond. mechanisms 4-6850
 Ba₃(BCO(H₂O)W₁₁O₃₉).26H₂O, cryst. struct., X-ray diff. study 4-29400
 BaB₂O₄-Li₂B₂O₄ system, phase equilibrium and cryst. structs., thermal and X-ray diff. anal. (Chinese) 4-55960
 BaB₂O₄-Li₂O system, phase equilibrium and cryst. structs., thermal and X-ray diff. anal. (Chinese) 4-55960
 BaBiO₃, compression curve, X-ray diff. study 4-34581
 BaBiO₃ supercond. oxide, EXAFS studies 4-51410
 BaBr, laser induced fluoresce. from bromomethane+Ba reactions 4-21453
 Ba(BrO₃)₂.H₂O, γ -irrad., defect centres, EPR study 4-46104
 Ba(BrO₃)₂.H₂O single cryst., Zeeman effect, elec. field gradient, NQR obs. 4-16120
 BaCO₃, reactions with kaolin, mineralisers influence 4-40729
 BaCO₃-TiO₂ multicomponent thin film systems, phase and struct. transforms 4-34834
 Ba₂Cd₃Bi₄, cryst. struct. 4-11106
 BaCl₂, molten, freezing mechanism into superionic phase 4-6479
 BaClF:Sm²⁺, cryst., fluoresce. spectra, mag. field effects 4-46332
 BaClF:Sm²⁺, phonon annihilation and excited state desorption processes, anti-Stokes fluorescence 4-46323
 BaCo₂(AsO₄)₂ and BaCo₂(PO₄)₂, mag. props., susceptibility, sp. ht., and neutron scatt. studies 4-11699
 BaCoF₄, optical phonon spectra, effect of magnetoelec. interaction (Russian) 4-2936
 Ba(Cr,Si)O₄, hashemite, lattice parameters, refractive index, from Jordan 4-47256
 Ba₂Cu₃Sb₄, cryst. struct. 4-11106
 BaF₂, dielectric films, heteroepitaxial growth on Si by vacuum evaporation 4-25170
 BaF₂ epitaxial growth on semicond., lattice matching effects 4-6683
 BaF₂, F nucl. mag. shielding, press. depend. 4-16113
 BaF₂, localised mol. rose centre, multiple order reson. Raman scatt. 4-20958
 BaF₂, low temp. heat capacity and Debye temp. 4-11311
 BaF₂ protecting reflecting layers for Cu and Ag mirrors to protect against tarnishing 4-5681
 BaF₂ retroreflectors, temp. effect on reflected light beam divergence 4-33739
 BaF₂ substrate for Pb_{1-x}Sn_xTe epitaxial layer, effect on optical props. (Russian) 4-25823
 BaF₂:Ni, EPR study of Ni²⁺ centres 4-20854
 BaF₂:RF₃, R=Y, Lu, Yb, Er, Tb, Gd, Eu, La, impurity and defect aggregation 4-50528
 BaF₂-BaCl₂ system, luminesc. and phase comp. 4-51329
 BaF₂-based glass, corrosion by water, TGA study 4-7618
 BaF₂-Ge(InP), epitaxial interfaces, misfit dislocations, electron microscopy anal. 4-11410
 BaF₂-YF₃-InF₃, vitreous transition and recrystallisation temp. determ., optical transmission meas. (French) 4-39505
 BaFBr, flux grown, ionic cond. meas. 4-50568
 BaFBr, thermoluminesc. emission spectra, 300-600K 4-51361
 BaFCl, cryst. growth by flux technique, etching, impurity effect 4-2107
 BaFCl, doped and undoped, γ -ray induced luminesc. 4-11919
 BaFCl:Ti(Gd) crystals, X-ray and γ -ray induced luminesc. 4-21004
 Ba₂FdCrF₆, Neel temp., cationic inversion, Mossbauer spectra 4-11814
 BaFe_{1-2x}Co_{2x}TiO₉ single cryst., Fe³⁺ ion substitution, magnetisation and anisotropy const. studies (Chinese) 4-51092
 BaFe_{1-2x}(Nb_{1/3}Cu_{2/3})O₉ single cryst., Fe³⁺ ion substitution, magnetisation and anisotropy const. studies (Chinese) 4-51092
 BaFe₁₂O₁₉ epitaxial films, LPE growth and mag. props. 4-7039
 BaFe₁₂O₁₉, ferrite powder, low temp. prep., coercivity 4-25927
 BaFe₁₂O₁₉, ferrite small particles, nucleation effects 4-16072
 BaFe₂O₄, press. sintered ferrite, static mag. props. 4-16066
 BaGeO₄, form. by hydrolysis, polymorphic transform., thermal anal., X-ray diff. studies 4-15630
 Ba(IO₃)₂, cryst. growth from silica gel, morphology and habit study 4-3040
 BaIr_{1-x}Co_xO_{3-y}, cryst. struct., and polytypism (German) 4-45078
 Ba_{1-x}La_xF_{2+y}Gd³⁺, ionic thermocurrent and defect struct. 4-20899
 BaLaGa₃O₇, IR spectra, light polarisation, refractive indices and birefringence meas., vibrs. 4-51277
 Ba_{6-1.5x}La_xNb₆Ti₂O₃₀ transparent ceramics for electro-optical appls. 4-35375
 Ba₄Li₂Nb₁₀O₃₀ cryst., low temp. phase transitions, dielec. const. studies 4-34640
 BaMnF₄, microwave absorption peculiarities, two-magnon processes (Russian) 4-25639
 BaMnF₄, struct. phase transitions, energy dispersive X-ray diff. studies 4-55997
 BaMoO₄ crystals, dislocation etching, dissolution kinetics 4-50293
 BaMoO₄, flux-grown single crystals., Vickers microchem. indentation 4-29519
 BaMoS₂ films, ion irradi., effects on elec. resist. and supercond. transition temp. 4-45216
 Ba(NO₃)₂ crystals, (111) face growth rate from aqueous soln., slope angle of spiral hillocks 4-2114
 Ba₂NbNb₂O₁₃, optical props. in fundamental absorpt. band, cond. and valence band 4-51224
 Ba₂NbNb₂O₁₃, acoustic phonon dispersion at incommensurate transition, Brillouin scatt. study 4-25770

barium compounds continued

- Ba₂NaNb₂O₁₅ based picosecond optical parametric oscillator pumped by continuously excited Nd³⁺:YAG laser radiation 4-28766
 Ba₂NaNb₂O₁₅, bronzed, optical, ferroelectric and electronic props. 4-35465
 Ba₂NaNb₂O₁₅, CARS and CSRS spectra, cascade effect caused by polaritons 4-38528
 Ba₂NaNb₂O₁₅, phase matching angles and effective second-order nonlinear coefficients anal. (Chinese) 4-28759
 Ba₂NaNb₂O₁₅, second harmonic generation during ferroelectric transition 4-10375
 Ba₂NaNb₂O₁₅, X-ray study 4-46363
 Ba₂NaNb₂O₁₅, ferroelectric, high-temp. dielec. relax. and phase transitions 4-30389
 BaNbO₃, single crystal growth, by various methods 4-51475
 BaNi₂(AsO₄)₂ and BaNi₂(PO₄)₂, mag. props., susceptibility, sp. ht., and neutron scatt. studies 4-11699
 Ba₂NiFeF₉, Neel temp., cationic inversion, Mossbauer spectra 4-11814
 BaO epitaxial film on W (110), slow electron diff. study 4-20511
 BaO film on W and Ag, low-voltage cathodolum. characts. 4-11944
 BaO, scatt. matrix calcs. of low energy electron reflection intensities 4-2038
 BaO, vacuum UV refl. spectra in energy range 4 to 40 eV 4-30492
 BaO:Nd, effect of impurity on thermionic emission props. 4-21099
 BaO-Al₂O₃-TiO₂ system, lattice parameters of BaAl₂Ti₂O₁₄ phase, X-ray indexing 4-16378
 BaO-B₂O₃ glasses containing Ni micro-granules, mag. props., EPR spectra 4-35223
 BaO-B₂O₃-Fe₂O₃ glass, EPR and DC resistivity studies 4-51128
 BaO-B₂O₃-NdAl₃(BO₃)₄ pseudo-ternary system, crystallisation and viscosity 4-39446
 BaO-B₂O₃-V₂O₅ system, glasses with low softening points 4-57170
 BaO-GeO₂, immiscible region in molten state (Japanese) 4-40760
 BaO-Nb₂O₅, phase diagram 4-51644
 BaO-TiO₃ multicomponent thin film systems, phase and struct. transforms 4-34834
 BaO-TiO₂-Nd₂O₃-SnO₂ system, phase reactions 4-57193
 BaO-V₂O₅ glass, elec. cond. 4-6780
 BaO-V₂O₅-Fe₂O₃ semicond. glasses, Fe and V ion interactions 4-6281
 BaO+Ar, rot. and vibronic relax. rates, fluoresce. meas. 4-57533
 2BaO.2SiO₂.3BaCl₂, cryst. struct. with cyclic silicate anions 4-39262
 Ba(PO₃)₂ glass, rare earth-ion activated, radiationless transition mechanism 4-7230
 BaPb₂Bi₂O₃ sputtered films, superconducting props., PbO₂ annealing atmosphere effects 4-6925
 BaPb₂-Bi_{0.25}O₃, reentrant superconducting resistive transition obs. 4-45921
 BaPb_{1-x}Bi_xO₃, electronic struct., self-consistent scalar relativistic linear APW calc. 4-6700
 BaPb_{1-x}Bi_xO₃, plasma energies and electronic struct. 4-25217
 BaPb_{1-x}Bi_xO₃, superconducting props. (Japanese) 4-20756
 BaPb_{1-x}Bi_xO₃ superconducting films, RF magnetron sputtering 4-35567
 BaPb_{1-x}Bi_xO₃ supercond. oxide, EXAFS studies 4-51410
 BaPbO₃(I)-BaBiO₃(II) solid solns., dielec. props. and superconductivity 4-25473
 BaRu_{1-x}CO_{3-y} polytypes, cryst. struct. and phase relations (German) 4-39224
 BaS, form. by heat induced BaSO₄ conversion, thermally stimulated exoelectron emission 4-7334
 BaS phosphors, thermally stimulated luminesc. glow peaks and trap distrib. 4-40538
 BaS, vacuum UV refl. spectra in energy range 4 to 40 eV 4-30492
 BaS:Cu,Bi, new X-ray TLD phosphors 4-21051
 BaS:Cu,Bi phosphors, gamma-ray induced thermally stimulated luminesc. study 4-16259
 BaSO₄, barytes, SO₃⁻ radical, hyperfine struct., EPR study 4-11768
 BaSO₄ heat induced conversion to BaS, thermally stimulated exoelectron emission 4-7334
 BaSO₄.PO₃²⁻, barite, EPR of PO₃²⁻ and SO₃⁻ radicals, hyperfine struct. 4-7061
 BaSe, vacuum UV refl. spectra in energy range 4 to 40 eV 4-30492
 BaSiN₂, unit cell parameters, X-ray powder diff. 4-34451
 BaSO₄ in NaCl soln., cryst. growth kinetics 4-29370
 Ba,Sr_{1-x}F₂ epitaxial films, MBE growth on InP (001) 4-12028
 Ba_{2-x}Sr_xK_{1-y}Na_yNb₂O₁₅, cryst. growth and ferroelec. props. 4-30402
 Ba_{2-x}Sr_xK_{1-y}Nb₂O₁₅, dielectric props. meas. 4-40323
 (Ba_{0.95}Sr_{0.05})Nb₂O₆, relax. polarisation and thermally stimulated depolarisation currents 4-2870
 Ba_{0.99}Sr_{0.01}Nb₂O₆:Ce, single cryst. plate growth by Stepanov method 4-3061
 Ba_{0.95}Sr_{0.05}Nb₂O₆ ferroelectric thin film, pulse electrooptical light modulation (Russian) 4-20944
 Ba₂Sr_{1-x}Nb₂O₆, bronzes, optical, ferroelectric and electronic props. 4-35465
 Ba₂Sr_{1-x}Nb₂O₆, optical props. in fundamental absorpt. band, cond. and valence band 4-51224
 Ba₂Sr_{1-x}Nb₂O₆:Ce monocrystalline plates obtained by Stepanov method 4-25870
 Ba_{0.8}Sr_{0.2}TiO₃ solid solns., lattice dynamics, inelastic neutron scatt. study 4-55936
 Ba₂Sr(WO₆)₂ impregnated cathode, development and properties (Chinese) 4-52018
 Ba₃Te₂O₄Cl₂, cryst. struct., X-ray diff. study 4-20154
 Ba₂TiGe₂O₈, glass-ceramic, piezoelectric props. and hydrophobe appl. 4-35364
 Ba₂Ti₂Nb₂O₁₈, cryst. struct., X-ray diff. (French) 4-29397
 BaTiO₃ ceramic, ferroelec. props. and hot pressing 4-56858
 BaTiO₃ ceramic, BaZrO₃ modified, elec. resist. and dielec. characts. temp. depend. 4-15871
 BaTiO₃ ceramic, fracture studies 4-39372
 BaTiO₃ ceramics, positive temp. coeff. of resist. with Curie points between 60 and 360°C 4-25383
 BaTiO₃ ceramics, recrystn., kinetic process 4-57255
 BaTiO₃ ceramics, sintered, production of fine grain size by fast firing 4-12049
 BaTiO₃ ceramics, sintering, anomalous grain growth, twin lamellae 4-57159
 BaTiO₃ coarse grained ceramics, dielec. const. 4-7111
 BaTiO₃ crystal, electrostrictive high-temp. props. meas. 4-22795
 BaTiO₃, crystal defect characterisation, X-ray diff. anal. (French) 4-50278

barium compounds continued

- BaTiO₃ crystals, polariton spectra, two-particle states and Fermi reson. (Russian) 4-25754
 BaTiO₃, cubic, lattice dynamics, inelastic neutron scatt. study 4-55936
 BaTiO₃, doped, precipitation and calcination, DTA and TGA obs. 4-57148
 BaTiO₃, elec. degradation, composition and microstruct. effects 4-35349
 BaTiO₃, electronic struct. calcs. 4-11435
 BaTiO₃, ferroelec., computer modelling of defect struct. 4-20189
 BaTiO₃, ferroelec. cryst., polariton spectroscopy 4-25741
 BaTiO₃, ferroelec. transition, interface vel. estimation 4-24959
 BaTiO₃, ferroelectric, point defect chemistry, nonstoichiometry and elec. cond. anal. 4-7132
 BaTiO₃ ferroelectric crystals, with spiral dislocations, thermodynamic study above Curie point 4-30401
 BaTiO₃, ferroelectric target, beta particle critical transmission at Curie temp. 4-55893
 BaTiO₃ group ferroelectrics, ferroelectricity from aspect of crystal chemistry 4-40378
 BaTiO₃, illumination influence on polarisation changes 4-25677
 BaTiO₃, metatitanate, synthesis reaction, solid-solid reaction interfaces 4-21189
 BaTiO₃, mode softening, Raman study 4-20926
 BaTiO₃, para-ferroelectric phase change, spontaneous polarisation and Bloch orbital interactions (French) 4-7137
 BaTiO₃, parameter variations in strong EM field 4-2862
 BaTiO₃, perovskite struct., cubic phase, electronic struct. 4-2511
 BaTiO₃ photorefractive materials for optical data processing 4-24117
 BaTiO₃ pyroelectric digital calorimeter, laser pulses energy meas. appl. 4-44123
 BaTiO₃ sheets and coating films from alkoxide solns. 4-57368
 BaTiO₃, sintering in presence of LiF (French) 4-57165
 BaTiO₃, structural phase transitions study by hyper-Raman and Rayleigh scatt. 4-25692
 BaTiO₃ target, external bremsstrahlung due to β particles from ⁹⁰Sr→⁹⁰Y reaction 4-24882
 BaTiO₃ type ferroelectric crystal, thermodynamics of deform. pot. under mech. stress 4-30405
 BaTiO₃, ultrasoft X-ray emission spectra (Ukrainian) 4-7281
 BaTiO₃, Z 4-46199
 BaTiO₃:Fe, undoped, cond. and photocond. meas. (French) 4-56346
 BaTiO₃:Fe, cond., photocond. meas. 4-25341
 BaTiO₃:Gd, ferroelec., permittivity meas. 4-51177
 BaTiO₃:La(Mn), lifetime spectra of positrons 4-7267
 BaTiO₃:Y₂O₃, electrophysical and magnetochemical props. 4-56857
 BaTiO₃-based ferroelectric ceramic, role of Ba₂TiO₄ during processing 4-30672
 BaTiO₃-Bi₂O₃ powder mixtures, liq. phase sintering 4-40720
 BaTiO₃-LiF (1-2 wt.%), sintering behaviour 4-25930
 BaTiO₃-type systems, ferroelectric transition theory 4-40376
 α'-Ba₂TiO₅, cryst. struct. determ. 4-45068
 Ba₂TiSi₂O₈, glass-ceramic, piezoelectric props. and hydrophobe appl. 4-35364
 Ba_{1-x}La_xF_{2+2x}, ionic cond. and sp. ht. anomaly 4-45396
 Ba_{1-x}La_xF_{2+2x}, thermally generated defect struct., quasielastic neutron scatt. studies 4-45121
 BaWO₄, press. induced phase transition, high press. Raman vibr. study 4-7200
 BaY₂F₈:Ho³⁺, phonon bottleneck, ESR line doubling 4-2292
 BaYb₂F₈:Tm³⁺, laser emission at 1.482-μm due to new lasing transition in Tm³⁺ 4-10310
 Ba₂Yb₂O₈, cryst. struct., X-ray study (German) 4-39249
 BaZnGeO₄ crystal, Raman scatt. and phase transitions 4-46245
 BaZnGeO₄, shock-induced phase changes, optical microscopy and X-ray studies 4-6496
 BaZrO₃ electronic struct. calcs. 4-11435
 BaZrO₃, ultrasoft X-ray emission spectra (Ukrainian) 4-7281
 Ba[Pt_{1-x}Ni_x(CN)₄].4H₂O, quasi one-dimens. mixed cryst. mag. field and temp. effects on luminesc. quenching 4-11920
 Bi₂O₃-TiO₂ mixtures, formation of Bi₂Ti₂O₁₂ 4-25934
 Bi₂Ti₂O₁₂, formation from Bi₂O₃-TiO₂ mixtures 4-25934
 CaFCl-BaFCl, ion size effect on cryst. struct. 4-24781
 Cr₂O₃-Ba(ClO₄)₂.3H₂O, thermal dissoc. and reactions, thermal and X-ray diff. obs. 4-26197
 K-hollandite, sine-Gordon system, sp. ht., struct. factor, high temp. expansion 4-2345
 K₂BaCl₄, cryst. struct. and thermodynamic props. (German) 4-39252
 K₂Ba(NO₂)₄, cryst. struct., phase transitions 4-6336
 K_{0.20}Na_{0.20}Sr_{0.60}Ba_{0.20}Nb₂O₆, electroelastic const. determ. (Chinese) 4-2856
 La_{1-x}Ba_xF_{3-x}, F mobility, NMR relax. time study 4-45397
 La_{1-x}Ba_xF_{3-x}, ionic cond. and ¹⁹F NMR spin-spin relax. 4-45400
 La_{1-x}Ba_xF_{3-x} solid soln., elec. cond. study 4-15877
 La_{1-x}Ba_xMnO₃ system, mag. and crystallographic props. 4-30142
 La_{2-x}M_xCuO₄ (M=Mg, Ca, Sr, Ba), elec. props. 4-56340
 LiBa₂(Si₂O₇)₂Cl₂(CO₃), cryst. struct. determ. 4-15448
 NaBaNd(Si₂O₇), cryst. struct. X-ray phase anal. 4-55807
 NaF-BaO-B₂O₃ system, glasses with low softening points 4-57170
 Na₂O-BaO-B₂O₃ system, glasses with low softening points 4-57170
 Na₂O-BaO-B₂O₃-SiO₂-CeO₂ glass, radiation colouring, radio- and thermoluminescence 4-11190
 Nd_{1-x}Ba_xMnO₃ single crystals, flux growth from melt 4-51472
 (Pb, Ba, La)Nb₂O₆ ceramics, hot-pressed, transparent, anisotropies 4-20945
 (Pb_{0.8}Ba_{0.2})_{0.97}La_{0.02}Nb₂O₆ piezoelectric ceramic, mechanical props. 4-40940
 PbO-BaO-P₂O₅:Er³⁺ glass, Er³⁺ ⁴I_{3/2} level population inversion characts. 4-5592
 Pr_{1-x}Ba_xMnO₃ single crystals, flux growth from melt 4-51472
 SiO₂-PbO-BaO-K₂O-Na₂O system glasses, viscosity, temp. depend. (Czech) 4-50556
 Sr_{0.5}Ba_{0.5}Nb₂O₆:La dislocation-free cryst., dielec., SAW, and electro-optical props. 4-30400
 Sr_{1-x}Ba_xNb₂O₆ cryst. growth and ferroelec. props. 4-30402
 (Sr_{1-x}Ba_x)_{1-y}(Nb₂O₆)_yCeO₃, dynamic hologram recording 4-49304
 SrFBr-BaFBr, ion size effect on cryst. struct. 4-24781
 SrFCl-BaFCl, ion size effect on cryst. struct. 4-24781
 ZrF₂-BaF₂-GdF₃-AlF₃ glass optical fibre, impurity level reduction using sublimation purification technique 4-19607

barium compounds continued

ZrF₄-BaF₂-LaF₃ glass, crystn. kinetics, DSC study 4-24729
 ZrF₄-BaF₂-LaF₃-AlF₃-NaF optical fibres, improved crucible fabrication technique 4-33819

Barkhausen effect

manganese formate dihydrate, antiferromag., spontaneous magnetisation, temp. Barkhausen effect development 4-11745
 steel, alloy, nondestructive inspection method for surface layer 4-7664
 steel, dual-phase, Barkhausen jumps, effect of heat treatment in intercrit. temp. range 4-56694
 steel, electrotechnical, grain oriented, mag. props. 4-12201
 utilisation for meas. technology 4-32282
 Gd₂(MoO₄)₃, single cryst., Barkhausen effect and viscous phenomena 4-30406
 NaH₂(SeO₄)₂, ferroelec., ferroelastic domain struct. and Barkhausen effect 4-30416
 YIG, Barkhausen noise, US depression 4-25590

Barnett effect *see gyromagnetic effect; magnetisation***barometers**

capacitive transducer barograph (Rumanian) 4-47463
 microbarograph for atmospheric infrasounds and subsonic disturbances meas. 4-22122

barometric pressure *see atmospheric pressure and density***barrages** *see dams***barrel distortion** *see aberrations***barretters** *see thermistors***baryon-baryon interactions**

see also baryon-baryon scattering; hyperon-nucleon interactions; nucleon-nucleon interactions
 No entries

baryon-baryon scattering

see also baryon-baryon interactions; hyperon-nucleon scattering; nucleon-nucleon scattering
 No entries

baryon decay

see also baryon hadronic decay; baryon leptonic decay; hyperon decay
 asymptotically free SU(5) theory, τ -leptons, ν mass, leptoquark bosons, cosmology 4-37317
 charmed particles, lifetimes, results from Fermilab spectrometer 4-32682
 conference, weak interactions and neutrinos, Javea, Spain (Sept. 1982) 4-27240
 conference on high energy physics, Tokyo, Japan (Sept. 1982) 4-13481
 conference on monopoles and proton decay, Kamioka, Japan (Oct. 1982) 4-4157
 elementary particle physics and cosmology 4-36758
 European nucleon decay expts. 4-479
 gauge theory in high energy phys., meeting, Les Houches, France (Aug.-Sept. 1981) 4-31951
 grand unification testing through baryon and lepton number nonconservation 4-417
 GUT with spontaneously compactified gravity, proton decay and $\sin^2\theta_w$ predictions 4-48381
 lifetime and semileptonic branching ratios for $\Delta B=0$ and $\Delta S=1$ decays, Lorentz invariance testing 4-13820
 liquid Ar detector for neutrino detection and proton decay expts. 4-994
 matter nonconservation in unified theory expts., conf., Frascati, Italy, (January, 1983) 4-16
 monopole catalysed nucleon decay cross section in neutron stars 4-58465
 monopole catalysis of proton decay 4-37315
 monopole-fermion system, baryon number violation, charge conservation 4-37316
 monopoles, baryon decay and charge conservation 4-13851
 Mont Blanc nucleon stability expt., results 4-991
 nucleon, mag. monopole catalysis, expt. limit 4-478
 nucleon decay, catalysis by mag. monopoles rel. to end of Universe 4-8612
 nucleon decay, decay mode insensitive searches, review 4-418
 nucleon decay expts., SU(3)_C×SU(2)_L×U(1)_Y×G_H theory, horizontal gauge symmetries testing 4-32528
 nucleon decay in GUTs, B-L violation 4-43289
 nucleon decay in old pulsars, monopole catalysis 4-8510
 nucleon stability, mag. monopoles and atmos. neutrinos at Mont Blanc 4-23014
 nucleon stability in bag models, stable nucleon in Yukawa theory 4-9158
 nucleon two body decay branching ratio, SU(5) minimal supersymmetric model, chiral Lagrangian calcs. 4-43280
 nucleon two-body decay, rates and branching ratios calc., quark bound state effects 4-43362
 nucleons, two-body branching ratios for SU(10) schemes and generation mixing 4-4592
 one-gluon exchange effects to g_A/g_V of baryon semileptonic decay 4-43330
 p decay, fully contained events in the Mont-Blanc nucleon decay detector 4-13903
 probability of proton decay in ¹⁶O, pion-nuclear interaction and nucleus structure effect 4-23011
 proton decay, expectives concerning SUSY GUTS 4-27689
 proton decay, monopole catalysed, in soliton picture, SU(2) and SU(5) model calcs. 4-18138
 proton decay, monopole catalysed, multifermion condensates and boundary conditions calc. 4-32510
 proton decay, monopole catalysis, electroweak scale consequence 4-4596
 proton decay, NUSEX experiment 4-43364
 proton decay, solar monopole catalysed, neutrino flux expectation 4-26962
 proton decay, SU(5) GUT, nucleon decay branching ratios 4-27691
 proton decay, SUSY and gauge hierarchy problem 4-43282
 proton decay and fractional lepton charges in SO(14) 4-410
 proton decay and neutral-current coupling, SO(10) symmetry breaking, two-loop anal. 4-13833
 proton decay and time-energy uncertainty relation 4-13900
 proton decay at early times, Golden Rule 4-27220
 proton decay by exotic Higgs boson, SU_C(4)×SU_L(2)×U_R(1) leptoquark unification and invisible axion 4-32527
 proton decay experiment in Kolar Gold Fields 4-476
 proton decay expt. at Park City, Utah 4-993
 proton decay expts. and instrumentation affected by cosmic ray background noise 4-13899
 proton decay in GUTs with horizontal symmetry 4-23012

baryon decay continued

proton decay in nucleus, nuclear collision effects 4-413
 proton decay in nucleus from SU(5) GUT 4-9054
 proton decay in SU(4)_C×SU(2)_L×SU(2)_R unified gauge model (Chinese) 4-48399
 proton decay in supersymm. unified theory due to 5-dimens. operators 4-18139
 proton decay inside nucleus, frequent observation effects 4-414
 proton lifetime, Frejus tunnel expt. (French) 4-9050
 proton lifetime in minimal SU(5) theory 4-18122
 proton lifetime in statistical model 4-4675
 proton lifetime meas., comparison of expts. 4-32688
 proton two body decay in SU(6) relativistic spin effects 4-18126
 protons, exponential law from SU(5) GUT and hadron structure theories 4-32532
 protons, nucleus effects 4-412
 SO(10) GUT, proton lifetime, grand unification mass scale and Weinberg angle 4-4606
 Soudan I detector, proton and bound neutron decay search 4-475
 Soudan II detector for nucleon decay expts. 4-990
 SU(5) 't Hooft-Polyakov monopole induced proton decay, Rubakov-Callan effect 4-32545
 superheavy monopole detection in nucleon decay catalyzing, DUMAND project calc. 4-423
 SUSY-GUTs, supersymmetry breaking, proton decay implications, review 4-13853
 unstable baryons in rishon model, responsible gauge boson, SU(2)_L×U(1) model 4-9107
 weak decays of leptons, quarks, hadrons in intermediate vector bosons 4-27737
 $b-c \rightarrow \pi \pi$, mag. monopole catalysed, sea-level monopole search 4-18242
 $\eta \rightarrow \nu K^0$, decay search using water Cherenkov counter 4-53985
 N decay experiments' review, NN oscillations, baryon number nonconservation 4-27736
 $n-c \rightarrow \pi^+(e^- K^+)(\mu^- \pi^+)(\mu^- K^+)$, decay modes in SU(2)_L×SU(2)_R×SU(4)^{col} or SO(10) 4-23013
 $n-c \rightarrow \pi^-$, future European expts. 4-13897
 $n-K^0_{S4}$ 5-D supersymmetric operator induced, chiral lagrangian calcs. 4-18239
 $\bar{n} \rightarrow p e \bar{\nu}$, angular asymmetry, second class current detection 4-53906
 p decay, pole contribution, branching ratios 4-473
 p decay experiment at Kolar Gold Field, detector and output data 4-4679
 p decay lifetime upper limit in SU(5) theory, MIT bag model diagrams 4-18237
 $p-c \rightarrow \pi^0$ decay lifetime in SU(5) grand unification model 4-13832
 $p-c \rightarrow \pi^0$ search for proton decay and other rare phenomena 4-18240
 $p-c \rightarrow \pi^0$ search in 8000 tonne Cherenkov detector, IMB expt. 4-477
 $p-c \rightarrow \pi^0(K^+ \nu)$, future European expts. 4-13897
 $p-c \rightarrow \pi^0(\mu^+ \pi^+)(\mu^+ K^+)$, lifetimes and branching ratios from IMB detector 4-13898
 $p-K^0_{S4}(K^0 e^+)$ 5-D supersymmetric operator induced, chiral lagrangian calcs. 4-18239
 $p-\mu^+ K^0$ decay search using water Cherenkov counter 4-53985
 $p \rightarrow \Pi^+ e^+$, decay rate and wavefunction from SU(5) GUT and $\psi \rightarrow p p$ (Chinese) 4-53986
 $p \rightarrow \pi^+ e^+$, two-body decay in SU(5) GUT, partial decay rate (Chinese) 4-474
 $p \rightarrow \pi \mu(K e)(K \mu)$, decay in SU(5) grand unified model with SO(3) flavour symmetry 4-32517
 p two-body decays in SU(5), lifetime, meson-nucleon resonance effects 4-18238

baryon hadronic decay

charmed baryon decay, MIT bag model and QCD-corrected Weinberg-Salam model calc. 4-13901
 dilambda decays 4-4676
 direct quark-model calculation of weak nonleptonic matrix elements 4-37341
 effective chiral lagrangians with baryons, spin 1/2 parity partner mass splittings 4-18152
 hybrid qqq baryon, pionic decay in chiral bag model 4-18245
 hyperon nonleptonic decays, soft pion approx. 4-37373
 hyperons nonleptonic-decay matrix elements in bag-inspired harmonic oscillator model 4-32687
 lifetime and semileptonic branching ratios for $\Delta B=0$ and $\Delta S=1$ decays, Lorentz invariance testing 4-13820
 Δ pion decay width from nonrelativistic quark model, $qq\pi$ vertex strength 4-18244
 $\Lambda(1502)$ in ¹²C, resonance energy, lifetime, branching ratios 4-43363
 Λ_c lifetimes, WA58 expt. using tagged photon beam 4-27735
 Λ_c^+ hadronic decay branching ratio using quark combinatorics 4-18235
 Λ_c^+ lifetime in statistical model 4-4675
 $\Lambda_c \rightarrow p K^0(\Lambda \pi^+)$, nonleptonic weak decay rates using current algebra and SU(6) theory 4-48474
 $\Lambda_c^+ \rightarrow \Sigma^+ \gamma$, branching ratio calcs. in nonrelativistic quark model 4-9105
 $n \rightarrow \gamma K^0$, lifetimes and branching ratios from IMB detector 4-13898
 N pion decay width from nonrelativistic quark model, $qq\pi$ vertex strength 4-18244
 Ω^- decays, branching ratios, lifetimes 4-32689
 $qqqq \rightarrow Z^- K^+$, obs. of resonance at 1.95 GeV 4-4677

baryon interactions *see baryon-baryon interactions; lepton-hadron interactions; meson-baryon interactions; photon-hadron interactions***baryon leptonic decay**

hyperons correlation and polarisation effects in leptonic decays (Russian) 4-4678
 rishon subquark model for straton and leptons, proton decay modes (Chinese) 4-43339
 P three lepton decay in fractionally charged quark SU(4)×SU(2)_L×SU(2)_R model 4-18243

baryon mass

see also hyperon mass
 asymptotic hadron mass spectrum in stat. bootstrap model with internal SU(2) and SU(3) 4-18211
 chiral perturbation theory, baryon mass spectra study 4-53901
 conference on hadronic mechanics, Cambridge, MA, USA (Aug. 1983) 4-42581
 effective chiral lagrangians with baryons, spin 1/2 parity partner mass splittings 4-18152
 finite dimensional quark model using Hilbert space, colour and flavour observable definition 4-27698

baryon mass continued

- ground state meson and baryon mass inequalities in QCD 4-48438
hadron spectroscopy in a flux-tube quark model with colour-magnetic interactions 4-18209
hadronic exciton states, propagators and mass formulae from quantum space-time reciprocity theorem 4-48463
Ising model, renormalisation calcs. using Monte Carlo methods for hadron masses 4-43231
lattice gauge theories, Susskind fermions at strong coupling 4-376
lattice gauge theory at large N and strong coupling, meson and baryon masses 4-9025
lattice QCD, n-flavour, mass inequalities determ., chiral symm. breaking 4-9073
lattice QCD random walk approx., meson and baryon spectrum, analytic calc. 4-9080
QCD, baryon-meson mass inequality 4-13872
quenched QCD with light Kogut-Susskind quarks on large lattice 4-48440
stable baryon masses, internal state functions, energy formula 4-43344
SU(3) lattice theory, renormalisation calcs. using Monte Carlo methods for hadron masses 4-43231
 A^+ , charmed strange baryon, mass and lifetime meas. from $\Sigma^-N \rightarrow A^+$ production 4-32742
p-e mass ratio, vacuum lattice theory determ. evaluation 4-9056
p- Σ^+ , hypercharge mass splitting, ω - ϕ mechanism 4-4722
qqq hadrons, self consistent light quarks, mass spectrum, sea-quark loop effects 4-18210

baryon photoproduction

- see also hyperon production; neutron production; proton production*
 γp , 20 GeV, inclusive charm prod. cross section, D lifetimes, A_c^+ and D^+ prod. 4-43361
 γp —charm particles, total hadronic cross-section 4-27744

baryon production

- see also baryon photoproduction; hyperon production; neutron production*
asymmetric universe, GUTs and baryon asymmetry origin, review 4-36766
baryon/meson ratios in hard and soft reactions similar in quark recombination model 4-32630
big-bang cosmology and grand unification, baryosynthesis, monopoles, galaxy form. 4-42567
jets charge distributions, influence of baryon production 4-4615
nucleon resonance electroproduction, review 4-23023
quark jets, thermodynamic model, baryon production 4-53929
pN—charm, beam dump expts. 4-27766
pp— $\Delta^{++}X$, 62, 45, 31 GeV, cross sections meas., Δ^0 production cross section limit determ. 4-32759
 $\psi(3097)$ decays to baryon-antibaryon final states, branching ratios meas. 4-48473
Ta(C,X), 4.2 GeV/c/N, large transverse mom. baryon prod., cascade model anal. 4-18471
Ta(He,X), 4.2 GeV/c/N, large transverse mom. baryon prod., cascade model anal. 4-18471
Ta(d,X), 4.2 GeV/c/N, large transverse mom. baryon prod., cascade model anal. 4-18471
Ta(p,X), 4.2 GeV/c/N, large transverse mom. baryon prod., cascade model anal. 4-18471

baryon resonances

- see also hyperon resonances*
bottom hadron lifetime from decay leptons impact params. meas. 4-472
chiral model with SU(3) flavour symm., doubly strange dibaryon state 4-48365
chiral soliton model of nucleon and delta 4-48449
compression modulus of nucleon and delta in nonrelativistic constituent quark model 4-48450
hadron models 4-32634
hybrid qqqg baryon, pionic decay in chiral bag model 4-18245
nucleon resonance electroproduction, review 4-23023
QCD₂, baryon and baryonium 4-32591
QCD props., quark dynamics 4-37344
six-quark states spectrum structure 4-4648
strange dibaryon searches at KEK and LAMPF II, hypernuclear forces appl. 4-4793
 A^+ , charmed strange baryon, mass and lifetime meas. from $\Sigma^-N \rightarrow A^+$ production 4-32742
b-flavoured baryons, ground state and P-wave with hyperfine interactions 4-4636
 $\Delta(1232)$ resonance, struct. in quark models 4-53961
 Δ pion decay width from nonrelativistic quark model, qq π vertex strength 4-18244
H doubly strange dibaryon formation from Ξ^- atoms 4-38358
H($\Lambda\Lambda$), hadronic shift and production probability in SU(3) 4-4642
N(1470), Roper resonance, chiral bag model anal. 4-37347
N pion decay width from nonrelativistic quark model, qq π vertex strength 4-18244
N- $\Delta(1236)$ transition moment n^* from Δ^{++} data 4-48466
np— $\pi^+\pi^+\pi^-\pi^-n$, 5.1 GeV/c, I=5/2 exotic baryon resonance search 4-13913
qqqqq— Σ^-K^+ , obs. of resonance at 1.95 GeV 4-4677

baryon scattering *see baryon-baryon scattering; lepton-hadron scattering; meson-baryon scattering; photon-hadron scattering***baryon spin and parity**

- see also hyperon spin and parity*
 $U_{6/2}$ dynamical supersymmetry in baryons with odd parity 4-395
Kp— Δp , 18.5 GeV, resonant struct. evidence 4-4698

baryons

- see also baryon resonances; baryon spin and parity; hyperons; nucleons*
cosmological origin of baryonic matter, theory (Polish) 4-53326
early Universe, baryon asymmetry from Higgs boson decay, finite temp. effect 4-53330
electromagnetic props., Bethe-Salpeter qqq dynamics 4-53861
ground state baryons in non-relativistic quark model 4-4644
GUTs, cosmological implications for very early Universe, baryon generation and monopoles 4-13466
inflationary cosmology, baryon number, Hawking radiation, big-bang, horizon and flatness 4-8621
M1 radiative transitions and proton charge radii in bag model 4-32622
mag. moments in Dirac eqn. based independ. quark model 4-18257
magnetic moment formulae derivation using SL(3,C) 4-37302
magnetic moment in quark-diquark model 4-13876

baryons continued

- magnetic moments and quark interaction energies 4-480
magnetic moments in covariant oscillator quark model with unequal constituent masses 4-18258
mass differences, scalar-tadpole theory 4-37288
mass formulae and baryons as solitons 4-53971
mass spectra in relativistic quark model with pion field 4-53972
mass spectrum from Born reciprocity principle, Regge trajectories from internal SU(3) symm. 4-23000
nonrelativistic quarks model, baryon-like bound states in self-consistent field approx. 4-458
number conservation, expt. developments 4-27674
proton decay, SU(5) supersymmetric model with diminished mass 4-27690
QCD₂, baryon and baryonium 4-32591
QCD baryon dynamics, large-N reln. to static strong coupling theory bootstrap condition 4-27705
QCD props., quark dynamics 4-37344
quark symmetries and aggregates as hadron constituents 4-9066
spheroidal bag, quark and gluon eigenmodes, qq interactions, baryons 4-18159
uncharmed and charmed baryons, anomalous magnetic moments 4-54020

barysphere *see Earth core***BASIC**

- numerical anal. in BASIC language, book 4-47805

basicity *see pH***bathymetry**

- NW Africa, continental margin sediment dynamics and morphology 4-58170
Agulhas Plateau, correl. of geoid and depth anomalies 4-58163
American-Antarctic Ridge, tectonics, bathymetry and mag. anomalies 4-41876
Antarctic margin, marine geomorphology 4-58171
Arctic Ocean, atlas 4-42616
N Atlantic, western region, deep circulation, role of New England seamounts 4-12922
mid-Atlantic Ridge relief, gravity anomalies and tectonics 4-41824
avalanching, erosion and transport in deep-sea canyons, appl. 4-58168
Bonin Arc, Pacific Ocean, tectonic history from bathymetry and gravity structural features anal. 4-52686
bottom topography, linearized form of kinematic boundary condition 4-52741
bottom topography, two-layer isolated mesoscale eddy interaction 4-36379
bottom-related surface patterns, SAR image modelling 4-26886
canyon enhancement of coastal upwelling, two-layer model 4-36372
coastal and lake depth monitoring by airborne method using laser 4-31695
coastal regions, shallow topographic surveying via interferometric side-scanning sonar (German) 4-26871
computer method for statistical anal. of bathymetric data 4-42233
continental slope and shelf effects on subinertial coastally trapped wave dispersion 4-36375
East Pacific Rise, sonar study of tectonic and volcanic struct. 4-36331
geoid variations, contrib. of isostatically compensated ocean-floor topography, bathymetric anal. 4-52674
global sea floor characts. (book) 4-53371
Gulf of Alaska seamount observations 4-52691
guyot summits in N Pacific Ocean, detailed bathymetry by multi-beam sonar 4-31475
Kerguelen-Antarctica Passage, characts. 4-58171
King's Trough in NE Atlantic, isostasy, gravity and topography 4-3748
La Fournaise volcano, Reunion Island, struct. features of eastern side (French) 4-8204
mapping of ocean floor (1947-77) 4-58164
Mazagan Escarpment, Atlantic Ocean, Cyamaz diving campaign results 4-3753
Michelson Ridge guyots, Pacific Ocean, obduction, bathymetry anal. 4-52688
New England Seamount Chain influence on Gulf Stream numerical study 4-58190
ocean floor (book) 4-53366
Ogasawara Plateau, NW Pacific; multibeam sonar bathymetry and tectonic implications 4-8223
eastern Pacific, seamount abundance and size distrib. 4-58161
NE Pacific, seamount observations 4-52691
N Pacific Ocean, fracture zone trends rel. to Late Cretaceous and Palaeogene tectonic evolution 4-8210
Red Sea deeps, Seabeam echo-sounder geomorphological study (French) 4-21921
sea bottom, acoustic visualisation around obstacles (French) 4-3778
seafloor flattening at old age, role of lithosphere phase transform. and thermal effects 4-41801
seafloor roughness, statistical parameters 4-47247
SEASAT-1/SIR-A bathymetric and coastal observations from satellite radar images 4-22180
shallow coastal area mapping technique by photogrammetric method 4-31688
South China Sea, N region, structural features and oceanisation (Chinese) 4-17096
NE United States, continental margin, Mesozoic-Cainozoic regression and assoc. tectonics 4-58166
United States Atlantic continental margin, bathymetry rel. to Neogene phosphorite deposition 4-47249
NE United States continental margin, Norfolk and Washington canyons, sediments and bathymetry 4-58167
Well Bank, North Sea, marine tidal sand ridge comparison with Belgium Miocene ridges 4-58184

batteries *see cells (electric); primary cells; secondary cells; solar cells***battery chargers**

- 3-phase rectifier, with current reversal, wet battery charging performance (Russian) 4-52132
solar power control systems 4-31104

Bauschinger effect

- β -brass, Bauschinger effect and new slip 4-12123
elastoplastic material, complex loading and extrusion with saturating work hardening (Japanese) 4-2260
metals, Bauschinger effect, intrareactor test apparatus 4-35804
Ti, Bauschinger effect, intrareactor test apparatus 4-35804

Bayard-Alpert gauges *see ionisation gauges*

Bayes methods

- Bayes estimates of vector quantities under small statistics conditions 4-42698
- Bayesian analysis of seismic risk 4-41775
- Bayesian estimations of positive quantities, prior distrib. 4-54572
- historical seismic hazard analysis 4-41776
- novel confirmation, heuristic novelty concept, Bayes theorem applic. 4-53437
- TEM, conventional and scanning, Bayesian restoration of partially coherent imagery 4-37259

bays (magnetic) *see geomagnetic variations*

BBGKY equation *see integro differential equations*

BCS theory

- see also many-body problems*
- antiferromagnetic superconductor, effect of nonmagnetic impurities 4-20761
- antiferromagnetic superconductors, 1-D, Fulde-Ferrell state 4-25476
- chalcogenides, many-valley superconducting semiconds., superconducting transition 4-56483
- conduction electron spin relaxation in the superconducting state 4-11633
- dirty superconductors, phase-slip processes very near T_c , deviations from local equilibrium 4-2691
- dirty superconductors, spin-orbit scatt. and spin contamination 4-30108
- Kondo lattice, superconductivity, Anderson model anal. 4-50980
- metals, quasi-1D with impurities, singlet and triplet superconductivity 4-11628
- pseudo-spin rotation, symmetry restoration by time-depend. mean field quantisation 4-27804
- strong coupling BCS model, symmetry breaking mechanism, Gibbs states 4-2678
- superconducting critical temperature with paramagnetic and normal impurities under the square well model 4-56470
- superconducting energy gap, renormalisation group calc., BCS theory 4-45926
- superconducting transition temperature, Migdal-Eliashberg theory, review, book contrib. 4-20757
- superconducting transition temperature enhancement by anisotropy, BCS theory 4-50973
- superconducting upper critical field, for weak electron-phonon coupling, renormalisation effects 4-35126
- superconductivity principles (*Korean*) 4-11623
- ¹¹²Sn, nucl. q factor meas. of 6^+ isomer during recoil in Fe 4-32808

beam choppers

No entries

beam-foil spectra

- atom multiple scatt. ang. distrib. in foil transmission, variational calc. 4-28549
- atomic and nuclear polarisation by scatt. and transmission 4-33514
- fast-foil ion beams ionisation in EM fields 4-38309
- muonium, Lamb shift meas. using beam-foil spectroscopy RF technique 4-49189
- Al¹⁰⁺, doubly excited, transitions between quartet levels 4-5339
- Ar ions impinging on foils, K X-rays, high resolution meas. 4-19204
- B, doubly ionised, high resolution EUV spectra 4-19078
- C foils, H and H⁺ bombardments, convoy electrons prod. 4-23796
- CH⁺, C foil induced dissoci., post-foil interaction 4-51994
- CO, beam-foil excited, C-fragment Auger electron line shape 4-28547
- F VII spectra and energy levels in 400 to 6000 Å range 4-38120
- Fe ions passing through Be, C, Al and Cu foils, equilib. charge state distrib., microscopic anal. 4-19194
- H⁺, electron capture by beam-foil interaction, $n=3$ states polarisation 4-28557
- H-like ions, alignment of 2P states, K X-ray emission 4-19198
- He atoms, electronically oriented, tensor polarizability meas. by quantum beat method 4-5511
- He-like ions, alignment of 2P states, K X-ray emission 4-19198
- Kr VII, energy-level and lifetime meas. 4-48981
- Na II, beam-foil meas. of level lifetimes 4-1138
- Si¹⁴⁺, beam foil excited Rydberg states, field ionisation techniques 4-19213
- Ti ions excited by C-foils, K X-ray emission 4-19202

beam-foil spectroscopy

No entries

beam handling equipment

see also particle beam diagnostics

- 10 T superconducting accelerator dipoles, progress using Nb₃Sn and NbTi 4-48846
- accelerator tube tests with a 5 MV Van de Graaff 4-54508
- ACOL antiproton collector ring at CERN, design study 4-23446
- beam line, negative-ion-based, for surface-conversion negative ion source 4-33228
- beam lines, future requirements 4-37994
- bunched beam pulses for 6 MV Van de Graaff accel. 4-37983
- cavities, computation of resonant modes using URMEI code 4-14250
- charged particle beam handling, appl. of rare earth-Co magnet assemblies 4-9627
- circular accelerators, design concepts 4-28250
- conference, physics of high-energy particle accelerators, Stanford, CA, USA (Aug. 1982) 4-27225
- conference on low energy ion beams, Loughborough, England (Mar. 1983) 4-42592
- cyclotron, TRIUMF mag. field stabilisation 4-48819
- cyclotron electromagnet system for GANIL 4-48814
- cyclotron sector magnet construction for RIKEN SSC 4-48816
- Daresbury Synchrotron Radiation Source, undulator magnet development 4-48854
- DC-1 cyclotron, supercond. mag. system field, computer studies 4-48855
- direct-energy convertor for neutral-beam injectors 4-28265
- double rotor neutron monochromator facility at the ET-RR-1 reactor 4-37985
- EXB mass separator aberration anal. 4-44042
- electron beam initiating apparatus for radiation-chemical processes obs. 4-37249
- electrostatic separator for separated kaon beams at KEK 4-43736
- fast neutron data meas. facility in Brazil 4-37961
- focusing and deflection system with vertical beam landing 4-38382
- free electron lasers, permanent magnet undulator, mag. field optimisation 4-49377

beam handling equipment continued

- GANIL beam complex, pulsed magnets for beam time sharing 4-48848
- hadron-hadron colliders, design using existing technology 4-28251
- heavy-ion accelerator 4-28247
- helix resonator, high power tests without a beam (*Chinese*) 4-946
- HERA, superconducting correction coils for cold beam pipe 4-48827
- HERA, superconducting dipole coils, collar effects, alternatives and improvements 4-48825
- HERA, superconductivity quadrupole prototypes, construction and tests 4-48826
- hexapole and undulator permanent magnet devices for beam handling 4-48847
- high frequency magnet for beam separation in high energy pp colliders 4-48849
- hollow beams, high current beam transport facility, focusing system 4-43721
- HV-gap geometries for high current heavy ion acceleration and beam transport 4-43727
- hybrid charged-particle guide for studying (n, charged particle) reactions 4-37984
- hyperfine interactions in-beam study, active mag. channels system 4-37248
- in-lens deflection system with nonequisected-type multipole electrostatic deflectors, electron beam lithographic machine appls. 4-37253
- instrumentation, detection and processing of EM effects 4-28263
- ion beam focusing system for plasma heating, electron-power recuperation 4-33240
- ion source with transverse homogeneous mag. field, extraction system numerical simulation (*Chinese*) 4-54497
- JET neutral injection bending magnets, charge changing collisions 4-43649
- JET neutral injection heating, high power beam system 4-43648
- kaon⁰ beam lines, LAMPF II specifications 4-43740
- kaon low-energy beam lines at CERN 4-37996
- LAMPF II, high momentum charged kaon and pion facilities 4-43741
- LAMPF II, pp polarized beam facility 4-37415
- LAMPF II muon facility requirements 4-43707
- large diameter superconducting solenoid, shrink fit assembly, feasibility test 4-54506
- LEP, dipole magnets for orbit correction, design and model meas. 4-48851
- LEP dipole magnet, geometry and remanent field series meas. 4-48857
- LEP magnetic lenses, automated meas. system 4-48856
- LEP main ring wiggler magnets, 3-pole design and field computations 4-48853
- LESB optics and operating characteristics at AGS 4-37995
- linacs, elementary principles, design struct., operation 4-28241
- linear proton accelerator, 1 MeV, with variable-phase focusing 4-33216
- low energy ion beams, ion optics and optical components 4-43725
- magnet technology conf., Grenoble, France (Sept. 1983) 4-47745
- magnets, highly-irradiated high-performance, design practice and operational experience 4-28266
- micron sector magnet, three orbit prototype 4-48820
- Milan superconducting cyclotron, RF cavity, preliminary meas. 4-48831
- multipole-type electrostatic deflectors, numerical considerations 4-37247
- Munich MP tandem accelerator, four-gap double drift buncher 4-54481
- NEC accelerator tubes, compressed geometry test 4-54509
- neutron filters for producing monoenergetic neutron beams 4-37987
- NSF tandem, initial operation and commissioning review 4-54469
- Nuclotron, pulsed superconducting dipole magnet using hollow superconductor 4-48828
- open gradient mag. separator geometry optimisation 4-8987
- pellettron tandem accelerator, multipurpose beam pulsing system 4-23442
- photon beam facility, beam transport, performance 4-14249
- proton beam line with energy degrader for proton radiotherapy and diagnosis 4-26503
- quadrupole magnets using low C and Si steel as core material 4-48850
- Rogowski pole boundary with floating snake, fringing field, magnetostatic calc. (*Chinese*) 4-28270
- Soller collimators performance in limiting surface muon beam divergence 4-54500
- space charge lens, focusing props. for ion beams (*Chinese*) 4-43716
- stochastic cooling, techniques and equipment 4-28264
- storage ring at LAMPF, magnet system design 4-48823
- storage ring HERA, prototype dipole coils 4-48824
- storage rings, LEP main ring magnet system, construction techniques 4-48821
- storage rings, TRISTAN-AR magnet system fabrication and performance 4-48822
- superconducting cyclotron, prototype coil in separated sectors 4-48817
- superconducting cyclotrons, channel magnets without stray fields 4-48818
- superconducting cyclotrons, mag. field calcs., magnet design 4-48815
- superconducting dipole magnet models for 3 TeV UNK 4-48845
- synchrotron radiation grating monochromators and optics for the VUV and soft X-ray region 4-9619
- synchrotron radiation X-ray monochromators, book contrib. 4-9620
- tandem accelerator conference, Chester, England (Apr. 1983) 4-53341
- time-of-flight neutron spectrometer, energy resolution improvement using high energy RF buncher 4-54531
- TRIUMF, magnet installations for high radiation areas, handling techniques 4-48852
- UK free electron laser project, permanent wiggler magnet design, REC mag. tests 4-49378
- undulator with varying magnetisation using permanent magnets, field anal. (*Chinese*) 4-54518
- white neutron beam polariser, SANS filter 4-23450
- wide band chopper for neutron small angle scatt., design and performance 4-48253
- X-ray lithography beam line at VUV storage ring, design and performance 4-28272
- e⁺e⁻ storage ring, design description 4-28252
- D⁰ 200 keV neutral beam line based on SITEX ion source, database and design concept 4-9476
- H⁺ dense low energy beam prod. for DENISE 4-43722
- Nb superconducting HF resonant cavities cooled by He II, thermal behaviour 4-43735
- Si crystal, radiative moderation of electron beam 4-5076

beam handling techniques

see also mass spectroscopy; particle beam diagnostics; particle optics
accelerator tube design, vacuum breakdown, discharge physics 4-54507

beam handling techniques continued

atomic beams, gasdynamic method of reducing phase volume 4-37251
 automatic beam centering system for an accelerator (*French*) 4-54505
 beam swinger, neutron scatt. cross-section meas. techniques 4-944
 betatron, drag instability 4-33220
 betatron, modified high-current electron ring self-consistent equilb. and adiabatic evolution 4-14246
 breakdown mechanism and time development of discharges in compressed insulating gases 4-54470
 Brookhaven Tandem Van de Graaff facility; developments, future plans 4-54468
 bunching system study for beam injection from tandem accelerator into supercond. cyclotron 4-54457
 Caledonian Quadruplet, ion lenses, geometric aberration correction 4-939
 charged particle beam modelling and control, stability methods appl. to linac 4-33244
 conference, physics of high-energy particle accelerators, Stanford, CA, USA (Aug. 1982) 4-27225
 direct-energy converter for neutral-beam injectors 4-28265
 disc and washer accelerating struct. oscills., dispersion depend. 4-33243
 electron beam 4-28278
 electron cooling 4-940
 electron microbeam generation using electron gun and imaging system (*Polish*) 4-313
 electron storage ring, Landau damping of longitudinal coupled-bunch instability 4-14245
 energy homogeniser and automatic meas. of excitation function 4-943
 focusing, small angle scatt., curved monochromator 4-5080
 focusing props. of betatron mag. field 4-48830
 foil-focused relativistic electron beam equilibrium 4-18841
 gas cell and mag. quadrupole triplet for (n, charged particle) reactions 4-37986
 heavy ion cyclotron, space charge effect 4-48813
 heavy-ion beam transport, stability of Kapchinskij-Vladimirskij distrib. 4-18839
 heavy-ion RFQ linacs, space-charge limits 4-18831
 Heidelberg RF linac, highly stripped ions deceleration by postaccelerator 4-932
 high-current electron ring, equilibrium and accel., self-consistent theory 4-33221
 high-current modified betatron, electron-ion instabilities 4-18835
 hybrid charged-particle guide for studying (n, charged particle) reactions 4-37984
 injection channel of electron cyclotron, current losses minimisation 4-28257
 intense light ion beam generation, focusing and transport 4-33247
 ion beam analysis system for ion scatt., bombardment induced light emission and SIMS studies 4-43121
 ion beam current enhancement by space charge compensation 4-14254
 ion beam pulse compression by conversion into soft X-rays 4-37972
 ion beams, space charge compensation meas. 4-43128
 ion implantation, facility for material modification 4-50330
 ion microprobe instruments, ion optics anal. 4-314
 kaon beam line considerations 4-43738
 kaon beam line designs 4-43737
 kaon low-energy beam lines at CERN 4-37996
 laser-enhanced electron-ion capture and anti-H formation, electron cooling study 4-5350
 LESB optics and operating characteristics at AGS 4-37995
 linac, modified alternating phase focusing (*Russian*) 4-23452
 linacs, elementary principles, design struct., operation 4-28241
 longitudinal stability limit for electron bunches in double RF system 4-5070
 low energy ion beams, ion optics and optical components 4-43725
 magnetic periodic focusing structure, behaviour of ions with ang. momentum 4-33236
 Michelson Laboratory Synchrotron Radiation Project 4-28258
 monoenergetic high-purity neutron beams prod. technique for nucl. research 4-14259
 multicell resonant structure EM field computation, particle accel. appls. 4-54910
 Munich MP tandem accelerator, four-gap double drift buncher 4-54481
 muon beam ionisation cooling, limitations 4-37993
 muon cooling, principles and appl. 4-33237
 proton beam line properties for LAMPF II 4-37968
 proton beams at LAMPF, neutrino area design study 4-37969
 Rehovot 14UD Pelletron accelerator developments 4-54477
 relativistic beams in colliders and accumulator rings, intrabeam scatt. 4-18838
 relativistic collective-effect circular accelerator to reach ultrahigh energies 4-33219
 RF linac accelerators for 10 kA electron beams 4-48811
 SAMES 150 kV accelerator, modifications to external pulsing 4-5072
 scanning MeV-ion microprobe for light and heavy ions 4-43130
 second-order path length terms for general bending magnet 4-18840
 section-focused cyclotrons, accelerated orbits, canonical treatment 4-33224
 separated kaon beam at AGS, design plans 4-43739
 single ended 7 MW Van de Graaff accelerator upgrading 4-54485
 single ended Van de Graaff accelerator, light heavy ions charge state distrib. 4-54480
 single-pass e^+e^- linear colliders, colliding γe and $\gamma\gamma$ beams, polarisation effects and monochromatisation 4-54459
 Soller collimators performance in limiting surface muon beam divergence 4-54500
 SOR electron storage ring, slow fluctuation of synchrotron radiation and bunch lengthening 4-5064
 SPEAR II, mode-coupling theory and bunch lengthening 4-18834
 static field computation, 2- and 3-D, with codes VEPO2 and POFEL3, for cyclotron facilities 4-54494
 storage rings, transverse instability, appl. of linac cumulative beam breakup theory 4-48833
 storage rings, wake force computation for cylindrically symmetric structures 4-54493
 stored charged particle beams, improved method for nuclear studies 4-5065
 SUNI 6 MV Van de Graaff accelerator, 0.2 ns beam pulse 4-54460
 superconducting linac booster project for FN tandem accelerator 4-54486
 synchrotron, bunches coalescence to change accel. harmonic number 4-54489

beam handling techniques continued

synchrotron radiation, transport, dispersion and detection of electrons, ions and neutrals, book contrib. 4-9621
 synchrotron radiation sources, ray tracing of a high flux beamline 4-5079
 time-of-flight neutron spectrometer, energy resolution improvement using high energy RF buncher 4-54531
 Utrecht EN tandem injector 4-54475
 X-lines for collecting charged particles of low and moderate energies 4-49253
 e^+e^- storage rings, scaling of luminosity data 4-33223
 Si bent perfect crystals as neutron reflectors 4-5071

beam splitters (optical) see *optical elements*
beam-trapping see *self-trapping*
bearings (machine) see *machine bearings*
BEBO method see *bonds (chemical)*
behavioural sciences see *social and behavioural sciences*
behavioural sciences computing see *social and behavioural sciences computing*
bells
 see also *musical instruments*
 church bells, strike note determ. (*German*) 4-38674

Belousov-Zhabotinski reaction see *chemical equilibrium; chemical reactions; reaction kinetics theory*
bending
 see also *bending strength; buckling; stress analysis; torsion*
 bar, circular, subjected to bending, strain energy release rates for straight-fronted edge crack 4-29011
 bar bent through frictionless supports, large deflections 4-49707
 bar cross section, optimal plastic design under torsion with small bending 4-38735
 bars, thin walled, of open cross-section, energy eqns., nonlinear analysis 4-1606
 beam, finite, uniform, weightless, resting on a foundation, bending 4-1630
 beam, thermoelastic deflection, two-dimens. finite element idealisation 4-5796
 beam on elastic base, bending, asymptotically precise eqn. (*Russian*) 4-44395
 beam with hinges and oscillators, initial-parameter method for bending oscills. 4-14910
 beam-columns, cantilever type, subjected to cyclic reversed bending, symm. limit theory 4-14885
 beam-columns, closed, thin-walled, coupled flexural-torsional instability, unified soln. for various boundary conditions 4-33965
 beams, brittle, multiple fractures produced by bending, stress waves 4-10604
 beams, continuous, inertialess, responses to traversing mass, Stokes problem generalisation 4-49670
 beams, elastic, pretwisted, linear theory 4-1626
 beams, fibre reinforced laminates, thin-walled open cross sections, Vlasov theory of buckling 4-49728
 beams, free-free, of circular cross section, bending as result of transverse projectile impacts 4-19744
 beams, inhomogeneous, orthotropic, cantilever type, subjected to shear forces, shear stress distribution and shear stiffness (*German*) 4-55320
 beams, nonlinear vibr., Ritz finite element approach 4-44450
 beams, orthotropic, bending, boundary layer problems (*German*) 4-55343
 beams, prismatical, buckling under axial and transverse loads 4-10579
 beams, thick, of multimodular material, deflection, transfer-matrix anal. 4-55346
 beams, thin-walled, rectangular, collapse in biaxial bending 4-5822
 Berger equation, boundary integral eqn. analysis 4-36908
 bimodular composite laminates, transverse shear effects 4-1621
 blades with shear centre effect dynamic anal. 4-44454
 brick finite element, 8-node 4-53485
 C^0 structural elements, bending and shear mode decomposition 4-19739
 ceramic bending beam, constant load creep, non-stationary stress distrib. 4-24353
 ceramics, AE during deformation and fracture 4-57518
 composite material anisotropic plates, boundary-value problems, finite element approx. 4-10546
 composite material mechanics with a small-scale structural flexure 4-44368
 compound bar, stability of planar form of bending under effect of initial irregularities 4-33968
 cone-shaped optical elements, monolayer and multilayer, deform. calc. 4-28990
 crack length measurement, unloading compliance method 4-29033
 creep velocity measurement, in electron accelerator, stress relaxation (*Russian*) 4-50413
 crystalline grain, bent, bending radius and orientation 4-29374
 cylinder, laminar inhomogeneous hollow, bending problem soln. 4-38728
 disc of wood laminate, vibr. modes 4-5832
 elastic strip, bending and stretching anal., narrow cylindrical drum 4-49684
 epoxy polymers, hybrid particulate filled, fracture energy, flexural modulus 4-30783
 extensional collapse modes of structural members 4-19746
 filament configuration in flow taking into account bending rigidity (*Russian*) 4-10531
 flat slab chains with transient loading, dynamical stresses, transfer matrix method (*German*) 4-19743
 glass, float, relationship between fracture stress and mirror size, influence of stress gradient 4-39376
 glass fibre reinforced polyethylene, five-layer panel, reaction to static and shock-wave loading 4-12118
 glass fibre reinforced thermoplastics, short fibre, deform. design 4-51705
 graphite, radiation induced changes in properties 4-54273
 hollow bar, ringshaped, vibrational behaviour (*German*) 4-91
 isotropic points, classification in stress fields 4-38734
 Kevlar fibre reinforced epoxy, failure modes and fracture mechanisms in flexure 4-35681
 laminated plates with layers with differing elastic characts., bending theory 4-28991
 light-weight mirror deformations, refined math. model of deform. mechs. 4-10393
 liquid jets, dynamic eqns. 4-5931
 microbending equipment for hard and brittle material fatigue investig. with SEM (*German*) 4-16578

bending continued

- nonlinear behaviour of nonintegral infilled frames 4-19747
 nonlinear bending of annular sector plates using a matrix method 4-49698
 optical fibre cable, single mode, polarisation holding props., microbending loss during cabling 4-24204
 optical fibre fatigue failure prediction for bent fibre (*Japanese*) 4-19596
 optical fibres, jacketed, under lateral pressure, struct. anal., microbending losses 4-24203
 optical monomode fibres, LP₁₁ mode cut-off wavelength meas. 4-5712
 optical single mode fibre, field deforms, caused by bends 4-19570
 optical ultralow loss single-mode fibre design for 2.5 to 6 μm band operation 4-1483
 optical waveguides and fibres, bent, beam propag. analysis of loss 4-28831
 optimally constrained 4 node quadrilateral thin plate bending element 4-49697
 pencil writing tip fracture, stress anal. 4-1683
 pipe, stability of circumferential growth of through-wall crack, effect of nonuniform bending 4-10601
 pipe, straight, failure bending moments, simple approach 4-32998
 plate, circular, with free edge, bending problem soln. using paired eqns. 4-19734
 plate, rectangular, subjected to an eccentric compression, post-buckling state anal., appl. to thin walled box girder calc. (*Polish*) 4-49734
 plate, rectangular, with mixed boundary conditions, flexure anal. taking account of transverse shear 4-10569
 plate, rectangular sandwich, bending anal. by finite element method (*Japanese*) 4-1622
 plate, soft-ferromag. elastic, static and dynamic stability, magnetoelastic buckling 4-49727
 plate, thin orthotropic linear elastic, bending, boundary integral eqn. 4-49713
 plate bending, assumed stress hybrid curvilinear triangular finite element 4-55347
 plate bending, C¹ continuity problem soln. 4-1620
 plate bending, singular finite element for analysis 4-44410
 plate bending and free vibr., numerical soln. 4-19750
 plate element, discrete Kirchhoff theory, work equiv. loads 4-14884
 plate in form of annular sector, bending under combined action of lateral loads and in-plane forces 4-38731
 plate orthotropic, optimal orientation of axes of elastic symm. 4-55325
 plates, circular, deformed in hemispherical dies, stamping and springback 4-49710
 plates, clamped annular sector, large deflection analysis 4-38736
 plates, elastic-plastic, simple model using sandwich of four layers and two-dimens. quadrilateral elements 4-33951
 plates, elastoplastic, bending problem soln. 4-44427
 plates, graphite fibre reinforced epoxy laminates, low vel. impact behaviour 4-51779
 plates, homogeneous, bending and stretching, Reissner's eqns. 4-44397
 plates, orthotropic, in flexure, deflection and stress analysis 4-49680
 plates, rectangular anisotropic, in flexure with free edges, numerical soln. 4-55341
 plates, shear deformable, one-dimens. formulation of torsion and flexure 4-5801
 plates, stiffened, comprehensive theory for bending and buckling 4-55342
 plates, thin, with rapidly varying thickness, bending model 4-49714
 plates, thin cracked, bending analysis by hybrid displacement finite element model 4-44409
 plates, unilaterally supported anal. by finite element models 4-33952
 polycarbonate, fatigue rel. to mechanical durability 4-46589
 polyethylene-polypropylene blends, moulded specimens, mech. props. two-fold processing (*Polish*) 4-21227
 polyurethane elastomers, struct., mech. props. rel. to diamine additive 4-30741
 quadratic Mindlin element using shear constraints 4-49700
 reinforced concrete members, design and analysis 4-49699
 Reissner's plate bending fracture problem, anal. (*Chinese*) 4-1664
 ring, variable-thickness, stability analysis under nonuniform load, num. algorithm 4-44434
 rod, bending vibr., elastic wave radiation 4-29000
 rotating shafts, cracked, vibration in bending 4-28998
 sapphire plates, mechanically treated, stress relax. 4-34566
 sheet, thin elastic on liq. foundation, nonlinear deflection 4-44501
 sheet or rod, heavy elastic, lifting from incline 4-19730
 shell, circular cylindrical, under tension, bending stresses estimation 4-55349
 shell, cylindrical, eqns. of engng. theory of elasticity, periodic and aperiodic solns. 4-38730
 shells, helicoidal, general, undergoing large one-dimens. strains or large inextensional deformations 4-33932
 shells, orthotropic, axisymm., asymm. bending anal. 4-33953
 shells, three-layered, cylindrical, with discrete filler in axial compression, stability 4-19749
 steel, alloy, diffusion layer failure formation after chemicothermal treatments 4-3235
 steel, alloy and low-alloy, fracture characteristics during bending tests with different notch types 4-46677
 steel, austenitic stainless 304, pressurised pipe under bending, J determ. by VCE method, PWR appl. 4-30823
 steel, bending fatigue cracks rel. to boronized layer thickness (*Japanese*) 4-35690
 steel, C, fracture characteristics during bending tests with different notch types 4-46677
 steel, Cr bearing, fracture toughness using chevron notch three point bend specimen, stress intensity factor formulae 4-12280
 steel, impact bend testing, var. thickness samples with a crack 4-3321
 steel, low C, corrosion fatigue strength and crack growth, tensile prestrain effect (*Japanese*) 4-51877
 steel, Mn, structural plate, welded joint, fracture toughness test (*French*) 4-12307
 steel, Ni-Cr-Mo-V, heat resistant, for turbine rotors, working props. improvement (*Italian*) 4-7536
 steel, structural, ductile tearing resistance curves 4-12161
 steel, structural, heat treatment to reduce temper brittleness 4-40839
 steel, welded plate, transverse restraint testing machine, vel. and displacement meas. 4-46721
 steels, forged and cast, rot. bending fatigue, size effect, plastic strain 4-12144
 strip, cantilever type, viscoelastic, finite oscills., free vibr. anal. 4-33969

bending continued

- strip bending, thermoelectric contact problem 4-33940
 structural crashworthiness, conf., Liverpool, England (Sept. 1983) 4-4147
 surface crack, half-elliptical, subjected to complex crack face, stress intensity factors 4-29016
 swept plates, structural reduction, using transition element concept 4-19736
 thermoelectric bending of thin plates calc., appl. to thermal diffusivities meas. 4-33941
 thin-walled framed structures, internal stresses real-time determ. (*German*) 4-5849
 three-point bend specimen, crack tip opening displacement at initiation of crack growth 4-12293
 transient analysis of large frame structures by simple models 4-44460
 tubes, rectangular and square section, bending collapse 4-5808
 woven fabric composite, elastic const. micromechanical anal. 4-51703
 Zircaloy LWR fuel rod cladding tubes, creep anisotropy effect on ballooning 4-33000
 Al₂O₃, acoustic emission testing of plasma sprayed coatings 4-21414
 Fe, cast spheroidal graphite, three-point bending fatigue, macrostruct. (*Japanese*) 4-3231
 Fe₄₀Ni₄₀Si₂₀B₁₂ glass, structural relaxation and embrittlement 4-45016
 KCl, bent, dislocation photocond. and deform. mechanism 4-15917
 Mo, acoustic emission testing of plasma sprayed coatings 4-21414
 Mo single crystal sheets, secondary recrystn. and bend props. 4-46564
 Mo single crystal sheets, secondary recrystn. and bend props. 4-46565
 Ni-Co-P films used in rotating disc, elastic stress-induced coercive field changes 4-30243
 Ni₇₅Si₂₅B₁₇ metallic glass, yield and deform. rel. to second phase particle additions 4-51725
 Si wafer, process induced bending and mech. stress 4-2466
 Zrc ceramic, brittle fracture in bending under laser impulse heating 4-35696
- bending of light** see *gravitation; light*
- bending strength**
 Al₂O₃-ZrO₂, sintered compact, flexural strength 4-16364
 adhesive bond, gradual fracture by damage accumulation 4-24377
 alumina ceramics, bending strength 4-40899
 alumina powder compacts, mech. props. (*Japanese*) 4-40960
 ceramic-ceramic composites, mech. props. (*French*) 4-16502
 ceramics, industrial, crack behaviour rel. to microstruct. (*French*) 4-16501
 ceramics, reliability and mech. props., high temp. appls. (*Japanese*) 4-51750
 ceramics, sintered, high-temp. bend testing, apparatus and meas. 4-51932
 concrete, prediction of bending rupture strength of nonlinear materials 4-12108
 epoxide matrices, deform.-strength characts., loading conditions effect (*Russian*) 4-7505
 ethylene based plastics, environmental stress crack resist. test method 4-3332
 fibre reinforced polymers 4-34544
 flexural properties measurement by cantilever beam method 4-22109
 glass, devitrified, strength, type of disintegration, effect of distilled water, fractography 4-51785
 glass fibre reinforced polyester composite, flexural strength rel. to interfacial struct., Fourier IR obs. 4-16444
 glass fibre reinforced polyurethane, thermal and photodegradation 4-35749
 graphite, artificial, mech. props. anisotropy rel. to texture 4-35673
 graphite, nuclear-grade isotropic, tensile deform. behaviour after hydrostatic loading 4-16440
 graphite, synthetic, loading rate effect on strength and strain characts. 4-41138
 graphite fibre reinforced epoxy composites, electron irradi. effects on interlaminar shear and flexural strength props. 4-2231
 graphite fibre reinforced epoxy unidirectional laminates, mech. props. rel. to high temp. welding exposure 4-3183
 nonlinear materials, prediction of bending rupture strength 4-12108
 PMMA, endurance under different forms of stress state 4-57343
 polyamide-6, thermal treatment effects on mech. props. (*Polish*) 4-57269
 polyetherimide, thermoplastic resin, mech., elec. and phys. props. 4-30754
 polypropylene, mica-filled, factors affecting mech. props. 4-46552
 polystyrene, endurance under different forms of stress state 4-57343
 polytriokane, thermal treatment effects on mech. props. (*Polish*) 4-57269
 Portland cement, flexural strength, fracture toughness rel. to void content 4-26035
 reinforced polymeric materials, strength, relax. processes effect 4-12096
 steel, Cr-Mo, surface hardening, delayed fracture strength (*Japanese*) 4-26043
 steel, low C, fatigue life distrib. (*Japanese*) 4-21405
 steel cord reinforced rubber, prediction of bending rupture strength of nonlinear materials 4-12108
 test apparatus, four-point, for precision meas. at high temp. 4-41125
 wear resistant coatings, brittle, fracture under bending deformation, theory 4-41003
 wood and wood-based materials, bending strength at low temp. (*Japanese*) 4-16915
 Al-Cu-Mg, fatigue crack initiation under programmed block loading 4-40941
 Al₄C, sintered body prep., mech. props., thermal expansion and corrosion resist. 4-12146
 AlN, hot-pressed, mech. props., influence of oxidation (*French*) 4-16558
 AlN-V₂O₅ sintered compacts, thermophys. props., high temp., elec. resist., strength props., oxidation resist. 4-50541
 Al₂O₃-MgO spinel ceramic, corrosion-resist. 4-40718
 Al₂O₃-SiO₂, mullite, mech. props. 4-16483
 Al₂O₃-SiO₂, mullite/ZrO₂ composites, sintering and mech. props., zirconia addition effect 4-3114
 B₄C, hot-pressed, mech. props. (*French*) 4-16503
 C fabric laminate, notched, fatigue life and strength distrib. (*Japanese*) 4-21308
 C fibre, glass fibre reinforced polyester hybrid composite, flexural and impact properties (*Japanese*) 4-26041
 C fibre reinforced C composite, high temp. flexural strength using precision bending apparatus 4-41125
 C fibre reinforced plastics, strength, moulding pressure influence 4-12117
 C fibre-reinforced epoxy resins, fracture at low temp. 4-16477
 Fe, cast, bainitic nodular, for construction of speed gears 4-46541

bending strength continued

- Ge crystal, cyclic bending failure, fracture surface structure 4-20287
 NbC single crystals, failure mode, fracture stress, temp. depend. 4-21301
 Nb₃Sn multifilamentary superconductors, effect of hot isostatic pressing on stress effect 4-40701
 (Pb_{0.6}Bi_{0.4})_{0.97}La_{0.02}Nb₂O₆ piezoelectric ceramic, mechanical props. 4-40940
 SiC, dense sintered, joining by hot-pressing, bending strength (*Japanese*) 4-7409
 SiC whisker reinforced Si₃N₄ ceramic composite, hot pressing, mech. props. (*Japanese*) 4-40927
 Si₃N₄ ceramics, sintered, diffusion joining, flexural strength 4-40731
 Si₃N₄, hot pressed, sintering behaviour, effect of lanthanide oxides additions 4-25933
 Si₃N₄, hot pressed, statistical strength evaluation 4-21297
 Si₃N₄, sintered, high-temp. bend testing, apparatus and meas. 4-51932
 Si₃N₄-SiO₂-Ce₂O₃, sintered in high press. N₂, props. and struct. 4-40724
 Si₃N₄-SiO₂-Y₂O₃, SiYON ceramics, hot-pressed, creep resist. (*French*) 4-16459
 Si₃N₄-Y₂O₃ (3-7 wt.%), densification, hot isostatic pressing 4-7404
 Si₃N₄-ZrO₂-Y₂O₃ ceramic, hot pressed, microstruct., strength oxidation resist. 4-57287
 SrBi₂Nb₂O₉ piezoelectric ceramic, mechanical props. 4-40940
 TiC_x, sintering, mech. props. rel. to nonstoichiometry (*Japanese*) 4-40926
 W, sintered, Ni-Fe activated, AES study of C and P segregation 4-46613
 WC-Co, sintered, stress corrosion crack growth 4-35781

berkelium

- see also nuclei with*
 delocalisation of 5f electrons under press., X-ray diffr. study 4-55782
 Bk³⁺ aquo ions, band struct., absorpt. and fluoresc. spectra 4-56976

berkelium compounds

- BkPO₄, vibr. props. (*German*) 4-2277

beryllium

- see also nuclei with*
 abundance in weak G-band stars, IUE UV spectra 4-58448
 astronomical IR telescope design for IRAS satellite, using Be mirror and construction 4-31756
 atmosphere, ⁷Be and ²¹⁰Pb deposition fluxes to land and sea surfaces 4-42113
 atom, appl. of bivariational SCF method as zeroth order dilated electron propagator, eigenvalues 4-23588
 atom, Auger and shape reson., second order dilated electron propagator appl. 4-23671
 atom, Dirac eqn. 4-9654
 atom, elastic electron scatt., critical points 4-1269
 atom, electric props., electron correl. and many-body perturbation theory approach 4-33332
 atom, electron densities, HF and local density approx. 4-1051
 atom, electronic shells, momentum space, correl. effects 4-33340
 atom, energy surface, DF discrete basis 4-48905
 atom, ground state correl. energy, multiconfig. perturbation theory calcs. 4-14337
 atom, high Rydberg states, laser spectrosc. investig. 4-18969
 atom, interaction energy, intra atomic correl. effects, exchange perturbation calcs. 4-23613
 atom, photoabsort., electron correl. effect 4-43854
 atom, struct., DF discrete basis calcs. 4-1039
 atom, use of energy constraint for refinement of electron momentum distributions 4-38080
 atom and its isoelectronic series, Slater Xalpha method and local exchange-correlation pots. 4-23603
 atoms, Slater Xalpha method and exchange correl. effect 4-23602
 atoms, third-order correl. energies calc. using first-order pair functions 4-23620
 band struct., lattice vibr. and mag. props. (*Russian*) 4-50711
 chemisorption of H on (0001) surface, ab initio HF calc. 4-56149
 clusters, with and without H impurity, spin polarised HF calcs. 4-34898
 defect formation, by recoil nuclei of electron positron pairs generation by γ -irradiation (*Russian*) 4-50352
 densities of states, ab initio calcs., evaluation technique 4-56183
 elastic electron scatt. cross section (*Russian*) 4-23816
 foil, Fe ions collisions, charge state distrib., microscopic anal. 4-19194
 isoelectronic series, electron impact Auger ionisation cross-sections calcs. 4-5457
 isoelectronic series, quasidegeneracy effects, coupled doubly excited CI and linear coupled pair calcs. 4-33334
 isothermal compression and phase transition to 28.3 GPa, X-ray diffr. study 4-29602
 mirrors, advanced lightweight, monolithic with honeycomb interiors 4-33817
 molecule, laser vaporisation, mol. pot., fluoresc. study 4-33441
 monolayer, electronic struct., cohesive energy, all-electron local density functional calcs. 4-45607
 monolayer, H₂ chemisorbed, Coulomb interactions, treatment in Hartree-Fock calcs. of periodic systems 4-20589
 nuclear quadrupole interaction, comparison of APW and OPW procedures 4-56303
 polycrystalline targets, elastically reflected electrons, spatial distrib. 4-25838
 relaxation problem in continuum elasticity theory 4-19721
 single crystals, zone melting, growth orientation 4-3063
 solid state effects on thermal neutron cross-sections 4-39057
 sputtering, at. excitation, projectile incidence angle depend. 4-11997
 structural and electronic props., ab initio study 4-6318
 structure factor, γ -ray meas. and band struct. calcs. 4-39205
 substrate for Ag vapour deposited film, charact. of Be-Ag interfacial region 4-15773
 substrate for PMMA film, sputtering study 4-30630
 surface, (0001), intrinsic surface state, photoemission spectra study 4-40009
 surface, (0001), oxidation studies 4-57398
 surface, BF₂⁺ and CF₃⁺ ion sputtering, selective photon emission obs. 4-16256
 X-ray absorpt. spectra and plasmons 4-11965
 X-ray Raman intensity scatt. from polycryst., ang. depend. 4-30560
 Be^{3d} ⁴S multiplets, half-capacity configs. 4-18925
 Be⁺ ions stored in quadrupole RF trap and cooled by sideband excitation, energetic props. 4-23592
- beryllium continued**
 Be⁺, triply excited three-electron atomic systems and beam-gas electron spectroscopy 4-38103
 Be²⁺, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
 Be²⁺, two-electron at. wave functions, asymptotic behaviour 4-54595
 Be-like ions, level populations in astrophysical plasma 4-53040
 Be+H, charge transfer, exponential distorted-wave approx. calcs. 4-38318
 Be+H₂, C_{2v} insertion, multireference coupled-cluster method calcs. 4-43774
 Be+H₂, multiref. many-body perturbation theory appl., vertical insertion pathways 4-33291
 Be+H₂(Ar), cross-sections for one-electron capture 4-19219
 Be+H₂→BeH₂, multiconfig. coupled-cluster theory, test 4-21431
 Be⁺+H₂→BeH⁺+H reaction, spin coupled VB description of pot. energy surfaces 4-12347
 Be⁺+H(1s²) collision, several-electron basis set calcs. 4-9897
 Be⁺+He(1s²), collisional excitation, several electron atomic basis calcs. 4-19189
 Be⁴⁺+H, charge transfer collisions with translation factors 4-14564
 Be⁴⁺+He, electron capture cross-sections, unitarised distorted wave approx. calcs. 4-38317
 Be₂, adiabatic electron affinities, STO calcs. 4-28382
 Be₂+H collisions, pot. energy surface calc. 4-33578
 Be_n clusters, (n=7, 10, 13), low-lying electronic states 4-33578
 BeAl₂O₄:Cr³⁺, cryst. field energy level diagram 4-6747
 BeAl₂O₄:Cr³⁺, frequency doubled laser based tunable near UV laser system 4-23996
 Be(S), electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
⁹Be, geochemical cycle involving estuaries, oceans, rivers and continental weathering 4-41981
¹⁰Be, abundance meas. using accelerator mass 4-57614
¹⁰Be concentrations in polar ice, rel. to cosmic ray intensity vars. during past 30000 years (*Russian*) 4-52998
¹⁰Be concentrations in soil profiles from California rel. to fate of particle-reactive nuclides 4-8235
 Cu:Be, microporosity evaluation by MHz US attenuation meas. 4-39403
 GaAs:Be, shallow implantation, spectroscopic ellipsometry and Raman scatt. anal. 4-50327
 GaAs:Be layers, implanted, substrate for MBE grown GaAs photoluminescence intensity meas. 4-20514
 n-GaAs:Si, Be-implanted, p-v-n junction form. by swept line electron beam annealing 4-50359
 Ge:Be, impurity states and excitation spectra 4-25288
 Ge:Be, radiative recomb. of excitons bound to Be double acceptors 4-56978
 n-In_{0.53}Ga_{0.47}As:Be, implantation doping 4-50315
 Si:Be, bound exciton states, far IR absorption spectra study 4-25234
- beryllium alloys**
see also beryllium compounds
 Au-Si-Be liquid metal ion source with 100 kV mass-separating focused ion beam system for selective Si and Be implantation in GaAs 4-34503
 Be-As dilute alloys, ion implanted, ²⁰⁹Pb At nuclear orientation 4-34928
 Be-Co system alloys, struct. and physico-mech. props., Co influence 4-57254
 Be-Cu, thermal expansion measurement of bulk sample using microwave method 4-22753
 Be-Cu C17510 alloy strip, mechanical, thermal and electrical props. for electrical and electronic applications 4-46516
 Be-Cu substrate, Ni-plated, Au deposition, high speed maskless patterning by laser-enhanced jet plating 4-12033
 Be-In dilute alloys, electric field gradient for ¹¹¹In and temp. depend., TDPA calcs. 4-35258
 Be-Nb-Zr alloys, amorphous, supercond. and thermal relaxation 4-45955
 Be-Ni 360 alloy strip, mill hardened, considerations for connector design 4-46624
 Be-Si-Au 100 keV focused ion beam system with E×B mass filter for maskless ion implantation 4-32380
 Be-Si-Au ternary alloy liq. metal ion sources, characteristics meas. 4-13720
 Be₄₃Hf_{57-x} metallic glasses, struct. 4-44982
 (Ce_{0.9}La_{0.1-x})Be₁₃, valence regime mag. props. 4-6949
 CrBe₁₂, paramagnetic-ferromag. transition, elec. resist. study 4-11511
 Cu sliding on Cu-Be 4-51825
 Cu-Be, thermal expansion coeff. (*Russian*) 4-6530
 Cu-Be (13 at.%), elec. props., influence of initial stages of precip. 4-12067
 Cu-Be (1.8 wt.%), friction and wear, transfer layer microstruct. and hardness 4-30831
 Cu-Be (2.0 wt.%), grain boundary reaction, effect of additional elements 4-7474
 Cu-Be-Co, [⊙] bearing alloys, heavy load support appl., wear props. 4-35734
 CuBe₂, Hall coeff., influence of phase boundary scatt. 4-2588
 Fe-Be alloys, triaxially modulated microstruct., APFIM-TEM studies 4-46494
 TiBe₂ based cpds., mag. susceptibility temp. and field depend. under high press. 4-20845
 Ti₅₀Be₄₀Zr₁₀, resist., cond., incipient localisation and electron-electron correl. effects 4-45729
 UBe₁₃, heavy fermion supercond., effect of impurities on supercond. and normal state props. 4-56475
 UBe₁₃, Kondo lattice, superconductivity, Anderson model anal. 4-50980
 UBe₁₃, supercond., electronic struct., resonant photoemission 4-35550
- beryllium compounds**
see also beryllium alloys
 emerald, width of the Cr³⁺ ESR line 4-25633
 Be-based intermetallic cpd. hydrides, stoichiometry and site occupation, geometric rationale 4-15445
 BeAl₂O₄, alexandrite, saturation and inverse-saturation absorpt. line shapes 4-49465
 BeAl₂O₄:Cr laser, alexandrite, high efficiency CW laser operation 4-1411
 BeAl₂O₄:Cr³⁺, alexandrite, high repetition rate laser divergence meas. 4-19486
 BeAl₂O₄:Cr³⁺, alexandrite, growth habits, X-ray and optical studies (*Chinese*) 4-50231
 BeAl₂O₄:Cr³⁺, alexandrite, vibronic laser output, tunable emission obs. (*Chinese*) 4-55044

bending continued

nonlinear behaviour of nonintegral infilled frames 4-19747
 nonlinear bending of annular sector plates using a matrix method 4-49698
 optical fibre cable, single mode, polarisation holding props., microbending loss during cabling 4-24204
 optical fibre fatigue failure prediction for bent fibre (*Japanese*) 4-19596
 optical fibres, jacketed, under lateral pressure, struct. anal., microbending losses 4-24203
 optical monomode fibres, LP₁₁ mode cut-off wavelength meas. 4-5712
 optical single mode fibre, field deforms. caused by bends 4-19570
 optical ultralow loss single-mode fibre design for 2.5 to 6 μ m band operation 4-1483
 optical waveguides and fibres, bent, beam propag. analysis of loss 4-28831
 optimally constrained 4 node quadrilateral thin plate bending element 4-49697
 pencil writing tip fracture, stress anal. 4-1683
 pipe, stability of circumferential growth of through-wall crack, effect of nonuniform bending 4-10601
 pipe, straight, failure bending moments, simple approach 4-32998
 plate, circular, with free edge, bending problem soln. using paired eqns. 4-19734
 plate, rectangular, subjected to an eccentric compression, post-buckling state anal., appl. to thin walled box girder calc. (*Polish*) 4-49734
 plate, rectangular, with mixed boundary conditions, flexure anal. taking account of transverse shear 4-10569
 plate, rectangular sandwich, bending anal. by finite element method (*Japanese*) 4-1622
 plate, soft-ferromag. elastic, static and dynamic stability, magnetoelastic buckling 4-49727
 plate, thin orthotropic linear elastic, bending, boundary integral eqn. 4-49713
 plate bending, assumed stress hybrid curvilinear triangular finite element 4-55347
 plate bending, C¹ continuity problem soln. 4-1620
 plate bending, singular finite element for analysis 4-44410
 plate bending and free vibrs., numerical soln. 4-19750
 plate element, discrete Kirchhoff theory, work equiv. loads 4-14884
 plate in form of annular sector, bending under combined action of lateral loads and in-plane forces 4-38731
 plate orthotropic, optimal orientation of axes of elastic symm. 4-55325
 plates, circular, deformed in hemispherical dies, stamping and springback 4-49710
 plates, clamped annular sector, large deflection analysis 4-38736
 plates, elastic-plastic, simple model using sandwich of four layers and two-dimens. quadrilateral elements 4-33951
 plates, elastoplastic, bending problem soln. 4-44427
 plates, graphite fibre reinforced epoxy laminates, low vel. impact behaviour 4-51779
 plates, homogeneous, bending and stretching, Reissner's eqns. 4-44397
 plates, orthotropic, in flexure, deflection and stress analysis 4-49680
 plates, rectangular anisotropic, in flexure with free edges, numerical soln. 4-55341
 plates, shear deformable, one-dimens. formulation of torsion and flexure 4-5801
 plates, stiffened, comprehensive theory for bending and buckling 4-55342
 plates, thin, with rapidly varying thickness, bending model 4-49714
 plates, thin cracked, bending analysis by hybrid displacement finite element model 4-44409
 plates, unilaterally supported anal. by finite element models 4-33952
 polycarbonate, fatigue rel. to mechanical durability 4-46589
 polyethylene-polypropylene blends, moulded specimens, mech. props. two-fold processing (*Polish*) 4-21227
 polyurethane elastomers, struct., mech. props. rel. to diamine additive 4-30741
 quadratic Mindlin element using shear constraints 4-49700
 reinforced concrete members, design and analysis 4-49699
 Reissner's plate bending fracture problem, anal. (*Chinese*) 4-1664
 ring, variable-thickness, stability analysis under nonuniform load, num. algorithm 4-44434
 rod, bending vibr., elastic wave radiation 4-29000
 rotating shafts, cracked, vibration in bending 4-28998
 sapphire plates, mechanically treated, stress relax. 4-34566
 sheet, thin elastic on liq. foundation, nonlinear deflection 4-44501
 sheet or rod, heavy elastic, lifting from incline 4-19730
 shell, circular cylindrical, under tension, bending stresses estimation 4-55349
 shell, cylindrical, eqns. of engng. theory of elasticity, periodic and aperiodic solns. 4-38730
 shells, helicoidal, general, undergoing large one-dimens. strains or large inextensional deformations 4-33932
 shells, orthotropic, axisymm., asym. bending anal. 4-33953
 shells, three-layered, cylindrical, with discrete filler in axial compression, stability 4-19749
 steel, alloy, diffusion layer failure formation after chemicothermal treatments 4-3235
 steel, alloy and low-alloy, fracture characteristics during bending tests with different notch types 4-46677
 steel, austenitic stainless 304, pressurised pipe under bending, J determ. by VCE method, PWR appl. 4-30823
 steel, bending fatigue cracks rel. to boronized layer thickness (*Japanese*) 4-35690
 steel, C, fracture characteristics during bending tests with different notch types 4-46677
 steel, Cr bearing, fracture toughness using chevron notch three point bend specimen, stress intensity factor formulae 4-12280
 steel, impact bend testing, var. thickness samples with a crack 4-3321
 steel, low C, corrosion fatigue strength and crack growth, tensile prestrain effect (*Japanese*) 4-51877
 steel, Mn, structural plate, welded joint, fracture toughness test (*French*) 4-12307
 steel, Ni-Cr-Mo-V, heat resistant, for turbine rotors, working props. improvement (*Italian*) 4-7536
 steel, structural, ductile tearing resistance curves 4-12161
 steel, structural, heat treatment to reduce temper brittleness 4-40839
 steel, welded plate, transverse restraint testing machine, vel. and displacement meas. 4-46721
 steels, forged and cast, rot. bending fatigue, size effect, plastic strain 4-12144
 strip, cantilever type, viscoelastic, finite oscills., free vibr. anal. 4-33969

bending continued

strip bending, thermoelastic contact problem 4-33940
 structural crashworthiness, conf., Liverpool, England (Sept. 1983) 4-4147
 surface crack, half-elliptical, subjected to complex crack face, stress intensity factors 4-29016
 swept plates, structural reduction, using transition element concept 4-19736
 thermoelastic bending of thin plates calc., appl. to thermal diffusivities meas. 4-33941
 thin-walled framed structures, internal stresses real-time determ. (*German*) 4-5849
 three-point bend specimen, crack tip opening displacement at initiation of crack growth 4-12293
 transient analysis of large frame structures by simple models 4-44460
 tubes, rectangular and square section, bending collapse 4-5808
 woven fabric composite, elastic consts. micromechanical anal. 4-51703
 Zircaloy LWR fuel rod cladding tubes, creep anisotropy effect on ballooning 4-33000
 Al₂O₃, acoustic emission testing of plasma sprayed coatings 4-21414
 Fe, cast spheroidal graphite, three-point bending fatigue, macrostructs. (*Japanese*) 4-3231
 Fe₄₀Ni₄₀Si₁₀B₁₀ glass, structural relaxation and embrittlement 4-45016
 KCl, bent, dislocation photocond. and deform. mechanism 4-15917
 Mo, acoustic emission testing of plasma sprayed coatings 4-21414
 Mo single crystal sheets, secondary recrystn. and bend props. 4-46564
 Mo single crystal sheets, secondary recrystn. and bend props. 4-46565
 Ni-Co-P films used in rotating disc, elastic stress-induced coercive field changes 4-30243
 Ni₇₂Si₁₇B₁₁ metallic glass, yield and deform. rel. to second phase particle additions 4-51725
 Si wafer, process induced bending and mech. stress 4-2466
 ZrC ceramic, brittle fracture in bending under laser impulse heating 4-35696
bending of light see gravitation; light
bending strength
 Al₂O₃-ZrO₂, sintered compact, flexural strength 4-16364
 adhesive bond, gradual fracture by damage accumulation 4-24377
 alumina ceramics, bending strength 4-40899
 ceramic powder compacts, mech. props. (*Japanese*) 4-40960
 ceramic-ceramic composites, mech. props. (*French*) 4-16502
 ceramics, industrial, crack behaviour rel. to microstruct. (*French*) 4-16501
 ceramics, reliability and mech. props., high temp. appls. (*Japanese*) 4-51750
 ceramics, sintered, high-temp. bend testing, apparatus and meas. 4-51932
 concrete, prediction of bending rupture strength of nonlinear materials 4-12108
 epoxide matrices, deform.-strength characts., loading conditions effect (*Russian*) 4-7505
 ethylene based plastics, environmental stress crack resist. test method 4-3332
 fibre reinforced polymers 4-34544
 flexural properties measurement by cantilever beam method 4-22109
 glass, devitrified, strength, type of disintegration, effect of distilled water, fractography 4-51785
 glass fibre reinforced polyester composite, flexural strength rel. to interfacial struct., Fourier IR obs. 4-16444
 glass fibre reinforced polyurethane, thermal and photodegradation 4-35749
 graphite, artificial, mech. props. anisotropy rel. to texture 4-35673
 graphite, nuclear-grade isotropic, tensile deform. behaviour after hydrostatic loading 4-16440
 graphite, synthetic, loading rate effect on strength and strain characts. 4-41138
 graphite fibre reinforced epoxy composites, electron irradi. effects on interlaminar shear and flexural strength props. 4-2231
 graphite fibre reinforced epoxy unidirectional laminates, mech. props. rel. to high temp. welding exposure 4-3183
 nonlinear materials, prediction of bending rupture strength 4-12108
 PMMA, endurance under different forms of stress state 4-57343
 polyamide-6, thermal treatment effects on mech. props. (*Polish*) 4-57269
 polyetherimide, thermoplastic resin, mech., elec. and phys. props. 4-30754
 polypropylene, mica-filled, factors affecting mech. props. 4-46552
 polystyrene, endurance under different forms of stress state 4-57343
 polytioxane, thermal treatment effects on mech. props. (*Polish*) 4-57269
 Portland cement, flexural strength, fracture toughness rel. to void content 4-26035
 reinforced polymeric materials, strength, relax. processes effect 4-12096
 steel, Cr-Mo, surface hardening, delayed fracture strength (*Japanese*) 4-26043
 steel, low C, fatigue life distrib. (*Japanese*) 4-21405
 steel cord reinforced rubber, prediction of bending rupture strength of nonlinear materials 4-12108
 test apparatus, four-point, for precision meas. at high temp. 4-41125
 wear resistant coatings, brittle, fracture under bending deformation, theory 4-41003
 wood and wood-based materials, bending strength at low temp. (*Japanese*) 4-16915
 Al-Cu-Mg, fatigue crack initiation under programmed block loading 4-40941
 Al₄C, sintered body prep., mech. props., thermal expansion and corrosion resist. 4-12146
 AlN, hot-pressed, mech. props., influence of oxidation (*French*) 4-16558
 AlN-Y₂O₃ sintered compacts, thermophys. props., high temp., elec. resist., strength props., oxidation resist. 4-50541
 Al₂O₃-MgO spinel ceramic, corrosion-resist. 4-40718
 Al₂O₃-SiO₂, mullite, mech. props. 4-16483
 Al₂O₃-SiO₂, mullite/ZrO₂ composites, sintering and mech. props., zirconia addition effect 4-3114
 B₄C, hot-pressed, mech. props. (*French*) 4-16503
 C fabric laminate, notched, fatigue life and strength distrib. (*Japanese*) 4-21308
 C fibre, glass fibre reinforced polyester hybrid composite, flexural and impact properties (*Japanese*) 4-26041
 C fibre reinforced C composite, high temp. flexural strength using precision bending apparatus 4-41125
 C fibre reinforced plastics, strength, moulding pressure influence 4-12117
 C fibre-reinforced epoxy resins, fracture at low temp. 4-16477
 Fe, cast, bainitic nodular, for construction of speed gears 4-46541

bending strength continued

- Ge crystal, cyclic bending failure, fracture surface structure 4-20287
 NbC single crystals, failure mode, fracture stress, temp. depend. 4-21301
 Nb₃Sn multilayered superconductors, effect of hot isostatic pressing on stress effect 4-40701
 (Pb_{0.6}Ba_{0.4})_{0.97}La_{0.02}Nb₂O₆ piezoelectric ceramic, mechanical props. 4-40940
 SiC, dense sintered, joining by hot-pressing, bending strength (*Japanese*) 4-7409
 SiC whisker reinforced Si₃N₄ ceramic composite, hot pressing, mech. props. (*Japanese*) 4-40927
 Si₃N₄ ceramics, sintered, diffusion joining, flexural strength 4-40731
 Si₃N₄, hot pressed, sintering behaviour, effect of lanthanide oxides additions 4-25933
 Si₃N₄, hot pressed, statistical strength evaluation 4-21297
 Si₃N₄, sintered, high-temp. bend testing, apparatus and meas. 4-51932
 Si₃N₄-SiO₂-Ce₂O₃, sintered in high press. N₂, props. and struct. 4-40724
 Si₃N₄-SiO₂-Y₂O₃, SiYON ceramics, hot-pressed, creep resist. (*French*) 4-16459
 Si₃N₄-Y₂O₃ (3-7 wt.%), densification, hot isostatic pressing 4-7404
 Si₃N₄-ZrO₂-Y₂O₃ ceramic, hot pressed, microstruct., strength oxidation resist. 4-57287
 SrBi₂Nb₂O₆ piezoelectric ceramic, mechanical props. 4-40940
 TiC_x, sintering, mech. props. rel. to nonstoichiometry (*Japanese*) 4-40926
 W, sintered, Ni-Fe activated, AES study of C and P segregation 4-46613
 WC-Co, sintered, stress corrosion crack growth 4-35781

berkelium

- see also nuclei with
 delocalisation of 5f electrons under press., X-ray diffr. study 4-55782
 Bk³⁺ aquo ions, band struct., absorpt. and fluoresc. spectra 4-56976

berkelium compounds

- BkPO₄, vibr. props. (*German*) 4-2277

beryllium

- see also nuclei with
 abundance in weak G-band stars, IUE UV spectra 4-58448
 astronomical IR telescope design for IRAS satellite, using Be mirror and construction 4-31756
 atmosphere, ⁷Be and ²¹⁰Pb deposition fluxes to land and sea surfaces 4-42113
 atom, appl. of bivariational SCF method as zeroth order dilated electron propagator, eigenvalues 4-23588
 atom, Auger and shape reson., second order dilated electron propagator appl. 4-23671
 atom, Dirac eqn. 4-9654
 atom, elastic electron scatt., critical points 4-1269
 atom, electric props., electron correls. and many-body perturbation theory approach 4-33332
 atom, electron densities, HF and local density approx. 4-1051
 atom, electronic shells, momentum space, correl. effects 4-33340
 atom, energy surface, DF discrete basis 4-48905
 atom, ground state correl. energy, multiconfig. perturbation theory calcs. 4-14337
 atom, high Rydberg states, laser spectrosc. investig. 4-18969
 atom, interaction energy, intra atomic correl. effects, exchange perturbation calcs. 4-23613
 atom, photoabsorpt., electron correl. effect 4-43854
 atom, struct., DF discrete basis calcs. 4-1039
 atom, use of energy constraint for refinement of electron momentum distributions 4-38080
 atom and its isoelectronic series, Slater X α method and local exchange-correlation pots. 4-23603
 atoms, Slater X α method and exchange correl. effect 4-23602
 atoms, third-order correl. energies calc. using first-order pair functions 4-23620
 band struct., lattice vibrs. and mag. props. (*Russian*) 4-50711
 chemisorption of H on (0001) surface, ab initio HF calcs. 4-56149
 clusters, with and without H impurity, spin polarised HF calcs. 4-34898
 defect formation, by recoil nuclei of electron positron pairs generation by γ -irradiation (*Russian*) 4-50352
 densities of states, ab initio calcs., evaluation technique 4-56183
 elastic electron scatt. cross section (*Russian*) 4-23816
 foil, Fe ions collisions, charge state distrib., microscopic anal. 4-19194
 isoelectronic series, electron impact Auger ionisation cross-sections calcs. 4-5457
 isoelectronic series, quasidegeneracy effects, coupled doubly excited CI and linear coupled pair calcs. 4-33334
 isothermal compression and phase transition to 28.3 GPa, X-ray diffr. study 4-29602
 mirrors, advanced lightweight, monolithic with honeycomb interiors 4-33817
 molecule, laser vaporisation, mol. pot., fluoresc. study 4-33441
 monolayer, electronic struct., cohesive energy, all-electron local density functional calcs. 4-45607
 monolayer, H₂ chemisorbed, Coulomb interactions, treatment in Hartree-Fock calcs. of periodic systems 4-20589
 nuclear quadrupole interaction, comparison of APW and OPW procedures 4-56303
 polycrystalline targets, elastically reflected electrons, spatial distrib. 4-25838
 relaxation problem in continuum elasticity theory 4-19721
 single crystals, zone melting, growth orientation 4-3063
 solid state effects on thermal neutron cross-sections 4-39057
 sputtering, at. excitation, projectile incidence angle depend. 4-11997
 structural and electronic props., ab initio study 4-6318
 structure factor, γ -ray meas. and band struct. calcs. 4-39205
 substrate for Ag vapour deposited film, charact. of Be-Ag interfacial region 4-15773
 substrate for PMMA film, sputtering study 4-30630
 surface, (0001), intrinsic surface state, photoemission spectra study 4-40009
 surface, (0001), oxidation studies 4-57398
 surface, BF₃⁺ and CF₃⁺ ion sputtering, selective photon emission obs. 4-16256
 X-ray absorpt. spectra and plasmons 4-11965
 X-ray Raman intensity scatt. from polycryst., ang. depend. 4-30560
 Be³⁺ 3d⁵ S multiplets, half-capacity configs. 4-18925
 Be⁺ ions stored in quadrupole RF trap and cooled by sideband excitation, energetic props. 4-23592

beryllium continued

- Be⁺, triply excited three-electron atomic systems and beam-gas electron spectroscopy 4-38103
 Be²⁺, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
 Be²⁺, two-electron at. wave functions, asymptotic behaviour 4-54595
 Be-like ions, level populations in astrophysical plasma 4-53040
 Be+H, charge transfer, exponential distorted-wave approx. calcs. 4-38318
 Be+H₂, C_{2v} insertion, multireference coupled-cluster method calcs. 4-43774
 Be+H₂, multiref. many-body perturbation theory appl., vertical insertion pathways 4-33291
 Be+H₂(Ar), cross-sections for one-electron capture 4-19219
 Be+H₂→BeH₂, multiconfig. coupled-cluster theory, test 4-21431
 Be⁺+H₂→BeH⁺+H reaction, spin coupled VB description of pot. energy surfaces 4-12347
 Be⁺+H(1s²) collision, several-electron basis set calcs. 4-9897
 Be⁺+He(1s²), collisional excitation, several electron atomic basis calcs. 4-19189
 Be⁴⁺+H, charge transfer collisions with translation factors 4-14564
 Be⁴⁺+He, electron capture cross-sections, unitarised distorted wave approx. calcs. 4-38317
 Be₂, adiabatic electron affinities, STO calcs. 4-28382
 Be₇+H collisions, pot. energy surface calc. 4-33578
 Be, clusters (n=7, 10, 13), low-lying electronic states 4-33578
 BeAl₂O₄:Cr³⁺, cryst. field energy level diagram 4-6747
 BeAl₂O₄:Cr³⁺, frequency doubled laser based tunable near UV laser system 4-23996
 Be(S), electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
 Be, geochemical cycle involving estuaries, oceans, rivers and continental weathering 4-41981
 Be, abundance meas. using accelerator mass 4-57614
 Be concentrations in polar ice, rel. to cosmic ray intensity vars. during past 30000 years (*Russian*) 4-52998
 Be concentrations in soil profiles from California rel. to fate of particle-reactive nuclides 4-8235
 Cu:Be, microporosity evaluation by MHz US attenuation meas. 4-39403
 Ga:Be, shallow implantation, spectroscopic ellipsometry and Raman scatt. anal. 4-50327
 Ga:Be layers, implanted, substrate for MBE grown GaAs photoluminescence intensity meas. 4-20514
 n-GaAs:Si, Be-implanted, p-v-n junction form. by swept line electron beam annealing 4-50359
 Ge:Be, impurity states and excitation spectra 4-25288
 Ge:Be radiative recomb. of excitons bound to Be double acceptors 4-56978
 n-In_{0.53}Ga_{0.47}As:Be, implantation doping 4-50315
 Si:Be, bound exciton states, far IR absorption spectra study 4-25234

beryllium alloys

- see also beryllium compounds
 Au-Si-Be liquid metal ion source with 100 kV mass-separating focused ion beam system for selective Si and Be implantation in GaAs 4-34503
 Be-As dilute alloys, ion implanted, ²⁰⁹Tl²¹⁰At nuclear orientation 4-34928
 Be-Co system alloys, struct. and physicochem. props., Co influence 4-57254
 Be-Cu, thermal expansion measurement of bulk sample using microwave method 4-22753
 Be-Cu C17510 alloy strip, mechanical, thermal and electrical props. for electrical and electronic applications 4-46516
 Be-Cu substrate, Ni-plated, Au deposition, high speed maskless patterning by laser-enhanced jet plating 4-12033
 Be-In dilute alloys, electric field gradient for ¹¹¹In and temp. depend., TDPA calcs. 4-35258
 Be-Nb-Zr alloys, amorphous, supercond. and thermal relaxation 4-45955
 Be-Ni 360 alloy strip, mill hardened, considerations for connector design 4-46624
 Be-Si-Au 100 keV focused ion beam system with EXB mass filter for maskless ion implantation 4-32380
 Be-Si-Au ternary alloy liq. metal ion sources, characteristics meas. 4-13720
 Be₄₃Hf₂Zr_{55-x} metallic glasses, struct. 4-44982
 (Ce_{1-x}La_x)Be₁₃, valence regime mag. props. 4-6949
 CrBe₁₂, paramagnetic-ferromag. transition, elec. resist. study 4-11511
 Cu sliding on Cu-Be 4-51825
 Cu-Be, thermal expansion coeff. (*Russian*) 4-6530
 Cu-Be (13 at.%), elec. props., influence of initial stages of precip. 4-12067
 Cu-Be (1.8 wt.%), friction and wear, transfer layer microstruct. and hardness 4-30831
 Cu-Be (2.0 wt.%), grain boundary reaction, effect of additional elements 4-7474
 Cu-Be-Co, bearing alloys, heavy load support appl., wear props. 4-35734
 CuBe₂, Hall coeff., influence of phase boundary scatt. 4-2588
 Fe-Be alloys, triaxially modulated microstruct., APFIM-TEM studies 4-46494
 TiBe₃ based cpds., mag. susceptibility temp. and field depend. under high press. 4-20845
 Ti₅₀Be₄₀Zr₁₀, resist., cond., incipient localisation and electron-electron correl. effects 4-45729
 UBe₃, heavy fermion supercond., effect of impurities on supercond. and normal state props. 4-56475
 UBe₃, Kondo lattice, superconductivity, Anderson model anal. 4-50980
 UBe₃, supercond., electronic struct., resonant photoemission 4-35550

beryllium compounds

- see also beryllium alloys
 emerald, width of the Cr³⁺ ESR line 4-25633
 Be-based intermetallic cpd. hydrides, stoichiometry and site occupation, geometric rationale 4-15445
 BeAl₂O₄, alexandrite, saturation and inverse-saturation absorpt. line shapes 4-49465
 BeAl₂O₄:Cr laser, alexandrite, high efficiency CW laser operation 4-1411
 BeAl₂O₄:Cr³⁺, alexandrite, high repetition rate laser divergence meas. 4-19486
 BeAl₂O₄:Cr³⁺, alexandrite, growth habits, X-ray and optical studies (*Chinese*) 4-50231
 BeAl₂O₄:Cr³⁺, alexandrite, vibronic laser output, tunable emission obs. (*Chinese*) 4-55044

beryllium compounds continued

- Be₃Al₂(SiO₃)₆, beryl, reflective props. in 1 keV photon energy region 4-56865
 BeF₂ glass, density of state, IR, Raman and neutron vibr. spectra simulation 4-11882
 BeF₂, vitreous material, IR vibrs. 4-46250
 BeF₂, ²¹Li state Renner splitting, ab initio UHF calcs. 4-1038
 BeF₂:Nd³⁺ glass, bonding and struct. by XANES and EXAFS spectroscopy 4-40568
 BeH, valence and Rydberg states, pot. energy curves, LCAO-MO-SCF-CI calcs. 4-43801
 BeH, X²⁺ and C²⁺ states, CI calcs. 4-48954
 BeH⁺ X²⁺ state, vibr. levels, radiative lifetimes and dipole moments 4-19109
 BeH₂, atomisation energies, Moller-Plesset study 4-35865
 BeH₂, struct. and stability, ab initio calcs. 4-9665
 Be²⁺-H₂O complexes, struct. and electron density, cation influence 4-48933
 Be(II) complexes, N-arylalicyclaldimine Schiff bases, struct. investig. 4-14424
 BeO automated routine personnel dosimetry 4-48792
 BeO, cohesive props. in local density formalism 4-6311
 BeO crystals, linear electrooptical props. 4-7161
 BeO, MCSF stationary points characterisation 4-33296
 BeO, photon-stimulated desorption of H⁺(F⁺) and photoelectron yield, core excitons obs. 4-6663
 BeO single cryst., exoemission topography of surface 4-25855
 BeO single cryst., radiation-optical props., cryst. growth depend. 4-56975
 BeO, TSEE, archaeological dating appl. 4-74
 BeO thin film, TSEE dosimeters, photon energy depend. of dose response 4-3620
 BeO thin film, TSEE dosimeters, sensitivity for T beta particles 4-3621
 BeO thin film dosimeters, TSEE yield rel. to grain size, SEM obs. 4-7322
 BeO thin film dosimeter, energy depend. of TSEE on monoenergetic electrons 4-48771
 BeO, thin films and ceramics, TSEE yield rel. to gas adsorption 4-7321
 BeO-rare-earth sesquioxide system, phase equilib. 4-40755
 BeSO₄·4D₂O crystals, freq. conversion appls. (*Japanese*) 4-55129
 Be₂SiO₄, irradiated surface layer, electron and hole centres (*Russian*) 4-39813
 Bl₃Al₂Si₆O₁₈:Cr³⁺, emerald, laser action wavelength band peaked at 684.8 nm 4-23997
 LiF-BeF₂ thermal diffusivity meas., use of simple ceramic cell 4-15726
 (NH₄)₂BeF₄, optical gyration and electrogyration 4-35415

Bessel differential equation see Bessel functions

Bessel functions

- Chebyshev series approx. for zeros 4-32023
 dielectric spheres, resonant spectra, pole locations 4-49258
 geodesy, Bessel-Helmert soln. of two fundamental problems (*German*) 4-26581
 related Hankel transform numerical integration by quadrature and continued fraction expansion in FORTRAN 4-36517
 K-hollandite, Frenkel-Kontorova system, static structure factor 4-20162
 magnetic field calc., Fourier element method 4-49211
 prolate radial spheroidal wave functions 4-8790
 relativistic free particle, Cauchy problem for Schrodinger eqn. 4-53534
 sine-Gordon system, high temp. expansion, K-hollandite, sp. ht., static struct. factor 4-2345
 single channel Schrodinger eqn. soln., integration using reference pots. 4-122
 solute drag by dislocations, differential eqn., asymptotic solns. 4-34491
 uniform column under action due to weight and axial load, Bessel functions and buckling 4-49731

beta-decay

- see also beta-decay theory; beta-ray spectra; nuclear electron capture
 A≥50 nuclei, two neutron emission 4-9180
 conference on nuclear spectroscopy and nuclear structure, Kiev, USSR (Apr. 1982) 4-2
 delayed neutron emission probabilities and β-strength function semi-empirical estimation 4-43434
 double β-decay, investigation using multidimensional anal. 4-27846
 double β-decay, mechanisms in gauge theories 4-27845
 double β-decay, review of expts. outside Europe 4-27267
 double β-decay, two neutrino microscopic mechanism 4-27847
 double beta decay, expt. status 4-584
 electromagnetic intense radiation effects 4-18391
 fission products, beta decay phenomenology 4-27840
 fission products beta-decay, JNDC nucl. data library 4-47786
 Gamow-Teller β decay matrix, magnetic moments in Fermi gas model 4-28444
 Gamow-Teller β-decay strength functions, resonances, review 4-4814
 Gamow-Teller strength, quenching by Δ-h excitations 4-13963
 heavy ion accelerators with energy >100 MeV/N for exotic nuclei search 4-18833
 laser spectroscopy on beta-unstable nuclei in on-line isotope separator 4-43438
 matter nonconservation in unified theory expts., conf., Frascati, Italy, (January, 1983) 4-16
 mirror heavy electron neutrino evidence in ³H β-decay 4-43436
 neutrino mass effects in β-decay 4-27842
 neutrino mass meas. with low energy electron beam 4-43388
 neutrinoless double β-decay, massive Majorana neutrino cancelling 4-18390
 neutrinoless double β-decay to excited states and gauge theories 4-48535
 nuclear far from beta stability, prod. in heavy ion fusion reactions, review 4-4926
 nuclear wave function, beta-decay catalysis, spontaneous fission, mag. monopole effects 4-23066
 nuclei far from stability, equipment used at 20 MV Daresbury tandem 4-18849
 nucleon decay in GUTs, B-L violation 4-43289
 pseudo Dirac neutrino, β-decay, ν-oscillations and ββ decay, SU(5) GUT 4-43273
 two-interaction transition, relative energy contrib. effects 4-54083
 Wigner SU₄ symm. and g_A/g_V value for nucleon in nuclear matter 4-37472
 X-ray laser irradiation effects 4-13962
 ββ decay, energy spectrum and ang. correl. 4-43435
 ν_e mass meas. expts. 4-585

beta-decay continued

- ¹¹¹Ag, radiative β decay, spectral study 4-54082
¹¹⁴Ag β-decay properties, Q-value 4-37499
¹²⁴Ag, ¹²⁴Cd, γ-ray meas., half-life determ. 4-54086
²⁴⁴Am^m β-decay, ²⁴⁴Cm levels, bands, transitions and IC electrons 4-37425
²⁰⁵At, ²⁰⁵Po, decay scheme, X-ray and conversion electron spectra, ey, γγ coincidences 4-18384
²⁰⁵At, ²⁰⁵Po, γ-rays, conversion electron spectra, ey coincidences 4-18383
¹⁸⁶Au, level scheme, prolate and oblate coexistence 4-23079
¹²B, β-emitter in BCC V, Ta and Fe, hyperfine interactions, NMR and asymmetric β-decay obs. 4-34934
¹²B, polarised β-emitter in Si, Ge and GaP, hyperfine interactions, NMR 4-34933
^ABa, A=147, 148, delayed neutron emission probabilities and half-lives meas. 4-4811
¹⁴⁰Ba fission product decay, γ-ray emission probabilities meas. by β-γ coincidence techniques 4-33269
¹⁴²Ba β-decay, β-γ meas., deduced levels in ¹⁴²La 4-9173
¹⁴⁸Ba β-decay, half-life, ¹⁴⁸La levels, J^π, T_{1/2} and transitions 4-37496
⁷Be EC decay, branching ratio, mirror nuclei β-decay and mag. moments, comments 4-4810
⁴⁹Ca, double β decay, nuclear matrix elements 4-9176
¹⁴⁶Ce, ¹⁴⁶Pr, emission probability of 316 keV γ-ray half-life meas. 4-9172
^ACo, A=56,58, γ-radiation angular anisotropy 4-561
⁵⁶Co, β⁺ and EC decay, ⁵⁶Fe levels, J^π, transitions and mixing ratios 4-43425
⁶⁰Co, polarised, β-particles ang. distrib. meas. using nucl. orientation facility 4-54570
^ACs, A=143-146, delayed neutron energy spectra (*Chinese*) 4-54080
^ACs, A=143-146, fission products, delayed neutron emission spectra, high resolution meas. 4-37501
^ACs, A=144, 145, 147, delayed neutron granddaughter states population and optical pot. 4-37503
^ACs, A=146, 147, delayed neutron emission probabilities and half-lives meas. 4-4811
⁶⁴Cu, ⁶⁴Zn, branching ratios in decay scheme 4-581
¹⁴⁷Dy, ^{β⁺} decay, spin-isospin excitation strength suppression 4-32843
¹⁶¹Dy, ¹⁶¹Tb, Dy level transitions and Tb EM moments determ. 4-32798
^AEr, A=150-154, decay, γ-spectra, internal conversion electron spectra 4-18382
^AEr, A=156, 158, 160, low-lying states props. 4-23073
¹⁵⁴Eu, decay scheme data 4-37502
²²⁵Fr, decay, ²²⁵Ra near stable octupole deformation, band struct. 4-18338
²²⁵Fr, ²²⁵Ra, Ra level structure determ., Nilsson model anal. 4-4760
¹⁴⁷Gd(oriented), ¹⁴⁷Eu 4-4759
¹⁵¹Gd, ¹⁵¹Eu, L-series Auger electron spectra study 4-23078
⁷⁶Ge double beta-decay, neutrinoless, coincidence with ⁷⁶Se γ-transition 4-27848
⁷⁶Ge, neutrinoless double beta-decay 4-18388
⁷⁶Ge neutrinoless double beta-decay, available energy calc. from ⁷⁶Ge-⁷⁶Se mass difference 4-43437
³H beta-decay spectrum near end-point for ν_e mass 4-4815
³H β-decay, neutrino mass determ. 4-27844
³H, β-decay, neutrino mass meas. 4-32847
³H β-decay, ν_e mass, review and Japanese project 4-4817
³H in molecules, β spectrum and neutrino rest mass 4-23082
¹⁸¹Hf β-decay, ¹⁸¹Ta 136 keV level g-factor by integral perturbed ang. correl. method 4-527
^AHo, A=148-154, decay, γ-spectra, internal conversion electron spectra 4-18382
¹²¹I β⁺ decay, ¹²¹Te excited states, γ-spectra, decay scheme 4-535
¹²⁴I, ¹²⁴Te orientation in Fe after ¹²³Sb(α,n), ¹²⁴Te energy levels study 4-32837
¹¹⁶In^m, radioactive decay viewed through extending dead time 4-23523
¹³¹In, ¹³¹Sn, single-hole states identification using β- and γ-ray spectroscopy 4-54023
^ALa, A=147, 148, delayed neutron emission probabilities and half-lives meas. 4-4811
¹³⁸La, half life determ. from meteoritic ¹³⁸Ce/¹⁴²Ce ratio 4-42387
¹⁴⁰La fission product decay, γ-ray emission probabilities meas. by β-γ coincidence techniques 4-33269
^ALu, A=171, 173, decay to ^{171,173}Yb, orientation study, Yb level spins and mixing ratios 4-32811
^ALu, A=171, 172, L-series Auger electron spectra study 4-23078
¹⁷³Lu, ¹⁷³Yb, Yb rotational states population, mag. moments determ. 4-32799
¹⁷⁷Lu decay, γ-spectra, IC coeffs. and branching ratios (*Chinese*) 4-27836
^AMg, A=31-34, β-delayed neutron yields meas. 4-37495
⁹⁹Mo β-decay, ⁹⁹Tc level struct., J^π and transitions 4-54038
¹²N, polarised β-emitter in Si, Ge and GaP, hyperfine interactions, NMR 4-34933
¹⁶N(0⁻) → ¹⁶O(0⁺), beta-decay rate for study of meson exchange effects and g_p/g_n 4-583
^ANa, A=29-34, β-delayed neutron yields meas. 4-37495
¹⁸²Na, positron polarisation meas. in second forbidden transition 4-4812
^ANb, A=103, 105, β-decay, half-life meas., ^{103,105}Mo level schemes and rotational bands meas. 4-27780
⁸⁸Nb, beta decay, ⁸⁸Zr level struct. 4-48524
¹⁴⁷Nd β decay, ¹⁴⁷Pm level scheme and γ-transitions (*Chinese*) 4-27835
¹⁹Ne → ¹⁹F, time-reversal symm. test 4-32845
⁵⁸Ni, double β decay, nuclear matrix elements 4-9176
²³⁶Np, Pu prod. cross section from ²³⁷Np(n,2n), microscopic calc. (*French*) 4-43479
²⁶P → ²⁶Mg, beta-delayed two-proton emission, mechanism 4-18389
²³⁶Pa, ²³⁶U, γ-ray spectroscopy study, decay scheme and half-life determ. 4-54084
⁹⁷Pd decay, ⁹⁷Rh levels and γ-transitions 4-563
¹⁴⁹Pm → ¹⁴⁹Sm, for oriented Pm in Gd, ¹⁴⁹Sm transition anisotropy temp. depend. meas. 4-43423
²²³Ra, ²²³Ac, ²²³Ac E1 transition rate enhancement and octupole deformation 4-43428
^ARb, A=93-97, delayed neutron energy spectra (*Chinese*) 4-54080
^ARb, A=93-97, fission products, delayed neutron emission spectra, high resolution meas. 4-37501
^ARb, A=97-99, delayed neutron emission probabilities and half-lives meas. 4-4811

beta-decay continued

- ⁷⁵Rb β -decay, half life determ. 4-9179
⁹⁶Rb, delayed neutron granddaughter states population and optical pot. 4-37503
¹⁸⁷Re, half-life, geologic and cosmologic ages 4-43432
⁹¹Ru—⁹¹Tc, β decay scheme, half-life 4-23083
¹²⁴Sb—¹²⁴Te, β^- decay, low energy nucl. states 4-37485
⁴⁴Sc^m, β^+ and EC decay, branching ratio, γ -spectra 4-582
¹²¹Sn^m, ¹²¹Sb, β^- decay, K-shell internal conversion coeff. determ. for 37.2 KeV transition 4-37490
¹³³Sn—¹³⁸Sb, obs., levels, transition probabilities, shell model anal. 4-23084
⁸⁴Sr, A=97-99, delayed neutron emission probabilities and half-lives meas. 4-4811
⁷⁷Sr, β^+ decay, deduced levels 4-9177
⁹⁰Sr—⁹⁰Y, external bremsstrahlung due to β particles in BaTiO₃ target 4-24882
¹⁶¹Tb β -decay, ¹⁶¹Dy γ -spectra, IC coeffs., levels and M1 components 4-567
⁹⁹Tc, characterisation by plateau shape with gas flow proportional counter 4-48536
¹³⁰Te, double β decay 4-578
¹³³Te^m—¹³³I, ¹³³T level population via 19/2 isomer 4-54085
²³⁶Th—²³⁶Pa, γ -ray spectroscopy study, decay scheme and half-life determ. 4-54084
⁴⁴Ti half-life and specific activity meas. 4-4813
²⁰¹Tl—²⁰¹Hg, low lying excited states study 4-4800
²⁰⁸Tl—²⁰⁸Pb, β -decay, β - γ directional correl. 4-37493
¹⁵⁷Tm, A=157-163, beta decay strength functions 4-18385
¹⁶⁰Tm, β -decay, γ -spectroscopic studies, isomer identification 4-9175
¹⁶³Tm—¹⁶³Er, decay scheme, excited states props. 4-18350
¹⁶³Tm—¹⁶³Er, KX-, γ -ray, conversion electron spectra 4-18386
¹⁶⁷Tm—¹⁶⁷Er, L-series Auger electron spectra study 4-23078
U(Cm, e⁺ X) beam energy depend. on spontaneous positron emission in delayed collisions 4-18478
²³⁹U—²³⁹Np, decay scheme data 4-37502
⁸⁴Y, A=97-99, delayed neutron emission probabilities and half-lives meas. 4-4811
⁹⁵Y—⁹⁵Zr decay scheme 4-18387
¹⁶⁹Yb—¹⁶⁹Tm, L-series Auger electron spectra study 4-23078
¹⁰³Zr—¹⁰³Nb, β^- decay, rotational bands study 4-37431

beta-decay theory

- see also *beta-decay; beta-ray spectra*
angular β - γ -correlation induced by magnetic interaction 4-579
deformed nuclei, allowed Gamow-Teller and first forbidden β -decays, RPA eval. 4-37492
end point energy of beta-ray spectrum from the point of inflexion 4-54091
forbidden β -decay enhancement by high intensity RF fields, comments 4-54087
forbidden β -decay enhancement by high intensity RF fields, reply to comments 4-54088
induced β - γ angular correlation observation in multiple cascades 4-576
induced nuclear β decay in an intense EM radiation field 4-27841
neutrinoless double beta decay, rare phenomena in neutrino physics 4-27724
neutron separation and β -decay energy from mass formulae, mass excess values 4-13931
polarised nuclei, beta-decay in intense EM field, total decay probability 4-32846
rate of decay, non-enhancement by intense radiation fields 4-43440
standard vector-axial vector model for β -decay 4-37497
 $\beta\beta$ decay, energy spectrum and ang. correl. 4-43435
⁴B, β^- decay, weak interactions and nucl. struct., theory (Korean) 4-13961
¹⁴⁷Gd β -decay, Pandemonium computer simulated decay 4-48538
³H β -decay, axial meson exchange current effects contrib. to Gamow-Teller matrix 4-48537
¹²N, β^+ decay, weak interactions and nucl. struct., theory (Korean) 4-13961

beta-particles see *beta-rays***beta-radiation** see *beta-rays***beta-ray absorption**

- see also *electron absorption*
No entries

beta-ray angular distribution

- see also *beta-ray spectra*
No entries

beta-ray detection and measurement

- see also *beta-ray spectrometers; radioactivity measurement*
 4π β - γ liquid scintillation coincidence counting 4-28284
diamond ionising radiation detector, dosimetry appl. for β , γ or X-radiation 4-54442
leaf surface wetness detector, use of β -ray gauge 4-31378
liquid scintillation counting for low-level T meas., vial effect and background subtraction method 4-33268
multistep avalanche chamber for β radiochromatography 4-5083
plastic scintillator β telescope, description (Chinese) 4-23496
polarised nuclei, γ -rays and β -particles ang. distrib. study in nucl. orientation facility 4-54570
radiation standards of NRPB 4-58019
semiconductor detectors for intracavitary and interstitial ³²P diagnostics of cancer (Russian) 4-8078
skin TLD response calibration in beta radiation 4-48789
TLD, β and γ -ray doses discrimination method 4-23435
TLD, long term stability of dosimeters used in national monitoring programme 4-48774
TLD, Universal beta/gamma/neutron albedo dosimeter for personnel monitoring 4-48784
 α -Al₂O₃ layers, TSEE detection of α and β radiation 4-3618
BeO thin film, TSEE dosimeters, sensitivity for T beta particles 4-3621
CaF₂:Dy thermoluminescent dosimeters, response to β -rays 4-48762
LiF, TSEE for beta and gamma dosimetry 4-3619
LiF thermoluminescent dosimeters, response to β -rays 4-48762
⁶LiF TLD for skin and extremity monitoring of personnel 4-48779
MgB₄O₇:Dy, graphite mixed, TLDs for β -dosimetry 4-54441

beta-ray effects

- see also *electron beam effects*
cell nucleus chromatin struct. rel. to low-energy β -radiation absorpt. (Russian) 4-36166

beta-ray effects continued

- p-dioxane, neat and mixtures, radiation-induced ionisation and excitation 4-28505
E. coli, base substitution mutations induced by tritiated water 4-41588
embryo, preimplanted, mouse, effects of tritiated amino acids 4-57954
graphite, irradiated, TSEE peaks 4-3025
lung tumour incidence in dogs that inhaled emitters, rel. to radiation dose patterns 4-41576
lymphocytes, human, adaptive response to low concs. of [³H]thymidine or X-irrad. 4-52402
mutation by [³H]cytosine decay in DNA of E. coli 4-41581
oocytes, rat, effect of lifetime intake of organically bound ³H and HTO 4-52400
sister chromatid exchanges in bone marrow cells of mice maintained on tritiated water 4-57955
BeO thin film dosimeter, energy depend. of TSEE on monoenergetic electrons 4-48771
LiF:Mg, photo-transferred thermoluminesc. response to β -doses 4-28211
LiF:Ti, photo-transferred thermoluminesc. response to β -doses 4-28211
Si-SiO₂ MIS, computer model of radiation effects 4-45886
SiO₂, ionising particle irradiation, predose effects 4-11198
T β -rays, RBE w.r.t. dose rate 4-3628
ZrO₂, powdered monoclinic and stabilised ceramic, X, γ or β irradiation, exo-emission and thermoluminesc. 4-3029

beta-ray polarisation

- ²²Na, positron polarisation meas. in second forbidden transition 4-4812

beta-ray scattering see *beta-ray effects; collision processes; energy loss of particles; particle backscattering; potential scattering; transport processes***beta-ray spectra**

- see also *beta-decay theory*
atlas for nuclides important in radiation protection and biomedicine 4-4169
end point energy of beta-ray spectrum from the point of inflexion 4-54091

beta-ray spectrometers

- see also *beta-ray spectra; electron spectrometers*
INS iron free $\pi/2$ beta-ray spectrometer, use as spectrograph 4-14261

beta-rays

- see also *electrons*

No entries

beta spectrometers see *beta-ray spectrometers***betatrons**

- drag instability in modified betatron 4-33220
focusing props. of betatron mag. field 4-48830
high-current electron ring, equilibrium and accel., self-consistent theory 4-33221
high-current electron ring self-consistent equilib. and adiabatic evolution 4-14246
high-current modified betatron, electron-ion instabilities 4-18835
orbit radius in high-current betatron 4-48834
sum resonances, stopband widths 4-5074
Fe-free betatron prototype medical unit 4-58036

Bethe-Salpeter equation

- baryons electromagnetism props., Bethe-Salpeter qq dynamics 4-53861
composite quarks in Bethe-Salpeter model, quark mixing angles 4-53967
conference on fundamental interaction theory, Varenna, Italy (Jul. 1980) 4-8646
covariant two-particle wave functions for model quasipotentials, solns. in momentum space 4-53869
cross symmetric four-point vertex function in exactly soluble model 4-27671
crystals near melting temp., quantum field theory 4-6452
effective quark propagator and QQ states in QCD 4-53939
fermions bound states theory in many-body systems 4-53548
gaugeballs, harmonic confinement model 4-9076
integral eqn. for summing Feynman graph series, scalar Lagrangian case 4-37277
meson relativistic bound states, 0⁺ and 1⁻ meson symmetry 4-13806
nuclear processes, semirelativistic model with conserved electromagnetic current 4-9149
proton two body decay in SU(6) relativistic spin effects 4-18126
QED bound state problem, Bethe-Salpeter eqn. solns. 4-9060
supersymmetric quasipotential equations 4-53875
vertex function, fully crossing symm., in exactly soluble model 4-43265
Yukawa model, conformal operator product expansion 4-18049
qq, relativistic model, mass level and lepton pair decay 4-13871
qq mass spectra with linear plus Coulombic potential from Bethe-Salpeter eqn. 4-4664
qq states, pion degree of freedom, Bethe-Salpeter dynamics 4-53862
He liquid, quasiparticle scatt. amplitude, parameterisation 4-6579

Bethe-Uhlenbeck equations see *quantum statistical mechanics***bevatrons** see *synchrotrons***BGO detector** see *scintillation counters***Bi-FET integrated circuits** see *monolithic integrated circuits***Bi-MOS integrated circuits** see *monolithic integrated circuits***bicrystals**

- alpha-brass, nonisaxial bicrystal, stress corrosion cracking (Japanese) 4-51887
alpha/beta brass, two-phase bicrystal, stress corrosion cracking (Japanese) 4-51888
anisotropic, elastic fields of dislocations piercing interface 4-6369
 α - β brass, two-phase, deform. behaviour, role of strain-rate and phase boundary geometry 4-51743
coarse grained polycrystal and bicrystals, grain boundary bending (Russian) 4-50308
polycrystalline material, transport props. at grain boundaries under illumination 4-15874
semiconductor, grain boundary tunnelling cond. 4-40025
stressed two-dimensional, mech. response, Monte Carlo simulation 4-45537
two-dimensional bicrystal, interfacial free energy 4-34805
Al bicrystals, creep deform., grain boundary sliding, dislocation absorpt. 4-12122
CdS bicrystal interface, localised charge density depend. on Fermi level position 4-6861
GaAs bicrystals, impact ionisation near grain boundaries, electroluminesc. study 4-20661
HgCdTe/CdTe bicrystals, misfit dislocation introduction and interdiffusion 4-29829

binding energy continued

- H₂, ground-state orbitals, momentum space chem., electron spectra 4-23818
 HCl, absolute oscillator strengths for partial photoionisation, ionic fragmentation and photoabsorpt. 4-33454
 HCl, KLL Auger spectra energies and intensities 4-19111
 HF intermol. pot. calcs. 4-19124
 H₂O clusters, small, as models for struct. and kinetic props. of ice 4-28584
 H₂O, electron-propagator calculations with a transition-operator reference 4-28574
 H₂S-HF complex, H bonded, struct., ab initio calcs. 4-28361
 He chains ground state energy and binding energy in superstrong mag. fields 4-38032
 He, ground state wavefunctions, energies and binding energies in uniform mag. field 4-38057
 He, ground-state orbitals, momentum space chem., electron spectra 4-23818
 He in strong magnetic fields, atom behaviour, variational calcs. 4-18954
 Hf, polycrystalline, surface core level shifts, XPS study 4-39803
 Hg, binding energies, L level X-ray absorpt. spectra 4-48968
 InP(110), soft X-ray photoelectron yield spectrum 4-21107
 K halides, zero-point vibr. contrib. towards static and thermodynamical props. 4-56050
 KCl, molten, F-centre, binding energy, mag. susceptibility and pair correl. functions calc. 4-34391
 Kr, solid state props. near OK from [n(r)]-6 pot. 4-29383
 La_{0.9}Yb_{0.1}Al₃, surface and bulk valence, photoemission, mag. susceptibility meas. 4-56288
 Li cluster, HMO approx. (*Russian*) 4-10197
 LiF, decay process of Li 1s-core exciton 4-29895
 MnSe X-ray and UV photoelectron spectra 4-43919
 Mo, equilibrium ground state props., self-consistent pseudopot. calc. 4-20139
 NH₂⁻, electron-propagator calculations with a transition-operator reference 4-28574
 NH₃, quasi-Wannier functions determ. from ab initio calcs. of (NH₃)₇ 4-24772
 Na₂ clusters, (x2-8), supersonic jet, photoionisation, mass spectra 4-54897
 NaCl (001), selective adsorption of ⁴He, diff. expts. 4-51442
 Nb, equilibrium ground state props., self-consistent pseudopot. calc. 4-20139
 Ne, electron-propagator calculations with a transition-operator reference 4-28574
 Ni (100), adsorption of I₂, core level photoemission study 4-35552
 Ni (111), NH₃ desorption, transition state theory appl. 4-29774
 Ni (111) with Sn and Pb monolayers, coverage and core level binding energies 4-25153
 Ni, adsorbed CO, electron- and ion-induced desorption studies 4-29809
 Ni deactivation during activated C gasification, XPS 4-41262
 Ni, valence band photoemission resonant enhancement at 3s threshold 4-40603
 NiS₂, core electron binding energies, effective charge, calc. using XPS data 4-6314
 NiSe, X-ray and UV photoelectron spectra 4-43919
 P, at. and mol. 2p binding energies from many body calc. and XPS 4-10177
 PH₃, KLL Auger spectra energies and intensities 4-19111
 Pb submonolayer deposits on Cu (111), oxidation, XPS and work function study 4-51889
 PdGa (110), electronic struct., angle-resolved photoemission study 4-30607
 PdH_x, metal H bond, tight binding approx. anal. 4-11039
 Pt (100), (111), (997), Au and Ag overlayers, electronic struct., XPS and UPS studies 4-25416
 Pt (110) surface, unreconstructed and (1×2) reconstructed, struct. energy calc. 4-56138
 Pt (997), H adsorption binding energy from low energy ion recoil scatt. 4-45485
 Pt catalyst supported on γ-Al₂O₃ and TiO₂, XPS 4-40607
 Pt surface core level shifts, influence of CO, K, and NH₃ adsorbates 4-30041
 Rb Rydberg atoms in crossed electric and mag. fields, evidence for Pauli quantisation 4-43828
 Rh catalyst supported on γ-Al₂O₃ and TiO₂, XPS 4-40607
 RhAl(Ga)(In) alloys, band struct. and mixed states, photoemission spectra studies 4-25208
 S₂N₆, ground and ionised states, electronic struct., ab initio MO calcs. 4-1064
 Se, at. and mol. 2p binding energies from many body calc. and XPS 4-10177
 Se, glassy, struct. defects, local density total energy calcs. 4-44978
 Si (111)(2×2) adatom geometry, total energy and pyramidal-cluster models 4-45471
 Si halogen, cpds., $\pi\pi^*$ - $\sigma\sigma^*$ bonding anal. 4-1288
 Si, total energy conversion, momentum-space formalism, pseudopot. calc. 4-29917
 Si(Si), donor centres, IR absorpt. and photocond. spectra 4-45677
 SiH₄, KLL Auger spectra energies and intensities 4-19111
 Si₃N₄-C composites, CVD amorphous, ESCA study 4-20104
 Sn halogen, cpds., $\pi\pi^*$ - $\sigma\sigma^*$ bonding anal. 4-1288
 Ti clusters, ion implanted H atom location, extended HMO calc. 4-45150
 TiO₂, powder, uncoated and SiO₂-coated, XPS surface chem. anal. 4-30597
 Xe, solid state props. near OK from [n(r)]-6 pot. 4-29383
 Y_{0.9}Yb_{0.1}Al₃, surface and bulk valence, photoemission, mag. susceptibility meas. 4-56288
 Zn-Cd, cohesive props., density functional pseudopot. calc. 4-6316
 ZnO, Xe adsorption, LEED, desorption and ARUPS studies 4-45517

Bingham plastics and solids *see rheology*

bioacoustics

- see also biological effects of acoustic radiation; biomedical ultrasonics; hearing; sonar*
 bacteriophage T4B, conformational transition at 30-40°C, acoustic meas. 4-52259
 bones, tubular, axisymmetric acoustic wave propag. 4-36158
 breath sounds in normal newborn infants, spectral anal. 4-31303
 breath sounds spectral anal., accurate recording system 4-21754

bioacoustics continued

- differential sound velocity apparatus for the investigation of protein solutions 4-26563
 ear, struct. simulation use for automatic classification of middle-ear conditions 4-57969
 liver, calf, ultrasonic scatt. cross section meas. 4-44281
 liver tissue, US attenuation and absorpt. 4-12623
 liver tumour, murine, onset probability rel. to acoustic characs. 4-52381
 lungs of normal men, speed of LF sound 4-36159
 lysozyme soln., US absorpt., thixotropic struct. 4-12539
 ocular accommodation, US, as research tool 4-12735
 prosthetic aortic heart valves, sounds prod., expts. on Starr-Edwards prosthesis 4-21756
 prosthetic aortic heart valves, sounds prod., study method 4-21755
 prosthetic aortic heart valves, sounds prod. expts. on Smeloff prostheses 4-21757
 respiratory crackles in cryptogenic fibrosing alveolitis, acoustical anal. method 4-16932
 rodent ultrasonic vocalisations, digital ultrasound recorder 4-36262
 spirogyra, aqueous suspension, US vel. and absorpt. 4-26477

biocommunications

- see also biocybernetics; hearing; learning systems; speech*
 dolphins, receiving beam patterns and directivity indices meas. 4-36136

biocontrol

- see also biocommunications; biocybernetics*
 ankle controls that produce a maximal vertical jump when other joints are locked 4-26468
 antagonistic muscles, optimal control 4-7964
 artificial heart, digital system for P-wave detection and synchronisation 4-21849
 blood microcirculatory system, regulating mechanism (*Russian*) 4-36156
 blood microcirculatory system (*Russian*) 4-26470
 electromagnetic control system in a living organism (*Polish*) 4-21614
 eye, neutral control of foveal pursuit versus saccadic movements 4-41511
 heart, artificial, automatic control (*Japanese*) 4-58041
 heart control, systems and models 4-57819
 locomotion control, mechanisms of feedback and feedforward 4-41545
 neuromuscular and musculoskeletal control models for the human leg 4-31208
 olfactory system, spatial filtering 4-52368
 pupil size effect, systems model 4-7976
 respiratory control, optimality principle 4-31268
 respiratory control during exercise, model identification 4-31266
 saccadic eye movements, mathematical model, multipulse controller signals, pulse width and saccade duration 4-7972
 saccadic eye movements, multipulse controller signals, dynamic overshoot 4-7974
 saccadic eye movements, time optimisation of multipulse controller signals 4-7973
 smooth pursuit system producing zero-latency target tracking, model 4-21655
 temperature regulation, human system in air, statistical model 4-21624
 thermal vasomotor control system, disturbance in Raynaud's disease, pilot study 4-57922

biocybernetics

- see also artificial intelligence; brain models; learning systems; man-machine systems; neural nets*
 cerebral transit stochastic model of, numerical solution 4-36142
 human cerebral cortex, spatiotemporal pathways (*Russian*) 4-26379
 leg coordination, walking crustaceans, load and leg amputation influence 4-41541
 nerve membranes, random currents, uniform Poisson or white noise currents 4-41483
 neural circuit models, role in voluntary movement 4-41482
 neural model of binocular brightness and binaural loudness perception, nonlinear sensory input summation 4-41520
 oculomotor system integrator, neural network 4-41504
 olfactory system, spatial filtering 4-52368
 peripheral vision and perceived visual direction 4-41521
 peristaltic movement neurodynamical simulation 4-57880
 renal concentrating mechanism model, mathematical analysis 4-31264
 superior vena caval system, nonlinearity 4-52376
 verticals, human sensing, Mittelstaedt idiotrope vector (*German*) 4-21679
 visual striate cortex, cat, supra- and infragranular cells, orientation and receptive field position 4-41505

bioidiffusion

- coupled cells, continuum model 4-3542
 erythrocyte suspension, chicken, intracellular distrib. and transport props. of small mols., NMR study 4-7952
 facilitated-diffusion problems anal. 4-16846
 lipids and glycoporphin, lateral diffusion in solid phosphatidylcholine bilayers 4-57856
 lung cells, Chinese hamster, rot. diffusion of TEMPONE 4-26369
 moving boundary problem modelling diffusion with nonlinear absorption 4-52294
 myelinated axon diffusive model, threshold conditions 4-16861
 neuron model, diffusion approx. and first passage time problem, computation method 4-12557
 phospholipid monolayers, translational diffusion, fluoresc. microphotolysis obs. 4-36073
 plasma, human, adrenalin diffusion coeff., D NMR spin echo meas. 4-30354

bioelectric phenomena

- see also bioelectric potentials; biomagnetism*
 acetylcholine receptor from Torpedo californica reconstituted in lipid bilayers, channel props. 4-46965
 acetylcholine receptors in embryonic chick muscle, single-channel currents 4-46967
 air, negative ionisation, effect on thymus glands of laboratory rats 4-31200
 airways excised from adult and foetal sheep, bioelec. props. and ion transport 4-31205
 alga Hydrodictyon reticulatum, ohmic resistance of intercellular junctions 4-36078
 amphibian neural crest cells, perpendicular orientation and directional migration in DC elec. fields 4-57866
 Artemia cysts, dielec. studies using time domain spectroscopy, effect of hydration 4-36058
 autowaves, instability in excitable media associated with crit. curvature phenomenon 4-31198

bioelectric phenomena continued

- avian neural crest, elec. membrane props. development 4-7967
 axonal regeneration in spinal cord, role for appl. elec. 4-36092
 axons, squid, reversible prevention of gating-charge immobilisation by high intracellular pH 4-21639
 bacterial spores in dry state, core and coat, dielec. props. 4-16848
 bacteriorhodopsin assemblies, coherent electronic state, anomalous static elec. polarisabilities 4-46929
 bilayer lipid membranes, roughness rel. to optical parameters and capacitance 4-52284
 bisyncytia, 2D anisotropic, with normal and extreme conductivities, current flow patterns 4-57875
 bone, piezoelectric signals on cantilever bending 4-30396
 bone impedance measurement, factors affecting 4-47116
 bone marrow cells, radiation effect on elec. charge density (*Russian*) 4-36177
 bones, surface remodeling, intramedullary nailing 4-31265
 brain stimulation rel. to cardiopulmonary function localisation 4-26383
 cancer tumours, human, treatment with direct currents, Professor Nordenstrom's theory (*Swedish*) 4-17014
 cardiac Purkinje fibres, canine, slow inactivation of a tetrodotoxin-sensitive current 4-57873
 cell dielectrophoresis, dynamic and static cord. struct. 4-31189
 cell membrane temperature rate sensitivity predicted from the Neirnst eqn. 4-57862
 cells and nuclei, elec. fusion in vitro 4-3534
 cells in AC electric fields, review (*Rumanian*) 4-31192
 cellular spin resonance: theory and expt. 4-31190
 cellular spin resonance, method for dielec. props. determ. 4-41655
 cerebral cortex, cat, stimulation with Pt electrodes, electrode dissolution 4-41677
 cerebral electrical impedance signals, processing by digital techniques 4-21837
 chlorophyll solutions in nematic liq. crystals, dielec. props. obs. 4-52251
 chlorophyll-A, surface conductance in ambient gases, (I/V) characts., dielec. loss, capacitance 4-16829
 compact, electroosmosis, dog expts. 4-36091
 complex permittivity meas. of solid tissue, 2 to 18 GHz range 4-26559
 cytoplasmic membrane of dialysed external segment of retina rod, Na⁺ cond. 4-12554
 defibrillation, reciprocal pulse current waveform, efficacy and safety, dog expts. 4-21847
 diaphragm single motor unit, firing profile during hypercapnia and airway occlusion 4-21645
 dielectric analysis of blood by means of a raster-electrode technique 4-47118
 dynamic dielectrophoretic levitation of living individual cells 4-52302
 dynamic muscular activity: effects on cardiopulmonary functions, mech. and integrated bioelec. activity (*German*) 4-21724
 E. coli, chemotactic stimulation, distinction between changes in membrane pot. and surface charge 4-41460
 eardrum sound press., alteration by AC stimulation of scala media, gerbil obs. 4-26451
 electric/magnetic field effects on human body (*German*) 4-41559
 electrically stimulated biological struct., freq. dependence of analytical model 4-57872
 electrified hand, patient treatment in 19th century, psychotherapeutic implications 4-70
 electroacupuncture And auricular Electrical Stimulation, treatment and diagnosis appl. 4-41646
 electroanaesthesia, review of elusive search 4-58035
 electrocutaneous stimulation with high voltage capacitive discharges 4-21643
 electrophotoluminescence and elec. props. of photosynthetic membranes 4-41452
 electrotonic coupling between leech Retzius cells, freq. domain anal. 4-7951
 EM dosimetry using computer-based scanning systems 4-21820
 endocardial electrodes for continuous electrostimulation, improvements 4-3648
 epithelial tissues, equiv. circuit models for I-V relationship 4-31199
 erythrocyte and ghost cytoplasmic resistivity and voltage-dependent apparatus size 4-26368
 extracochlear electrical stimulation 4-52527
 giant axon, squid, rapid Na⁺ channel cond. changes during voltage clamp steps 4-57874
 haemoglobin, Langmuir-Blodgett films, dielec. props. 4-16830
 heart, programmed electrical stimulation: how, when and where in tachycardia evaluation, review 4-3639
 horizontal cell polarisation, anal. of neural mechanisms mediating effect 4-7985
 human body behaviour to electric shocks, standards (*Portuguese*) 4-36090
 hyperhidrosis treatment with iontophoresis unit 4-21846
 imaging spatial distributions of resistivity using applied potential tomography 4-8135
 impedance cardiograph, high-sensitivity, high-linearity, low-leak, self-balanced 4-3641
 impedance plethysmography, 4-electrode, errors 4-12714
 impedance variations at microwave freqs., interferometer systems for monitoring 4-16941
 insects behaviour in electrostatic fields obs. 4-3545
 ionic channels in membranes, conf., Airlie, VA, USA (Oct. 1983) 4-42578
 labile synthesized relaxation oscillators, population 4-41485
 Lepidoptera larvae, elec. profile in midgut 4-31196
 LF EM current induction in biological systems electrochem. and elec. aspects 4-3591
 lipid bilayers, capacitance and optical parameters, combined anal. 4-31181
 liver cells, electrogenesis stability in inbred mice, in vivo and in vitro obs. 4-31187
 lysozyme, electrostatic free energy 4-26353
 mammalian cells, normal and transformed, elec. props. 4-57863
 mammalian myocardium, elec. field model for elec. transfer of excitation between cells 4-21644
 membrane barrier function destruction rel. to elec. strength reduction 4-52293
 membranes, interactions with voltage-sensing dyes 4-26362
 microcomputer system for single channel currents anal. 4-31385
 microelectrode for delivery of defined charge densities 4-3663

bioelectric phenomena continued

- mitotic index of onion roots, 60 Hz ultra-HV elec. field effect 4-16919
 myocardium, system for meas. of US effects on membrane elec. and mech. props. 4-21865
 mollusc, *Lymanaea stagnalis*, single pot. dependent K⁺ channels 4-52308
 muscle, electric stimulation apparatus, STIMUL-1, medical therapy (*Bulgarian*) 4-52523
 muscle fibres, skinned, pot. and K⁺ activity, evidence against a simple Donnan equilib. 4-41479
 nerve cells, elec. interacting, dynamics 4-46980
 neuroblastoma cell membrane patches, voltage-dependent Ca²⁺ block of single Na⁺ channels 4-46969
 neuroblastoma cells, batrachotoxin-modified Na⁺ channels, gating kinetics 4-46960
 neuronal bursting, patch- and voltage-clamp anal. of cyclic AMP-stimulated inward current 4-26375
 nucleic acids, isoelec. characts. and secondary struct. 4-52262
 orthopaedic surgeons, role in bioelectricity development 4-36093
 osteogenesis induced by polyvinylidene fluoride bimorph films 4-31204
 paramesium cell, rotational movement induced by ion conc. and AC elec. field (*Japanese*) 4-3543
 pathological cerebral sources localisation with SQUID instrumentation and relative covariance method 4-26490
 photoreceptors, fly, activation, of electrogenic Na-Ca exchange by light 4-36106
 physiological effects of high intensity electric-fields caused by UHV power transmission systems (*Spanish*) 4-21726
 planar lipid bilayer, incorporated brain, voltage-dependent Ca²⁺ channels 4-46952
 plant cell tissue, elec. cond. rel. to struct. (*Russian*) 4-21631
 plant development rel. to weak elec. fields, sunflower germination expts. 4-41560
 plant stems, time domain dielec. spectroscopy 4-36269
 plasma lipoproteins, interaction with bilayer lipid membranes, role of surface charge 4-52285
 postmortem resistivity studies at 60 Hz 4-31206
 proteins and constituent amino acids, dielec. props. and far IR spectra 4-36098
 Purkinje strands, sheep, elec. props., elec. and chem. pots. in clefts 4-21638
 purple membrane, anisotropic elec. props. and their change during the photoreaction cycle 4-57857
 retina, rabbit, ERG and ganglion cell discharge, effects of 2-amino-4-phosphonobutyric acid 4-26406
 retinal horizontal cells in culture, elec. props. 4-12567
 retinal horizontal cells in culture, rel. to photoreceptor neurotransmitter candidates 4-12568
 sarcoplasmic reticulum, ion cond. in K⁺ channel, effects of phospholipid surface charge 4-46947
 shielded microelectrode for single-electrode voltage clamping of CNS neurons 4-3664
 skeletal muscle fibres, frog, charge movement assoc. with contraction threshold depolarisation 4-31197
 skeletal tissue electromechs. and elec. stimulation of growth and remodelling 4-41542
 skin, human, elec. phenomenology of keratins 4-36097
 skin impedance and electro-osmosis in the human epidermis 4-12559
 smooth muscle cells in K-free medium, transmembrane Ca current isolation 4-41474
 somatic brainstem reflexes in vertebral-basilar insufficiency, electrophysiological study 4-16858
 sperm, X- and Y-bearing, human, separation using free-flow electrophoresis 4-52540
 T lymphocytes, human, voltage-gated K⁺ channels rel. to mitogenesis 4-36087
 tissue, liq. absorpt. dynamics, meas. apparatus using elec. impedance 4-3657
 trachea, excised, rabbit, bioelec. props. and ion transport 4-36094
 transcatheter electrocoagulation instrument, expt. evaluation in pigs 4-12721
 transcutaneous electrical nerve stimulation for acute postoperative pain treatment, overview 4-3645
 transcutaneous electrical nerve stimulation for pain control 4-41645
 ventricular response during atrial fibrillation, quantitative electrophysiological model 4-41488
 wood electret, charges contributed to thermally stimulated current (*Japanese*) 4-16860
 wound-healing process, elec. impedance monitoring, sheep expts. 4-3549
 Ca²⁺ channel of frog heart, energy profile 4-52311
 Na⁺ channels in planar lipid bilayers, voltage-dependent block by saxitoxin 4-46948

bioelectric potentials

- see also contact potential; electrocardiography; electroencephalography
 action potentials recognition, computerised discriminator 4-26556
 action pots. rel. to motor unit twitches estimation 4-41486
 alveolar type II cells, isolated, rat, transmembrane pot. expts. 4-3532
 amplifier with RC-circuit, recovery time reduction 4-16999
 ARMA-filtering of evoked potentials 4-57877
 auditory and somatosensory evoked potential abnormalities in myotonic dystrophy 4-26449
 auditory brainstem potentials and EEG spectra, simultaneous meas. 4-26543
 auditory brainstem response, effects of changes of stimulus intensity and sensory acuity 4-16882
 auditory brainstem response in patients with sensorineural hearing loss and abnormal stapedius reflex thresholds 4-52361
 auditory brainstem response to stimulus repetition rate and freq. 4-52357
 auditory brainstem responses generation, effect of lesions 4-16881
 auditory brainstem responses generation, effect of surgical section of trapezoid body 4-16880
 auditory brainstem responses generation, effects of local anaesthetic injection 4-16879
 auditory event-related potential in monkeys, task-relevant late positive component 4-47011
 auditory evoked potentials, early and middle latency, freq. specificity 4-26448
 auditory evoked potentials, late, occurrence without brainstem pots. 4-16878
 auditory evoked response, digital processing (*Japanese*) 4-8059

bioelectric potentials continued

- auditory evoked response, early, effects of click duration on latency 4-57905
- biceps EMG, spectral performance density distrib. following long-lasting isometric voluntary contractions (*German*) 4-21648
- body surface pot. mapping, limitation of inverse problem 4-41487
- brain, signal propagation from intracerebral sources to cortical surface 4-46986
- brain potentials, human, spatiotemporal pathways (*Russian*) 4-26379
- brain potentials during reading, refl. of word expectancy and semantic association 4-26377
- brainstem auditory evoked response, human, effect of broadband noise 4-12597
- brainstem auditory evoked response, human, effect of broadband noise 4-12598
- cardiac Purkinje strands, conducted action pot., sheep expts. 4-7959
- cardiac transmembrane action pots., dual microcomputer anal. system 4-41659
- central nervous system, insects, nervous activity, problems of recording with glass electrodes 4-47108
- central pattern generation in lobster stomatogastric ganglion 4-46979
- characean cells, vacuolar pot. offset in response to EM radiation 4-57939
- cochlear inner hair cells, intracellular recordings, crossed olivocochlear efferents stimulation effects 4-16888
- conducted action pot., models and comparisons to expts. 4-7960
- diaphragm EMG, power spectral anal. 4-3546
- ECG potential maps, acquisition and processing 4-26381
- electrocochleography, ear canal electrode 4-58026
- electrode noise rel. to bioelec. signal recording 4-31353
- electrooculography and search coil techniques, comparison for long-term eye position meas. in alert monkey and cat 4-8171
- electrostatic potential adjacent to membranes rel. to large divalent cations, calcs. 4-26363
- electrostatic potentials adjacent to membranes rel. to large divalent cations, hexamethonium obs. 4-26364
- EMG, conf., Munich, Germany (Oct. 1983) 4-13471
- EMG, lowered levels during musical performance following biofeedback training, generalisation 4-26372
- EMG, possible method of automatic anal. and diagnosis online 4-17010
- EMG, real-time detect. of precise onset, synchronisation of an EEG average 4-58025
- EMG, single fibre, duration matching method for jitter meas. 4-26542
- EMG, vol. cond., expt. and theoretical review 4-31203
- EMG controlled multifunctional, evaluation 4-41654
- EMG of alae nasi and diaphragm in preterm infants, effect of sleep state and hypercapnia 4-3547
- EMG of vastus medialis oblique and vasti in normal subjects during gait 4-31202
- EMG scanning in the diagnosis of chronic pain 4-26545
- EMG studies of local muscular endurance capacity of isometric working muscles 4-16898
- EMG study of M. Tibialis anterior fibre density in back pain patients 4-16857
- ERG and light peak of the perfused cat eye, differential effects of pCO₂ and pH 4-52326
- ERG b-wave, rat, rod saturation for 2 different anaesthetics 4-31216
- ERG c-wave, chicken and frog, evidence for both photopic and scotopic characts. 4-36105
- estimation criteria, statistical point of view 4-7975
- fluid electrode technique, in vitro, to record compound muscle action pot. and nerve evoked tension 4-21856
- hyperpolarising dorsal root pots. recorded from single fibres in cats, mechanoreception appl. 4-31238
- interference EMG processing, expt. and simulated EMG AR-modelling 4-17001
- intestine, rat, incidence of low-level microwave irr. on myoelec. activity 4-3544
- laryngeal evaluation using features from speech and the electroglottograph 4-41595
- mammalian gastrointestinal tract, fasting motor activity, errors and uncertainties in obs. 4-57871
- microelectrode advancement control, extracellular action pots. detect. 4-26373
- mini-action potentials counting, inexpensive microcomputer based system 4-47111
- movement-related brain macropots. during skilled performances, developmental study 4-16855
- muscle, dynamic activity, correl. of bioelec. and mech. activity (*German*) 4-21649
- muscle fibres, skinned, pot. and K⁺ activity, evidence against a simple Donnan equil. 4-41479
- myoelectric signal versus force relationship in different human muscles 4-3548
- myoelectrical activity in rhythmic ergometer exertion (*German*) 4-21650
- myology conference, Germany (Apr. 1982) (*German*) 4-17632
- nerve compound action pot., linear model, dependence on single fibre action pot. waveform 4-21642
- neural systems organisation and function obs., multi-microelectrode and interface cts. integration 4-36261
- optimum filters for estimating evoked potential waveforms 4-41638
- overlapping waveforms having known temporal distrib., separation, Fourier technique 4-21864
- pacemaker cells, synchronisation of chains by phase resetting action potential effects 4-21641
- pattern onset-offset visually evoked response rel. to spatial freq. 4-26400
- pattern visual evoked pot., recovery cycle in normal subjects and multiple sclerosis patients 4-16869
- pattern-reversal visual evoked potentials in patients with chronic renal insufficiency 4-26396
- photoreceptors, honeybee drone, voltage noise 4-52328
- retinal pigment epithelium, light-evoked response expts. 4-12579
- rod monochromat's pattern visual evoked cortical pot., rel. to spatial tuning of colour mechanisms and rods 4-57887
- signal extraction, noise reduction anal. 4-41500
- signal processing, objectives and approaches 4-41499
- single photon transduction in Limulus photoreceptors and the Borsellino-Fuortes model 4-46988
- singular value decomposition for weak bioelectric signal extraction 4-26382
- somato-sensory evoked pots. of multiple origin, 1-channel recording 4-31344

bioelectric potentials continued

- somatosensory evoked potentials, short latency, scalp topography, posterior tibial nerve stimulation 4-26462
- somatosensory evoked potentials associated with tactile stimulation at detection threshold in man 4-26464
- somatosensory evoked potentials in patients with metastatic involvement of the brachial plexus 4-16893
- somatosensory evoked pots., far-field, neural generators, brain lesion patients obs. 4-16891
- somatosensory evoked pots. rel. to sensory processing in man 4-16890
- somatosensory evoked pots. via lumbosacral pathways, rel. to naturalistic stimulation 4-16892
- speech, surface electromyography, miniature electrode 4-17012
- spike processing at low cost, microcomputer based system 4-3661
- surface electromyogram (EMG)/muscle force: a muscle model based on EMG peaks 4-52313
- surface EMG power spectrum rel. to motor unit firing rate during static contraction 4-16859
- surface EMG/force relationships, linear and nonlinear, in human muscles 4-41478
- transmembranal potentials of a developing fish embryo, correlation functions (*Russian*) 4-26380
- vertebrate nerve terminals, optical recording of action pots. using potentiometric probes 4-7968
- vertex recorded pre-event pots. for 3 types of forewarned events 4-16854
- visual cortex, human, electrophysiological correlates of hyperacuity 4-16873
- visual evoked potential, contrast sensitivity in the parafovea, spatial organisation 4-26401
- visual evoked potential distrib. during visual stimulation in human, centre locus (*Korean*) 4-21656
- visual evoked potential-stimulus parameters efficacy in visual system pathology detect. 4-16868
- visual evoked potentials, hemispherical dominance of visual elaboration process (*Italian*) 4-21654
- visual evoked potentials, influence of aniseikonia (*Italian*) 4-52318
- visual evoked potentials rel. to contrast, review 4-26447
- visual evoked potentials rel. to crit. period plasticity, hooded rat expts. 4-36104
- visual evoked potentials rel. to spatial freq. mechanisms 4-26399
- visual evoked pots., meas. of fixation eccentricity in normals and amblyopes 4-26403
- visual evoked response, rat, effect of perinatal exposure to 60 Hz elec. fields 4-31274
- visual system, human, electrophysiology, review 4-12565

bioenergy conversion

- anaerobic digestion of wastes, research and development 4-57741
- arid land plants for fuel and biomass 4-12438
- Arizona chaparral brush and tree species, pot. for biomass conversion to liq. fuels 4-46860
- Asclepias speciosa, possibilities for conversion to fuel and chemicals 4-52181
- biogas production, by anaerobic digestion of waste 4-52182
- biomass energy: current status and promise 4-52085
- biomass production, by Oocystis sp. grown on wastewaters, agitation and aeration modes influence 4-52180
- biomass pyrolysis unit design and operation 4-21520
- biomethanation of marine alga Tetraselmis 4-26305
- Chinese energy resources present status of utilisation and research 4-26262
- cottage industries woodfuel demand in Philippines 4-41307
- design consideration and economic analysis of a community size biogas unit 4-57738
- direct and indirect means for solar energy utilisation 4-12459
- economic viability of biogas technology 4-57740
- energy consumption in Latin America, role of biomass, quantitative anal. 4-52081
- energy utilisation, processes and conversion technologies, particularly anaerobic digestion are considered (*Italian*) 4-26306
- ethanol from sugar beet in pilot plant with direct digital control 4-35975
- ethanol production from fodder beet, energy and economic anal., comparison with petroleum 4-35977
- Euphorbia petro-crops for fuel 4-52183
- European biomass resources, energy programmes and conversion technologies 4-26265
- fuel ethanol, maximisation, from pawpaw fermentation 4-41359
- future energy needs and alternative sources for Zaïre 4-52097
- gas from biomass fermentation: a new technique (*French*) 4-7799
- health risks of energy technologies 4-7794
- hydrothermolysis of biomass-ethanol fermentation of hydrothermal solutions with saccharomyces carlsbergensis W 34 4-57737
- investigations for biogas operated MHD power generators 4-57736
- Japanese renewable energy resource potential 4-12456
- low-grade fuel. gas production by waste gasification and pyrolysis 4-57742
- methane gas from urban refuse dumps by controlled anaerobic reduction (*Italian*) 4-41303
- new and renewable energy sources, biomass, hydropower, ocean energy and tidal power 4-26261
- self-sustaining energy system for a rural community in India 4-57635
- upgrading of biomass by pyrolysis and gasification processes 4-52179
- use of gobar gas in diesel engines in India—present status and future prospects 4-57739
- waste cellulose acid hydrolysis to glucose, used as fermentation substrate for ethanol production 4-57743
- wastes/biological materials combustion for energy 4-57744
- water hyacinth for methanol production (*French*) 4-52179
- water hyacinths CH₄ fermentation (*French*) 4-52177
- water hyacinths methane fermentation (*French*) 4-52178
- wood gasification technology and resource availability 4-3449

biographical dictionaries *see biographies***biographies**

- von Biela, Wilhelm, life and history of assoc. periodic comet 4-42671
- Russell, Henry Norris (1877-1957), stellar and solar atm. abundances 4-27017
- Swedenborg, Emanuel, rationalist cosmology 4-69
- Thompson, Silvanus Phillips, (~1852-1916), rel. to prehistory of X-rays 4-47736

biological cybernetics *see biocybernetics*

biological effects of acoustic radiation

- see also biomolecular effects of radiation; cellular effects of radiation*
audition of noise, loudness, annoyance and noisiness growth rates determ. 4-36134
biofouling, inhibition by US radiation 4-52383
cell lysis, US-induced, by nontrapped bubbles in a rot. culture tube, kinetics and mechs. 4-12625
cochlea, mechanical stress during exposure to shock waves (French) 4-3565
Drosophila larvae, killing by μ s US pulses, pulse average vs. max. intensity 4-12627
Drosophila larvae, killing by μ s US pulses, rel. to carrier freq. 4-12626
genetic damage rel. to US irradi. 4-36161
hearing, temporary threshold shifts induced by white noise (Japanese) 4-47010
homogeneous absorbing medium, temp. elevation in a US beam 4-31277
industrial noise, sound press. weighting and hearing damage (German) 4-28919
leaf cells, Elodea anacharis, US activation of gas bodies 4-16921
lecithin liposomes formed on US exposure, size 4-52287
liver, fatty and normal, US attenuation, freq. dependence 4-47051
mammary sarcoma cells, mouse, EMT6, thymine base damage prod. by US 4-41563
myocardium, system for meas. of US effects on membrane elec. and mech. props. 4-21865
noise, effect on human beings (Hungarian) 4-21728
noise, temporary effect on auditory function in man 4-26461
noise-exposed workers, acoustic neuroma identification 4-26456
non-ionising radiation dosimetry, radiowaves, microwaves, US, lasers and UV 4-54435
proteins and peptides, aqueous solutions, US absorpt. by solvent-solute interactions 4-57838
shipyard workers, hearing deterioration, serial audiometry over 4 years 4-26459
sister chromatid exchange freqs., diagnostic US effects, recent literature review 4-36160
skin, previously irradiated, response to combinations of X-irrad. and US-induced hyperthermia 4-21745
skin, US-induced hyperthermia and X-irrad. effect 4-21729
subharmonic emission as an indicator of ultrasonically-induced biological damage, V79 cells obs. 4-31278
temperature fields caused by acoustic standing waves in biological tissues 4-36162
thymocytes, rat, effects of CW and pulsed US in vitro 4-12624
US gas body activation in Drosophila 4-41564
US in physiotherapy, conf., Bristol, England (Sept. 1983) 4-53336
vestibular nerve fibers, pigeon, response to sound and vibr. with audiofreqs. 4-36163

biological effects of gamma-rays

- see also biomolecular effects of radiation; cellular effects of radiation*
alveolar macrophages, rat, effect of whole-body irradi. on phagocytic activity 4-21741
amino acids, γ -radiation-induced interactions with glucagon 4-41584
bone marrow cells, mouse, thymidine kinase inhibition after low-dose γ -ray exposure 4-57950
cell culture, hamster, recovery from lethal and mutagenic damage 4-21746
cerebellum, developing rat, γ -irrad. early effects, cell pyknosis induction 4-12633
chromosomal studies on radiation-induced gynogenesis and diploid gynogenesis in the fish *Oryzias latipes* 4-8046
chromosome aberration rate in black and Norway rats born after γ -irrad. 4-52396
collagen, calf skin, change in amino acid composition after γ -irrad. (Russian) 4-36167
cyclic nucleotide responses and radiation-induced mitotic delay in *Physarum polycephalum* 4-57962
cytogenetic damage induced in germ line of male mice, RBE of ^{239}Pu α -particles, fission neutrons and ^{60}Co γ -rays 4-3596
cytogenetic lesions in potato seedlings, post-irrad. recovery (Russian) 4-12641
DNA in human lymphocytes irradi. at G_1 stage, unscheduled synthesis (Russian) 4-12536
DNA synthesis in developing rat brain, effects of low γ -radiation doses 4-31288
Drosophila, imaginal wing buds, γ - or X-irrad., cell death ultrastruct. 4-41580
earthworms, *Eisenia foetida*, mortality after γ -irrad. at different stages of life history 4-31293
embryonic stages of medaka, chronic γ -irrad., fecundity and fertility obs. 4-31296
embryos, rat, effects of pre-implantation low-dose radiation 4-21738
haematoencephalic barrier, permeability changes induced by combined effect of γ -irrad. and modified gas medium (Russian) 4-36178
haemopoiesis, prenatal irradi. effects on foetal, neonate and young adult mice 4-47041
haemopoiesis in the beagle foetus after in utero irradiation 4-8040
haemopoietic colony-forming cells, mouse, response to γ -radiation and HTO (Russian) 4-36173
hypoxic cells in EMT6 spheroids in suspension culture, radiation response 4-41575
imidazole ring of adenine in DNA, opening by ionising radiation, dose-response study 4-8038
intestinal blood flow, canine, acute γ -irrad. 4-36143
leukocytes, mononuclear, human, effects of γ -radiation and hyperthermia on DNA repair and NAD^+ level 4-41586
Lewis lung carcinoma, continuous irradi. at clinically-used ultra low dose rates, mouse expts. 4-36187
lung fibroblasts, normal, human, differential recovery from pot. lethal damage, γ -ray and N-ion irradi. 4-36183
lymphocytes, human, γ -ray-induced proliferation delay duration, estimation by harlequin staining technique 4-41589
lymphocytes, human, chromosome damage at 1st division after ^{60}Co γ -irrad. 4-8057
mammary cells, rat, ^{137}Cs γ -irrad., in situ repair kinetics 4-16927
mixed γ /neutron field, dosimetric and radiobiological characts. of field prod. by d-Be reaction (Russian) 4-12642
pancreas function of islets of Langerhans after irradiation (Russian) 4-12637

biological effects of gamma-rays continued

- pathological effects of fractionated fast neutrons or ^{60}Co photons in dogs 4-12622
peptides, cross-linked by ionizing radiation, enzymatic digestibility 4-57959
primordial germ cells in the fish *Oryzias latipes*, unique responses to γ -rays 4-57952
protoplasts, isolated alfalfa, γ -irrad. effect on development (Russian) 4-12640
radiobiological characteristics of CBWA mice (tetrahybrids) (Russian) 4-36179
remote aftereffect in rats following total-body fractionated γ -irradiation (Russian) 4-36176
ribonuclease, radiation-induced aggregates, struct. investigation 4-7922
seeds subjected to acute γ -irrad., primary leaf development of *Phaseolus vulgaris* L. 4-16923
sublethal damage repair in cultured fish cells 4-41471
surfactant release as an early measure of radiation pneumonitis, mouse expt. 4-36188
T-lymphocytes, human, proliferating in long term culture, radiosensitivity to ^{60}Co γ -rays 4-16924
taste buds of embryos and adults of the fish *Oryzias latipes* 4-31297
thymocytes, bat, in vitro γ -irrad., correl. between some cytological indices (Russian) 4-36174
thymocytes, rat, possible association of membrane and nuclear changes 4-47039
total body irradiation and marrow transplantation 4-12645
total-body γ -irrad. of pigs, radiation sickness (Russian) 4-12639
tumour DNA preparations, γ -irrad., EPR spectra features 4-41572
tumour xenografts, human, radiosensitivity rel. to hypoxia and cell-cell contact 4-3598

biological effects of ionising particles

- see also biomolecular effects of radiation; cellular effects of radiation*
absorbed dose in mice injected with ^{211}At , comparison between X-irrad. and ^{211}At -treated mice 4-52489
colony-forming units—spleen, response to heavy charged particles 4-8054
cytogenetic damage induced in germ line of male mice, RBE of ^{239}Pu α -particles, fission neutrons and ^{60}Co γ -rays 4-3596
DNA strand breaks repair in NH1K 3025 cells after combined electron radiation and hyperthermia 4-8048
DNA with incorporated ^{32}P , decay effects (German) 4-46944
E. coli, base substitution mutations induced by tritiated water 4-41588
E. coli B and its S-30 and DNA-plus-membrane fractions, radiation-induced mol. changes 4-31291
exposure levels, biological bases, damage mechanisms 4-52393
exposure levels of laser standards, threshold injury data 4-52394
foot, mouse, residual radiation damage after exposure to Ar ions and X-rays 4-41582
heavy particle radiobiology, therapy appl., review 4-57965
heritable cancer and radiation risks 4-3594
ICRP publication 32, inhalation limits of Ra daughters by workers, comments 4-3629
kerma and charged particle spectra from 25-60 MeV neutrons 4-41590
lung fibroblasts, normal, human, differential recovery from pot. lethal damage, γ -ray and N-ion irradi. 4-36183
lung tumour incidence in dogs that inhaled emitters, rel. to radiation dose patterns 4-41576
lung tumour induction in Syrian hamsters by Pu, microscopic dose distrib. 4-26483
lymphocytes, human, adaptive response to low concs. of ^3H thymidine or X-irrad. 4-52402
lymphocytes, human, chromosome aberrations induced by 23 MeV γ -particles, dose-effect relationship 4-57953
lymphocytes, human, chromosome aberrations induction by 4.9 MeV protons 4-21739
mammalian cells, survival after exposure to spatially correlated triads of protons 4-26482
mutation by ^3S thymidine decay in DNA of E. coli 4-41581
neutron transport calcs. for biological effects in irradiated media 4-41591
nuclear industry, biological background, ICRP recommendations 4-43668
nuclear industry, radiation and its control 4-43667
nuclear radiation, control and effects on biological systems, book 4-42615
oncogenic transformation of mouse BALB/3T3 cells by ^{239}Pu α -particles 4-21744
oocytes, rat, effect of lifetime intake of organically bound ^3H and HTO 4-52400
seminiferous epithelium, mouse, response to low dose, high energy ion and X-ray irradi. 4-36191
simian virus 40 irradiated with van de Graaff electrons, lack of enhanced reactivation in UV-irrad. CV-1 monkey cells 4-21742
sister chromatid exchanges in bone marrow cells of mice maintained on tritiated water 4-57955
skin, exposure to ^{241}Am , elastic degeneration, 1976 Hanford incident 4-16991
skin, mouse, changes at early times after X-ray and accelerated He ion exposure (Russian) 4-12638
T4 bacteriophage, inactivation by protons, contribs. of various types of damage 4-41573
water, ionisation distrib. in small vols. on proton irradi., biological appl. 4-41583
T β -rays, RBE w.r.t. dose rate 4-3628

biological effects of microwaves

- see also biomolecular effects of radiation; cellular effects of radiation*
425 MHz radiofrequency radiation effects on lymphocytes, laboratory exposure of rats 4-41569
applications in industry, science, medicine and consumer services, critical review 4-21768
auditory effects (Japanese) 4-3566
blood, whole, human, rel. to nonthermal effects of 434 MHz microwaves 4-21730
blood-brain barrier rel. to microwave irradi. 4-36164
brain energy metabolism, rat, effects of hyperthermia and hyperthermia plus microwaves 4-57854
EM dosimetry using computer-based scanning systems 4-21820
erythrocyte ghosts, human, RF irradiation, 330 MHz, heat capacity study 4-21733
exposure standards, microwave and RF, NRPB proposals 4-26535
febrile convulsions, microwave-hyperthermia model 4-31279

biological effects of microwaves continued

- giant chromosomes puffing by MM-wave radiation, nonthermal effect 4-31286
- haematologic and immunologic effects of pulsed microwaves in mice 4-31281
- hyperthermia, interaction with photoradiation therapy, mouse expts. 4-57948
- insect microwave power absorption in standing-wave fields (*Japanese*) 4-21731
- intestine, rat, incidence of low-level microwave irradiation on myoelec. activity 4-3544
- irradiation system, specimen temp. control using regulator circuit 4-41657
- membrane model, postsynaptic, effect of microwaves, ionic channel cond. increase (*Russian*) 4-12629
- microwave phased arrays for deep-seated tumour irradiation, 3-D phantom meas. 4-31179
- microwave radiant energy potential as heat source for human comfort 4-26478
- mitochondria, rat liver, in vitro effects of microwave radiation 4-57940
- neutral killer cell activity, murine, suppression by 2450 MHz microwaves 4-31280
- neuroblastoma cells, culture, human, microwave radiation-induced Ca^{2+} efflux 4-57941
- non-ionising radiation dosimetry, radiowaves, microwaves, US, lasers and UV 4-54435
- pentylene-tetrazol seizures and their protection rel. to acute microwave exposure in rats 4-41571
- power absorption in elongated biological objects at or beyond resonance 4-31276
- power deposition in biological media, stacked two-dimensional spectral iterative technique 4-47032
- reproduction in male Japanese quail exposed to microwave radiation during embryogeny 4-8035
- temperature distributions in biological plane layers: microwave heating and thermoregulatory effects 4-57949
- teratogenic potential of exposure of rats to 6000 MHz microwaves, morphology 4-57946
- teratogenic potential of exposure of rats to 6000 MHz microwaves, psychophysiology 4-57947
- thermal bioelectromagnetic effects, empirical time-intensity relationship for critical organ irradiation 4-41568
- thermoregulation, behavioural and autonomic, in mice exposed to microwave radiation 4-21626
- thermoregulatory behaviour altered by microwave irradiation, min. changes in hypothalamic temp. 4-57853
- tissue heating, cancer therapy appls. 4-26497
- whole body hyperthermia with a microwave regional boost: unexpected toxicity in the pig 4-16841
- Ni-metalised monofil cloth for protection in range 100 MHz to 100 GHz (*German*) 4-52498

biological effects of radiation

- see also *biological effects of acoustic radiation; biological effects of gamma-rays; biological effects of ionising particles; biological effects of microwaves; biological effects of ultraviolet radiation; biological effects of X-rays; biomolecular effects of radiation; cellular effects of radiation; dosimetry; radiation therapy*
- AC/DC circuit induced electromagnetic interference, models, physiological effects (*German*) 4-41565
- accidents involving whole body exposure, relevance of $\text{LD}_{50/60}$ for man, review 4-12709
- atmosphere, sunlight extinction after nucl. war, long-term biological consequences 4-46912
- atomic bomb survivors in Hiroshima and Nagasaki, ophthalmological changes rel. to radiation exposure and age 4-41578
- blister rust fungi of Korean pine, control by laser irradiation. (*Chinese*) 4-57944
- blood flow in pig skin after sunscreens and artificial sunlight, laser Doppler meas. 4-41537
- blood vessels, laser irradiation, effect on mech. props. after welding 4-47057
- bone marrow, human, late effects after extended field radiotherapy 4-8042
- cervical carcinoma, severe complications of irradiation. 4-16963
- childhood leukaemia and fallout from Nevada nuclear tests, anal. of mortality data 4-47043
- chronic light damage, occupational aspect 4-52385
- cigarette smoke radioactivity rel. to lung cancer 4-47034
- circular waveguide irradiation system for nonhuman primates: design and dosimetry 4-58048
- combined continuous ultra low dose rate irradiation and RF hyperthermia in the C3H mouse 4-8044
- corneal structure, research 4-16942
- cumulative radiation damage and cumulative radiation effect in radiation therapy 4-21734
- dipole antenna near field, power absorbed distribution inside sphere simulating human head (*Japanese*) 4-21732
- electric/magnetic field effects on human body (*German*) 4-41559
- EM dosimetry, computer-based scanning system 4-52549
- EM fields induced by Helmholtz aiding coils inside saline-filled boundaries 4-31374
- EM heating of biological tissue, computational model, hyperthermic cancer therapy appl. 4-41567
- epiphysis of frogs, laser-irradiated, temp. profiles 4-8033
- erythematous skin reaction, human, RBE for ^{125}I rel. to ^{192}Ir , evaluation by skin scoring 4-12643
- exposure standards, microwave and RF, NRPB proposals 4-26535
- eye, clinical treatment, pot. risks of photo damage (*Italian*) 4-52420
- eye safety in fibre optic systems 4-8126
- eye sensitivity, Nd laser ophthalmocoagulator for clinical and public health expts. 4-8063
- femur, rat, irradiation, functional changes in vascularity 4-31290
- fission neutrons, limiting values for the RBE at low values for life shortening in mice 4-57937
- fluorescent lighting, skin cancer and malignant melanoma 4-52388
- fusion power station, nonradiological occupational hazards, nonionising EM field hazard 4-54389
- heating, inhomogeneous block model of man for EM environment 4-41448
- hepatitis following moving strip radiotherapy 4-16964

biological effects of radiation continued

- Hodgkin's disease patients, early and late pulmonary changes after mediastinum irradiation. (*Russian*) 4-8037
 - human internal contamination, routine monitoring results interpretation 4-31339
 - kidneys, functional activity after irradiation of paraaortic lymph nodes (*Russian*) 4-52457
 - larynx irradiation rel. to voice in radiotherapy patients, perceptual study 4-52365
 - life shortening in BALB/c mice following brief, protracted, or fractionated exposures to neutrons 4-21727
 - long-lived nuclides stored in a radioactive waste repository, health effects estimation model 4-52501
 - long-term Chalk River employees, updated follow-up 4-52406
 - lung, radiotherapy-induced change, CT findings 4-36180
 - magnetic field effects on humans, counter-measures (*German*) 4-41566
 - man models, inhomogeneous, with large numbers of cells, moment-method soln. and SAR calc. 4-31283
 - myocardium, effect of a LF mag. field on contractility 4-52380
 - non-ionising radiation dosimetry, radiowaves, microwaves, US, lasers and UV 4-54435
 - nonlinear dose-response relationships for later health effects, sensitivity analysis 4-26481
 - ocular hazards of low-power lasers, functional approach to assessment 4-47031
 - optical nonlinearity of gases and biological systems 4-29235
 - oviposition and development of *Drosophila* modified by magnetic fields 4-31273
 - photoergonomics, glossary of terms used, counterpart of Abney's law for nonvisual effects 4-47810
 - physiological effects of high intensity electric-fields caused by UHV power transmission systems (*Spanish*) 4-21726
 - plant development rel. to weak elec. fields, sunflower germination expts. 4-41560
 - plant optical characteristics meas. with wavelength programmable spectrophotometer 4-12732
 - prenatal and postnatal development in rats exposed to 60 Hz elec. fields 4-57936
 - questions and answers 4-4171
 - radiation therapy physics 4-3615
 - reproductive system, status of exposed animals, biological activity of red and violet laser radiation (*Russian*) 4-12630
 - respiratory abnormalities in New Mexico U miners, prevalence survey 4-52375
 - respiratory physiology, recommendations for using standardised terminology in radiation research 4-21748
 - retina, thermochem. model for calc. of max. permissible exposure in near IR range 4-31285
 - review of radiobiology over 40 years, its impact on radiotherapy 4-42575
 - RF dielectric heaters, occupational exposure in industry 4-52390
 - skin, structure and effects of UV and optical radiation 4-41570
 - tissue repair after irradiation, conf., London, England (May 1983) 4-8633
 - tissue structures, planar parallel layers, EM wave irradiation, temp. distrib. calc. (*Czech*) 4-7942
 - transmitters close to human body, 10-1000 MHz, biological effects and safety features (*German*) 4-3592
 - trypanosomiasis, mouse, static uniform mag. field exposure, lack of effect 4-26473
 - tumour radiation response rel. to radiobiological parameters (*Russian*) 4-36210
 - uniform DC electric field exposure systems for mice and cats 4-31373
 - visual evoked response, rat, effect of perinatal exposure to 60 Hz elec. fields 4-31274
 - $^{239}\text{PuO}_2$ and ^{239}Pu citrate, liver tumours induction in Chinese hamsters 4-8053
- biological effects of ultraviolet radiation**
- see also *biomolecular effects of radiation; cellular effects of radiation*
 - antigenic similarity between cells transformed by UV in vitro and in vivo 4-52401
 - cataract, radiation induced, annotated bibliography 4-17664
 - chromosomal studies on radiation-induced gynogenesis and diploid gynogenesis in the fish *Oryzias latipes* 4-8046
 - colon adenocarcinoma, heterogeneous, human, sensitivity of cell subpopulations to UV light 4-8055
 - cytoplasmic lesions in eggs of *Sciara ocellaris*, photoreactivation 4-57956
 - DNA, T₂-phage, UV irradiation, conformation, UV absorpt. spectra and melting profiles 4-12542
 - E. coli DNA synthesized after UV irradiation, degradation obs. 4-47040
 - embryo, sea urchin, abnormal morphogenesis induced by UV partial irradiation given at cleavage stage 4-31292
 - embryonic development of different inbred strains of *Oryzias latipes* fish 4-31294
 - erythrocytes, human, effects of UV on aggregation 4-52391
 - eukaryotic cells, quantitative analysis of UV-induced cell killing 4-21743
 - exposure standard, Australian, for UV radiation, hazards to eyes and skin 4-21822
 - islet allograft, rat, survival prolongation by direct UV irradiation of graft 4-52403
 - lymphoblastoid cells, human, UV light-induced immunoglobulin heavy-chain class switch 4-8047
 - mammalian cells, UV radiation action spectra, shift due to screening 4-52392
 - methionine sensitivity of *Chlamydomonas reinhardtii* cultures, near UV- and visible light effect 4-16922
 - mitotic inhibition of ICR 2A frog cells, monochromatic UV and photoreactivating light exposure 4-36184
 - non-ionising radiation dosimetry, radiowaves, microwaves, US, lasers and UV 4-54435
 - ophthalmological considerations on the nature of photo damages (*Italian*) 4-52384
 - photobiological UV radiation meas., water disinfection appls. 4-31300
 - photoergonomics, glossary of some useful terms rel. to skin darkening (*Italian*) 4-47809
 - photoergonomics, glossary of terms used, counterpart of Abney's law for nonvisual effects 4-47810
 - photokeratoconjunctivitis, glossary of terms in photoergonomics, annotated bibliography 4-17665
 - poly-dT exposed to high-intensity ps UV laser irradiation, pyrimidine dimers yield reduction 4-52395

biological effects of ultraviolet radiation continued

- pyrimidine dimers, cyclobutane-type, prod. and excision repair in DNA of *Turbatrix aceti* 4-57957
 simian virus 40 irradiated with van de Graaff electrons, lack of enhanced reactivation in UV-irrad. CV-1 monkey cells 4-21742
 skin, structure and effects of UV and optical radiation 4-41570
 tyrosinase, mushroom, conformational changes during UV photoinactivation 4-7923
 vitamin D formation, glossary of terms in photoergonomy, annotated bibliography 4-17663
 yeast, *Saccharomyces cerevisiae*, heat-shock induction of UV light resistance 4-7940
 yeast cells, wavelength dependence of inactivation and membrane damage by synchrotron vacuum-UV radiation 4-41577

biological effects of X-rays

- see also *biomolecular effects of radiation; cellular effects of radiation*
 absorbed dose in mice injected with ^{211}At , comparison between X-irrad. and ^{211}At -treated mice 4-52489
 ataxia telangiectasia cells, actively growing, deficient repair of pot. lethal damage after X-irrad. 4-57964
 blood, X-ray induced chromosome aberrations and spontaneous sister chromatid exchanges, storage effects 4-47037
 blood lymphocyte spontaneous cytotoxicity following local radiation, therapy for bladder carcinoma 4-12632
 bone longitudinal growth in rat, local irrad. effect, tetracycline labelling 4-12631
 bone marrow, mouse, response of stromal progenitor cells to graded repeated doses of X-rays or neutrons 4-8049
 bug *Physopelta*, differential stage sensitivity to X-rays 4-36189
 C $^{\text{H}}$ 10T $^{1/2}$ cells, transform. by X-irrad., timing of steps 4-26480
 chest roentgen examination, radiation exposure and estimate of late effects in children 4-12684
 CHO cells, hyperthermic killing, and hyperthermic radiosensitisation 4-41472
 chromosomes, interphase, human, X-ray induced breakage and rejoining 4-31299
 DNA, radiation damage, mouse liver and transplanted tumours expts. (Russian) 4-36170
 Drosophila, imaginal wing buds, γ - or X-irrad., cell death ultrastruct. 4-41580
 E. coli, lethal damage induction by Cherenkov radiation associated with high-energy X-rays 4-57951
 erythrocytes and ghosts, X-ray-induced struct. changes in membrane proteins and cell morphology 4-47038
 erythroleukaemia, murine, differentiating cell line, effect of heat on haem induction by radiation 4-7938
 fibroblasts, skin, from cancer prone individuals, chromatid damage after G $_2$ phase X-irrad. 4-3538
 foot, mouse, residual radiation damage after exposure to Ar ions and X-rays 4-41582
 haemopoietic deficiencies, residual, in mice after repeated X-ray doses, cellular anal. 4-36186
 hepatoma cells, effect of thermotolerance on thermal radiosensitisation 4-57855
 hyperthermia rel. to X-ray damage expression in mouse skin 4-41587
 insect cells, cultured, radiosensitivity expts. on lepidoptera 4-8051
 insect cells, cultured, radiosensitivity obs. on diptera 4-8052
 leukemia cells, mouse, covalent DNA-protein crosslinking after hyperthermia and radiation 4-3599
 lymphocytes, human, adaptive response to low concs. of [^3H]thymidine or X-irrad. 4-52402
 mammary epithelial cells, cultured normal human, reproductive death rel. to irrad. 4-41574
 mammary tumour cells, mouse, effect of heat, radiation and pH 4-12552
 melanoma cell line, human, established, radiosensitivity rel. to parent melanoma xenograft 4-16928
 neonatal oocyte development and selective oocyte-killing by X-rays in the Chinese hamster, *Cricetulus griseus* 4-47036
 oncogenic transformation of C3H/10T $^{1/2}$ cells by X-rays, fast-fission neutrons, and cyclotron-produced neutrons 4-8041
 parotid cell function in vitro following X-irrad. in vivo, rat expts. 4-57963
 phagocytic cells in mouse blood, early effect of sublethal X-irrad., chemiluminesc. obs. 4-21740
 post-irradiation changes in rat radiosensitivity depend. on dose of preliminary irrad. (Russian) 4-12636
 radiobiological characteristics of CBWA mice (tetrahybrids) (Russian) 4-36179
 renal damage after irrad., radiation nephritis and anaemia; functional assay 4-36181
 seminiferous epithelium, mouse, response to low dose, high energy ion and X-ray irrad. 4-36191
 serum albumin, bovine, O $_2$ effect in radiolysis 4-57958
 skin, early and late reactions, relationship in 2 strains of mice 4-8039
 skin, mouse, changes at early times after X-ray and accelerated He ion exposure (Russian) 4-12638
 skin, mouse foot, previously irrad., response to heat alone or combined with irrad. 4-21625
 skin, previously irradiated, response to combinations of X-irrad. and US-induced hyperthermia 4-21745
 skin, US-induced hyperthermia and X-irrad. effect 4-21729
 small intestine, rat, late changes following single dose roentgen irrad. 4-21735
 sperm, mouse, radiation-induced DNA content variability 4-3595
 spinal cord, guinea-pig, radiosensitivity expts. 4-16926
 spinal cord, rat, effect of small radiation doses, partial tolerance concept 4-12644
 thoracic irradiation, expression of early and late damage in mice 4-41579
 thymus, rat, cell fragments after whole-body X-irrad., SEM study 4-36190
 thyroids, rat, differential rates of loss of chromosome aberrations after X-ray or neutron irrad. 4-41585
 tissue repair after irrad., conf., London, England (May 1983) 4-8633
 vascular fibrinolytic activity, Ross after liver X-irrad., late radiation damage, beagle expts. 4-3600
 yeast, radiation effects and hyperthermia cell cycle kinetics 4-26484
 yeast, X-ray-induced giant cell form, process and chitin ring form. 4-52397

biological fluid dynamics

see also *bio rheology; haemodynamics*

- alveolar liquid press. in excised oedematous dog lung with increased static recoil 4-21712
 alveolar pressure in fluid-filled occluded lung segments permeability oedema 4-21704
 cell division and hydrodynamics 4-21634
 cerebrospinal fluid flow in response to short duration press. changes, electrochem. transducer meas. 4-17040
 cerebrospinal fluid shunt systems, testing under dynamic flow conditions 4-3653
 fur covering, effect on turbulent flow in a tube 4-41543
 intravenous infusion systems, flow characterisation 4-41546
 micrometer, fully automatic, microcomputer-based approach to automation of flow rate meas. 4-12716
 non-Newtonian fluids, pulsating flows in mild stenosis (French) 4-1829
 renal concentrating mechanism model, mathematical analysis 4-31264
 shark scales, turbulent boundary layer in fine grooves (German) 4-1710

biological macromolecules see *macromolecules; molecular biophysics***biological membranes** see *biomembranes***biological sciences** see *biology***biological specimen preparation**

- cell cultures attached to ultrathin plastic films, preparation for EM anal. 4-3660
 cell procedure for direct viral diagnostic electron microscopy 4-3659
 cells fixed with glutaraldehyde, surface morphology alterations caused by centrifugation 4-47124
 cryo-electron microscopy of viruses 4-47121
 cyanobacterial thylakoid membrane arrangements exam. using HVEM and semi-thick sections 4-41667
 dry-mounted T autoradiographs, image spread and resolution 4-17035
 electron microscopy, improved device for rapid freezing using liquid He 4-31380
 freeze drying, thermal deform. effect 4-21857
 freeze-etching, bidirectional shadowing, particle size analysis 4-17033
 freeze-fracture replicas, reinforcement and protection and polystyrene during tissue thawing and digestion 4-17032
 frozen hydrated sections for electron microscopy, freezing, sectioning and obs. artefacts 4-8166
 frozen-section cutting technique for microscope specimen prep. 4-3666
 intracellular structures, prep. method for obs. in SEM 4-58057
 light microscopic visualisation of biological material in sections prepared for electron microscopy 4-8165
 metal shadowing replicas, granular structures, textural image processing 4-52547
 mica as support for biological SEM specimens in TEMSCAN microscope 4-8164
 microwave bioeffects irradiation system, specimen temp. control using regulator circuit 4-41657
 neuron, in vitro, combined light and electron microscopy method for visualisation by radioautography and serial sections 4-58055
 plant cell rapid embedding for electron microscopy, use of ultra-low viscosity medium 4-17034
 plant cells, microfilament bundles staining method for HVEM 4-41669
 retina, frog, melamine-embedded, electron microscopy and obs. of cryst. organisation of photoreceptor outer segments 4-41671
 specimen preparation and study techniques using SEM 4-52545
 sputter-coated and ion-beam sputter-coated films, struct. analysis 4-15780
 TEM, cryo-transfer system for EM400 electron microscopes 4-58061
 tissue electron damage during preparation for X-ray microanalysis 4-52546
 virus detection by electron microscopy after direct ultracentrifuge specimen prep. 4-58059

biological techniques and instruments

- see also *biological specimen preparation; biomedical equipment; biomedical measurement; microelectrodes; specimen preparation*
 accelerometer for human chest wall and small animal whole body vibr. meas. 4-47119
 acoustic displacement transducer system, cardiac research appl. 4-21868
 action potentials recognition, computerised discriminator 4-26556
 agricultural and biological materials, dielec. props. meas. technique using automatic network analyser 4-41684
 alkyl chain lipids, identification of long-chain packing, electron diffr. crystallography 4-26359
 amplitude discriminator with variable disable interval, neurophysiological recording appl. 4-47110
 antibiotic vancomycin biosynthesis, ^1H NMR spectral editing study 4-41662
 applied psychology laboratory, visual and acoustical perception stations, microprocessor-based systems 4-52550
 aquatic animal refraction, development of contact lens 4-12734
 auditory temporal psychosensory discrimination apparatus (French) 4-8156
 autoradiographic method for nutrient competition determ. between leaf epiphytes and plant pathogens 4-58056
 autoradiographs, grain density, of nervous tissue sections, evaluation by refl. photometry 4-8162
 autoradiography, quantitative, with radiopharmaceuticals, research appls. 4-17029
 axonal transport study, radiation microprobe, design and use 4-17038
 bacterial bioluminescence and bioluminescent analysis 4-12731
 behavioural research, startle transducer for small-animal movement meas. 4-36263
 benzyl alcohol mixture scintillators, use for radionuclides meas. 4-38005
 bidirectional shadowing in freeze-etching, particle size analysis 4-17033
 biomolecular electron microscopy, direct 3D reconstruction, interpolation in forward projections computation 4-21869
 biomolecule mass spectroscopy by ion-induced desorption 4-31390
 bite force meas. method for primates 4-12737
 blood cells, mag. filtration, vol. and surface mechanisms 4-57918
 blood circulatory system, indicator-dilution process reproduction device 4-58049
 blood vessel outside diameter, high resolution in vitro meas. device (Japanese) 4-21860
 blood-brain barrier, rat, modified method for radiotracer permeation meas. 4-3665
 blood/lymph vessels, area/dia.meas., image sensor and signal processing equipment (Japanese) 4-8170
 blueberry shoestring virus localisation by SEM autoradiography 4-3658

biological techniques and instruments continued

- body fluids, optical fibre fluoroprobe investig. 4-58047
 bone elemental analysis by nuclear physics methods 4-12740
 bone impedance measurement, factors affecting 4-47116
 bone mineral densitometry, high resolution, with a γ camera, small animal appl. 4-31388
 bone-conduction measurement and calibration using the cancellation method 4-8022
 book, mag. resonance in medicine and biology 4-47788
 cardiac transmembrane action pots., dual microcomputer anal. system 4-41659
 cathodoluminescence simple collectors in SEM made from Al foil 4-17036
 cell culture monolayer, bacterial adhesiveness and invasiveness differentiation method 4-41670
 cell populations separation method using mag. field 4-31376
 cell separation by mag. filtration using rare earths as soluble paramag. agents 4-8158
 cellular spin resonance, method for dielec. props. determ. 4-41655
 central nervous system, insects, nervous activity, problems of recording with glass electrodes 4-47108
 cerebral cortex, monkey, method for transcutaneous recording of single neuron activity 4-31384
 chromatography, recent advances in methods of direct optical resolution 4-57618
 circular waveguide irradiation system for nonhuman primates: design and dosimetry 4-58048
 COCONOSY. Combination of 2D correlated and 2D nuclear Overhauser enhancement spectroscopy in a single experiment 4-41665
 colorimetric estimation of protein by the Lowry technique using a liquid scintillation counter 4-21862
 compressible turbid physical and biological media, internal struct. imaging 4-52542
 conductometric cytometer, signal conversion cct. for recording with pulse height analyser 4-58050
 connective tissue, sheets, effects of reagents on mech. props., simple test method 4-31379
 corneal light-scattering characts. mapping instrument 4-12733
 cranial bone reson. selective suppression in ^{31}P NMR expt. on rat brain 4-41663
 crystalloid lattice image struct., anal. digital processing method 4-2041
 densitometer for quantitative autoradiography, brain research appl. 4-31383
 dielectric analysis of blood by means of a raster-electrode technique 4-47118
 differential sound velocity apparatus for the investigation of protein solutions 4-26563
 digital signal processing system for EEG frequency analysis 4-26554
 dipalmitoylphosphatidylcholine-water suspension, lipid bilayer phase transition, heat capacity meas. by AC calorimetry (*Japanese*) 4-57861
 DNA, recombinant, use of radioisotopes in research (*Japanese*) 4-52541
 DNA sequencer, microchemical robot 4-21870
 double sucrose gap technique, lobster giant axons appl. 4-21851
 dye laser, high-efficiency high-energy, for photobiological expts. 4-10317
 dynamometer for lower leg extension torque meas. during contractions of quadriceps femoris 4-31381
 electrical stimulation of cat cerebral cortex with Pt electrodes, electrode dissolution 4-41677
 electrochemical flow transducer, cerebrospinal fluid flow meas. 4-17040
 electron microscope tomography, transcription in three dims. 4-58060
 electron microscopy, conference, Johannesburg, SA (1983) 4-47760
 electron microscopy, single particle averaging, stat. significance of mol. projections 4-58058
 electron microscopy for biomembrane proteins struct. meas. by electron microscopic techniques 4-52271
 electron microscopy of fish muscle M-band, 3D reconstruction from tilted sections 4-41681
 electron microscopy of fish muscle M-band, 3D reconstruction from single oblique section 4-41682
 electron spectroscopic images, stereoscopic representation of complex overlapping elemental maps 4-41668
 electrophoresis, free-flow human X- and Y-bearing, sperm separation 4-52540
 electrophoretogram anal., successive subtraction of 2-D Gaussian intensity functions 4-41685
 ellipsometer, Isoscope, study of adsorbed proteins and biospecific binding reactions 4-47115
 EM dosimetry, computer-based scanning system 4-52549
 EM fields induced by Helmholtz aiding coils inside saline-filled boundaries 4-31374
 EM stimulator, pulsed, for bone growth studies 4-31387
 energy filtered imaging, in electron microscopy 4-21872
 epidermis cell thickness profile determination with refl. contrast microscope 4-41680
 epifluorescence microscopy system, scanning, improved resolution 4-53747
 epifluorescence microscopy system with pulsed nitrogen tunable dye laser source 4-53746
 erythrocyte ghosts, photoelectron microscopy obs., lectin binding sites imaging with colloidal Au markers 4-52307
 erythrocyte membranes, viscoelastic props. in HF elec. fields, meas. method 4-41467
 EXAFS 100 μs -resolved technique for studying protein dynamics 4-17039
 excitable membranes of nerve and muscle, threshold meas. 4-41678
 eye movement monitoring, image processing algorithms 4-21854
 eye saccade, microcomputer-based instrument for predicting final eye position halfway through 4-41658
 feedback controller for electro-mechanical stimulation devices, neuroscience appl. 4-41679
 fibre optic fluorescence sensor for algae fluorescence meas. 4-41660
 fibre optic lever hydrophones, press. and press. gradient 4-38594
 flexible suction electrodes, fabrication method, smooth muscle appl. 4-47112
 flow cytometric histograms, randomisation test 4-26555
 fluid electrode technique, in vitro, to record compound muscle action pot. and nerve evoked tension 4-21856
 fluorescence experimental techniques and some applications in modern biology 4-8167
 fluorescence microscopy direct evaluation in single renal epithelial cells using mitochondrial probe 4-17031

biological techniques and instruments continued

- fluorescence picosecond spectroscopy, probe of ultrafast energy transfers in photosynthetic systems 4-7949
 fluorescence spectroscopy, on-line computer capability, spectra of chlorophyll a, flavin 4-7935
 focused array hyperthermia applicator: theory and experiment 4-52535
 foetal medullary neuronal activity, technique for chronic extracellular recording 4-21859
 foods, precision and accuracy in viscometric meas. 4-41673
 force transducer system, sensitive, for single isolated vascular smooth muscle cells 4-47117
 freeze-fractured membrane area stereometric estimation 4-52538
 glycosides, cardiac, quantitative determ. in aglycone-sugar mixture by IR spectroscopy 4-52537
 haemolysis chamber, for photometric determ. of erythrocytes osmotic fragility 4-26560
 halogen production in cyclotron, for medical appl. 4-41626
 harlequin staining technique, estimation of γ -ray-induced proliferation delay in human lymphocytes 4-41589
 hepatic glycogen in living rabbit, natural-abundance ^{13}C NMR meas. 4-41664
 high density facial measurement, automated approach, image capturing and processing hardware 4-21858
 high energy ion microprobe anal., appl. to mineralogy, material science and biology 4-43133
 histological lung sections, inhaled particles spatial distrib. quantification, microcomputer based system 4-31389
 HVEM of semi-thick sections for exam. of cyanobacterial thylakoid membrane arrangements 4-41667
 hydraulic simulator, flexible, for cardiovascular studies 4-21866
 image-analytic cytometry slide analyser design 4-26548
 implantable electric-field probe of submillimeter dimensions 4-12736
 implantable integrated transducers for monitoring reactions of animals (*Swedish*) 4-26557
 in vivo light-induced absorbance changes, artifact in meas. 4-21861
 in vivo photoacoustic spectroscopy of skin optical absorption 4-41675
 in vivo temperature monitoring using a passive microwave transponder 4-47120
 intracellular water meas., electron microprobe calibration 4-36082
 intraoesophageal monitoring of ECG and respiration in anaesthetised animals 4-21867
 ion beam anal., conf., Tempe, AZ, USA (May 1983) 4-42579
 ion implantation for quantitative ion microscopy 4-12730
 IR oculometer, linear and accurate, for eye movements studies 4-3662
 knee extensors and flexors functional capacity meas. apparatus, research and clinical appls. 4-12739
 laser fluorescence spectroscopy of biomolecules 4-7936
 leaf surface wetness detector, use of β -ray gauge 4-31378
 lectins and antibodies, cell surface-associated, direct visualisation in freeze fracture electron microscopy 4-52548
 LEITZ MPV compact MT microscope photometer for automatic eval. on microtest trays 4-3667
 light microscopic visualisation of biological material in sections prepared for electron microscopy 4-8165
 light microscopy, sampling problems in heterogeneous organ, pancreatic islet volume quantitation 4-8163
 light microscopy, tandem scanning reflected, of internal features in whole bone and tooth samples 4-8161
 light microscopy scanning, high resolution, of cells, coordinate origin marking 4-17030
 light scattering and fluoresc., water permeability through biomembranes meas., isotopic effects 4-58052
 liquid absorption dynamics in tissue, meas. apparatus 4-3657
 liquid-phase chromatography, fluorometric detect. modern aspects 4-7778
 locomotion evaluation, human, state of technology 4-8028
 longitudinal relaxation times meas. using surface coils 4-37135
 luminescence, liquid scintillation counter appl. (*Chinese*) 4-31171
 mammalian cells, cultured, expt. system for investigation of effects of synchrotron radiation 4-41683
 mammalian tissues and organs imaging 4-31386
 mass spectrometric determination of local gas transfer at body surface 4-3656
 mass spectrometry techniques and applications 4-18003
 matrix drive, 19-channel, individually controllable fibre microelectrodes, neurophysiology appl. 4-47114
 metabolites, in vivo, absolute molar conc. by NMR in inhomogeneous B_1 4-31382
 metal-framed spectacles, effect on microwaves near the eyes, microwave antenna meas. method 4-12741
 metals and metalloids, trace and ultratrace determ. in biological materials by AAS, review 4-41293
 micro-PIXE, position-dependent trace element concentration, appl. to scalp hair 4-3440
 microcomputer system for single channel currents anal. 4-31385
 microelectrode advancement control, extracellular action pots. detect. 4-26373
 microelectrode amplifier for intracellular stimulation and recording 4-12738
 microelectrode positioner for electrophysiology in intact mammalian eyes 4-41676
 microorganisms rotation direction meas. using vibrating microscope stage and laser beam 4-41672
 microwave radiometry, detection of VX2 carcinoma in rabbits 4-21873
 myocardium, system for meas. of US effects on membrane elec. and mech. props. 4-21865
 moire contourgraphy applications to the human body 4-36264
 monoalveolar lung model, forced expiration, flow limitation expts. 4-12618
 multi-microelectrode and interface ccts. integration, neural systems organisation and function obs. 4-36261
 multineuron studies, laboratory design 4-47113
 multiwire proportional chambers appl. in biophysics and medicine 4-21852
 MWPCs, biomedical appl. for digital imaging of soft β^- emitters 4-21827
 myocardial extracellular space meas. using automatic electronic image analyser 4-21853
 neuroethological technique for selective recording and stimulation of individual identified neurons in freely behaving Aplysia 4-3668
 neuron, in vitro, combined light and electron microscopy method for visualisation by radioautography and serial sections 4-58055

biological techniques and instruments continued

- neuroscience microelectrode for delivery of defined charge densities 4-3663
 NMR, programmable gating unit for transient waveforms recorders 4-22814
 NMR probe circuit for improved sensitivity, for in vivo expts. 4-8160
 NMR spectra containing large solvent peaks, high fidelity extraction of weak broad lines 4-41661
 noncontact recording apparatus of eye viewing direction 4-47123
 nonlinear acoustics, biological materials, B/A meas. finite amplitude and thermodynamic methods 4-8157
 ophthalmocoagulator, Nd laser, for clinical and public health expts. 4-8063
 optical blood analyser with hydrodynamic focusing of fluid, flow-type cuvette design 4-58051
 optical fibre fluoroprobes, for biological meas. 4-58047
 optical image processing for optical props. determ. of cellular membranes 4-41451
 optical microscopy, boundary lengths rel. to resolution in specimens with nonideally fractal dimens., empirical formulation 4-37166
 optical microscopy, computer-enhanced image anal. 4-43049
 optical scanning microscope two-dimens. phase imaging, buccal epithelium cell images 4-37164
 overlapping waveforms having known temporal distrib., separation, Fourier technique 4-21864
 passive dosimeters for RF and microwave fields 4-58012
 pellicular materials, projection laser equipment for processing (*Russian*) 4-26558
 photoacoustic spectroscopy evaluation of stained and unstained electropherograms of proteins 4-36266
 photoacoustic spectroscopy for biological materials, depth profiling and photosynthesis 4-41674
 photoionic detection method for platelet aggregation study 4-26561
 photometer for time-resolved angular dependent meas. of triggered light scatt. changes for biological suspensions 4-21863
 physiological monitoring during NMR measurements of animals 4-8159
 plant laser-induced fluoresc., effects of nutrient deficiencies in corn 4-31372
 plant laser-induced fluoresc., remote detect. of plant stress and species differentiation 4-31371
 plant stems, time domain dielec. spectroscopy 4-36269
 plant water flow, noninvasive meas. by NMR 4-41656
 pneumotachograph with Pitot tube 4-3637
 poly-L-lysine alpha helix sidechains, electron microscopy visualisation 4-26360
 polynuclear aromatic compounds, exposure monitoring by room temp. phosphorescence 4-58054
 pressure injection of pl. vols. into *Limulus* ventral photoreceptors, quantitative method 4-26553
 presynaptic neurons, identification by laser photostimulation method 4-36268
 proteins, homonuclear ^1H NMR spectra, two dimens. 4-41443
 radioactive data spectrometer recording with a microprocessor-oriented device, automation 4-52534
 radioactivity measurement of insoluble or hardly soluble biological samples, comparison of burning methods (*Hungarian*) 4-52536
 radionuclides, impurity detection and testing, medical appls. 4-16979
 Raman spectroscopy of suspensions, cellular meas. appl. 4-47122
 respiratory inductance plethysmograph single-position calibration 4-17028
 respiratory mass spectrometer, correcting for dynamic response 4-17026
 respiratory meas. in humans, overview and new instrumentation 4-17025
 respiratory servo system, hydraulically operated for ventilation and lung function testing 4-17027
 respiring cells and vesicles, membrane potential, proton motive force and pH gradient meas. 4-26562
 rodent ultrasonic vocalisations, digital ultrasound recorder 4-36262
 roentgen stereophotogrammetric system: construction, calibration and technical accuracy 4-12685
 ruminal fluids analysis using ammonia electrode 4-26565
 scanning electron microscopy, cathodoluminescence use in biology 4-52543
 search coil and EOG techniques, comparison for long-term eye position meas. in alert monkey and cat 4-8171
 SEM, tissue internal structure visualisation 4-17037
 shielded microelectrode for single-electrode voltage clamping of CNS neurons 4-3664
 singular value decomposition for weak bioelectric signal extraction 4-26382
 solid state track detectors, sub-PPM amounts of B in solns. determ., monoclonal antibodies appl. 4-21502
 specimen preparation and study techniques using SEM 4-52545
 spectral analysis of arterial blood press. in rats during atrial fibrillation 4-16905
 spectrometer, correlation heterodyne, for dynamical studies of microscopic objects 4-8169
 spectrophotometer, wavelength programmable, for individual plant optical characs. meas. 4-12732
 spike processing at low cost, microcomputer based system 4-3661
 subnanosecond waveform analysis in the presence of fading by means of a random sampling technique [biomolecule application] 4-53666
 surface plasmon resonance for gas detection and biosensing 4-26238
 synthetic standard production for instrumental neutron-activation anal. 4-36233
 target device for regulating ventilation during voluntary hyperpnea 4-36265
 telemetry equipment for ECG and temp. meas. in lab. animals 4-47107
 temperature determ. of layered living tissues, by microwave radiometry method 4-21871
 thermoluminescence thermogram reconstruction, using FFT 4-58062
 three-dimensional images, computer reconstruction of serial sections 4-21855
 thyroid I_2 content by radioactive implant induced X-ray emission 4-52462
 tissue, complex permittivity meas., 2 to 18 GHz range 4-26559
 tissue, light element X-ray anal. using He microbeams 4-47109
 tissue, thermal cond. meas. technique 4-31377
 tissue sections, electron spectroscopic imaging and Z-contrast 4-52544
 topical NMR, vol. selective excitation for living systems 4-41666
 trace element analysis in biological samples by using HRF spectrometry with secondary radiation 4-8168

biological techniques and instruments continued

- transmission electron microscope, Philips EM410, dedicated to biology 4-53800
 TV method for cone pigment density difference spectra determ. in spatially resolved foveal regions 4-26564
 uniform DC electric field exposure systems for mice and cats 4-31373
 US, research tool for ocular accommodation study 4-12735
 US sensor system for tracking moving human body 4-44329
 vertebrate nerve terminals, optical recording of action pots. using potentiometric probes 4-7968
 virus detection by electron microscopy after direct ultracentrifuge specimen prep. 4-58059
 vision/touch coordination investigations, virtual object creation using mirrors 4-16876
 visual accommodation assessment by laser optometry, use of ready signal 4-17024
 voice fundamental frequency and intensity, computer system for automatic anal. 4-12711
 water-cryoprotector mixture, vitreous phase stability, internal friction meas. appl. 4-41449
 whole body autoradiography by positron emitting radionuclides, frozen rats expts. 4-36267
 whole-body autoradiography using ^{11}C with double-tracer applications 4-52463
 wire chamber conf., Vienna, Austria (February 1983) 4-17624
 X-ray diffraction, real-time monitoring method, hydrated lecithin main phase transition appl. 4-58053
 Zeeman AAS using inner miniature cup, direct determ. of powdered biological samples 4-3443
 ^{31}P NMR, high resolution spectra, detector for recording from surface of living objects 4-31375
 ^{31}P NMR spectroscopy of rat organs, in situ, using chronically implanted RF coils 4-52539
- biological transport** *see biotransport*
- biology**
see also biological fluid dynamics; biological techniques and instruments; biophysics; blood; cardiology; ecology; evolution (biological); medicine; physiology; zoology
 12th International Liege Colloquium on ocean hydrodynamics, Belgium (1980) 4-17643
 N Adriatic Sea, coastal region circulation, freshwater influx and eutrophication 4-21975
 Antarctic coastal clouds, biogenic nuclei 4-31616
 N Atlantic Ocean, faunal evidence for density-stratified waters in Late Pleistocene 4-36408
 Baltic Sea, oceanography, chemistry, hydrology, pollution and geology (book) 4-47797
 biogeography of Devonian period, implications for reconstruction of Palaeozoic Pangaea 4-31472
 biothermostasis involving S-cycle, atm. albedo var. and cooling via S-chem. 4-13016
 chlorophyll a concentrations in seawater, use of different optical spectral ranges 4-52755
 climate reconstruction from tree rings, methodology and preliminary results for England 4-13012
 conference on stratigraphic palynology at San Francisco, USA (October 1983) 4-36790
 extraterrestrial life, related biological topics, conf. at College Park, Maryland (November 1979) 4-13485
 lake acidification indicator, use of diatoms in sediments 4-41409
 Lake Maracaibo, cone-shaped hypolimnion and local reactor as outstanding eutrophication features 4-52761
 land snail shells, ^{18}O and ^{13}C anal. and palaeoclimate determ. (*French*) 4-52875
 late Miocene vegetation and climatic vars. results from pollen record in NW Wyoming 4-47402
 Mount St. Helens, fir leaves use as thermometers during May 18 1980 eruption 4-13085
 multicompartamental model for cell proliferation kinetics, model reference adaptive identification scheme 4-52301
 Norwegian Sea, Late Weichselian-Holocene circulation var., sediment biological and chem. anal. 4-47300
 nuclear war, long-term biological consequences 4-46912
 oscillations in math. biology, conf., Garden City, NY, USA (Apr. 1982) 4-17638
 phaeodarian Radiolaria, role in SiO_2 transport to deep sea 4-31526
 rhythms in biology and other fields of appl., Luminy, France (Sept. 1981) 4-17637
 saccadic eye movements, multipulse controller signals, dynamic overshoot 4-7974
 saccadic eye movements, multipulse controller signals, pulse width and saccade duration 4-7972
 saccadic eye movements, time optimisation of multipulse controller signals 4-7973
 spin glasses in optimization theory and biology 4-12525
 terrestrial life, evolution from space (book) 4-53372
 transmembranal potentials of a developing fish embryo, correlation functions (*Russian*) 4-26380
 vegetative cover, appl. to improvement of Landsat imagery interpretation 4-52962
- biology computing**
see also computerised instrumentation; computerised signal processing
 action potentials recognition, computerised discriminator 4-26556
 branched nerve equations computation 4-46985
 human postural dynamics, recursive free-body approach to computer simulation 4-41547
 microchemical robot for DNA sequence analysis 4-21870
 mini-action potentials counting, inexpensive microcomputer based system 4-47111
 neural circuit models, role in voluntary movement 4-41482
 neurophysiology, microcomputer system for single channel currents anal. 4-31385
 proteins, antigenic determinants, sequence position calcs. 4-21617
 voice fundamental frequency and intensity, computer system for automatic anal. 4-12711
 white blood cells motion characterisation and pseudopod kinetics, dynamical scene anal. appl. 4-7958
- biomagnetism**
 avian compass sense, role of geomag. field in development 4-16896
 bacterial polymer deposition on solid surfaces, mag. modulation 4-31275

biomagnetism continued

- blood cells, mag. filtration, vol. and surface mechanisms 4-57918
- book, mag. resonance in medicine and biology 4-47788
- cell separation by mag. filtration using rare earths as soluble paramag. agents 4-8158
- conference on phys. in medicine and biology, Trieste, Italy (Mar-April, 1982) 4-53355
- direction finding by means of magnetic particles in sinus region 4-57919
- fertilisation success of rainbow trout, *Salmo gairdneri*, mag.-field exposure effects 4-31272
- haemoproteins, high-spin, ferrous, paramag. effects in mag. circular dichroism spectra 4-31170
- interaction of mag. fields with biosystems (German) 4-16895
- Italian biomagnetism, recent progress 4-57920
- lecithin membranes, mag. anisotropy 4-57917
- liver, nonwater tissue components, proton mag. relax. after expt. thermal burn 4-41441
- lung, hamster, mag. particles behaviour, clearance and cytoplasmic motility 4-21636
- magnetic fluids, radiodiagnosis appl., contrast media 4-31322
- magnetocardiography, signal averaging method appl. (German) 4-58031
- magnetoencephalography—update and future hopes 4-52417
- methemoglobin, magnetisation from 2-0.01K 4-26465
- metmyoglobin, magnetisation from 2-0.01K 4-26465
- mice, mag. field induced temp. change 4-52280
- myocardium, effect of a LF mag. field on contractility 4-52380
- myoglobin haeme pocket, labile protons exchange rates, ¹H NMR study 4-21612
- neuromagnetic evidence of spatially distributed sources underlying epileptiform spikes in the human brain 4-47014
- oviposition and development of *Drosophila* modified by magnetic fields 4-31273
- pathological cerebral sources localisation with SQUID instrumentation and relative covariance method 4-26490
- plant water flow, noninvasive meas. by NMR 4-41656
- Saccharomyces cerevisiae, ion transport, ³⁹K, ²³Na and ³¹P NMR studies 4-7954
- subjective evaluations, alterations during acute exposures to 5 Hz but not 9 Hz mag. field devices 4-36157
- trypanosomiasis, mouse, static uniform mag. field exposure, lack of effect 4-26473
- wheat root cells, mag. relax., transmembrane exchange mechanism 4-41476

biomass conversion see *bioenergy conversion***biomechanics**see also *biological fluid dynamics; biorheology*

- accelerometer for human chest wall and small animal whole body vibrs. meas. 4-47119
- airway smooth muscle, canine, contractile force during cyclical length changes 4-16908
- AK prostheses, evaluation comparing conventional with adaptive knee control devices 4-31369
- alveolar wall, length-tension props. rel. to saline immersion, cat and rat obs. 4-3575
- amphibian gastrulation, contact guidance system, expt. manipulation by mech. tension 4-36154
- amputee gait, microcomputer-based system for temporal asymmetry meas. 4-31359
- ankle and talar joints complex, partial immobilisation, effect on ground-foot force characts. 4-52372
- ankle controls that produce a maximal vertical jump when other joints are locked 4-26468
- ankle dynamic stiffness, invariance during fatiguing muscle contractions 4-31254
- aorta, descending thoracic, pig, positional variations in fracture toughness, stiffness and strength 4-21720
- arterial wall, compressibility and constitutive eqn. in radial compression expts. 4-47024
- arteries, internal elastic lamina, use of ligament efficiency to model fenestrations, spatial geometry 4-12616
- articulating joints, human, dynamic modelling 4-8027
- biomedical engineering conference, Columbus, OH, USA (Sept. 1983) 4-47753
- bird's wings, performance as a vibrating system 4-52371
- bite force meas. method for primates 4-12737
- blink reflex, influence by tonic vibr. reflex, neurological deficit patients 4-16871
- blood vessels, laser irradi. effect on mech. props. after welding 4-47057
- blood vessels, stress field, effects of inertia and compressibility 4-12605
- bone, fracture, deform. rate effect 4-12619
- bone, microdeformation in tension, moisture content effect 4-52378
- bone, orthotropic materials, characterisation of microstruct. anisotropy using second rank tensor 4-51911
- bone, tubular, surface growth, load effect 4-12620
- bone, tubular, torsional waves propag. 4-8029
- bone fracture mechanics, longit. fracture: effects of density, specimen thickness and crack vel. 4-47023
- bone medium, exterior star-shaped crack 4-12604
- bone prosthesis, highly stable intramedullary osteosynthetic device, biomech. study 4-31368
- bones, surface remodeling, intramedullary nailing 4-31265
- bons, impact response meas. for in vivo condition assessment in humans 4-12613
- bovine femur, fractography and mechanical props. (Japanese) 4-8030
- cancellous bone, mech. characts. at upper femoral region 4-31253
- cancellous bone strength at the proximal human tibia 4-52374
- cardiac energetics, similarity principle 4-41540
- centre of gravity, estimation from force platform data 4-47026
- cerebral arteries, internal elastic lamina, use of ligament efficiency to model fenestrations, modelling scheme 4-12615
- chest wall vibrations in singers 4-12617
- clinical gait assessment: a personal view 4-31261
- connective tissue, extensible, fracture toughness meas. 4-21703
- connective tissue, sheets, effects of reagents on mech. props., simple test method 4-31379
- cross-bridge movements during a slow length change of active muscle 4-57823
- cross-sectional geometry and mass density distrib. of humans and lab. animals, ZZ, evaluation using CT 4-12610

biomechanics continued

- dental occlusal strain and stress anal. method using mech. birefringence 4-57977
- diaphragm, relationships among press., tension and shape 4-36151
- dynamic muscular activity: effects on cardiopulmonary functions, mech. and integrated bioelec. activity (German) 4-21724
- elastomers, for artificial cardiac ventricles, mech. props. 4-51800
- elbow flexors, static effort, effects of prior dynamic leg exercise. 4-16909
- femoral neck, human, fracture rel. to density of cancellous core 4-31263
- femoral shaft, human, mech. robustness distrib. 4-47025
- fish movement in aquarium, statistical study 4-26467
- foetal breathing movements quantification, tracking system for pulsed US images 4-16930
- foot deformity diagnosis, capacitive meas. of press. distrib. with high transducer density (German) 4-17009
- forearm density evaluation with axial tomography 4-21786
- forearm prosthesis, biomechanism analysis (Chinese) 4-47100
- forearm supination, mech. props. of single equiv. muscle 4-12609
- gait, distance and temporal factors meas., instrumented walkway system (Japanese) 4-31346
- gait, EMG of vastus medialis oblique and vasti in normal subjects 4-31202
- gait abnormalities, quantification by continuous foot force meas. (Japanese) 4-8133
- gait abnormalities quantification, correl. between quantitative indices and visual rating 4-21838
- glabrous skin, human hand, mech. impedance rel. to local vibrs. 4-57931
- ground reaction forces during human standing 4-16902
- hand surgery, reconstructive, computer aided planning, muscle, tendon and joint models 4-31271
- head-neck lumped parameter-model, 3D response due to impact and impulsive loading 4-57926
- heart, piston pump without valves, pipe capacity with T junction 4-10770
- heart control, systems and models 4-57819
- heart vibrations recording, problem of meas. on soft tissue 4-47095
- hip endoprostheses, stem design rel. to stress distrib. in femur cortex 4-31364
- human body, biodynamic response in sitting position under vertical vibration 4-3571
- human motion, computer simulation of 3-D motions in loading operations 4-47029
- hydraulic strengthening of bones 4-31243
- impedance measuring device using an impedance head 4-12717
- intervertebral disc, simple finite element model, mech. response under complex loading 4-57928
- intervertebral discs, human, compressive creep behaviour anal. using Kelvin-solid models 4-57929
- intervertebral joints, Rhesus monkey, compressive creep behavior anal. using Kelvin-solid models 4-57930
- intestinal protozoan parasite *Giardia lamblia*, attachment theory, adhesive force calcs. 4-21628
- isometric working muscles, local muscular endurance capacity, EMG studies 4-16898
- joint configurations and motions specification 4-57932
- joints, human, natural and artificial replacements, ferrography appl. to wear and arthritis 4-3654
- juxtaarticular stress changes due to localised subchondral stiffening, finite element studies 4-47022
- knee, dynamic ligamentous instability, electrogoniometric study 4-31360
- knee, total replacement, mech. strength of tibial resection surface 4-16901
- knee extensors and flexors functional capacity meas. apparatus, research and clinical appls. 4-12739
- leg coordination, walking crustaceans, load and leg amputation influence 4-41541
- leg in torsion, dynamic simulation, snow ski injuries appl. 4-47021
- leg motion modelling by physical pendulum (Russian) 4-8032
- locomotion control, mechanisms of feedback and feedforward 4-41545
- locomotion evaluation, human, state of technology 4-8028
- lower leg extension torque meas. during contractions of quadriceps femoris, dynamometer 4-31381
- lumbar spine, interbody fusion, load bearing capacity of vertebral cancellous bone 4-16903
- lumbosacral hinge, vibr. behaviour, nucleus pulposus ablation effects, baboon expts. 4-12606
- lung, elastic characteristics of perivascular interstitial space 4-3583
- lung regional pleural expansile forces, meas. in intact dogs by wick catheters 4-31248
- mammalian diaphragm muscles, length-tension relationship 4-3582
- mesogloea, sea anemone, fracture toughness meas. 4-21703
- metacarpophalangeal joints, mobility in dorso-volar plane meas. 4-52508
- mitosis, math. principles, rel. to interaction forces and vibr. freqs. 4-46955
- myocardium, system for meas. of US effects on membrane elec. and mech. props. 4-21865
- movement mechanics of land snakes 4-52370
- movement-related brain macropts, during skilled performances, developmental study 4-16855
- muscle, dynamic activity, correl. of bioelec. and mech. activity (German) 4-21649
- muscle, isometric contractions of fast and slow muscles in rats, rel. to length and temp. (German) 4-21725
- muscle, skinned striated fibres, planar deformation, expt. study 4-41557
- muscle contraction, mathematical aspects of cross-bridge mechanism 4-16917
- muscle contraction theory, isotonic contraction 4-47017
- muscle fibres, temp.-jump-activated, intrinsic shortening speed, varying osmotic press. effect 4-41539
- muscle model, human, digital computer simulation by iterative process 4-12608
- myocardium, energy balance and its correction with antiarrhythmics 4-52369
- myoelectric signal versus force relationship in different human muscles 4-3548
- myoelectrical activity in rhythmic ergometer exertion (German) 4-21650
- myology conference, Germany (Apr. 1982) (German) 4-17632
- neural circuit models, role in voluntary movement 4-41482
- ocular lens elastic anisotropy, rel. to an accommodation model for young humans 4-26393
- oculomotor system integrator, neural network 4-41504
- orthopaedic biomechanical research in Japan, present state 4-16904

biomechanics continued

- pathological gait, clinical assessment, data processing of vertical foot forces 4-12713
 pelvic ring fractures, unstable, comparative mech. performances of fixation devices, rigidity obs. 4-12725
 pendulum testing of spasticity, simple and inexpensive instrumentation 4-31361
 perturbation analysis, appl. to eye, head, and arm movement models 4-41550
 plant tissues grown in vitro, stress-induced alignment of division plane 4-41558
 pleural surface, regional surface expansile forces, estimation in intact dogs 4-16911
 postural dynamics, human, recursive free-body approach to computer simulation 4-41547
 psoas fibres, glycerinated, rabbit, compliance in rigor state 4-57925
 psoas fibres, glycerinated, rabbit, stiffness in the rigor state, filament-overlap relation 4-57924
 psoas muscle, rabbit, rigor state, X-ray diff., meridional reflections interpretation 4-12537
 pulmonary arteries from sensitised dogs, mech. props. 4-36144
 pulmonary veins, patency and compliance when airway press. exceeds blood press., cat expts. 4-3576
 retina, dark-adapted, squid, rapid mech. responses to light pulses 4-52333
 sarcomere length and tension changes in tetanised frog muscle fibres 4-21722
 semitendinosus muscle bundles, frog: stiffness, force and sarcomere shortening during a twitch 4-41538
 shoulder joint replacement, stress analysis at scapula (*German*) 4-17018
 silk threads from cocoons of *Bombyx mori* L., dynamic elastic moduli comparison 4-21683
 skeletal tissue electromechs. and elec. stimulation of growth and remodelling 4-41542
 skin, exposure to ^{241}Am , elastic degeneration, 1976 Hanford incident 4-16991
 skin, rat, fracture toughness meas. 4-21703
 skin and underlying tissues, mech. characts. in vivo rel. to soft tissue replacements 4-16897
 skin pressure measurements on various mattress surfaces in cancer patients 4-21825
 smooth muscle, canine trachea, max. shortening vel., zero load-clamp vs. afterloaded method 4-31250
 soft biological tissues, strain energy function, mech. characterisation 4-52373
 spastic knee joint dynamics 4-21721
 spinal muscle, rabbit, rigor tension in demembranised fibre bundles, pH depend., molecular mechanism 4-12601
 surface electromyogram (EMG)/muscle force: a muscle model based on EMG peaks 4-52313
 surface EMG/force relationships, linear and nonlinear, in human muscles 4-41478
 teeth, extracted, vital and endodontically treated, punch shear testing 4-12612
 three axis knee goniometer diagnostic test, on-line meas. and interpretation 4-3643
 three dimensional arm trajectories 4-21682
 tibial natural freq., direct and indirect determ., freq. domain anal. rel. to fast Fourier transform. 4-31357
 tibial trabecular bone, human, mech. props. rel. to metaphyseal location 4-31252
 upper limbs during human walking, function 4-16900
 upper limbs during human walking, sagittal movement 4-16899
 urinary bladder, elastic behaviour for large deforms. 4-21717
 US sensor system for tracking moving human body 4-44329
 vascular smooth muscle cells, single, isolated, sensitive force transducer system 4-47117
 vastus lateralis, human, force threshold of single motor units 4-31201
 vocal fold vibr. mech. and laryngeal articulatory gestures prod. by hearing-impaired subjects 4-57912
 walking, system for monitoring position and time of feet contact 4-31347
 walking coordination of insect, influence of loading parallel to body axis 4-21681
 wood, deformation behaviour (*Japanese*) 4-36153
 wood and wood-based materials, bending strength at low temp. (*Japanese*) 4-16915

biomedical applications of computers *see medical computing***biomedical electronics**

- see also electrocardiography; electroencephalography; microelectrodes; patient monitoring; patient treatment; prosthetics; sensory aids*
 abdominal tokography using Si tensometer (*Czech*) 4-58027
 amplifier of bioelectric potentials with RC-circuit, recovery time reduction 4-16999
 artificial heart, digital system for P-wave detection and synchronisation 4-21849
 audioprotheses, electronic techniques, review (*French*) 4-8146
 audioprotheses and acoustic information in profound deafness, conf., Besancon, France (March 1983) 4-4141
 auditory protheses, miniaturisation of electronic components (*French*) 4-8152
 blood flow meas. In microcirculation, intravenous injection effects obs. 4-3642
 cardiac pulse measuring portable electronic apparatus using ear tip optical transmission 4-31318
 cardiovascular monitoring, US sonomicrometry, microprocessor-controlled system 4-52416
 cochlear implant, multi-channel hearing prosthesis for profound-to-total hearing loss 4-47103
 design of biochips and biosensors (*Dutch*) 4-36244
 detector channel design for computerised tomograph 4-26506
 development trends, w.r.t. India's progress 4-8131
 diagnostic X-ray machines, electronic instrument for indirect determ. of peak kV 4-31330
 digital heart rate meter with wide range, instantaneous response 4-17007
 echogenicity index determ., simple electronic system 4-36192
 functional electrical stimulation technologies for handicapped people 4-52511
 gate arrays, electronics under skin, for diabetic patients (*German*) 4-52517

biomedical electronics continued

- hearing aid induction field wireless amplifier, IC microphone switch 4-52533
 heart-lung bypass machines, power and weight characts. of thermoregulating devices 4-3649
 historical survey of medical electronics in Italy 4-21840
 India, medical instrumentation developments, review 4-41637
 Indian medical electronics industry, economic forecast, demand trends and growth 4-8132
 IR biomedical diagnostic system, image processing and analysis 4-47059
 Italian Health Service, clinical engng. in Piemonte region 4-21842
 neural systems organisation and function obs., multi-microelectrode and interface ccts, integration 4-36261
 NMR, pulsed 1 KW HF amplifier, use 4-16939
 pathological cerebral sources localisation with SQUID instrumentation and relative covariance method 4-26490
 pupillometer with selfscanning photodiode array 4-26492
 radio activated implant for bladder control 4-31365
 radiotherapy, linear accelerator monitor unit totaliser 4-26533
 reaction timer for physiological and psychological meas. 4-17000
 semiconductor detectors for intracavity and interstitial ^{32}P diagnostics of cancer (*Russian*) 4-8078
 static charge sensitive transducer, artificial hand appl. 4-8142
 surface mounting components and hybrids, trends 4-36246
 sweep-frequency marker generator for blood pressure transducer testing 4-31354
 thermography developments 4-47098
 timing circuit, ls, for use with flow-vol. loops 4-21839
 US soft tissue 3D display system, computerised equipment using overlaid intensity-graded sectional images (*Japanese*) 4-36193
 use of robots to aid the severely disabled, limited appls. and practical realisations 4-52530
 wrist-worn sensory electrical substitution aid for the profoundly deaf 4-8143
 Si avalanche radiation detectors, in vivo probe for nuclear medicine 4-21780

biomedical engineering

- see also biomedical electronics; biomedical equipment; orthotics; patient treatment; prosthetics; sensory aids*
 British hospitals, impact of clinical engng., radiotherapy and nuclear medicine appl. 4-21841
 clinical engineering/health care mismatch: its effect on personnel management 4-47092
 comb filter design (*Chinese*) 4-31343
 conference, Columbus, OH, USA (Sept. 1983) 4-47753
 conference, Hamburg, Germany (Sept. 82) 4-10
 conference on close range photogrammetry precision and speed at York, England (September 1982) 4-36801
 education for Japanese engineering students 4-13495
 Germany, Federal Republic, results of a clinical engng. programme 4-47089
 India, medical instrumentation developments, review 4-41637
 Italian clinical engng., two local experiences 4-47091
 Italian Health Service, clinical engng. in Piemonte region 4-21842
 microwave thermography in biomedical engineering, present results and trends 4-16948
 nuclear techniques and equipment in medicine (*Italian*) 4-12682
 qualifications in clinical engng., international study 4-21843
 regional clinical engng. service, considerations in development 4-47090
 research priorities in medical engineering 4-52509
 review of biomedical engineering at the University of Technology Twente, Enschede, The Netherlands 4-17005
 teaching and research at Univ. of New South Wales, Kensington, Australia 4-17004
 US diagnosis and therapy, techniques and adverse effects (*Spanish*) 4-16934
 West German biomedical engng., review 4-31351

biomedical equipment

- see also biomedical electronics; biomedical measurement; orthotics; prosthetics; radiography; radioisotope scanning and imaging; sensory aids*
 accelerometer for human chest wall and small animal whole body vibrs. meas. 4-47119
 acoustic transducer array for medical imaging 4-12653
 alarm systems for the profoundly deaf, technical aspects (*French*) 4-8138
 ambulatory blood pressure recorder 4-31358
 amputee gait, microcomputer-based system for temporal asymmetry meas. 4-31359
 Anger camera, count rate variations with detector orientation 4-21785
 anthropomorphic phantom for evaluation of radioisotope bone imaging of the lumbar spine 4-12687
 Arrhythmia monitor, appl. (*Dutch*) 4-16998
 arrhythmia monitor, portable, microcomputer-based: design, implementation and evaluation 4-47093
 arterial pressure noninvasive recording, use of Mingograf 82 4-36247
 automatic coordinate detector based on MWPC 4-21774
 ballistocardiograph, based on gyro force measuring transducer 4-52520
 barometric plethysmograph: advantages and limitations in recording infant respiration 4-36249
 BBC radiotherapy systems: modular, system-oriented, comprehensive, including diagnostic system 4-36215
 biomechanical impedance measuring device using an impedance head 4-12717
 blood pressure measurement systems with external transducer, freq. response 4-21829
 blood pump development for artificial heart with polarized EM drive system 4-3655
 breast radiography: phantom, equipment performance and radiation dosage comparisons 4-21805
 breath sounds spectral anal., accurate recording system 4-21754
 breath-to-breath occlusion pressure and ventilatory parameters, automatic monitoring system 4-31355
 capillary tube viscometer for plasma viscosity meas. (*German*) 4-21844
 cardiac pulse measuring portable electronic apparatus using ear tip optical transmission 4-31318
 catheter-tip micromanometer utilising a single polarisation fibre and He-Ne laser (*Japanese*) 4-31313
 chest radiography, scanning system with regional exposure control, theoretical considerations 4-8089

biomedical equipment continued

chest radiography, scanning system with regional exposure control, practical implementation 4-8090
 colorimeter, low-cost instrument 4-47056
 conductometric cytometer, signal conversion cct. for recording with pulse height analyser 4-58050
 CT, single photon emission imaging, Super-Jumbo Digital Gammacamera, features 4-36234
 CT, transverse sections imaging using an X-ray image intensifier and a TV camera 4-52458
 CT scanner, spatial resolution evaluation by direct anal. of edge response function 4-8084
 cytofluorometry, multi-beam and single-beam, automated screening system for gynecologic cytology 4-21767
 decay product collection and counting apparatus for exhaled Th determ., calibration 4-3633
 decubitus radiography, compensation filtration during double-contrast Ba enema exams. 4-31334
 diagnostic US, acoustically coupled calibrator 4-12663
 diagnostic X-ray equipment, postal TLD quality assurance programme 4-52478
 diagnostic X-ray machines, electronic instrument for indirect determ. of peak kV 4-31330
 digital angiography: the apparatus, technique, and applications 4-31327
 digital intravenous angiography system 4-36219
 digital radiography in cardiac imaging, review of systems 4-12704
 digital subtraction angiography, improved system, clinical experience 4-36220
 Doppler technology physical principles, application to haemodynamics study (German) 4-41593
 dual diode transducer for laser Doppler skin blood velocimeter 4-31314
 Dynaray 18 linear accelerator, operating characts. 4-21808
 Dynaray-CH linear accelerator for BBC radiotherapy system 4-36216
 ear canal electrode for electrocochleography 4-58026
 echocardiographic imaging, physician's view 4-12652
 electric stimulation apparatus, STIMUL-1, medical therapy, muscle (Bulgarian) 4-52523
 electrocardiographs, comparative evaluation, hospital trials 4-31349
 electrochemical flow transducer, cerebrospinal fluid flow meas. 4-17040
 electroconvulsive therapy devices, output meas. 4-31362
 electrode, miniature, for surface electromyography during speech 4-17012
 electromyographic neuromuscular block monitor, noninvasive technique 4-52515
 electron beam therapy, simulation applicators 4-26518
 electrosurgical currents measurement, miniature probe 4-3644
 electrosurgical dispersive electrodes, use for ventricular defibrillation 4-52526
 EM flowmeter with six point electrodes 4-24487
 EM stimulator, pulsed, for bone growth studies 4-31387
 emission CT using a rotating slant-hole collimator and a portable camera, performance obs. (Japanese) 4-41622
 endoscope cameras, automatic focusing system 4-26493
 endoscopes, fibre optics use 4-5715
 endothelium biomicroscopy using modified model 211 Photoslitlamp 4-26494
 epicardial coronary arterial diameter meas., improved US method, piezoelec. device (German) 4-47048
 epidural intracranial press. monitoring system 4-3638
 exposure meter for tomography and Rentgen-50-2 diagnostic suite 4-57992
 fibre optic bundles with ground ends for endoscope use 4-16937
 fibre optic clinical headlamp, surgery appl. 4-8065
 fibre optic lever hydrophones, press. and press. gradient 4-38594
 fibre optic sensor, diaphragm refl. press. transducer, in vivo medical appls. 4-38591
 fibre optics appl. in medicine 4-57989
 fibre optics appl. in medicine 4-57990
 Fluoro Diagnost 120 installation with 14" image intensifier and 105 mm roll-film camera 4-36221
 fluoroscopy systems, air kerma rate rel. to threshold contrast 4-8104
 focused array hyperthermia applicator: theory and experiment 4-52535
 focused array hyperthermia applicator 4-12678
 force transducers for the evaluation of labial, lingual, and mandibular motor impairments 4-52512
 gait, distance and temporal factors meas., instrumented walkway system (Japanese) 4-31346
 gamma camera, orthogonal hole transmission pattern use for qualitative QC (French) 4-16977
 gamma camera performance standards, testing for overall and local overloading (Hungarian) 4-52466
 gamma therapy apparatus, multipurpose intracavity, transporter choice 4-57993
 haemolysis chamber, for photometric determ. of erythrocytes osmotic fragility 4-26560
 historical survey of medical electronics in Italy 4-21840
 hospital physics, reviews on various topics over 40 years, conf., Newcastle upon Tyne, England (Sept., 1983) 4-42589
 HP 77020A ultrasonic imaging system, quantitative anal. 4-12651
 HP 77020A ultrasound imaging system, acoustic transducer array 4-12654
 HP 77020A ultrasound imaging system, scan conversion algorithm for displaying ultrasound images 4-12656
 HP 77020A ultrasound imaging system 4-12650
 hyperthermia, low-profile applicators for local heating of tissues 4-52436
 hyperthermia, regional, annular phased array EM radiating device 4-52441
 hyperthermia, regional, with an annular phased array for cancer treatment 4-52442
 hyperthermia system using a new type of inductive applicator 4-52435
 hyperthermic treatment of malignant brain tumors, interstitial microwave antenna array 4-52437
 IC electroanaesthesia equipment for veterinary surgery 4-8139
 impedance cardiograph, high-sensitivity, high-linearity, low-leak, self-balanced 4-3641
 India, medical instrumentation developments, review 4-41637
 Indian medical electronics industry, economic forecast, demand trends and growth 4-8132
 intraeye volume hologram recording technique characts. 4-36200
 intravenous infusion systems, flow characterisation 4-41546

biomedical equipment continued

ion-selective electrode system, AM 721, for Na and K estimation in plasma, urine and whole blood 4-47096
 iontophoresis unit, for hyperhidrosis treatment 4-21846
 Isomatrix X-ray therapy machine; exposure rate calcs. 4-3612
 Italian Health Service, clinical engng. in Piemonte region 4-21842
 knee extensors and flexors functional capacity meas. apparatus, research and clinical appls. 4-12739
 laser microbubble detector for use in surgery (Japanese) 4-41606
 laser operating microscope for ophthalmological appls. 4-8062
 LEITZ MPV compact MT microscope photometer for automatic eval. on microtest trays 4-3667
 local microwave hyperthermia; irradiators, generation equipment 4-52452
 magnetic array adjustment, numerical method 4-31312
 magnetometer, 4-channel, chest and abdomen dia. changes meas. appl. 4-21760
 mailed TL dosimeters for monitoring the output from diagnostic X-ray equipment 4-41635
 Mediagnostic image processor operated with CT equipment 4-21794
 medical techniques through the ages: from ritual to digital (Swedish) 4-17006
 Medisor CT 0100/0150 parameters 4-21795
 microcomputer-controlled devices for human implantation 4-17016
 microwave applicator microstrip line laid on muscle, dispersion characts. and energy config. 4-31319
 microwave coagulating scalpel, design and performance 4-41604
 microwave hyperthermia applicators, focused, freq. optimization 4-52450
 microwave local hyperthermia, multielement microstrip antenna 4-16947
 microwave radiometer, design and operation, temp. and emissivity meas., biomedical appl. (German) 4-16943
 microwave radiometer design for use as noninvasive thermometer, subcutaneous tissue temp. meas. appl. 4-41610
 microwave radiometric thermal patterns in thermographic breast profiling with 4.7 GHz radiometer 4-16949
 microwave radiotherapy for brain cancer treatment 4-16946
 micrometer, fully automatic, microcomputer-based approach to automation of flow rate meas. 4-12716
 moving tissue-equivalent phantom for US real-time scanning and Doppler techniques 4-12664
 multiplane tomographic imager, phys. props. assessment 4-8101
 multitransducer US system for localised hyperthermia of deep tissues 4-52409
 multiwire proportional chamber, gaseous detectors in biomedical research 4-58001
 multiwire proportional chamber, high spatial resolution, for medical imaging with positron emitters 4-58002
 multiwire proportional chambers appl. in biophysics and medicine 4-21852
 MWPC based systems development for imaging X-rays, γ -rays and charged particles 4-18857
 MWPCs, biomedical appl. for digital imaging of soft β^- emitters 4-21827
 newborn management, phys. appl. devices and monitoring techniques 4-58038
 Nidek Autorefractor, clinical evaluation 4-57975
 NMR imaging, magnet characts. 4-52447
 NMR imaging instrumentation, overview 4-36206
 noncontact recording apparatus of eye viewing direction 4-47123
 nuclear diagnostics, two-channel energy selective counter (Hungarian) 4-47064
 nuclear heart function meas. device, arrhythmic error eliminator (Chinese) 4-26500
 oculometer employing a standard television camera 4-36204
 odontological CO₂ laser 4-49393
 ophthalmic microwave applicator, 5.8 GHz, choroidal melanoma treatment appl. 4-16945
 ophthalmococulator, Nd laser, for clinical and public health expts. 4-8063
 ophthalmological device design principles for testing operator activity 4-58028
 optical thermometry system, multiple sensor, for clinical hyperthermia appl. 4-52444
 optometer, white-light speckle, for eye accommodation studies 4-52433
 patient beam positioning system for treatment planning using CT images (Japanese) 4-8067
 PC-384 positron camera system for emission tomography of the brain, performance study 4-36213
 pendulum testing of spasticity, simple and inexpensive instrumentation 4-31361
 percutaneous transluminal coronary angioplasty, dedicated radiographic system 4-36223
 phantom designs for radiation dosimetry, CT appls. 4-26531
 photon-detectors in laboratory medicine 4-31317
 pneumotachograph with Pitot tube 4-3637
 polymers, piezoelectric and pyroelectric, biomedical transducer appls. 4-36248
 positron tomograph, high-resolution, circular ring, dichotomic sampling: Dichotom-1 4-8100
 probe earmold system for measuring eardrum SPL under hearing-aid conditions 4-52412
 proton beam line with energy degrader for proton radiotherapy and diagnosis 4-26503
 pulmonary nodules, standard phantom for quantitative CT anal. 4-31332
 radiographic alignment model for testing coincidence of X-ray and light beams 4-41621
 radiographic screen-film receptors, recent advances, clinical considerations. 4-31324
 radiographic screen-film receptors, recent advances, technical aspects 4-31323
 radiography, high-speed, single-screen/single-emulsion film systems: imaging props. and clinical appls. 4-21804
 radiometric systems, computerised, for diagnostic appls. 4-57981
 radiotherapeutic unit, dose field deform. during opening and closing of valve (Russian) 4-47070
 radiotherapy, accelerator design rel. to position for effective electron source 4-8093
 reaction timer, electronic, for physiological and psychological meas. 4-17000
 review of medical instrumentation over 40 years 4-42677
 RF helical coil applicators which prod. transversely uniform axially distrib. heating in phantoms 4-52440

biomedical equipment continued

- RF hyperthermia, hybrid system, field focusing and focal heating patterns 4-31309
- RF inductive diathermy applicators, heating effectiveness and safety study 4-21770
- RF phantoms, low freq., design criteria for clinical NMR imaging and tumour hyperthermia 4-36208
- roentgen stereophotogrammetric system: construction, calibration and technical accuracy 4-12685
- rotational kymography device, cine left ventriculograms automated anal. 4-36232
- scanning focimeter to meas. ophthalmic lens peripheral power 4-12673
- separator to generate 0.5 μ m ap. particles for lung radioisotopic imaging 4-47069
- skin cooling pillows for RF hyperthermia, power loss 4-47053
- skin surface electrodes, individual, impedance meas. technique 4-12715
- stereoscopic X-ray image display system based on binocular parallax principle 4-8083
- suction electrode net for precordial ECG mapping 4-31348
- superconducting magnet use, NMR medical imaging 4-52446
- superconducting magnets in neutron therapy applications 4-52469
- superconducting magnets in NMR systems, merits 4-36199
- telemetry monitoring systems, review 4-31350
- Thera-20 linear accelerator, dose output variation with atm. press. and ambient temp. 4-8121
- tissue compensator fabrication using a simple photographic technique, radiotherapy appl. 4-8077
- transcatheter electrocoagulation instrument, expt. evaluation in pigs 4-12721
- TV-based imaging fundus reflectometer, human rhodopsin meas. appl. 4-52453
- US biometric instrument, precision thickness gauging using digitised RF waveforms 4-52413
- US breast scanners, commercial vs. lat. instruments, performance comparison 4-3601
- US diagnostic equipment using transducer with acoustic lens for small angle magnification 4-26488
- US hyperthermia fields, linear thermocouple arrays for in vivo obs. 4-47047
- US instruments, grey scale evaluation using a test object 4-21758
- US soft tissue 3D display system, computerised equipment using overlaid intensity-graded sectional images (*Japanese*) 4-36193
- US surgical instruments, for cutting, joining and surface treatment (*German*) 4-47052
- US surgical knives, expt. study 4-26489
- US system for local hyperthermia using scanned focused transducers 4-52408
- US therapy units testing, simple field strength meter 4-52407
- US transducer with two impedance matching layer appl. for US medical diagnostics 4-24327
- voice fundamental frequency and intensity, computer system for automatic anal. 4-12711
- walking, system for monitoring position and time of feet contact 4-31347
- waveguide applicator with convergent lens for localized microwave hyperthermia (*Japanese*) 4-3527
- wick and slit-tip catheters, freq. response models 4-52514
- wire chamber conf., Vienna, Austria (February 1983) 4-17624
- wire chambers appl. and state-of-the-art 4-18856
- X-ray equipment, calibration technique for health risk reduction (*Swedish*) 4-8081
- X-ray equipment intelligent control by microprocessor system 4-21793
- X-ray generators, medium freq., up to 30 kV output 4-21790
- X-ray generators, medium-freq., medical and technical aspects 4-21788
- X-ray generators, medium-freq., up to 100 kW output 4-21791
- X-ray image intensifier for surgery 4-21789
- X-ray screens, X-ray energy absorpt. and quantum noise props., Monte Carlo simulation 4-41619
- X-ray tomograph, using analogue integrator-charge storage cct. 4-26505
- X-ray TV chain of high line number 4-21792
- CsI X-ray image intensifiers, absorpt. and noise 4-26508
- Fe-free betatron prototype medical unit 4-58036
- Nb and alloys, development history, prod. and applics., ASTM standards 4-51573
- Ta and alloys, development history, prod. and applics., ASTM standards 4-51573

biomedical measurement

see also *biological techniques and instruments; biomedical equipment; electrocardiography; electroencephalography; radiography; X-ray apparatus*

- abdominal tokography using Si tensometer (*Czech*) 4-58027
- accelerometric measure as a physical correlate of perceived hypernasality in speech 4-12712
- amputee gait, microcomputer-based system for temporal asymmetry meas. 4-31359
- arterial blood press. level, correl. to press. pulse waveform amplitude 4-31356
- auditory evoked response, digital processing (*Japanese*) 4-8059
- axon discontinuity, detection using collision shifting method 4-12720
- binocular balance validity, comparison of 5 common subjective techniques 4-57891
- biomechanical impedance measuring device using an impedance head 4-12717
- blood circulatory system, indicator-dilution process reproduction device 4-58049
- blood density meas., significance in blood rheology 4-21826
- blood flow determination using recursive processing, digital radiographic method 4-8105
- blood flow meas. In microcirculation, intravenous injection effects obs. 4-3642
- blood pressure, arterial and pulmonary, computerised anal. of radiotelemetrically transmitted data (*German*) 4-47087
- blood pressure, direct meas.: risks, technical evolution and problems, review 4-21835
- blood pressure measurement systems with external transducer, freq. response 4-21829
- bone elemental analysis by nuclear physics methods 4-12740
- cardiologic examinations, contactless measuring method (*Hungarian*) 4-47097
- cerebral blood flow meas. using ^{133}Xe , hemisphere cross talk and signal overlapping 4-52461

biomedical measurement continued

- channel flow, static pressure measurement, pitot tube appl. 4-8136
- chest and abdomen dia. changes meas., 4-channel magnetometer 4-21760
- clearance and dilution curves, error estimation in digital represent. 4-3608
- complex coded aperture imaging, system features 4-41641
- conductometric cytometer, signal conversion cct. for recording with pulse height analyser 4-58050
- conference on close range photogrammetry precision and speed at York, England (September 1982) 4-36801
- corneal structure, research 4-16942
- coronary blood flow meas. using double fibre optic system and dye dilution tracings (*German*) 4-16936
- dental occlusal strain and stress anal. method using mech. birefringence 4-57977
- digital radiography, medical appl., recent development 4-21845
- Doppler radar for medical science (*Dutch*) 4-36245
- earmould modifications for wide-bandwidth, flat response hearing aid coupling systems for use in audiological measurements 4-41533
- epicardial coronary arterial diameter meas., improved US method, piezoelec. device (*German*) 4-47048
- eye accommodation studies using white-light speckle optometer 4-52433
- facial swelling, post-operative, assessment by analytical photogrammetry 4-21762
- feet nerves, normal sensory cond., new method using strip electrodes 4-17002
- FMR sensor for remote wireless temp. meas. in organic tissue 4-12719
- fundus of human eye, stereophotogrammetric meas. (*German*) 4-36196
- gait, distance and temporal factors meas., instrumented walkway system (*Japanese*) 4-31346
- gait abnormalities, quantification by continuous foot force meas. (*Japanese*) 4-8133
- gait abnormalities quantification, correl. between quantitative indices and visual rating 4-21838
- gallstones, minor and trace elements anal. by induction of charact. ionising radiation 4-47066
- gamma-ray scattering, biological material characterisation appl. 4-21800
- gas flow, direct accurate meas. in the patient, unavoidable error compensation 4-3640
- glomerular filtration rate, meas. by fluoresc. excitation (*Hungarian*) 4-52468
- heart, programmed electrical stimulation: how, when and where in tachycardia evaluation, review 4-3639
- heart vibrations recording, problem of meas. on soft tissue 4-47095
- holographic images use in medicine 4-8064
- image anal., detection of tumour cells in urine 4-41642
- image processing, medical appls. 4-57976
- impedance plethysmography, 4-electrode, errors 4-12714
- impedance plethysmography, electrode impedance changes, negligible errors 4-31352
- impedance variations at microwave freqs., interferometer systems for monitoring 4-16941
- kidney cortex Cd, human, polarised X-rays for improved in vivo detectability using XFA 4-8098
- knee, dynamic ligamentous instability, electrogoniometric study 4-31360
- laser microbubble detector for use in surgery (*Japanese*) 4-41606
- left ventricular volume determined from scintigraphy and digital angiography by a semi-automated geometric method 4-31333
- LEITZ MPV compact MT microscope photometer for automatic eval. on microtest trays 4-3667
- level difference thresholds meas., rel. to early detect. of acoustic neuroma (*German, English*) 4-41534
- limb blood flow measurement, radioisotope plethysmography technique (*Japanese*) 4-31321
- lung, regional blood flow, meas. by videodensitometry 4-3606
- magnetocardiology, signal averaging method appl. (*German*) 4-58031
- magnetoencephalography-update and future hopes 4-52417
- measurement of skin blood flow, methods 4-52516
- metacarpophalangeal joints, mobility in dorso-volar plane meas. 4-52508
- microvascular volume of tissue samples, determ. method using X-ray fluoresc. anal. 4-57994
- microwave active imaging for remote thermal sensing 4-12675
- microwave applications in medicine (*German*) 4-8070
- microwave field meas. near eyes in models of humans 4-47058
- microwave radiometer, design and operation, temp. and emissivity meas., biomedical appl. (*German*) 4-16943
- microwave thermography, radiometer input circuit requirements 4-26491
- NMR tomograph installation at Uppsala University Hospital, principles and applications (*Swedish*) 4-16940
- optical blood analyser with hydrodynamic focusing of fluid, flow-type cuvette design 4-58051
- optical information processing, conf. Cuernavaca City, Mexico (Jan. 1982) 4-53340
- orthopaedic surgery, sound signals processing 4-38669
- pathological gait, clinical assessment, data processing of vertical foot forces 4-12713
- photoluminescent thermometry for microwave hyperthermia 4-12680
- posterior interosseous nerve, cond. vel. across arcade of Frohe, meas. method 4-17003
- probe earmold system for measuring eardrum SPL under hearing-aid conditions 4-52412
- pulse wave velocity in human peripheral arteries, noninvasive evaluation, diagnostic appl. 4-58030
- pupillometer with selfscanning photodiode array 4-26492
- radioimmunoassay, phys. of 4-58007
- radioisotope nonimaging techniques, 40 years of development 4-42679
- respiratory impedance, determ. by forced oscill. technique, systematic and random errors 4-21830
- respiratory impedance calc. from forced sinusoidal oscillations during breathing 4-21828
- respiratory mechanical parameters estimation in a 5-element model, rapidly converging algorithm 4-21833
- rhodopsin, human, meas. using a TV-based imaging fundus reflectometer 4-52453
- signal processing, objectives and approaches 4-41499
- skeletal blood flow measured with ^{18}F in patients with osteomalacia and hyperparathyroidism 4-3609
- skin pressure measurements on various mattress surfaces in cancer patients 4-21825
- skin surface electrodes, individual, impedance meas. technique 4-12715

biomedical measurement continued

- somato-sensory evoked pots. of multiple origin, 1-channel recording 4-31344
- spirometric data, dynamic BTPS correction factors 4-21834
- stenoses, presymptomatic, detect. with Doppler US, minipig expts. (*German*) 4-47049
- strain gauge venous occlusion plethysmography 4-26544
- strain-gauge plethysmography in post-ischemic flow meas., crit. considerations 4-58023
- subcutaneous tissue temp. meas., microwave radiometer design for use as noninvasive thermometer 4-41610
- temperature determ. of layered living tissues, by microwave radiometry method 4-21871
- therapeutic US fields, instrument for temporal characts. meas. 4-52411
- thermography developments 4-47098
- tibial natural freq., direct and indirect determ., freq. domain anal. rel. to fast Fourier transform, 4-31357
- tissue, complete temp. fields inference from a few meas. 4-52510
- tissue characterisation by photon scatt., effect of momentum transfer on method sensitivity 4-41618
- tissue characterisation via coherent-to-Compton scattering ratio, sensitivity considerations 4-8086
- toric soft contact lenses, reliability of power meas. 4-8141
- UHF measurements in functional-state diagnosis for human skin 4-16938
- US attenuation in tissues, parametric meas., validity of linear approx. 4-12661
- venous occlusion plethysmography meas. interpretation using a simple model 4-21836
- vocal tract, multiple points movements tracking, EM fields appl. (*German*) 4-21759
- X-ray image processing, software system AISCR-V3 for automated screening of chest photofluorograms (*Japanese*) 4-41624
- CdTe(CI), detector geometric characteristics for clinical meas. 4-54558

biomedical NMR

- artifacts and hazards due to metal implants and cardiac pacemakers 4-52432
- blood, NMR and ESR studies 4-12677
- book, mag. resonance in medicine and biology 4-47788
- brain tumours, mag. resonance imaging T1 meas. 4-36202
- cardiology appls. 4-12679
- cerebral abnormalities diagnosis, use of T1 of T2 mag. resonance images 4-36201
- clinical applications of NMR imaging 4-57987
- clinical diagnostic technique, nuclear magnetic resonance imaging 4-52428
- combined COSY-NOESY experiment 4-53720
- computerised medical imaging, comparison of NMR and tomographic techniques 4-57980
- conference on phys. in medicine and biology, Trieste, Italy (Mar.-April, 1982) 4-53355
- conference on radiology, Bordeaux, France (Sept. 1983) 4-8645
- contrast manipulation in NMR imaging 4-52424
- coronal NMR, abdominal imaging at 0.5 T 4-36194
- echo-planar imaging, piglet obs. 4-21763
- experience with NMR imaging 4-36197
- exposure limits for NMR imaging, revised guidance 4-21764
- eye, NMR imaging of the vitreous body 4-52451
- foetal imaging by NMR, goat study 4-8075
- fundamentals of NMR imaging 4-52430
- gastrointestinal tract, NMR contrast enhancement using nontoxic oral Fe solns., rat and human study 4-8072
- heart, ECG-triggered NMR imaging 4-52431
- high-resolution mag. resonance imaging, technical concepts and their implementation 4-36203
- human body chemical phenomenon anal. (*Italian*) 4-52427
- humans, image production and chemical reaction study in organs 4-52445
- hyperthermia, NMR imaging appls.: temp. monitoring and localised tissue heating 4-52443
- image contrast, dependence on intrinsic and pulse sequence timing parameters 4-52422
- image restoration from nonuniform mag. field influence in direct Fourier NMR imaging 4-31315
- imaging: different approaches and perspectives 4-57988
- imaging, magnet characts. 4-52447
- imaging, possible exploitation of NMR relax. 4-57985
- imaging and instrumentation, review 4-17011
- imaging by nuclear magnetic resonance, review 4-26496
- imaging sequences, general approach to T₁, T₂ and spin-density discrimination sensitivities 4-52423
- in vivo proton chemical shift NMR imaging 4-8076
- instrumentation for NMR imaging, overview 4-36206
- intermediate size imaging system development 4-52519
- intermediate size NMR imaging, rat expts. 4-36207
- inversion recovery technique, effect of changing delay time on image 4-36198
- k-trajectory formulation of NMR imaging process, anal. and synthesis of imaging methods appl. 4-8068
- leg tumours, NMR imaging 4-8073
- magnetic array adjustment, numerical method 4-31312
- muscle, dystrophic and normal, enhanced T₁ differentiation, chick expts. 4-52425
- NMR tomograph installation at Uppsala University Hospital, principles and applications (*Swedish*) 4-16940
- orthopaedic radiology, NMR imaging, preliminary experience 4-52426
- physiological aspects of NMR imaging of protons 4-57986
- PMR tomography, principles and appls. 4-41609
- principles of NMR for medical appl. 4-36205
- pulsed HF amplifier for use with medical NMR 4-16939
- rapid data-acquisition technique for NMR imaging by the projection-reconstruction method 4-37134
- real time movie images, rabbit heart expts. 4-57984
- review, unified description of imaging, data-collection strategies and reconstruction 4-41607
- review of proton NMR, the new form of diagnostic imaging 4-57983
- RF phantoms, low freq., design criteria for clinical NMR imaging and tumour hyperthermia 4-36208
- scanner using NMR, clinical appls. 4-52448
- stroke, NMR evaluation 4-8074
- superconducting magnet use, NMR medical imaging 4-52446

biomedical NMR continued

- superconducting magnets in NMR systems, merits 4-36199
- surface-coil expts., props. 4-57978
- T₂ images prod. method 4-8069
- transition metal-chelate complexes as relax. modifiers in NMR imaging 4-41608
- whole body imaging, appl. to study of eddy currents in human tissues 4-36209
- ³H-NMR spectroscopy/computer assisted metabolism prediction coupling, in-vivo studies 4-16944
- ³¹P NMR spectroscopy, clinical appls. 4-52429

biomedical phenomena

see also *biomagnetism*

No entries

biomedical ultrasonics

- abdomen blood flow vol. rate, US Doppler meas. 4-57972
- acoustic attenuation from reflected ultrasound signals, spectral-shift and spectral-difference approaches 4-55286
- acoustic shock generation by ultrasonic imaging equipment 4-47046
- analytical techniques of tissue characterisation and image anal. 4-57974
- aortic flow, foetal and maternal, Doppler-velocimetry and US multiple array obs. 4-31304
- attenuation imaging, aperture diff. theory, computerised tomography 4-8058
- autoregressive time series, use in modelling of Doppler signals for diagnostic purposes 4-21752
- B-scan images, speckle, computer simulations 4-41600
- bibliography 4-8669
- bibliography 4-36846
- bibliography 4-36847
- bibliography from 1.1.71 4-27270
- biometric instrument, precision thickness gauging using digitised RF waveforms 4-52413
- blood flow measurement indices using Doppler US, computerised evaluation 4-31307
- blood suspensions, acoustic backscattering cross-sections meas. (*Japanese*) 4-31302
- blood velocity meas., software analysis of 20 MHz pulsed Doppler quadrature data 4-31306
- breast scanners, commercial vs. lat. instruments, performance comparison 4-3601
- calibrator, acoustically coupled, for diagnostic US 4-12663
- cardiac imaging in real-time, review 4-12668
- cardiological imaging techniques 4-12667
- cardiovascular monitoring, US sonomicrometry, microprocessor-controlled system 4-52416
- carotid Doppler spectral broadening, in vitro model 4-12660
- cerebral blood flow studies in neonates using Doppler US, microcomputer evaluation 4-26486
- coherent speckle in ultrasound images 4-12658
- colour display in ultrasonography, review 4-12659
- conference, Manchester, England (Dec. 1983) 4-47756
- conference on radiology, Bordeaux, France (Sept. 1983) 4-8645
- conference on US Int. 83, Halifax, Canada (July 1983) 4-53352
- diagnosis and therapy, techniques and adverse effects (*Spanish*) 4-16934
- diagnostic equipment using transducer with acoustic lens for small angle magnification 4-26488
- diagnostic ultrasound transducers, radiated power characts. 4-12655
- diagnostic US signal processing 4-49622
- diffraction tomography as applied to EM and acoustical imaging, review 4-21765
- digital processing of images for diagnostic purposes 4-12665
- digital US imaging and appl. to skeletal tissue 4-57973
- Doppler CW spectrum, beam profile and insonation effects 4-44314
- Doppler technology physical principles, application to haemodynamics study (*German*) 4-41593
- Doppler US blood flow signals, spectral anal. by personal computer 4-26487
- Doppler US cardiology, basic techniques, review 4-12670
- Doppler US flowmeters, CW, anal. of PLL system as analogue processor 4-16931
- echocardiograms, use of computer anal. for left ventricular function assessment 4-21751
- echocardiographic imaging, physician's view 4-12652
- echocardiography, clinical overview 4-12666
- echocardiology, two-dimensional, automatic real-time endocardial edge detection 4-41599
- echogenicity index determ., simple electronic system 4-36192
- echographic B-scan systems, interaction between transducers and signal processing (*Italian*) 4-12648
- echography, acoustic impedance tomography, image quantisation (*French*) 4-57970
- echography, one-dimens., of head and neck tumours, functional capabilities of instruments 4-16929
- epicardial coronary arterial diameter meas., improved US method, piezoelc. device (*German*) 4-47048
- femoral artery, Doppler US waveforms quantification, comparative study of methods 4-41597
- foetal breathing movements quantification, tracking system for pulsed US images 4-16930
- heart, US tissue characterisation, review 4-12671
- heart examination by ultrasound, reliability 4-57968
- high resolution US imaging by controlled averaging of backscatt. signals 4-41596
- hip joint, evaluation by US transmission imaging, dog expts. 4-12662
- HP 77020A ultrasonic imaging system, quantitative anal. 4-12651
- HP 77020A ultrasound imaging system, acoustic transducer array 4-12654
- HP 77020A ultrasound imaging system, scan conversion algorithm for displaying ultrasound images 4-12656
- HP 77020A ultrasound imaging system 4-12650
- human tissue, US impedance profiling 4-52414
- hyperthermia, local, induced by focused and overlapping US fields, pig expts. 4-31305
- hyperthermia, local, US system using scanned focused transducers 4-52408
- hyperthermia, localised, and its repartition 4-52415
- hyperthermia, tumour treatment by US irradi. 4-47050
- hyperthermia, US induced, errors in temp. meas. by thermocouple probes, rat. expts. 4-21750

biomedical ultrasonics continued

- hyperthermia fields, linear thermocouple arrays for in vivo obs. 4-47047
- hyperthermia treatments, EM and US, survey of computer simulations 4-52410
- image quality 4-12657
- imaging of nonlinear B/A parameter of medium 4-41598
- imaging techniques advancements, medical and industrial appl. 4-21807
- instruments, grey scale evaluation using a test object 4-21758
- internal temp. mapping with US computed tomography 4-53688
- inverse optics, conf., Arlington, VA, USA (Apr. 1983) 4-17625
- left ventricular wall, motion and thickness anal. using two dimensional echocardiography 4-21753
- liver, fatty and normal, US attenuation, freq. dependence 4-47051
- liver tissue, US wave propag. 4-57938
- M-mode echocardiography in the study of left ventricular function, review 4-12669
- moving tissue-equivalent phantom for US real-time scanning and Doppler techniques 4-12664
- multitransducer US system for localised hyperthermia of deep tissues 4-52409
- neurosurgery, intraoperative Doppler sonography, book 4-31977
- obstetric US, clinical trial of automatic gain control 4-21749
- overview of US imaging 4-12649
- physiotherapy application of US, conf., Bristol, England (Sept. 1983) 4-53336
- reflectivity tomography in attenuating media 4-57971
- review, including diagnosis, Japanese research (*Japanese*) 4-3602
- sister chromatid exchange freqs., diagnostic US effects, recent literature review 4-36160
- soft tissue 3D display system, computerised equipment using overlaid intensity-graded sectional images (*Japanese*) 4-36193
- sonographical examination of arteries, clinical applications (*German*) 4-41594
- surgical instruments, for cutting, joining and surface treatment (*German*) 4-47052
- surgical knives, expt. study 4-26489
- therapeutic US fields, instrument for temporal characts. meas. 4-52411
- therapy units testing, simple field strength meter 4-52407
- tissue, soft, US shear wave speeds and attenuation coeffs. 4-16933
- tissue, US attenuation meas. by spectral difference method 4-41601
- tissues, parametric meas. of attenuation validity of linear approx. 4-12661
- tomographic system for nonlinear parameter imaging (*Japanese*) 4-3603
- tomography, ultrasonic and optical, perturbation correction for refr. 4-21766
- transducer array for medical imaging 4-12653
- transducer with two impedance matching layer appl. for US medical diagnostics 4-24327
- ultrasound medical units for surgery, tests 4-36254
- US phased array imaging, electronic sector scanning, delay system 4-44313
- zero-crossing density for US Doppler signals obtained from computer simulations, blood flow appl. 4-31308
- PbTiO₃ piezoelectric ceramics, rare earth substituted, SAW and US appls. 4-30397

biomembrane transport

- see also osmosis*
- acetylcholine receptor channel, struct. model based on partition energy and helix packing calcs. 4-46930
- acetylcholine receptor from Torpedo californica reconstituted in lipid bilayers, channel props. 4-46965
- alamethicin, cond. in bilayer membranes, elevated hydrostatic press. effects 4-7943
- alamethicin, model for channel behaviour 4-46946
- avian neural crest, elec. membrane props. development 4-7967
- axon membranes, lobster, single K⁺ channels with delayed K⁺ channels 4-46968
- barrier function destruction rel. to elec. strength reduction 4-52293
- cardiac muscle membrane, frog, electrogenic Na⁺ pump, cation selectivity of binding sites 4-26371
- channel-forming membrane protein, 2 configurations 4-46935
- chloroplast thylakoid membrane, spinach, permeability to amine buffers 4-36083
- cytoplasmic membrane of dialysed external segment of retina rod, Na⁺ cond. 4-12554
- electrogenic H⁺/OH⁻ movement across phospholipid vesicles measured by spin-labeled hydrophobic ions 4-7944
- epithelial membranes, ionic channels, review 4-12553
- erythrocyte membranes, human, water exchange, NMR investig. 4-41477
- erythrocyte suspension, chicken, intracellular distrib. and transport props. of small mols., NMR study 4-7952
- facilitated-diffusion problems anal. 4-16846
- functional membranes, review 4-52054
- giant axon, squid, rapid Na⁺ channel cond. changes during voltage clamp steps 4-57874
- gramicidins, linear, with altered amino acid sequences, single-channel studies 4-46931
- ice studies, relevance to bioenergetics 4-31194
- in situ electrophoresis of cell membrane components, theory (*Chinese*) 4-52310
- ionic channels in membranes, conf., Airlie, VA, USA (Oct. 1983) 4-42578
- lipids and glycoporphin, lateral diffusion in solid phosphatidylcholine bilayers 4-57856
- liquid absorption dynamics in tissue, meas. apparatus 4-3657
- macrophage IgG Fc receptor, mouse, role as ligand-dependent ion channel 4-7953
- mollusc, Lymnaea stagnalis, single pot. dependent K⁺ channels 4-52308
- mollusk neurons, single K⁺-dependent Cl⁻ channel, conductance states multiplicity 4-41484
- myotube acetylcholine-activated channels, chick, permeability props. 4-57869
- nerve membrane, single channels anal. method 4-12558
- neuroblastoma cell membrane patches, voltage-dependent Ca²⁺ block of single Na⁺ channels 4-46969
- phospholipid monolayers, translational diffusion, fluoresc. microphotolysis obs. 4-36073
- phospholipid-protein membrane, synthetic, ²²Na⁺ interfacial transfer kinetics 4-3530

biomembrane transport continued

- plant cuticles, influence of water transport on photoacoustic signal 4-36086
- postsynaptic membrane model, effect of microwaves, ionic channel cond. increase (*Russian*) 4-12629
- resonance phenomena in membranes containing ionic channels with two conformational states 4-52286
- sarcoplasmic reticulum, ion cond. in K⁺ channel, effects of phospholipid surface charge 4-46947
- selective filters of Ca and Na channels in excitable membranes, comparison of struct. 4-41475
- skin surface, local gas transfer, mass spectrometric determ. 4-3656
- smooth muscle cells in K-free medium, transmembrane Ca current isolation 4-41474
- thylakoid membranes of higher plant chloroplasts, electron transport chain of photosynthesis, EPR 4-12550
- two-membrane model 4-41454
- water permeability through biomembranes, isotopic effects, fluoresc. and light scatt. 4-58052
- wheat root cells, mag. relax., transmembrane exchange mechanism 4-41476
- Ca²⁺ channel of frog heart, energy profile 4-52311
- Ca²⁺, kinetics of transport in vesicular dispersions and oriented multilayers of isolated sarcoplasmic reticulum membranes 4-26365
- Na⁺ channels in planar lipid bilayers, voltage-dependent block by saxitoxin 4-46948
- Na⁺, single channels, in membrane patches of GH₃ cells, statistical anal. 4-46949

biomembranes

- see also biomembrane transport; lipid bilayers*
- adaptive neural encoder model, demodulation methods appl. 4-46972
- adsorptive endocytosis, coated vesicle form. energetics, statistical mech. model 4-41458
- alveolar type II cells, isolated, rat, transmembrane pot. expts. 4-3532
- azobenzene chromophore in ammonium bilayer assembly, orientation and spectral characteristics 4-31151
- bacteriorhodopsin, integral membrane protein, surface dynamics, NMR obs. 4-41423
- basilar membrane mechanics meas., histological evaluation of damage in cat cochlea 4-47003
- cell membrane temperature rate sensitivity predicted from the Nernst eqn. 4-57862
- Conference in Biophysical Society, Antonio, USA (Feb. 1984) 4-47737
- conference on artificial and biological membranes, Perugia, Italy (May 1982) 4-42586
- cyanobacterial thylakoid membrane arrangements exam. using HVEM and semi-thick sections 4-41667
- cytoplasmic membrane, cyanobacterium, energy transduction 4-36080
- E. coli, chemotactic stimulation, distinction between changes in membrane pot. and surface charge 4-41460
- E. coli B and its S-30 and DNA-plus-membrane fractions, radiation-induced mol. changes 4-31291
- elastic model of protein-protein interaction 4-52291
- electron transfer in proteins and energy coupling in membranes 4-12530
- electrophotoluminescence and elec. props. of photosynthetic membranes 4-41452
- erythrocyte membrane, cholesterol content rel. to viscoelasticity and fluidity 4-21627
- erythrocyte membrane, constitutive eqns. incorporating evolving preferred configuration 4-57864
- erythrocyte membranes, viscoelastic props. in HF elec. fields, meas. method 4-41467
- erythrocyte plasma membrane, RF EM radiation effect, calorimetric approach 4-52387
- erythrocytes and ghosts, X-ray-induced struct. changes in membrane proteins and cell morphology 4-47038
- erythrocytes and phosphatidylcholine/phosphatidylserine vesicles, free energy pot. for aggregation 4-21629
- excitable membranes of nerve and muscle, threshold meas. 4-41678
- fluid membranes, undulations, steric interaction and cohesion 4-52289
- freeze-fractured membrane area stereometric estimation 4-52538
- fusion of membranes, stalk mechanism 4-52283
- lecithin, hydrated, main phase transition kinetics, real-time X-ray diffr. monitoring method 4-58053
- lecithin liposomes formed on US exposure, size 4-52287
- lecithin membranes, mag. anisotropy 4-57917
- lipid layers, biomolecular, struct. 4-12547
- lung surfactant, synthetic, development, phys. principles 4-52292
- lymphocytes, T and B, membrane surface area and viscosity determ. using fluoresc. probes 4-31183
- lyotropics and biomembranes, flexoelectricity 4-50184
- Lyotropics and related fields, conf., Cosenza, Italy (Sept. 1982) 4-47741
- macular pigment in Henle fibre membranes, model for Haidinger's brushes 4-36110
- myocardium, system for meas. of US effects on membrane elec. and mech. props. 4-21865
- nerve membranes, random currents, uniform Poisson or white noise currents 4-41483
- optical properties of cellular membranes, transmission function, optical image processing 4-41451
- oriented lipid membranes, orientational order parameters, angle-resolved fluoresc. depolarisation obs. 4-21492
- pacemaker neurons receiving strong synaptic input, model 4-46977
- particle height analysis of membrane associated particles, bidirectional shadowing in freeze-etching 4-17033
- pea thylakoid membranes, temp. and pH-induced phys. changes 4-3528
- pellicular materials, projection laser equipment for processing (*Russian*) 4-26558
- phase transition, statistical mechanical model 4-12534
- phospholipid monolayer transferred from water to solid substrates, electron microscopy and diffr. study 4-57860
- phospholipids, phase diagram investigated using fluoresc. microscopic and thermodynamic techniques 4-16845
- photoreceptor, single, membrane changes as cause of associative learning in Hermissenda 4-3556
- plant cell tissue, elec. cond. rel. to struct. (*Russian*) 4-21631
- plant cells, irradiated, plasma membranes biogenesis (*Russian*) 4-36172
- proteins struct., meas. by electron microscopic techniques 4-52271
- prothrombin association with phospholipid monolayers, ellipsometric meas. 4-57825

biomembranes continued

- purple membrane, anisotropic elec. props. and their change during the photoreaction cycle 4-57857
- purple membrane, two-dimens. crystal-liq. phase transition, X-ray diff. study 4-7947
- red blood cell membrane of rats, low power He-Ne laser irr. effects (*Chinese*) 4-57945
- respiring cells and vesicles, membrane potential, proton motive force and pH gradient meas. 4-26562
- retinal pigment epithelium, light-evoked response expts. 4-12579
- retinal rod outer segment disk membranes, bovine, phospholipid domains 4-36074
- sarcoplasmic reticulum preps., fluoresc. of labels and probes, temp. effect 4-31180
- somatic membrane, molluscan, neuronal activity 4-46976
- thermophilic archaeobacteria, cell membrane based on bipolar ether lipids 4-46956
- thymocytes, rat, possible association of membrane and nuclear changes on γ -irr. 4-47039
- transmembranal potentials of a developing fish embryo, correlation functions (*Russian*) 4-26380
- US studies of membrane suspensions 4-52290
- yeast cells, wavelength dependence of inactivation and membrane damage by synchrotron vacuum-UV radiation 4-41577

biomolecular effects of radiation

- see also biological effects of (type of radiation)
- see also photosynthesis
- amino acids, γ -radiation-induced interactions with glucagon 4-41584
- collagen, calf skin, change in amino acid composition after γ -irr. (*Russian*) 4-36167
- DNA, radiation damage, mouse liver and transplanted tumours expts. (*Russian*) 4-36170
- DNA, single-stranded, irradiated in a bacterial extract, heat-sensitive radiation damage 4-16842
- DNA, T₂-phase, UV irr., conformation, UV absorpt. spectra and melting profiles 4-12542
- DNA in human lymphocytes irr. at G₁ stage, unscheduled synthesis (*Russian*) 4-12536
- DNA incorporated radiation injuries, freeze-thaw mechanism, dielectric and hydrodynamic meas. 4-31172
- DNA reassocation kinetics rel. to radiosensitivity of animal organism (*Russian*) 4-12535
- DNA with incorporated ¹²⁵I, decay effects (*German*) 4-46944
- E. coli B and its S-30 and DNA-plus-membrane fractions, radiation-induced mol. changes 4-31291
- glutamate dehydrogenase hexamer, radiation inactivation, lack of energy transfer between subunits 4-31298
- imidazole ring of adenine in DNA, opening by ionising radiation, dose-response study 4-8038
- nucleic acid and protein synthesis in tumour cells, impulse laser radiation effect (*Russian*) 4-12628
- oligomeric enzyme systems, radiation inactivation 4-57960
- peptides cross-linked by ionizing radiation, enzymatic digestibility 4-57959
- poly-dT exposed to high-intensity ps UV laser irr., pyrimidine dimers yield reduction 4-52395
- proteins and peptides, aqueous solutions, US absorpt. by solvent-solute interactions 4-57838
- ribonuclease, radiation-induced aggregates, struct. investigation 4-7922
- serum albumin, bovine, O₂ effect in radiolysis 4-57958
- system perturbation from radiation effects 4-36242
- T4 bacteriophage, inactivation by protons, contribs. of various types of damage 4-41573
- tyrosinase, mushroom, conformational changes during UV photoinactivation 4-7923
- vitamin D formation, glossary of terms in photoergonomics, annotated bibliography 4-17663

biomolecules see macromolecules; molecular biophysics**bionics** see biocybernetics**biophysical effects of radiation** see biological effects of radiation**biophysical instrumentation** see biological techniques and instruments**biophysical techniques** see biological techniques and instruments**biophysics**

- see also aerospace biophysics; biological fluid dynamics; biomechanics; cardiology; cellular biophysics; haemodynamics; hearing; molecular biophysics; speech; vision
- 21st century biologists, some physics aspects 4-46926
- air, ions for biological studies, phys. characs. and control 4-36270
- alpha-contaminated bone surfaces, specific energy spectra 4-8129
- biomedical radioactive waste disposal, alternative methods 4-23203
- biomedical waste management, legal, admin. and fiscal viewpoints 4-23200
- biomedical wastes, radionuclide polluted, disposal management 4-23202
- Conference in Biophysical Society, Antonio, USA (Feb. 1984) 4-47737
- EM field, 10-1000 MHz, interaction with human body, antenna radiation characs. study (*German*) 4-16920
- EM power deposition pattern in human body, two-dimensional computerised tomography technique 4-41561
- SAR patterns for spherical tissue models in a rectangular resonant cavity 4-57935
- steel, stainless, fungal solubilisation of Fe 4-41106
- tissue, light absorpt. and flux distrib., Monte Carlo computer model 4-26476

bio rheology

- aggregates in suspension flowing around a solid body, nonuniform distrib., blood flow appl. 4-21690
- alveolar gas exchange, breath-to-breath, model evaluation of estimates 4-36152
- apple cortex, rheological constitutive relations 4-41556
- avian lung modelling, regional ventilation-perfusion inhomogeneity 4-26466
- blood, bovine, forming artificial rouleaux, rheological behaviour 4-21693
- blood, hardened red cell suspensions, flow in straight, bifurcating or locally constricted cylindrical tubes 4-16918
- blood, light scatt., effects of haemolysis, haematocrit, erythrocyte swelling and flow rate 4-21685
- blood, rheology, circulation and arterial obstructive conditions (*German*) 4-36155
- blood, thermal regulation mechanism, effect on rheology 4-21701

bio rheology continued

- blood, viscoelastic behaviour, tangent simple system method appl. 4-21699
- blood density meas., significance in blood rheology 4-21826
- blood flow in pig skin after sunscreens and artificial sunlight, laser Doppler meas. 4-41537
- blood flow through small diameter tubes, 2-fluid model 4-31245
- blood viscoelasticity and thixotropy, stress form. and relax., unified model 4-21698
- blood viscosity and erythrocyte deformability, effect of high osmotic media 4-21696
- capillary blood flow in murine tumours, feet, and intestines during localised hyperthermia 4-8031
- capillary tube viscometer for plasma viscosity meas. (*German*) 4-21844
- dynamic rheology of biological tissues (*French*) 4-3585
- erythrocyte aggregation, effect of immunoglobulins and IgG-fragments, human expts. 4-21692
- erythrocyte deformability, abolition by malaria parasite maturation 4-52306
- erythrocyte membrane, cholesterol content rel. to viscoelasticity and fluidity 4-21627
- erythrocyte membrane, constitutive eqns. incorporating evolving preferred configuration 4-57864
- erythrocyte membranes, viscoelastic props. in HF elec. fields, meas. method 4-21467
- erythrocyte sedimentation, settling curve derivation 4-21630
- erythrocyte suspension, nonNewtonian viscosity theory, erythrocyte deform. effect 4-21684
- erythrocyte suspensions, bovine, complex viscosity expts. 4-21688
- erythrocyte transit time through 5 μ Nuclepore filter, obs. 4-31188
- erythrocytes aggregation, background and development of space project 4-52505
- fish muscle gels, thermally induced, final strengths and rheological changes 4-41553
- food rheology, basic meas., conf., Evanston, IL, USA (Oct. 1982) 4-36781
- foods, dynamic viscoelastic props. rel. to texture control 4-41555
- foods, precision and accuracy in viscometric meas. 4-41673
- haemolysate-loaded liposome suspensions, flow props. 4-21694
- haemoreological factors of O₂ transfer in a capillary tissue unit 4-21695
- intervertebral disc, surgical herniation effects on viscoelastic props., finite element 4-12607
- lung, nonuniform deformations, review 4-3572
- lung capillary pressures, isogravimetric and venous occlusion, comparison in isolated dog lungs 4-16912
- lung lymph flow, effect of HF oscill. 4-31246
- milk, capillary flow, wall effect study 4-21697
- Myocardial perfusion, regional changes meas. using dynamic CT and contrast medium, dog expts. 4-12683
- myocardium, regional perfusion quantification by exponential infusion of ¹¹C-butanol, dog expts. 4-41613
- oedema fluid, flow into pulmonary airways 4-21710
- plant water flow, noninvasive meas. by NMR 4-41656
- polar fluid, 3-layered Couette flow, nonzero particle spin boundary condition, blood appl. 4-31240
- protein-polysaccharide mixtures, rheological props. 4-21686
- pulmonary vascular permeability, effects of transient pulmonary hypertension 4-16913
- pulsatile blood flow, 2-phase model with entrance effects 4-31242
- red blood cell in plane Couette flow of plasma, 2D approach 4-47020
- shear viscoelasticity of suspensions of biological cells with fluid membrane 4-21691
- synovial fluid, knee joint, rheumatic deterioration, rheological theory (*German*) 4-36155
- time-dependent foodstuffs, flow props. 4-41554
- trabecular bone, viscoelastic anisotropic behaviour, struct. math. model 4-31244
- vascular endothelial stress fibres, human, induction by fluid shear stress 4-47030
- vascular system, relations between heat transfer is perfused biological tissue and local symmetry components 4-52279
- veins, large, rheological props. and wall structs. in dogs 4-21689
- water transport in arterial wall, theoretical study 4-12611
- wheat flour/water systems, dynamic viscoelastic parameters, effect of moisture transfer 4-41552
- wheat leaves, microviscosity of water, EPR spectra 4-12602
- wheat starch granules, yield stresses in concentrated dispersions of gel particles 4-41551

biosonic generation see bioacoustics; mechanoreception**Biot-Savart law** see electromagnetism**biothermics**

- amoebae, Dictyostelium discoideum, thermotaxis on temp. gradient 4-3526
- annular loop antenna arrays near field patterns in lossy cylinders, hyperthermia appl. 4-12672
- astrocytoma cells, rat, dose-rate dependence of heat radiosensitisation 4-8045
- bacterial growth at 250°C, possible artefactual basis 4-46957
- bacteriophage T4, conformational transitions, calorimetric investigation 4-41433
- bacteriophage T4B, conformational transition at 30-40°C, acoustic meas. 4-52259
- bacteriorhodopsin, M412 intermediate of photocycle, press. and temp. effects 4-21622
- bacteriorhodopsin photocycle, photoacoustic calorimetry studies 4-41445
- bleomycin-DNA interaction, hyperthermic modification, ESR obs. 4-41425
- blood, thermal regulation mechanism, effect on rheology 4-21701
- blood flow in circular duct, laminar heat transfer 4-47018
- blood flow prediction from thermal clearance during regional hyperthermia, math. model 4-7939
- blue-green algae, luminesc. spectrum, temp. influence 4-31284
- body surface heat loss of guinea pigs, comparison of convection and radiation 4-31176
- body temperature feedback pacemaker, dog expts. (*Japanese*) 4-31367
- brain energy metabolism, rat, effects of hyperthermia and hyperthermia plus microwaves 4-57854
- brain temperature regulation in the immersed dog, expt. and theoretical study 4-16840
- cancer treatment by multistep thermotherapy 4-58037

biothermics continued

- capillary blood flow in murine tumours, feet, and intestines during localised hyperthermia 4-8031
 cell membrane temperature rate sensitivity predicted from the Nernst eqn. 4-57862
 CHO cells, hyperthermic killing and hyperthermic radiosensitisation 4-41472
 CHO cells, hyperthermic survival rel. to cellular population density and time of plating 4-41473
 choroidal melanoma treatment appl. using ophthalmic microwave applicator 4-16945
 cold water immersion, time course of deacclimatisation in Korean women divers 4-3525
 combined continuous ultra low dose rate irradiation and RF hyperthermia in the C3H mouse 4-8044
 correlation microwave thermography principle (*French*) 4-57979
 dental enamel, heated, cyanate and cyanamide form., loss and location, IR spectra study 4-7933
 dipalmitoylphosphatidylcholine-water suspension, lipid bilayer phase transition, heat capacity meas. by AC calorimetry (*Japanese*) 4-57861
 DNA, heat capacity at low temp., moisture content depend. 4-12544
 DNA, nucleotides mean content determ., method based on melting curves 4-31152
 DNA, single-stranded, irradiated in a bacterial extract, heat-sensitive radiation damage 4-16842
 DNA, superhelical, thermodynamics of the B-Z transition 4-36062
 DNA incorporated radiation injuries, freeze-thaw mechanism, dielectric and hydrodynamic meas. 4-31172
 EM heating of biological tissue, computational model, hyperthermic cancer therapy appl. 4-41567
 EM thermal effects, empirical time-intensity relationship for critical organ irradiation 4-41568
 embryogenesis of birds, energy exchange rel. to temp. 4-31177
 energetics of wet-suit diving in Korean women breath-hold divers 4-3524
 entropy-driven processes in biological systems 4-12543
 epiphysis of frogs, laser-irradiated, temp. profiles 4-8033
 epithelium, rat proximal tubule, nonequilibrium thermodynamic model 4-21623
 erythrocyte ghosts, human, RF irradiation, 330 MHz, heat capacity study 4-21733
 erythrocyte plasma membrane, RF EM radiation effect, calorimetric approach 4-52387
 erythroleukaemia, murine, differentiating cell line, effect of heat on haem induction by radiation 4-7938
 exercise-induced changes in regional blood flow, rel. to heat stress 4-36069
 febrile convulsions, microwave-hyperthermia model 4-31279
 fibroblasts, thermotactic response and motility 4-3539
 FMR sensor for remote wireless temp. meas. in organic tissue 4-12719
 focused array hyperthermia applicator: theory and experiment 4-52535
 focused array hyperthermia applicator 4-12678
 HeLa cells, macromolecule synthesis after thermal shock 4-41470
 hepatoma cells, effect of thermotolerance on thermal radiosensitisation 4-57855
 homogeneous absorbing medium, temp. elevation in a US beam 4-31277
 hypergravic fields and parallel controllers for thermoregulation 4-16843
 hyperthermia, local, induced by focused and overlapping US fields, pig expts. 4-31305
 hyperthermia, low-profile applicators for local heating of tissues 4-52436
 hyperthermia, NMR imaging appls.: temp. monitoring and localised tissue heating 4-52443
 hyperthermia, regional, annular phased array EM radiating device 4-52441
 hyperthermia, regional, with an annular phased array for cancer treatment 4-52442
 hyperthermia, tissue structures, planar parallel layers, EM wave irradiation, temp. distrib. calc. (*Czech*) 4-7942
 hyperthermia by mag. induction heating of ferromag. implants 4-52418
 hyperthermia combined with γ -ray therapy in rectal cancer patients (*Russian*) 4-52421
 hyperthermia for the engineer: a short biological primer 4-52524
 hyperthermia methods in oncology, review (*Russian*) 4-8060
 hyperthermia of human deep tissues, focusing of 915 MHz EM power, math. study 4-52382
 hyperthermia rel. to X-ray damage expression in mouse skin 4-41587
 hyperthermia system using a new type of inductive applicator 4-52435
 hyperthermia treatments, EM and US, survey of computer simulations 4-52410
 hyperthermia with, helical coil, EM wave propag. study using upper arm model 4-49243
 hyperthermia with implanted electrodes: in vitro and in vivo correlations 4-17015
 hyperthermia with thermal seeds, usable freqs. 4-52439
 hyperthermic cancer treatment, mag. induction methods, review 4-52419
 hyperthermic treatment of malignant brain tumors, interstitial microwave antenna array 4-52437
 hyperthermic treatment of tumours, implication of blood flow 4-52525
 in vivo temperature monitoring using a passive microwave transponder 4-47120
 information value of a gene and a protein; thermodynamic characs. of biological organism 4-12524
 inhomogeneous block model of man for EM environment 4-41448
 interstitial RF electrode hyperthermia systems, temp. distribs., theoretical predictions 4-36253
 interstitial RF hyperthermia, temp. profiles rel. to freq., dog expts. 4-3604
 intracranial microwave hyperthermia: heat induction and temperature control 4-52438
 keratin, depolarization thermal current study for high water content 4-16832
 leukemia cells, mouse, covalent DNA-protein crosslinking after hyperthermia and radiation 4-3599
 leukocytes, mononuclear, human, effects of γ -radiation and hyperthermia on DNA repair and NAD⁺ level 4-41586
 lipid bilayer phase transition anal. by pseudo-critical sp. ht. 4-52296
 lipid membranes, thermal response investigated by Fourier transform IR spectroscopy 4-57840
 liver, nonwater tissue components, proton mag. relax. after expt. thermal burn 4-41441
 local microwave hyperthermia; irradiators, generation equipment 4-52452
 lower trunk, uniform regional heating, tumour temp. distribs. 4-46945

biothermics continued

- lymphocytes, mouse, hyperthermic enhancement of antibody-complement cytotoxicity 4-21633
 mammary tumour cells, mouse, effect of heat, radiation and pH 4-12552
 melanoma xenografts, human, micronucleus form. after exposure to hyperthermia 4-52305
 mice, mag. field induced temp. change 4-52280
 microwave active imaging for remote thermal sensing 4-12675
 microwave applications in medicine (*German*) 4-8070
 microwave bioeffects, heat transfer in surface cooled objects subject to microwave heating 4-12545
 microwave bioeffects, irradiation system, specimen temp. control using regulator circuit 4-41657
 microwave hyperthermia, interaction with photoradiation therapy, mouse expts. 4-57948
 microwave hyperthermia applicators, focused, freq. optimization 4-52450
 microwave hyperthermia for brain tumours, implantable antenna appl. 4-31310
 microwave hyperthermia tumor treatment, freq.-dependent EM energy absorpt. 4-52434
 microwave local hyperthermia, multielement microstrip antenna 4-16947
 microwave phased arrays for deep-seated tumour irradiation, 3-D phantom meas. 4-31179
 microwave radiometric sensing for temp. of layered living tissues 4-21871
 microwave radiometric thermal patterns in thermographic breast profiling with 4.7 GHz radiometer 4-16949
 microwave thermography, used for tumour diagnosis (*German*) 4-12674
 microwave thermography in biomedical engineering, present results and trends 4-16948
 microwave thermotherapy for brain cancer treatment 4-16946
 microwave thermotherapy of recurrent chest-wall carcinoma 4-12681
 microwave tissue heating, cancer therapy appls. 4-26497
 microwave-induced hyperthermia, improved applicator-patient coupling 4-26495
 minute ventilation changes in rabbits during experimental hypothermia 4-31174
 multi-appligator systems for focused hyperthermia 4-31311
 multitransducer US system for localised hyperthermia of deep tissues 4-52409
 muscle, isometric contractions of fast and slow muscles in rats, rel. to length and temp. (*German*) 4-21725
 muscle fibres, temp.-jump-activated, intrinsic shortening speed, varying osmotic press. effect 4-41539
 optical thermometry system, multiple sensor, for clinical hyperthermia appl. 4-52444
 ovulation detection by monitoring temperature during sleep 4-17008
 pea thylakoid membranes, temp. and pH-induced phys. changes 4-3528
 photoluminescent thermometry for microwave hyperthermia 4-12680
 physiological monitoring during NMR measurements of animals 4-8159
 prostate cancer treatment using novel radiofrequency radiator to induce hyperthermia 4-41605
 protein degradation in rabbit reticulocyte lysates and after injection into HeLa cells, temp. effects 4-57829
 purple membrane, two-dimens. crystal-liq. phase transition, X-ray diffr. study 4-7947
 Pyrocystis lunula, laser-induced bioluminesc., temp. depend. 4-26479
 respiratory rhythm generation in rabbits, effect of lowered temp. 4-31175
 retina, thermochem. model for calc. of max. permissible exposure in near IR range 4-31285
 RF helical coil applicators which prod. transversely uniform axially distrib. heating in phantoms 4-52440
 RF hyperthermia, hybrid system, field focusing and focal heating patterns 4-31309
 RF hyperthermia, power loss in skin cooling pillows 4-47053
 RF inductive diathermy applicators, heating effectiveness and safety study 4-21770
 RF phantoms, low freq., design criteria for clinical NMR imaging and tumour hyperthermia 4-36208
 sarcoplasmic reticulum preps., fluoresc. of labels and probes, temp. effect 4-31180
 skin, mouse foot, previously irradiated, response to heat alone or combined with irradiation 4-21625
 skin, previously irradiated, response to combinations of X-irrad. and US-induced hyperthermia 4-21745
 skin, US-induced hyperthermia and X-irrad. effect 4-21729
 skin responses to step-up and step-down heating in C3H mice 4-12546
 subcutaneous tissue temp. meas., microwave radiometer design for use as noninvasive thermometer 4-41610
 sublethal damage repair in cultured fish cells 4-41471
 telemetry equipment for ECG and temp. meas. in lab. animals 4-47107
 temperature fields caused by acoustic standing waves in biological tissues 4-36162
 temperature regulation, human system in air, statistical model 4-21624
 temperature-compensated circadian clock in the pineal of Anolis 4-16844
 thermodialysis in living cells for SO₄ transport 4-46963
 thermophilic archaeobacteria, cell membrane based on bipolar ether lipids 4-46956
 thermoregulation, behavioural and autonomic, in mice exposed to microwave radiation 4-21626
 thermoregulation in *Erythrocebus patas*, thermal balance study 4-31178
 thermoregulatory behaviour altered by microwave irradiation, min. changes in hypothalamic temp. 4-57853
 thermotolerance persistence in slowly proliferating plateau phase cells 4-57868
 tissue, complete temp. fields inference from a few meas. 4-52510
 tissue, thermal cond. meas. technique 4-31377
 tissues, pig, temp. distrib. induced by a water-cooled disk electrode RF system 4-41450
 tumour cell clones, heterogeneity in induced thermal resistance 4-36079
 tumours, murine, treated with hyperthermia, change in hypoxic and chronically hypoxic cell fractions 4-41469
 US hyperthermia, use in treatment of tumours 4-47050
 US hyperthermia fields, linear thermocouple arrays for in vivo obs. 4-47047
 US induced hyperthermia, errors in temp. meas. by thermocouple probes, rat. expts. 4-21750
 US induced localised hyperthermia and its repartition 4-52415
 US system for local hyperthermia using scanned focused transducers 4-52408
 vascular system, relations between heat transfer and perfused biological tissue and local symmetry components 4-52279

biothermics continued

- vasomotor control system, thermal, disturbance in Raynaud's disease, pilot study 4-57922
 vibrotactile sensitivity, effect of skin temp. expt. study (*Japanese*) 4-8026
 virus-like sensitivity of the scrapie agent to heat inactivation 4-52281
 VX2 carcinoma in rabbits, detection using passive microwave radiometry 4-21873
 water-cryoprotector mixture, vitreous phase stability, internal friction meas. appl. 4-41449
 waveguide applicator with convergent lens for localized microwave hyperthermia (*Japanese*) 4-3527
 wheat leaves, after-effect of high temp. on photosynthesis and electron transport processes 4-52298
 whole body hyperthermia with a microwave regional boost: unexpected toxicity in the pig 4-16841
 wood and wood-based materials, bending strength at low temp. (*Japanese*) 4-16915
 wood electret, charges contributed to thermally stimulated current (*Japanese*) 4-16860
 yeast, radiation effects and hyperthermia cell cycle kinetics 4-26484
 yeast, *Saccharomyces cerevisiae*, heat shock induction of radiation and thermal resistance 4-7941
 yeast, *Saccharomyces cerevisiae*, heat-shock induction of UV light resistance 4-7940
 O₂, crit. transport values at lowered body temps. in rats 4-36084

biotite *see mica***biotransport**

- see also* *biodiffusion; biological fluid dynamics; biomembrane transport; cellular transport and dynamics; neurophysiology*
 alveolar-airway barrier protein permeability, lung inflation effect, dog expts. 4-21637
 bean leaves, slow chlorophyll fluoresc. changes and electron transport kinetics 4-36075
 blood-brain barrier, rat, modified method for radiotracer permeation meas. 4-3665
 Douglas-fir, water permeability study (*Japanese*) 4-16850
 glomerular filtration rate, meas. by fluoresc. excitation (*Hungarian*) 4-52468
 intestinal iron absorption and plasma iron kinetics in normal dogs 4-46961
 lung vascular tissue transport in sheep, effects of coronary flow restriction 4-36085
 O₂ transport during two forms of stagnant hypoxia following acid and base infusions 4-3540
 permeable capillaries, labelled species unsteady transport characterisation, role of convective dispersion 4-7955
 polyhydroxyalkyl methacrylate biocompatibility, adsorpt. obs. of plasma proteins 4-3650
 population dispersal and tissue bulk flow models, parameter estimation techniques for transport equations 4-3541
 pulmonary microvascular permeability after coronary arterial ligation in dogs 4-16849
 vascular transport function estimation using model-free deconvolution techniques 4-21635
 water transport in arterial wall, theoretical study 4-12611
 Ca²⁺ time course of release and removal in skeletal muscle fibres 4-57870
 O₂, crit. transport values at lowered body temps. in rats 4-36084

bipolar integrated circuits

- 8-bit expandable bipolar bit-slice processor 4-10241
 capacitive pressure transducers with integrated circuits 4-53670
 metallization, automating plating machine appl. 4-57117
 microaddress sequencer for 8-bit expandable bipolar bit-slice processor 4-10242

bipolar transistor circuits

- Used for general papers and papers where use of bipolar transistors is significant*
 pulse shaping for fast coincidence with NaI(Tl) detectors 4-23515

bipolar transistors

- see also* *bipolar integrated circuits*
 carrier-domain magnetometer, with zero threshold field 4-22804
 degenerate materials with nonuniform band struct., elec. current, carrier density 4-50839
 I²L element, charge carrier motion 4-15939
 n⁺-p shallow base emitter junctions, reverse-biased, tunnelling phenomena, theoretical and expt. study 4-30058
 Si npn bipolar struct. form. using UV laser doping 4-34513
 Si:As⁺, MeV ion implantation, extended defect reduction and planar n-p-n transistor fabrication 4-2220
 Si/MgO:Al₂O₃/Si struct., VPE growth and bipolar integrated circuit form (*Japanese*) 4-40021

biquadratic filters *see active filters***birefringence**

- see also* *flow birefringence; Kerr electro-optical effect; light polarisation; magneto-optical effects; mechanical birefringence; optical constants; optical rotation*
 alkaline earth ditellurites, MTe₂O₅, M=Ca-Ba, cryst. growth, DTA, X-ray diff., chem. anal., dielec. and optical props. 4-50225
 alkoxycyanobiphenyls, birefr. and order parameter in nematic phase 4-10976
 alkylcyanobiphenyls, birefr. and order parameter in nematic phase 4-10976
 bent multi-mode light guides, Stokes vector transform. (*Russian*) 4-24226
 biaxial crystals, phase matching angles and effective second-order nonlinear coefficients anal. (*Chinese*) 4-28759
 birefringent, Raman scatt., light polarisation depend. (*French*) 4-25753
 bis-(pentylammonium) tetrachlorozincate (II), cryst. struct., optical and thermal props. 4-50277
 1,4-bis-[4-n-hexylbenzoyloxy]-2-subst.-benzenes, liq., crystalline, lateral branches effects 4-50179
 chiral molecule, magneto-chiral birefringence and dichroism 4-43908
 cholesteryl esters, optical anisotropy and polarisation field in smectic and cholesteric phases 4-16177
 compensator, birefringent, high-dispersion 4-33740
 crystal, three dimensional phase lattice light diff. 4-23898
 p-cyanophenyl-p-heptylbenzoate, nematic, dielectric props. and birefringence 4-56843
 1-cyclohexyl-2-(4'-halobiphenyl-4'-yl)ethanes, synthesis and mesomorphic props. 4-10977

birefringence continued

- dislocations, heavily decorated, contrast in optical birefringence micrographs 4-55836
 dispersion relation determ. for quartz and limestone (*Czech*) 4-56884
 DNA electric dichroism orientation function 4-38363
 dodecylbenzene sulphonic acid, optical anisotropy in smectic A phase 4-11861
 electro-optical materials, parametric effects near optic axis 4-35410
 elliptical-core optical fibres, birefringence calcs. 4-38606
 Faraday magnetooptical transducer for electric current meas., performance limitations 4-32254
 ferrocene, mol. quadrupole moments, mag. anisotropy, and charge distrib. 4-1290
 ferroelectric thin film, pulse electrooptical light modulation (*Russian*) 4-20944
 ferrofluids, magneto-optics, fibre optics meas. 4-30239
 ferromagnetic crystals, circumventing linear birefr. 4-51233
 ferromagnetic suspensions, optical anisotropy in alternating mag. field 4-30435
 fibres, birefringent type, linear polarised light transmission, fundamental mode study 4-28849
 fibres, multimode, birefr., optical Kerr effect (*French*) 4-19527
 fibres, polarisation-maintaining birefringent 4-55210
 fibres, single-mode, three-layer, W-type, polarisation property characts. 4-28861
 films, form birefr., anisotropic microstruct. contrib. to polarisation effect 4-11952
 filter, universal birefr., for solar obs., precision tuning and improved stability 4-13199
 filters, recent developments 4-24146
 glass, optical properties, book 4-36811
 N-(p-hexyloxybenzylidene)-p-butylaniline, liq. cryst., dielec. anisotropy, order parameter 4-39111
 holographic optical elements with ultrahigh spatial-freq. surface corrugations 4-1364
 ice, hexagonal cryst., optical characts., attenuation matrix 4-46230
 Jones birefringence 4-1346
 light-induced nonreciprocity, field invariants, and nonlinear eigenpolarizations 4-10358
 liquid crystals, low tilt angles meas. by conoscopic optical method 4-50178
 lyotropic mesophases, optical props., review 4-51217
 magnetic crystals, orthorhombic symm., magneto-optical polar Kerr effect and birefringence 4-40420
 magnetically ordered cryst., inverse Cotton-Mouton effect 4-11873
 magnetically ordered crystals, mag. symm. and linearly field-dependent double ref. 4-25731
 mesogenic disc-like compound fluid mesophase orientation by glass slides with obliquely deposited Si oxides (*French*) 4-2069
 mirror, large astronomical, material parameters that determ. surface accuracy 4-19610
 Mn₂B₂O₇, spontaneous birefringence studies of ferroelec./ferroelastic phase 4-7156
 nematic liquid crystals, order parameters, depolarised Raman scatt. study 4-29313
 optical fibre, multimode, birefringent, stimulated Brillouin scatt. (*French*) 4-33714
 optical fibres, coiled high-birefringence type, polarisation holding ability, expt. study 4-1493
 optical fibres, polarisation-maintaining type, birefringent mode coupling, spatial distrib. meas. method 4-38609
 optical glass, interferometry of laser-induced birefringence 4-7154
 organic glasses, circular dichroism in excited triplet states, matrix birefringence, photoselection and rot. diffusion effect 4-1191
 PE-2 transparent emulsion, induced sensitized photoanisotropy 4-51236
 4-n-pentyl-4'-cyanobiphenyl, nematic liq. cryst., elastic consts., birefr. meas. 4-55714
 PET fibres, melt spun, isothermal heat treatment, microstructure rearrangement, birefringence, X-ray scatt. 4-12091
 polarised light photomicrography, double refraction, microcrystal prep. (*Italian*) 4-43078
 poly(bisphenol-A-diphenyl sulphone), mol. deform. stress-strain behaviour, stress, birefr. meas. 4-3182
 poly-2-methyl-N-vinyl imidazole, conform. props. (*Russian*) 4-6244
 polyacetylenes, highly oriented cis-rich, IR anisotropy 4-51286
 polydiethyleneglycolterephthalate, birefringence and glass transition temp. 4-39508
 polyelectrolytes, rodlike, electric birefringence and dichroism, orientation function 4-2896
 polyoxymethylene, uniaxially drawn, elastic moduli rel. to orientation struct. 4-40885
 polypropylene, crystallised from melt, morphologies, optical polarized microscopy study (*French*) 4-2099
 potassium decanoate-water-decanol-KCl, type II nematic lyomesophase, surface and mag. orientation 4-39113
 Rb₂Co_{0.85}Mg_{0.15}Fe₄, antiferromagnetic, random-field effects in 2-D and 3-D, birefringence study 4-56645
 ruby crystal, phase conjugation by four-wave mixing, birefr. effects 4-33718
 ruthenocene, mol. quadrupole moments, mag. anisotropy, and charge distrib. 4-1290
 single mode optical fibre cable, polarisation holding props. 4-24204
 single-mode polarization preserving fibers for fiber optic applications 4-44247
 spherical-top mol., Jahn-Teller effect, anomalous mag. field induced birefringence 4-1193
 sulphonal, plastic cryst., birefr. and orientational order (*Russian*) 4-40412
 TGS, optical gyration and electrogyration 4-35415
 thiourea-d₄, field-induced commensurate phase, birefr. meas. and Landau-Ginzburg theory 4-2886
 (TMTSF)₂FSO₃, polarisability tensor, indicatrix orientation, birefr., absorpt. meas. 4-2892
 Tokamak, far IR propag., linear birefringence and optical activity 4-10848
 twisted single mode fibres, polarisation dispersion meas. method 4-24207
 uniaxial crystal-isotropic medium interface, total spatial separation of normal waves 4-10227
 uniaxial crystals with high rotary power, circular dichroism meas. 4-22818
 US nematic detector, contrast improvement in elec. field 4-38680

birefringence continued

- wave speeds in optically birefringent samples, universal relation 4-19360
weakly guiding anisotropic optical fibres, asymptotic analysis 4-49549
weakly inhomogeneous medium with birefr., and dichroism, vector representation of polarised light 4-23892
yttrium formate dihydrate, optical activity, dispersion, birefr. meas. 4-35408
 $\mu^4\text{He}$ atom, vacuum polarisation effects and Born-Infeld EM theory 4-18146
 AlPO_4 , berlinite, α - β transform., birefringence study 4-55992
Ar, liq., microscopic dynamics, birefringence meas. 4-25717
AsSe amorphous chalcogenide films, photostruct. transformations 4-45322
 $\text{BaLaGa}_3\text{O}_7$, IR spectra, light polarisation, refractive indices and birefringence meas., vibr. 4-51277
BiIG thin film waveguides, LPE-grown, growth-induced optical birefringence study 4-19563
 $\text{Bi}_{12}\text{SiO}_{20}$ crystals with optical activity, electro-optical coeff. 4-25719
 $\text{Ca}_2\text{Mn}_2\text{Ge}_2\text{O}_{12}$, photoinduced linear birefringence 4-40411
 CdTeO_5 , cryst. growth, DTA, X-ray diffr., chem. anal., dielec. and optical props. 4-50225
 CsCrCl_3 , quasi-one-dimens. Jahn-Teller cryst., struct. phase transitions 4-11270
 CsCuCl_3 , quasi-one-dimens. Jahn-Teller cryst., struct. phase transitions 4-11270
 Cu_2O , birefringence dispersion, validation of Kramers Kronig relation 4-11863
 Cu_2O , photoconductivity and birefringence, dislocations 4-15912
 $\text{Fe}_{0.6}\text{Al}_{0.4}\text{F}_2$, antiferromagnetic, random-field effects in 2-D and 3-D, birefringence study 4-56645
 $\text{KD}_3(\text{SeO}_3)_2$, intrinsic ferroelastic, optical and dielec. props. 4-30421
 KH_2PO_4 , birefringence study of tricritical point 4-46229
 KH_2PO_4 , optical uniformity, effect of annealing 4-56883
 $\text{KH}_2(\text{SeO}_3)_2$, intrinsic ferroelastic, optical and dielec. props. 4-30421
 $\text{K}_2\text{Ni}_{1-x}\text{Co}_x\text{F}_4$, two-dimensional antiferromag., birefringence meas. 4-25716
 K_2SeO_4 , optical gyration and electrogyration 4-35415
 KTAO_3 :Li, random site elec. dipole system, collective effects 4-11847
LiF crystals containing F_2 -centres, photoinduced birefr. 4-30436
 LiNbO_3 :Ti(Mg), optical and ferroelec. props., electro-optical device appl. 4-30440
 $\text{Mg}_{5-x}\text{Al}_{2-x}\text{Zr}_{1.7+0.25x}\text{O}_{12}$, $-0.4 \leq x \leq 0.4$, cryst. struct., refr. indices, birefr. 4-15438
 MgF_2 , optical birefringence temp. depend., specific heat 4-51235
 MnF_2 , magnetostrictive at. shifts obs., gamma-ray diffr. study 4-11069
 MnF_2 , optical birefringence temp. depend., specific heat 4-51235
 $(\text{NH}_4)_2\text{BeF}_4$, optical gyration and electrogyration 4-35415
 NaN_3 , Potts model phase transition, birefringence study 4-6488
Nd:glass laser rods, thermally induced active birefr. 4-14697
Nd:YAG zig-zag slab geometry crystalline lasers, reduced thermal focusing and birefr. 4-24046
 O_2 , liq., microscopic dynamics, birefringence meas. 4-25717
PLZT transparent ferroelec. ceramics, electronic processes and phase transitions 4-11846
 $\text{Pb}_3(\text{P}_{1-x}\text{As}_x\text{O}_4)_2$, ferroelastic phase transition, critical exponents, sp. ht. meas. 4-20349
 $\text{Pb}_3(\text{PO}_4)_2$, ferroelastic phase transition, critical exponents, sp. ht. meas. 4-20349
 PbTiO_3 , optical gyration and electrogyration 4-35415
 PbTiO_3 , phase transition at low temps., X-ray and optical studies 4-2330
 $\text{Rb}_2\text{Co}_{0.85}\text{Mg}_{0.15}\text{F}_4$, random-field-induced destruction of phase transition 4-11706
 RbCrCl_3 , quasi-one-dimens. Jahn-Teller cryst., struct. phase transitions 4-11270
 Rb_2ZnCl_4 , optical and electro-optical study 4-2897
 Rb_2ZnCl_4 , optical gyration and electrogyration 4-35415
Xe, liq., microscopic dynamics, birefringence meas. 4-25717
 ZnF_2 , optical birefringence temp. depend., specific heat 4-51235
 ZnTeO_5 , cryst. growth, DTA, X-ray diffr., chem. anal., dielec. and optical props. 4-50225

bismuth

- see also nuclei with
- (0001), adsorption of O_2 , kinetic, electronic and structural features 4-25160
amorphous films, crystn. activation energy, film thickness depend. (*Russian*) 4-24723
atom, relative intensity meas. of L-shell X-rays in energy range 17 to 60 keV 4-43848
electric field gradient of Tl, probe atom depend. 4-34927
electron irradi., galvanomagnetic props. at 4.2K, rigid-band model 4-35014
EM wave reson. interaction (*Russian*) 4-30001
energy band and electron density calcs. 4-56185
epitaxial film, transport props., effect of annealing 4-35100
film, decoration of stearic acid single cryst., surface study by electron microscopy (*Japanese*) 4-2416
film, electron localisation, effect of boundary scatt., magnetoresist. study (*Russian*) 4-29991
film, inelastic scatt. and spin scatt. times, magnetocond. anal. 4-25458
film, nearly traceless 1/f noise 4-6846
film, thermal and elec. props. meas., steady state method 4-53682
films, 2D and 3D, weak localisation, spin-orbit and electro-electron interactions 4-25348
films, N_2^+ ion bombarded, oxidation inhibition, elec. resist. and AES studies 4-41033
Gaussian statistical props. of 1/f noise 4-6845
heteroepitaxy, on GaAs (001) and (110), and Ge (001), LEED study 4-56164
laser evaporation, influence of hydrodynamic perturbations 4-24989
layers, condensed, phase changes, supercond. transition, 4.2K 4-20346
liquid, contact reaction with Ti 4-2414
liquid, precision density meas. (*German*) 4-22762
liquid, struct. and viscosity, mag. field influence 4-29664
liquid, viscosity and elec. resist. meas. (*German*) 4-6541
liquid semimetal, elec. resist. meas. 4-45720
molecule, multiphoton excitation spectra and at. emission lines 4-14442
plasma produced by laser interaction, thermal radiation flux 4-49952
plate, nonlinear I-V characteristic, degenerate electron redistrib. 4-50825
quantum cond. oscils. near surface 4-40014
shock compressed, phase transform. 4-2270

bismuth continued

- solid state effects on thermal neutron cross-sections 4-39057
special purity, prod. by H reduction of trichloride 4-30666
thin film, 1/f noise parameter, mobility fluctuations anal., lattice scatt., expt. studies 4-30034
thin film, defect energy distrib., Vand theory eqn. modification 4-50674
thin film, density of electron states, singularities 4-15801
thin film, elastoresist. relax., surface state density (*French*) 4-40097
thin films, 1/f noise temp. depend. 4-56459
thin films, elec. characs., temp. depend. 4-30096
third order elastic consts. and acoustic mode vibr. anharmonicity 4-6420
transport coeffs., generalised Thomson-Voigt relations 4-39913
universal tight binding band structs. and bonding 4-6701
Al- Al_2O_3 -Bi struct., influence of electrode metal on negative differential resistance (*French*) 4-35088
BaS:Cu,Bi, new X-ray TLD phosphors 4-21051
BaS:Cu,Bi phosphors, gamma-ray induced thermally stimulated luminesc. study 4-16259
Bi I, hyperfine structure intensity measurements as a tool for quadrupole radial integral determination 4-49174
Bi II, hyperfine structure intensity measurements as a tool for quadrupole radial integral determination 4-49174
Bi I(Bi II)(Bi III), at. partition functions calc. 4-1052
Bi:Sn(Te), supercond. transition and Ac mag. susceptibility at ultralow temp. 4-11613
Bi-BiBr₃ liquid mixture, metal-nonmetal transition under press. 4-45632
Bi-BiBr₃ liquid mixtures, nonmetal-metal transition and elec. cond. under press. 4-45636
Bi-Bi₂ molten mixtures, sp. ht. and time of flight neutron diffr. studies 4-45348
Bi+H⁺, M-subshell ionisation cross sections X-ray prod. cross sections 4-9927
Bi+I, asymmetric collision, δ -electron spectrosc. obs. of inner quasiautomic shells 4-9900
Bi₂ and Pb₂ in Ne matrices, fluoresc. emission from PbBi, vibr. assignments 4-54783
⁸³Bi+F ions, direct ionisation and electron capture in M-shell X-ray prod. 4-11980
²⁰⁶Pb, produced by decay of cold implanted ²⁰⁶Po in Fe, NMR-ON study 4-40259
Gd-Fe garnet layers, Bi substituted, LPE growth 4-35586
GdMgB₂O₁₀:Mn(Bi)(Ce), energy transfer, luminesc. 4-46313
GdOCl:Bi³⁺, photoluminescence and luminescent centres 4-40520
GeTe:Bi, effects of impurity defects on mechanical props. 4-55902
LaMgB₂O₁₄:Bi³⁺, photoluminescence, Stokes shift and energy transfer 4-40521
LaOCl:Bi³⁺, photoluminescence and luminescent centres 4-40520
Li_{0.9}Fe_{0.1}O₄(Mn, Bi), magnetic cation distrib. 4-40163
PbTe/Bi compositionally modulated films, prep. and X-ray diffr. studies 4-39700
on Pd electrodeposits, effect on sorption props. 4-57574
Si:Bi, ion implanted, characterisation by Rutherford backscattering 4-45152
Si:Bi, laser-induced diffusion, TEM studies (*French*) 4-15698
Si:Bi, shallow high-conductivity junctions, fabrication of n-type regions using heavy ion implants 4-34505
Si:In(Tl)(Bi), photoluminescence lifetimes of bound excitons 4-56231
YGaO₃:Bi, luminescence props. and emission centres 4-21026
Y₂Ga₂O₇:Bi, luminescence props. and emission centres 4-21026
YIG:Bi, Ga bubble garnet films, annealing and mag. props. 4-56745
YOC:Bi³⁺, photoluminescence and luminescent centres 4-40520

bismuth alloys

see also bismuth compounds

- thermoelectric cooler thermoelectric props. measurement 4-21562
Ag-Bi, liq. alloy, activity coeffs. of O, 1273K 4-51634
Ag-Bi-Tl alloys, rapidly quenched phases, solid solubility and lattice consts. 4-24970
Au-Bi amorphous alloys prod. by laser quenching and ion irradi. 4-15382
Bi-Ge, liquid semimetal, elec. resist. meas. 4-45720
Bi-Ni compounds, T_c enhancement 4-15980
Bi-Pb, liq. alloys, activity of O 4-57186
Bi-Sb, dislocations revealed by Cu impurity diffusion and chem. etching 4-11147
Bi-Sb, liq. alloys, activity of O 4-57186
Bi-Te, liq., semicond., ²⁰⁹Pb Knight shift 4-46133
Bi_{1-x}Sb_x alloys, pure and Te doped electron conc. and cyclotron mobility 4-15876
Bi_{1-x}Sb_x, electron Fermi surface 4-2502
Bi_{100-x}Sb_x, cryst. growth from melt in microgravity environment 4-3049
Bi_{1-x}Sb_xTe_y, elec. cond. and electron mobility, elongation effects 4-34982
Cu/Pb-Bi, resist. of supercond.-normal metal interfaces at 0K 4-40120
Cu-Bi, corrosion, intercrystalline, factors controlled increase near grain boundaries 4-57400
Cu-Bi, equilib. segregation of Bi, analytical electron microscopy study 4-40797
Cu-Bi melts, containing O, quasicryst. lattice models 4-7429
Fe-Be, high temp. oxidation inhibition by Bi ion implantation 4-12244
Gd-Co-Bi amorphous films for magneto-optical recording 4-30244
Gd-Fe-Bi amorphous films for magneto-optical recording 4-30244
(GeSe_{3.5})_{100-x}Bi_x chalcogenide glasses, struct. charges by Bi doping 4-55743
In-Sb, contact melting diagrams construction 4-24978
In₂Bi, Fermi surface, de Haas-van Alphen study 4-45584
Li-Bi, liq., electron localisation and cpd. form., ⁷Li spin relax. study 4-40261
Mg₂Bi₂, semicond., electronic struct., X-ray spectra and Huckel technique studies 4-29882
Na-Bi dilute molten alloys, Na activity and struct. implications, EMF meas. 4-29304
Na-Sn dilute molten alloys, Na activity and struct. implications, EMF meas. 4-29304
Ni-Bi, Bi activities 4-35609
Pb-Bi/Nb₂O₅/Nb supercond. tunnel junctions, MM props. during quasi-particle tunnelling 4-2707
Sb_{1-x}Bi_x alloys, Hall effect and thermomag. props., commutation effects 4-15898
Sn-Bi alloy aggregates, elastic moduli, temp. variation up to eutectic temp., US study 4-35650

BL Lacertae-type objects continued

- OJ 287, quasi-simultaneous UV/visible obs. during 1983 active period 4-13426
 optical identifications of Einstein Medium Sensitivity Survey X-ray sources 4-4111
 parent populations and bright elliptical galaxies activity 4-42535
 PKS 0521-36, UV spectra var. 4-53262
 PKS 0548-322, X-ray spectra time var. 4-58518
 polarised QSOs, 0.35 to 3.5 micron photometry 4-22474
 QSOs and BL Lacertae objects, relationships and nature of objects 4-36746
 radio polarisation rotators, 2.7 GHz obs. of flux density and linear polarisation 4-17603
 radio-quiet BL Lac objects search, polarisation obs. 4-53260
 relativistic beaming and continuum var. 4-58515
 X-ray flux densities, Einstein Observatory meas. rel. to synchrotron self-Compton predictions 4-31902

black holes*see also gravitational collapse*

- 10 M_{\odot} black holes in globular clusters, form. through accretion of gas in cluster core 4-22421
 σ -model, nonlinear, global identity 4-42796
 accelerating, in mag. field, geometric props. 4-47952
 accretion, MHD 4-47641
 accretion disks, theory (*Japanese*) 4-4026
 active galactic nuclei, interaction of stars with accretion disc around massive black hole 4-4087
 active galactic nuclei, thermal interpretation of X-ray spectra 4-8599
 algebraically special perturbations 4-36987
 V1343 Aquilae (SS 433), compact object mass-black hole evidence 4-42480
 asymmetric universe, GUTs and baryon asymmetry origin, review 4-36766
 binary black holes from massive Population III stars, gravit. wave radiation 4-58466
 blue shifts near accreting compact objects 4-36703
 Centaurus A, gamma-ray lines and nucleus massive black hole accretion disc plasma 4-13455
 compactified supergravity, light-like singularities 4-22662
 conference, lattice gauge theories, supersymmetry, unification, Bad Honnef, Germany (June 1983) 4-42598
 conference on unified field theories with >4 dimens, Erice, Italy (May-June 1982) 4-42599
 Cygnus X-1, comparison with HEAO 2 obs. of X-ray source (LMC X-3) 4-13359
 Cygnus X-1, thermal interpretation of X-ray spectra 4-8599
 $d=11$ supergravity, local compactification and black holes 4-47977
 early Universe, monopole annihilation and gravitational clumping in stars and black holes 4-31946
 early Universe, singularities and particle horizons, quantum field effects 4-53329
 evaporation, 2-D model, effect on space-time geometry 4-47944
 evaporation, mass-analytic quantisation and uniform accel. 4-17775
 evaporation in Vaidya metric 4-27393
 formation in early Universe 4-13459
 galaxies active nuclei, gamma rays and neutrinos as complementary probes 4-4120
 Galaxy centre, gamma ray continuum and 511 keV line mechanism 4-27185
 Galaxy centre, infalling ionised gas in central 3 parsecs 4-22470
 gamma-ray emission from close binaries with pulsar or accreting black hole 4-4049
 in globular clusters, effects on post-collapse evolution of gaseous cluster model 4-22449
 in globular clusters, form. through accretion of gas by stars 4-22447
 gravitational mass and ang. momentum of two black holes in equilib. 4-13559
 gravitational radiation emission from astronomical objects, theory 4-32128
 gravitational radiation emitted by N particles in circular orbits 4-22422
 gravitational radiation from a particle scattered by a nonrotating black hole 4-22423
 gravitational waves, plunging particle induced 4-22650
 hoop conjecture for black holes, minimum size for static charged perfect fluid bodies 4-22653
 inflationary cosmology, baryon number, Hawking radiation, big-bang, horizon and flatness 4-8621
 jet bursts from galaxies (*French*) 4-8582
 Kerr, orbits through the ergosphere 4-53203
 Kerr type, radiation emitted by falling nonzero ang. momentum particle 4-22649
 LMC X-1, new massive X-ray source, spectrographic orbit and secondary component mass 4-27122
 LMC X-3, blackhole and B-type stars, radius, masses and mass transfer 4-4036
 LMC X-3, X-ray obs. by HEAO 2 and comparison with X-ray source (Cygnus X-1) 4-13359
 massive black holes in radiogalaxies nuclei, accretion disc explosion and jet form. 4-13425
 mathematical theory (book) 4-53376
 Maxwell field propagating near Schwarzschild black hole, quantum vacuum energy 4-36984
 nature, formation and characts. (book) 4-47782
 neutrino fields possessing black holes, Einstein-Weyl eqn. soln. 4-22317
 neutron star, general relativistic collapse of rotating and accreting object 4-36705
 NGC 1052, elliptical galaxy, spectra anal. and nucleus photoionisation models 4-42543
 O(2) extended supergravity, possible supersymmetry black hole soln. 4-42832
 optically thick accretion 4-36704
 pregalactic black holes, as possible sources of IR background 4-22486
 primordial black holes of planetary mass, effect on form. of Population III stars and galaxies 4-31936
 QSOs, recent evidence for supermassive black hole model 4-36746
 quantum field temp. in Rindler space, horizons and generating functionals for temp. Green's functions (*Chinese*) 4-53202
 quantum gravity and black holes 4-42809
 quasars, interaction of stars with accretion disc around massive black hole 4-4087

black holes continued

- quasars, thermal interpretation of X-ray spectra 4-8599
 quasi-normal oscillations of a Schwarzschild black hole 4-42488
 relativistic cosmological phase transitions, bubble nucleation, effects on nucleosynthesis and large inhomogeneity 4-22496
 rotating black holes, vacuum polarisation of massive fields 4-53205
 scattering and absorption of small particles by a black hole 4-42789
 Schwarzschild blackhole, massive, thermodynamical fluctuations 4-27115
 second law of black hole physics and black holes in EM fields 4-4028
 Seyfert galaxies nuclei, accretion discs rel. to broad line profiles and asymmetries 4-4090
 Smarr's zero-frequency-limit calc. of gravit. radiation produced in black-hole collision 4-8515
 spherically accreting black holes, shock model for quasars/active galactic nuclei 4-4027
 spinning test particles as locally nonrotating observers in Kerr spacetime 4-8513
 star swallowing luminosity of massive black holes in normal galactic nuclei 4-53201
 stars tidal detonation by massive black holes 4-3972
 stellar remnants from recent supernovae, review of obs. 4-42487
 supergravity, 11-D compactification, singularities and horizons 4-42800
 supermassive black hole, escape from galactic nucleus due to plasmoid ejection, implications 4-13423
 supermassive black holes, geodesic motions in Ernst space-time 4-36978
 supermassive black holes accretion disks, X-ray emission and dynamo generated mag. field role 4-58379
 supersymmetric black holes in $N=2$ supergravity theory 4-8514
 Teukolsky spin-weighted spheroidal functs. from Heun confluent funct. 4-2378
 thermal quantum radiance, dynamical origin 4-17774
 thermodynamics, Tolman-Oppenheimer-Volkoff eqn. singular solns. 4-53204
 thick accretion disks, radiation accel. of plasma jets 4-27114
 ultrarelativistic particles moving in mag. field in curved space-time, synchrotron emission 4-4029
 vacuum polarization near a distorted black hole 4-22652

blast waves *see shock waves***blazars** *see BL Lacertae-type objects***bleaching, optical** *see optical saturable absorption***blending**

- polystyrene, toughening by blending with styrene-siloxane copolymers; compatibility, mech. props. 4-30808
 polystyrene-polyvinyl methyl ether blends, compatibility, Fourier transform IR 4-30465

Block walls *see magnetic domain walls***blood***see also haemodynamics*

- 425 MHz radiofrequency radiation effects on lymphocytes, laboratory exposure of rats 4-41569
 absorbed dose in mice injected with ^{211}At , comparison between X-irrad. and ^{211}At -treated mice 4-52489
 adsorption of plasma proteins by polyhydroxyalkyl methacrylate, biocompatibility 4-3650
 aggregates in suspension flowing around a solid body, nonuniform distrib., blood flow appl. 4-21690
 artificial substitutes using perfluorocarbon particles, dimensional anal. by electron microscopy 4-43141
 B-lymphocytes, radiation-induced change in function, nonsyngeneic stem cells inactivation (*Russian*) 4-36168
 brain-blood barrier, rat, modified method for radiotracer permeation meas. 4-3665
 brain-blood barrier rel. to microwave irrad. 4-36164
 capillary blood flow in murine tumours, feet, and intestines during localised hyperthermia 4-8031
 capillary tube viscometer for plasma viscosity meas. (*German*) 4-21844
 cell separation by mag. filtration using rare earths as soluble paramag. agents 4-8158
 cell survival kinetics in peripheral blood and bone marrow during total body irrad. for marrow transplantation 4-36185
 conductometric cytometer, signal conversion ct. for recording with pulse height analyser 4-58050
 density meas., significance in blood rheology 4-21826
 dielectric analysis of blood by means of a raster-electrode technique 4-47118
 erythrocyte aggregation, effect of immunoglobulins and IgG-fragments, human expts. 4-21692
 erythrocyte and ghost cytoplasmic resistivity and voltage-dependent apparatus size 4-26368
 erythrocyte deformability, abolition by malaria parasite maturation 4-52306
 erythrocyte density and O_2 transport, training-dependent changes 4-31195
 erythrocyte electrophoretic mobility meas. by laser cytophotometry, multiple sclerosis diagnosis appl. 4-8071
 erythrocyte ghosts, human, RF irradiation, 330 MHz, heat capacity study 4-21733
 erythrocyte ghosts, photoelectron microscopy obs., lectin binding sites imaging with colloidal Au markers 4-52307
 erythrocyte irradiation studies, safe exposure levels of He/Ne laser light of human body appl. 4-47033
 erythrocyte membrane, cholesterol content rel. to viscoelasticity and fluidity 4-21627
 erythrocyte membrane, constitutive eqns. incorporating evolving preferred configuration 4-57864
 erythrocyte membranes, human, water exchange, NMR investig. 4-41477
 erythrocyte membranes, viscoelastic props. in HF elec. fields, meas. method 4-41467
 erythrocyte plasma membrane, RF EM radiation effect, calorimetric approach 4-52387
 erythrocyte sedimentation, settling curve derivation 4-21630
 erythrocyte soln., study by correlation heterodyne spectrometer 4-8169
 erythrocyte suspension, chicken, intracellular distrib. and transport props. of small molcs., NMR study 4-7952
 erythrocyte suspension, nonNewtonian viscosity theory, erythrocyte deform. effect 4-21684
 erythrocyte suspensions, bovine, complex viscosity expts. 4-21688
 erythrocyte suspensions, PMR spin echo relax., H^+ T_2^* compartmental location effect 4-7948
 erythrocyte transit time through 5 μ Nuclepore filter, obs. 4-31188

blood continued

- erythrocytes, human, effects of UV on aggregation 4-52391
 erythrocytes, malarial parasite infected, Mossbauer spectroscopy 4-41464
 erythrocytes aggregation, background and development of space project 4-52505
 erythrocytes and ghosts, X-ray-induced struct. changes in membrane proteins and cell morphology 4-47038
 erythrocytes and phosphatidylcholine/phosphatidylserine vesicles, free energy pot. for aggregation 4-21629
 erythrocytes osmotic fragility, photometric determ. in haemolysis chamber 4-26560
 erythroleukaemia, murine, differentiating cell line, effect of heat on haem induction by radiation 4-7938
 ESR of human blood, erythrocytes and plasma at 77K 4-31185
 flow in circular duct, laminar heat transfer 4-47018
 flow in pig skin after sunscreens and artificial sunlight, laser Doppler meas. 4-41537
 flow through small diameter tubes, 2-fluid model 4-31245
 haematoencephalic barrier, permeability changes induced by combined effect of γ -irrad. and modified gas medium (Russian) 4-36178
 haematopoietic early progenitor cells, mouse, proliferative compensation of residual radiation damage 4-52398
 haemoglobin, oxy- and desoxy-, γ -resonance absorpt. lines form 4-31168
 haemoglobin, T state, human, O₂ bonding, cryst. struct. 4-26357
 haemoglobin in viscous solns., conformational change rates, laser photolysis study 4-21615
 haemoglobin Zurich, CO binding to β chain, ns flash photolysis study 4-21613
 haemolysate-loaded liposome suspensions, flow props. 4-21694
 haemopoiesis, prenatal irrad. effects on foetal, neonate and young adult mice 4-47041
 haemopoiesis in the beagle foetus after in utero irradiation 4-8040
 haemopoietic colony-forming cells, mouse, response to γ -radiation and HTO (Russian) 4-36173
 haemopoietic deficiencies, residual, in mice after repeated X-ray doses, cellular anal. 4-36186
 haemopoietic stem cell changes during long-term irrad. at different dose-rates (Russian) 4-12635
 haemopoietic stroma precursor regeneration after irrad. and curettage (Russian) 4-12549
 haemorheological factors of O₂ transfer in a capillary tissue unit 4-21695
 image-analytic cytometry slide analyser design 4-26548
 infarcts, hydroelastic process model 4-21723
 ion-selective electrode system, AM 721, for Na and K estimation in plasma, urine and whole blood 4-47096
 leucocyte labelling with colloidal ¹¹¹In in whole blood 4-31337
 leukocytes, mononuclear, human, effects of γ -radiation and hyperthermia on DNA repair and NAD⁺ level 4-41586
 Leukocytes human, moving, virus-induced order-disorder transition 4-52309
 light scattering, effects of haemolysis, haematocrit, erythrocyte swelling and flow rate 4-21685
 lung capillary pressures, isogravimetric and venous occlusion, comparison in isolated dog lungs 4-16912
 lymphocyte spontaneous cytotoxicity following local radiation therapy for bladder carcinoma 4-12632
 lymphocytes, human, γ -ray-induced proliferation delay duration, estimation by harlequin staining technique 4-41589
 lymphocytes, human, adaptive response to low concs. of [³H]thymidine or X-irrad. 4-52402
 lymphocytes, human, chromosome aberrations induced by 23 MeV γ -particles, dose-effect relationship 4-57953
 lymphocytes, human, chromosome aberrations induction by 4.9 MeV protons 4-21739
 lymphocytes, human, chromosome damage at 1st division after ⁶⁰C γ -irrad. 4-8057
 lymphocytes, human, irrad. at G₁ stage, DNA unscheduled synthesis (Russian) 4-12536
 lymphocytes, mouse, hyperthermic enhancement of antibody-complement cytotoxicity 4-21633
 lymphocytes, T and B, membrane surface area and viscosity determ. using fluoresc. probes 4-31183
 magnetic filtration of cells, vol. and surface mechanisms 4-57918
 measurement of skin blood flow, methods 4-52516
 microcirculatory system, regulating mechanism (Russian) 4-36156
 microwave coagulating scalpel, design and performance 4-41604
 microwaves, 434 MHz, rel. to nonthermal effects on human whole blood 4-21730
 Myocardial perfusion, regional changes meas. using dynamic CT and contrast medium, dog expts. 4-12683
 myocardium, regional perfusion quantification by exponential infusion of ¹¹C-butanol, dog expts. 4-41613
 natural killer cell activity, murine, suppression by 2450 MHz microwaves 4-31280
 NMR and ESR studies 4-12677
 optical blood analyser with hydrodynamic focusing of fluid, flow-type cuvette design 4-58051
 organ flow curve, stabilised deconvolution 4-26471
 phagocytic cells in mouse blood, early effect of sublethal X-irrad., chemiluminesc. obs. 4-21740
 plasma, human, adrenalin diffusion coeff., D NMR spin echo meas. 4-30354
 plasma lipoproteins, interaction with bilayer lipid membranes, role of surface charge 4-52285
 platelet adhesion on HEMA-styrene copolymer, adsorbed protein effect 4-7945
 platelet survival curve, biological approach 4-21632
 platelets, human, aggregation, Ca excited levels, photoionic detection method 4-26561
 platelets, light scattering by homogeneous sphere with radial projections 4-38391
 polar fluid, 3-layered Couette flow, nonzero particle spin boundary condition, blood appl. 4-31240
 pulmonary vascular permeability, effects of transient pulmonary hypertension 4-16913
 pulsatile blood flow, 2-phase model with entrance effects 4-31242
 pulsed microwaves, haematologic and immunologic effects in mice 4-31281
 radiolabelled blood cells, dosimetry 4-16993
 red blood cell in plane Couette flow of plasma, 2D approach 4-47020

blood continued

- red blood cell membrane of rats, low power He-Ne laser irrad. effects (Chinese) 4-57945
 red blood cells, cryoprotection, glass-forming tendency and amorphous state stability 4-31191
 red cell suspensions, blood flow in straight, bifurcating or locally constricted cylindrical tubes 4-16918
 reflectance variation of Ar⁺ 501.7 nm laser line under DC mag. field, malignant disease detect. method 4-21769
 renal damage after irrad., radiation nephritis and anaemia, functional assay 4-36181
 rheological behaviour of bovine blood forming artificial rouleaux 4-21693
 rheology, circulation and arterial obstructive conditions (German) 4-36155
 serum albumin, bovine, O₂ effect in radiolysis 4-57958
 suspensions, acoustic backscattering cross-sections meas. (Japanese) 4-31302
 T lymphocytes, K⁺ channels, patch clamp study using monoclonal antibody adhesion 4-36088
 thermal regulation mechanism, effect on rheology 4-21701
 thrombocytes, native actin detect. by fluoresc. method 4-52299
 vascular endothelial stress fibres, human, induction by fluid shear stress 4-47030
 vascular system, relations between heat transfer is perfused biological tissue and local symmetry components 4-52279
 vessels, area/dia.meas., image sensor and signal processing equipment (Japanese) 4-8170
 vessels, laser irrad. effect on mech. props. after welding 4-47057
 viscoelastic behaviour, tangent simple system method appl. 4-21699
 viscoelasticity and thixotropy, stress form. and relax., unified model 4-21698
 viscosity and erythrocyte deformability, effect of high osmotic media 4-21696
 white blood cells motion characterisation and pseudopod kinetics, dynamics scene anal. appl. 4-7958
 X-ray induced chromosome aberrations and spontaneous sister chromatid exchanges, storage effects 4-47037
²⁴¹Am, haematologic effects in 1976 Hanford exposure incident 4-16990
- blood circulation** see haemodynamics
blood dynamics see haemodynamics
blood flow see haemodynamics
blood platelets see blood
blowing problem see boundary layers
blue brittleness see brittleness
Bole diagrams
 see also frequency response
 operators and fractional derivatives for viscoelastic constitutive equations 4-5857
- boilers**
 Brown Boveri reactor steam generator, flow induced oscill. calc. (German) 4-9383
 BWR LOCA, steam generation rate from falling film on heater rod 4-23332
 combustng flows, optimisation, measurement techniques 4-49906
 fission reactor PWR, steam-generator heat flux behaviour, natural circulation cooling modes 4-23274
 furnaces, fluidised-bed, pulsed air supply to aid combustion 4-7802
 fusion reactor double-walled steam generator, T diffusion, thermal and mechanical design 4-9489
 IN600, steam generator tubing, eddy current probe detection of defects, temp. effects 4-16584
 KWU steam generators, operating experience for Incoloy 800 tubes (German) 4-9316
 LMFBR components testing under thermal transients, data acquisition and control 4-18731
 LMFBR steam generator tubes, dynamic stability expts. 4-28135
 nuclear, feedwater valve transfer simulations, NSSS thermohydraulic response, training appl. 4-23282
 nuclear heat exchange tube bank, vibr. eval. (Czech) 4-43616
 nuclear heat exchanger and steam generator vibrs., PIPEAU-2 code 4-48692
 nuclear power station, wind tunnel air flow meas. using laser Doppler anemometry 4-49907
 nuclear power station steam generator tube repair using tubular sleeves (German) 4-18728
 nuclear power stations with water-moderated water cooled reactors, water condition standards 4-48690
 nuclear reactor, crossflow countercurrent involute-tube heat exchangers, design calcs. (French) 4-54341
 nuclear steam generator tube vibrations due to turbulent jets from baffle plates 4-9330
 nuclear steam generators, Canadian experience, corrosion, denting and other damage (Spanish) 4-28088
 nuclear steam generators, tube-to-tube interaction characts. determ., wear, fretting 4-33101
 petroleum coke and pitch residues, utilisation for boiler fuel (Japanese) 4-21518
 polycyclic organic emissions from coal-fired utility boilers, meas. 4-3509
 pulverised fuel fired, oil combustion in tertiary air type burners 4-7801
 PWR, Ko-Ri Unit 1 water chemistry 4-23172
 PWR once-through steam generator, lane-blocker assessment, THEDA code verification 4-752
 PWR steam generator, γ -exposure rate distrib., maintenance personnel dose appl. 4-928
 PWR steam generator, corrosive faults at baffleplate 4-9331
 PWR steam generator, Hall-plate meas. of magnetite buildup 4-28090
 PWR steam generator and tube degradation countermeasures 4-4986
 PWR steam generator repair/replacement workshop 4-14104
 PWR steam generators, condensate demineraliser performance during high condenser leakage 4-751
 PWR steam generators, remote digital in-service inspection 4-28128
 PWR steam generators tube ruptures, operating experience (German) 4-48704
 recovery boilers, leak detection by acoustic emission 4-49640
 shell-and-tube heat exchangers, 2-dimens. isothermal flow computation, nuclear plant appls. 4-28140
 steam generation unit furnace, combustion meas. 4-46767
 steam generator decontamination waste, factors affecting process system selection 4-18585

boilers continued

- steam generator leak detection in LMFRs 4-54339
- steam generator repair and replacement, occupational exposure reduction 4-33186
- steam generator replacement, maintenance of ALARA radiation levels 4-28214
- steam generator replacement, repair, maintenance, radiation exposure consequence 4-28215
- steam generator replacement project, health phys. program 4-33187
- steam generator sleeving, personnel radiation exposure minimisation 4-28230
- steam generator tube performance for water cooled reactors during 1981 4-28141
- steam generator tube vibr. induced by two-phase jet flows from baffle plates 4-43628
- steam generator tubes, denting mechanism, kinetic studies 4-4987
- steam generator with chemically reacting coolant, heat transfer mechanism (Russian) 4-14100
- thermal performance evaluation of MSW-fired steam generators—a new approach 4-3476
- VVER nuclear power plants in USSR, construction, operation and engineering improvements 4-37828
- waste heat boiler shape optimisation using zonal model of radiative heat transfer (Polish) 4-49655
- Westinghouse Advanced PWR, public safety enhancement, LOCAs, steam generator tube rupture 4-23403
- wood burning, capacities up to 60 kW (French) 4-7800
- O₂ monitoring in flue gases 4-27503

boiling

see also boiling point

- air bubbles in liq., acoustic oscill. during growth and breakoff 4-45270
- annular boiling flow, wall press. fluctuations, stochastic characts. 4-1808
- aqueous salt solns., boiling, heat transfer study 4-44565
- binary mixture, pool boiling phenomena 4-11263
- cine recordings of boiling processing, computer-aided processing (Russian) 4-55977
- concentric annular gap, convective boiling heat transfer 4-1723
- contact preheaters, vacuum-type, sudden decomposition, water flashing 4-19712
- cryogenic liqs., heat transfer in centrifugal force field 4-34071
- cryogenic liquids, conditions for start of boiling 4-42970
- cryogenic liquids, under natural convection conditions, heat exchange in film boiling 4-14966
- diabatic two-phase annular flow, nucleate boiling 4-38704
- dielectric in horizontal slots, boiling, heat transfer 4-19801
- distilled water boiling on tube bundles, heat transfer 4-19803
- film boiling on vertical surface, mathematical relation 4-14975
- fluid, bubbling, boiling, gas content and temp. effect on acoustics 4-29158
- Freon 22, forced convection boiling in tube, subcritical press., crit. heat flux (Japanese) 4-34192
- gas-liquid media, two-phase flow, shock wave propag. 4-1784
- heat and mass transfer, conf., Minsk, USSR, Sept. 1980 4-17627
- heat transfer dynamics, negative feedback control 4-5890
- heat transfer relationships for boiling in pipes 4-33923
- horizontal steam generating pipes, flow and boiling crisis study 4-19870
- incipience, rel. to contact angle hysteresis, dynamic effects 4-38690
- inverted annular boiling, liq. penetration to vapour film 4-1807
- kinetics of boiling and bubbling, reasons for generation of acoustic oscillations 4-28969
- laminar film boiling, finite difference method study 4-24421
- liquid flow, film boiling, instability 4-14967
- liquid-liquid film boiling of Freon-11 on liquid metal 4-27929
- metals, ultrashort heat transients under laser irradi. 4-14875
- oil-fluorocarbon mixture boiling heat transfer, effect of fluorocarbon concentration (Japanese) 4-39451
- oscillations of flow in loop with natural circulation of boiling fluid 4-34044
- polymer solns., conc., heat transfer in solvent evaporation 4-34066
- saturated liquids on horizontal heated surface, minimum film boiling, press. depend. 4-44348
- shock waves in boiling liquids 4-49855
- solar powered absorption type chiller, boiling experiments 4-57661
- stagnation boiling 4-34176
- sugar, thermolabile suspensions, boiling, heat exchange 4-44350
- superheated liqs., boiling onset dynamics 4-19714
- ternary homogeneous systems, bubble point isobar eqn. 4-55986
- thermal instability in pool boiling on wires at constant pressure 4-44342
- thermosiphons, internally baffled, boiling crisis, flow props. 4-19871
- Tokamak fusion reactor, liquid metal in mag. field, convection, boiling heat transfer (Japanese) 4-14220
- vapour bubble shape in subcooled boiling, light refraction 4-19873
- vapour-liquid equilibria for 15 binary systems 4-55985
- water, boiling, heat to below saturation temp., hydraulic resist. meas. 4-44727
- water, heat transfer, crossflow effect 4-19824
- water, pool boiling on microsurfaces, temp., heat transfer 4-19713
- water bubble departure diameter, press. depend. 4-38689
- Al₂O₃ suspensions in water, heat transfer, pool boiling study 4-24344
- H₂, electrolytic gas generation, heat transfer enhancement mechanism, photographic study 4-44340
- He I, superheated, boiling, light-induced bubble nucleation, photographic study 4-11361
- KHCO₃ soln., boiling, CO₂ desorpt. 4-35935
- N₂ boiling on porous surface 4-14872

boiling point

see also boiling; heat of vaporisation

- astatotrifluoromethylbenzene isomers, synthesis, identification, boiling points 4-57622
- compressibility, critical volume, pressure, computer model (Chinese) 4-29503
- generalised eqn. of state, boiling point as parameter 4-24954
- organic cpds., entropy of vaporisation at boiling point, group contrib. method 4-29584
- ternary homogeneous systems, bubble point isobar eqn. 4-55986
- vapour-liquid equilibria for 15 binary systems 4-55985

bolometers

- air-bridge microbolometer for far-infrared detection 4-37172
- composite bolometer using Au absorbing film 4-48195
- IR detectors, sensitivity (Dutch) 4-48197

bolometers continued

- large-mesh bolometric grids as laser radiation detectors 4-17937
- low temperature IR source calibration and traceability of Arnold engineering development centre 4-8950
- radiation losses from HBTXIA reversed field pinch, bolometric meas. 4-15226
- thermistor, pressure change detection appl. 4-27591
- thin film transducers, heat and strain sensitive 4-22778
- thin-film resistance bolometer IR detectors, prep. and performance 4-37179
- transducers for multifunctional microwave comparison meters 4-32277
- ultimate sensitivity, optimisation and amplifier coupling 4-43050
- InSb, hot electron bolometers, nonequilibrium Johnson noise 4-27592
- Si bolometers, spectral characts. 4-32312
- Si monolithic bolometer for millimetre, submillimetre spectral range 4-53751

Boltzmann equation

see also transport processes

- binary gas mixture, Boltzmann eqn. Cauchy problem, conservative algorithm for soln. (Russian) 4-34219
- binary gas mixtures, multiple temp. multiple velocity gas dynamics eqns. (Russian) 4-34217
- Boltzmann-Fokker-Planck transport eqn., inverse problem solns. 4-4361
- Broadwell model, asymptotic expansions, fluid dynamic approx. 4-209
- cathode sheath, nonequilibrium, kinetics and gas heating 4-55548
- condensed Bose gas, relax. processes, self-consistent approx. anal. 4-42849
- dense fluids, Boltzmann eqn. based kinetic theory 4-32164
- direct simulation methods for solving Boltzmann equation 4-211
- electron Boltzmann eqn. soln. in higher order Legendre polynomial expansion 4-10822
- electron heat transport of non-Maxwellian distributions in plasma 4-38949
- electron transport theory, time-depend., anal. benchmark solns. from Boltzmann eqn. 4-37743
- frame-indifferent kinetic theory 4-29229
- gas flow past an obstacle, steady soln. 4-27301
- gases, electron or light ion swarm diffusion tensor in elec. field 4-55669
- generalised Fokker-Planck eqn. derivation from Boltzmann transport eqn. 4-37019
- generalised Lorentz gas, Boltzmann eqn. 4-42892
- H theorem, rel. to generalised master eqn. 4-42845
- heavy ion collisions, Boltzmann eqn. soln. for inclusive reactions, nuclear eqn. of state 4-37657
- imperfectly ionised plasma, kinetic eqn. from Boltzmann eqn., inelastic processes 4-55487
- ionised gas, glow discharge positive column, heat flow processes 4-15323
- Kac model of nonlinear Boltzmann eqns., stationary solns. 4-22735
- kinetic, numerical soln., spectral method using Fourier transforms (Russian) 4-34218
- Knudsen flow, distribution function macroparameters, closed system, of eqns. 4-44658
- local entropy production and Gibbs relation, nonlinear revised Enskog eqn. calcs. 4-42904
- Lorentz gas, Boltzmann-Grad limit and Boltzmann eqn. soln. 4-4353
- metallic thin film, Thomas-Fermi impurity potential 4-25273
- mode coupling in equilib. time correlation functs., Klimontovich eqn. calc. 4-27401
- molecular collisions in gases, simulation using stochastic laws from Kac's master eqn. 4-19905
- naphthalene, injected electrons, band motion at low temps., Boltzmann eqn. anal. 4-25334
- neutron transport theory, 1-D code ONEDANT 4-37727
- nonlinear BGK model, continuity of local Maxwellians 4-27461
- nonlinear Poisson-Boltzmann eqn., soln. for flat slit or sphere 4-33583
- p-q model Boltzmann eqn. 4-27462
- partially ionised plasma, elec. cond., linear response theory and improvements of Lenard-Balescu eqn. 4-6005
- path integral successive collision method extension to bounded dynamic multi-swarm problem 4-48051
- plasma, nonstationary electron Boltzmann eqn. soln., generalised boundary conditions 4-15057
- quantum Boltzmann eqns. for binary interactions between identical particles 4-17819
- quantum corrections to the Boltzmann equation for electrons in a disordered medium 4-5986
- quantum systems, nonlinear transport processes, kinetic theory and irreversible thermodynamics 4-49914
- quantum transport in high elec. fields for electron-reson. impurity systems 4-45800
- radiation transport and hydrodynamics, in high-density matter, dispersive effects 4-23866
- radioisotope, analyser, deterministic methods for logging problems 4-13603
- rarefied gas cloud expansion, discrete vel. method 4-49858
- relaxation, in Dohler's cond.-thermopower anal. 4-39894
- scattering simulation 4-5323
- semiconductor alloys, electron scatt., Boltzmann eqn. 4-20641
- semiconductor structure, short, low field mobility, size effects 4-20721
- semiconductors, distribution function instability in interelectronic scatt. 4-45764
- semiconductors, free carrier optical mixing, magneto-conductivity tensor, magneto-optical phenomena 4-46234
- semiconductors, nonequilibrium phonon distrib. function, cyclotron output 4-45277
- semiconductors, nonlinear current density in DC mag. field, higher harmonic generation 4-25388
- spatially homogeneous Kac's model of nonlinear Boltzmann eqn., closed soln. 4-53636
- spherical harmonics method utilising polynomials which are ang. and spatially depend. 4-48620
- TEM, beam spreading, Boltzmann transport eqn. 4-22883
- Al thin film, Thomas-Fermi impurity potential 4-25273
- Ar, energy distrib. of electron escaping from anode perforations in discharge 4-39035
- Ar HF discharges, electron energy distrib. and excitation rates 4-24671
- AuNi dilute alloys, elec. resist., free electron scatt. by localised pot. 4-29957
- CO, nonequilibrium discharge, vibr. kinetics and dissociation rates 4-50107

Boltzmann equation continued

- CO, nonequilibrium, discharge, self-consistent electron energy distrib. function 4-50108
 Cu, magnetoresistivity, Boltzmann eqn. calc. 4-20631
 F_2 , electron attachment rate coeffs. calc. 4-19255
 Ge_2 , IR modulation, hole-hole collisions, warm hole distrib. 4-15883
 p-Ge, phonon limited cond. and Hall mobility calcs. 4-20653
 Ne, ionisation relax. behind shock waves in shock tube, non-Maxwell electrons and wall boundary layers effect 4-15001
 O_2 , electron attachment cooling, Boltzmann eqn. eigenvalue anal. 4-23807
 SF_6 (N_2) mixtures, electron transport coeffs. 4-34215
 Si, ion implantation, Boltzmann transport equation based 2D model for impurity distrib. determ. 4-29454
 p-Si, phonon limited cond. and Hall mobility calcs. 4-20653
 SiH_4 discharges, electron kinetics anal. 4-20044
 Xe, ionisation relax. behind shock waves in shock tube, non-Maxwell electrons and wall boundary layers effect 4-15001

Boltzmann equation (gases) see kinetic theory of gases**Boltzmann-Vlasov equation see Vlasov equation****bond angles**

- acylhydrazines, spin-spin coupling consts. of HNNH angle, limiting values 4-23723
 auxin, mol. conform., EPEN/2 calcs. (German) 4-33487
 1-azetene, photoelectron spectrum, MNDO calcs. 4-14328
 borate polyhedra, distortions and polymerisation, ab initio SCF calc. 4-20138
 2-bromo-1-chloro-2-methylpropane, mol. struct., conformation, gas phase electron diff. 4-43988
 1-bromogermatrane, cryst. and mol. struct., X-ray diff. study 4-34467
 bromomethyl methyl sulphone 4-54882
 bromomethylmethylchlorosilane, mol. struct., conformation, gas phase electron diff. 4-43988
 α -bromovinyl methyl sulphone, mol. struct., gas phase electron diff. study 4-54882
 chloroacetaldehyde, struct. and conformation studied by gas-phase electron diff. 4-5362
 closo-carboranes, ^{11}B -H spin coupling consts., correl. with struct. features 4-19082
 cyclopropylacetylene, mol. struct. by electron diff.-microwave spectra combined anal. 4-14607
 dichlorotetramethyldisiloxane, mol. struct., conform. gas phase electron diff. obs. 4-14571
 diligol β -0.4 (1-phenyl-2-phenoxypropan-1-OL), conformation calcs. 4-10194
 dimethylnitromethane, gas phase, geometrical struct., electronography method 4-33537
 ethylene glycol, conformational anal. and mol. struct., ab initio calcs. 4-43786
 glycine methyl ester, ground state rot. const., ab initio study 4-18905
 hexamethyldisilazane, mol. struct., conformation, gas phase electron diff. 4-43987
 ice, charge partitioning between Bjerrum and ionic defects, ab initio MO calcs. 4-29466
 ice Ih, struct., neutron diff. investig. 4-29406
 5-methylarabinosylcytosine, a potential antiviral nucleoside, struct. and conformation 4-2185
 methylchlorophosphine, mol. struct., electronographic anal. 4-28565
 N-methyltrichloroethylenediamine, mol. struct., gas phase electron diff. 4-28564
 β -naphthyl-diazo 2-hydroxycyclohexane, cryst. and mol. struct. 4-15450
 nickel-2-isopropylquinoline-8-thiolate, cryst. and mol. struct. determ. 4-11120
 octamethyltrisilane, mol. struct., gas phase electron diffraction 4-38327
 organic molecules, valence angle deform. energy and torsional energy 4-9871
 phenylphosphine, mol. struct., electronographic anal. 4-28565
 o-phthalato(aquo)bis(ethylenediamine)nickel(II) hemihydrate, cryst. struct. determ. 4-11119
 silica, vitreous densified, Raman spectra and bond angles 4-11892
 tetrahedrally bonded networks, ang. distortion and hybridisation of chem. bonds 4-39138
 N-p-toluy-N-methylhydroxylamine, struct. study 4-11116
 triatomic molecules, AH_2 , AHF and AF_2 type, equilib. geom. by NDDO method 4-9678
 trimethylnitromethane, gas phase, geometrical struct., electronography method 4-33537
 BF_3 radical, ESR spectra and struct., formed in KBF_4 cryst. by γ -rays 4-23727
 $C_{28}H_{28}ClSb$, cryst. struct. determ. 4-11129
 Co(I) complex, cobalt o-quinonediimine, cryst. and mol. struct., X-ray diff. study 4-2183
 Cs-halides, bond bending forces in cryst. dynamics 4-55783
 Cu II dimers with aromatic N-oxides, exchange interaction, INDO calc., bridge angle effect 4-23605
 a-Ge sputtered films, ordering prior to crystn., Raman scatt. and EXAFS study 4-6273
 $H^+(CO)_5$, struct. study 4-18928
 $H^+(N_2)_5$, struct. study 4-18928
 H_3O^+ , ground electronic state pot. energy surface, ab initio rot.-vibr. energy 4-14345
 $LiIO_3$, effective charges, press. depend. 4-55943
 $(MoF_5)_2$, struct., gaseous electron diff. 4-54883
 N_2 physisorbed layer on graphite, struct., LEED and mol. dynamics simulation 4-45525
 $Na_2Al_2Si_2O_{10} \cdot 2H_2O$, natural natrolite, cryst. struct., neutron diff. refinement 4-29412
 $Na_4(V_2O_7)$, cryst. struct. determ. 4-6324
 $(PtCl_2)(NH_3)_2(NO_3)_2$, cryst. data, X-ray diff. study 4-20150
 Si {100} surface, electronic struct. and bonding 4-20703
 SiO_2 , vitreous, defect species, mol. dynamics method anal. 4-55733
 $Sr(NO_3)_2 \cdot H_2O$, pyroelectric material, room temp. cryst. struct. 4-29404
 WCl_4 , force fields, struct., gas phase electron diff. 4-28562

bond energy see ionisation potential**bond lengths**

- π electron compounds, stabilisation energy, Kekule struct. contrib. and bond lengths 4-15420
 alkaline earth fluorite: rare earth, MF_2 ($M=Ca, Sr, Ba$), lattice distortion and local compressibility induced by trivalent impurities 4-6385

bond lengths continued

- alkenes, IR spectra, isolated CH stretching freq., bond lengths and dissociation energies 4-43884
 amino groups, interproton distance determ. using NMR-NQR double reson. 4-49070
 azidomethemerythrin, restrained least squares refinement, bond lengths 4-16835
 bonding energies, HF Slater transition state method, relativistic effects 4-38062
 borate polyhedra, distortions and polymerisation, ab initio SCF calc. 4-20138
 2-bromo-1-chloro-2-methylpropane, mol. struct., conformation, gas phase electron diff. 4-43988
 1-bromogermatrane, cryst. and mol. struct., X-ray diff. study 4-34467
 bromomethyl methyl sulphone 4-54882
 bromomethylmethylchlorosilane, mol. struct., conformation, gas phase electron diff. 4-43988
 α -bromovinyl methyl sulphone, mol. struct., gas phase electron diff. study 4-54882
 carboxylic acids, bond lengths and force consts. ab initio calcs. 4-1027
 chemisorbed molecules, bonds and bond lengths from EXAFS spectra 4-29783
 chloroacetaldehyde, struct. and conformation studied by gas-phase electron diff. 4-5362
 cubane- $d_3(d_2)(d_3)$, mol. vibr. calc. 4-14380
 cyclobutanol, struct. props., ab initio HF gradient calc. 4-18907
 cyclobutylamine, struct. props., ab initio HF gradient calc. 4-18907
 cyclobutylsilane, mol. struct., conform., electron diff. and ab initio determ. 4-14570
 cyclopropylacetylene, mol. struct. by electron diff.-microwave spectra combined anal. 4-14607
 diatomic molecules, electronic transition moments, internuclear distance depend. 4-38256
 diatomic molecules, relativistic calculations of dissociation energies and related properties 4-33352
 dichlorotetramethyldisiloxane, mol. struct., conform. gas phase electron diff. obs. 4-14571
 p-dicyanobenzene, gas and cryst. phase, mol. struct., electron and X-ray diff. study 4-43986
 2,3-dimethyl-1,3-butadiene, geometries, rot. barriers, HF level ab initio gradient computation 4-38034
 dimethylnitromethane, gas phase, geometrical struct., electronography method 4-33537
 ethane, mol. struct., semiempirical NDDO calcs. 4-1059
 ethylene glycol, conformational anal. and mol. struct., ab initio calcs. 4-43786
 ferrocene in 2,2,4-trimethylpentane, EXAFS of liqs., photocond. meas., Fe K-edge spectrum 4-39958
 fluoroethanes, mol. struct., semiempirical NDDO calcs. 4-1059
 glycine methyl ester, ground state rot. const., ab initio study 4-18905
 graphite overlayer on Ni (111) geometrical and electronic struct., EELS and photoemission studies 4-39729
 graphite-AsF₅ intercalation cpd., C-C bond length, ^{13}C NMR 4-51141
 group V elements, universal tight binding band structs. and bonding 4-6701
 haloalkanes, IR spectra, isolated CH stretching freq., bond lengths and dissociation energies 4-43884
 halobenzenes, CH-stretching overtone spectra, local mode investig. of substituent effects 4-1157
 hexamethyldisilazane, mol. struct., conformation, gas phase electron diff. 4-43987
 hydrates, crystalline, water mol. Thermal parameters, neutron diff. study 4-15596
 ice, charge partitioning between Bjerrum and ionic defects, ab initio MO calcs. 4-29466
 ice Ih, struct., neutron diff. investig. 4-29406
 IV-VI semiconductors, universal tight binding band structs. and bonding 4-6701
 Kendrew model at coords. from two projections 4-15343
 methemerythrin, restrained least squares refinement, bond lengths 4-16835
 methyl cyclobutane, struct. props., ab initio HF gradient calc. 4-18907
 methyl nitrate, isolated C-H stretching, methyl group orientation and C-H bond length 4-54668
 2-methyl-1,3-butadiene, geometries, rot. barriers, HF level ab initio gradient computation 4-38034
 5-methylarabinosylcytosine, a potential antiviral nucleoside, struct. and conformation 4-2185
 methylchlorophosphine, mol. struct., electronographic anal. 4-28565
 N-methyltrichloroethylenediamine, mol. struct., gas phase electron diff. 4-28564
 Nafion ionomers, Fe neutralised, EXAFS and Mossbauer investig. 4-16272
 β -naphthyl-diazo 2-hydroxycyclohexane, cryst. and mol. struct. 4-15450
 nickel-2-isopropylquinoline-8-thiolate, cryst. and mol. struct. determ. 4-11120
 nitrobenzenes, CH-stretching overtone spectra, local mode investig. of substituent effects 4-1157
 octamethyltrisilane, mol. struct., gas phase electron diffraction 4-38327
 oxide amorphous layers on Al, prod. in sodium tartrate and H_3PO_4 electrolytes, electron-yield EXAFS study 4-15783
 oxoanions, protonated, bond lengths 4-38044
 phenylphosphine, mol. struct., electronographic anal. 4-28565
 polyacetylene, solitons and polarons, molecular geometry 4-25250
 polyenes, cyclic, alternant MO method appl., correl. energies and bond length calc. 4-9681
 polyenes, cyclic, bond length alternation, finite order perturbation theory calcs. 4-48913
 polyethylene, Z 4-20548
 polysilanes, energy band struct., ab initio effective core pot. studies 4-20548
 polyene, infinite, energy band struct., ab initio effective core pot. studies 4-20548
 pyridine-N-oxide, microwave spectra, struct., bond length 4-5204
 quinidine, amino group interproton distance determ. using NMR-NQR double reson. 4-49070
 rare earth mineral $R_5(Fe^{3+}, Mg)(SiO_4)_6(SiO_3OH)(OH)_3$, ($R=Ce, La, Nd, Ca$), cerite, cryst. struct. 4-20145
 rare earth sesquioxides, metal-O bond lengths, inclined W systemisation 4-2136
 relativistic contributions to ionisation energies and bond lengths 4-9687

bond lengths continued

- semiconductors, ^{125}Te and ^{129}I implanted, electronic struct., impurity-host bond lengths, Mossbauer nucl. quadrupole interaction data 4-34931
 silicates, high resolution ^{29}Si NMR studies 4-47251
 TCNQ salt, TEA-(TCNQ) $_2$, cryst. struct. determ. 4-39276
 thiourea, amino group interproton distance determ. using NMR-NQR double reson. 4-49070
 thyroid hormone-protein binding interactions, intermol. contacts, model system 4-41422
 N-p-toluy-N-methylhydroxylamine, struct. study 4-11116
 transition metals, adsorption of H, ground state props., effective medium theory 4-34796
 triatomic molecules, AH_2 , AHF and AF_2 type, equilib. geom. by NDDO method 4-9678
 3-tricyanovinylindole, cryst. and mol. structures, X-ray diffr. study 4-24799
 trimethylnitromethane, gas phase, geometrical struct., electronography method 4-33537
 Tutton salts, hydrated double sulphates, vibr., IR spectra 4-46258
 urea, amino group interproton distance determ. using NMR-NQR double reson. 4-49070
 Ag_2 , bond lengths, dissociation and ionisation energies, pseudopot. results 4-23589
 AgH , bond lengths, dissociation and ionisation energies, pseudopot. results 4-23589
 $\text{Ag}_3\text{MoSe}_{11}$, cryst. struct., isolated Mo_9 clusters in $\text{Mo}_9\text{Se}_{11}$ units 4-11081
 $\text{Ag}_4\text{V}_2\text{O}_7$, chem. prep., cryst. struct., X-ray diffr. study 4-20157
 Al, oxidised, effective phase factors for extended absorption fine struct. meas. 4-7279
 Al_2O_3 film, TEM extended electron energy loss fine struct. study 4-57050
 $\alpha\text{-AlPO}_4$, cryst. struct., refinement from Laue photographs 4-2153
 Ar, solid, low temp. props., pair and many-body pots. 4-29380
 Ar, solid state props. near 0K from $[n(r)]$ -6 pot. 4-29383
 As_2S_3 , amorphous thin films, struct., Fourier anal. method (Russian) 4-44966
 Be-based intermetallic cpd. hydrides, stoichiometry and site occupation, geometric rationale 4-15445
 $\text{BeF}_2\text{:Nd}^{3+}$ glass, bonding and struct. by XANES and EXAFS spectroscopy 4-40568
 BeH, valence and Rydberg states, pot. energy curves, LCAO-MO-SCF-CI calcs. 4-43801
 C_2 , ground and excited states, transition moments, ab initio MRD CI calcs. 4-5145
 CH, correl. valence shell Hamiltonian, bond length depend., ab initio determ. 4-33305
 CH, stretching vibr., bond lengths and strengths 4-54666
 CaH, bond distance, dissociation energy, core-valence correl. effects, CI calcs. 4-23614
 CeF_3 : rare earth, lattice distortion and local compressibility induced by trivalent impurities 4-6385
 CdI_2 , interlayer bonding under hydrostatic press., Raman scatt. study 4-6313
 $\text{Co}_2(\text{CO})_8$, struct. and bonding, charge density study 4-2152
 $\text{Co}(\text{I})$ complex, cobalt o-quinonediimine, cryst. and mol. struct., X-ray diffr. study 4-2183
 $\alpha\text{-Co}_2\text{SiO}_4$, cryst. struct. and electron distrib., X-ray diffr. study 4-15434
 Cr oxides, bond length-bond strength relationships and valency (German) 4-15419
 $\text{Cs}_2\text{V}_6\text{O}_{16}$, IR spectra and bond lengths 4-51257
 Cu complexes, 2-diethylaminoethanol-Cu(II) alkoxy-bridged polynuclear compds., struct. studies 4-15428
 Cu_2 , atomic cluster calc., augmented Gaussian-orbital basis 4-19315
 CuH, bond lengths, dissociation and ionisation energies, pseudopot. results 4-23589
 Fe oxides, bond length-bond strength relationships and valency (German) 4-15419
 Fe-based minerals, X-ray K-edge absorption spectra, near edge struct. 4-7276
 $(\text{Fe}_{0.25}\text{Ni}_{0.75})_{75}\text{B}_{25}$ metallic glass and cryst., local struct., Mossbauer study 4-51167
 GaAs(Sb)(P):I, impurity bond lengths, Mossbauer study 4-20140
 Ge, adsorbed Cl, I, and Te, local struct., surface EXAFS study 4-6661
 a-Ge films, short range order, vacuum deposition angle depend. 4-50203
 Ge_2 , bond length, vibr. freq. and binding energy, pseudopot. local spin density calc. 4-18911
 GeH, stretching vibr., bond lengths and strengths 4-54666
 H_2 , adiabatic and diabatic mol. states, at small internucl. distances 4-18936
 H_2 , excited states, quadrupole moment, vibr.-rot. states 4-54662
 H_2 , magnetisability of excited states 4-23837
 $\text{HCN}\cdot\text{CO}_2(\text{-d}_1)$ complex, RF and microwave rot. spectra and struct. anal. 4-38160
 $\text{H}^+(\text{CO})_5$, struct. study 4-18928
 $\text{H}^+(\text{N}_2)^+$, struct. study 4-18928
 $(\text{H}_3\text{NHS}_2)^+$, H^+ transfer along H-bonds, ab initio MO calc. 4-49146
 H_2O , X'A, state, MRD CI calcs. approaching full CI limit 4-38077
 H_3O^+ , ground electronic state pot. energy surface, ab initio rot.-vibr. energy 4-14345
 $(\text{H}_2\text{OHS}_2)^+$, H^+ transfer along H-bonds, ab initio MO calc. 4-49146
 $\text{I}_2\cdot\text{O}(\text{N})(\text{S})$, model system for thyroid hormone-protein binding interactions, intermol. contacts 4-41422
 I_2^+ , correl. between NQR freq. and bond length, EHT calcs. 4-28467
 $\text{In}_{1-x}\text{Ga}_x\text{As}$, electronic struct., chem. and struct. disorder effects 4-25216
 InP:I, impurity bond lengths, Mossbauer study 4-20140
 K(NaCa)Mg $_2$ Si $_6$ O $_{22}$ F $_2$, richterites, high temp. cryst. chemistry 4-20143
 $\text{KPb}_{40}\text{O}_{136}$ bronze, cryst. struct. determ. 4-24779
 Kr, solid state props. near 0K from $[n(r)]$ -6 pot. 4-29383
 Li_2 , Li_2^+ and Li_2^- , static dipole polarisability calc. using pseudopot. treatment 4-33339
 LiNH_2SO_3 , polycryst., Raman and IR spectra 4-40442
 LiV_3O_8 , IR spectra and bond lengths 4-51257
 Mn oxides, bond length-bond strength relationships and valency (German) 4-15419
 $(\text{MoF}_6)_3$ struct., gaseous electron diffr. 4-54883
 MoNi, cryst. and glassy, EXAFS studies 4-21068
 N_2H_2 mol. struct., energies, MNDO calcs. 4-14332
 NO, in Ar matrix, band system, UV emission spectra 4-54740
 $\text{Na}_2\text{Al}_2\text{Si}_3\text{O}_{10}\cdot 2\text{H}_2\text{O}$, natural natrolite, cryst. struct., neutron diffr. refinement 4-29412

bond lengths continued

- $\text{Na}(\text{NaCa})\text{Mg}_2\text{Si}_6\text{O}_{22}\text{F}_2$, richterites, high temp. cryst. chemistry 4-20143
 $\text{Na}_2\text{V}_2\text{O}_7$, IR spectra and bond lengths 4-51257
 $\text{Na}_2\text{Zr}_2(\text{Be}(\text{PO}_4)_4)_2$, gainesite, cryst. struct. and bond distances 4-20147
 $\text{Nb}_2\text{S}_6\text{Br}_6(1_6)$, cryst. struct. 4-11085
 $\text{Nb}_2\text{Te}_2\text{Br}_6(1_6)$, cryst. struct. 4-11085
 $\alpha\text{-Ni}_2\text{SiO}_4$, cryst. struct. and electron distrib., X-ray diffr. study 4-15434
 $\text{PV}_2\text{Si}_{10}$, cryst. struct., bonding and Li intercalation 4-45105
 $\text{Pb}_2\text{V}_2\text{S}_6$, cryst. struct., bonding and Li intercalation 4-45105
 PbF_3 : rare earth, lattice distortion and local compressibility induced by trivalent impurities 4-6385
 $\text{Pd}_3\text{Mo}_9\text{S}_9$, struct., bonding and charge transfer 4-11080
 $(\text{PtCl}_2(\text{NH}_3)_2)(\text{NO}_3)_2$, cryst. data, X-ray diffr. study 4-20150
 Rb_2Te_2 , synthesis and cryst. struct. (German) 4-20166
 $\text{Rb}_2\text{V}_6\text{O}_{16}$, IR spectra and bond lengths 4-51257
 ReO_2 , orthorhombic and monoclinic, EXAFS study 4-16271
 $\text{Re}_2\text{W}(\text{Mo})$, EXAFS study near Re_{III} absorpt. discontinuity 4-40572
 SF_6 , gaseous, struct. second virial coeff. and intermol. pair pot. 4-19906
 SF_6Br , microwave spectra and struct. (French) 4-9762
 $\text{Si}(111)/\text{Ag}$ interface struct., and form., EXAFS studies 4-29830
 Si, adsorbed Cl, I, and Te, local struct., surface EXAFS study 4-6661
 Si, oxidised, effective phase factors for extended absorption fine struct. meas. 4-7279
 Si, partial dislocations, 90° , core struct. and electronic bands. 4-45134
 SiH, stretching vibr., bond lengths and strengths 4-54666
 SiO_2 , vitreous, defect species, mol. dynamics method anal. 4-55733
 SiO_2 , vitreous, neutron scatt. total cross-section 4-2086
 B-SmO_3 , cryst. struct. and high resolution electron microscopy images 4-24787
 SnS_2 , interlayer bonding under hydrostatic press., Raman scatt. study 4-6313
 $\text{Sr}(\text{NO}_3)_2\cdot\text{H}_2\text{O}$, pyroelectric material, room temp. cryst. struct. 4-29404
 Ti oxides, bond length-bond strength relationships and valency (German) 4-15419
 V oxides, bond length-bond strength relationships and valency (German) 4-15419
 V_2 , bond length and electronic struct. 4-33470
 $\text{W}(\text{CO})_3(\text{PH}_3)_2(\text{H}_2)$ complex, bonding, struct., ab initio HF level calcs. 4-33298
 WCl_4 , force fields, struct., gas phase electron diffr. 4-28562
 Xe, solid state props. near 0K from $[n(r)]$ -6 pot. 4-29383
 $\text{Zn}(\text{II})$ complex, $(2,2',2''\text{-triaminotriethylamine})$ chloride, struct., X-ray diffr. investig. 4-28575

bonds (adhesive) see adhesion**bonds (chemical)**

- see also binding energy; bond angles; bond lengths; crystal binding; hydrogen bonds; intermolecular forces; lattice energy
 π -system, bond increment system, rel. to mol. parameters (German) 4-33287
 acetylene, atom anisotropies and effective charges in vibrational intensity analysis 4-33169
 acetylene, ground and excited states, bond props. anal. using Cohen-type bond order 4-23586
 acyl-chymotrypsin, scissile C-O bond vibr., reson. Raman spectroscopy 4-38186
 adsorption of Cu^{2+} ions on Al_2O_3 , EPR spectra, ionic bond form. 4-30268
 N-(4-p-alkyloxysilyl)idene)-4-p-alkylaniline soln., optical parameters 4-20965
 aluminosilicate glass, structure-coordination state of Al, ultralongwave X-ray spectroscopy 4-20117
 amine compounds, stopping powers for He^+ , chemical bonding effects 4-54839
 amorphous two-dimensional binary mixtures, orientational ordering 4-55731
 annulene-annulenes struct., multiplicity of solns. and artefact structs. problems 4-54611
 aromatic radical anions, fragmentation rates and $\pi^*-\sigma^*$ orbital crossing point 4-41181
 $\text{As}_2\text{S}_3\text{Se}_3$, chalcogenide glass, struct. and bonding, NQR study 4-44970
 benzene dimerisation under high press. conditions, quantum mech. calcs. 4-12348
 bis(dimethylaluminum acetylide), electron density distrib., electrostatic mol. pot. 4-49115
 bond path, use in characterising bond strain 4-14608
 bonding and correlation in atoms and mol., high energy electron elastic scatt. investig. 4-10101
 1,3-butanediene, rot. about C-C bond, MO calcs. 4-48934
 butyronitrile, conformational study by low resolution microwave spectroscopy 4-23685
 butyryl chloride, conformational study by low resolution microwave spectroscopy 4-23685
 carbonyl compounds, C=O stretching freq., substituent interaction effects 4-20303
 carboxylic acids, bond lengths and force consts. ab initio calcs. 4-1027
 chalcogen cpds., electronegativity and chem. bond 4-54578
 chalcogenide glasses, photodarkening mechanisms, bonding dynamics 4-46208
 chalcogenide glassy semicond., hierarchy of structural states 4-24734
 charge distrib. and bond orders derived using struct. reson. valence bond theory 4-14336
 chemisorbed molecules, bonds and bond lengths from EXAFS spectra 4-29783
 chemistry, appl. of neutron scatt., review, book contrib. 4-39056
 chlorinated benzenes, ring CH stretching overtone spectra, local mode anal. 4-23756
 chloroalkanes, ^{13}C NMR spectra selective assignments by J-modulated ^{13}C spin echo 4-38203
 citric acid complexes with Tb(III) and Eu(III), luminescence and intermolecular energy transfer 4-19130
 cobalt(II) porphyrin in frozen soln., spin-spin splitting in EPR spectra 4-46095
 cyclobutane, small ring geometry and bonding 4-38353
 cyclobutene, small ring geometry and bonding 4-38353
 cyclobutene, strained rings, charge density distrib., local hybrid orbital overlap study 4-38037
 cyclohexenes, alkyl substituted, second ionisation pot. (Russian) 4-38350
 cyclopentadiene, strained rings, charge density distrib., local hybrid orbital overlap study 4-38037

- bonds (chemical) continued**
 cyclopropane, strained rings, charge density distrib., local hybrid orbital overlap study 4-38037
 cyclopropane radical cations, one-electron two-centre bond, ab initio SCF MO investig. 4-9657
 cyclopropene, strained rings, charge density distrib., local hybrid orbital overlap study 4-38037
 1,4-diazabicyclo(2.2.2)octane-tetrahelomethane, mol. complexes, bonding and mol. motions, NQR spectra 4-28468
 dibarium zinc formate tetrahydrate, EPR study 4-7057
 dibutyltin dibenzoate, Mossbauer study during polymerisation 4-35902
 p-dicyanobenzene, C-C and C-N bond peak charge contents 4-10921
 dimethyl phosphate anion+H₂O, bifurcated vs. linear hydrogen bonds 4-1289
 dioxins, polarisability calc. using Applequist Carl Fung method 4-23579
 dynamic susceptibility of mixed valence impurity, inelastic structs. 4-34918
 elastic networks, bond percolation, exponent and threshold 4-29507
 ethane, ground and excited states, bond props. anal. using Cohen-type bond order 4-23586
 ethylenbenzenes, substituted, low resolution microwave studies 4-28434
 ethylene, ground and excited states, bond props. anal. using Cohen-type bond order 4-23586
 ethylene chemisorbed on Pt (111), orientation and bonding, near-edge X-ray absorpt. fine struct. spectra 4-54743
 5,6-ethylenedioxyindole, change in H bond energy and dipole moment during electronic excitation 4-54675
 ethynidyne chemisorbed on Pt (111), orientation and bonding, near-edge X-ray absorpt. fine struct. spectra 4-54743
 ferrocene, mol. quadrupole moments, mag. anisotropy, and charge distrib. 4-1290
 ferrocenes, charge distrib. and bond orders derived using struct. reson. valence bond theory 4-14336
 fluorine compounds+Mg(Ar) ions, K X-ray spectra, chemical bonds effect 4-19203
 forces in mol. systems, chemical binding, nuclear motion effect 4-33481
 formate anion+H₂O, bifurcated vs. linear hydrogen bonds 4-1289
 glassforming compounds, struct. and intrinsic disorder (German) 4-2096
 glucomylase-ion exchange resin, enzymatic complex, IR spectroscopy investig., catalytic and physicochem. props. 4-12385
 graphite acceptor compounds, stage 3 and 4, c-axis charge distrib. 4-20542
 graphite intercalation cpds. with CuF₂ and MgF₂, elec. cond. and chem. bond 4-6757
 hafnium-nitritotriacetate binding, TDPAC study 4-41184
 halide compounds, linear-bonded, EFG and electronic struct. 4-2561
 heteroatomic system, bond increment system, rel. to mol. parameters (German) 4-33287
 heteropolytungstates, W-W connectivities, 2-dimens. ¹⁸³W NMR investig. 4-33422
 hexamethylenetetramine-metal complexes bonding charact., IR spectral evidence for mono-, bi and tetra-dentate behaviour 4-14427
 I-III-VI₂ cpds., average bond ionicity 4-11037
 I-III-VI₂ semiconductor, chem. bond ionicity 4-2134
 I-III-VI₂ semiconductors, band gap anomaly, chem. and struct. factors 4-45624
 imino cpds. of S, S=N bond props. and intramol. electronic effects 4-23634
 integrated IR intensities, bond polar parameters 4-54719
 interatomic forces and lattice vibr., microscopic anal. 4-24757
 ionic crystals, mag. susceptibility rel. to bonding 4-45994
 isopropylbenzenes, substituted, low resolution microwave studies 4-28434
 IV-VI crystals, cubic to rhombohedral phase transform. 4-55995
 IV-VI semiconductors, chemical bonds, phase transitions, Mossbauer spectroscopy 4-35251
 IV-VI semiconductors, covalent bonding props., LCAO method 4-24755
 IV-VI semiconductors, cubic phase instability, unified universal parameter treatment 4-34896
 Kaolin, sintering and struct. with surface-active additives 4-40719
 lanthanide compounds, isolated and condensed metal clusters, struct. and bonding 4-11075
 light-heavy-light atom systems, vibr. bonding 4-19174
 metals, liquid metal embrittlement, interatomic bond weakening 4-26018
 metals, work functions, overlapping spherical atomic charge density approx. 4-56413
 methane disulphonyl fluoride, vibr. spectra and H bonding 4-5210
 2-methoxycinnamic acid, bond strength and mass spectrometric fragmentation 4-43116
 methyl copper hydride, struct. and bonding calcs. 4-5124
 N-methyl-N-(2,4-dinitrophenyl)-4-aminoxanes, epimeric, UV spectra 4-9786
 N-methyl-N-(2,4-dinitrophenyl)-4-aminothianes, epimeric, UV spectra 4-9786
 methylated benzenes, ring CH stretching overtone spectra, local mode anal. 4-23756
 molecular complexes, weakly interacting, viscometric obs. 4-49900
 molecular system, delocalised bonds, valence bond PCILO method, CI perturbation treatment 4-48941
 molecule synthesizing mechanism determ. using mass spectrometry 4-16710
 molecules, valence, bonding, anisotropy, ab initio calcs. 4-48904
 multinary diamondlike semiconductors, mag. susceptibility 4-35141
 narrow band gap semicond., bonding and cryst. struct., review 4-55779
 nitrobenzene-d₀-(d₂)-(d₃)-(d₅), CH IR stretching overtone spectra, ortho-CH assignment 4-14412
 nuclear quadrupole resonance spectroscopy, conference, Kingston, Ontario, Canada (July 1983) 4-27234
 optical fibre loss due to H₂ generation at high temp. 4-49541
 orbital models zero-nonbonding-overlap hybrids construction and use in approx. mol. calcs. 4-18906
 orbital probing by binary c₂e spectrosc. and orbital density topography 4-10171
 organic molecules, valence angle deform. energy and torsional energy 4-9871
 organic phosphates, Li halide and LiClO₄ binding, multinucl. NMR investig. 4-1182
 organolithium cpds., Li-C bond, transition operator-based MO electronegativity approach 4-38071
 N-oxypyridinium in chloroform solns., vibr. spectra and ion bond characts. 4-54707
 partitioning of MNDO energy and description of bonding 4-43772
- bonds (chemical) continued**
 (phenyl)₃-P₃Cr(CO)₃, n=0-3 X=Cl, Br, I, H, back bonding, XPS, NMR and IR study 4-43903
 phosphates, amorphous and crystalline, infrared spectra of trivalent cations B and Fe 4-30448
 polyethylene, chain scission, mech. failure, Fourier transform IR spectra 4-3222
 poly(bisphenol-A-diphenyl sulphone), mol. deform. stress-strain behaviour, stress, birefr. meas. 4-3182
 polyacetylene:Br, bonding, reactions, EXAFS study 4-11966
 polyacetylene, solitons and polarons, molecular geometry 4-25250
 polyaromatic hydrocarbons, polarisability calc. using Applequist Carl Fung method 4-23579
 polybutadiene, c black filled, crystn., phys. and chem. forces (Russian) 4-6293
 polychlorinated biphenyls, polarisability calc. using Applequist Carl Fung method 4-23579
 polyisoprene, c black filled, crystn., phys. and chem. forces (Russian) 4-6293
 polymer films struct. and bonding, ESCA investig. 4-45033
 polymer surfaces, struct., bonding and reactivity, ESCA appls. 4-51458
 proteins-carboxylic microneetwork resins binding study (Russian) 4-30976
 PVC, nonequilibrium glassy state, freq. shifting, Fourier transform IR spectroscopic detection 4-2100
 pyridine, chemisorbed on metals and semiconds., surface enhanced Raman scatt. 4-30474
 pyridine, electronically excited states of chemisorbed molecules 4-33359
 pyrochlore type structures, form. and stability regions 4-50234
 quantum mechanical interaction between atoms in π-system of mol. 4-23604
 rare earth A₂B₂O₇ oxides, force field comparison, IR and Raman study 4-30463
 rare earth orthovanadates, electronic struct., rel. to photoelectron and optical spectra 4-39752
 reactant approach anal. in concerted 1,3-dipolar cycloadditions by second moments of localised orbitals 4-26172
 rubber, sulphidic crosslinked, temp. effects on struct. and props. during vulcanisation and service 4-35599
 ruthenocene, mol. quadrupole moments, mag. anisotropy, and charge distrib. 4-1290
 semibullvalenes, MNDO study of the rearrangements 4-28371
 semiconductor, tetrahedral, mag. susceptibility rel. to bonding 4-45994
 semiconductors, diamond-like, bulk and surface electronic props. 4-30042
 semiconductors, ternary and multinary, struct. and bonding parameters, pseudopot. anal. 4-24767
 semimetals, group V, cubic phase instability, unified universal parameter treatment 4-34896
 a-Si, density of states in energy gap, Bethe lattice model (Chinese) 4-20605
 silica glass, twin axis neutron diff. studies 4-6282
 solid state chemistry predictive charact., relation between, chem. bonding, struct., and physical props. 4-15422
 static disorder systems, diffusion, hopping models 4-45380
 TCNQ salt, (2,2-DHPE Cl)_x(2,2-DPE)_x (TCNQ), elec., mag. and struct. props. 4-45754
 1,2,7,8-tetraaza-4,5,10,11-tetraoxatricyclo (6.4.1.1^{2,7}) tetradecane, bonding, X-ray anal. 4-33559
 thiirene, and isomeric structs., ab initio MO studies 4-38074
 thyroid hormone-protein binding interactions, intermol. contacts, model system 4-41422
 transferrins, metal binding sites, multinuclear NMR spectra 4-57839
 transition metal, dioxides, rutile-like, intermetallic bonding represent. 4-2135
 transition metal compounds, isolated and condensed metal clusters, struct. and bonding 4-11075
 transition metal halides, chem. bonding, 3d electron participation, X-ray spectra studies 4-55781
 transition metal polyphosphides, prep., cryst. struct. and props. 4-11074
 transition metals, interionic interactions, total energy and elastic and bonding props. calc. 4-6726
 transition-metal monoborides, band struct., densities of states, bonding, ESCA spectra 4-20563
 X-ray spectral anal., chemical bonding effects 4-31046
 ylides, electronic struct., GVB+POL-CI calcs. 4-33328
 zinc blende struct. crystals, internal strain parameter (bond-bending parameter) 4-55780
 Ag (110), SO₂ adsorption, LEED, XPS and UPS studies 4-45518
 Ag, adsorption of water on clean and O-covered surfaces 4-34793
 Ag complexes, bis(ethylene)dithioformamidinium dihalides-Ag(I), preparation and IR spectra 4-51283
 Ag₂, ground-state props., local-density pseudopot. approach 4-18922
 Ag₃AsS₃, Raman scatt. study of cation sublattice disordering 4-35450
 Ag(H₂O)₄⁺, UV spectroscopic conformation of tetrahedral geom. 4-28452
 Al surface, epoxy resin adsorption, binding energies, XPS study 4-34778
 Al/oxide/metal tunnelling junctions, Al-H bond form. and vibr. 4-45898
 AlGa_{1-x}As, solid soln., phase state change with pulsed annealing 4-55875
 Al₂O₃-B₂O₃-P₂O₅-SnO₂ glasses, Sn valency, Mossbauer study 4-10994
 Al₂O₃-B₂O₃-SiO₂-SnO₂ glasses, Sn valency, Mossbauer study 4-10994
 Au complexes, bis(ethylene)dithioformamidinium dihalides-Au(I), preparation and IR spectra 4-51283
 As clusters, bond energy calcs. 4-10201
 As-Se, thin film, optical recording kinetics (Russian) 4-30427
 As-Se chalcogenide glass, bulk, powdered and thin film, photostruct. changes 4-45323
 AsOCl₃, matrix isolation IR spectra (German) 4-14421
 As₂S₃-As₂Se₃ glasses, photoacoustic spectra 4-15389
 As₂S₃(Se₂)(Te₂), chemical bonding and heat of formation 4-24733
 As₂Se₃, liquid, charged defects, elec. cond. study 4-45792
 Au thin films sputter deposited on Si, adhesion changes induced by electron irradi. 4-39342
 B₂H₆, ionisation pot., ΔE_{SCF}, ab initio LCAO-MO-HF-SCF calcs. 4-48936
 BeF₂-Nd³⁺ glass, bonding and struct. by XANES and EXAFS spectroscopy 4-40568
 Bi₂O₃, electronic props. rel. to oxidation catalysis 4-29886
 Bk, delocalisation of 5f electrons under press., X-ray diff. study 4-55782
 C clusters, bond energy calcs. 4-10201
 C, dislocation core behaviour calcs. 4-25278

bonds (chemical) continued

- CO bonding to metal surfaces, mol. orbital cluster model anal. 4-20477
 CO, electronically excited states of chemisorbed molecules 4-33359
 CaO-P₂O₅, Ca(PO₃)₂, heat of soln. and bond energy relations 4-25039
 CdGeAs₂, chem. bonding, charge distrib. and electronic props., pseudopot. calc. 4-29410
 CdGeP₂, chem. bonding, charge distrib. and electronic props., pseudopot. calc. 4-29410
 Cf, delocalisation of 5f electrons under press., X-ray diffr. study 4-55782
 Co II complexes, substituted 2,6-dichlorophenolates, covalent bonds, NQR study 4-30344
 Cr, interatomic forces and phonon anomalies 4-34601
 Cr₂, CAS SCF pot. curves, multiple 3d bonding 4-28392
 Cr₂, f-type functions in orbital basis for calc. mol. interactions involving d electrons 4-1041
 Cr_{1-x}Co_xCr₂S₄, phase relationships with Cr₂S₄ and spinel struct. 4-15616
 CrF₃, bonding, covalency and transferred hyperfine interaction, lattice effects 4-45046
 Cr_{1-x}Fe_xCr₂S₄, phase relationships with Cr₂S₄ and spinel struct. 4-15616
 Cr_{1-x}Mn_xCr₂S₄, phase relationships with Cr₂S₄ and spinel struct. 4-15616
 α-Cr₂O₃-Ga³⁺, EPR absorpt., mag. cluster model extension (German) 4-20859
 Cr₂Si, electronic struct. study 4-25219
 Cs monolayers on W (110), bond contraction, ab initio calc. 4-29790
 Cs-Sb liq. alloy, struct., neutron diffr. study 4-44933
 CsI, structural and bonding changes at high press. 4-45328
 CsOsO₃N, struct. relations, X-ray single cryst. diffr. study 4-11112
 Cs₂V₆O₁₆, IR spectra and bond lengths 4-51257
 Cu {100}, coadsorption of CO and K, valence band photoemission study 4-57076
 Cu complex [Cu(C₅H₁₁N₃)(NO₂)(H₂O)]NO₃, H₂O, crystal struct. and bonds (French) 4-50246
 Cu complexes, bis(ethylene)dithioformamidinium dihalides-Cu(I), preparation and IR spectra 4-51283
 Cu phthalocyanine layer on ZnO (1100), photocond. meas. and ellipsometric spectroscopy 4-25393
 CuAlSi₂(Se₂), ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuGaS₂(Se₂), ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuGe₂P₃ ternary semicond., elastic behaviour, US pulse echo study 4-45242
 Cu(II) complexes, mixed ligand, stabilities, ESR investig. 4-49063
 Cu(II) complexes with thiocarboxylates, bonding, IR, XPS and UV-visible spectra 4-7202
 CuInS₂(Se₂), ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuInSe₂, elec. props., intrinsic defect influence 4-45806
 DID collinear models, vibr. bonded quantum states 4-28414
 DNO₂, cis and trans, g-values, susceptibility anisotropy, quadrupole moments and electronic charge distrib. anisotropy 4-38218
 FH, commutative coupling approx., appl. to bond form. and dissoc. 4-33292
 Fe (100), (110), and (111), adsorption of acetylene, structs. and reactions 4-45504
 Fe, interatomic forces and phonon anomalies 4-34601
 Fe-Ni-Si-B alloy and sputtered film, chem. composition, XPS studies (Russian) 4-25172
 Fe-Si systems, surface segregation, electron spectroscopy study 4-46426
 Fe₈₀B₂₀, amorphous, chem. bonding evidence from radial distrib. function 4-6285
 FeH, mol. bond, isomer shift, Mossbauer spectra charact. 4-49072
 Fe₂Ni_{8-x}B₁₀Si₂ metallic glass, electron phenomena, positron annihilation studies 4-7268
 GaAs (110) with adsorbed Al, Ga and In, chemical bonding, adatom-adatom interaction 4-29784
 GaAs (110) with chemisorbed H, reflection electron energy loss study 4-30576
 GaAs, MBE, surface and interface electronic struct., photoemission, LEED studies 4-20524
 GaAs:H (110) Ga-H defect sites, photon stimulated desorption studies 4-45851
 GaAs₂P_{1-x}, solid soln., phase state change with pulsed annealing 4-55875
 GaS(Se) lamellar cpd., elastic consts., press. depend. 4-2254
 Gd₂Cl₃, cryst. struct. and metallic conductivity (German) 4-39251
 Ge (111), Sn overlayer, atomic geometry, X-ray photoelectron diffr. study 4-29798
 Ge, dislocation core behaviour calcs. 4-25278
 Ge halogen, cpds., π - π bonding anal. 4-1288
 a-Ge:Mo films, local struct. and elec. props. 4-39133
 Ge₂, bond length, vibr. freq. and binding energy, pseudopot. local spin density calc. 4-18911
 GeO₄ anions in orthosilicates and orthogermanates, force consts. and chem. bonds 4-55939
 Ge₂S₃, glassy, photoluminescence and EPR 4-16243
 GeSe₂, chemical bonding and heat of formation 4-24733
 GeSe_{1-x}, amorphous, struct. and photoluminesc. 4-46312
 GeSnS₂ (Se₄)₂ chalcogenide glass cluster stability, vibr. spectra study 4-46256
 Ge_{1-x}Sn_xSe₂ glasses, Mossbauer study of bonding chemistry 4-29330
 H₂, ground-state orbitals, momentum space chem., electron spectra 4-23818
 H₂⁺, ground state, old quantum theory 4-48932
 H₂A type mols., electronic charge distrib., geometric, force and electrostatic parameters calcs. 4-23596
 HCN, atom anisotropies and effective charges in vibrational intensity analysis 4-38169
 H₂D collinear models, vibr. bonded quantum states 4-28414
 H₂I collinear models, vibr. bonded quantum states 4-28414
 HNO₂, cis and trans, g-values, susceptibility anisotropy, quadrupole moments and electronic charge distrib. anisotropy 4-38218
 H₂N.BH₃, mol. dynamics and struct., NMR studies 4-11065
 H₂O, bond path, use in characterising bond strain 4-14608
 H₂O, Compton lineshape determ. 4-33458
 H₂-transferrin binding, TDPAC study 4-41420
¹⁰⁹Hg-¹²C(¹³C) cpds., chem. shift, weak field isotope effect 4-14449
¹⁹⁹Hg-²⁹Si(²⁹Si) cpds., chem. shift, weak field isotope effect 4-14449
 I+HI, interplay of vibrational and van der Waals type bonding 4-43941

bonds (chemical) continued

- I₂, effective core pot. calc. using frozen orbitals appl. 4-43794
 I₂-O(N)₂(S), model system for thyroid hormone-protein binding interactions, intermol. contacts 4-41422
 IHI, interplay of vibrational and van der Waals type bonding 4-43941
 InP films, amorphous, electronic props. and struct., electron diffr., optical and elec. cond. meas. 4-39143
 InP:Yb³⁺, EPR and spin lattice relax. 4-25635
 InSe lamellar cpd., elastic consts., press. depend. 4-2254
 Ir surface, saturated and unsaturated hydrocarbons reactions, dehydrogenation study 4-35938
 K₂NaCrF₆, bonding, covalency and transferred hyperfine interaction, lattice effects 4-45046
 K₂NiF₄-type oxides, tridimensional mag. couplings, Neel temp. and bond covalency 4-6977
 K₂O-SiO₂ glass melts, struct. relax. and shear viscosity 4-15370
 KOsO₃N, struct. relations, X-ray single cryst. diffr. study 4-11112
 Li compounds, anal. by AES chemical effects 4-21507
 β-LiAl, bonding and lattice dynamics, inelastic neutron scatt. studies 4-45288
 Li_{1-x}Ge_{2-x}N_{3-3x}O_{3x}, cryst. struct. determ. (French) 4-50262
 LiH, commutative coupling approx., appl. to bond form. and dissoc. 4-33292
 Li₂IrO₂, cryst. struct., neutron and X-ray powder diffr. study 4-39234
 Li₂N:Al(Cu)(Mg)(H), ionic cond. and defect migration 4-25085
 Li₂RuO₂, cryst. struct., neutron and X-ray powder diffr. study 4-39234
 LiV₂O₆, IR spectra and bond lengths 4-51257
 MgO-P₂O₅, Mg(PO₃)₂, heat of soln. and bond energy relations 4-25039
 Mn²⁺-ATP complex in aq. soln., binding, EXAFS and XANES struct. determ. 4-12540
 Mn₂(CO)₁₀, ground and excited states, bond props. anal. using Cohen-type bond order 4-23586
 MnS₂, electron density distrib., X-ray and neutron diffr. study 4-11095
 Mo chalcogenides, cryst. struct. and bonding, octahedral Mo₆ clusters 4-11082
 Mo₂, f-type functions in orbital basis for calc. mol. interactions involving d electrons 4-1041
 MoO₃, electronic props. rel. to oxidation catalysis 4-29886
 N₂, Compton lineshape determ. 4-33458
 NH₃, bond path, use in characterising bond strain 4-14608
 NH₄Br cubic compounds, thermal expansion 4-34674
 NH₄Cl cubic compounds, thermal expansion 4-34674
 NH₄CoF₃ cubic compounds, thermal expansion 4-34674
 NH₄ZnF₃ cubic compounds, thermal expansion 4-34674
 NO chemisorption on Ni surface, bonding mechanism, CASSCF and CI calcs. 4-34783
 NO, electronically excited states of chemisorbed molecules 4-33359
 Na₂O-Al₂O₃-CuO-SiO₂ glass, struct., EPR and optical props. 4-10996
 Na₂O-SiO₂ glass melts, struct. relax. and shear viscosity 4-15370
 NaV₂O₆, IR spectra and bond lengths 4-51257
 NbH₃, valence electron energy spectra, X-ray emission 4-57042
 Ni (100), adsorbed O, coverage-depend. vibr. shift 4-29762
 Ni (100), coadsorption of CO and D₂, temp. induced effects, thermal desorption, work function, UPS and XPS meas. 4-29793
 Ni (111), NH₃ desorption, transition state theory appl. 4-29774
 Ni complex, tetrathiosquarato nickel (II) polymer, electronic struct., symm. breaking due to interchain interactions 4-34854
 Ni, silica-supported, benzene adsorption, Fourier transform IR spectroscopy (Russian) 4-34780
 Ni silicides, oxidation behaviour, XPS and AES studies 4-30842
 Ni surface, molecularly adsorbed NO, SCF X_α scattered wave cluster study 4-45519
 γ-Ni₃Al, electronic struct., alloying effects, DV-X_α cluster calc. 4-50713
 NiH, bonding, pot. energy curves, MINDO/SR procedure 4-48943
 NiH₂, bonding, pot. energy curves, MINDO/SR procedure 4-48943
 Ni(II) chelates of thiosemicarbazones, base adducts 4-14601
 NiO surface, O chemisorption, perfect surfaces and cation vacancies, theoretical study 4-39677
 Ni₂Re₁₀As₂₄, prop. and cryst. struct. 4-11104
 P clusters, bond energy calcs. 4-10201
 P, polymerisation of white and red, X-ray diffraction study 4-55786
 PbMo₆S₈O, point defect struct., neutron powder diffr. study 4-11138
 Pb₂Ru₂O₆, crystal struct. and vacancy ordering 4-50267
 PbTiNb_{0.6}, crystal struct. and vacancy ordering 4-50267
 Pd (111), H chemisorption, subsurface electronic struct. and bonding 4-2453
 Pd clusters, chemisorption of CO, stoichiometric species interconversion, IR spectra study 4-34791
 Pd, surface, (100) and (111), H chemisorpt., H-Pd bond and H diffusion investig. by SW X_α calc. (German) 4-2429
 PdCl₂, low-lying unoccupied states distrib., X-ray absorpt. near edge struct. studies 4-7271
 Pr³⁺ complexes, L-leucine and mercaptopropionic acid ligands, oscill. strength, bonding, visible obs. 4-43892
 Pt (111)/Cu system, growth and alloy form., LEED, AES and desorption studies 4-29808
 Pt surface, (321), CO orientation at step sites, implications for catalytic oxidation 4-34781
 Pt₂Ni_{100-x}, adsorption of CO, vibr. EELS, TDS meas. 4-40589
 RbOsO₃N, struct. relations, X-ray single cryst. diffr. study 4-11112
 Rb₂V₆O₁₆, IR spectra and bond lengths 4-51257
 S clusters, bond energy calcs. 4-10201
 Sb-S amorphous films, local struct., Raman scatt. studies 4-6677
 Se₂, multiple one-electron 3d bonding of ²Σ_g state 4-5146
 Se, glassy, struct. defects, local density total energy calcs. 4-44978
 Se, liquid, charged defects, elec. cond. study 4-45792
 Si (100), (111), adsorbed O and H bonding, EELS studies 4-25164
 Si (111)-(2×1) surface, chemisorption of H, deconstruction mechanism 4-29789
 Si {100} surface, electronic struct. and bonding 4-20703
 a-Si alloys, optical absorpt. props., effects of topological and quantitative disorder 4-46217
 Si, chemisorption of O₂, multiple bonding configurations 4-2449
 Si, dislocation core behaviour calcs. 4-25278
 Si, electronic struct., bond formation and metallisation 4-45614
 Si halogen, cpds., π - π bonding anal. 4-1288
 Si, interstitial atom position, dynamic simulation (Russian) 4-50279
 Si, microcrystalline, elec. cond., EPR and gas adsorption effects 4-11522
 Si surface (222) X-ray reflection power, press. and stress depend. 4-10923
 a-Si:(D,O) films, IR study of bonding 4-46354

bonds (chemical) continued

- a-Si:Cl, H film, EPR study (*Chinese*) 4-20858
- Si:H, amorphous, RF sputtered, light-induced optical absorption changes (*Chinese*) 4-21056
- a-Si:H, B, dopant states, tight-binding model 4-6743
- a-Si:H, electronic and optical props. 4-45687
- a-Si:H, F, dopant states, tight-binding calc. 4-6742
- a-Si:H, F film, deposition and photoconductivity 4-51540
- a-Si:H films, hydrogenated and pure, intermediate range order 4-39135
- a-Si:H(D)(F)(Cl), vibr. resonance modes 4-39428
- Si-Al interfaces, metal adsorption, chem. bonding states, AES with MBE technique studies 4-21078
- a-SiH glow-discharge films, H₂ evolution and annealing studies 4-39134
- SiN:H, amorphous film, annealing behaviour, EPR study 4-7049
- SiO₂ film on Si, space distrib. of chem. composition 4-11418
- SiO₂, vitreous, IR and neutron vibr. spectra, cluster models 4-7199
- SiO₂:H, amorphous, intrinsic defects and hydroxyl groups 4-50202
- SiO₄ anions in orthosilicates and orthogermanates, force consts. and chem. bonds 4-55939
- SiP₂, electron density distrib., X-ray and neutron diff. study 4-11095
- Si₃Se_{1-x} glasses, chem. bonding and at. struct., Raman scatt. and neutron diff. meas. 4-6291
- Sn halogen, cpds, $p\pi-d\pi$ bonding anal. 4-1288
- SnMo₂S₂O, point defect struct., neutron powder diff. study 4-11138
- SrO-P₂O₅, Sr(PO₃)₂, heat of soln. and bond energy relations 4-25039
- TeO₂, effective core pot. calc. using frozen orbitals appl. 4-43794
- TeO₂, linear electro-optical effect, bond orbital model 4-25721
- TiC coatings for first wall of fusion reactor, thermal and mechanical props. 4-20526
- TiC, electronic struct., degree of ionicity in M-C bond 4-56207
- TiC, ground and low-lying excited states complete active space SCF CI approach 4-48946
- TiN, electronic struct., degree of ionicity in M-C bond 4-56207
- TiN, low lying states, CAS SCF and CI calcs. 4-1065
- Ti₂N₁₂ band struct., χ calcs. 4-50720
- Ti₂O₃:Zr(V)(Sc), phase transition, effect of doping 4-55989
- Ti_{1-x}V_xPO₄, prep., mag. props. 4-45993
- TiBr₃, electronic struct. and static struct. props., ab initio calc. 4-50747
- TiCl₃, electronic struct. and static struct. props., ab initio calc. 4-50747
- Ti₂ZrOF₁₂, cryst. struct., X-ray diff. study 4-39232
- UO₂²⁺ complexes in aq. solns., mid-, far-IR and Raman spectra, force const., bond distance 4-54717
- V, electronic structure peculiarities 4-56203
- V, interatomic forces and phonon anomalies 4-34601
- V₂, CAS SCF pot. curves, multiple 3d bonding 4-28392
- VH_{0.4}, valence electron energy spectra, X-ray emission 4-57042
- V₂O₅:GeO₂ binary semicond. glasses, hopping cond., ESR studies 4-45770
- V₂O₅:SeO₂ binary semicond. glasses, hopping cond., ESR studies 4-45770
- V₂O₅:TeO₂ binary semicond. glasses, hopping cond., ESR studies 4-45770
- V₂O₅ superstruct. appearance during metal-insulator transition (*French*) 4-15818
- W/C multilayered films, anal. by AES (*French*) 4-29848
- Ypd, electronic struct., bonding, all-electron HF calcs., bonding, dissociation energies, vibr. freq. 4-5127
- ZnSe(Te), plastic deform., defect struct., photoplastic effect, TEM 4-15483
- ZnSiP₂, thermal expansion meas. for different bonds 4-6531
- ZrC, electronic struct., degree of ionicity in M-C bond 4-56207
- ZrN, electronic struct., degree of ionicity in M-C bond 4-56207

bone

- alpha-contaminated bone surfaces, specific energy spectra 4-8129
- alpha-emitting bone seekers, microdosimetry 4-8125
- anthropomorphic phantom for evaluation of radioisotope bone imaging of the lumbar spine 4-12687
- bone:¹⁶¹Tb, mag. and quadrupole interactions, Mossbauer studies 4-46940
- bovine femur, fractography and mechanical props. (*Japanese*) 4-8030
- cancellous bone, mech. characts. at upper femoral region 4-31253
- cancellous bone strength at the proximal human tibia 4-52374
- cell survival kinetics in peripheral blood and bone marrow during total body irradiation for marrow transplantation 4-36185
- chromosomes of mouse bone marrow cells, effect of NMR 4-52386
- compact, electroosmosis, dog expts. 4-36091
- crack, star-shaped exterior 4-12604
- cranial bone reson. selective suppression in ³¹P NMR expt. on rat brain 4-41663
- digital US imaging and appl. to skeletal tissue 4-57973
- elemental analysis by nuclear physics methods 4-12740
- EM stimulator, pulsed, for bone growth studies 4-31387
- epiphysis of frogs, laser-irradiated, temp. profiles 4-8033
- femoral neck, human, fracture rel. to density of cancellous core 4-31263
- femoral shaft, human, mech. robustness distrib. 4-47025
- femur, rat, irradiation, functional changes in vascularity 4-31290
- fracture, deform. rate effect 4-12619
- fracture mechanics, longit. fracture: effects of density, specimen thickness and crack vel. 4-47023
- hip endoprostheses, stem design rel. to stress distrib. in femur cortex 4-31364
- hip joint, evaluation by US transmission imaging, dog expts. 4-12662
- human, cancerous, osteoclastoma, small-angle X-ray scatt. obs. of macro-molecular parameters 4-12529
- human, radionuclide conc., data collation 4-3635
- humerus, proximal, of growing beagles injected with ²³⁹Pu, radiation dose rates 4-58015
- hydraulic strengthening of bones 4-31243
- impact response meas. for in vivo condition assessment in humans 4-12613
- impedance measurement, factors affecting 4-47116
- juxtaarticular stress changes due to localised subchondral stiffening, finite element studies 4-47022
- knee, total replacement, mech. strength of tibial resection surface 4-16901
- light microscopy, tandem scanning reflected, of internal features in whole bone and tooth samples 4-8161
- lumbar spine, interbody fusion, load bearing capacity of vertebral cancellous bone 4-16903

bone continued

- lumbosacral hinge, vibr. behaviour, nucleus pulposus ablation effects, baboon expts. 4-12606
 - marrow, human, late effects after extended field radiotherapy 4-8042
 - marrow, mouse, response of stromal progenitor cells to graded repeated doses of X-rays or neutrons 4-8049
 - marrow, rat, long-term fractionated irradiation, CFUc recovery (*Russian*) 4-36175
 - marrow cells, mouse, thymidine kinase inhibition after low-dose γ -ray exposure 4-57950
 - marrow cells, radiation effect on elec. charge density (*Russian*) 4-36177
 - marrow cells, rat, proliferative activity and differentiation rate rel. to radiation sickness (*Russian*) 4-36169
 - marrow transplantation and total body irradiation in dogs, increased risk of malignant tumours 4-12645
 - microdeformation in tension, moisture content effect 4-52378
 - mineral, quantitative in vivo determ. using computerised roentgenographic densitometry 4-21771
 - mineral densitometry, high resolution, with a γ camera, small animal appl. 4-31388
 - orthopaedic biomechanical research in Japan, present state 4-16904
 - orthopaedic radiology, NMR imaging, preliminary experience 4-52426
 - orthopedic materials, characterisation of microstruct. anisotropy using second rank tensor 4-51911
 - osteogenesis induced by polyvinylidene fluoride bimorph films 4-31204
 - osteosynthesis, external, external fixation prototype, performance anal. using holographic interferometry 4-47054
 - pelvic ring fractures, unstable, comparative mech. performances of fixation devices, rigidity obs. 4-12725
 - phosphate foam glass ceramic, textural and mech. props., bone implant appl. 4-51589
 - piezoelectric signals on cantilever bending 4-30396
 - prosthesis, highly stable intramedullary osteosynthetic device, biomech. study 4-31368
 - radiobiological characteristics of CBWA mice (tetrahybrids) (*Russian*) 4-36179
 - radioisotope scan, factors influencing quality 4-21783
 - sister chromatid exchanges in bone marrow cells of mice maintained on tritiated water 4-57955
 - skeletal tissue electromech. and elec. stimulation of growth and remodelling 4-41542
 - skeleton, rat, comparative retention of bone-seeking radionuclides 4-3610
 - spine, dual photon absorptiometry with a low activity ¹⁵³Gd source 4-12686
 - spine CT, curved coronal reformations from serial images 4-36228
 - surface remodeling, intramedullary nailing 4-31265
 - tibial natural freq., direct and indirect determ., freq. domain anal. rel. to fast Fourier transform. 4-31357
 - tibial trabecular bone, human, mech. props. rel. to metaphyseal location 4-31252
 - trabecular bone, viscoelastic anisotropic behaviour, struct. math. model 4-31244
 - tubular, surface growth, load effect 4-12620
 - tubular, torsional waves propag. 4-8029
 - tubular bone, axisymmetric acoustic wave propag. 4-36158
 - vertebral bone marrow CFU-S surviving in radionuclide-contaminated mice, radiosensitivity obs. 4-52399
 - X-ray local irradiation, effect on longit. bone growth in rat, tetracycline labelling 4-12631
 - ²⁴¹Am, internal deposition in exposure accident at Hanford, 1976 4-16988
 - ²⁴¹Am, organ burden and dose estimates, 1976 Hanford exposure incident 4-16989
- Boolean algebra**
see also Boolean functions; formal logic
No entries
- Boolean functions**
No entries
- Boolean lattices** see Boolean algebra
- bootstrap models** see bootstrapping
- bootstrap theory** see bootstrapping
- bootstrapping**
asymptotic hadron mass spectrum in stat. bootstrap model with internal SU(2) and SU(3) 4-18211
conformal bootstrap eqn. with satellite poles contrib. (*Russian*) 4-37312
QCD baryon dynamics, large-N reln. to static strong coupling theory bootstrap condition 4-27705
- bootstraps** see bootstrapping
- borate glasses**
see also borosilicate glasses
alkali aluminoborate glasses containing U, neutron and γ -irradiation effects on physical props. 4-20258
alkali borate glasses, B atom tetrahedral coord., statistical mechanics anal. 4-20110
borate glass:Cu²⁺(V⁴⁺), EPR spectra and two phase struct. 4-20852
borate glass, struct. and ion motion, NMR studies (*German*) 4-2095
coordination of Cu(II), Ni(II) and Co(II) (*German*) 4-2092
doped with fissionable material, track characts. and detection 4-23492
heavy metal oxide borate glasses with abnormal partial dispersion, struct.-property relations (*German*) 4-5674
specific optical dispersion and refraction, composition dependence 4-20940
AgI-Ag₂O-B₂O₃-P₂O₅ glasses, ionic transport, thermal stability and electrochemical behaviour 4-39585
(AgI)_x(Ag₂O)_y(B₂O₃)_{1-x-y} glasses, superionic, optical and X-ray absorpt. meas. 4-40574
(AgI)_x(Ag₂O-B₂O₃)_{1-x} glassy ionic conductors, heat capacity study 4-20375
Ag₂O-B₂O₃ glass, X-ray absorption meas. at Ag L₂ edge 4-2995
AgX-Ag₂O-B₂O₃ glass, (X=I, Br or Cl), struct., ionic cond. and IR spectra 4-39159
Al₂O₃-B₂O₃-P₂O₅-SnO₂ glasses, Sn valency, Mossbauer study 4-10994
Al₂O₃-B₂O₃-SiO₂-SnO₂ glasses, Sn valency, Mossbauer study 4-10994
Al₂O₃-P₂O₅-B₂O₃-V₂O₅ glasses, EPR and optical spectra of V 4-7055
B₂O₃ glass, vapour-phase synthesis, grafted polymerisation 4-51613
B₂O₃ glass, annealing, enthalpy relax. 4-2349
B₂O₃ glass melt, one phase, struct. anal. (*Russian*) 4-2098
B₂O₃, vitreous, rings in central-force network dynamics 4-20312

borate glasses continued

- $B_2O_3-Fe_2O_4-Mn_2O_3$ glass, rapidly quenched, crystn. behaviour with regard to thermal and mag. props. (*German*) 4-2093
 $B_2O_3-Li_2O-LiCl$ glasses, fast ionic cond., low temp. US study 4-39407
 $B_2O_3-MgO-Al_2O_3-Na_2O-Bi_2O_3$, reversible thermochromism 4-11874
 $B_2O_3-Na_2O-K_2O$ glasses, internal friction meas. (*French*) 4-40856
 $B_2O_3-SiO_2$ glass layers formed by gel process, O diffusion 4-57181
 $BaO-B_2O_3$ glasses containing Ni micro-granules, mag. props., EPR spectra 4-35223
 $BaO-B_2O_3-Fe_2O_3$ glass, EPR and DC resistivity studies 4-51128
 $BaO-B_2O_3-V_2O_5$ system, glasses with low softening points 4-57170
 $Ba_2O_3-CuCl_2$ glass, thermoluminescence following X-ray irradiation 4-51372
 $CaO-B_2O_3-Al_2O_3:Cu$, γ -irradiation 4-34487
 $KBO_3:Sn$ glass, luminescence and absorpt. (*Russian*) 4-51345
 $K_2O-B_2O_3$ glass, $PbBr_2$ activated, luminesc. and excitation spectra of impurity centres 4-56987
 $K_2O-B_2O_3-GeO_2$ glass, Raman spectra with high GeO_2 conc. 4-51274
 $K_2O-Li_2O-B_2O_3$, elec. cond. mixed alkali effect and opt. absorpt. of Ni (II) 4-11907
 $LiBO_3$ glass, struct. disorder and enhanced ion transport 4-39584
 $Li_2B_2O_7$ glass, struct. disorder and enhanced ion transport 4-39584
 $Li_2O-B_2O_3$ thin films, ionic cond. and struct. 4-2375
 $Li_2O-B_2O_3-CuO$ glass, EPR line width and X-band spectra, freq. depend. 4-46099
 $Li_2O-B_2O_3-TeO_2$ glass, ^{11}B NMR 4-51144
 $MnO-B_2O_3$ glass, state of Mn and glass form. 4-15390
 $NaF-BaO-B_2O_3$ system, glasses with low softening points 4-57170
 $Na_2O-B_2O_3$, high-alkali, CO_2 retention in glass form. 4-6277
 $Na_2O-B_2O_3$ borate one phase glass struct. (*Russian*) 4-2098
 $Na_2O-B_2O_3$ glasses, internal friction meas. (*French*) 4-40856
 $Na_2O-B_2O_3-SiO_2$ glass, struct. modelling, NMR studies 4-6278
 $Na_2O-BaO-B_2O_3$ system, glasses with low softening points 4-57170
 $Na_2O-P_2O_5-B_2O_3$ glasses, internal friction meas. (*French*) 4-40856
 $PbO-B_2O_3$ glass, Ag migration 4-11352
 $SiO_2-Na_2O-ZnO-K_2O-B_2O_3$ glass, colouring by Cd, Se and S compounds 4-40737
Sr-containing glasses, liq. phase separation and glass forming regions 4-15653
 $TeO_2-B_2O_3$ system, glass form., phase equilb., props. and struct. 4-34412
 $TeO_2-B_2O_3-Al_2O_3$ glass, ^{11}B NMR 4-51144
 $V_2O_5-B_2O_3$, IR absorpt. spectra, oxide ordering investig. 4-11875
 $V_2O_5-B_2O_3$ glass, elec. cond. 4-6780
 $V_2O_5-B_2O_3$ glass, Li insertion, cond., activation energy 4-39997
 Yb^{3+} glass, stimulated emission cross section depend. on host glass comp., absorpt. and fluoresc. spectra 4-25783
 $ZnO-B_2O_3$, IR absorpt. spectra, oxide ordering investig. 4-11875

Bordoni effect

- ultrasonic attenuation and velocity defect model due to thermal kinks 4-50442
Al, deformation depend. of Bordoni peak 4-50429
Al, nonlinear Bordoni relax. and internal stresses (*French*) 4-50430
Cu, reduced and oxidised, internal friction and Bordoni peaks, electron irradiation effects 4-40879
Mg, electron irradi., Bordoni peak amplitude and temp. variations (*French*) 4-50431
Mg, internal friction, Bordoni relax., effect of recrystallisation conditions (*French*) 4-51714

boron

- see also nuclei with
ancient materials, Li, B, N content, ion beam anal. 4-43157
atom, doubly ionised, high resolution EUV spectra 4-19078
B control nuclear power stations, with water-cooled reactors, deaerator design 4-48689
chemical vapour deposition on Be, wear and friction tests 4-7370
determination and sampling of atmospheric B 4-16809
diffusion, in Si- SiO_2 , influence of thermoelectric stresses 4-56084
diffusion in Ni-base superalloy brazed joint (*Czech*) 4-39601
fibre reinforced Al, internal friction study 4-39395
fibre reinforced Al, physico-chem. interaction 4-57275
fibre reinforced Al-Mg, fatigue process., effect of fibre-matrix interface (*Slovak*) 4-46602
fibre reinforced epoxy, symm. cross-ply laminates, three-dimens. curing stress 4-35642
fibre reinforced plastic, failure mechanism under interlamellar shear 4-46605
fibre reinforced Ti alloy, fracture and tensile strength of fibres after high temp. annealing 4-57347
fibre reinforced Ti-V alloy, nondestructive inspection and evaluation 4-30902
intrinsic electronic localisation, isotopic disorder effect in narrow electronic band materials 4-39802
isoelectronic sequence, ground-state fine struct. 4-23621
isotopic meas. by thermal ionisation mass spectrometry using negative BO_2^- ion 4-16711
plastic reinforced D16T alloy rod elements, short-term strength under room and low temp. conditions 4-12180
quantum features of low-temp. dynamic fracture 4-3247
solar nebula processes inferred from Earth mantle B abundances 4-47550
solubility in liquid Al (*French*) 4-29634
solutions, sub-PPM amounts determ. by solid state track detectors, monoclonal antibodies appl. 4-21502
sputtering, at. excitation, projectile incidence angle depend. 4-11997
thin film, nucleation rate, statistical investig. 4-20130
B III, core excited states, EUV spectra 4-38116
B III, oscillator strengths and electron impact excitation cross sections calc. 4-1274
B III quartet system study 4-38108
 B^{2+} , dielectronic recomb. through $1s^2s-1s^2p$ excitation 4-5466
 B^{3+} , radial Sternheimer shielding-antishielding factors 4-43821
 α -B:H films, transient and steady state photocond. 4-45834
 $B:Ni(Te)(Re)$, number of spins, free carrier conc., EPR spectra 4-51123
 $B+H_2(Ar)$, cross-sections for one-electron capture 4-19219
 B +methane, C-H insertion reaction, activation barriers, semiempirical calcs. 4-51962
 B +methane, C-H insertion reaction, activation barriers, semiempirical calcs. 4-51962
 B^+ + $H_2(X^1\Sigma_g^+)$, pot. energy surfaces, diatomics-in-mols. calcs. 4-41179
 B^+ +methane, C-H insertion reaction, activation barriers, semiempirical calcs. 4-51962

boron continued

- $B^{3+}+He$ electron capture collision, relative population between $B^+(2s)$ and $B^{2+}(2p)$ meas. 4-1238
 $B^{3+}+H$, charge transfer, exponential distorted-wave approx. calcs. 4-38318
 $B^{3+}+H$, charge transfer cross sections 4-14531
 $B^{3+}+H(1s)$, charge capture, fully quantal calcs. 4-14560
 B_4C-B reinforced Ti alloy composite, mixed mode fatigue crack propag., humid environment effect 4-40970
 $B^+(^1S)$, electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
 ^{10}B , power deposition and transport efficiency in reactor 4-54255
 ^{11}B , doubly-charged negative ion search via accelerator mass spectrometry 4-53794
C-B substrate for dispersed Fe, Mossbauer study 4-25659
 Dy_2O_3-B , thin films amorphisation, forbidden gap 4-55725
Fe:B, BCC, impurity β -emitter hyperfine interactions, NMR and asymmetric β -decay obs. 4-34934
GaAs:B (111), optical consts. temp. depend., 20 to 400°C 4-56876
GaP:B(N), hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
Ge:B, ion implanted, laser annealed, phonon softening, Raman study 4-15597
Ge:B amorphous films, ESR spectra, temp. depend. 4-11770
Ge:B(N), hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
InP:B $^+$, high resistive layers obtained by ion implantation (*French*) 4-55853
LiF:B, viscous dislocation drag study 4-39308
 $P_2O_5-SiO_2:P(B)$, doping process and CVD on semicond. substrates 4-21156
Si, impurity nuclei at interstitial sites, hyperfine interactions 4-34899
Si:B, amorphous CVD films, doping and elec. props., plasma hydrogenation effects 4-39321
Si:B, B diffusion profile from BN source by H_2 injection 4-15703
Si:B, B diffusion profile 4-15704
Si:B, cryst. and amorphous, carrier and implant profiles 4-29459
Si:B, fine struct. of energy levels of excitons bound to impurity 4-29892
Si:B, flash annealing with pulsed Xe lamp and appl. for solar cells 4-39332
Si:B, focused ion beam implanted, elec. props. 4-15872
Si:B, γ -ray irradi. defects, Hall effect, elec. cond. and photocond. studies 4-34543
Si:B, implanted, rapid thermal annealing 4-20218
p-Si:B, implanted, sheet resist. and junction depth relationships 4-34516
Si:B, impurity profiles, anodic oxidation and chemical polishing study 4-34517
Si:B, interstitial level energies 4-6729
Si:B, ion implantation for shallow p^+/n junction formation 4-20225
Si:B, ion implanted, B lattice position annealing studies 4-11158
Si:B, ion implanted, diffusion behaviour, flash-lamp annealing effects 4-45421
Si:B, ion implanted, laser annealed, phonon softening, Raman study 4-15597
Si:B, ion implanted, multiple scan electron beam annealing (*French*) 4-15538
Si:B, ion implanted, pulsed electron beam annealing 4-15536
Si:B, ion implanted, rapid thermal annealing using ultrahigh power arc lamp 4-50318
Si:B, laser implanted, AES and SIMS study 4-34519
Si:B, low energy B ion implantation, planar and axial channelling effects 4-50314
Si:B, polycryst., ion implanted, time-resolved scanned electron beam annealing 4-50360
Si:B, polycrystalline, effectiveness of diffusion sources 4-20404
Si:B, preamorphized, implants, rapid thermal annealing, residual defects 4-50316
Si:B, range meas. using neutron depth profiling facility 4-46815
Si:B, UV laser doping, npn bipolar struct. form. appls. 4-34513
Si:B,Ar, ion implanted, epitaxial regrowth 4-50656
Si:B,H, neutralisation of shallow acceptor levels by atomic H, resist. increase 4-25286
a-Si:B,H films, prep. by CVD, optical parameters, effect of post-hydrogenation and H-exodiffusion 4-40390
a-Si:B CVD film, crystallisation growth rate, doping depend. 4-44948
Si:B diffused resistors in process industry, comparison through narrow and wide areas 4-6561
Si:B film on sapphire, dopant profiling, spreading resist. studies 4-50331
p-Si:B MOS capacitors with Al gate, donor-like traps, atomic models 4-6897
a-Si:B p-i-n solar cell produced by reaction chamber method, prep. and props. 4-52149
Si:B X-ray masks, heating and temp.-induced distortions 4-37264
 $p^+-Si:B/Al$ Ohmic contacts on ion implanted shallow Si layers, formation by halogen lamp annealing 4-15960
Si:B $^+$, implanted slices, TEM studies after annealing and oxidation 4-24823
Si:B $^+$ ion implanted wafers, defects induced by laser annealing (*Chinese*) 4-20240
Si:B(As), ion implanted, ESR study 4-16096
p-Si:B(Ga), bulk acceptor compensation by H_2O plasma treatment 4-50751
Si:B(N), hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
Si:Br high conc. diffusion, profile estimation using unified analytic approx. 4-50333
Si:Fe:B, isotope shift study of luminescence 4-2961
Si:H, B, amorphous, simultaneous depth profiling by elastic recoil detection anal. 4-29460
a-Si:H, B, dopant states, tight-binding model 4-6743
a-Si:H, B, film, surface states study 4-30036
Si:H, B, Hall effect and hole transport 4-20673
a-Si:H, B, impurity diffusion study 4-39598
a-Si:H, B, p-type, photoreceptor appl., photoelectrical and optical study 4-40393
a-Si:H, B films, photoinduced metastable surface effects 4-15908
a-Si:H,B, density of gap states determ., space charge spectroscopy 4-39759
Si:H,B, post hydrogenated, elec. cond. and ESR, doping effects 4-39900
Si:H,B amorphous films, glow discharge deposition, BF_3 doping 4-29456
a-Si:H,B film, doping efficiency, crystallisation effects 4-44949

boron continued

- a-Si:H,B film, optically induced excess cond. 4-40088
 a-Si:H,B films, prep. by glow discharge, optical props. 4-35508
 Si:H,B microcryst. film, preferential dopant segregation 4-45340
 Si:H,B microcrystalline films, plasma-deposited, substrate temp. effects 4-21162
 a-Si:H,B p-i-n solar cell, carrier collection enhancement by B doping in i-layer 4-52155
 SiN_x:H,P(B), amorphous, glow-discharge deposition, doping effects on elec. props. 4-39314
 SiO₂:B ion implanted MOS struct., electron traps, thermal energy depth 4-45892
 SiO₂:B layers, electron beam excited TSEE 4-3031
 SiO₂:B⁺ ion implanted layers in MOS struct. (Chinese) 4-20221
 SiSiO₂, oxidised SOS structures, ¹¹B dopant implants, SIMS study 4-20226
 Ta:B, BCC, impurity β -emitter hyperfine interactions, NMR and asymmetric β -decay obs. 4-34934
 TiC-Ni-B, slurry coatings applic. using conc. solar energy 4-7643
 V:B, BCC, impurity β -emitter hyperfine interactions, NMR and asymmetric β -decay obs. 4-34934
 WC-Ni-B, slurry coatings applic. using conc. solar energy 4-7643

boron alloys

see also boron compounds

- rare earth alloys, rapidly quenched, mag. hysteresis 4-51099
 rare earth alloys, RCo₂B₂, crystal structs. anal. 4-45055
 Al-Ti-B system, phase relationships and grain refining of Al 4-40751
 BN-TiC cermet, effect of cubic BN content on cutting performance of polycryst. tools 4-40994
 CePd₃B₂ alloys, valence change and nonmag.-mag. transition, sp. ht. meas. 4-56652
 Co-B eutectic melts, wetting of refractory compounds 4-2413
 Co-Fe-B metallic glass and cryst., hyperfine fields and mag. moments 4-56568
 Co-Nb-B glasses, short-range order reversible transforms., mag. anisotropy changes 4-44997
 Co-Sm-B system, phase diagram and cryst. structs. 4-40748
 CoB metallic glass, field evaporation charge-state of B ions, isotopic variations 4-35554
 Co₃B-⁵⁷Fe, mag. struct. and Curie temp. (French) 4-51029
 Co₇₂Fe₁₅Si_{12.5} metallic glass wire, mech. and mag. props. 4-56689
 Co₆₆Fe₄Mo₁₂Si₁₁B₁₂ metallic glass, creep-induced and field-induced anisotropy 4-56607
 Co₇₅Fe₄Mo₂(SiB)₂₇ metallic glasses, mag. hysteresis, temp. depend. 4-16063
 Co₅₈Fe₂Ni₁₀Si₁₁B₁₆ metallic glass ribbon, initial permeability, annealing effects 4-30204
 Co₅₈Fe₂Ni₁₀Si₁₁B₁₆ metallic glasses toroids, mag. props. and winding methods 4-30207
 Co₅₈Fe₂Ni₁₀Si₁₁B₁₆ amorphous, mag. props., tensile stress effects 4-35167
 Co₅₈Fe₂Ni₁₀Si₁₁B₁₆ amorphous alloy annealed, mag. props., effect of tensile stresses 4-40215
 Co_{70.3}Fe_{4.7}Si₁₅B₁₀ amorphous ribbons, domain struct., anisotropy effects 4-30199
 Co_{70.3}Fe_{4.7}Si₁₅B₁₀ amorphous ribbons, domain struct., applied current effects 4-56678
 Co_{70.3}Fe_{4.7}Si₁₅B₁₀ composite, high freq. mag. props. 4-46068
 Co₈₀Nb₂₀-x glasses, magnetostriction and local order 4-56751
 Co₅₈Ni₁₀Fe₂Si₁₁B₁₆ glasses, amorphous, coercive field, surface roughness effect 4-7011
 Co₅₈Ni₁₀Fe₂Si₁₁B₁₆ Vitrovac 6010, annealed, mech. and phys. props. (German) 4-57273
 Co₇₂Si_{12.5}B₁₅ amorphous wire and ribbon, structural relax., DSC obs. 4-10997
 Co₇₅Si₁₀B₁₅ metallic glass, structural relax., crystn., precip., internal friction, shear modulus meas. 4-39382
 Co_{95-x}Si_xB₅ metallic glasses, mag. aftereffect, permeability disaccommodation meas. 4-40205
 Cr-B amorphous films, high corrosion resistance props. 4-7631
 CrB crystal, solidification of Ni-Cr-B type alloy, growth and equilib. morphologies (French) 4-20133
 Dy-Fe-B system, phase equilib. diagrams, phase comp. 4-51632
 Er-Fe-B system, phase equilib. diagrams, phase comp. 4-51632
 (Fe,Co,Ni)-(Si,B) amorphous alloys, Curie temp. 4-40166
 (Fe,Ni,Co)_{1-x}(B,P,Si)_x alloys, amorphous, phonon thermal cond., 2 to 100K, heat treatment effect 4-6573
 (Fe,Ni,Cr)₇₉Sn₂₀ amorphous, hyperfine field distrib., Mossbauer spectra 4-35312
 Fe-B, amorphous, electronic struct. and mag. props. 4-20545
 Fe-B, amorphous, struct. study 4-55726
 Fe-B eutectic melts, wetting of refractory compounds 4-2413
 Fe-B metallic glasses, struct. relax. and Curie temp. 4-20112
 Fe-B metallic glasses, thermoelec. power, conc. and temp. depend. 4-45750
 Fe-B-C alloys, metallic glass, struct. relax., DSC study 4-45008
 Fe-B-Si, amorphous, Si diffusion coeff. meas. 4-6557
 Fe-B-Si-Cr-C amorphous ribbons, high freq. mag. props., Cr and C addition effects 4-56688
 Fe-B-Tb-La, prod. of hard mag. materials 4-56699
 Fe-B(P), grain boundary segregation, atomic struct. and stress distrib. 4-20356
 Fe-B(P), grain boundary segregation, electronic struct. and intergranular embrittlement 4-20357
 Fe-B(P), grain boundary segregation, vibr. states of atoms at grain boundaries 4-20358
 Fe-based Invar alloys, amorphous, Young's modulus meas. 4-45245
 Fe-Co-B-Si, amorphous alloy, thermal aged, struct. changes, calorimetric evidence 4-45010
 Fe-Fe₂B, eutectic system, primary phase crystal growth and shape 4-3125
 Fe-Nb-Si-B amorphous alloys, magnetostriction and mag. core loss 4-16078
 Fe-Ni-B, amorphous, structural relax., energy level schemes, DSC meas., vitrification kinetic theory (Russian) 4-24727
 Fe-Ni-B amorphous alloys, crystn. 4-2081
 Fe-Ni-B amorphous film, mag. saturation, defects, anisotropy and surface roughness effects 4-30252
 Fe-Ni-B metallic glasses, evidence for FCC-like short range order 4-34418

boron alloys continued

- Fe-Ni-B-P-Cr amorphous alloy passivation, Cr addition and heat treatment effect 4-57445
 Fe-Ni-Cr-P-B, laser glazing, surface amorphous and crystalline structures 4-34537
 Fe-Ni-Cr-P-B metallic glasses, struct. relax., DSC study 4-45008
 Fe-Ni-Mo-B, Metglas 2826 MB, He⁺ implantation, bubble growth and blistering 4-15551
 Fe-Ni-Mo-B, Metglas 2826 MB, He⁺ implantation, free-vol. relax model for bubble growth 4-15552
 Fe-Ni-Mo-B metallic glasses, struct. relax., DSC study 4-45008
 Fe-Ni-Si-B alloy and sputtered film, chem. composition, XPS studies (Russian) 4-25172
 Fe-Pr-B-Si, rapidly quenched, mag. and struct. props., permanent magnet appls. 4-2790
 Fe-Si-B metallic glasses, struct. after rapid heat treatment 4-20107
 Fe-Si-B-based soft mag. glasses, retained γ -Fe, electron microscopy studies 4-56022
 Fe-Si-B(Co-B), (Ni-B), amorphous alloys, mag. props. 4-46010
 Fe-Sn-B-Si amorphous alloys, crystn. and mag. props. 4-46064
 Fe-V-B-Si alloys, N-bearing, amorphous, effects of annealing on Curie temp. 4-46028
 Fe-V-B-Si amorphous alloys, N-bearing, crystn. processes, mag., thermal, and transport props. 4-45006
 FeB, cryst. and amorphous sputtered films, ferromag. and paramag. phases 4-30251
 FeB metallic glass, field evaporation charge-state of B ions, isotopic variations 4-35554
 Fe_{1-x}B_x amorphous sputtered alloys, optical props. 4-46281
 Fe_{1-x}B_x amorphous thin film, magnetisation, resist. and Hall const. 4-30250
 Fe_{100-x}B_x amorphous ribbons, microwave mag. props., temp. and freq. depend. 4-56780
 Fe_{100-x}B_x ferromagnetic glasses, Mossbauer Zeeman spectra 4-35310
 Fe_{100-x}B_x metallic glass, atomic environment, spin-echo NMR study 4-56814
 Fe₃₀B₇₀ metallic glass, neutron irradi. effect on property changes 4-24875
 Fe₇₅B₂₅ metallic glass, electron irradi., displacement threshold energy 4-11187
 Fe₈₀B₂₀, ¹⁰B fission fragment induced defects (French) 4-39350
 Fe₈₀B₂₀ amorphous, chem. bonding evidence from radial distrib. function 4-6285
 Fe₈₀B₂₀ amorphous, computer-simulated struct. model 4-44988
 Fe₈₀B₂₀ amorphous to cryst. transform. under press., thermoelec. power meas. 4-6766
 Fe₈₀B₂₀ H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
 Fe₈₀B₂₀ metallic glass, crystallisation obs. by DSC and Mossbauer spectroscopy 4-46157
 Fe₈₀B₂₀ metallic glass, X-ray scatt. anal., regularisation method 4-55745
 Fe₈₀B₂₀ metallic glass, EXAFS study 4-57037
 Fe₈₀B₂₀ metallic glasses, Mossbauer Zeeman spectrum, linewidth asymmetries 4-46159
 Fe₈₀B₂₀ Metglas 2605, activation energy spectra in relax., crossover and reversibility 4-44999
 Fe₈₀B₂₀ Metglas 2605, struct. factor problems 4-10992
 Fe₈₁B₁₉ amorphous, neutron diff. expt. 4-50146
 Fe₈₃B₁₇ amorphous, neutron irradi., amorphous to crystalline transform. 4-55880
 Fe₈₃B₁₇ ferromag., electron spin polarisation in inner-shell excitations 4-30571
 Fe₈₃B₁₇ glassy alloy, primary crystallisation, X-ray diff. anal. 4-6289
 Fe₈₅B₁₅ mag. permeability aftereffect relax. and shear transforms. 4-25600
 Fe₈₆B₁₄ metallic glasses, short range ordering, elec. resist. studies 4-45017
 Fe₉₆B₄ laser quenched, picosecond pulsed, solidification morphology 4-12061
 Fe_{100-x} amorphous film, mag. regimes, DC magnetisation studies 4-46074
 Fe_{100-x} sputtered amorphous film, mag. resonance study 4-25642
 Fe₈₀B_{20-x}Al_x (Ga_x) metallic glass ribbons, elec. and mag. props. 4-30202
 Fe₈₇B₁₁Al₂ metallic glass ribbons, Mossbauer spectra and crystallisation products 4-56825
 (Fe₈₃B₁₇)₉₃La₃Tb₅ amorphous alloy, magnetostriction, thermal variations 4-25625
 Fe_{82-x}B₁₈M_x, M=Si, Ni, V or Mo, amorphous alloys, flow and relax. kinetics 4-39394
 FeBSi, amorphous, electronic struct. study 4-56194
 Fe₇₅B₁₅Si₁₀ metallic glass wire, mech. and mag. props. 4-56689
 Fe₇₅B_{25-x}Si_x amorphous alloys, corrosion electrochem. invest. 4-3279
 Fe₇₅B_{14.5}Si_{10.5} amorphous, hyperfine field, isomer shift and Mossbauer spectra 4-11811
 Fe₇₈B₁₇Si₅ amorphous powder, explosive consolidation 4-21184
 Fe₈₁B_{14.5}Si₄ amorphous ribbons, stress relief annealing, heating rate depend. 4-57262
 Fe₈₁B_{14.5}Si₄ ferromag. glass, spin polarised electron scatt. studies 4-46070
 Fe₈₁B_{14.5}Si₄ metallic glasses, mag. hysteresis, temp. depend. 4-16063
 Fe₈₂B₁₇Si₁ metallic glass, Mossbauer study of H 4-25658
 FeBSiC annealed amorphous ribbons, mag. and struct. props. 4-30203
 Fe₈₀B_{14.5}Si_{3.5}C₂ amorphous ribbon, mag., thermal and mech. props. 4-56617
 Fe₈₁B_{13.5}Si_{3.5}C₂ amorphous alloy, C migration studied by mag. anisotropy meas. 4-46021
 Fe₈₁B_{13.5}Si_{3.5}C₂ Metglas 2605SC, giant magnetoelastic effects by exciting standing torsional waves 4-2800
 Fe₈₁B_{13.5}Si_{3.5}C₂ metallic glass, piezomag. and elastic props. 4-16079
 Fe₈₁B_{13.5}Si_{3.5}C₂ metallic glass ribbon, initial permeability, annealing effects 4-30204
 Fe₈₁B_{13.5}Si_{3.5}C₂ metallic glasses toroids, mag. props. and winding methods 4-30207
 Fe₈₁B_{13.5}Si_{3.5}C₂ metallic glass toroids, power loss, coating effects 4-30208
 Fe₈₃B_{14.5}Si_{1.5}C_{1.5} metallic glass, structural evolution rel. to magnetoelastic effect and magnetomechanical damping (French) 4-40213
 Fe₈₁B_{14.5}Si₄ ribbon-substrate adhesion dynamics in chill block melting processes 4-57128
 Fe₈₁B_{1-x} amorphous, Mossbauer isomer shift 4-56833
 FeCo₂B, mag. struct. and Curie temp. (French) 4-51029
 (FeCo)₈₀B₂₀ amorphous, ¹¹B NMR relax. study 4-40265

boron added continued

- Fe₆₇Co₁₈B₁₄Si metallic glass, mag. props., tensile stress effect (*French*) 4-35202
- Fe₆₉Co₁₈B₁₄Si₁, amorphous ferromagnet, mag. permeability aftereffect 4-46072
- Fe₆₇Co₁₈B₁₄Si₁, METGLAS 2605CO, Mossbauer study 4-56832
- Fe₆₇Co₁₈B₁₄Si₁ metallic glass, piezomag. and elastic props. 4-16079
- Fe₆₉Co₁₈B₁₄Si₁ metallic glass, surface oxidation study by AES 4-41101
- Fe₆₉Co₇₂B₁₅Si₂Mo₂, amorphous, field induced anisotropy 4-25546
- FeCoNiCrBSi metallic glasses, internal friction, dynamic elastic modulus, microhardness meas. 4-40854
- (Fe_{0.1}Co_{0.55}Ni_{0.35})₇₈Si₈B₁₄, metallic glass, crystn., precip. sequence (*Chinese*) 4-51662
- Fe₃Co₄₈P₁₀B₁₀, thin amorphous wires, fine struct. of spin-wave instabilities, FMR 4-16102
- Fe₄₇Co₇₃Si₁₅B₁₀ metallic glass, flash annealing and mag. props. 4-30726
- Fe₃Co₇₀Si₁₅B₁₀ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
- Fe₃Co₇₃Si₁₀B₁₇, amorphous ribbons, quenched, mag. anisotropy rel. to rotational field annealing (*Chinese*) 4-56714
- Fe₃Co₇₁Si_{10-x}B_{17+x}TM_x, amorphous alloys, magnetostriction study 4-7044
- Fe₃Co₇₀Si₁₅B₁₀, amorphous, relax. processes occurring below Curie temp. (*Russian*) 4-26070
- Fe₃Co₇₀Si₁₅R₁₀, amorphous, density, effect of isochronal annealing 4-55899
- (Fe_{1-x}Cr_x)₈₄B₁₆ amorphous, elec. cond. and mag. props. (*Chinese*) 4-2578
- Fe_{85-x}Cr₁₅B_x, x=10-20, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
- Fe_{85-x}Cr₁₅B_x, amorphous, electric field gradient, Mossbauer spectroscopy 4-35291
- Fe_{85-x}Cr₁₅B_x, X=5-30, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
- (Fe₇₇Cr₂₃)₇₅P₁₆B₆Al₃, amorphous, ferromag-spin glass transition study 4-56615
- Fe₇₅M₃B₂₀ (M=Ti, V, Cr, Mn, Co, Ni), amorphous alloys, elec. resist., structural relax. 4-39873
- (Fe_{1-x}Mn_x)₇₅P₁₆B₆Al₃ spin glass, reentrant props. 4-11721
- (Fe_{1-x}Mn_x)₇₅P₁₆B₆Al₃, amorphous, reentrant spin glass behaviour 4-51057
- (Fe_{1-x}Mn_x)₇₅P₁₆B₆Al₃ spin glass, reentrant magnetism study 4-6988
- (Fe_{1-x}Mn_x)₇₅P₁₆B₆Al₃, spin correlations near ferromag-to-spin glass crossover 4-56631
- Fe₇₈Mo₂B₂₀, ¹⁰B fission fragment induced defects (*French*) 4-39350
- Fe₇₈Mo₂B₂₀, metallic glass, neutron irradiation effect on property changes 4-24875
- Fe_{80-x}Mo_xB₂₀, amorphous, electric field gradient, Mossbauer spectroscopy 4-35291
- Fe_xNi_{78-x}Si₉B₁₃, amorphous, mag. double transition, Mossbauer effect study 4-11724
- (FeNi)₈₀B₂₀, amorphous, ¹¹B NMR relax. study 4-40265
- (Fe_{0.25}Ni_{0.75})₇₅B₂₅ metallic glass and cryst., local struct., Mossbauer study 4-51167
- (Fe_{1-x}Ni_x)₈₀B₂₀ metallic glasses, disaccommodation of mag. permeability 4-30205
- (Fe₂₀Ni₈₀)₈₃B₁₇ glass, relax. behaviour during annealing 4-45002
- Fe₂₀Ni₈₀B₂₀, amorphous, elec. cond. critical behaviour 4-11507
- Fe₄₀Ni₄₀B₂₀, amorphous, Mossbauer study 4-35314
- Fe₄₀Ni₄₀B₂₀, amorphous, crystallisation study 4-39472
- Fe₄₀Ni₄₀B₂₀, amorphous, struct. relax kinetics, Young's modulus meas. 4-45012
- Fe₄₀Ni₄₀B₂₀, amorphous, neutron-irrad., ductility and swelling 4-45195
- Fe₄₀Ni₄₀B₂₀, crystallised, re-amorphisation under neutron irradiation 4-45194
- Fe₄₀Ni₄₀B₂₀ metallic glasses, mag. hysteresis, temp. depend. 4-16063
- Fe₄₀Ni₄₀B₂₀, metallic glass, structural relax., Young's modulus, internal friction, mag. energy loss meas. 4-39153
- Fe₄₀Ni₄₀B₂₀ metallic glass, sliding friction and wear resist. 4-41011
- Fe₄₀Ni₄₀B₂₀ powder, prodn. by impact atomisation process 4-16351
- Fe₄₀Ni₄₀B₂₀, ribbon-substrate adhesion dynamics in chill block melt-spinning processes 4-57128
- Fe₆₁Ni₁₉B₁₄, mag. permeability aftereffect relax. and shear transforms. 4-25600
- Fe_{80-x}Ni_xB₂₀, amorphous, intrinsic defects, mag. aftereffect meas. 4-40204
- Fe_{85-x}Ni_xB₁₅ metallic glass, Mossbauer study 4-35318
- Fe_{85-x}Ni_xB₁₅, X=5-30, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
- Fe_xNi_{78-x}B₁₀Si₁₂ metallic glass, electron phenomena, positron annihilation studies 4-7268
- Fe_xNi_{80-x}B₁₀Si₁₀, amorphous, elec. cond. critical behaviour 4-11507
- Fe₄₀Ni₄₀B₂₀, amorphous, struct. relax. and crystn. 4-3168
- Fe₃₀Ni₃₆Cr₁₄P₁₄B₆ metallic glasses, short range ordering, elec. resist. studies 4-45017
- Fe₃₃Ni₃₆Cr₁₄P₁₂B₆, metallic glass, influence of superimposed tensile stress 4-15392
- Fe₃₃Ni₃₆Cr₁₄P₁₂B₆, metallic glass, internal friction and Curie temp. 4-25551
- Fe₃₃Ni₃₆Cr₁₄P₁₂B₆, metallic glass, internal friction and Curie temp. 4-25552
- Fe₃₃Ni₃₆Cr₁₄P₁₂B₆ amorphous, annealing kinetics for Curie temp. changes 4-25553
- Fe₃₃Ni₃₆Cr₁₄P₁₂B₆, Metglas 2826 A, thermal annealing, embrittlement 4-35692
- Fe₃₃Ni₃₆Cr₁₄P₁₂B₆ glassy metal, reversible struct. relax., shear modulus and internal friction 4-46548
- Fe₄₀Ni₃₈Mo₂B₁₈, amorphous, quenching, structural relax., internal friction, dynamic elastic modulus, elec. resist. meas. 4-40855
- Fe₄₀Ni₃₈Mo₂B₁₈ glassy alloy, crystn. EXAFS and XANES study 4-29327
- Fe₄₀Ni₃₈Mo₂B₁₈, metallic glass, Mossbauer study of H 4-25658
- Fe₃₉Ni₃₉Mo₄Si₆B₁₂, metallic glass, mag., elec. and thermoelec. studies 4-46158
- Fe₄₀Ni₄₀P₁₄B₆ amorphous ribbons, hydrodynamics of chill block melt-spinning (*Chinese*) 4-3132
- Fe₄₀Ni₄₀P₁₄B₆ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
- Fe₄₀Ni₄₀P₁₄B₆, amorphous alloys, self-diffusion of Fe and P using radiotracers (*French*) 4-20394

boron alloys continued

- Fe₄₀Ni₄₀P₁₄B₆, amorphous, field induced anisotropy and Curie temp. 4-25547
- Fe₄₀Ni₄₀P₁₄B₆, amorphous, ion irradiation, conversion electron Mossbauer spectra 4-34550
- Fe₄₀Ni₄₀P₁₄B₆, amorphous, density, effect of isochronal annealing 4-55899
- Fe₄₀Ni₄₀P₁₄B₆ amorphous powder, compacting by explosion pressing and struct. 4-57137
- Fe₄₀Ni₄₀P₁₄B₆, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
- Fe₄₀Ni₄₀P₁₄B₆, metallic glass, influence of superimposed tensile stress 4-15392
- Fe₄₀Ni₄₀P₁₄B₆, Metglas 2826, ferromagnetic, quadrupole splitting, Mossbauer spectra 4-2852
- Fe₄₀Ni₄₀P₁₄B₆, Metglas 2826, H mobility, induced mag. anisotropy 4-39605
- Fe₄₀Ni₄₀P₁₄B₆, Metglas 2826, struct. relax. kinetics 4-45001
- Fe₄₀Ni₄₀P₁₄B₆, press.-induced struct. relax. 4-45265
- Fe₄₅Ni₄₅P₅B₁₅, amorphous, struct. and electronic state changes (*Russian*) 4-24726
- Fe₇₃Ni₈P₁₀B₁₀, thin amorphous wires, fine struct. of spin-wave instabilities, FMR 4-16102
- (Fe_{1-x}Ni_x)₇₅P₁₆B₆Al₃ ribbon, low field magnetisation studies 4-56614
- (Fe_{1-x}Ni_x)₇₅P₁₆B₆Al₃, amorphous, mag. props. study 4-25544
- Fe₃₉Ni₃₉(SiB)₂₀ metallic glasses, mag. hysteresis, temp. depend. 4-16063
- Fe₄₀Ni₄₀Si₈B₁₂ glass, structural relaxation and embrittlement 4-45016
- Fe₇₀Ni₁₈Si₆B₁₂, amorphous ribbons, shape rel. to process conditions, single roll fabrication method (*Japanese*) 4-46500
- Fe₃P_{1-x}B_x, crystalline, hyperfine field interactions 4-35289
- Fe₂₁Pr₃B crystalman magnets, mag. props., characterisation 4-16060
- Fe₇₅Si₁₀B₁₅, amorphous wire and ribbon, structural relax., DSC obs. 4-10997
- Fe₇₅Si₁₅B₁₀, amorphous powders produced by gas-water atomisation, struct. and props. 4-40704
- (Fe_{0.6}Si_{0.4})₈₂Si₁₈B₁₀, amorphous, structural relax., crystn., internal friction, shear modulus meas. 4-39381
- Mo-Ru-B on sapphire, elastic recoil detection anal. of light particles (¹⁶O) using 30 MeV S ions 4-46817
- (Mo_{0.6}Ru_{0.4})_{100-x}B_x glasses, struct. studies and relax. behaviour, X-ray diff. study 4-45007
- (Mo_{0.6}Ru_{0.4})₈₂B₁₈ amorphous films, supercond. props., elec. resist., and irradi. props., effect of annealing 4-2665
- Nb₃Al_{1-x}B_x, A15 phase, ion implanted, cryst. struct. and supercond. transition temp. 4-34444
- Nd-Fe-B, amorphous permanent magnet, high-energy product 4-40196
- Nd-Fe-B high performance permanent magnets, mag. props., struct. 4-56702
- Nd-Fe-B permanent magnets, anisotropy, magnetisation and Curie temp. 4-56703
- Ni-B, electroless surface coatings, passivation and pitting 4-3296
- Ni-B, liq. struct., X-ray diff. studies, rel. to metallic glasses 4-44935
- Ni-B alloys, amorphous and crystalline, mag. and NMR study 4-46139
- Ni-B composite electrolytic coatings, struct. and phase comp. 4-3288
- Ni-B eutectic melts, wetting of refractory compounds 4-2413
- Ni-B molten alloys, struct. by X-ray diff. 4-2058
- Ni-B system, high temp. enthalpies and heat capacities 4-2354
- Ni-Cr-Fe-Si-B-C metallic glass, internal friction, shear modulus meas. 4-40853
- Ni-Ni₃B, eutectic system, primary phase crystal growth and shape 4-3125
- Ni-Si-B alloys, glass form. and crystn. 4-10991
- Ni-Si-B system, phase equilib., thermodynamic modelling 4-51625
- Ni-Zr-B-H glass, continuous transition and H solubility 4-45324
- Ni₃Al-B, rapid solidification, strength and ductility rel. to B content 4-40915
- Ni₃B coatings, wear and corrosion props. 4-21386
- Ni₆₄B₃₆, metallic glass, X-ray and neutron diff. study of struct. 4-44983
- Ni₆₆B₃₄ metallic glasses, EXAFS and XANES studies 4-39158
- Ni₆₆B₃₄ amorphous alloys, struct., crystallisation and elec. cond. 4-10999
- Ni₄₀Co₂₀Cr₁₂Mo₆Fe₆B₁₆, amorphous alloy, corrosion in deaerated H₂SO₄ 4-51856
- (Ni₆₅Fe₃₅)₇₇B₂₃, amorphous, neutron diff. expt. 4-50146
- Ni₅₅Mo₂₅Cr₇B₉ amorphous alloy, shock wave consolidation 4-45267
- Ni₇₈Si₈B₁₄, amorphous ribbons, cold rolling (*German*) 4-25972
- Ni₇₃Si₈B₁₇ metallic glass ribbons, plastic deform., slip bands, mech. tests, SEM obs. 4-16455
- Ni₇₅Si₈B₁₇ metallic glass, yield and deform. rel. to second phase particle additions 4-51725
- Ni₇₈Si₁₀B₁₂ amorphous composite, particle-dispersion hardening 4-46518
- Ni₇₈Si₈B₁₄ metallic glass, fracture and stress-strain curves 4-46611
- Pd-B amorphous alloy, short range order, comp. depend., ESR 4-40217
- Pd₇₆B₂₄, amorphous, local order parameters from semiempirical model 4-44990
- Pr-Fe-B high performance permanent magnets, mag. props., struct. 4-56702
- PrB₆, metallic, high sp. ht., superconductor stabilisation appl. 4-50537
- PrB₆, superconductor stabilisation, sp. ht. and thermal cond. meas. 4-11631
- RRH₃B₂, R=Ce to Gd, ¹¹¹Cd quadrupole interaction, transferred hyperfine field 4-35284
- Ru₂B₃, relation with Ce₂Co₁₁ and pyrochlore structures 4-6380
- RuFeB, hyperfine field anomalous behaviour, Mossbauer effect 4-35285
- RuFeB, mag. system, novel behaviour of Fe moments 4-20816
- a-Si-Ge-B alloy, tetrahedrally bonded continuous random network, electronic props. 4-39765
- Si-Ge-B alloy, thermal oxidation 4-35757
- a-Si-Ge-B LPCVD films, oxidation mechanism and work functions, rel. to submicron device fabrication 4-51836
- Ti-Al-Zr-W(Mo)-B, struct. and corrosion props., effect of quenching from liq. state 4-30857
- TiB₂, graphite, microsphere filled, high-porosity sintered, prod. 4-25924
- Ve₄₀Ni₄₀B₂₀ metallic glass, fracture and stress-strain curves 4-46611
- WC-Co-BN composites, prod. methods 4-3103
- Y(Rh_{1-x}Ru_x)₄B₄, role of p-d hybridisation in T_c variation 4-11618
- Zr-Cr-Zr₂ eutectic, high-temp. oxidation 4-3294
- (Zr_{0.667}Ni_{0.333})_{1-x}B_x, amorphous, density, elec. resist., supercond. props. 4-6287

boron compounds

- see also *boron alloys*
 closo-carboranes, ^{11}B -H spin coupling consts., correl. with struct. features 4-19082
 dihydrides, indirect nucl. spin-spin coupling tensors, ab initio SOS-Cl calcs. 4-28460
 intercalation cpd. with graphite, $\text{C}_{24}\text{B}_4\text{F}_4^-$, electrochem. energy storage appls. (French) 4-46902
 mixed halides, vibr. anal. and potential energy consts. 4-23768
 $\text{Mn}_3\text{B}_2\text{O}_{11}$, spontaneous birefringence studies of ferroelec./ferroelastic phase 4-7156
 $\text{Al}_2\text{O}_3\text{-B}_2\text{O}_3\text{-SiO}_2$ glass, composition influence on relative grinding hardness value 4-33821
 $\text{Al}_2\text{O}_3\text{-MgO-B}_2\text{O}_3$ system, spinel formation 4-57199
 BC control element, ^1H content study (German) 4-18662
 B_2C , ceramic cutting tool materials, impact resist., fatigue wear rel. to microstructure 4-12199
 B_2C coated B fibre reinforced Ti, interfacial compositions Auger electron spectroscopy 4-3372
 B_2C , hardness, temp. depend. 4-21302
 B_2C , high temp. fracture, expts. and simple theoretical models 4-35684
 B_2C , hot-pressed, mech. props. (French) 4-16503
 $\text{B}_2\text{C-B}$ reinforced Ti alloy composite, mixed mode fatigue crack propag., humid environment effect 4-40970
 B_2C , transport and mag. props., free C effects 4-45774
 BCl , $\text{A}^1\text{X}^1\Sigma^+$ transition, mol. consts. 4-33418
 BCl_3 , four-wave interaction in resonant media at 10.6 μm , dynamic refl. range 4-19519
 BCl_3 molecules, vibrational energy transfer dynamics due to IR laser light excitation 4-38142
 BCl_3 , OR absorpt. spectra, vibr. energy transfer dynamics (Chinese) 4-2909
 $^{11}\text{BD}_4^-$, UPT sequence investig. 4-19088
 BF_2^+ implantation in preamorphised Si, rapid thermal annealing 4-15514
 BF_3 , K-shell excitation, SCF calcs. 4-25848
 BF_3 localised MO calcs. 4-48900
 BF_3 , triply differential photoelectron spectra obs. of photoionis. dynamics 4-9831
 BH, mag. props., electron correl. effects 4-23616
 BH, mol. mag. susceptibility, vibr. state depend. 4-48925
 BH molecule, pot. curves, behaviour of unrestricted HF method near crit. point 4-1066
 BH, wavefunction cluster expansion, comparison with full CI results 4-1035
 BH^+ doublet and quartet states, ab initio MCSCF CI calcs. 4-48951
 BH^{2+} ions, electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
 BH_3 , laser optoacoustic spectra 4-46842
 BH_3 , atomisation energies, Moller-Plesset study 4-35865
 B_2H_6 (D_3), ground state rot., distortion consts., Fourier transform IR obs. 4-5217
 B_2H_6 , correl. and polarisation effects in thermochem. props. 4-30930
 B_2H_6 , ionisation pot., ΔE_{SCF} , ab initio LCAO-MO-HF-SCF calcs. 4-48936
 B_2H_6 , struct. determ. using ground state spectroscopic rot. consts. and harmonic pot. function 4-38053
 B_2H_7 , correl. and polarisation effects in thermochem. props. 4-30930
 B_2H_9 , correl. and polarisation effects in thermochem. props. 4-30930
 BN amorphous films produced by double-plasma reactor for semicond. appls. 4-3085
 BN, basal planes, adsorption isotherms of benzene 4-20487
 BN, borazone, appl. in MIS struct., basic props. 4-35087
 BN, CVD and props. (Japanese) 4-11417
 BN, chemical vapour infiltration deposition, thermodynamic studies 4-25894
 BN, Coulomb interactions, treatment in Hartree-Fock calcs. of periodic systems 4-20589
 BN, cubic, high press. synthesis from amorphous state 4-7353
 BN, cubic cryst., thermal shock influence on substruct. and strength 4-57341
 BN cubic single crystals, thermal cond. meas. (Ukrainian) 4-6569
 BN, elastic recoil detection anal. of light particles (^1H - ^{16}O) using 30 MeV S ions 4-46817
 BN, hexagonal, electronic struct. and core exciton, tight-binding band calc. 4-45625
 BN, phonon freqs., vol. depend. and effective charges 4-6463
 BN polycrystals, NMR spectra, $3/2$ spin under quadrupole interaction (Russian) 4-7080
 BN, singlet bands, assignment, electron configs. 4-23683
 BN, superhard compacts, shock compression, very high press. sintering, struct. 4-30669
 B_2N_3 cation radical, Jahn-Teller distortion, ab initio MO calcs. 4-1034
 $\text{B}_2\text{N}_3\text{H}_6$, ^{10}B NQR, level crossing calcs. 4-28476
 $\text{B}_2\text{N}_3\text{H}_6$, ^{10}B nuclear quadrupole double reson. spectra line intensities 4-7095
 BO, pot. energy surface SCF calcs. 4-28365
 $\text{BO}_2 + \text{N}_2$ (Ar)(O_2), excited state dynamics studied by laser induced fluoresc. meas., radiative lifetimes 4-38222
 B_2O_3 , ground state, force field, pot. surface, SCF approx. 4-28364
 B_2O_3 , molecular struct., vibrational freqs., high temp. electron diffr. 4-49162
 B_2O_3 , photon attenuation coeffs. 4-46216
 B_2O_3 , vitreous and molten state, low freq. Raman scatt. 4-7177
 $\text{B}_2\text{O}_3\text{-Li}_2\text{O-LiCl-Al}_2\text{O}_3$, amorphous, prep. and ionic cond. (Chinese) 4-50567
 $\text{B}_2\text{O}_3\text{-Li}_2\text{O-TiO}_2\text{-BaO-CuO}(\text{Gd}_2\text{O}_3)$ vitroceraamics, struct. and partial crystallisation, EPR study 4-46098
 $\text{B}_2\text{O}_3\text{-SiO}_2$ glass, type BK-10, nonlinear refr.-index coeff. at 355 nm, interferometric determ. 4-33709
 BP, diffuse refl. spectra and electron struct. 4-25221
 BP freestanding films 4-25895
 BP, phonon freqs., vol. depend. and effective charges 4-6463
 BP stabilised n-Si and n-GaAs photoanodes 4-12485
 BP, stoichiometry deviations, elec. cond. study, vacancies and anti-site defects obs. 4-39902
 BPO_4 , infrared spectra 4-30448
 $\text{BaO-B}_2\text{O}_3\text{-Fe}_2\text{O}_3$ glass, EPR and DC resistivity studies 4-51128
 $\text{BaO-B}_2\text{O}_3\text{-NdAl}_3(\text{BO}_3)_4$ pseudo-ternary system, crystallisation and viscosity 4-39446

boron compounds continued

- $\text{Ba}_2\text{O}_3\text{-CuCl}_2$ glass, thermoluminescence following X-ray irradiation 4-51372
 FeBMO_4 (M=Mg, Cu, Ni, Co), boroferrites, synthesis and mag. props. (Russian) 4-6956
 $\text{K}_2\text{O-B}_2\text{O}_3\text{-GeO}_2$ glass, Raman spectra with high GeO_2 conc. 4-51274
 $\text{Li}_2\text{O-B}_2\text{O}_3\text{-TeO}_2$ glass, ^{11}B NMR 4-51144
 $\text{Na}_2\text{O-B}_2\text{O}_3$ borate one phase glass struct. (Russian) 4-2098
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$ glasses, electric relax. study (German) 4-7612
 $\text{O}(\text{BO})_2$, mol. struct. and electronic props., ab initio calcs. 4-1026
 $\text{PbO-B}_2\text{O}_3\text{-Y}_2\text{O}_3\text{-Fe}_2\text{O}_3$ system, phase diagram, growth and dissolution of LPE YIG films 4-46457
 $\text{Rb}(\text{B}_3\text{O}_6)(\text{OH})_2 \cdot 2\text{H}_2\text{O}$, cryst. struct. determ. 4-45070
 Si_3BF_8 , cryst. and amorphous, carrier and implant profiles 4-29459
 Si_3BF_8 , preamorphized, implants, rapid thermal annealing, residual defects 4-50316
 Si_3BF_8 , implanted, oxidation generated defects, TEM studies 4-24824
 Si_3BF_8 , implanted slices, TEM studies after annealing and oxidation 4-24823
 Si-Ge-B, amorphous, GaAs Schottky contact with large barrier height, MESFET appl. 4-15934
 $\text{TeO}_2\text{-B}_2\text{O}_3$ system, glass form., phase equilib., props. and struct. 4-34412
 $\text{TeO}_2\text{-B}_2\text{O}_3\text{-Al}_2\text{O}_3$ glass, ^{11}B NMR 4-51144
- boronising** see *surface hardening*
- borosilicate glasses**
 acid digestion radwaste residue, immobilisation in cement, glass and other forms 4-23223
 aqueous leached, conc. profile meas. using nucl. microprobe 4-43134
 borosilicate glass: UO_2^{2+} site-selective spectra 4-16229
 charged, laser-induced elec. breakdown 4-7123
 crystallisation kinetics, Mossbauer spectrosc. investigation 4-25662
 Defence Waste Processing Facility, final step for defence HLW disposal 4-23250
 high level radwaste, vitrification into borosilicate glass using PAMELA melter 4-23256
 highly active fission waste products solidification, thin soluble layers anal. and fracture behaviour (German) 4-9298
 leaching in confined systems, radwaste form appl. 4-32989
 near-surface B distrib. using neutron depth profiling 4-46815
 nonlinear refractive-index coeff. determ. for type BK-10 glass at 355 nm, interferometric method 4-33709
 nuclear waste glass, leach model 4-4948
 optical planar waveguide formed in molten KNO_3 bath, optical props. 4-55188
 Pyrex glass, elec. cond. temp. depend. and probability density function 4-6752
 radioactive HLW in borosilicate glass, waste form quality assurance using process instrumentation 4-18636
 radwaste borosilicate glass, stored energy, freq. factor and kinetics, diff. thermal anal. 4-54252
 radwaste forms, crystalline phase in surface layers 4-726
 SIMAX, diffusion of K^+ and Ag^+ from AgNO_3 and KNO_3 molten salts 4-20399
 transuranic waste forms, comparative leach testing 4-4934
 $\text{Li}_2\text{B}_4\text{O}_7$ sintered crystal and thin evaporated layer, TSEE, dosimetric appl. 4-3024
 $\text{MnO-B}_2\text{O}_3\text{-SiO}_2$ glass, state of Mn and glass form. 4-15390
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$ borosilicate glass, viscosity dependence of temp. distrib. in melt 4-48128
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$ glasses, electric relax. study (German) 4-7612
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$ glass, Al_2O_3 particle dispersion, density, AC cond., thermal expansion, transform. range 4-39565
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$ system, gel homogeneity and glass prep., light scatt. obs. 4-57172
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{-V}_2\text{O}_5\text{-SiO}_2$ system, glass prep. by sol-gel process, struct. development 4-57175
 $\text{Na}_2\text{O-BaO-B}_2\text{O}_3\text{-SiO}_2\text{-CeO}_2$ glass, radiation colouring, radio- and thermoluminescence 4-11190
 $\text{Na}_2\text{O-Fe}_2\text{O}_3\text{-SiO}_2\text{-B}_2\text{O}_3$ glass system, ^{57}Fe Mossbauer absorption studies (Chinese) 4-56822
 $\text{Na}_2\text{O-La}_2\text{O}_3\text{-TiO}_2\text{-B}_2\text{O}_3\text{-SiO}_2$ system, heat treatment, leaching, phase decomposition 4-7470
 Pb implanted, nucl. waste glasses, radiation damage effects 4-18519
 $\text{SiO}_2\text{-B}_2\text{O}_3\text{-Na}_2\text{O}$ porous glasses, heterogeneity study by small-angle X-ray scatt. 4-15383
 $\text{SiO}_2\text{-B}_2\text{O}_3\text{-P}_2\text{O}_5$ systems, monolithic aerogel prep., glass conversion 4-57177
 Sr-containing glasses, liq. phase separation and glass forming regions 4-15653
 Yb^{3+} glass, stimulated emission cross section depend. on host glass comp., absorpt. and fluoresc. spectra 4-25783
 $\text{ZrO}_2\text{-Na}_2\text{O-ZnO-B}_2\text{O}_3\text{-SiO}_2$ system glasses, structural role of Zn 4-50205
- Borrmann effect** see *X-ray crystallography; X-ray diffraction*
- Bose-Einstein statistics** see *quantum statistical mechanics*
- Bose gas** see *boson systems*
- boson fluids** see *boson systems*
- boson systems**
 see also *liquid helium-4; quantum statistical mechanics*
 Bogolyubov transformation in terms of boson creation and annihilation operators 4-53870
 Bose gas, condensed, weakly interacting, transport theory 4-2390
 Bose gas, interacting, impurity-induced phase transition 4-13573
 Bose jellium, Thomas-Fermi limit, Bose condensation 4-13572
 Bose liquid response funcs., high and low freq. behaviour from one-loop approx. 4-8810
 Bose-Einstein condensation, critical density estimate 4-53584
 Bose-Einstein condensation in nonequilibrium systems 4-15744
 bosonisation in higher dimens., constraints 4-32461
 condensate dynamics near transition temp., microscopic approach 4-4327
 condensate eqn. for Bose systems 4-22671
 condensed Bose gas, relax. processes, self-consistent approx. anal. 4-42849
 crossing-symmetric rings, ladders and exchanges 4-13767
 effective Bose condensate, density function and dynamics theory 4-54584
 exciton systems, Bose-Einstein statistics 4-25244
 Fermi-Bose similarity and g-numbers 4-13826
 finite-dimensional systems, local symm. and phase space dynamics 4-42739
 free Bose gas, eqn. of state, finite vol. corrections 4-37005

boson systems continued

- frequency modulation, damping operator 4-53578
- hypernetted-chain method calcs. 4-53575
- interacting Bose gas, impurity-induced phase transition, analytical results 4-11360
- interacting Bose model, critical behaviour, random field effects 4-17822
- laser annealing, pulsed, Bose condensation and athermal nature, review 4-20245
- normal ordering formulae for boson operators 4-13574
- one-dimensional Bose liquid, microscopic theory 4-15731
- one-dimensional two-fermion model, bosonisation, Jordan's theory of boson representation 4-4323
- quantum Bose fluid and charged-boson gas, linear response function 4-27408
- relativistic Bose gas condensation, anomalies in zero-mass case 4-8813
- self-interacting boson system, global operator perturbation theory 4-48000
- static and dynamic many body problems, variational principles, linked cluster exp S expansions 4-17814
- stochastic processes, quantum dynamical evolution operator averaging, soluble model with coloured noise 4-53510
- superfluid Bose system, phonon spectrum instability near termination point of homogeneous phase 4-2393
- superfluidity microscopic theory without Bose-condensate (*Russian*) 4-6577
- surface, boson creation by atom moving near surface 4-39660
- three-body bound states on a lattice, vel. to magnetism and supercond. 4-42878
- U(1,1) symmetry Bose condensate, kink-like soln. 4-47999
- V-representability in finite-dimensional spaces 4-22669
- ³He-⁴He superfluid solns., Bose spectrum 4-56115
- ⁴He, liq., Bogoliubov spectrum 4-2389

bosons

- see also alpha particles; boson systems; deuterons; gravitons; intermediate bosons; meson resonances; mesons; photons*
- correlation functs., many-identical-boson, in 1/N expans. 4-13892
- general statistics, second quantization and quarks 4-36953
- non-abelian bosonisation in 2-0 4-37269
- quantum statistics, elementary structure from bosons and fermions 4-22668
- Yang-Mills theory, supersymmetric solitons, bosonic configurations 4-13799

boundaries *see boundary layers; boundary value problems; grain boundaries; metal-insulator boundaries; semiconductor-insulator boundaries; semiconductor-metal boundaries***boundary-elements methods**

- casting solidification, boundary element numerical model 4-57211
- casting solidification process 4-57210
- cylinder, thick-walled, cracked, elastic-plastic stress anal. using boundary integral eqn. 4-1623
- eddy current two-dimens. problem calc. using boundary element method 4-54912
- elastic notch stress analysis using boundary and finite element methods, economy and convergence 4-53486
- elasticity, linear, plane problems, boundary element technique 4-32045
- elastodynamical problems, integral eqn. appls. (*Japanese*) 4-53487
- elastostatics in a plane region bounded by a smooth curve 4-17696
- engineering stress analysis, boundary integral eqn. 4-81
- Laplace equation solution in a square with mixed boundary conditions, boundary element method and finite element method efficiency and accuracy 4-53454
- magnetic field anal., finite element and boundary elements methods combination 4-49216
- multilayer induction problems with rot. symm., boundary element anal. 4-54906
- rotating disc with corner crack, boundary integral eqn. stress anal. 4-1677
- rubber, bonded blocks, boundary integral evaluation of compression moduli 4-2253
- semiconductor, depletion layer profile calc., boundary element method 4-50896
- stress concentration problems, three-dimens., boundary integral eqn. solns. 4-1607
- thermoelastic problems, axisymm., boundary integral eqn. problems 4-1608
- two-dimensional flow past arbitrary cylindrical bodies, boundary element formulations 4-34030
- unbounded field problems, infinite boundary element method combined with finite elements 4-36892
- viscoplasticity, large strain large deform. problems, appl. of boundary element method 4-1624
- viscoplasticity, large strain-large deform. problems, boundary element formulations 4-33950

boundary layer flow *see boundary layers***boundary layer turbulence**

- see also atmospheric boundary layer*
- 2D flow channel with backward facing step and rib roughening, axial vel., AGR appl. 4-14108
- acoustic arrays, convective flow noise, elastic cylinders model 4-33855
- aerodynamic research, IR thermal images processing appl. 4-29213
- aerodynamics of plate with turbulent boundary layer, suction effect 4-44616
- axially rotating pipe, turbulent boundary layer development 4-10659
- bielliptic bodies, three dimens. turbulent boundary layers in compressible gas stream 4-44552
- blunt cones in supersonic flow, unsteady aerodynamic characteristics, boundary layer influence 4-44630
- circular cylinder with ribs, boundary layer development, laminar-turbulent transition 4-10640
- coherent structures in wall region, conditionally sampled meas. 4-1707
- combustion MHD generator anal. using coupled core-boundary layer model 4-57735
- computation of boundary layers (*German*) 4-34062
- cylindrical structure vibrs. in turbulent parallel flows, asymmetric effects 4-14029
- density discontinuity interaction with turbulent boundary layer at permeable channel surface, heat transfer 4-10666
- Dorodnitsyn finite element formulation for turbulent boundary layers 4-44548
- duct, hydrodynamic, sound generation by turbulent flow 4-29078

boundary layer turbulence continued

- electrolytic flow cell, mag. field effects 4-55449
- elevated line source, turbulent dispersion, wind conc. moments and budgets meas. 4-31142
- film form. in two-phase turbulent flow over plate 4-10735
- flow around a normal plate of finite width immersed in a turbulent boundary layer 4-10656
- flow pattern and heat transfer characts. past circular cylindrical cavity 4-29080
- gas-liquid flow, stress at interfaces and walls (*French*) 4-49869
- generation, from laminar boundary layer, determ. method 4-44527
- Gortler instability, suction effect on transition 4-49822
- gradient flow, adverse press., obs. of turbulent boundary layer coherent structures (*Chinese*) 4-1709
- heat exchange and drag in turbulent boundary layer with press. gradient 4-44553
- heat transfer in turbulent boundary layer, fluid free-stream turbulence effect (*Russian*) 4-14970
- heat transfer modelling using pulsative characts. 4-1726
- heated ellipsoid, delayed laminar-turbulent transition surface roughness effect 4-10641
- hydrodynamic struct., vel. profile and friction law under negative press. gradient 4-44550
- jets, two-dimens. turbulent wall, curvature effects 4-38855
- laminar-turbulent transition in boundary layer, reson. interaction of disturbances 4-38803
- lateral shear turbulent flow system of flow eqns. closing (*Russian*) 4-29076
- longitudinal and transverse pressure gradients, boundary layer eqn., successive approx. method 4-24407
- measurement using laser Doppler anemometer, rapidly scanning design 4-34208
- moving wall, turbulent boundary layer, spectral effect (*French*) 4-14955
- ocean bottom boundary layer, oscillatory turbulent channel flow, viscosity effects 4-41954
- penetrable plate, integral turbulence scale in flow 4-19791
- pipe, axially rotating, flow pattern, hydraulic resist. and stability 4-55448
- Prandtl number in flow near heated vertical surface 4-49809
- Prop-Fan cabin noise shielding by fuselage boundary layer 4-44290
- reacting polymer jets, turbulent boundary layer treatment 4-44549
- reattached turbulent flow over blunt flat plate 4-14957
- Reynolds relaxation of frictional stress in nonequilibrium turbulent boundary layer 4-24414
- rotating axisymmetrical bodies, spiral vortices, boundary layer transition 4-1735
- rotating boundary layers, turbulence mesolayer theory appl., implications for atm. 4-10655
- rotating shear flows, high Reynolds number turbulence 4-14956
- rough surfaces, turbulent boundary layers, heat transfer and skin friction 4-10658
- selective suction at boundary layer, heat and mass transfer 4-19831
- shark scales, turbulent boundary layer in fine grooves (*German*) 4-1710
- shock wave interaction at transonic flow vel. 4-44551
- shock-boundary layer interaction at curved walls, length of separation bubble 4-1708
- shock-wave interactions, turbulence amplifications, numerical computations 4-44546
- sound emission by a turbulent boundary layer in critical flow conditions 4-44559
- sound generation by turbulence near an elastic wall 4-1711
- structure on convex wall, redevelopment on flat wall 4-14959
- structure using flow visualisation methods 4-19790
- supersonic boundary layer, turbulent transport process modeling 4-19792
- supersonic compression ramp flowfield, shock wave turbulent boundary layer interaction 4-49846
- transient forced convective heat transfer anal. by boundary layer approx. 4-33099
- transonic flowfield about secant-ogive cylinder boattail with turbulent boundary layer 4-44621
- transonic interaction of shock wave with separated turbulent boundary layer (*German*) 4-34123
- turbulence structure in thermal convection and shear-free boundary layers 4-38820
- turbulent fluctuations, zero-crossing frequency, shear flow 4-34053
- unsteady turbulent boundary layers in adverse pressure gradients 4-44547
- upstream influence in shock wave turbulent boundary layer interaction 4-24448
- velocity field calc. in zone of action of water-air curtain (*Russian*) 4-10654
- viscoelastic flow, drag reduction parameter with polymer additives 4-44660
- viscous flow, finite element calculation 4-49811
- visual obs. on amplification of artificial disturbances 4-5882
- vortices, counter-rot. streamwise, development 4-5883
- wall shear flow, acoustic propag. and caustic formation 4-24277
- weakly swirling jets, base section boundary layer, integral method calcs. (*Russian*) 4-29143

boundary layer turbulent flow *see boundary layer turbulence***boundary layers**

- see also atmospheric boundary layer; boundary layer turbulence*
- aerodynamic research, IR thermal images processing appl. 4-29213
- airfoils, outer inviscid flow interaction with boundary layer (*German*) 4-1781
- Alfven wave heating of plasma surrounded by cold gas-mantle 4-19972
- annular diffusers, boundary layer thickness, flow anal. 4-10676
- axisymmetric body with and without spin, boundary layer development 4-29058
- axisymmetric boundary layer flow, surface discontinuity effect 4-44525
- axisymmetric micropolar boundary layer on a long thin cylinder 4-38788
- axisymmetric mixing layer, natural large scale structs. 4-38837
- axisymmetric Stokes flow images in spherical free surfaces with applications to rising bubbles 4-5944
- beams, orthotropic, bending, boundary layer problems (*German*) 4-55343
- Bingham fluid, laminar entrance region flow 4-24404
- Blasius flow over horizontal flat plate, thermal stability 4-44532
- buoyancy-induced flows in porous medium near impermeable surface, similarity solns. 4-19884
- cavity, porous, horizontally heated, vertical boundary-layer eqn. numerical soln. 4-19829

boundary layers continued

- channel, semi-infinite, free oscills. of viscous incompressible fluid 4-44722
- circular cylinder with ribs, boundary layer development, laminar-turbulent transition 4-10640
- circular waves on a stationary disk in rotating flow 4-24445
- combustion modes in boundary layer with strong injections, nonuniqueness and instability 4-5971
- convected two dimens. vortex, induced boundary layer flow 4-49826
- convection, forcing due to time-depend. heating near threshold 4-29086
- coupled heat-transfer problem for a controlled laminar boundary layer in a magnetic field 4-38898
- Darcy's flow through porous media boundary conditions 4-1825
- decelerating laminar boundary layer stability 4-38790
- developing isothermal flow between two parallel plates, collocation finite element-finite difference soln. 4-10772
- differential equation solution from boundary-layer theory 4-55392
- differentially heated cavity, high Rayleigh number free convection, grid distrib. 4-34096
- diffusion in boundary layer on plate in inhomogeneous chem. props. 4-5886
- ethylene adipate oligomer, filled, thermodynamic state of macromolecules in boundary layers 4-39539
- Euler equation for incompressible fluids, existence and regularity of critical boundary problem 4-29100
- Falkner-Skan equation with mass transfer, Meksyn series method calcs. 4-34039
- fibre drawing flow field, upper jet region, finite element anal. 4-24460
- flat plate heating in supersonic flow, unsteady laminar boundary layers 4-29124
- flat supersonic underexpanded jets boundary layers, laser schlieren method study 4-29146
- flow inside buoyant boundary layer during heat of stably stratified fluid 4-55430
- flow past accelerated vertical plate with const. heat flux, mass transfer effects 4-36572
- flow structure in laminar boundary layers with adverse press. gradient, acoustic perturbation effect 4-44523
- forced convection film condensation on horizontal tube, press. gradient effect 4-24419
- 2D free boundary flows, 3D linear stability anal. by finite-element method 4-10644
- free convection boundary layers over humps and indentations 4-34087
- free convection heat and mass transfer rates from inclined plate interfacial vel. effects 4-38807
- free round turbulent jet, development region, entrainment rate 4-24457
- free stream interactions in horizontal and sloping open-channels 4-1827
- fuel, liquid, surface diffusion combustion of heterogeneous systems (*Russian*) 4-12372
- Gortler instability, suction effect on transition 4-49822
- graphite, surface, high-temp. boundary layer, transport processes 4-44765
- Hall effects on MHD free convection in rot. system 4-24416
- heat conduction parabolic partial differential eqns., numerical soln., explicit method 4-34090
- heated ellipsoid, delayed laminar-turbulent transition surface roughness effect 4-10641
- heated horizontal circular disc, free convection boundary layer flow 4-10675
- high Rayleigh number heat transfer in horizontal cylinder 4-55407
- hydrodynamics, integral characts. (*Russian*) 4-10648
- hypersonic boundary layers for slender axisymmetric bodies with large injection or mag. field 4-44639
- hypersonic high enthalpy test-facilities, mass spectrometer appl. 4-24508
- impulsive flow past a circular cylinder Blasius' expansion anal. 4-14960
- incompressible fluid laminar boundary layer heat exchange optimisation, heat balance eqn. 4-24436
- incompressible laminar-separating flow, Navier-Stokes eqn. approx. 4-49800
- incompressible viscous flow within a rectangular domain, analytical solns. 4-1831
- injected semi-bounded jet impingement on boundary layer, laser anemometer meas. (*Russian*) 4-29142
- laminar, turbulence generation, determ. method 4-44527
- laminar boundary layer flow of incompressible fluid, flow field determ. 4-44526
- laminar free convection around horizontal circular cylinders 4-1718
- laminar free convection over horizontal circular cylinder with blowing and suction (*Chinese*) 4-38822
- laminar separation point meas. by laser Doppler anemometer 4-38789
- liquid, partially filling rot. cylinder, free surface oscills., fluid force, boundary layer approx. 4-44593
- liquid flow in porous solid, heat and mass transfer, surface phenomena 4-34073
- liquid metals, natural convection heat transfer from downward facing horizontal surfaces 4-44574
- longitudinal and transverse pressure gradients, boundary layer eqn., successive approx. method 4-24407
- low speed, integral relations method appl. 4-5870
- low-speed wind tunnel, laser Doppler velocity meas. 4-24504
- Maxwell fluid exponential flow, laminar boundary layers along infinite plate with uniform suction 4-44524
- MHD boundary layer flow, Hall effect 4-5965
- MHD convertor electrode wall boundary layers anal. 4-21561
- micropolar boundary layer in crossflow over non-isothermal circular cylinder, heat transfer characts. 4-5892
- mixed convection in an axisymmetric buoyant plume 4-34086
- natural convection in a vertical porous annulus 4-38812
- Navier-Stokes equations, mixed finite element solution 4-38783
- Newtonian incompressible fluid in domain with free boundary type conditions, existence of hydrodynamic motion 4-1697
- non-uniqueness solutions for classical boundary layer eqns. 4-24406
- numerical expts. in boundary-layer stability 4-49802
- ocean wind gyre, Sverdrup interior vorticity distrib., W boundary layer 4-36388
- oscillation development in boundary layer flow in converging channel, pulsation effect (*Russian*) 4-10775
- oscillatory convection in vertical slots 4-49818
- parabolic eqns., singular, numerical anal. 4-19783
- parallel and contra flow, laminar combined convection from horizontal cylinder 4-24418

boundary layers continued

- Power-law fluid flow in straight channel hydrodynamic inlet region 4-44735
- PWR, boundary-layer effect on press. variations in expansion waves 4-33122
- Reynolds equation as a solution of the Stokes equations 4-13518
- rotating boundary layer, two-phase flow 4-10682
- rotational boundary layer flow, laboratory expt., atm. appl. 4-12996
- rotationally oscillating cylinder in crossflow, heat transfer 4-24422
- salol crystal/melt interface, cryst. growth and asymmetry of dynamics 4-55767
- saturated liquid inside a sphere, freezing, boundary layer study 4-1579
- segmentation on sharp highly swept leading edges, effects on secondary vortices 4-1778
- semi-infinite phase change medium, convective cooling, freezing analytical soln. 4-1580
- separated flow over low aspect-ratio rectangular wing 4-1780
- shock tubes, mass sampling in time of flight mass spectroscopy, thermal boundary layer effects 4-37238
- slender cone with heat transfer and angle of attack, transverse curvature effects, boundary layers 4-29128
- sliding sheets, lubrication with comparable viscous and inertia forces 4-14958
- spherical and planar boundary layers, density variations calc. 4-34749
- steam turbines, surface interaction with spontaneous condensation 4-24990
- stratified shear flows, long nonlinear waves theory 4-47276
- stress tensor calc. for planar and spherical boundary layers 4-15745
- supercooled melt, crystal front propagation, boundary layer props. 4-34751
- supercritical Taylor vortex flow for wide gap, numerical investig. 4-38836
- supersonic boundary layer, Tollmien-Schlichting waves excitation by sound 4-44631
- supersonic separated flow, inverse boundary-layer inviscid iteration technique (*French*) 4-14997
- thermal boundary layers, laminar convective heat transfer 4-1722
- thin profile motion near a wave boundary (*Russian*) 4-10647
- transient forced convective heat transfer anal. by boundary layer approx. 4-33099
- transient free convection about a vertical flat plate embedded in a porous medium 4-38873
- transition, control using wave-superposition principle 4-34043
- transonic diffuser flows, unsteady separated, laser Doppler velocimeter meas. 4-49843
- transonic flow over a corner point, boundary layer with self induced press. 4-55420
- transverse flow in cylinder with longitudinal ribs, boundary-layer separation 4-14947
- turbine blade row, transonic flow compatibility at thick trailing edge 4-44623
- turbulent axisymmetric flow of incompressible fluid over cylinder 4-29067
- turbulent spots, ensemble mean particle paths 4-10639
- two-phase Couette flow between two plates examined using eqns. of laminar boundary layers 4-10729
- two-phase systems, detonation, shock wave, laminar boundary layer, mass exchange 4-5973
- unsteady compressible boundary layer over semiinfinite flat plate caused by moving shock 4-34040
- unsteady free convection from heated sphere at high Grashof number 4-19830
- unsteady laminar boundary layers with separation, numerical anal. using on param. integral method 4-14946
- unsteady laminar flow round circular cylinder 4-34037
- upstream moving wall, boundary layer separation singularities 4-24405
- vapour bubble shape in subcooled boiling, light refraction 4-19873
- vertical natural convection flow in porous media 4-24467
- vertical plate fin, conjugate natural convection, similarity soln. 4-1721
- viscous and inviscid stability of flat-plate compressible boundary layers 4-44543
- viscous fluid flow near intersection of cylindrical surface with flat surface 4-5957
- viscous thermocapillary convection at high Marangoni number 4-14964
- visualisation of boundary layer transition, using liquid crystal technique 4-24495
- wall plume fed by vertical channel discharge 4-44585
- water, dielectrically nonhomogeneous boundary layer, standard chem. potential calc. 4-15356
- wind tunnel interference problem at subsonic and transonic speeds 4-49905
- Ar-S₂ gas mixture, light localisation and amplification during flow (*Russian*) 4-49340
- Ne, ionisation relax. behind shock waves in shock tube, non-Maxwell electrons and wall boundary layers effect 4-15001
- Xe, ionisation relax. behind shock waves in shock tube, non-Maxwell electrons and wall boundary layers effect 4-15001

boundary-value problems

see also initial value problems

- abrasive grains of arbitrary form, math. models of temp. field 4-57352
- acoustic scatt., uniqueness theorems for inverse problems 4-33829
- acoustics, condition no. of integral eqns. from modified fundamental solns: 4-5743
- airfoils, thin, boundary value problem in nonequilibrium ideal fluids 4-49842
- augmented Lagrangian methods, numerical soln. of boundary-value problems, book 4-36831
- bar, twisted, with thin reinforcing layer, stress function singularities at corner points 4-44376
- beam on elastic base, bending, asymptotically precise eqn. (*Russian*) 4-44395
- Bilby-Cottrell crack initiation mechanism theory in metals 4-55375
- chiral smectics with large pitch spirals, diffraction optics 4-35405
- composite, elastic, boundary-value problems soln., static and dynamic problems, thermal cond. 4-44386
- composite material anisotropic plates, boundary-value problems, finite element approx. 4-10546
- composite winding, continuous model for force analysis 4-44365
- composite with small-scale curvatures in struct., quasiuniform states analysis 4-44392

boundary-value problems continued

- cone, deformable, with asymmetrically perturbed surface, three-dimens. problem 4-19723
 cone-shaped optical elements, monolayer and multilayer, deform. calc. 4-28990
 continuous elastic space, displacement gaps (*Ukrainian*) 4-4227
 crack stress anal., dynamic punch problems; closed form solutions 4-49768
 current force-free configs. and mag. field distrib. in bounded regions (*Ukrainian*) 4-5537
 current-carrying conductor static surface charge anal. 4-54903
 current-carrying conductors, three-dimens. skin effect problems 4-28600
 cylinder, hollow, with moving isothermal boundary, temp. field and residual stress calc. 4-57258
 cylinder, three-layer transversely corrugated thick-walled, axisymmetric elastic equil. 4-44394
 cylinder, two-layer nonuniform, free deform. under convective cooling conditions 4-55336
 cylinder of finite length with fixed lateral surface, normal vibr. modes 4-44469
 cylinders, elastic, longitudinally corrugated, three-dimens. stressed state anal. 4-49674
 cylindrical sound wave diff. by absorbent semi-infinite plane, mixed boundary value problem soln. 4-55253
 degenerate four-wave mixing 4-10366
 degenerate two-wave mixing, boundary-value problems involving nonlinear coupled-wave eqns., shooting method soln. 4-10365
 dielectric glass with semiconductor inclusions, Hall effect theory (*Russian*) 4-25382
 dielectric slab waveguides, longit. discontinuity anal. 4-49520
 diffraction, integro-series eqn. class 4-44024
 discrete systems nonlinear vibration theory (*Chinese*) 4-42706
 elastic dielectric, stress intensity coefficients, first auxiliary solution 4-47866
 elastic half-space containing cavity, steady-state oscils. 4-44437
 elastic shells, momentum-free, displacement, differential operator calcs. (*Russian*) 4-32051
 elastic solid, spheroidal defect mech. interaction with boundary surface 4-2193
 elastic-plastic media, formulation of initial and boundary value problem 4-44366
 elasticity theory, quasiperiodic boundary value problems 4-4226
 elasticity theory, stochastic boundary-value problems soln. using iteration method 4-36911
 electrodynamic boundary-value problems digital solution (*Polish*) 4-19344
 electromagnetics, boundary-element method 4-27311
 electrostatic problems, multiple multipole method 4-49220
 elliptic plane problems, equilibrium finite element method appl. 4-28965
 EM fields, three-dimensional finite element computation, boundary Galerkin method 4-49229
 EM wave diff. by admittance boundary condition surface 4-54932
 Euler equation for incompressible fluids, existence and regularity of critical boundary problem 4-29100
 facilitated-diffusion problems anal. 4-16846
 fibre reinforced metal layer composites, thermoelasticity, thermal cond. and strength 4-45367
 flow near edge of a disc at rest in rot. fluid 4-55411
 fluid dynamics, Chebyshev solution to boundary value problems 4-55446
 geodesy, matrix soln. for mixed boundary value problem 4-8175
 geodesy, problem for fixed boundary surface, satellite method 4-41689
 gravity-capillary waves with edge constraints, eigenvalue calc. 4-5904
 harmonic eddy current computation in flat plates, efficient numerical procedure 4-54908
 heat transfer, singular perturbation problems, numerical anal. 4-33902
 helical sheath in coaxially layered lossy dielec. medium, EM wave propag. study 4-49243
 holographic diffraction grating refl. props. analysis 4-44204
 hydrodynamic problems, variational method solns., numerical realisation 4-19786
 hydrodynamic stability with completely perturbed data 4-44534
 inviscid fluids, smooth one-dimens. pressure wakes, shock generation, theoretical analysis 4-19841
 Irwin criterion for longit. shear cracks, conditions of correctness of use 4-49766
 Kadomtsev-Petviashvili eqn., inverse scatt. transform 4-8753
 KdV equation for unidirectional plane wave propag. 4-8757
 linear thermoelasticity, first initial boundary value problem, soln. regularity and uniqueness 4-1604
 magnetic fluids, high-gradient mag. separation 4-29198
 magnetostatic problems, multiple multipole method 4-49220
 mechanical boundary value problems, approx. solns. (*Polish*) 4-47873
 melting of ice, treatment as Stefan-Signorini problem 4-49658
 microbial ecology, boundary value soln. existence and uniqueness 4-12555
 micropolar elasticity, boundary integral eqn. method 4-32044
 mixture of two elastic solids occupying an unbounded domain, static equil. lib. eqn. boundary-value problem uniqueness 4-4228
 molecular beams, scatt. simulation 4-5323
 Navier-Stokes system, three-dimens., statistical extremal problems and unique solvability 4-4230
 nonlinear Dirichlet problem, 1-dimens., number of solns. for boundary value problem 4-27283
 nonlinear parabolic eqn., first boundary-value problem 4-17680
 nonstandard nonlinear boundary-value problem for harmonic functions 4-32054
 nonvolatile liq. aerosol particles, thermophoresis theory 4-1819
 oil, viscoplastic, residual vol. estimation after flooding 4-5949
 optical excitons formed from mechanical and Coulomb excitons 4-11452
 parabolic, convergence rate of finite difference approx. for generalized solns. (*German*) 4-48059
 photographic emulsion layer, absorbed light energy distrib. for nonuniform illum. 4-43096
 piezoelectric medium weakened by tunnel notch, longit. shear problem 4-51196
 plasticity problems, rate-depend., large deform., computational aspects 4-24354
 plate, circular, nonlinear periodic vibrs., algorithm 4-44474
 plate, thin orthotropic linear elastic, bending, boundary integral eqn. 4-49713
 plates, corrugated circular, continuation method rel. to integration segment length 4-49693

boundary-value problems continued

- plates and shells, one- and three-layer, of complex geometry, stress-strain state, numerical study 4-55329
 ring, variable-thickness, stability analysis under nonuniform load, num. algorithm 4-44434
 rough surface, light scatt., vector theory, unitary and reciprocal expansions 4-44054
 salient wedge effect on motion of small particle in viscous fluid 4-19875
 scalar potential problems, boundary integral eqn. methods, axisymmetric formulation 4-49219
 scattering by penetrable body, integral eqn., numerical scheme 4-53553
 Schrödinger eqn., first boundary-value problem (*Russian*) 4-42746
 Schrödinger equation, bounded domain, conditional gauge 4-53501
 shell, cylindrical, eqns. of engng. theory of elasticity, periodic and aperiodic solns. 4-38730
 shell, cylindrical, orthotropic, with nonuniform boundary conditions, stress state investig. 4-44393
 shell, spherical, deform. under wind load soln. 4-55335
 shell, stability eqns. soln. using method of orthogonal trial fun. 4-38744
 shell theory, methods of stress-state synthesis 4-13515
 shell vortex currents, use of vector potential for boundary-value problems 4-23860
 shells, flexible, laminated, statics problems, nonlinear boundary-value problem soln. in supercritical region 4-19732
 shells, flexible noncircular cylindrical, stressed state, numerical soln. (*Ukrainian*) 4-38718
 shells of revolution, elastic, nonhollow, nonaxisymmetric bulging 4-10576
 singularly perturbed differential eqn. system., boundary problems soln. asymptote 4-42694
 soliton bag model, boundary-eigenvalue solns. 4-27709
 spherical layer, temp. stresses, axisymmetric problem soln. 4-38729
 static elastic boundary value problems, integral eqn. methods 4-13513
 stress intensity factors, evaluation by R-functions method 4-42722
 string, rotating inextensible, iterative soln. of non-linear boundary value problem 4-47853
 strip partially coupled to rigid base, mixed problems 4-44495
 strongly anisotropic media, plane contact problems of elasticity theory 4-44497
 surface breaking and sub-surface cracks, elastic wave scattering, wavefront fields 4-24394
 thermodynamics, internal state variables, uniqueness and continuous depend. results 4-6523
 thermoelasticity, three-dimens. problems, exact analytical solns. 4-55337
 thermomechanics, third boundary-initial value problem for thermal stresses eqn. 4-1596
 trace (e^A), uniform bound for convex regions 4-36890
 two-dimensional nonplanar oxidation, moving-boundary problem 4-30838
 unilateral problems, numerical method 4-44382
 vector transport eqn., allowance for diffuse reflection 4-54936
 viscoelastic body, stress concentration around circular hole 4-44419
 viscous fluid, steady flow, limit for vanishing luminosity (*French*) 4-49911
 waveguide, planar, normal mode propag., incomplete Galerkin method, stability 4-24170
 O₂ diffusion with nonlinear absorption in tissue, modelling by moving-boundary problem 4-52294
- bowing** see bending
- brain** see also neurophysiology
 arteries, internal elastic lamina, use of ligament efficiency to model fenestrations, modelling scheme 4-12615
 arteries, internal elastic lamina, use of ligament efficiency to model fenestrations, spatial geometry 4-12616
 auditory and somatosensory evoked potential abnormalities in myotonic dystrophy 4-26449
 auditory brainstem potentials and EEG spectra, simultaneous meas. 4-26543
 auditory brainstem response, effects of changes of stimulus intensity and sensory acuity 4-16882
 auditory brainstem response in patients with sensorineural hearing loss and abnormal stapedius reflex thresholds 4-52361
 auditory brainstem response to stimulus repetition rate and freq. 4-52357
 auditory brainstem responses generation, effect of lesions 4-16881
 auditory brainstem responses generation, effect of surgical section of trapezoid body 4-16880
 auditory brainstem responses generation, effects of local anaesthetic injection 4-16879
 auditory evoked potentials, early and middle latency, freq. specificity 4-26448
 auditory evoked potentials, late, occurrence without brainstem pots. 4-16878
 blood flow, regional, parametric imaging with the short-lived isotope ^{195m}Au 4-21782
 blood flow meas. using ¹³³Xe, hemisphere cross talk and signal overlapping 4-52461
 blood flow studies in neonates using Doppler US, microcomputer evaluation 4-26486
 blood vessels, reconstruction from lateral and frontal angiogram 4-21803
 blood-brain barrier, rat, modified method for radiotracer permeation meas. 4-3665
 blood-brain barrier rel. to microwave irradiat. 4-36164
 brainstem auditory evoked response, human, effect of broadband noise 4-12597
 brainstem auditory evoked response, human, effect of broadband noise 4-12598
 cancer treatment, microwave thermotherapy 4-16946
 cerebellum, developing rat, γ -irrad. early effects, cell pyknosis induction 4-12633
 cerebellum, developing rat, cell death following X-irrad. of 3 to 100 rad 4-31295
 cerebral transit stochastic model of, numerical solution 4-36142
 cerebrospinal fluid shunt systems, testing under dynamic flow conditions 4-3653
 cortex, cat, stimulation with Pt electrodes, electrode dissolution 4-41677
 cortex, monkey, method for transcutaneous recording of single neuron activity 4-31384
 cortical magnification isotropy rel. to striate cortex topography 4-52327
 cranial bone reson. selective suppression in ³¹P NMR expt. on rat brain 4-41663
 data processing by the human brain. I (*German*) 4-3517

brain continued

- densitometer for quantitative autoradiography, brain research appl. 4-31383
 diagnosis of abnormalities, use of T1 of T2 mag. resonance images 4-36201
 DNA synthesis in developing rat brain, effects of low γ -radiation doses 4-31288
 dopamine receptors in human brain, imaging by positron tomography 4-8108
 electrical brain stimulation rel. to cardiopulmonary function localisation 4-26383
 electrical impedance signals, processing by digital techniques 4-21837
 energy metabolism, rat, effects of hyperthermia and hyperthermia plus microwaves 4-57854
 epidural intracranial press. monitoring system 4-3638
 epileptic cortex, human, intracellular study, rel. to in vitro maintenance of epileptiform activity 4-57879
 foetal medullary neuronal activity, technique for chronic extracellular recording 4-21859
 haematoencephalic barrier, permeability changes induced by combined effect of γ -irrad. and modified gas medium (*Russian*) 4-36178
 hippocampal area CA1, slow transmission of neural activity in absence of active chem. synapses 4-26376
 hippocampus, guinea pig, synchronised population discharge, initiation by single neurons 4-16863
 hypothalamus, RF destruction of tuberoinfundibular region, natural killer cell abrogation in mice 4-8034
 intracranial microwave hyperthermia: heat induction and temperature control 4-52438
 intracranial targets, small, use of narrow photon beams for irradi., dose distrib. (*Russian*) 4-8079
 lateral geniculate nucleus, cell size changes following brief monocular blockade of retinal activity in kittens 4-16872
 lateral geniculate nucleus, rhesus monkey, responses of single cells to colour and luminance contrast 4-26408
 lateral suprasylvian area, cat, neural responses to moving light and dark stimuli 4-52322
 magnetoencephalography—update and future hopes 4-52417
 microwave hyperthermia for brain tumours, implantable antenna appl. 4-31310
 movement-related brain macropots. during skilled performances, developmental study 4-16855
 muscarinic acetylcholine receptors, external imaging 4-47068
 neural path probabilistic delay model 4-41495
 neuromagnetic evidence of spatially distributed sources underlying epileptiform spikes in the human brain 4-47014
 neuron, in vitro, combined light and electron microscopy method for visualisation by radioautography and serial sections 4-58055
 neurosurgery, intraoperative Doppler sonography, book 4-31977
 optic tectum of barn owl, auditory map alignment by early auditory experience 4-31232
 optimum filters for estimating evoked potential waveforms 4-41638
 pathological cerebral sources localisation with SQUID instrumentation and relative covariance method 4-26490
 pattern onset-offset visually evoked response rel. to spatial freq. 4-26400
 pattern visual evoked pot., recovery cycle in normal subjects and multiple sclerosis patients 4-16869
 pattern-reversal visual evoked potentials in patients with chronic renal insufficiency 4-26396
 PC-384 positron camera system for emission tomography of the brain, performance study 4-36213
 planar lipid bilayer, incorporated brain, voltage-dependent Ca^{2+} channels 4-46952
 positron tomograph designed for brain imaging, performance evaluation 4-16970
 potentials during reading, refl. of word expectancy and semantic association 4-26377
 primary auditory cortex, cat, geometry and orientation of neuronal processes 4-8024
 reflexes, distinction from higher process 4-46981
 rod monochromat's pattern visual evoked cortical pot., rel. to spatial tuning of colour mechanisms and rods 4-57887
 signal propagation from intracerebral sources to cortical surface 4-46986
 somatic brainstem reflexes in vertebral-basilar insufficiency, electrophysiological study 4-16858
 somato-sensory evoked pots., of multiple origin, 1-channel recording 4-31344
 somatosensory evoked potentials, short latency, scalp topography, posterior tibial nerve stimulation 4-26462
 somatosensory evoked pots., far-field, neural generators, brain lesion patients obs. 4-16891
 somatosensory evoked pots. rel. to sensory processing in man 4-16890
 spatiotemporal pathways in human cerebral cortex (*Russian*) 4-26379
 striate cortex, cat, simple cells, direction asymmetry by moving stimuli and static receptive field plots 4-31214
 striate cortex in cat, neural processing 4-41491
 stroke, NMR evaluation 4-8074
 temperature regulation in the immersed dog, expt. and theoretical study 4-16840
 temporal patterns, neuronal impulses, distribution of inequality patterns 4-41497
 tumour, compressed spectrum array, digital spectral anal. (*Chinese*) 4-31342
 tumours, mag. resonance imaging T1 meas. 4-36202
 tumours treatment by B neutron capture therapy, use of heavy water 4-21801
 vertex recorded pre-event pots. for 3 types of forewarned events 4-16854
 visual cerebral area maturity, transferred tilt after-effect clinical estimation (*Italian*) 4-21660
 visual cortex, area 17, cat, functional basis for slow movement preference 4-31215
 visual cortex, cat, struct. differences in space-freq. filters 4-52321
 visual cortex, cat, types of space-freq. filters 4-52320
 visual cortex, human, electrophysiological correlates of hyperacuity 4-16873
 visual cortex, posterior inferotemporal neurons, receptive field substruct. probing 4-52325
 visual cortex, simple fields, wt. functions restoration 4-31209
 visual cortical mechanisms responsible for direction selectivity 4-31213
 visual cortical neurons as localised spatial freq. filters 4-41507

brain continued

- visual evoked potential, contrast sensitivity in the parafovea, spatial organisation 4-26401
 visual evoked potential distrib. during visual stimulation in human, centre locus (*Korean*) 4-21656
 visual evoked potentials, hemispherical dominance of visual elaboration process (*Italian*) 4-21654
 visual evoked potentials, influence of aniseikonia (*Italian*) 4-52318
 visual evoked potentials rel. to contrast, review 4-26447
 visual evoked potentials rel. to crit. period plasticity, hooded rat expts. 4-36104
 visual evoked potentials rel. to spatial freq. mechanisms 4-26399
 visual evoked response, rat, effect of perinatal exposure to 60 Hz elec. fields 4-31274
 visual striate cortex, cat, supra- and infragranular cells, orientation and receptive field position 4-41505

brain models

- see also learning systems; neural nets
 associative memory, multiple match resolution, neural network model (*Japanese*) 4-3551
 central nervous system media, mammalian, presumed architecture (*Russian*) 4-36096
 cerebral transit modelling, resolution and identification (*French*) 4-52379
 HASP human associative processor, model 4-46984
 self-organising neural nets, field theory 4-46978

braking

- see also regenerative braking
 Darrieus wind turbine, feedback control and produced energy optimisation 4-57781

brass

- 65/35, work hardening mechanisms, 77 to 673K 4-30720
 α single crystals, SCC (*Japanese*) 4-41075
 α -single crystal, slip in stress gradient, kind band form. 4-45141
 α/β superplastic deform., influence of cavitation 4-30780
 β single crystals, SCC (*Japanese*) 4-41076
 β -brass, polycryst., stress corrosion cracking (*Japanese*) 4-26097
 alpha-brass, nonisoaxial bicrystal, stress corrosion cracking (*Japanese*) 4-51887
 alpha-type, internal friction at kHz freq. 4-50424
 alpha/beta brass, two-phase bicrystal, stress corrosion cracking (*Japanese*) 4-51888
 Bauschinger effect and new slip in β -phase single crystals. 4-12123
 bicrystals, α - β , deform. behaviour, role of strain-rate and phase boundary geometry 4-51743
 α -brass, corrosion fatigue in aq. solns. 4-3283
 α -brass, corrosion inhibition in marine environment, using 3-methyl-4-amino-5-mercapto-1,2,4-triazole 4-3300
 α -brass, thermopower at elevated temps. 4-45751
 brass/Nb alloy/brass three-layered composite, strain rate influence on deform. interaction between components 4-57284
 cold rolled, annealed, fatigue rel. to subgrain structure and orientation 4-16479
 contact fatigue crack initiation under repeated oblique force 4-30834
 corrosion and dezincification in 1% H_2SO_4 soln., effect of mixed inhibitors 4-51849
 corrosion and dezincification in NH_3 soln., effect of thioureas 4-12227
 corrosion and dezincification in NH_3OH , inhibitive action of azoles 4-21360
 fatigue of α -brass, effect of NaNO_3 4-12222
 forming limit diagram, influence of surface roughness and void growth at inclusions 4-3175
 heat exchanger tubes, arsenic content in standards rel. to intergranular corrosion and stress corrosion susceptibility 4-41117
 metallographic polishing, material removal rate, effects of type and size of diamond abrasives 4-57505
 Mossbauer study, electron density and electric field gradient 4-35298
 photoemission spectra calcs. from (011) surface, order-disorder transition effects 4-30604
 powder, atomisation conditions effect on quality 4-46470
 rolled sheet, anisotropic, Young's modulus, rigidity modulus and Poisson's ratio 4-7500
 scratched β -brass surface phase transformation, Auger scanning microscope obs. (*Japanese*) 4-30852
 sheet, localised necking at negative minor strains 4-40913
 sheets, limit-strains in biaxial stretching, thickness and grain size effects 4-21272
 strain hardening curve and ultimate uniform strain (*Chinese*) 4-16409
 superplastic α/β , cavity growth and fracture 4-12137
 thin-walled tubing, L80, annealing effect on struct. and props. 4-3150
 Al brass, beta and martensitic, corrosion behaviour, Al effect 4-57460
 Al brasses, β - and martensitic, corrosion behaviour 4-35767
 Al, initial corrosion product in natural seawater, microstruct. and comp. 4-12243

Bravais lattice see crystal atomic structure

braze bonding see brazing

brazing

- see also soldering
 nuclear reactor heat exchanger repairs, temp. control using fibre optics 4-4993
 Cu-Ag-P brazing alloy, use in metallographic fracture studies 4-35817

breakage see fracture

breakdown (electric) see electric breakdown

breakdown (mechanical) see manufacturing processes

breakdown diodes see avalanche diodes; Zener diodes

breeder reactors see fission reactors

bremsstrahlung

- see also electron radiation; gamma-ray spectra; gamma-rays; X-ray emission spectra; X-rays
 34 kJ plasma focus electron burst and X-ray production obs. 4-34338
 axial-channeling radiation of MeV electrons in high- Z materials, rel. to forward directed bremsstrahlung 4-2243
 current filamentation due to electrothermal instability in fully ionised plasma 4-34260
 diamond crystal, ultrarelativistic electron-induced radiation study, oriented depend. 4-2989
 electron bombarded targets, bremsstrahlung spectrum determ. (*German*) 4-35530
 electron bremsstrahlung, electron screening and vacuum polarisation, field theory 4-5353

bremsstrahlung continued

- electron bremsstrahlung in neutron stars/pulsars mag. fields 4-17385
 electrons, relativistic, circularly polarised bremsstrahlung, parity violation 4-13983
 energy flux density, precision measurement 4-5117
 excitation, of X-ray fluorescence spectrum, simultaneous XRF and XPS anal. 4-21505
 graphite-K intercalation cpd., C_8K , density of unoccupied states, bremsstrahlung studies 4-39748
 graphite-Li intercalation cpd., C_6Li , density of unoccupied states, bremsstrahlung studies 4-39748
 heavy-ion collisions, bremsstrahlung background γ -ray emission 4-43507
 hot electrons angular distrib. incident on laser irradi. target 4-38972
 inverse photoemission, applications and related techniques, instrumentation 4-30557
 laser-plasma, bremsstrahlung spectrum emission and meas. (Chinese) 4-55626
 metal surface, electron irradiated, light emission, role of surface bremsstrahlung 4-21046
 metallic glasses, electronic struct. determ., XPS, UPS and inverse photoemission methods 4-56197
 neutrino-pair bremsstrahlung in dense stars, liquid metal case 4-31820
 neutron stars atmospheres, bremsstrahlung and mag. fields 4-3922
 nuclear bremsstrahlung in presence of isolated single particle resonance 4-9183
 plane target, laser interaction, ablation parameters, scaling laws 4-34285
 rare earth alloys, $R_{1-x}Gd_xAl_2$ ($R=La, Lu, Y$), electronic and mag. props., bremsstrahlung isochromat spectra 4-21063
 relativistic plasma, Compton scatt. effect on e^+e^- annihilation and bremsstrahlung spectra 4-55616
 screened atom, electron bremsstrahlung spectrum classical approach 4-10107
 slow electron bremsstrahlung at Coulomb centre in external EM field 4-32561
 solar flares, anisotropic electrons accel. rel. to unpolarised X-ray emission (Russian) 4-31814
 spectra, 4 MV, reconstruction from meas. transmission data, radiotherapy appl. 4-26507
 spontaneous with electron scatt. in field of plane EM wave 4-19347
 thick target electron impact induced bremsstrahlung 4-18847
 transition scattering and transition bremsstrahlung in a dense plasma—a step towards soft X-ray lasers 4-38440
 X-ray microanalysis spectra in TEM, coherent bremsstrahlung peaks 4-4500
 X-ray sources, thermal interpretation of X-ray spectra 4-8599
 yield estimation of primary displaced atoms with maximum energy 20-30 MeV (Russian) 4-25825
 Z-pinch particle orbit clarification and energy balance 4-34306
 Al, cross section for emission of bremsstrahlung by electrons 4-47881
 Au, cross section for emission of bremsstrahlung by electrons 4-47881
 Au, electron bombardment, two photon bremsstrahlung emission 4-10109
 ^{210}Bi radionuclides, internal bremsstrahlung meas. 4-23075
 Cd, target, external bremsstrahlung from ^{90}Sr - ^{90}Y β particles, Z depend. 4-11957
 Ce compounds, electron spectroscopies in impurity model 4-7278
 Ce compounds, f level occupancy, hybridisation and coupling to conduction states 4-29919
 Ce, γ - and α -, electronic struct., XPS, EELS and bremsstrahlung isochromat 4-25209
 CePd₃, bremsstrahlung isochromat spectra 4-2988
 CeRu₂(Ir₂), Fermi level reson. in electron addition spectrum 4-11958
 Co, bremsstrahlung spectrum, energy depend. of high energy tip 4-5455
 Co, conduction band distrib., X-ray absorpt. and APS study 4-57043
 Cs plasma, electron bremsstrahlung spectrum classical approach 4-10107
 Cu, conduction band distrib., X-ray absorpt. and APS study 4-57043
 Cu surface, (100) and (110), angle resolved bremsstrahlung isochromat spectroscopy studies 4-57022
 Cu target, external bremsstrahlung from ^{90}Sr - ^{90}Y β particles, Z depend. 4-11957
 EuPd₃, band struct., bremsstrahlung isochromat spectra 4-39769
 Fe (110), exchange-split empty energy bands 4-6699
 Fe, conduction band distrib., X-ray absorpt. and APS study 4-57043
 Fe-Si systems, surface segregation, electron spectroscopy study 4-46426
 GaP (110), intrinsic unoccupied surface states, universe photoemission 4-2640
 ^{163}Ho , photon-induced electron capture 4-1264
 I target, external bremsstrahlung from ^{90}Sr - ^{90}Y β particles, Z depend. 4-11957
 La, bremsstrahlung spectrum, energy depend. of high energy tip 4-5455
 La, spectra of short-wavelength edge of bremsstrahlung generated by electrons 4-2245
 LuPd₃, band struct., bremsstrahlung isochromat spectra 4-39769
 Mo, target, external bremsstrahlung from ^{90}Sr - ^{90}Y β particles, Z depend. 4-11957
 Ni (001), bremsstrahlung isochromat spectroscopy first principles calc. 4-57023
 Ni (001), momentum resolved bremsstrahlung isochromat spectra 4-35532
 Ni (111), inverse photoemission calc. 4-40559
 Ni, conduction band distrib., X-ray absorpt. and APS study 4-57043
 $^{16}O(p,p')$, bremsstrahlung cross section calc., Feshbach-Yennie and soft photon approx. 4-43463
 Pb target, external bremsstrahlung from ^{90}Sr - ^{90}Y β particles, Z depend. 4-11957
 Pd, adsorption of CO on (111) surface, photoemission spectra, C KVV Auger spectroscopy, 4-30605
 Si (111) surface, electronic struct. rel. to geometry 4-6857
 Si crystal, radiative moderation of electron beam 4-5076
 Si crystal, thin cooled, coherent bremsstrahlung from relativistic electrons 4-30556
 Si, electron beam radiative moderation 4-11211
 Si surface, chemistry investig. by EELS, inverse photoelectron spectrosc. and ion spectrosc. (Japanese) 4-35941
 SmS mixed valence cpd., 4f inner-well stability and inverse photoemission 4-35510
 ^{90}Sr - ^{90}Y , external bremsstrahlung due to β particles in BaTiO₃ target 4-24882
 Tb-Fe, amorphous, electronic density of states, photoemission and inverse photoemission studies 4-45594
 TmSe mixed valence cpd., 4f inner-well stability and inverse photoemission 4-35510

bremsstrahlung continued

- U, atomic field bremsstrahlung 4-10108
 W, bremsstrahlung spectrum, energy depend. of high energy tip 4-5455
 Xe, electron excitation, connection between giant reson. and bremsstrahlung 4-5155
 Xe, electron impact L_3 inner shell ionisation, threshold behaviour 4-10117
 Y-Fe, amorphous, electronic density of states, photoemission and inverse photoemission studies 4-45594
 YbPd₃, band struct., bremsstrahlung isochromat spectra 4-39769

bridge circuits

- see also bridge instruments
 capacitance micrometry, Fabry-Perot etalons control appl. 4-22832
 capacitive pressure transducers with integrated circuits 4-53670
 HV pulse electro-optical bridge, using Kerr cells 4-22793
 integrated Si double bridge anemometer 4-55453
 ion cyclotron resonance bridge detector for frequency sweep 4-13717
 magnetometers using two amorphous core multivibrator bridge 4-22807
 magnetoresistive sensors using ferromagnetic thin films 4-22770
 semiconductor sensors for mechanical variables meas., temp. compensation (Czech) 4-48103
 transformer bridge with automatic balancing for elec. variables meas., design and error analysis (Czech) 4-42991
 Wheatstone, strain gauge sensors realisation, foil and thin film type (German) 4-37094

bridge instruments

- see also bridge circuits
 displacement measurement in the nuclear power industry, using inductive transducer 4-773
 force transducer, two-range semiconductor bridge-type design 4-32252
 integrated Si double bridge anemometer 4-55453
 Maxwell-Wien bridge system for inductance primary standards (Korean) 4-17899
 resonant bridge for capacitance meas. of very high loss factor (Polish) 4-22790
 strain gauge temp. effects obs. and compensation (German) 4-37092
 strain gauged torque meters for industrial and laboratory use, slip ring design 4-4395
 thermometric bridges, local heat transfer coeffs. 4-27513
 thick film strain gauge pressure transducer, using ceramic diaphragm technology 4-248
 transformer bridge with automatic balancing for elec. variables meas., design and error analysis (Czech) 4-42991

Bridgman method see crystal growth from melt**brightness**

- see also sky brightness
 ω Centauri, integrated brightness and colour 4-17566
 central solar receiver tower reflected flux density calc. 4-52201
 P/Comet Crommelin (1983n), visual magnitude estimates (1984 January 25 to 30) 4-42370
 R Coronae Borealis, light cyclic var. rel. to brightness nonperiodic fades 4-42454
 extragalactic jets, surface brightness and morphology 4-53298
 filters, contrast enhancement, optical performance meas. 4-14774
 galaxies, brightness distrib., inclination depend. 4-36735
 faint galaxies, use of Zwicky magnitudes in luminosity computations 4-53269
 galaxies visibility depend. on central surface brightness 4-17595
 galaxy clusters, X-ray surface brightness profiles rel. to cluster struct. 4-47714
 galaxy clusters luminosity distrib., effects of relaxation and tidal stripping in rich clusters 4-47713
 globular clusters in LMC and Milky Way, ellipticity-luminosity relations 4-36723
 heterochromatic brightness matching, subadditivity and superadditivity obs. 4-26443
 heterochromatic stimuli, brightness matching 4-8000
 incident photometry, specifying stimuli for vision and light detectors 4-8931
 low surface brightness spiral galaxies, optical surface photometry, IR photometry 4-4094
 luminaires luminous flux measurement using Tikhodeyev method (Russian) 4-32294
 lunar eclipses 4-36491
 M31, disc near-IR brightness profiles 4-31927
 M32, elliptical galaxy, surface brightness, stellar population and colour 4-13438
 Mars, longit. var. of 3.5 mm brightness temp. rel. to subsurface props. 4-53074
 mesopic luminous-efficiency functions for various adapting levels 4-52330
 Milky Way Galaxy, absolute magnitude rel. to Hubble type 4-22473
 Moon, craters brightness during 1980 December 30 lunar eclipse (Japanese) 4-31773
 Neptune atmosphere brightness temp. and characts., IR obs. 4-13247
 neural model of binocular brightness and binaural loudness perception, nonlinear sensory input summation 4-41520
 NGC 362, globular cluster UVB photoelectric brightness profiles 4-13380
 α Orionis, shell struct., comp. and mass loss, visible obs. 4-42457
 pattern brightness meas. by incremental threshold (Japanese) 4-31220
 peripheral visual reaction time, relationship with visual field (Japanese) 4-36125
 photometric quantities and units definition, relation to radiant power and watt 4-8942
 planetary nebulae, radio continuum fluxes rel. to distances, radii and masses 4-42512
 quasar-like galactic nuclei, relation between nonthermal radiation intensity and Balmer lines widths (Russian) 4-13436
 quasars, luminosity indicators rel. to determ. of cosmological deceleration parameter 4-4128
 quasars and radio galaxies, emission line widths as luminosity criterion 4-58531
 radio sources from NRAO-Bonn S4 survey, 10.8 GHz flux density vars. 4-36743
 radio sources of Zelenchuk survey, number-flux density relation at 3900 MHz (Russian) 4-13446
 radiosources, extragalactic, mag. fields/brightness/polarisation, UHF obs. 4-17604
 retina of wide-angle theoretical eye, light distrib. 4-12561

brightness continued

- SS 0014+81, most luminous quasar, discovery, luminosity and redshift 4-27198
 Saturn, A-ring, azimuthal brightness variations, wake model 4-31789
 Saturn, bright spots on north temperate belt, model 4-36632
 Saturn rings, theoretical IR brightness temp. based on inhomogeneous multilayer assumption 4-53090
 screen surface structure influence on luminance coefficient (*Russian*) 4-8944
 sea surface, atm. correction method for Advanced Very High Resolution Radiometer data 4-31670
 snow depth obs. using microwave scanning radiometer, breadboard model data 4-26725
 source function of star with extended atm., limb darkening anal. 4-36678
 specific luminosity, 3-D medium radiation escape probability 4-8375
 spiral galaxies, surface brightness rel. to radio emission 4-8573
 straight edge image, intensity at edge with full illumination 4-23913
 Sun, active region brightness temp. var. and thermal cyclotron lines detect. 4-36661
 Sun, brightness oscils. detect. with 160 minute period (*Russian*) 4-47589
 Sun, disc brightness distrib. at 6.3 and 8.6 mm 4-36668
 supernova remnants, brightness-diameter relations, effects of interstellar medium cloudiness 4-47673
 Titan, brightness temp. and CO emission, VHF obs. 4-53093
 Uranus atmosphere, brightness temp. and characs., IR obs. 4-13247
 vision, comparative monocular brightness contributions in normal binocular observers 4-16875
 visual contrast sensitivity in senile macular degeneration, luminance effects 4-7997
 visual performance improvements following pulsed field of light, equiv.-background principle 4-12581
 visual photometry rel. to luminance, brilliance and colour (*Italian*) 4-52316
 He, shock wave propag., luminance 4-34129
 Nd³⁺:YAG mode locked laser with unstable confocal resonator, high output energy and brightness 4-55079
 Ne, shock wave, radiative emission props. 4-29131
 Pt, electron impact, luminance amplitude near melting point 4-35401
 SiO₂-RF₃ thin films (R=Tb, Eu, Sm, Tm, Dy), electrolum. characs. 4-51353
 ZnS:Cu electroluminescence, ageing and restoration processes, moisture effects 4-51350

Brillouin scattering *see Brillouin spectra***Brillouin spectra***see also stimulated Brillouin scattering*

- anti-Stokes scattering intensity in wideband pump field in absence of parametric coupling with the Stokes wave 4-14432
 binary liq. mixtures, mutual diffusion coeff., light scatt. meas. 4-30481
 Bragg region, two-dims. model 4-49266
 carbon tetraiodide, adiabatic elastic consts., Brillouin scatt. study 4-7210
 chloroform liq., vibr. relax., ultrasound vel., temp. depend., Brillouin scatt. 4-34585
 dimethylsiloxane oligomer, end linked, hypersonic dispersion, Brillouin scatt. obs. 4-45271
 elastic film, isotropic, theory of Brillouin scatt. 4-56953
 ice, crystal growth, solid-liq. interface props., light scatt. study 4-11259
 ice, elastic moduli determ. by Brillouin spectroscopy 4-29511
 liquids, pure, photon correlation spectroscopy of Brillouin radiation using a frequency-adapted background 4-22849
 α -phenyl *o*-cresol viscoelastic liq., depolarised light scatt. from shear wave 4-35456
 photon correlation spectroscopy of Brillouin radiation using a frequency-adapted background 4-22849
 plasma-laser interaction, Brillouin scatt. 4-820
 polymer science, laser spectroscopy applications 4-16209
 polyphenyls, Brillouin scatt., through the incommensurate phases of biphenyl 4-35458
 polystyrene, atactic, Rayleigh-Brillouin light scatt. studies through densification cycle 4-2933
 polystyrene, near glass transition, relax. function, photon correl. spectra 4-11294
 quartz, Brillouin scattering at α - β transition 4-20979
 structural phase transitions, light scatt. studies, seminar, Bentenjima, Japan (June 1983) 4-22509
 tetramethylammonium tetrachlorozincate, elastic props. near commensurate-incommensurate transition, Brillouin scatt., US absorpt. meas. 4-40467
 tetramethylammonium tetrachlorozincate, elastic stiffness coeffs. in incommensurate and commensurate phases, Brillouin scatt. meas. 4-15567
 tetramethylammonium tetrachlorozincate, US attenuation and order parameter relax. near incommensurate phase transition (*French*) 4-39408
 TGS, ferroelectric, anisotropic polarisation relax. time, 45° Brillouin scatt. study 4-51198
 TGS crystal, gamma-irradiated, ferroelec. transition, hypersound propag., Brillouin light scatt. 4-35381
 thin liquid films, thermal fluctuation power spectrum, long wavelength limit 4-56952
 thiourea, US attenuation and order parameter relax. near incommensurate phase transition (*French*) 4-39408
 water, supercooled and normal regions, anomalous acoustic behaviour, Brillouin scatt. spectra obs. 4-51291
 Ag₃AsS₄, proustite, photoinduced phase transition, Brillouin scatt. study 4-25018
 Ba₂NaNb₂O₁₃, acoustic phonon dispersion at incommensurate transition, Brillouin scatt. study 4-25770
 BiVO₄, acoustic soft modes and ferroelastic phase transition, Brillouin and Raman scatt. meas. 4-25771
 BiVO₄, ferroelastic transition, Brillouin scatt. study 4-25772
 CO₂ liquid flow in cylindrical channel, Brillouin light scatt. study (*French*) 4-34191
 CdTe, resonant Brillouin scatt. 4-11901
 CoCO₃, elastic consts. determ., sound vel. anisotropy, Mandelstam-Brillouin light scatt. by phonons 4-35461
 Fe MBE films on GaAs substrates, mag. props. 4-25608
 KH₂PO₄, Brillouin scatt. near tricritical point 4-24944
 KH₂PO₄ type ferroelectrics, phase transition, models, light scatt. spectra and polarisation fluctuations 4-40375
 KH₂PO₄-KD₂PO₄ mixed cryst., ferroelec., polarisation relaxation spectra of (H₂PO₄)⁻ dipoles 4-25774
 K₂SeO₄, US attenuation and order parameter relax. near incommensurate phase transition (*French*) 4-39408
 LaNbO₄, acoustic soft modes and ferroelastic phase transition, Brillouin and Raman scatt. meas. 4-25771
 LaNbO₄, ferroelastic transition, Brillouin scatt. study 4-25772
 (La₂Nd_{0.3}Lu_{0.7})Lu₂Ga₂O₁₂ garnet, elastic and photoelastic consts. 4-11212
 Li-Zn ferrite, spin wave stiffness const., Brillouin scatt. study 4-25526
 Li₂SO₄, ionic cond. and elastic const. studies 4-15685
 Mg_{1-x}Li_{0.7}Sc_{0.3}Si₂O₆, protoenstatite, elastic props. compared to orthoenstatite, Brillouin scatt. 4-39364
 MnCO₃, elastic consts. determ., sound vel. anisotropy, Mandelstam-Brillouin light scatt. by phonons 4-35461
 Mo/Ni superlattices, magnons, Brillouin scatt. studies 4-56597
 NH₄Cl, order-disorder phase transition, critical fluctuations, light scatt. study 4-25768
 NH₄LiSO₄, ferroelec., Brillouin scatt. study, relaxation and anomalous temp. depend. of elastic constants 4-25769
 RBHSO₄, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 SbCl₃, Brillouin scatt. and acoustic anomalies 4-40465
 n-Si:As, ion implanted, laser annealed, Brillouin study of phonon softening 4-40466
 SnCl₄ liq., vibr. relax., Brillouin scatt. 4-51288
 TGS, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 TGSe, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 YIG film, Brillouin scatt. from parallel pump instabilities 4-7260
 YIG, parallel pumped, parametrically excited magnons, Brillouin scatt. 4-56587
 ZnSe, Brillouin resonance scatt. of light by thermal acoustic phonons 4-25775

Brillouin zones*see also band structure*

- A₁B₂IV compounds, reflection spectra, stable and floating singularities 4-20930
 p-alkylbenzene mol. cryst., intra- and intermol. interaction study 4-56957
 binary alloys, first- and second-order phase transitions, collective variable method anal. (*Russian*) 4-24957
 cubic crystals, allowed symmetries of soft-modes 4-55952
 diamond lattice, photoelectron spin orientation, electronic states 4-46424
 FCC lattice, deformed under uniaxial loading, special points 4-2501
 graphite, lattice dynamical model, inadvariant symmetries 4-55938
 gyrotropic crystals, degenerate excitations, dispersion relation 4-29891
 Heisenberg periodic magnet, 1-D, density of states in reciprocal lattice 4-30136
 III-V semiconductors, tight binding view of electronic scatt. rate 4-39893
 magnetic breakdown, two-dimensional, cond. oscils., quantum pitfall hypothesis (*Russian*) 4-2499
 noble metal-nontransition element alloys, amorphous, evidence for Hume-Rothery phase, struct. and Hall coeff. 4-10989
 periodic function integrals by special point method, function interpolation 4-34859
 polyacene, band struct., one-dimensional conductivity 4-29866
 superlattices, surface phonon theory 4-56135
 transition metal surfaces, chemisorb. atomic monolayers, orbital population and polarisation effects 4-15769
 Ag-Mn, Fermi surface changes of (111) surface states, UPS study 4-29872
 Au, Fermi surface, temp. depend., de Haas-van Alphen study 4-6691
 Ba_{0.5}Sr_{0.5}TiO₃ solid solns., lattice dynamics, inelastic neutron scatt. study 4-55936
 BaTiO₃, cubic, lattice dynamics, inelastic neutron scatt. study 4-55936
 Bi₂Te₃ and analogs, energy band struct., spectrum nonparabolicity 4-20561
 Cd-Mg(Hg), press. effect on band struct. (*Russian*) 4-6697
 Cd_{1-x}Mn_xTe, exchange splittings of reflectivity maxima 4-11869
 Co, critical point energies, soft X-ray APS study 4-7283
 CsMnFeF₆, neutron study of spin correlations 4-11671
 CsNiFeF₆, neutron study of spin correlations 4-11671
 Cu, critical point energies, soft X-ray APS study 4-7283
 Cu-Ni, Fermi surface changes of (111) surface states, UPS study 4-29872
 CuGaGeS₄, energy band spectra, pseudopot. calc. 4-50723
 Fe, surface states, mag. exchange splitting and band dispersion 4-20700
 Fe₂O₃, high temp. phase, band struct. calc. 4-45617
 Ga_{1-x}Al_xAs, disordered, IR dielectric props. and vibr. states 4-40457
 GaAs_{1-x}P_x, energy band struct. calcs. 4-29884
 Ga_{1-x}In_xP, energy band struct. calcs. 4-29884
 GaP, zone edge phonons, IR absorption and Raman scatt. studies 4-11238
 GaS_{1-x}Se_x layer mixed cryst., optical phonons, IR and Raman spectra studies 4-11236
 Ge, carrier relax. time, electroreflectance meas. 4-35008
 Ge, two-phonon density of states and anharmonic decay 4-11241
 Hg₂Se₄, energy band spectra, pseudopot. calc. 4-50723
 KCl, surface, local density of electronic states 4-40012
 NbD_x, α -phase, lattice dynamics and ordering effects 4-11235
 Ni, critical point energies, soft X-ray APS study 4-7283
 Pb_{1-x}Ge_xTe, electronic dispersion relation, influence of phase transition 4-34875
 Pb_{1-x}Mn_xTe semimag. semicond., transport and mag. props. 4-56569
 PbTe, mag. susceptibility theory 4-46007
 Si, optic phonon decay, appl. of double constrained Brillouin zone integrals, tetrahedron method 4-24922
 TaC, optical and elec. props. meas. 4-40476
 Ti dichalcogenides, thermal expansion, US velocity and attenuation meas. 4-20383
 TmCu, mag. excitations, inelastic neutron scatt. 4-51041
 YIG, spin wave spectra and thermodynamics 4-25539

Brinell testing *see hardness testing***bristles** *see fibres***brittle-ductile transitions** *see ductile-brittle transition***brittle fracture***see also ductile-brittle transition; notch brittleness*

- alloy castings, stress corrosion resist. to H₂S, bent beam technique 4-12317

brittle fracture continued

angled slit and elliptical cracks under uniaxial tensile loading, mixed mode fracture criteria 4-24376
 Astroloy, P/M, fatigue crack growth at 650°C, effect of microstruct. 4-16492
 cast Fe nodular radioactive material shipping containers, design criteria 4-35728
 cast Fe structural components for nuclear material transportation systems 4-35729
 cemented carbides, wear, effect of comp., struct., and service conditions 4-40998
 ceramics, fracture strength, statistical distribution anal. 4-46594
 ceramics, strength and toughness, fracture mechanics 4-12168
 concrete, multiaxial behaviour when exposed to high temps., fracture, stress-strain 4-3236
 deformation and thermodynamic response for crack dislocation model of brittle fracture 4-29516
 dispersion strengthened, optimisation of mech. props. by suitable heat treatment 4-46522
 energy approach to crack resistance evaluation 4-3318
 failure viscosity, neutron irradiation effects, reactor material 4-45199
 finite element analysis, computer program 4-19770
 glass, devitrified, strength, type of disintegration, effect of distilled water, fractography 4-51785
 granular materials, tensile fracture, wave propag. 4-24373
 Hadfield steel, cold brittleness study (Russian) 4-7542
 impact fatigue crack growth 4-16473
 initially stressed materials, failure mechanics, review 4-39378
 interrupted cutting, tool life anal. (Japanese) 4-49759
 Irwin criterion for longit. shear cracks, conditions of correctness of use 4-49766
 loading rate influence, theory 4-29522
 mechanical impacts, fracture particulates form., statistical description 4-30789
 metal, failure geometry and strength macro-criteria (Russian) 4-11221
 metallic glasses, brittle fracture, homogeneous and inhomogeneous flow 4-57348
 metals, body-centred cubic, screw dislocation core response to Peierls stress 4-39295
 metals, fracture energy characteristics, correl., crack propag. and cleavage 4-30877
 MHD magnet, cryogenic, catastrophic structural failure anal. 4-48158
 mixed mode, based on preinstability stress-strain field 4-45257
 nonlinear infinite viscoelastic block containing elliptical hole plane strain deform. model problem 4-10566
 optical fibres, tensile strength of sintered elements and individual fibres 4-55199
 pipeline metal, limiting load determ. in combined bending and tensile loading 4-57509
 pipeline metal, requirements on fracture toughness 4-57339
 polyethylene, fracture toughness by novel high press. technique 4-35683
 polyethylene, tough, impact props., novel meas. technique 4-16591
 polymer solid, rupture, pseudo cross-link theory 4-3237
 porcelain electrical insulators, strength and reliability 4-35697
 precipitate crystallography on fracture surfaces, appl. of SEM 4-3339
 rock fracture, crack propagation velocity and seismic radiation 4-41892
 SEM method for direct obs. of crack propag. in brittle materials 4-3309
 sheets, infinite, with straight cracks, crack extension due to conc. loading near faces, comparison with mixed mode brittle fracture criteria 4-10603
 statistical fracture theory under biaxial stress state using Weibull's three parameter function 4-14917
 steel, austenitic, precipitation-hardening, with Pb impurity, thermocyclic treatment effect on props. 4-40845
 steel, austenitic stainless, failure analysis of welded helium tanks 4-23158
 steel, austenitic stainless, low cycle fatigue life of SUS 321, thermal ageing effect 4-3249
 steel, austenitic stainless, transgranular SCC, rel. to γ' precipitation 4-12331
 steel, brittle fracture, carbide induced, statistical model 4-30804
 steel, brittle fracture, role of time factor in lowering the resistance (Russian) 4-51782
 steel, brittle fracture resistance, determ. on samples with circular notch 4-3320
 steel, C, fractographic features and fatigue crack development before failure 4-40978
 steel, Cr, carburised, fatigue fracture surface, SEM obs. (Japanese) 4-26049
 steel, Cr, thermite rail welds, mech. props. and microstruct. 4-51752
 steel, Cr type, high-strength, sintered, struct. and mech. props. after thermomech. treatment 4-51811
 steel, Cr-Mo, fatigue fracture morphology, stress ratio effects 4-21316
 steel, Cr-Mo-V, acoustic emission from pop-in cracking and elastic-plastic fracture toughness 4-3345
 steel, Cr-Mo-V, weldments, brittle fracture, struct. effect 4-21321
 steel, crack arrest in thick section plate, combined ligament rupture-cleavage model 4-57317
 steel, ferritic, failure protection in radioactive material transport containers 4-35724
 steel, ferritic, low C, with fine grain size, cleavage fracture 4-30802
 steel, ferritic, plane strain crack propag. and arrest, effect of restraining ligaments 4-30785
 steel, fracture mechanics exam., J-integral approach 4-12163
 steel, fracture surface, flake form. mechanism (Chinese) 4-3204
 steel, high speed, M2, carbide cracking, fracture mechanism 4-21325
 steel, low alloy, low C martensite, hot tensile props., effect of rare earth metal additions 4-30805
 steel, low alloy, V, dispersion hardening, brittle fracture resist. 4-51680
 steel, low C, heater tubes, high press., brittle failure rel. to H embrittlement process 4-3251
 steel, low C, hot ductility, AlN and NbC precipitation 4-30703
 steel, low-alloy, brittle fracture susceptibility eval. criteria, crit. brittleness temps. determ. 4-41134
 steel, low-alloy, cold-rolling rolls, heat treatment and props. 4-40843
 steel, low-alloy, fractographic features and fatigue crack development before failure 4-40978
 steel, martensitic, tempered, gaseous H₂ and liq. metal embrittlement, fractographic study 4-21295
 steel, Mn-Nb, impact fracture at low temps. (Chinese) 4-16471
 steel, Ni, intergranular tempered martensite embrittlement 4-16478
 steel, Ni, intergranular tempered martensite embrittlement 4-40975

brittle fracture continued

steel, Ni-Cr, P-doped, intergranular fracture surfaces, rel. between impurity-induced embrittlement and residual strains 4-30806
 steel, Ni-Cr-Mo, quenched and tempered, micromechanics of fracture 4-12157
 steel, nuclear press. vessel., local criterion for cleavage fracture 4-16491
 steel, pressure vessel, yield stress and cleavage fracture stress, influence of microstruct. 4-40982
 steel, prestressed sheet, brittle fracture initiation 4-7568
 steel, Si, cleavage fracture toughness, temp. depend. (Chinese) 4-16469
 steel, stainless, corrosion fatigue in NaCl soln., heat treatment effect 4-41085
 steel, stainless, toughness improvement of AISI 403 by double austenitizing heat treatment 4-7592
 steel, structural, brittle fracture of plates with surface cracks, effect welding residual stress 4-30788
 steel, structural, cleavage fracture stress, struct. and stress state effects 4-40929
 steel, structural, cleavage induced fracture, limiting crack tip radius 4-40950
 steel, type 30KhGSN2A with brittle inclusions, fracture characts. (Russian) 4-51783
 steel, warm-rolled, impact-tested, cleavage delaminations 4-26052
 steel fibre reinforced composites, prep. by explosion technique, study of low temp. props. (Slovak) 4-46601
 stress intensity coefficient estimation method 4-49677
 stress wave emission during fracture 4-44489
 wear resistant coatings, brittle, fracture under bending deformation, theory 4-41003
 wear-resistant coatings, brittle, mech. behaviour 4-35780
 Ag contact composites, TEM obs. WRT optimum antifriction and elec. erosion characts. 4-7596
 Al-Cu, high strength, creep crack growth, study using computerised testing system 4-40964
 Al-Cu-Li, recrystallised 2020, fracture rel. to intermetallic particles 4-21315
 Al-Mg-Si, peak aged, fatigue crack propag., dispersoid particles effect 4-21324
 Al-MgO, dispersion strengthened, qualitative fracture anal. (Slovak) 4-46600
 Al-Si(0.5 wt.%), with brittle inclusions, fracture characts. (Russian) 4-51783
 Al-Zn-Mg (6.0, 2.6 wt.%), cold working, ageing, ductility, 4.2-293K 4-51748
 Al₂O₃, compressive failure modes in air and physiological media, prosthetic appl. 4-21303
 Al₂O₃, surface damage, microstruct. and mechanisms, SEM obs. (German, English) 4-51775
 B, quantum features of low-temp. dynamic fracture 4-3247
 BN, cubic cryst., thermal shock influence on substruct. and strength 4-57341
 C fibre reinforced plastic, strength props. 4-26013
 C fibre-reinforced epoxy resins, fracture at low temp. 4-16477
 Co-WC cermet brittle fracture, strength depend. on defect size distrib. 4-51784
 Cu electron beam weldment in moisture monitor, failure anal. 4-12192
 Cu, OFHC, creep-fatigue interaction 4-3240
 Cu-Al-Co (15, 2 at.%), FCC heterophase single crystals, twinning and brittle fracture 4-12174
 Cu-Al-Ti (1.2, 2.7 wt.%), FCC heterophase single crystals, twinning and brittle fracture 4-12174
 Fe, Armo, spalling failure character, -196 to 800°C 4-30816
 Fe, cast, crack nucleation and propagation during tensile test (Chinese) 4-57323
 Fe, cast, spheroidal graphite, ferritic, embrittlement at 673K, influence of microstruct. 4-26065
 Fe, cast spheroidal graphite, three-point bending fatigue, macrostructs. (Japanese) 4-3231
 Fe, ductile cast, fracture toughness at low temps., X-ray fractographic study (Japanese) 4-57321
 Fe, intergranular fracture, due to S segregation and permanent H damage 4-3244
 Fe, intergranular fracture, effects of S segregation and H charging 4-12139
 FI, sintered compact, fatigue strength, intergranular fracture (Japanese) 4-35689
 HgI₂, single cryst., plastic deform. and dislocation struct. 4-6428
 HgI₂ powder, effect of Ni additions, reaction character, microstruct. and fracture 4-51599
 Mg, pure, SCC, crystallographic characterisation 4-51851
 Mo, cracking of single crystals, stable extension of crack under unidirectional loading 4-35680
 Mo, intergranular embrittlement by O (Japanese) 4-35688
 NbC single crystals, failure mode, fracture stress, temp. depend. 4-21301
 Ni, polycrystalline, grain boundary segregated S, chemical state, AES and XPS obs. 4-35633
 Ti-Al-Mo, spalling failure character, -196 to 800°C 4-30816
 W, failure in zone affected by electric discharge 4-35695
 W, high-temp. embrittlement, struct. form. 4-57340
 W, sintered, Ni-Fe activated, AES study of C and P segregation 4-46613
 WC-Co, sintered, stress corrosion crack growth 4-35781
 ZrO₂, surface damage, microstruct. and mechanisms, SEM obs. (German, English) 4-51775
 Zrc ceramic, brittle fracture in bending under laser impulse heating 4-35696

brittle materials *see* **brittleness**

brittleness

see also brittle fracture; embrittlement; hydrogen embrittlement; liquid metal embrittlement; notch brittleness
 anisotropic brittle solids, crit. grain size/preexisting flaw size relations 4-15581
 brittle materials, mechanical props. and single fracture under load 4-40987
 cellular solids, fracture toughness modelling 4-55917
 ceramics, friction and wear study (French) 4-16515
 ceramics, reliability and mech. props., high temp. appls. (Japanese) 4-51750
 ceramics, strength and toughness, fracture mechanics 4-12168
 ceramics, strength test, C-ring technique 4-51939

brittleness continued

- ceramics, thermal shock by water quenching, critical temp. difference rel. to drop height 4-16487
 coatings and layers, brittle, mech. behaviour, effects of residual stresses 4-51839
 compressive surface strengthening of brittle materials, by residual stress distrib. 4-24381
 crack trajectory in orthogonal cutting, photoelastic obs. (*Japanese*) 4-24391
 ductile particle-brittle matrix composites, fracture toughening 4-16500
 elastic plane with thin cut of arbitrary shape, dynamic problem of brittle destruction (*Russian*) 4-44493
 foamed rigid material, high energy absorpt. mechanism 4-51786
 fracture, interaction with stress-waves in brittle material, verification of cleaving waves 4-44482
 fracture toughness, effect of material inhomogeneity in brittle materials 4-34000
 glass ceramic S0115M, and joints based on optical contact, strength 4-30814
 glass fibre reinforced polyester, mech. strength, temp. depend., effect of fibre-matrix interfacial bond strength (*Japanese*) 4-57264
 mechanical impacts, fracture particulates form., statistical description 4-30789
 metals, amorphous, ductile vs. brittle behaviour 4-10566
 microbending equipment for hard and brittle material fatigue investig. with SEM (*German*) 4-16578
 phenolic fibre reinforced polypropylene, mech. and phys. props. 4-46576
 plate pierced with hole under compression, crack propag. energy 4-55373
 polystyrene, toughening by blending with styrene-siloxane copolymers; compatibility, mech. props. 4-30808
 round beams of brittle materials, fracture statistics, integral eqn. soln. 4-49754
 solids, brittle, reduction of limiting strength after repeated loading (*Russian*) 4-49756
 statistical kinetic failure model, material under uniaxial tension 4-10609
 steel, constructional, reversible temper brittleness, alloying elements redistrib., microadditions influence 4-21320
 steel, Cr-Ni-Mo, economically alloyed, for large forgings 4-40919
 steel, eutectoid, mech. props., effect of Cr additions up to 1% 4-51773
 steel, low-alloy, brittle fracture susceptibility eval. criteria, crit. brittleness temps. determ. 4-41134
 steel, mild, low C, neutron irradiated, beneficial effect on mech. props. in blue-brittle range 4-45197
 steel, Ni-Cr and Cr-Mn-Si, temper brittleness, grain boundary segregation of P, AES (*Chinese*) 4-3205
 steel, structural, heat treatment to reduce temper brittleness 4-40839
 structures loaded with external pressure, stress state and fracture conditions eval. 4-33958
 Cr/Cu microlaminate composites, struct.-prop. relationships 4-50650
 Cr-Fe, cold brittleness temp., plasticity and segregation (*Russian*) 4-51781
 Fe-Mn alloy G29, ductile-brittle transition temp., purity influence 4-21318
 Fe₈₀Br₁₅Si₅C₂ amorphous ribbon, mag., thermal and mech. props. 4-56617
 Ge, brittle, coated with hard C, indentation and liq. impact studies 4-15792
 MgO-(Cr₂O₃)-Fe₂O₃-SiO₂-Al₂O₃-CaO refractories, thermomech. and deform. props. 4-12121
 Mo-Hf (0.2 wt.%), nitriding, plastic deform. effects 4-30858
 Ni-B composite electrolytic coatings, struct. and phase comp. 4-3288
 Ti coating of steel 4-41088
 Ti/Ni microlaminate composites, struct.-prop. relationships 4-50650
 W, chart of fracture mechanisms 4-51812
 W-Fe, cold brittleness temp., plasticity and segregation (*Russian*) 4-51781

broadband amplifiers *see* **wideband amplifiers****broadcasting**

- see also* **television broadcasting**
 UK domestic broadcast and telecommunications satellite project, UNISAT 4-22298

broadside antennas *see* **antenna arrays****bromine**

- see also* **nuclei with**
 adsorption with water on Cu (110) and (111) surfaces, UPS, LEED, TDS, work function studies 4-30603
 atmosphere of Arctic, obs. of gas phase and particulate Br contents 4-42083
 atom, emission cross section determ. for ²P_{1/2}-²P_{3/2} transition 4-9725
 atoms, multiphoton laser-induced fluoresc. studies 4-23648
 chemisorbed submonolayer on Si (111), surface registration, X-ray interferometric study 4-34787
 chemisorption and surface reaction on Cr (110) 4-56152
 chemisorption on Cr (100), overlayer growth, cpd. form. and corrosion 4-29804
 intercalated in graphite, two-dimensional structure, X-ray diffr. study 4-6343
 intercalation cpd. with graphite, single cryst. X-ray study 4-45099
 intercalation cpd. with graphite and ICl, intercalate displacement and exchange study 4-39559
 laser control of flow in As₂S₃ 4-5963
 molecular, photoacoustic detection of intracavity absorption 4-8954
 molecular cryst., stability and lattice dynamics 4-55935
 molecular gas, H⁺-stopping cross sections and excitation energies 4-9929
 molecule, energy transfer collisions and unimolecular reaction in liq. Ar 4-26183
 molecule, F(O₂⁺) ion-pair state, three-photon transition, fluoresc. obs. 4-9867
 molecule, inner-shell and outer-shell electron excitation, energy loss spectra 4-54876
 molecule sorption on finely porous filter, laser light effect 4-34802
 polyacetylene:Br₂, EXAFS studies, experimental techniques (*Japanese*) 4-21069
 polyacetylene:Br, bonding, reactions, EXAFS study 4-11966
 population inversion possibility as result of BrI photodissoc. by solar radiation 4-10290
 Br⁻ adsorbed on Au surface, characterisation using visible electrodiffractance spectroscopy 4-56144
 Br⁻ form. from HgBr₂, dissociative electron attachment processes 4-5503

bromine continued

- Br⁻, specific adsorption on Au film, electrode resist. in electrochem. cell, size effect anal. 4-34799
 Br⁻, zero-field temp. depend. mobility in N₂ and O₂ 4-19913
 Br+H₂, quenching of Br*(P_{1/2}), electronic degrees of freedom, classical model 4-33503
 Br+H₂ collisions, in laser field, rot. wave approx. limitations 4-38278
 Br+HCO(HO₂), reaction kinetics at 298K 4-51987
 Br+I deep inelastic collisions at 795 and 840 MeV, nuclear reaction time effect on δ -electron emission 4-9997
 Br+Pb, asymmetric collision, δ -electron spectrosc. obs. of inner quasiatomic shells 4-9900
 Br⁻+methyl halides, electron detachment, charge transfer, elastic and inelastic scatt. cross sections 4-41187
 Br⁺+O₂ reactions at room temp., state depend. reactivity from 0.04 to 5 eV collision energy 4-46759
 Br⁺⁺+Na⁺, multiple ionization of slow recoil ions in fast heavy-ion atom collisions 4-9979
 Br₂, A state radiative lifetimes, ion luminesc. using photon-electron coincidence method 4-9822
 Br₂ adsorbed on substrates, stretch nodes, Raman study 4-49036
 Br₂+H, chemiluminesc., product distrib. 4-38145
 He-Br mixture, electron temp. and density 4-39015
 Kr-Br mixture, electron temp. and density 4-39015
 Ne-Br mixture, electron temp. and density 4-39015
 Zn-Br battery, electrical energy storage 4-57712
 Zn-Br₂ batteries, physicochem. props. of propionitrile/water two phase solvent 4-35998

bromine compounds

- exfoliation, X-ray diffr. study 4-46463
 intercalation compound with graphite, intercalate struct., melting, and commensurate-incommensurate transition 4-20174
 intercalation cpd. with graphite, C₇Bc, phonons and elastic consts., neutron scatt. meas. 4-45280
 intercalation cpd. with graphite, graphite-Br₂, linearly polarised X-ray absorption spectra 4-57041
 intercalation cpd. with graphite, two-dimensional struct., effect of intercalate desorption 4-45098
 intercalation cpd. with graphite fibres, electrode appl. in thermocell 4-46861
 As-S-Br system, noncrystalline struct., Raman spectra 4-40429
 Br₂-clusters in Ar matrices, time resolved visible and UV absorpt. spectra 4-1308
 Br₂-graphite intercalation cpd., struct. and phase transitions 4-45097
 BrCN, 01⁰ state, isotope shifts, direct l-doublet transitions 4-14384
 BrCN, laser photodissociation, energy disposal, laser induced fluoresc. study 4-35926
 BrF₃, elec. field gradients, TDPAD study 4-40299
 BrI dissociation by solar radiation as way of achieving population inversion 4-10290
 BrN₃+Cl(F), chemiluminesc. reactions, vibr. excitation 4-12336
 BrO₂⁻, elec. field gradient, CNDO/2 and INDO calcs. 4-28372
 Li/SOCl₂, BrCl primary cell, electrical impedance 4-52130

Brownian motion*see also* **colloids**

- 1/f noise, production and statistical props. 4-32172
 adiabatic drag and initial slip in random processes 4-17835
 adiabatic elimination schemes for fast variables 4-8817
 adiabatic elimination schemes for fast variables 4-13581
 bimolecular reactions, diffusion controlled, Brownian dynamics simulation 4-46756
 boundary conditions associated with reduced distrib. functions 4-173
 cluster-cluster aggregation, cluster trajectories effect 4-39519
 deformable macromolecules, wt. diffusion with mean local cylindrical symmetry 4-38362
 diffusion of interacting Brownian particles in fluid with fixed macroparticles 4-8819
 Doppler shifted radiation emission and refl. by moving mols. 4-53409
 dumbbell macromolecules, conform. statistics in quadratic flow 4-49196
 dynamical props. of strongly interacting particles 4-22682
 eigenvalues rel. to transition rates in inclined cosine pot. 4-175
 extreme theorems 4-13585
 first-passage time memory index, simple measure of non-Markovian character 4-22689
 flames, luminous, particle size diagnostics, fast Fourier transform method for dynamic light-scatt. 4-21473
 free Brownian motion model derivation 4-36855
 generalised Fokker-Planck eqn. derivation from Boltzmann transport eqn. 4-37019
 generalised functionals, Fourier-Mehler transforms determ. 4-37023
 generalized moment expansion for the Mossbauer spectrum of Brownian particles 4-7927
 hard sphere suspensions, collective and self-diffusion coefficients 4-26230
 inertial region, Brownian motion, limit behaviour 4-17824
 interacting Brownian particles, Fokker-Planck eqn., derivation of N-particle analogue 4-4337
 interacting Brownian particles suspension, diffusion kernel, cluster expansion 4-4338
 joint probability distribution beyond the Smoluchowski limit for Brownian motion in position space 4-179
 molecular liquids, mol. rot., analytical approach appl. to NMR and dielectric relax. 4-50157
 molecules in solution, Brownian rotation, nonlinear spectroscopy 4-9758
 nonMarkovian Brownian particle in phase space, activation rate determ. 4-27422
 nonMarkovian stochastic differential eqn., joint probability distrib. 4-4329
 one-dimensional disordered systems, Brownian motion 4-32168
 organic glasses, circular dichroism in excited triplet states, matrix birefringence, photoselection and rot. diffusion effect 4-1191
 particle impulse, relationship of indeterminateness (*Italian*) 4-42852
 particle of arbitrary symmetric shape, ang. vel. autocorrel. function, long-time behaviour 4-32205
 particle suspension, diffusion in laminar flow, correl. functions and effective transport coeff., shear rate depend. 4-38787
 polymer solutions, Brownian dynamics simulation in steady shear flow 4-19860
 quantum Brownian motion, path integral approach 4-17832
 quantum particle interaction in heat bath 4-53596

Brownian motion continued
 quantum particles in one-dimensional potential, Brownian motion 4-32166
 repeated-ring kinetic equation, velocity correlation funct. tail calc., Brownian limit 4-17812
 sedimenting nonspherical Brownian particles, Taylor dispersion, time-periodic forces 4-3430
 self-diffusion coefficient, electrostatic interactions contrib. to conc. depend. 4-15669
 soliton motion in field of regular wave packet 4-36915
 stochastic product integral for conditional Wiener paths 4-37016
 suspension of Brownian particles, dil. soln., self-diffusion coeff. calc. 4-26227
 transport equation for Brownian motion in phase space, field-free 1-dimens. case 4-42861
 D₂O, US velocity, temp. variation calc. 4-50438

Brownian movement *see* **Brownian motion**

brush discharges *see* **brushes; discharges (electric)**

brushes
 powder/air mixture ignition by discharges of static electricity 4-55674

brushgear *see* **brushes**

bubble chambers
 BEBC bubble chamber, high-resolution two-beam holography tests 4-28304
 rapid cycling, optical fiducial volume trigger 4-975
 rapid cycling, recent developments in bubble chamber technology 4-33263
 rapid cycling bubble chamber of EHS, optical fiducial volume trigger, hardware design 4-54539
 Ar giant bubble chamber, long sensitive time, design 4-14263

bubble nuclei *see* **nuclear density**

bubble point *see* **boiling point**

bubble points *see* **bubbles**

bubbles
see also **foams**
 acoustic cavitation, bubble phenomena in sound fields. I 4-44276
 active acoustic spectroscopy 4-1818
 adsorption microlayers, props. and bubble growth kinetics 4-45490
 air bubble persistence at seawater surface 4-41963
 air bubbles in liq., acoustic oscill. during growth and breakoff 4-45270
 annular boiling flow, wall press. fluctuations, stochastic characts. 4-1808
 axisymmetric Stokes flow images in spherical free surfaces with applications to rising bubbles 4-5944
 binary mixture, pool boiling phenomena 4-11263
 bubbling-to-spray transition and spouted bed phenomena analogy 4-29155
 coalescence obs. using high-speed photography 4-38866
 coalescence times meas., optical electronic technique 4-55436
 concentric annular gap, convective boiling heat transfer 4-1723
 cylindrical bubble in glass, white light critical angle scatt. 4-28616
 degasifier for a circulating liquid flow 4-10797
 dielectrophoretic and magnetohydrostatic levitation of particles, droplets and bubbles 4-57569
 drag and heat transfer in bubbly flows 4-29157
 drop containing bubble, eccentrically placed, slow axisymmetric thermocapillary migration in zero gravity 4-1814
 dynamics obs. using ultra high speed holographic cinematography 4-24499
 exciting acoustic pulse interaction; coherent, echo-like phenomenon 4-24291
 finite amplitude pressure wave propagation in bubbly waters 4-24288
 flow in mixing chamber of injector 4-1802
 flow over immersed bodies in air fluidised beds, heat and mass transfer 4-34180
 flow pattern in bubble sheet 4-19890
 fluid, bubbling, boiling, gas content and temp. effect on acoustics 4-29158
 fluidisation, particulate and delayed bubbling regimes 4-10758
 fluidised beds, gas bubble detect. by pneumatic probe 4-55442
 fluidised beds, gas bubble detect. by pneumatic probe 4-55443
 fluidised beds, gas jet penetration, variable control anal. 4-55444
 formation on gas-solid fluidised bed, stochastic modelling 4-29154
 gas bubble dissolution in liquid, variable time step methods 4-10728
 gas bubble expansion near liq. free surface, shock wave and liq. flow interactions (*Ukrainian*) 4-38864
 gas bubbles, residence time distrib. effect on slurry reactor performance 4-10753
 gas-filled micropores, US scattering, nonlinear response at MHz freqs. 4-49605
 gas-liquid media, two-phase flow, shock wave propag. 4-1784
 gas-liquid mixture, bubbles, eqns. of motion, stationary solns. 4-29159
 gas-liquid mixture, crossflow, heat transfer 4-34065
 gas-liquid mixture, slug and two-layer flow in horizontal tube 4-5943
 gradient flow, adverse press., obs. of turbulent boundary layer coherent structures (*Chinese*) 4-1709
 growth of sub-critical bubbles on grain boundaries 4-55844
 hydrocarbons, liquid, elec. cond. in DC divergent fields, bubble generation 4-39918
 hydroelastic system vibration, bubble gas saturation and dynamics influence (*Ukrainian*) 4-24369
 kinetics of boiling and bubbling, reasons for generation of acoustic oscillations 4-28969
 laser microbubble detector for use in surgery (*Japanese*) 4-41606
 laser-Doppler meas. of bubble dynamics 4-44708
 liquids, cavitation nuclei distrib. by tensile strength meas. 4-55427
 LMFBR, hypothetical core disruptive accident, conditions inside bubble, laser simulation 4-14135
 low-resistance fluid dispersion and transport in elec. field, aerosol stream characts. (*Russian*) 4-38891
 methane bubble growth in 1020 C steel 4-57328
 minimal surfaces, n-body modelling, computer oriented 4-32032
 motion in nonlinear Rayleigh-Taylor instability 4-1701
 motion in thermal gradient, axisymmetric 4-1813
 noise in bubbly water flow, impulsive noise generation (*Japanese*) 4-38663
 nonequilibrium model for two-phase critical flow 4-44696
 nonhorizontal solid surfaces, sticking ability 4-34152
 nonspherical bubble dynamics surrounded by viscoelastic fluid 4-34171
 nuclear fuels, ceramic, percolation model for bubble interlinkage 4-27965
 oceanic air bubble sizes, light scatt. probe meas. 4-13071

bubbles continued
 oscillations, max. amplitudes, analytical prediction 4-38863
 particles, precipitation on bubble surfaces, Stokes number crit. value 4-34160
 plasma, Rayleigh-Taylor instability, bubble region, saturation model 4-55532
 pressure drop fluctuations and bubble-slug transition in a vertical two phase air-water flow 4-44704
 shock wave characts. in gas-liq. medium, gas vol. fraction effect 4-1785
 single steam bubble oscillating in water, natural freq. and damping const. 4-33068
 steam-water two-phase flow, heat transfer calc., bubble dynamics 4-34101
 steel, austenitic stainless, thermal neutron irradi., solution annealed, microstruct. rel. to the content 4-29483
 steel, fracture surface, flake form. mechanism (*Chinese*) 4-3204
 steel, low alloy, evaporation tubes, steam corrosion, gas content of blisters, mass spectra 4-7641
 steel, stainless, structural, irradiation, in-pile nucleation and growth of gas bubbles on grain boundaries 4-15544
 submerged jets, micro-bubbles, turbulent press. fluctuations, cavitation, noise generation 4-1793
 surfactant solutions, surface dilational elasticity, radially oscill. bubble method 4-29729
 turbulent gas-liquid dispersions, bubble size distrib. meas. 4-44684
 turbulent separation bubble along sides of blunt flat plate, struct., vortices 4-34052
 turbulent shock-boundary layer interaction at curved walls, length of separation bubble 4-1708
 turbulent skin friction reduction by microbubbles 4-44544
 two-phase stream, permittivity calc. 4-25669
 vapour bubble shape in subcooled boiling, light refraction 4-19873
 vapour-liquid medium, with bubble struct., thermal problem 4-10739
 vapour-liquid mixtures with bubbles, press. wave propag. 4-19872
 vertical channels, steady, turbulent, bubbly flow, numerical calcs. (*German*) 4-29165
 viscous compressible heat conductive liqs., bubble oscillations, acoustic wave emission 4-1773
 visualisation by means of high-speed holograms, digital picture processing 4-23932
 voidage meas. in bubble column 4-8866
 water, boiling, heat to below saturation temp., hydraulic resist. meas. 4-44727
 water bubble departure diameter, press. depend. 4-38689
 wet steam, nonequilibrium two-phase flow, choking, acoustic propag. 4-1809
 n-GaAs, photoetching and selective etching in aq. CrO₃-HF solns., hillock morphology rel. to gas bubbles 4-15472
 He bubble growth and blistering in Fe-Ni-Mo-B, 200-600K 4-15551
 He bubble growth in Fe-Ni-Mo-B, free-vol. relax. model 4-15552
 He bubbles in Ni, gas density and size distrib. meas. by neutron scatt. 4-20263
 He escape and surface deform. in He irradi. Al covered Si 4-29485
 He I, superheated, boiling, light-induced bubble nucleation, photographic study 4-11361
 Mo, void and bubble lattice formation, two-dimensional self-interstitial diffusion 4-29677
 O₂ super-saturation of near-surface ocean mixing layer by breaking-wave bubbles 4-58195
 YAG:Nd³⁺, gas bubble assoc. mass transport of Bridgman-Stockbarger melt growth system 4-2108

bucket-brigade device arrays *see* **charge-coupled device circuits**

bucket-brigade devices *see* **charge-coupled devices**

buckling
 bars, thin walled, of open cross-section, energy eqns., nonlinear analysis 4-1606
 beam, nonlinear elastic, large lateral buckling 4-49726
 beam collapse, viscoplastic and large deformation anal. by finite element method 4-28984
 beams, fibre reinforced laminates, thin-walled open cross sections, Vlasov theory of buckling 4-49728
 beams, inhomogeneous, orthotropic; cantilever type, subjected to shear forces, shear stress distribution and shear stiffness (*German*) 4-55320
 beams, prismatical, buckling under axial and transverse loads 4-10579
 beams, thin-walled, rectangular, collapse in biaxial bending 4-5822
 column, elastic, post-buckling shape, max. deflection estimates 4-38740
 column of variable thickness, buckling, eigenvalue upper and lower bounds by weighting function approxs. 4-13508
 columns, tubular with movable boundaries, buckling 4-38742
 component structures, exact natural freqs. or crit. buckling loads, Lagrangian Multipliers 4-1586
 conference on structural mechanics in reactor technology, Chicago, USA (Aug. 1983) 4-11
 cylindrical shells with cutouts, buckling under axial compression 4-33964
 damage tolerant design using collapse techniques 4-10571
 elastic column structures, instability studied using catastrophe theory 4-19748
 elastic-plastic solids under general prebifurcation conditions, bifurcation and postbifurcation anal. 4-14904
 elastic-plastic structs., buckling and ratchetting interaction under cyclic additional loading, progressive deform. 4-787
 extensional collapse modes of structural members 4-19746
 fibre reinforced plastics, circular cylinders, axial compressive buckling, surface imperfections effect 4-38745
 finite element analysis of flat plates with a rectangular hole 4-14905
 finite plane elasticity harmonic materials, buckling problems 4-44430
 folded-plate structures in combined shear and compression, buckling and vibration anal. 4-38743
 frameworks under multilevel performance constraints, optimal synthesis 4-49702
 free-standing welded steel reactor containment vessel, buckling, stability anal. 4-792
 glass tubes, thick-walled, viscous collapse 4-1637
 graphite fibre reinforced epoxy resin, out of plane thermal expansion, holographic interferometry 4-20380
 imperfect spherical shells, stability anal. based on refined buckling pattern 4-24363
 interactive buckling model, closed-form and asymptotic solns. 4-49732
 jet, turbulent, surrounded by highly flexible duct, buckling 4-15012
 laminated composite cylindrical shells, axial buckling (*Japanese*) 4-24361

buckling continued

- laminates, delamination buckling and growth 4-1636
 large discrete buckling structures, stability 4-5791
 layered cryst., macroscopic deformation during first-order phase transitions 4-34565
 metallic glasses, stressed, failure modes in aq. acidic media 4-21304
 metallic spherical-cap diaphragms, deform. and strength characts. 4-19738
 nonlinear behaviour of nonintegral infilled frames 4-19747
 optical fibres, jacketed, with initial imperfection, thermal characts. 4-55197
 plate, circular, two layer, with initial penny-shaped delamination, delamination buckling dynamics 4-24362
 plate, isotropic, triangular, flat, elastic buckling, finite element soln. 4-19745
 plate, nonhomogeneous heated, critical buckling compression and temp. 4-10574
 plate, rectangular, subjected to an eccentric compression, post-buckling state anal., appl. to thin walled box girder calc. (Polish) 4-49734
 plate, soft-ferromag. elastic, static and dynamic stability, magnetoelastic buckling 4-49727
 plate, thick elastic, stability under thrust, flexural buckling critical state 4-38738
 plates, composite, bifurcation and post-buckling anal., multiple-parameter reduced basis technique 4-33966
 plates, elastic, circular, moderately thick postbuckling anal. 4-1638
 plates, elastic, heated, nonlinear free vibrs. and thermal buckling 4-14906
 plates, orthotropic composite, loaded in compression, postbuckling 4-49724
 plates, stiffened, comprehensive theory for bending and buckling 4-55342
 plates, thin rectangular clamped, buckling, collocation least squares method 4-49725
 plates in prismatic assembly with supporting struct., buckling and vibr., VIPASA computer program 4-1587
 prismatic flat-walled elastoplastic structures, inelastic buckling anal. 4-1633
 reactor HCDA, above-core struct. support column buckling and post-buckling behaviour 4-793
 ring, variable-thickness, stability analysis under nonuniform load, num. algorithm 4-44434
 sheet, finite elastic, buckling and postbuckling 4-49730
 sheet or rod, heavy elastic, lifting from incline 4-19730
 shell, cylindrical, elastoplastic buckling under axial impact 4-44433
 shell, plastic instability, localised deform. analysis 4-55352
 shell, thin elastic cylindrical, local buckling under axial compression (Russian) 4-44435
 shell of revolution, critical state, infinite rate-of-deform. criterion (Russian) 4-44429
 shells, buckling under press. loading, unsymmetric eigenproblem 4-1634
 shells, circular cylindrical, buckling anal., variational formulations 4-49729
 shells, complete spherical and truncated spherical, under axial compressive loads, buckling anal. 4-33963
 shells, compressed longitud. reinforced cylindrical, stability loss allowing for local buckling 4-49736
 shells, cylindrical, axial tension and press. effects, inelastic buckling 4-10572
 shells, cylindrical, vibration and buckling, shear deformation and rotatory inertia effects 4-19760
 shells, laminated, composite, cylindrical, optimisation for axial buckling 4-33962
 shells, layered, anisotropic, cylindrical, stability under combined loading (German) 4-5825
 shells, ring-stiffened cylindrical deform. and strength under dynamic compressive loads 4-49719
 shells, spherical, ribbed, under external press., stability study 4-10577
 shells, spherical with initial imperfections, dynamic elastic buckling 4-38741
 shells, three-layered, cylindrical, with discrete filler in axial compression, stability 4-19749
 shells of different modulus material, stability loss and post-ultimate strains, boundary effect (Ukrainian) 4-5817
 shells with zero-Gaussian curvature, stability and vibrs. 4-49737
 steel, austenitic stainless 304, elbow plastic buckling loads, Southwell method 4-30777
 steel column, creep buckling at high temps. 4-40896
 steel tapered I-columns, min. weight design 4-49705
 structural crashworthiness, conf., Liverpool, England (Sept. 1983) 4-4147
 systems with finite displacements, stability analysis by extremum curves 4-5824
 thin-walled structures, stable buckling, review of. expt. techniques 4-10573
 thin-walled structures neutral and unstable buckling, expt. techniques review 4-10618
 transversely loaded I-beams of incrementally variable web thickness, total stability problem (German) 4-28994
 trapezoidal box stiffeners, plate buckling coeffs. (German) 4-28995
 trusses, two-bar, optimisation under creep conditions using method of contours of complete nonuniqueness 4-24348
 tubes, metal, braced with tension members, collapse and energy dissipation characts. 4-5819
 tubes, rectangular and square section, bending collapse 4-5808
 tubes, square, axial crushing 4-5823
 uniform column under action due to weight and axial load, Bessel functions and buckling 4-49731
 Al alloy cylindrical tubes, axial collapse classification under quasistatic loading 4-5820
 Al alloy thin-walled circular cylinders and frusta quasistatic crumpling under axial compression 4-5821
 Al tubes, splitting, long stroke energy dissipation 4-5818
 Al-Mg alloy shells, elastic-plastic, cylindrical, failure under combined loading 4-44426
 C thin films, diamond-like, under internal compressive stress, stress relief forms 4-50696
 CuAl thin film and bulk alloy, heavy ion-induced γ to α transition 4-29603

buffers (chemical) see pH**building**

see also architecture; civil engineering
 aerodynamics, conf. Aachen, Germany (June 1983) 4-9

building continued

- EMP immunity of terrestrial installations (French) 4-48742
 energy balance of climatized building in winter 4-16765
 noise control of industrial walls 4-28926
bulk density see density
bulk diffusion see diffusion in solids
bundling see packaging
burning see combustion
burnout see combustion
burst noise see random noise
BWT see backward-wave tubes
C invariance
 monopole-fermion system, baryon number violation, charge conservation 4-37316
 Racah tensor operators, P,T,C. Hermitian conjugations 4-48354
 $\pi q - q\mu^+ \mu^-$, C- and P-odd effects, neutral currents (Ukrainian) 4-22972
C steel see carbon steel
cable insulation
 see also insulating oils
 long term radiation damage on cable insulation, CERN tests 4-2229
 mineral insulated cables in reactor environment, practical considerations 4-18710
 polyethylene, peroxide crosslinkable, power cable insulation, extrusion technology 4-35600
 pulse-mean ϕ -q distribution patterns change due to treeing propagation 4-24644
cable jointing
 fibre optic cable splicing and testing, field tools 4-33814
 optical fibre cable, single mode, polarisation holding props., microbending loss during cabling 4-24204
 optical fibre cable jointing with connectors (Swedish) 4-5724
cable sheathing
 acrylate-jacketed UV-cured optical fibres, high temp. effects, residual shrinkage 4-24191
 EM examinations in armoured cable industry (French) 4-43651
 geothermal borehole temp. and pressure meas., applicability of fibre optics (French) 4-46855
 nylon-jacketed UV-cured optical fibres, high temp. effects, residual shrinkage 4-24191
 optical fibre, polymer right jacketed, zero linear expansion coeff., fabrication by extrusion coating 4-28891
 steel, JBK-75 alloy, sheath for internally cooled supercond., nondestructive testing 4-9469
 two-wire cable, perturbing induced voltage anal. (French) 4-49207
cable sheaths see cable sheathing
cables (electric)
 see also coaxial cables; power cables; submarine cables; superconducting cables; telecommunication cables; underground cables
 EM wave coupling anal. (French) 4-49246
 nuclear power plants, fire hazards 4-52012
cableways, electric see electric conduits
CAD
 see also architectural CAD; circuit CAD; computer-aided analysis; interactive systems; power system CAD
 advanced optical system design and anal. using SYSCAP 2.5 computer anal. program 4-38560
 antireflection coatings, three-layer, design and optimisation 4-24138
 automatic lens design, appl. of generalized inversion matrix method (Chinese) 4-10389
 design software, current and future directions 4-44171
 electricity generation using solar energy, computer aided design 4-52110
 EM field computation, COMPUMAG, conf., Genoa, Italy (May-June 1983) 4-47744
 holographic lens CAD 4-10267
 lens design and analysis using programmable calculators 4-38547
 lens design optimisation program for desktop computers 4-38551
 lens design program 4-44167
 lens design using fast running program for minicomputer based on exact derivative of optimisation criterions 4-38549
 lens design with microcomputer, SODA-1 program 4-44166
 optical computing using Canon BX-1 desktop computer 4-38552
 optical design on multi-terminal computer with disc file based data management system 4-44169
 optical design optimisation with a personal computer 4-14769
 optical design program for microcomputers 4-38548
 optical design with small computers, hardware and software developments 4-38550
 optical system design, analysis and production, conf., Geneva, Switzerland (Apr. 1983) 4-36775
 optical thin-film coatings, synthesis method 4-24137
 photographic image quality optimisation using models 4-53784
 real world optical design in real time 4-44175
 single-mode step-index optical fibre, minimum dispersion, CAD 4-44223
 specular nonimaging baffled systems, use of real ray tracing to extend APART anal. 4-55155
 submicron ion probe system 4-33231
 teleannigmatic lenses, automated design (Russian) 4-14771
 wavelength division multiplexers and demultiplexers low insertion loss type, microcomputer-aided design and realisation 4-38577
CAD/CAM see CAD; manufacturing computer control
cadmium
 see also nuclei with
 atmosphere, trace metal content of aerosol over Tennessee, USA 4-42092
 atmospheric bulk deposition in Tulsa, Oklahoma 4-46914
 atom, electron impact autoionisation, mass spectra energy scale calibration implications 4-49165
 atom, even parity 1D_2 autoionizing level, electron-electron coincidence spectra 4-10119
 atom, inner shell fluorescence polarisation and ang. distrib. variations 4-1086
 atom, photoionisation, Cd^+ fluoresc. radiation linear polarisation 4-33377
 atom, relaxation energy shift in L X-ray emission spectra 4-1083
 atoms, electron impact excitation, spectral lines, emission cross sections 4-23824
 atoms, L-shell X-ray production cross sections for alpha particles 4-18975
 average L-shell fluorescence yield meas. 4-18980

cadmium continued

- band struct., lattice vibrs. and mag. props. (*Russian*) 4-50711
 cathode, macroparticle dynamics obs. in vacuum arc, using laser Doppler anemometry 4-24667
 core level binding energies in atom in jellium model, appl. of Slater's transition state theory 4-34846
 corrosion in hypersaline geothermal brine 4-7655
 dendrites form. during electrodeposition on Cd substrates in acidic media, morphology 4-16305
 dendrites form. during electrodeposition on Ni and Cd substrates in alkali media, morphology 4-16304
 diffusion in InP and $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$ 4-34713
 effective masses, de Haas-van Alphen effect study 4-34866
 electric field gradient at ^{119}Sn , meas. by Mossbauer spectroscopy 4-35254
 electric field gradient of implanted Sb, probe atom depend. 4-34926
 electrodeposit, obtained with periodic currents under different soln. stirring conditions, surface morphology 4-35777
 electrodeposition from acidic bath, demetalisation; specific anion adsorpt. 4-16348
 films, epitaxial growth by hot wall technique, surface topography, reflectivity 4-20512
 films 4-20518
 halogenation, UPS study 4-30609
 HCP, point defects trapping, PAC study 4-35264
 impurities in heavy rare earth metals, electric field gradient, press. depend. 4-39847
 kidney cortex Cd, human, polarised X-rays for improved in vivo detectability using XFA 4-8098
 L-shell photoelectric cross sections at 6 keV 4-51451
 lasing on the 6^3S_1 to 5^2P_1 line at 480 nm pumped by transverse discharge 4-49332
 liquid, contact reaction with Ti 4-2414
 liquid, precision density meas. (*German*) 4-22762
 liquid, thermal expansion meas. 4-39544
 liquid-vapour interface, density profile study 4-45313
 natural, multigroup consts. calc. from evaluated data libraries for reactor calc. 4-37707
 noncubic metal, elec. field gradient, isotopic mass effect 4-35252
 plating, optimum deposition current density 4-16349
 quenched, photostimulated exoelectron emission 4-7324
 Rayleigh and Compton scatt. differential cross sections 4-30555
 relaxation problem in continuum elasticity theory 4-19721
 RF electrodeless tubes as optical temp. indicators 4-42966
 soil pollution near Zn smelters 4-3502
 sputtering, at. excitation 4-11998
 surface+ H^+ (He ions) impact, L-shell X-ray prod. cross section 4-12004
 target, external bremsstrahlung from ^{90}Sr - ^{90}Y β particles, Z depend. 4-11957
 ultrasound reson. absorption, Doppler-shifted cyclotron reson. (*Russian*) 4-25203
 vapour, nonlinear susceptibility calc. 4-10813
 Ag single crystals, impurity diffusion of Cd, isotope effect 4-56077
 As_2Se_3 -Cd amorphous film, elec. props., impurity effects 4-45783
 CaF_2 -Cd, X-ray irradi., optical detection of EPR using afterglow 4-25637
 Cd I, Rydberg transition dipole matrix elements from sum frequency generation spectra 4-18970
 Cd II, 5^2S to 5^2P_0 transition, electron energy loss spectra and cross sections 4-23808
 Cd ion desorption from glass, electron-impact-stimulated, optical obs. 4-25149
 Cd^+ ($4d^{-1}2d_{5/2}$) state alignment after photoionis. using synchrotron radiation 4-1128
 Cd^+ high-gain inner-shell photoionisation laser pumped by soft X-ray radiation 4-10282
 Cd^{19+} , Cu I like lines in laser produced plasma 4-5157
 Cd^{19+} , spectra and energy levels of ions in Cu isoelectronic sequence 4-23647
 Cd(II) Cd excited visible triplet, reabsorption effect, line shapes, intensities 4-43838
 Cd(II) $5^2\text{S}_{1/2}$ - 5^2P transition, EELS study 4-10131
 Cd(II) extraction with 2-thenoyltrifluoroacetone, auxiliary ligands effects 4-52042
 ^{111}Cd , elec. field gradient in Ru and Os, TDPAC study 4-39845
 ^{113}Cd magnetic resonance spectroscopy, review 4-2042
 ^{113}Cd , determ. in natural water 4-31047
 CoCO_3 -Cd, thermal decomposition, elec. cond., thermogravimetry 4-3401
 He-Cd laser, output stabilisation using feedback with axial magnetic field 4-55078
 He-Cd laser for high speed high resolution data recording 4-24006
 He-Cd lasers for high speed writing appls. 4-24010
 He-Cd white light laser using negative glow discharge 4-55023
 He-Cd-Hg CW hollow-cathode laser characts. 4-10283
 He-Cd $^+$ hollow cathode discharge multicolour laser for colour scanning 4-24011
 He-Cd $^+$ hollow cathode white light laser, stabilisation by floating metal grid 4-38451
 He-Cd $^+$ laser, mag. reson. obs. through high freq. modulation (*French*) 4-23963
 In^{20+} , Cu I like lines in laser produced plasma 4-5157
 InGaAsP and InP, Cd(Zn) diffusion for p-n junction formation 4-20405
 InP:Cd LPE layers, impurity concentration meas. by ionized impurity scatt. anal. 4-20231
 InP:Cd p $^+$ -n junctions, EBIC linescans, computer simulation 4-35060
 InSe:Cd, doped and intercalated, photoluminescence spectra 4-16245
 In $_2\text{Te}_3$ -Cd, electric field gradient, PAC study 4-35307
 KBr:Cd, X-ray elec. cond. study 4-25354
 LiI:Cd,Cu, fast interstitial diffusion processes 4-15707
 NaBr:Cd, Suzuki phase, Raman active phonons 4-16207
 NaCl:Cd $^{2+}$, aggregation pathways and Suzuki phase formation 4-29637
 Ni/Cd accumulators, safe disposal (*German*) 4-41334
 PbSe:Cd, heavily doped, elec. and optical props. 4-15920
 PbTe:Cd, LPE growth, carrier conc., doping depend. 4-45559
 Ti_2Te_3 - ^{111}Cd , electric field gradient study 4-39863
 V_2O_3 -Cd, hyperfine interactions, TDPAC spectra 4-46154

cadmium alloys

- see also cadmium compounds
 rare earth dilute alloys, RNi_2Cd , ^{111}Cd transferred hyperfine field, TDPAC studies 4-56839

cadmium alloys continued

- α -Ag-Cd-In alloys, microstruct., X-ray diffr. study 4-21235
 Au-Cd, martensitic transform., US study 4-40780
 Cd-Ag dilute alloys, hyperfine interactions and recoilfree fractions of ^{197}Au , Mossbauer study 4-35255
 Cd-Au dilute alloys, quadrupole moments and low temp. thermal relax. 4-35256
 Cd-Cd $_2$ Ag system, directional peritectic solidification, solute distrib. at solid-liq. interface 4-51652
 Cd-Mg(Hg), press. effect on band struct. (*Russian*) 4-6697
 Cd-Sb, electric quadrupole interaction, temp. and conc. depend. 4-30364
 Cd-Sb liquid alloys, magnetic susceptibility and short range order 4-46000
 Cd-Sn eutectic, degenerated regions study with automatic anal. of pictures (*French*) 4-30874
 Cd-Zn, liquid, X-ray struct. study and elec. props. 4-6246
 Cd-Zn eutectic alloy, directional solidification, forced convection flow effects 4-21201
 Cd-Zn system, stable and metastable equilb. diagrams, calc. 4-40750
 ^{111}Cd in dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
 ^{111}Cd in dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
 Cu-Cd, diffusion induced grain boundary migration and discontinuous precip. 4-40803
 Cu-Cd (2 wt.%) thin layers, internal friction and shear modulus studies 4-40872
 Ni-Cd plating, cathodic potential in sulphate bath, temp. depend. 20-80°C 4-46458
 $\text{Sb}_{1-x}\text{Cd}_x$, electric quadrupole interaction, TDPAC meas. 4-35306
 Th_2Cd_3 , cryst. struct. determ. 4-50241
 TmCd single cryst. isotropic magnetoelastic props. 4-46084
 Zn-Cd, cohesive props., density functional pseudopot. calc. 4-6316

cadmium compounds

see also cadmium alloys

- CdTe photon counter and spectrometer appls. 4-996
 CdTe thin films, size quantisation, fine struct. due to exciton transitions in transmission spectra 4-30540
 chalcogenide/ferri-ferrocyanide photoelectrochemical cells, effect of surface morphology and added salt 4-26296
 photoelectrochemical cells, with CdSe polycrystalline electrode for improved conversion efficiency 4-31107
 stearate, Langmuir-Blodgett film on semicond. substrates, RHEED obs. 4-29835
 stearate Langmuir-Blodgett multilayers, struct. effects on elec. cond. 4-35107
 thin films grown by flash-evaporation at low substrate, resist. and transparency 4-51501
 Ag-CdO contact material, manufacturing processes 4-40714
 AgCdInTe $_4$, mag. susceptibility 4-35141
 Al/CdS contacts, ohmic character monitoring by one-probe technique 4-32272
 β -Al $_2$ O $_3$ -Na $_2$ O-CdO, diffusion and ionic cond. 4-39579
 Ba $_2$ Cd $_3$ Bi $_4$, cryst. struct. 4-11106
 Ca $_2$ Cd $_3$ Bi $_4$, cryst. struct. 4-11106
 CaF $_2$ -Cd(Sm), X-ray irradi., optical absorpt. and thermoluminesc. meas. 4-30489
 (Cd,Mn)S(Se)(Te) dilute mag. semiconds., bound mag. polarons, optical studies 4-56239
 (Cd,Mn)Se, bound mag. polaron form., ps. laser spectroscopy study 4-6716
 Cd complex, Cd(N $_2$ H $_4$) $_2$ (NCS) $_2$, preparation, characterisation, and thermal props. 4-16654
 Cd complexes, triethylenediamine cadmium(II) nitrates:Mn(II) 4-6492
 Cd- β' -alumina, preparation, struct. and Raman spectra 4-24795
 CdAs $_2$ -ZnAs $_3$, DTA, X-ray phase anal., metallography, hardness meas., melting diagram 4-55963
 Cd $_3$ As $_2$ films, pulsed laser evaporation and elec. props. 4-46437
 Cd $_3$ As $_2$, local dilation and stoichiometric vacancies 4-55818
 Cd $_3$ As $_2$, theory of intraband magneto-optics, voigt configuration 4-56893
 Cd $_3$ As $_2$, topological transition and singularity in density of states of cond. band 4-25220
 Cd $_2$ B $_2$ O $_7$ -PbO system, synthesis, X-ray diffr. and IR spectra studies 4-55802
 CdBr $_2$ photoelectret, transient depolarisation current during light excitation from fundamental absorption region 4-35336
 CdBr $_2$, polytropism and cryst. struct. 4-34456
 CdBr $_2$:Co $^{2+}$, Co $^{2+}$ pairs, thermally detected EPR studies 4-25629
 Cd(BrO $_3$) $_2$ ·2H $_2$ O, Zeeman effect, elec. field gradient 4-11505
 CdCN $_2$, transmission and reflection spectra, optical vibr. 4-56906
 CdCO $_3$, Mossbauer quadrupole splitting of Fe $^{2+}$ 4-7101
 Cd(COO) $_2$ ·3H $_2$ O:Cu $^{2+}$, ESR and nuclear quadrupole interactions 4-51126
 CdCl $_2$:Co $^{2+}$, Co $^{2+}$ pairs, thermally detected EPR studies 4-25629
 CdCr $_2$ S $_4$, dynamic behaviour of the s-d model 4-25532
 CdCr $_2$ S $_4$, prep. and charact. 4-29964
 CdCr $_2$ S $_4$, spin wave longitudinal pumping, damping and relaxation 4-35160
 CdCr $_2$ S $_4$, ternary mag. semicond., coexistence of Cr $^{2+}$ and Cr $^{4+}$ ions, ferromag. reson. study 4-30287
 CdCr $_2$ Se $_4$, ^{111}Cd quadrupole coupling, TDPAC study 4-35295
 CdCr $_2$ Se $_4$ ferromag. semicond., magnetostatic waves, relax. times 4-25535
 CdCr $_2$ Se $_4$, ferromag. semicond., reflectance magnetocircular-dichroism spectra and electronic struct. 4-30445
 CdCr $_2$ Se $_4$, ferromag. semicond., anomalous photomagnetolectric effect 4-35217
 p-CdCr $_2$ Se $_4$, mag. ordering influence on photoconductivity 4-15909
 CdCr $_2$ Se $_4$, magnetic phase transitions, modulation and thermomodulation spectroscopy (*Russian*) 4-6972
 CdCr $_2$ Se $_4$, magnetic spinel semiconductor, cryst. growth by vapour-transport reaction 4-7342
 CdCr $_2$ Se $_4$, nonlinear paramag. effect, crit. exponent 4-40154
 CdCr $_2$ Se $_4$, prep. and charact. 4-29964
 CdCr $_2$ Se $_4$, spin wave damping study 4-56592
 CdCr $_2$ Se $_4$, spin wave longitudinal pumping, damping and relaxation 4-35160
 n-CdCr $_2$ Se $_4$:In, switching effect based on N-shaped negative differential resist. 4-34993
 CdCs $_2$ (SO $_4$) $_2$ ·6H $_2$ O, Tutton salts, zero-field EPR of Mn $^{2+}$ 4-40220

cadmium compounds continued

- Cd_{1-x}Cu_xCr₂S₄(Se₄), phase diagrams and solid solubility, X-ray diff. studies 4-39441
 Cd_{1-x}Cu_xFe₂O₄, ferrite, canted spin struct., Yafet-Kittel mag. ordering 4-51097
 CdEr₂S₄ chalcogenide material for IR optical appls., fabrication 4-28790
 CdF₂, bulk-cond. determ. from TSC meas. 4-15686
 CdF₂:Eu²⁺ EPR spectra 4-46101
 CdF₂:Eu²⁺ single crystals, EPR uniaxial stress data, spin-lattice interaction 4-7060
 CdF₂:Gd insulating crystals, low-applied fields, electron conduction, 80-170K 4-15881
 CdF₂:Mn₂Y electroluminescent MIS structs., degradation process 4-51348
 CdF₂:rare earth, lattice distortion and local compressibility induced by trivalent impurities 4-6385
 Cd₃(Fe(CN)₆)₂ with interstitial water, p-type semiconduction 4-20647
 CdGa₂S₄ crystal, uniaxial compression effect on birefr. 4-11862
 CdGa₂S₄, defect chalcopyrite cryst., Raman scatt. 4-30457
 CdGa₂S₄, ion irradi., blue photoluminesc. studies 4-35488
 CdGa₂S₄, lattice vibr., Raman and IR study 4-20306
 CdGa₂S₄:I single cryst., donor and acceptor levels, photocond. and light transmission studies 4-34909
 CdGa₂Se₄, defect chalcopyrite cryst., Raman scatt. 4-30457
 CdGa₂Se₄, radiated recombination meas. 4-11936
 CdGa₂Te₄ amorphous Z 4-50688
 CdGeAs₂, anisotropy of Grüneisen parameters from thermal expansion data and elastic stiffnesses 4-11247
 CdGeAs₂, chem. bonding, charge distrib. and electronic props., pseudopot. calc. 4-29410
 CdGeAs₂, electron field gradient, struct. depend., TDPAC study 4-35308
 CdGeAs₂-ZnO p-n heterostructures, photosensitivity 4-2647
 (Cd₂GeAs₄)_{1-x}(TiAs₄)_x system, glass formation and elec. props. 4-45020
 CdGeP₂, chem. bonding, charge distrib. and electronic props., pseudopot. calc. 4-29410
 CdGeP₂, electron field gradient, struct. depend., TDPAC study 4-35308
 CdGeP₂-Ge p-n heterostructures, polarisation photosensitivity 4-2648
 CdHgTe photodetectors advances for CO₂ laser beam detection 4-43054
 p-CdHgTe photodetectors for CO₂ laser radiation detection 4-43055
 CdHgTe photodetector operating at 77K, cryogenically cooled, optical immersion 4-43056
 CdHgTe, SPRITE detectors, optimisation of spatial resolution 4-38628
 Cd_{0.5}Hg_{0.5}Te, homogeneity investigation by magneto-optic methods 4-20951
 Cd_{0.7}Hg_{0.3}Te, ohmic contact techniques 4-25441
 Cd_{1-x}Hg_xTe, surface oxidation and Hall coeff. 4-56368
 Cd_{1-x}Hg_xTe, cross magnetoresistance meas. and calcs. (*Russian*) 4-50846
 Cd_{1-x}Hg_xTe crystals, Bridgman growth, rapid quenching, boundary layer thickness 4-3056
 Cd_{1-x}Hg_xTe film, wavefront reversal study (*Russian*) 4-5665
 Cd_{1-x}Hg_xTe graded gap structures, photoelectromagnetic effect 4-39955
 Cd_{1-x}Hg_xTe, γ-irrad. effect on elec. props. (*Russian*) 4-56372
 Cd_{1-x}Hg_xTe, low freq. phonons, far IR absorpt. spectra 4-20974
 Cd_{1-x}Hg_xTe, mag. field induced metal-insulator Mott transition, hopping cond. 4-2514
 Cd_{1-x}Hg_xTe, magnetoabsorption and photoluminescence 4-11872
 Cd_{1-x}Hg_xTe, nonresonant interband Faraday rotation study 4-46238
 Cd_{1-x}Hg_xTe, polycrystalline ingot, thermal modelling of casting 4-3055
 Cd_{1-x}Hg_xTe, refractive index calc. rel. to freq. and mole fraction 4-40385
 Cd_{1-x}Hg_xTe, segregation during Bridgman growth 4-40636
 Cd_{1-x}Hg_xTe sputtered epilayers, 32×32 planar IR photovoltaic mosaic arrays 4-55220
 Cd_{1-x}Hg_xTe:Au, Bridgman grown crystals, Au segregation, elec. props. 4-46432
 CdI₂, interlayer bonding under hydrostatic press., Raman scatt. study 4-6313
 CdI₂, photoacoustic determ. of low absorpt. coeff. 4-40478
 CdI₂, polymorphic crystals, stacking fault struct., in mol. layers 4-50309
 CdI₂, polymorphs, thr notation 4-50219
 CdI₂, polytypism and cryst. struct. 4-34456
 CdI₂, polytypes, phonon dispersion curves, Raman scatt. meas. 4-39416
 CdI₂ type layered crystals, struct. behaviour and phys. props., review 4-40325
 CdI₂+inert gas atoms, dissociation, excitation, rate consts., emission obs. 4-41178
 CdIn_{2-2x}Cr_{2x}S₄ solid soln., mag. props., EPR study, 4.2 to 300K 4-11765
 CdInGaS₄, layered cpd., photolum. meas. 4-30500
 CdInGaS₄, ordered phase struct. and domain struct., electron microscopy and electron diff. study 4-39529
 CdIn₂Ga_{2(1-x)}S₄ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
 CdIn₂S₄, electronic props., self-consistent pseudopot. study 4-29879
 CdIn₂S₄, single cryst., magnetoresist., cond. band minimum 4-29990
 CdIn₂S₄, single cryst., photocond. and photosensitivity 4-30008
 CdIn₂S₄, single cryst., luminesc. decay 4-30497
 CdIn₂S₄, spinel cpd., struct. stability, expt. and theoretical studies 4-24771
 CdIn₂S₄ thin films, switching phenomena 4-30028
 n-CdIn₂S₄/aqueous electrolyte interface, photoelectrochem. characts. (*French*) 4-40041
 β-CdIn₂Se₄, energy spectrum, photocond., light absorption and pleochroism spectra 4-25398
 CdIn₂Se₄ in polysulphide solns., surface state characterisation by electrolyte electroreflectance spectroscopy 4-50922
 p-Cd_{1-x}M_xTe/electrolyte junctions (M=Zn, Hg, Mn), flat band pot. 4-2649
 Cd_{1-x}Mg_xFe₂O₄, Mossbauer study at 4.2K 4-7109
 Cd_{1-x}Mn_xS₄, semimagnetic donor-magnetic-impurity system, exchange interaction, spin-flip Raman scatt. study 4-35165
 Cd_{1-x}Mn_xSe, exciton emission and emission by exciton-impurity complexes 4-30512
 Cd_{1-x}Mn_xSe, magnetorefractance at band edge 4-25730
 Cd_{1-x}Mn_xSe, single cryst., Mn pinned level detection by photocond. 4-30007
 Cd_{1-x}Mn_xSe, subnanosecond luminesc. spectroscopy under high intensity optical excitation 4-7244
 Cd_{0.41}Mn_{0.59}Te, optical absorption and photolum., hydrostatic press. shift 4-11924

cadmium compounds continued

- Cd_{0.55}Mn_{0.45}Te materials for optical isolators 4-2904
 Cd_{1-x}Mn_xTe dilute mag. semicond., EPR linewidths 4-56772
 Cd_{1-x}Mn_xTe, EPR meas. under extreme line broadening 4-35224
 Cd_{1-x}Mn_xTe, electronic struct., reflectivity spectra 4-40471
 Cd_{1-x}Mn_xTe, exchange splittings of reflectivity maxima 4-11869
 Cd_{1-x}Mn_xTe, exciton luminesc., mag. polarons interpretation 4-7227
 Cd_{1-x}Mn_xTe, imperfection photocond. and acceptor levels 4-6829
 p-Cd_{1-x}Mn_xTe, photocond. due to exciton dissociation 4-25397
 Cd_{1-x}Mn_xTe, photolum. bands, models for temp. depend. 4-30522
 Cd_{1-x}Mn_xTe, press. depend. of absorption edge 4-46287
 Cd_{1-x}Mn_xTe, semi-magnetic semiconductors, dark and photomagneto-resist. 4-30006
 Cd_{1-x}Mn_xTe semimag. semicond., spin correlations, neutron scatt. studies 4-56643
 (Cd(NH₃)₆)(ClO₄)₂, phase transitions, NQR, NMR, dilatometric and DSC studies 4-30501
 Cd(NH₃)₂Ni(CN)₄ Hofmann-type host lattice, modification leading to isomeric selectivity 4-6337
 Cd₂Nb₂O₇, elec. polarisation characts., dielec. props. meas. 4-11833
 Cd₂Nb₂O₇, electromechanical props. and thermal expansion, temp. depend. 4-11844
 CdO additive in Zn plate of Ni-Zn cells, accelerated testing 4-35997
 CdO surface, adsorption, gas chromatographic study 4-35933
 CdO-ZnO-P₂O₅ glasses, IR transmission spectra, absorpt. band gap determ. 4-11876
 CdO-ZnO-P₂O₅ glasses, IR absorpt. spectra 4-25750
 CdO-ZnO-P₂O₅ glass, thin film samples, memory switching effects 4-30030
 CdO-ZnO-P₂O₅ glasses, high field cond. 4-39919
 CdO-ZnO-P₂O₅ glasses, memory-switching 4-45840
 2CdO.CdSO₄, thermodynamic props. meas. in high-temp. galvanic cells 4-45363
 Cd(OH)(NO₃).H₂O, thermal decomposition, crystalline struct. influence 4-16652
 CdP₂, edge absorpt. exciton-phonon spectrum (*Russian*) 4-50737
 CdP₂, local dilation and stoichiometric vacancies 4-55818
 Cd₃(PO₄)₂, prep. and characterisation by simultaneous study of TSL and TSC 4-46461
 Cd_{0.75}PS₂M_{0.25} (M=Na, K, Rb, Cs) lamellar intercalation cpd., Raman spectra 4-46273
 Cd(S₂Se₂):Cu/Michler's ketone double layer system, optoelectronic props., Xerographic appls. 4-4488
 CdS, acoustoelectronic electrification effect 4-15921
 CdS, acoustoluminesc. and photoluminesc., influence of r centres charge state 4-16261
 n-CdS based photoelectrochemical cells, stabilisation, role of surface reactions 4-57570
 CdS bicrystal interface, localised charge density depend. on Fermi level position 4-6861
 CdS, biexciton luminescence and P bands 4-11940
 CdS, bound exciton excited states 4-2521
 CdS, crystal growth by sublimation, crystallographic polarity anal. (*Japanese*) 4-16303
 CdS crystals and polycrystalline films temp. response obs., high-resolution thermoprobe development 4-21061
 CdS, dielec. const. determ. by ellipsometry, interferometry and surface plasmon optical excitation 4-46345
 CdS, electron-hole plasma expansion, optical gain and refl. spectroscopy 4-30002
 CdS electrophoretically deposited layers for CdS-Cu₂S solar cells, phase conversion 4-29853
 CdS, epilayer growth by MBE on III-V semicond. substrate, solar conversion efficiency 4-7360
 CdS, excitation spectroscopy of donor-acceptor pair luminesc. 4-35485
 CdS, excited exciton states, Fano antiresonance appearance, absorption bands 4-25232
 CdS, exciton ground state fine struct., photoluminesc. studies 4-29897
 CdS, exciton transport by nonequilibrium phonons and recombination radiation 4-34883
 CdS, exciton-exciton inelastic collision processes 4-50731
 CdS, film growth by anodic sulphidisation on Hg_{1-x}Cd_xTe 4-51550
 CdS film in slab-type optical waveguide, temp. depend. dispersion 4-24163
 CdS films, minority carrier diffusion length, solar cell appl. 4-20747
 CdS, intrinsic absorptive optical bistability 4-28752
 CdS intrinsic photoelectrode for photoelectrochem. cell 4-12486
 CdS, lasing in the streamer channel direction 4-24055
 CdS, low power optical saturation of bound excitons with giant oscillator strength 4-1448
 CdS, low power transverse optical bistability near bound excitons 4-49428
 CdS, low-voltage photoconducting materials, information recording and display 4-14649
 CdS, luminescence study of exciton polaritons 4-21038
 CdS, luminescence-band structure study using thermal modulation 4-40527
 CdS metallised piezoelec. resonator, acoustoinjection luminesc. spectra 4-30536
 CdS, nonlinear susceptibility anisotropy and hologram recording (*Russian*) 4-49441
 CdS, optical rectification 4-55119
 CdS, optoacoustic phenomena (*Russian*) 4-6443
 CdS, orange luminesc. obs. 4-21007
 CdS, photoacoustic spectroscopy, transducer method 4-17950
 CdS, photocond. meas., control of carrier conc. by stimulated emission 4-56387
 CdS, photosensitivity, annealing effects 4-39987
 CdS, piezoelec. semicond., Bleustein-Gulyaev wave amplification, carrier diffusion effects 4-29756
 CdS piezoelectric thin film, deposited by hot wall technique, characterisation 4-34835
 CdS, plastically deformed cryst., optical props. 4-16234
 CdS, polariton imprisonment, luminescence study 4-20576
 CdS, polariton wave-packet, group vel. and dispersion relation 4-11454
 CdS, polycrystalline, in CdS/NaOH and CdS/cysteine interfaces, capacitance meas. 4-11586
 CdS polycrystalline films, bath deposited, photosensitivity and optical props. (*Korean*) 4-16262
 CdS, powder layers, transformed into heterojunction solar cells using transient heating techniques, SEM studies 4-26294

cadmium compounds continued

- CdS, pure, enhanced two-photon absorption, anti-Stokes luminesc. obs. 4-11935
- CdS, Raman light scatt. and electrooptic effect 4-20946
- CdS, reflectivity of nonlocal dielec. with excitonic surface pot. 4-46211
- CdS, refractive index at exciton resonance, transmission spectra studies 4-56880
- CdS Schottky barrier height rel. to interface chem. reactivity 4-45881
- CdS, semiconductor-insulator struct., TSC meas. (Russian) 4-50941
- CdS single cryst., photocond. and dark cond. at high temps. 4-45828
- CdS single cryst., polaron scatt. processes, exciton absorption studies 4-34889
- CdS single crystal growth by closed-tube H_2 chem. transport 4-7340
- CdS single crystals, light self-diff. and wave front reversal in four-wave interaction 4-28776
- CdS solar cells, non-stoichiometric Cu_2S formation by ion exchange process 4-41350
- CdS, stacking faults and dislocations, high resolution electron microscopy study 4-20201
- CdS, stimulated light scatt. controlled by Franz-Keldysh effect 4-24091
- CdS, strain induced effects of dislocations, excitonic shift, photovoltaic effect 4-15911
- CdS, surface, laser induced desorption of atoms and mols. study 4-20463
- CdS, surface streamer discharges, emission 4-39034
- CdS, TEM obs. of dislocation motion 4-55837
- CdS thin film, photosensitivity in near UV 4-56455
- CdS thin film, vacuum evaporation and film struct. 4-25889
- CdS thin film absorpt. spectra, annealing technique investig. 4-20989
- CdS thin film anisotropic refr. indices on a slab-type optical waveguide 4-46346
- CdS thin film photoelectrodes formed by tarnishing reaction, possibilities for photoelectrochemical cells 4-36018
- CdS thin films, electrodeposition from aq. diethylene glycol solns. 4-21172
- CdS thin transparent films on Ag, optical anisotropy, interferometric investigation using polarised light 4-7258
- CdS transparent films, refractive index and thickness determination, interference method 4-25822
- CdS, two-photon absorpt. study 4-16218
- CdS, undoped, laser oscillations in bound excitonic region 4-33663
- CdS, valence band splitting effect on biexciton binding energy 4-6710
- CdS, zinc-blende and wurtzite phases, electronic band struct., local density approx. 4-6703
- CdS:Ag, light illum., impurity migration, photostimulated gettering 4-2228
- CdS:Al film based photoelectrochemical cells, stability studies 4-52170
- CdS:Al film photoelectrochemical cell, doping effects 4-16790
- CdS:Cl, press. quenched, mag. props. 4-11665
- CdS:Cu, Cl thin films, photocond. props. ageing process influence 4-35027
- CdS:Ga, excitonic luminesc. spectra doping effects 4-16240
- CdS:In, thin films grown by flash-evaporation at low substrate, resist. and transparency 4-51501
- CdS:In film, photoanode for electrochemical photovoltaic cells 4-46867
- CdS:In(Cl), impurity cond., two band approach 4-25343
- CdS:Te, electroluminescence and current flow mechanism (Russian) 4-56998
- CdS/CdTe electroplated thin film solar cells, high efficiency 4-46873
- CdS/CdTe solar cells, screen printed, stability 4-36005
- CdS/CdTe solar cells, screen printed, low resistance contact electrodes preparation 4-36006
- CdS/CdTe solar cells, screen printed, CdS sintered films, resistivity effects 4-36007
- CdS/CdTe/liquid cryst. noncoherent-coherent image convertor, fabrication and performance (Chinese) 4-49558
- CdS/ Cu_2S Schottky solar cells, parameters determining efficiency 4-57721
- CdS/ Cu_2S solar cell, degradation in hot moist air and recovery in H_2 and air 4-16781
- CdS/ Cu_2S solar cells fabricated on single-crystal CdS substrates, scanning light spot and electron beam-induced current scans 4-21557
- CdS/LiNbO₃ struct., acoustic wave reflection, acoustoelectronic interaction 4-20454
- n-CdS/P-Si heterojunction solar cell, characts. and performance 4-12479
- CdS-CdTe, thin film solar cells, overview 4-16771
- CdS-CdTe heterojunction, electrochem. deposited, current transport mechanisms 4-35051
- CdS-CdTe thin film heterojunctions, current passage mechanism (Russian) 4-40030
- CdS- Cu_2S , CdS- $CuInSe_2$, thin film solar cells, overview 4-16771
- CdS- Cu_2S photovoltaic cells formed by dry barrier process, interface effects 4-25396
- CdS- Cu_2S solar cell, piezoelectrically coupled stress effect on junction characts. 4-31095
- CdS- Cu_2S solar cell, mag. field assisted bonding of prefabricated grid 4-57720
- CdS- Cu_2S sprayed solar cells, Cu_2S form. by ion exchange 4-21551
- CdS- Cu_2S thin film solar cells, stability study 4-26287
- CdS- Cu_2S all-electroplated solar cell technology, structure and performance 4-21550
- CdS- $CuInSe_2$ heterojunction, growth, structural characts., photovoltaic props. 4-30055
- CdS- $CuInSe_2$ thin film solar cells, interface activity 4-36013
- CdS-InP heterojunctions, MBE growth, J-V characts., solar cells appl. 4-20716
- CdS-InP heterostructure photoconverter 4-41349
- n-CdS-P-Si heterojunction solar cells, performance anal. 4-12482
- CdS-polyacetylene thin film photovoltaic devices 4-7874
- $CdSO_3$, Cd_2SnO_4 , formation, thermal analysis, X-ray diff. ESCA obs. 4-16358
- $Cd_{0.53}Se_{0.47}$, luminescence study of excitons 4-21037
- $Cd_{1-x}Se_x$, luminescence study of exciton mobility edge 4-16233
- $Cd_{1-x}Se_x$ solid soln. dispersion of localised exciton lifetimes 4-25233
- $CdSe_{1-x}$ films, struct., elec. and optical props. 4-30094
- $CdSe_{1-x}$, lasing in the streamer channel direction 4-24055
- $CdSe_{1-x}$ thin film noise, autocorrelation meas. 4-35033
- CdSb, band struct., pseudopot. method study (Russian) 4-6704
- CdSb, Raman spectra at 100K, phonons obs. 4-40446
- p-CdSb, Shubnikov-de Haas effect and cyclotron reson. meas. 4-39775
- CdSb single cryst., recombination parameters and photoinjected carrier distrib. (Russian) 4-39934

cadmium compounds continued

- CdSb-NiSb, eutectic composition, interaction in system 4-3127
- CdSe, cryst., refl. spectra, phase spectral peculiarities (Russian) 4-40479
- CdSe crystals, reson. magneto-spatial dispersion 4-56895
- CdSe, deform. of band gap absorpt. edge by laser radiation (Russian) 4-7215
- CdSe, electron-hole plasma emission in temp. range 100-300K 4-40528
- CdSe, exciton-exciton inelastic collision processes 4-50731
- CdSe, excitonic reson., fs reflectivity spectra 4-39787
- CdSe, heterophase photoconductors, magnetoresist. spectral depend. 4-25378
- CdSe, laser-induced sputtering near threshold laser fluence 4-7286
- CdSe liquid junction solar cells, elec. field modulated photoluminesc. 4-16789
- CdSe, mag. field reversal at polaritons 4-2524
- CdSe single crystal films, slow recombination centres, photoelec. props. studies 4-11482
- CdSe sprayed films, photoconductivity, non-equilibrium carrier relaxation 4-6913
- CdSe sprayed layers, physical props. 4-21060
- CdSe, surface, laser induced desorption of atoms and mols. study 4-20463
- CdSe, TEM obs. of dislocation motion 4-55837
- CdSe thin film photoelectrodes formed by tarnishing reaction, possibilities for photoelectrochemical cells 4-36018
- CdSe thin films, elec., photocond. and optical props. 4-15971
- CdSe thin films regeneration after O chemisorption 4-39690
- CdSe, UPE layers, cond., electron mobility, cryst. struct. and morphology 4-57102
- CdSe:Ag, Ar(Cl) film, photoelec. props., electron density and mobility 4-25402
- CdSe:Ni, donor and acceptor levels 4-56267
- n-CdSe/ SnO_2 /n-Si tandem electrochemical solar cells 4-26286
- CdSe-AsSbS₃ and -As₂Se₃Ge_{0.5} heterostructure, EBIC study 4-50918
- CdSe-electrolyte interface characterisation by modulated photoluminesc. 4-45878
- CdSe-HgSe, phase diagram 4-51642
- CdSe-TiO₂ interface, struct., comp., adhesion, TEM, electron diff. obs. 4-56156
- Cd_{1-x}Se_x mixed cryst., absorption bleaching and band edge shift 4-55144
- CdSe_{1-x}Te_x films, impurity luminesc., photocond. meas., comp. depend., band struct. 4-35506
- CdSe_{1-x}Te_x solid soln. films, elec. cond. characts. 4-30091
- n-CdSiAs₂ film, photoelectric and luminescence props. (Russian) 4-50874
- CdSiAs₂-ZnO p-n heterostructures, photosensitivity 4-2647
- CdSiP₂, electron field gradient, struct. depend., TDPAC study 4-35308
- CdSnAs₂, electron field gradient, struct. depend., TDPAC study 4-35308
- n-CdSnAs₂, heavily doped, elec. resist. and Hall coeff., press. depend. 4-20657
- n-CdSnAs₂/Zn_{0.5}Cd_{0.5}SnAs₂ heterojunctions, photosensitivity and solid state substitution form. 4-25436
- Cd₂SnO₂ reactively deposited films, ion bombardment effect on composition 4-50694
- Cd₂SnO₄, semiconducting transparent thin films, props. and appls. 4-25881
- Cd₂SnO₄ thin films, influence of point defects on electrical properties 4-40091
- CdSnP₂, electron field gradient, struct. depend., TDPAC study 4-35308
- CdTe (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
- CdTe, amorphised, hopping and band transport 4-25338
- CdTe antireflection coatings for enhanced transmission in IR region 4-28810
- CdTe, atom probe spectra study 4-20062
- CdTe, cohesive energy and bulk modulus 4-2137
- CdTe, defect imaging using X-ray and scanning cathodoluminescence 4-15482
- CdTe, defect study by SEM/EBIC 4-15480
- CdTe, defects study by scanning acoustic microscopy 4-6361
- CdTe, dense exciton gas, self-heating, luminesc. study 4-6709
- CdTe, electrochemical deposition of photosensitive films 4-40686
- CdTe electronic materials, IR microscopy, appls. (French) 4-17934
- CdTe epilayer-Cs, AES and work function study of deposition 4-25837
- CdTe epitaxial layer on GaAs and sapphire, lattice match and heteroepitaxy appls. 4-39694
- CdTe film closed tube CVD on CdTe crystal, morphology and struct. 4-7367
- CdTe film growth on (001) GaAs:Cr by MBE, RHEED, photoluminesc. 4-45539
- CdTe films, (100), MBE growth on GaAs (100) 4-40653
- CdTe films on CdTe (110) substrates, at. layer epitaxy growth and electronic struct. 4-2467
- CdTe IR low loss prism absorptivity meas. and optical metrology 4-10404
- CdTe, intrinsic point defects 4-24813
- CdTe, laser irradi., orientation depend. surface damage 4-25131
- CdTe, long-time photoconductivity relax. (French) 4-15913
- CdTe, MBE growth on Ge, photoluminescence spectra, X-ray diff. studies 4-20522
- CdTe nuclear radiation detectors, characts. for proton, α -particle and γ -ray detection (Russian) 4-38008
- CdTe, nuclear radiation detector appl., review 4-43757
- p-CdTe, ohmic contact techniques 4-25441
- CdTe, photoluminescence meas., stimulated emission spectra, light amplification under two-photon pumping 4-40481
- CdTe, plastic deform., thermopower and elec. props. 4-39943
- CdTe, plasticity, Hall effect, thermoelec. power meas., chemomechanical effect 4-15892
- CdTe, pure, photolum. effects of excitation intensity 4-56991
- CdTe, resonant Brillouin scatt. 4-11901
- CdTe, single crystals, growth from melt, elec. and optical props. 4-35564
- CdTe, small-angle grain boundaries, screw dislocations, refl. X-ray topography, scanning cathodoluminescence imaging 4-2213
- CdTe, stacking faults and dislocations, high resolution electron microscopy study 4-20201
- CdTe substrate large single crystal growth by Bridgman method, material eval. 4-21120
- CdTe surface, photoetching effect, cathodoluminescence imaging 4-16255
- CdTe, surface at. motion, TEM study 4-50618
- CdTe, TEM obs. of dislocation motion 4-55837

cadmium compounds continued

- n-CdTe thin film MIS solar cells, collection efficiency calc. 4-31098
 CdTe thin films, elec. props. study 4-25461
 CdTe thin films, electrodeposited, hole traps, SCL current meas. 4-56462
 CdTe thin-film polycryst. solar cells, film prep. techniques 4-21543
 CdTe:Ag, photon absorption-induced surface segregation 4-45335
 CdTe:Cl(In)(Al) crystals, EPR studies 4-46103
 CdTe:In(Al) epitaxial layers, LPE growth and doping characts. 4-34820
 CdTe:Li-Au low resistance contacts 4-30049
 CdTe:Mn, impurity states calcs. (*Russian*) 4-50766
 CdTe:N(P)(As), photoluminescence studies 4-16244
 CdTe:P, doping by laser annealing, photoluminesc. and SIMS studies (*French*) 4-15527
 CdTe:Pb(Ge), deep level form., EPR study 4-40224
 CdTe/Au, ohmic and rectifying contacts, elec. and struct. props. 4-2656
 CdTe/Cu_{1.8}S heterojunctions, reverse currents 4-30066
 CdTe/electrolyte interface, photocurrent meas. 4-45875
 CdTe/sapphire films, MBE growth and photoluminesc. 4-16232
 CdTe-Au Schottky diode, defect study by SEM/EBIC 4-15480
 CdTe-CdS polycrystalline thin-film solar cell fabrication (*French*) 4-3469
 p-CdTe-CdS thin film solar cell, electrochemically deposited, hole trap 4-50911
 CdTe-InSb heterojunction, prep. by condensation in quasi-closed volume 4-57109
 CdTe-metal junctions, surface prep. effect on props. 4-2653
 CdTe-metal junctions and heterojunctions, surface effects 4-25442
 CdTe-ZnTe heterojunction, photovoltaic effect 4-15944
 CdTe(Cl), detector geometric characteristics for clinical meas. 4-54558
 (CdTe)_{1-x}(GaAs)_x, solid soln., X-ray cond. 4-56383
 CdTe₂O₅, cryst. growth, DTA, X-ray diff., chem. anal., dielec. and opti- cal props. 4-50225
 CdTiO₃, structural transition, PAC elec. quadrupole interaction 4-40297
 CdTiO₃, ultrasoft X-ray emission spectra (*Ukrainian*) 4-7281
 CdTi₂Te₄-Cu, doping effect, hole mobility, thermoelectric props. 4-56375
 CdWO₄, electron transfer, effect of point defects 4-50807
 CdWO₄ scintillator cryst., γ -ray absorpt. coeff., semiempirical formulae 4-54117
 CdWO₄ scintillator material growth, purity and growth control 4-3036
 p-Cd_{3-x}Zn_xAs₂, composition depend. of band gap, photocond. obs. 4-25222
 n-Cd_{3-x}Zn_xAs₂, electron mobility, composition depend. 4-15878
 Cd₂Zn_{1-x}Mn_xTe, lattice parameter and optical-energy gap values 4-29393
 Cd_{1-x}Zn_xS sprayed film photoelectrochem. cells, performance rel. to sub- strate temp. 4-7889
 Cd_{1-x}Zn_xS/CuInSe₂ solar cells, voltage-dependent light-generated current 4-41336
 Cd₂Zn_{1-y}S-Cu₂S ultra-thin polycrystalline solar cells 4-26288
 (Cd_{1-x}Zn_xS)(In), epilayer growth by MBE on III-V semicond. substrate, solar conversion efficiency 4-7360
 Cd_{1-x}Zn_xSn/CuInSe₂ solar cells, current voltage transients 4-12470
 p-Cd_{1-x}Zn_xTe/electrolyte junction, photoelectrochem. studies 4-45872
 Cd₂Zn_{1-x}Te, bound excitons and resonant Raman scatt. 4-30470
 Cd₂Zn_{1-x}Te, refractive index anal. 4-25705
 CsCdCl₃, doped, Co²⁺ and Mn²⁺ ion location, EPR study 4-29458
 CsCdCl₃:Mn, EPR under press. 4-2813
 Cs₂(CdSO₄)₂·6H₂O, VO²⁺ doped, optical absorpt. spectrum, mol. orbital coeffs. 4-40486
 (Cu₂Ag)(Zn₂CD₂)(In₂Ga)Te₄ diamondlike semiconductors, synthesis and props. 4-24769
 Cu₂Cd_{1-x}Fe₂O₄ ferrosinels, thermopower and resist., B site mag. order- ing correlation 4-56354
 CuCd₂GaSe₄, mag. susceptibility 4-35141
 CuCd₂GaTe₄, mag. susceptibility 4-35141
 CuCd₂InSe₄, mag. susceptibility 4-35141
 CuCd₂InTe₄, mag. susceptibility 4-35141
 CuI-CdI, system, Cu⁺ superionic solids 4-29683
 Cu₂S-CdS heterojunction solar cell, barrier model from spectral sensitivity 4-46869
 Cu₂S-CdS solar cells, thin film, front grid contact fabrication laboratory method 4-36011
 Cu₂S-Zn_xCd_{1-x}S thin film heterojunctions, base In conc. effects on elec- trical and photoelectrical props. 4-20709
 GaAs-CdSe, phase equilibria, mol. interaction 4-57194
 (Hg, Cd)Te, gettering mech. obs. 4-56087
 HgCdTe 0.1 photoconductive detectors, antireflection coating effect on performance 4-37176
 HgCdTe CCD sensors technology developments and performance (*Czech*) 4-48205
 HgCdTe, epitaxial film on CdTe, reflectance and transmittance study 4-30553
 HgCdTe frontside- or backside-illum. detectors, new struct. for IR CCD focal plane arrays 4-48201
 HgCdTe short wavelength IR focal plane arrays 4-48202
 HgCdTe/CdTe bicrystals, misfit dislocation introduction and interdiffusion 4-29829
 p-Hg_{0.68}Cd_{0.32}Te, excess photogenerated carrier lifetime, optical modula- tion spectroscopy 4-20666
 Hg_{0.71}Cd_{0.29}Te, complex dielectric function and optical props. 4-30376
 Hg_{0.8}Cd_{0.2}Te, Ar⁺ ion implantation, radiation defects form. 4-15506
 Hg_{0.8}Cd_{0.2}Te, electron localisation, magnetoresist., Hall effect meas. 4-35016
 Hg_{0.8}Cd_{0.2}Te, ion implantation, radiation defect form. 4-15507
 Hg_{0.8}Cd_{0.2}Te, PIXE analysis of compound materials 4-45067
 Hg_{0.8}Cd_{0.2}Te substrates with anodic oxide films, comp., ion-induced reduc- tion and sputtering studies 4-40594
 Hg_{0.8}Cd_{0.2}Te thin films, sputtered, annealed, elec. props., struct., comp. 4-40086
 Hg_{0.8}Cd_{0.2}Te:Al³⁺, ion implanted, defect distrib. profile 4-24845
 p-Hg_{0.91}Cd_{0.09}Te, semimetal-semicond. transition under press. 4-34879
 n-Hg_{0.94}Cd_{0.06}Te, Shubnikov-de Haas effect under pressure 4-29871
 Hg_{1-x}Cd_xTe crystals, low temp. synthesis 4-7354
 Hg_{1-x}Cd_xTe, MBE growth and characterisation 4-40654
 Hg_{1-x}Cd_xTe thin films, cryst. struct. study 4-15784
 Hg_{1-x}Cd_xTe abrupt heterojunctions, misfit dislocations and dangling bond densities 4-50907
 Hg_{1-x}Cd_xTe, anodic oxide, comp. reaction with substrate 4-41015
 Hg_{1-x}Cd_xTe, anodic sulphide film growth 4-51550
 Hg_{1-x}Cd_xTe, characterisation of oxide layers and depth profiling 4-50695
 Hg_{1-x}Cd_xTe, deep levels in near-surface region, C-V characts. of MOS struct. 4-50762

cadmium compounds continued

- Hg_{1-x}Cd_xTe, energy band gap 4-11436
 Hg_{1-x}Cd_xTe, energy gap, comp. and temp. dependence from optical absorpt. data 4-20555
 Hg_{1-x}Cd_xTe, energy gap bowing calcs. 4-11437
 Hg_{1-x}Cd_xTe epitaxial layers, blocking of threading dislocations 4-39701
 Hg_{1-x}Cd_xTe films, isothermal growth, elec. props. 4-40655
 Hg_{1-x}Cd_xTe heterojunctions, misfit dislocations, dangling bond densities, epitaxial growth theory 4-39706
 Hg_{1-x}Cd_xTe, interfaces, defects, oxidation, band structure, bond strength 4-39770
 Hg_{1-x}Cd_xTe, isothermal vapour phase epitaxy, surface morphology, Hall data 4-50652
 Hg_{1-x}Cd_xTe, LPE growth from Hg-rich solns., phase diagram determ. 4-34818
 Hg_{1-x}Cd_xTe, LPE growth using slider boat, annealing effect on epilayer props. 4-34819
 Hg_{1-x}Cd_xTe, linear and nonlinear intensity depend. refractive index 4-7147
 Hg_{1-x}Cd_xTe n-inversion layers, magnetoconduction study 4-15965
 Hg_{1-x}Cd_xTe, narrow gap, band mixing calcs. 4-50717
 Hg_{1-x}Cd_xTe, narrow gap semiconductors, book 4-22532
 Hg_{1-x}Cd_xTe, quenched, dendrite config. and distrib. 4-34659
 Hg_{1-x}Cd_xTe, Te precipitation during recryst. annealing 4-29633
 Hg_{1-x}Cd_xTe, three-band Kane model, many particle effects 4-34858
 Hg_{1-x}Cd_xTe, two-mode optical vibr., two-site model (*Chinese*) 4-6460
 HgS-Cd(S,Se):Cu mixed system optoelectronic props. for electrophoto- graphic appls. 4-53790
 K₂Cd₂(SO₄)₃, langbeinite, Raman vibr. spectra near phase transition 4-35451
 K₂Cd₂(SO₄)₃, elastic moduli determ., ferroelastic transition 4-29508
 (ND₄)₂Cd₂(SO₄)₃, langbeinite type cryst., Raman spectra 4-30447
 (NH₄)₂Cd₂(SO₄)₃, langbeinite type cryst., Raman spectra 4-30447
 (NH₄)₂Cd₂(SO₄)₃, optical activity, absorpt. spectra 4-35407
 Ni/CdS contacts, ohmic character monitoring by one-probe technique 4-32272
 Ni₄Cd₉Fe₇O₄ ferrite, Mossbauer study 4-25663
 Pb_{1-x}Cd_xSe films, photosensitivity, UV radiation effects 4-20690
 PbTe-CdSe, phase diagram, X-ray diff. and DTA studies 4-55965
 PbTe-CdTe system, phase diagram and mutual solubility, DTA study 4-7437
 RbCdF₇:Mn²⁺, struct. phase transition, ENDOR study 4-20888
 Rb₂Cd(SO₄)₃, langbeinite type cryst., Raman spectra 4-30447
 Rb₂Cd₂(SO₄)₃, langbeinites, Raman spectra and phase transitions 4-7135
 Rb₂Cd₂(SO₄)₃, optical activity, absorpt. spectra 4-35407
 Se₂O₃, electron energy struct. and optical props. 4-34876
 Sr₂Cd₂Bi₂, cryst. struct. 4-11106
 Te-HgTe-CdTe system, epitaxial crystallisation, liquidus isotherms 4-51557
 Ti₂Cd₂(SO₄)₃, langbeinite type cryst., Raman spectra 4-30447
 Ti₂Cd₂(SO₄)₃, optical activity, absorpt. spectra 4-35407
 n-Zn_{1-x}Cd_xS-p-Si heterojunction solar cells, performance anal. 4-12482
 Zn₂Cd_{1-x}Cr₂Se₄ spin glasses with cubic magnetocryst. anisotropy, remanent magnetisation relax. 4-56647
 Zn₃Cd₂(1-x)In₂Se₆ layered crystals, trapping and recomb. centres, photo- cond. quenching 4-6800
 Zn₂Cd_{1-x}In₂S₄, photoelectronic props. 4-30010
 Zn₂Cd_{1-x}In₂S₄, prep. and Raman spectroscopy, struct. and dynamical anal. 4-30456
 Zn₂Cd_{1-x}In₂S₄ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
 Zn₂Cd_{1-x}S, 2H-6H transform., polymorphism, stacking faults, X-ray diff. study 4-11036
 Zn₂Cd_{1-x}S films, flash evaporation, low resistivity and high transparency props. 4-7363
 Zn₂Cd_{1-x}S optically pumped platelet laser, external cavity controlled las- ing 4-19463
 Zn₂Cd_{1-x}S powders, photoluminescence and SA emission 4-35483
 p-Zn₂Cd_{1-x}SnAs₂/n-CdSnAs₂ heterojunctions, photosensitivity and solid state substitution form. 4-25436
 (ZnSe)_{1-x}(CdTe)_x single cryst., band gap energy, reflectance spectra and photocond. studies 4-2893
 (ZnSe)_{1-x}(CdTe)_x single crystals, vapour phase growth, surface topogra- phy, elec. cond. rel. to comp. 4-16302

CAE see CAD; manufacturing computer control

caesium

see also nuclei with

- absorption, on W:ThO₂, electron emission 4-57064
 adsorbed layer on Cu (111), struct., LEED studies 4-25132
 adsorption on Ba and Ti films on W substrate 4-50644
 atom, 6d excited state photoionisation 4-54650
 atom, 6p and 7p subshells, excited, photoionis. cross-section calcs. 4-1127
 atom, 6s to 7s M1 transition meas. using crossed electric and mag. fields 4-23642
 atom, autoionising continua, Rydberg series, UV spectra 4-9728
 atom, electron impact excitation, Auger electron spectrum 4-9742
 atom, excited d-states, photoionis. cross-sections, Hartree-Fock calcs. 4-1115
 atom, excited state, photoionisation, zeros in dipole matrix elements 4-1114
 atom, excited states, photoionisation threshold cross-sections calcs. 4-19020
 atom, f-symmetric final state wavefunction collapse, absorpt. spectra 4-33365
 atom, intensity ratios of ²D_{5/2,3/2}-²S doublets in two-photon absorpt. spectrum 4-43860
 atom, on-axis, velocity analysis by time-of-flight method 4-54887
 atom, relative photoionisation cross sections 4-9730
 atom, relative photoionisation cross-section meas. 4-1126
 atomic beam, laser diode optical pumping 4-38131
 atomic beam, multiphoton ionis., photoelectron energy and ang. distrib. 4-9739
 atomic beam frequency standard 4-48089
 atomic beam frequency standards, Zeeman shift meas. technique 4-37065
 atomic clocks performance, development and appl. (*French*) 4-22763
 atomic reference frequency and clock supply, parallel processing freq. keeping algorithm (*Japanese*) 4-32241
 atomic resonance filter, spectral characts. 4-1469
 atoms, ⁷¹P_{1/2} and ⁷³P_{3/2} state polarisability consts. 4-38347

caesium continued

- atoms, electrons low energy scatt., elastic and inelastic cross sections, reson. struct. 4-54864
 atoms, M_1 amplitude and hyperfine mixing between $6S_{1/2}$ - $7S_{1/2}$ states 4-33555
 Barents Sea, radioactive pollutants in seawater, sediment and biota 4-26722
 Black Sea, ^{137}Cs , ^{90}Sr in sediment and water column 4-52758
 C-field design for Cs beam frequency standard (*Japanese*) 4-44013
 contamination studies on pond loaded fuel casks 4-37904
 DC plasma display, Cs activated 4-39009
 NW European Continental Shelf, radioactive ^{137}Cs waste mixing in ocean 4-52759
 fallout over Great Britain and in S Hemisphere, AD 1981 and 1982 conc. obs. 4-52238
 gas, photon echo relax., perturbation by noble gases 4-55143
 Greenland Sea, radioactive pollutants in seawater, sediment and biota 4-26722
 hyperfine interactions calc. using Dirac wave functions 4-33300
 immobilisation and distortion in Synroc-D 4-727
 immobilisation in SYNROC hollandite, leaching behaviour 4-720
 implantation in Al, surface layer enrichment (*Chinese*) 4-34757
 ion, vapourisation from W surface, surface-ionisation current density 4-21087
 liquid, NMR ^{133}Cs Knight shift and relax. rate studies 4-46130
 liquid, sp. heat at temp. up to 2000K and press. up to 12 MPa 4-15656
 liquid-vapour interface, X-ray refl. obs. 4-20434
 mechanical stability and theoretical tensile strength under hydrostatic loading (*Chinese*) 4-3174
 melt, inner order, struct. parameters 4-50175
 molecule, relative photoionisation cross sections 4-9730
 monolayers on W (110), bond contraction, ab initio calc. 4-29790
 optical transmission obs. up to 1500°C, expt setup 4-53727
 overlayer on Si, secondary ion emission study 4-46410
 overlayer on W (100), Li^+ ion scatt., Li^0 form. 4-46414
 parity violation meas. from $6S$ - $7S$ transition hyperfine component 4-33556
 penetration of glass surface, phase boundary reaction models 4-2379
 plasma, electron bremsstrahlung spectrum classical approach 4-10107
 radioactive waste, leaching mechanism in cement 4-48651
 radioisotope, conc. in Irish marine environment (*Spanish*) 4-3503
 release from irradiated UO_2 LWR fuel, temp.-depend. 4-27968
 spin susceptibility and conduction electron dynamical props. 4-15810
 structural energetics, pseudopotential theory 4-55787
 structural energetics using pseudopot. theory 4-45576
 submonolayer coating on W, Cs atom displacement by Ba and Tm 4-25162
 total photon cross sections in elements 4-55892
 vapour, anomalous electrical cond. in transition region 4-38927
 vapour, nanosec. widely tunable pulse generation in vibr. IR by stimulated Raman scatt. from 6s-5d transition 4-44152
 vapour, picosecond tunable pulse generation in vibr. IR by stimulated electronic Raman scatt. from 6s-5d transition 4-44153
 vapour, sub-Doppler-broadened magnetic field resonances in the resonant stimulated electronic Raman scattering of multimode laser light 4-38531
 vitrified radioactive waste, leach rates of Cs, Sr and U, mass balance model (*Japanese*) 4-23151
 $\text{AgCl}:\text{Cs}^+$, impurity diffusion study 4-15705
 Ar-Cs plasma, two dims. MHD electrode boundary layers 4-19946
 CdTe epilayer-Cs, AES and work function study of deposition 4-25837
 Cs $^+$, quantum defects of nS, nP and nD levels 4-38111
 Cs $^+$ detection using electron multipliers 4-57621
 Cs $^+$, inner 4d shell photoionisation, orbital collapse 4-9732
 Cs $^+$ liquid metal source for SIMS 4-43729
 Cs $^+$ pulsed beam development for BNL polarised H^- source 4-43720
 Cs-Ar MHD plasmas, continuum emission, electron density determ. 4-49961
 Cs-CsI liquid mixtures, elec. cond., conc. depend. 4-45708
 Cs-GaAs (110) interface, electronic props. at monolayer coverage 4-50924
 Cs+ H_2^+ , charge exchange, $^3\Pi$, state population, predissoc. 4-49144
 Cs+ H_2^+ , dissociation charge exchange obs. 1.5 to 6.5 keV 4-49143
 Cs+ H_2^+ dissociation charge exchange, translational spectrosc. obs. 4-10071
 Cs+ H^+ , charge exchange collisions, Lyman-alpha emission cross-sections 4-10035
 Cs+He, transition cross sections within second and third $n^2\text{P}$ levels, quantum-mechanical calcs. 4-9940
 Cs+ He^+ , two-step electron capture, long-lived metastable He_2^+ prod. 4-43829
 Cs+iodomethane, electron transfer, differential cross-sections, ionic exit channel selection 4-10074
 Cs+ O_2 , ion-pair form., vibr. timing effect, pot. energy surface, surface-hopping calcs. 4-14515
 Cs+ O_2 (NO), electron and ion prod., absolute total cross sections 4-33512
 Cs+ O_2 (NO), vibronic excitation, time depend. quantal anal. 4-33513
 Cs $^+$ +Kr, ejected electron spectra, Barker-Berry effect 4-9955
 Cs $_{22}$, relative photoionisation cross-section meas. 4-1126
 Cs $_{22}$, photofragment spectroscopy, dissociation channels 4-9857
 Cs $_{22}$ (CsCl) $_{1-x}$ molten alloys, optical reflectance and metal-nonmetal transition 4-46218
 CsI, excited states, radiative lifetimes, laser induced fluoresc. 4-48976
 ^{137}Cs A=134, 137, paint decontamination kinetics 4-54452
 ^{137}Cs aerosol filtration through silica gel layer, radwaste appl. 4-43666
 ^{137}Cs content in food, calc. method (*Hungarian*) 4-52503
 ^{137}Cs $7^2\text{P}_{3/2}$ state mag. sublevel parametric reson. 4-9719
 ^{137}Cs , mag. reson. obs. using linearly polarised light 4-43837
 ^{137}Cs radioactive waste, vapourisation studies during solidification 4-48650
 ^{137}Cs , behaviour in environment, establishment of field plot 4-31127
 ^{137}Cs fallout, distrib. in Hawaii, soils and lavas obs. 4-46905
 ^{137}Cs from defence radwaste, use in sewage sludge irradiation 4-28008
 ^{137}Cs Japanese rice-field surface soils 4-31129
 ^{137}Cs source, buildup factors and dose around in presence of inhomogeneities, therapy, appl. 4-8120
 Cu-Cs plasma, recombining, population inversion, visible region transitions 4-10827
 H^+ intense ion source, using caesiated porous Mo converter 4-33239
 Si-Cs, ion implantation effects on secondary ion emission 4-7295
 ZnIn_2S_4 :Cs, photocond. after switching effects 4-20691

caesium alloys

- Cs-Sb liq. alloy, struct., neutron diffr. study 4-44933
 Cs $_3$ Sb photocathode as high current density photoemissive electron source 4-48835
 K $_2$ Cs, critical point near freezing temp. 4-6481
 Na-Cs, liquid, thermodynamic props., variational calc. 4-2062
 Na-Cs, liquid-vapour interface density profile calcs. 4-45314
 Na-Cs alloys, liq., self-diffusion (*German*) 4-2364
 Na-Cs liq. alloys, Gibbs energy of mixing 4-45356
 NaCs, binding energy, heat of soln., bulk modulus and shear elastic const. 4-50716
 (Na $_2$ KSb)Cs films, photoemission and optical const. (*Russian*) 4-51456

caesium clocks see atomic clocks

caesium compounds

- see also caesium alloys
 caesium pentacyanopropenide salt, glass and cryst. state, adsorpt. and fluorescence, thermal modulation spectra 4-30509
 halides, bond bending forces in cryst. dynamics 4-55783
 intercalation cpd., with graphite and K, K $_2$ Cs $_{16}$, heterostruct., X-ray diffr. studies 4-39264
 intercalation cpd. with graphite, C $_8$ Cs, positron annihilation studies 4-40565
 intercalation cpd. with graphite, valence band, from AES 4-51417
 intercalation cpd. with graphite CsC $_{24}$, correlation between intercalate-substrate orientation and substrate hexagonal site occupation probability (*French*) 4-45102
 intercalation cpd. with graphite CsC $_8$ and CsC $_{24}$, charge transfer and Auger spectra 4-40583
 outer core and valence electron pseudopotential 4-45580
 Cs $_3$ Cs, graphite intercalation cpd., phonon dispersion relations 4-15600
 CaAlSi $_2$ O $_{12}$, dissolution studies 4-713
 Cs-CsI liquid mixtures, elec. cond., conc. depend. 4-45708
 CsAlCl $_4$, IR emission, transmission and reflectance techniques 4-54702
 Cs $_2$ BeSi $_2$ O $_{12}$, synthesis and cryst. struct., X-ray diffr. study 4-39233
 CsBr, bond bending forces in cryst. dynamics 4-55783
 CsBr, electron scatt., 1-25 eV 4-10097
 CsBr, electron scatt., integral of differential cross section meas. 4-5363
 CsBr, mag. circular dichroism and optical absorpt. spectra 4-25729
 CsBr, secondary emission efficiency (*Russian*) 4-51422
 CsBr-In $^+$, optical absorpt. and mag. circular dichroism spectra, moments anal. 4-40468
 CsCN, dynamical processes in orientationally ordered and disordered phases, NMR study 4-16114
 CsCN, ferroelectric phase transition, Landau theory 4-29512
 CsCN, orientationally ordered and disordered, dynamical processes, NMR study 4-11784
 CsCaF $_3$, soft mode press. and temp. depend., thermal expansion 4-45300
 CsCdCl $_3$, doped, Co $^{2+}$ and Mn $^{2+}$ ion location, EPR study 4-29458
 CsCdCl $_3$:Mn, EPR under press. 4-2813
 CsCdF $_3$:Cr $^{3+}$, Li $^+$ EPR study 4-46094
 Cs $_2$ Cd(SO $_4$) $_6$ ·6H $_2$ O, VO $^{2+}$ doped, optical absorpt. spectrum, mol. orbital coeffs. 4-40486
 CsCl, bond bending forces in cryst. dynamics 4-55783
 CsCl, desorption kinetics from clean Ni (001) surfaces 4-11397
 CsCl molten, inelastic neutron scatt. study 4-44919
 CsCl+Ne(Ar) collisions, model pots. 4-19166
 CsCoBr $_3$, one-dimensional antiferromag., soliton response, neutron scatt. study 4-2731
 CsCoBr $_3$ (Cl $_2$), quantum Ising-like antiferromag. chain, soliton dynamics 4-56661
 CsCoCl $_3$, frustrated antiferromag., magnetoelectric effect 4-16080
 CsCoCl $_3$, magnon line positions, analytic calcs. rel. to Raman scatt. results 4-16020
 Cs $_2$ CoCl $_4$, one-dimens. XY antiferromag., quasielastic neutron scatt. study 4-2732
 Cs $_2$ CoCl $_3$, Co $^{2+}$ ground state, zero-field splitting, press. depend. (*Russian*) 4-46090
 Cs $_2$ CoCl $_3$, EPR parameters and mag. susceptibility of CoCl $_4^{2-}$ ion 4-30274
 CsCoCl $_3$ ·2H $_2$ O, mag. soliton study by nucl. mag. relax. 4-16116
 Cs $_4$ CoCr $_4$ F $_8$, cryst. struct. determ. 4-6340
 Cs $_2$ CrBr $_3$, collective excitations, inelastic neutron scatt. study 4-11738
 CsCrCl $_3$, heat capacity, thermodynamic functions, structural phase transitions 4-25048
 CsCrCl $_3$, quasi-one-dimens. Jahn-Teller cryst., struct. phase transitions 4-11270
 Cs $_4$ CrF $_{18+x}$, cryst. struct. determ. 4-6340
 Cs $_3$ CrO $_4$, mol. struct., gas-phase electron diffr. investig. 4-10082
 Cs $_2$ (CsCl) $_{1-x}$ molten alloys, optical reflectance and metal-nonmetal transition 4-46218
 CsCuCl $_3$, quasi-one-dimens. Jahn-Teller cryst., struct. phase transitions 4-11270
 CsD $_2$ PO $_4$, anomalous behaviour of heat capacity 4-25047
 CsDy(MoO $_4$) $_2$, ferroelastic transition 4-29592
 CsDy(MoO $_4$) $_2$, heat capacity anomalies 30 to 250K (*Russian*) 4-29648
 CsDy(MoO $_4$) $_2$, phase transition and electron spectrum of Dy $^{3+}$ ion (*Russian*) 4-29594
 CsEuF $_3$, prep., cryst. struct., mag. props., Madelung lattice energy determ. 4-2120
 CsF-ThF $_4$, binary melted mixtures, elec. cond. 4-56060
 CsF+Ne(Ar) collisions, model pots. 4-19166
 Cs $_2$ FeF $_5$ ·H $_2$ O, antiferromagnetic resonance spectrum 4-40238
 CsFeS $_3$, mag. and struct. phase transition obs. 4-11664
 Cs $_2$ Fe $_2$ Te $_6$, cryst. struct., X-ray diffr. study 4-11079
 CsGa $_2$ H(SeO $_4$) $_2$ ·2H $_2$ O, cryst. struct. determ. 4-45091
 CsH, binding energies, spectroscopic consts., pot. functions 4-49119
 Cs $^+$ (HCO $_2$ (CO) $_{15}$), incoherent inelastic neutron scatt. investig. 4-29547
 CsH $_2$ PO $_4$, anomalous behaviour of heat capacity 4-25047
 CsH $_2$ PO $_4$, polarisation reversal, switching characts. 4-35389
 CsH $_2$ PO $_4$, ultrasonic attenuation, phase transitions 4-39401
 CsHSO $_4$ (SeO $_4$), ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
 CsI, bond bending forces in cryst. dynamics 4-55783
 CsI cluster ions prod. by fast atom bombardment mass spectrometry, behaviour 4-16707
 CsI, Cu $^+$ doping and diffusion, NMR study (*German*) 4-25094
 CsI, eqn. of state and high press. phase transition 4-39477
 CsI, eqn. of state and metal-insulator transition 4-50457
 CsI, mag. circular dichroism and optical absorpt. spectra 4-25729

caesium compounds continued

- CsI, press. induced successive phase transitions, eqn. of state and metalisation 4-39479
 CsI scintillator cryst., γ -ray absorpt. coeff., semiempirical formulae 4-54117
 CsI, secondary emission efficiency (*Russian*) 4-51422
 CsI, structural and bonding changes at high press. 4-45328
 CsI X-ray image intensifiers, absorpt. and noise 4-26508
 CsI:CrO₄²⁻, ionic thermocurrents study 4-2372
 CsI:Na, negative U-centres, charge state stability 4-20598
 CsI:Na scintillation crystals, short-lived phosphorescence 4-16242
 CsI:Ti, diffusion in γ -radiation field 4-11349
 CsI-Na, luminescence produced by X-rays, 5-400K (*Russian*) 4-35519
 Cs₂K(Cr(CN)₆), cryst. struct. at 295K, X-ray diff. study 4-20149
 Cs₂Li₃S₅, synthesis and cryst. struct., X-ray diff. study 4-15442
 Cs₂Mg(CrO₄)₂·6H₂O, cryst. struct., X-ray diff. study 4-29399
 CsMnBr₃ Heisenberg system, EPR study 4-16087
 CsMnBr₃, one-dimensional antiferromag., paramag. spin waves 4-56585
 CsMnBr₃·2H₂O, spin flop relax. study 4-20818
 CsMnCl₃·2D₂O antiferromag., pure and Mg²⁺, Ni²⁺, Co²⁺ doped, energy transfer of exciton 4-39780
 CsMnCl₃·2D₂O, energy transfer of exciton (*Chinese*) 4-2950
 CsMnCl₃·2H₂O (2D₂O), multiphonon relax. rate, deuterium effects anal. 4-29558
 CsMn_{1-x}Co_xCl₃·2H₂O, oblique antiferromag. phase, proton NMR study 4-46125
 CsMn_{1-x}Co_xCl₃·2H₂O, random mixture, mag. ordering study 4-16011
 CsMnF₃, antiferromagnet, spin waves, parametric excitation 4-35161
 CsMnF₃, nuclear spin wave relax. mechanisms 4-25540
 CsMnF₃, spin-lattice relax. and magnetisation 4-16118
 CsMnFeF₃, neutron study of spin correlations 4-11671
 CsMn₂Mg_{1-x}Br₃, dilute one-dimens. magnet, mag. excitations 4-56601
 CsMnO₄, reson. Raman spectra, anharmonicity consts. 4-56928
 Cs_{0.8}Mo_{0.2}S₇ supercond. cpd., cryst. struct. and synthesis (*French*) 4-15431
 CsNO₂ crystal, phase transition and freezing of ionic disorder 4-25023
 CsNO₂·TiNO₂ system, ion orientational and positional disorder and its freezing 4-24971
 CsNO₃, cryst. struct., neutron diff. study 4-20151
 CsNO₃ crystals, γ -irradiated, struct. changes, rel. to cryst. growth conditions 4-11185
 CsNO₃, electron and X-ray irradi., struct. changes, X-ray diff. study 4-50354
 CsNO₃, NO₂⁻ impurity centre, multiplicity of spectra and local symm. 4-25802
 Cs_{0.84}Na_{2.16}Al₃Si₃O₁₂·0.32H₂O, nepheline hydrate I, cryst. struct. determ. 4-29416
 Cs₂NaBiCl₆, elpasolite, low temp. phase transition, struct. props. 4-56002
 Cs₂NaDyCl₆ crystals, far-IR optical props. 4-51216
 Cs₂Na(Er_{0.2}Yb_{0.4}Y_{0.4})Cl₆, cryst., Er³⁺ IR to visible conversion study 4-49456
 Cs₂NaLa_{1-x}Nd_xCl₆, cryst., fluoresc. conc. quenching, IR and Raman study 4-40496
 Cs₂NaLa_{1-x}Nd_xCl₆ crystal, fluoresc., conc. and temp. quenching 4-46316
 Cs₂NaNdCl₆, elpasolite, soft modes and struct. phase transition 4-56001
 Cs₂NaNdCl₆, magnetisation meas., NMR and ESR studies 4-7073
 Cs₂NaNdCl₆, single cryst., phase transform., thermal at. vibrs. 4-55996
 Cs₂NaYCl₆·Gd³⁺, EPR and ENDOR study 4-46144
 CsNd(MoO₄)₂, stimulated emission on ²F_{3/2}→⁴I_{11/2} transition of Nd³⁺ ions 4-56963
 CsNiCl₃, frustrated antiferromag., magnetoelectric effect 4-16080
 CsNiCl₃, linear-chain antiferromagnet, low temp. magnetostriction 4-56754
 CsNiF₃, 1 D ferromagnet with planar anisotropy, spin dynamics, inelastic neutron scatt. study 4-16034
 CsNiF₃ classical easy plane Heisenberg ferromag. chain, static form factors 4-56677
 CsNiF₃, exchange interaction between Ni²⁺ ions and octahedral packing 4-34922
 CsNiF₃, ferromag. classical chain, easy-plane, with in-plane mag. field, thermodynamics 4-2713
 CsNiF₃, Heisenberg ferromagnetic chain, easy-plane, spin-wave damping and two-spin-wave bond state 4-56594
 CsNiF₃, Heisenberg magnet, EPR signal, influence of nondiagonal dynamic susceptibility 4-7050
 CsNiF₃, linear and non-linear spin fluctuations, polarised neutron study 4-40185
 CsNiF₃, mag. soliton study by nucl. mag. relax. 4-16116
 CsNiF₃, one-dimens. easy-plane ferromag., nucl. spin lattice relax., 1.5 to 20K 4-20882
 CsNiFeF₃, frustrated insulator, spin-glass-like H-T phase diagram 4-51054
 CsNiFeF₃, neutron study of spin correlations 4-11671
 CsO, radical, mol. hyperfine interactions, relativistic effects 4-14346
 CsOH, etching of paratellurite single crystals, α -TeO₂ 4-57367
 CsOsO₃N, struct. relations, X-ray single cryst. diff. study 4-11112
 CsPbBr₃, ionic concl. meas. 4-29691
 CsPbCl₃, impurity doping, ionic concl. meas. 4-29691
 CsPbF₃, ²⁰⁷Pb chemical shift meas., mag. shielding study 4-11783
 α (Cs_{0.55}Rb_{0.45})Cu₂Cl₃(I₁,I₂Cl₁), cryst. struct. determ. 4-24786
 CsRbSeO₄, ferroelectric and thermal props. 4-25693
 Cs₂SO₄, molten, struct. anal. 4-50174
 Cs₂SnCl₆, Cl NQR, press. variation effect, spin-lattice relax. meas. 4-30326
 CsTa(PO₄)₂, crystal structures 4-55801
 Cs_{0.7}(Ti_{0.65}Mg_{0.35})O₄, ion exchange, chem. and struct. anal. 4-7711
 CsTi_{1-x}Nb_xO₇, ionic cond., cryst. struct., IR spectra, TGA studies 4-56073
 CsVO₃, luminesc., excitation and absorpt. spectra 4-11925
 Cs₂V₂O₁₆, IR spectra and bond lengths 4-51257
 Cs₂WO₄-La₂(WO₄)₃, phase diagram, cross-section of Cs₂O-La₂O₃-WO₃ system 4-51638
 CsYbF₃, prep., cryst. struct., mag. props., Madelung lattice energy determ. 4-2120
 Cs₂Zn(SeO₄)₆H₂O:Mn²⁺, EPR spectra at room temp. and X-band freq. 4-30272
 DyI₃-CsI system, vapour phase complex formation, Knudsen cell mass spectra 4-51978
 I₂ isolated in CsI, Raman and reson. Raman spectra 4-54732
 KCl-CsCl-CuCl, phase diagram, thermodynamic calcs. (*Russian*) 4-39543

caesium compounds continued

- LiCsSO₄, ferroelastic props., temp. depend. 4-6427
 Na₂Si₂O₅-Cs₂Si₂O₅, glass, struct. and props. rel. to phase diagram 4-50211
 (Rb_{0.5}O)_{1-x}(Cs_{1-x}O)_x, mutually substituted samples, cryst. struct. (*German*) 4-39250
 V₂O₅-TeO₂-Cs₂O glass, VO²⁺ complex, EPR study (*Russian*) 4-46092
- caesium generators *see plasma diodes*
- caesium plasma diodes *see plasma diodes*
- calcination *see heat treatment*
- calcium
- see also nuclei with*
- atom, 2p Auger spectrum, 3d orbital collapse 4-9743
 atom, ⁴¹D metastable state, elec. quadrupole transition probabilities 4-5173
 atom, photoionisation, CI calcs. R-matrix method 4-5187
 atom, relativistic effective core pot., DF SCF calcs. 4-38100
 atom, Rydberg states, hyperfine struct. and isotope shifts 4-18951
 atoms (ions), spectral line emission and radiation intensity in arc plasma in air with Ca and F 4-1891
 atoms and ions, spectral line emission from arc plasma in air with Ca and F, optimum temps. 4-1890
 black-body radiation shifts in ground and metastable levels 4-1089
 bone, human radionuclide conc., data collation 4-3635
 electron stopping power values in S and Ca, dosimetry appl. 4-55895
 excited levels in human platelet aggregation, photoionic detection method 4-26561
 first-principles phonon spectra 4-11239
 impurity diffusion in doped and pure NiO, 800-1700°C (*French*) 4-20409
 interstellar Ca and Na depletion, density depend., UV and visible obs. 4-31890
 ion recombination laser, transverse discharge excited, high power operation 4-10281
 ions prod. in ECR MINIMAFIOS multicharge ion source (*French*) 4-54499
 L_{2,3} emission and absorpt. spectra 4-25829
 monolayer, electronic struct., cohesive energy, all-electron local density functional calcs. 4-45607
 polycrystalline film, temp. coeff. of resist., three layer model anal. 4-15967
 resonant photoemission study of L_{1,II,III} white lines 4-3019
 sputtering, at. excitation 4-11998
 structural phase transitions under press. 4-34635
 surface, dissociative chemisorption of H₂, role of d orbitals 4-29792
 Bi₂GeO₂₀:Ca, holographic recording 4-49306
 Ca I, even-parity Rydberg states, Stark effect study 4-5169
 Ca II chromospheric network geometry 4-36655
 Ca II emission from late-type stars rel. to chromosphere struct. 4-53154
 Ca II H and K emission lines from lower main-sequence stars 4-31830
 Ca II H and K line profiles of plates 4-17493
 Ca II H and K line profiles in SB solar flare 4-53131
 Ca II K and H line cores in cool stars, absolute surface flux/mag. struct. 4-42430
 Ca II K-line in solar chromosphere, oscills. 4-42399
 Ca II K-line in Sun and late-type stars, Wilson-Bappu effect 4-17495
 Ca II K-line profiles for main sequence giant and supergiant stars, atlas 4-42325
 Ca II solar K-line obs., 1976-82 chromospheric variability 4-53109
 Ca XIX, dielectronic satellites, wavelength and energy levels meas. 4-38058
 Ca XIX, electron scatt. cross-sections, reson. effect 4-5469
 Ca XIX, forbidden lines, resons. effects 4-23640
 Ca XV, electron impact excitation, fine struct. transitions 4-10139
 Ca⁺ dielectronic recomb. collision cross-section, crossed-beam meas. 4-5464
 Ca²⁺ channel of frog heart, energy profile 4-52311
 Ca²⁺ efflux induced by microwave radiation in cultured human neuroblastoma cells 4-57941
 Ca²⁺ fast extracellular transients, involvement in epileptic processes 4-16851
 Ca²⁺ kinetics of transport in vesicular dispersions and oriented multilayers of isolated sarcoplasmic reticulum membranes 4-26365
 Ca²⁺ polarisabilities and sizes calc. 4-49181
 Ca²⁺ radial Sternheimer shielding-antishielding factors 4-43821
 Ca²⁺ time course of release and removal in skeletal muscle fibres 4-57870
 Ca-based sorbent for pressurized fluidized-bed combustion systems 4-57561
 Ca+He(Ar)(Kr)(Ne)(Xe), electronic energy transfer, radiative lifetimes, spin and fine struct. changing cross sections 4-1248
 Ca+inert gas atoms, reson. line, absolute absorpt. coeff. 4-18968
 Ca+Li⁺, charge transfer cross-sections, perturbed stationary state calcs. 4-10062
 Ca+NF₃(SF₆), integral reactive cross sections for chemiionisation 4-51964
 Ca+Sr, laser induced transition, multi-state problem 4-9892
 Ca₂, photodissociation fragments, emitted light polarisation, coherence effects 4-1224
⁴¹Ca⁺ detection using CW laser radiation producing selective initial state enrichment 4-19293
⁴⁵Ca, comparative retention of bone-seeking radionuclides in rat skeleton 4-3610
⁵³Ca, neutron rich isotope, β -delayed neutron yields, half lives 4-4819
 Ca(4P), collisional quenching, time-resolved emission investig. 4-23650
 Gd₃Ga₂O₁₂:Ca²⁺, garnet, γ -ray irradi., thermoluminescent props. 4-35502
 KBr:Ca, radiation-coloured, Z₁ centre form. under optical bleaching, thermal prehistory effect 4-39291
 KBr:Ca²⁺, X-irrad., F- and Z₁-centres, thermolum., optical absorpt. spectra 4-11946
 KBr:CrO₄²⁻, Ca²⁺, paramagnetic centres, form. and stability 4-56765
 KCl:Ca, dislocation charge, impurity conc. and temp. depend. 4-24826
 KCl:Ca, radiation-coloured, Z₁ centre form. under optical bleaching, thermal prehistory effect 4-39291
 KCl:Ca crystals, F centre to Z centre thermooptic conversion kinetics 4-35420
 KCl:Ca²⁺, dislocation charges, effects of impurities 4-55835
 KCl:Ca²⁺, edge dislocation charges, 82 to 294K 4-15487
 KCl:CaCl₂, dislocation charge meas. 4-55834

calcium continued

- KCl:Br_{1-x}:Ca²⁺, doped and undoped, thermolum., microhardness meas., quenching temp. depend., impurity dispersion state effect 4-11947
 MgO:Ca²⁺ 4-20443
 NaCl:Ca, Pb²⁺, precipitation processes, optical spectra study 4-11306
 NaCl:Ca, quenched, complex glow curves 4-51360
 NaCl:Ca,Cu, single cryst., thermolum. and thermally stimulated exoelectron emission 4-51378
 NaCl:Ca²⁺, dislocation dynamics, pulsed NMR study 4-24827
 NaCl:Ca²⁺, impurity dispersion role in microhardness and thermolum. 4-11949
 NaCl:Ca²⁺, Cu⁺, X-irrad., recombination luminesc., photoacoustic emission 4-51315
 NaCl:Ca(Pb), yield stress, hardness, dislocation motion meas. 4-50403
 NaF:Ca²⁺, point defects, ²³Na double NMR study 4-11800
 Ne-Ca discharge, quasi-resonant Penning ionisation, optogalvanic spectroscopy 4-5336

calcium alloys

see also calcium compounds

- Al-Ca liquid alloy, wetting of graphite, Al₂O₃ and SiO₂ substrates (Japanese) 4-25120
 Ca-Al amorphous alloys, total Compton intensity 4-46362
 Ca-Al metallic glass, electronic and atomic struct., pulsed NMR study 4-45599
 Ca-Al metallic glasses, elec. resist. and transverse magnetoresist. 4-45728
 Ca-Hg system, evaporation study using new Knudsen cell-mass spectrometer system 4-34624
 Ca_{1-x}Al_x metallic glasses, thermopower as function of temp. 4-29949
 CaCo₂Al₈, cryst. struct., X-ray diffr. study (German) 4-24761
 CaNi₃H, cryst. struct., X-ray diffr. and in situ hydriding studies 4-39212
 Mg-Ca eutectic, superplasticity 4-35656
 Mg₃₀Ca₇₀ metallic glass, amorphous struct., X-ray diffr. study 4-15384

calcium compounds

see also calcium alloys

- acetate monohydrate, cryst. struct., X-ray diffr. study 4-29420
 Ba(PO₃)₂:AlF₃-BaF₂-CaF₂-SrF₂-MgF₂ optical glass development (German) 4-5675
 brookite-like struct., X-ray diffr. anal., solid state reactions with Na₂CO₃ 4-2171
 calcium oxalate crystallisation rel. to kidney stone form., inhibition by glutamic acid 4-41421
 dicalcium barium propionate:Mn²⁺, zero-field splitting temp. depend., ESR study 4-11757
 α,ω-dicarboxylato polybutadiene, viscoelastic props., glass transition 4-25069
 fluorapatite, etchable fission track annealing for age determ. method 4-22331
 fluorophosphate, annealing of absorbing defects, UV absorption spectroscopy 4-20997
 gypsum, gel grown single crystals, interpretation twins, alcohol additive role during crystn. 4-12017
 heat of soln. and bond energy relations 4-25039
 hingganite-(Yb), cryst. struct., X-ray diffr. study 4-24790
 mesolite crystals, natural, etching of {101} faces 4-30836
 oxalate monohydrate, renal stone constituent, growth kinetics, soln. comp. 4-35559
 oxalate monohydrate, renal stone constituent crystal growth kinetics 4-35557
 oxalate monohydrate, renal stone constituents, growth kinetics, seed conc. 4-35558
 pyrochlore, relation with Ce₂Co₃ and RuB₃ structures 4-6380
 tartrate tetrahydrate, Fe³⁺ doped, electronic absorption spectrum 4-46293
 trissarcosine calcium chloride(bromide):Mn²⁺ solid solns., EPR study, 130 to 300K 4-2807
 uranates crystal growth by HTS method 4-40619
 zirconolite, CaZrTi₂O₇, alpha recoil damage 4-29488
 Al₂O₃-CaO-SiO₂-TiO₂ system, compatibility relationships of calcium aluminate 4-57198
 Al₂O₃-SiO₂-CaO, dehydrated zeolite 5A, struct., neutron profile refinement study 4-39231
 (Bi, G, Tm, Ca)₃(Fe, Si)₂O₁₂ bubble garnets, mag. props. study 4-56743
 Bi₂O₃-V₂O₅-CaO glasses, elec. cond. temp. depend. 4-39891
 Ca halides in glassy state, Raman spectra 4-7179
 Ca halophosphate: Sb³⁺, Mn²⁺, luminesc. at low temp., red shift 4-40494
 Ca-β'-alumina, preparation, struct. and Raman spectra 4-24795
 Ca-Ge-Fe garnet film, dynamics of small domain-wall oscills. 4-20841
 Ca-Si-Al-O-N glass, elastic moduli, refractive indices (French) 4-45247
 Ca²⁺-β'-alumina, ion transport study 4-25082
 Ca₂(Al, Fe)_{1-x}Si₂O₇(OH), 0 ≤ x ≤ 1, epidote, Mossbauer study 4-40294
 Ca₂Al₂O₇+D₂O reaction rate meas. 4-51957
 Ca₂(OH)₂(OD)₂, cryst. struct. determ. 4-51957
 Ca₃(Al₂O₄)₂(WO₄)₂, cryst. struct. determ. 4-45073
 CaAl₂Si₂O₈ glass, emission spectra, shock wave instability temp. and rel. to fusion curve 4-30529
 CaB₆, X-ray reflections intensities, nonstoichiometry effect 4-24684
 CaB₂Si₂O₈, danburite, ESR of defect centres 4-40227
 Ca²⁺Br, Stark effect meas., dipole moment, hyperfine components 4-28481
 CaCO₃ (calcite), mixed kinetic control of dissolution rates 4-3755
 CaCO₃ aqueous soln., magnetised, early crystn., flow ultramicroscopy study 4-34428
 CaCO₃, calcite, blue colour rel. to radiation damage 4-11143
 CaCO₃, calcite-aragonite transition by dislocation glide theory 4-58173
 CaCO₃, decomp. in mixture, used in fluorec. powders technology (Rumanian) 4-30927
 CaCO₃ in H-plasma, thermal decomp., heat transfer 4-34067
 CaCO₃, Mossbauer quadrupole splitting of Fe²⁺ 4-7101
 CaCO₃, phonon-like polaritons study 4-50738
 CaCO₃, polarisation inhomogeneity of Raman light scatt. (Russian) 4-7207
 CaCO₃ single crystals, TSEE glow curves rel. to heat treatment 4-3028
 Ca₉Cd₄Bi₉, cryst. struct. 4-11106
 CaCl, electronic struct. of X, A, and B states 4-9684
 CaCl, mol. beam laser microwave double reson. meas., ground-state dipole moment determ. 4-49071
 CaCl, pot. energy curves 4-18956
 CaCl, pot. energy curves and bond dissociation energies 4-23636

calcium compounds continued

- CaCl₂ desiccant soln. regeneration, solar regenerator theory and expt. 4-26273
 CaCl₂-biopolyelectrolytes, ionic activity, Poisson-Boltzmann treatment 4-52253
 CaCl₂·10H₂O for thermal energy storage 4-57795
 CaCl₂·6H₂O-SrCl₂·6H₂O latent heat stores. reversibility problems 4-52209
 Ca(Cu_{1-x}Mn_x)₃Mn₂O₁₂, lattice constant, specific saturation magnetisation, Curie temp. 4-50254
 CaF, pot. energy curves 4-18956
 CaF, pot. energy curves and bond dissociation energies 4-23636
 CaF, spectral line emission from arc plasma in air with Ca and F, optimum temps. 4-1890
 CaF₂:Tm, high temp. peak LET depend., heavy particle dosimetry 4-57002
 CaF₂, anion Frenkel defect, heat of formation 4-20187
 CaF₂ dielectric films, heteroepitaxial growth on Si by vacuum evaporation 4-25170
 CaF₂ dielectric meas. in 80-500K range with three-terminal capacitance cell 4-51173
 CaF₂, electrostriction coeff. meas. 4-40355
 CaF₂ epitaxial films, MBE growth on InP (001) 4-12028
 CaF₂ epitaxial growth on semicond., lattice matching effects 4-6683
 CaF₂, F nucl. mag. shielding, press. depend. 4-16113
 CaF₂ film, TSEE glow curves rel. to heat treatment 4-3028
 CaF₂, fluorite, thermoluminescent glow peaks anal. up to 900°C 4-41912
 CaF₂, gradient elastic const., NMR quadrupole press. broadening 4-25643
 CaF₂, γ-ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
 CaF₂ insulating film on GaAs(100), MBE growth and props. 4-51506
 CaF₂, investigation of thermodynamic props. of SrAl₁₂O₁₉ by EMF method 4-56048
 CaF₂ polished optical surfaces, surface roughness spectral-density function 4-234
 CaF₂, shock compression and shocked-induced radiation, phase transitions obs. 4-39399
 CaF₂, spectral line emission from arc plasma in air with Ca and F, optimum temps. 4-1890
 CaF₂ surface profile restitution from microdensitometer anal. of C surface replica electron micrographs 4-48259
 CaF₂, thermal expansion meas., 298 to 1173K 4-50542
 CaF₂, thermoluminescent dosimeter, effective energy and exposure determ. of X-rays 4-48765
 CaF₂, wetting by Al, contact reactions 4-50614
 CaF₂:Cd(Mn)(Pb) (rare earth), X-ray irrad., optical detection of EPR using afterglow 4-25637
 CaF₂:Ce³⁺, lowest 4f→5d near UV transition, two-photon excitation 4-2939
 CaF₂:Dy, (TLD-200), thermolum. behaviour for low up to high doses 4-2973
 CaF₂:Dy, light sensitivity obs. 4-47074
 CaF₂:Dy, thermoluminesc. phosphor, nonlinear response mechanism, trap distrib. model 4-51366
 CaF₂:Dy, thermoluminescent emission spectra 4-51381
 CaF₂:Dy thermoluminescent dosimeters, response to β-rays 4-48762
 CaF₂:Er³⁺(Ho³⁺) activated crystals, laser generation with electron beam pumping 4-51303
 CaF₂:Er(La), impurity-defect clusters, EXAFS study 4-16275
 CaF₂:Eu, close-approach high-energy detector for SEM 4-24695
 CaF₂:Eu, fluorite, Stark levels, laser-induced reversible deformation 4-15862
 CaF₂:Eu²⁺, 4f⁷ levels, two-photon absorpt. spectra study 4-11908
 CaF₂:Gd³⁺, Ag⁺, second nearest neighbour F⁻ ions position determ. by ENDOR technique 4-56817
 CaF₂:Gd³⁺, two-photon absorption, ligand polarisation contribs. 4-56868
 CaF₂:Ho³⁺, Eu²⁺ single cryst., Eu²⁺ luminesc. decay 4-40517
 CaF₂:La(Er), defect struct., neutron diffr. study 4-15463
 CaF₂:Li crystals, Stark effect on phononless lines of M₁ centres 4-35418
 CaF₂:Mn, fluorescence spectra, temp. depend. 4-51316
 CaF₂:Pr³⁺, Zeeman effect and hyperfine struct. of ¹D₂→³H₄ transition 4-50775
 CaF₂:RF₃, R=Y, Lu, Yb, Er, Tb, Gd, Eu, La, impurity and defect aggregation 4-50528
 CaF₂:Sm²⁺ crystals in mag. field, polarised luminesc. 4-7231
 CaF₂:Tm, TLD, short term fading 4-54447
 CaF₂:Tm, thermoluminesc. glow curve shape prod. by α and β radiations 4-21050
 CaF₂:Tm thermoluminescent dosimeter, low and high LET γ-radiation 4-48764
 CaF₂:Tm²⁺, optical detection of ENDOR without microwaves 4-11804
 CaF₂:Tm²⁺, optical detection of EPR and mag. circular dichroism 4-25654
 CaF₂:U³⁺, EPR hyperfine struct., ²³⁵U nucl. mag. moment 4-20862
 CaF₂:YF₃-NaF, optical absorpt., spectra 4-56969
 CaF₂-Al₂O₃(Bi₂O₃)(CeO₂), solid electrolyte, co-ionic conductivity 4-39568
 Ca₂F-LaF₃ solid solns., ionic cond. studies 4-56069
 Ca₂F-SrF₂ solid solns., ionic cond. studies 4-56069
 CaFCl-BaFCl, ion size effect on cryst. struct. 4-24781
 CaF(X²⁺), elec. dipole moment, mol. beam RF double reson. study 4-54765
 CaFe₂²⁺Fe³⁺Si₂O₇(OH), ilvaite, elec., mag. props., Mossbauer spectra 4-56565
 Ca₂Ga₂Ge₂O₁₂:Nd³⁺, spectroscopy of Nd³⁺ activator centres 4-56974
 Ca₂Ga₂Ge₂O₁₂:Nd³⁺ garnet, growth macrodefects 4-39285
 CaGeO₃, perovskite, crystal struct., X-ray diffraction study 4-45064
 CaH, bond distance, dissociation energy, core-valence correl. effects, CI calcs. 4-23614
 CaH, pot. energy curves and bond dissociation energies 4-23636
 CaH, RKR potential and dissociation energy 4-1230
 Ca₂H(PO₄)₃, crystallisation in supersaturated solns. 4-2115
 CaH₂(PO₄)₆·5H₂O, cryst. growth in silica gel 4-50222
 CaH₂O₂:Gd³⁺, EPR spectra broadening 4-25634
 CaI, pot. energy curves and bond dissociation energies 4-23636
 Ca(IO₃)₂, cryst. growth from silica gel, morphology and habit study 4-3040
 CaLaFeO₄, tridimensional mag. couplings, Neel temp. and bond covalency 4-6977

calcium compounds continued

- CaLa_2Si_6 , ceramic IR window material, using densification techniques 4-28789
 CaLa_2S_4 chalcogenide material for IR optical appls., fabrication 4-28790
 $\text{CaMgSi}_2\text{O}_6$, $\text{Ca}_2\text{MgSi}_2\text{O}_7$, melts, viscosity meas., use of high-temperature oscillation viscometer 4-19904
 $\text{Ca}_2\text{Mn}_2\text{Bi}_2$, cryst. struct. 4-11106
 CaMnCl_3 , study of Mn^{2+} nuclear spin system 4-20886
 $\text{Ca}_3\text{Mn}_2\text{Ga}_{2(1-x)}\text{Ge}_x\text{O}_{12}$ garnets, cooperative Jahn-Teller effect 4-34920
 $\text{Ca}_3\text{Mn}_2\text{Ge}_2\text{O}_{12}$, photoinduced linear birefringence 4-40411
 Ca_2MnO_4 , tridimensional mag. couplings, Neel temp. and bond covalency 4-6977
 $\text{Ca}(\text{NO}_3)_2$, DMSO soln., highly conc., volumetric behaviour 4-34668
 CaNbF_6 , paramagnetic, mag. props. (*French*) 4-40136
 $\text{Ca}_2\text{Nd}_6(\text{SiO}_4)_6\text{O}_{24}\text{Cm}$, alpha self-radiation induced swelling and amorphisation 4-15554
 CaNi_3H formation and enthalpic behaviour 4-36040
 CaO , cohesive props. in local density formalism 4-6311
 CaO powder, photoluminescence emission from surface states 4-46321
 CaO powders, photoluminescence from surface states 4-46306
 CaO , site-selective dephasing of photo-excited triplet spins 4-46291
 CaO , spectral line emission from arc plasma in air with Ca and F, optimum temps. 4-1890
 CaO , spectral line emission and radiation intensity in arc plasma in air with Ca and F 4-1891
 CaO , transition metal ion doped, negative U-centres, charge state stability 4-20598
 CaO , vacuum UV refl. spectra in energy range 4 to 40 eV 4-30492
 CaO:Dy , thermoluminescent phosphors, X-ray excited optical luminescence 4-51380
 CaO:Mg and undoped, coloured crystals, EPR, thermoluminesc. 4-51369
 CaO:Mn^{2+} , zero field splitting parameter of S-state ion (*Chinese*) 4-2562
 $\text{CaO:Al}_2\text{O}_3$ system, liq. viscosity (*French*) 4-20390
 $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2$ system, gel form. from metal alkoxides, struct. evolution obs. 4-57120
 $\text{CaO-B}_2\text{O}_3\text{-Al}_2\text{O}_3\text{:Cu}$, glass, γ -irradiation, formation and decay of colour centres 4-34487
 CaO-GeO_2 , immiscible region in molten state (*Japanese*) 4-40760
 $\text{CaO-SiO}_2\text{-Al}_2\text{O}_3$ glass, S doped, EPR study 4-25630
 $\text{CaO-SiO}_2\text{-H}_2\text{O}$, structural relations 4-39273
 $\text{CaO-V}_2\text{O}_5\text{-P}_2\text{O}_5$ glasses, internal friction meas., 120 to 650K 4-39384
 $\text{Ca}(\text{OD})_2$, dehydration studies 4-26198
 $\text{Ca}(\text{OH})_2$, cryst. form. in exothermal reaction, vacancy prod. 4-29430
 $\text{Ca}(\text{OH})_2$, low-temp. spin-lattice relax. 4-20880
 $\text{Ca}(\text{OH})_2$, solubility in PWR secondary circuit (*French*) 4-23303
 $\text{Ca}(\text{OH})_2/\text{CaO}$ reversible chemical reaction system for thermal energy storage 4-57797
 $\text{Ca}_2(\text{OH})(\text{PO}_4)_3$ surface, fluoridated, ^{19}F MAS-NMR investig. 4-11775
 $\text{CaO-Al}_2\text{O}_3\cdot 8\text{H}_2\text{O}$ powders, precip. from soln., precipitate phases, precip. mechanisms 4-2336
 $\text{Ca}_2\text{P}_2\text{O}_7$, sintering of powders obtained by pyrolysis of $\text{CaHPO}_4\cdot 2\text{H}_2\text{O}$ 4-25916
 $\text{Ca}_3(\text{PO}_4)_2$, $\alpha \rightarrow \beta$ phase transform. 4-50504
 $\beta\text{-Ca}_3(\text{PO}_4)_2\text{:Cu}^{2+}$, ESR study 4-11762
 $\text{Ca}_{10}(\text{PO}_4)_6\text{CN}_2$, heated, cyanate and cyanamide form., loss and location, IR spectra study 4-7933
 $\text{Ca}_3(\text{PO}_4)_3\text{F}$, thermoluminescence studies 4-40543
 $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$, cryst. growth in silica gel 4-50222
 $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$, hydroxyapatite, lattice thermal expansion 4-2356
 $\text{Ca}_{10-x}\text{Pb}_x(\text{PO}_4)_6(\text{OH})_2$, apatites, struct., X-ray diff. and IR absorpt. spectra 4-24788
 $\text{Ca}_2\text{Rh}_{1-x}\text{B}_x$, crystal structure, X-ray anal. (*German*) 4-45077
 CaS , cohesive props. in local density formalism 4-6311
 CaS , defect struct. and vacancy migration 4-45128
 CaS phosphors, electroluminesc. and photoluminesc. 4-51349
 CaS , vacuum UV refl. spectra in energy range 4 to 40 eV 4-30492
 CaS:Cd,Ce phosphors, phosphorescence decay and thermoluminesc. 4-25795
 CaSO_4 , anhydrite, electron channelling effects, low energy limit 4-6416
 CaSO_4 , anhydrite, SO_3^- radical, hyperfine struct., EPR study 4-11768
 $\text{CaSO}_4\text{:Dy}$, growth and thermoluminescence 4-21117
 $\text{CaSO}_4\text{:Dy}$, light sensitivity obs. 4-47074
 $\text{CaSO}_4\text{:Dy}$, sintered TL dosimeter pellets 4-33179
 $\text{CaSO}_4\text{:Dy}$, TL response as particle size and photon energy function 4-48794
 $\text{CaSO}_4\text{:Dy}$, TLD, short term fading 4-54447
 $\text{CaSO}_4\text{:Dy}$, thermoluminescence response as a function of irradiation temperature 4-9601
 $\text{CaSO}_4\text{:Dy}$, thermoluminescent detectors, neutron response (*Czech*) 4-48803
 $\text{CaSO}_4\text{:Dy}$, thermoluminesc. phosphor, distrib. of activation energies and freq. factors 4-51365
 $\text{CaSO}_4\text{:Dy}$, thermoluminesc. phosphor, nonlinear response mechanism, trap distrib. model 4-51366
 $\text{CaSO}_4\text{:Dy}$, thermoluminescent phosphors, X-ray excited optical luminescence 4-51380
 $\text{CaSO}_4\text{:Dy}$, thermoluminescent emission spectra 4-51381
 $\text{CaSO}_4\text{:Dy}$ (TLD-900), appl. to diagnostic X-ray exposures 4-8118
 $\text{CaSO}_4\text{:Dy}$ embedded polyethylene discs, phosphoresc. and photostimulated luminesc. at elevated temp., fast neutron dosimetry appl. 4-43652
 $\text{CaSO}_4\text{:Dy}$ in Teflon discs used for personnel γ -ray monitoring, effect of UV and visible radiation 4-52495
 $\text{CaSO}_4\text{:Dy}$ neutron thermoluminescent dosimetry by laser heating 4-48760
 $\text{CaSO}_4\text{:Dy}$ sintered dosimeters, props. 4-51374
 $\text{CaSO}_4\text{:Dy}$ TLD, highly sensitive, prep. and dosimetric props. 4-52484
 $\text{CaSO}_4\text{:Dy}$ teflon disc, environmental monitoring of Rn and daughters 4-48754
 $\text{CaSO}_4\text{:Dy}$ thin film, two-dimens. dosimetry, X-ray imaging method 4-48797
 $\text{CaSO}_4\text{:Dy}$ -Teflon TLD personal monitoring badge development 4-48787
 $\text{CaSO}_4\text{:Eu}$, thermoluminesc. centres, ESR, optical excitation spectra 4-51368
 $\text{CaSO}_4\text{:PO}_3^{2-}$, anhydrite, EPR of PO_3^{2-} and SO_3^- radicals, hyperfine struct. 4-7061
 CaSO_4 :rare earth elements, sintered TLD, dosimetric characts. 4-37943
 $\text{CaSO}_4\cdot 2\text{H}_2\text{O}$, gypsum, gel grown, dendritic struts. 4-2491
 $\text{CaSO}_4\cdot 2\text{H}_2\text{O}$, gypsum, monoclinic anisotropic crystals, optical constns. in IR spectral region 4-25703
 $\text{CaSO}_4\cdot 2\text{H}_2\text{O}$, gypsum, dislocation obs. by HVEM 4-50297
 $\text{CaSO}_4\cdot 2\text{H}_2\text{O}$ gypsum, reflective props. in 1 keV photon energy region 4-56865
 $\text{CaSO}_4\cdot 2\text{H}_2\text{O}$, Raman spectra, translational modes, stretching vibrations 4-40453
 CaSiO_3 , melt, viscosity meas., use of high-temperature oscillation viscometer 4-19904
 Ca_2SiO_4 , $\beta \rightarrow \gamma$ transform., thermal history effect (*Japanese*) 4-40774
 $\beta\text{-Ca}_2\text{SiO}_4$, polymorphism and transform. 4-40773
 Ca_2SiO_5 , phase stability, effects of pressure and temp. 4-20351
 CaSnF_6 , cryst. struct., binding and phase transition studies (*German*) 4-24783
 CaSnO_3 , isomer shift calibration of ^{119}Sn , internal conversion meas. 4-40285
 $\text{Ca}_2\text{Sr}_{1-x}\text{F}_2$ insulating film on GaAs(100), MBE growth and props. 4-51506
 CaTiO_3 , perovskite, cryst. struct., powder neutron diff. study 4-2165
 CaTiO_3 , perovskite struct., cubic phase, electronic struct. 4-2511
 CaTiO_3 , ultrasoft X-ray emission spectra (*Ukrainian*) 4-7281
 $\text{CaTiO}_3\text{:Y}^{3+}$, polycryst., dielec. props. 4-51176
 $\text{Ca}_{1-x}\text{U}_x\text{F}_{2+2x}$ ionic cond. and sp. ht. anomaly 4-45396
 $\text{Ca}(\text{VO}_4)_2$, monocrystalline plates grown from melt by Stepanov method 4-25871
 CaV_2O_6 , paramag., superexchange interactions, X-ray line widening (*Russian*) 4-5101

- calculating *see* calculation
- calculating apparatus
No entries
- calculating machines *see* calculating apparatus
- calculation
see also graphs; nomograms
No entries
- calculators *see* calculating apparatus
- calculus
see also differentiation; integration; variational techniques
Dirac tensor distributions for moving submanifolds of R^n 4-8726
graded tensor calculus, graded Lie algebras 4-8716
nonlinear susceptibilities of fifth-, seventh- and ninth-order calculus without fine struct. consideration (Rumanian) 4-24078
special functions, 2D Laplace transforms 4-32024
stochastic, physical implications, stochastic to Gaussian transform. anal. 4-4335
- calibration
see also measurement standards; standardisation
absolute radiometer accuracy check using Si photodiode self-calibration technique 4-27561
absolute standards intercomparison for Rutherford backscattering studies 4-43124
accelerator energy calibration using nonresonant nucl. reactions 4-43715
accelerometers, reference standard, calibration using new interferometric technique 4-8878
acoustic emission, displacement amplitude meas. by laser interferometry 4-55288
active cavity radiometers as absolute radiometers and transfer standards 4-8937
air, international intercomparison of standards for collision kerma rates by TLD techniques 4-48780
airborne and truck-mounted gamma-spectrometer radiometric calibration facility in South Africa 4-32227
anechoic chamber, for contacting surface acoustic characts. exam. 4-10514
angle-measuring receiver, interferometer performance against non line-of-sight transmitters 4-22831
atomic supersonic secondary beams, skimmer interaction, absolute intensity calibration 4-49183
Auger electron spectrometer, calibration-alignment reproducibility, use of cylindrical mirror analyser 4-18018
automatic radiation thermometer calibration facility, -50 to 3000°C 4-2576
beta radiation standards at NRPB 4-58019
beta surface contamination monitors calibration, suitability of different sources 4-18836
beta-surface sources, prep. and standardisation for contamination monitors calibration 4-945
blackbody spectral and spatial uniformity enhancement using deep concentric grooves 4-8938
calorimeter calibrating equipment absolute calibration accuracy dependence on switch characts. (Chinese) 4-48134
certified reference materials, availability for nuclear fuel cycle measurements standardisation 4-14081
colour temperature determination by colour measuring method, application to checking of high pressure discharge lamps (German) 4-42965
Compton polarimeter for 110 keV γ -rays, absolute calibration 4-54576
conductivity standards calibration, semiautomated 4-227
cylinders, thin-walled, vibr. calibration (Russian) 4-1585
DC voltage meas. systems up to 1 MV, traceable calibration methods 4-53706
decay product collection and counting apparatus for exhaled Th determ. 4-3633
diagnostic US, acoustically coupled calibrator 4-12663
diffusion diaphragm cell design and calibration, for liquid-phase diffusion coeff. determ. 4-4508
digital radiography, dual-energy scanning using basis function technique, calibration procedure 4-8087
diode-laser second-derivative modulation spectrometry with a reference cell, calibration 4-22842
direct hodoscope monitoring of flux and power-coupling at TREAT 4-23370
direct reading instrument, thermal cond. of arbitrary shaped solids 4-27515
dose calibration of high energy electron beams for medical appls. (Chinese) 4-58011
dose calibrator ionisation chambers, calibration standard 4-14229
dosimeter, energy response, fluoresc. X-rays use in metrology 4-58016
double-torsion specimen, line-spring anal. 4-29013
drift chamber systems, laser track alignment calibration 4-23476
dry radioactive waste activity distribution characterisation by large-volume monitor 4-33025
dye laser automated calibration using microprocessor control and optogalvanic detection 4-24016
dynamometer characteristics interpolation, criteria comparison (Rumanian) 4-42955
electrical force/strain gauge transducers for force measurement 4-48112
electronic scale calibration and mass measurement correction (Croatian) 4-8877
EM shower calorimeter performance at PEP-4 4-23468
environmental dosimeters, international intercomparison 4-48781
Epply pyranometers calibration in tilted position under solar radiation 4-22825
error propagation, measurement uncertainty statistics appl. 4-13613
fast automated TLD calibration system using pneumatic rabbit system 4-54432
fatigue machine, computer-aided calibration 4-32256
fibre optic temperature transducer (Swedish) 4-5723
final product weighing system, automated nucl. material accountability meas. 4-33060
flat plate liquid heating solar collector testing in European Community 4-21569
flow measurement techniques, instruments and optical methods 4-49910
flowmeter, rotor-dynamic system (Russian) 4-29217
flowmeters, calibration, industrial appl. (Dutch) 4-10794
flowmeters, calibration using prover loops 4-44778
fluxmeter using SQUID (Russian) 4-17904
force meas. in SI units, recalibration of third-rank standard facilities 4-32258
- calibration continued
frequency calibration service offered by National Bureau of Standards 4-53661
gamma-ray detectors, sensitivity calculation (Russian) 4-5081
gamma-ray meas., calibration at technical meas. centre, status 4-23199
gamma-ray spectrometer, ^{56}Mn and ^{72}Ga standards 4-9628
Gardon type sensor, for convective heat flux meas. 4-252
glancing angle Rutherford backscattering spectrometry, optimisation and appl. 4-46386
glass filters for the calibration of spectrophotometers (Hungarian) 4-27559
glass membrane electrode system, ion selective electrodes (Dutch) 4-52065
glassware, volumetric, calibration 4-8872
goniophotometer for calibrating small luminous flux standard lamps 4-27567
graded-index optical fibres, wavelength-dependent differential modal delay 4-28845
headphones, electro-acoustical parameters meas. techniques (Russian) 4-44320
heavy ion beams for bulk anal., calibration 4-52070
high magnetic field calibration using free electron cyclotron resonance in plasma 4-48068
high-voltage resistive divider, 100 kV, design and traceability 4-53704
Homalite CR-39 plastic detector calibration for light particle spectrometry and appl. 4-965
hot-wire anemometer sensor calibration in binary air-He streams (Russian) 4-1853
hydrophone, gradient, calibration error estimation 4-55260
hydrophone calibration in pendulum chambers, band broadening 4-55309
illumination standards, visual image quality rel. to age 4-52329
inert gas discharge lamps, emission spectra for Raman spectrometer calibration 4-6215
infrared photometer for HF meas. during U enrichment in separation nozzle plants (German) 4-54283
integrating sphere, internally illuminated, calibration of large angular field of view instruments 4-22819
intracellular water meas., electron microprobe calibration 4-36082
ion detector efficiency calibration 4-13727
ion exchange resins, effective diffusion coeffs., ^{86}Rb radioactive tracer investig. (German) 4-2369
IR collimator portable test source system calibration 4-8951
IR imager, using functional IR emitter 4-32311
IR radiometer for net IR sky irradiance meas. 4-22128
Kerr cell HV transducer characteristics rel. to elec. field inhomogeneities 4-53703
laser comparator, independently calibrated 4-33702
Laue diffraction hard X-ray spectrometer for laser fusion diagnostics 4-23429
legal metrology and calibration hierarchy, elements of national measurement system 4-48060
LF linear accelerometer checking and calibration method 4-53674
loaded-piston gauges, in SI units 4-32225
long wave IR testing at NBS 4-8933
low temperature IR source calibration and traceability of Arnold engineering development centre 4-8950
magnetometry in pulsed fields 4-4427
maintenance and calibration of instruments, conf., Zagreb, Yugoslavia, Sept. (1983) 4-47758
Makrofol polycarbonate plastic track detector, calibration with ^{16}O ions 4-9634
manometers, liquid, calibration in SI units 4-32226
mass spectrometry, electron energy scale calibration, autoionisation of Hg, Cd or Zn 4-49165
measuring instruments dynamic calibration and characts. in time and freq. domains 4-48111
metrology facilities, establishment in, developing countries for instruments calibration 4-48118
micellar solutions, laser light scatt., absolute intensity calibration 4-51289
microbarograph for atmospheric infrasounds and subsonic disturbances meas. 4-22122
microparticle vol. meas. instruments, stability and monitoring (Russian) 4-230
microphone calibrator, high pressure, calibration (Chinese) 4-55297
microscopes, quantitative, calibration using digital image processing techniques 4-27581
military optical system testing, optical metrology appls. 4-10468
Mossbauer spectrometer velocity calibration, using (Al,Ga)As laser diode 4-18025
multichannel Fabry-Perot interferometer on Dynamic Explorer spacecraft, Doppler line profile anal. 4-47415
national calibration services and their international collaboration 4-48069
national calibration services cooperation in Western Europe, certificate recognition 4-17869
NDT inspection units, checking, calibration and adjustment 4-16602
noise dosimeters, device for calibration 4-1557
on-line thickness calibration by radiation transmission, dynamic bias 4-22747
optical metrology, conf., Arlington, VA, USA (Apr. 1983) 4-8635
optical reflective sensor, calibrator design and operation 4-5684
optical remote-sensing instruments, satellite-borne, calibration techniques 4-13058
optical time-domain reflectometer performance and calibration 4-37152
particle detectors, using ^{235}U enrichment 4-14268
photographic emulsion calibration curve in emission spectrography 4-311
photographic surface photometry of galaxies and nebulae, modified calibration method 4-3936
piezoelectric accelerometer, installation verification techniques 4-32250
piezoelectric transducers, for electric discharge acoustic signals 4-32274
piezoelectric US transducer calibration standards 4-55308
plasma, DC positive column, mass spectrometry ion sampling, calibration 4-24615
polygon mirror automatic calibration system (Japanese) 4-19537
precision standard reference targets for microanalysis by nucl. reactions 4-46825
pressure meas., SI units introduction in Soviet Union 4-32223
pyrometers, low-temperature (German) 4-27523
pyrometers in low-temp. range, using blackbody radiation sources (German) 4-27586

calibration continued

- radiation pyrometry, use of data in radiation pyrometry, 1400-2400K 4-48204
radioactivity, whole-body counters, standard solutions for calibration (*Rumanian*) 4-14234
radiometer dead time meas. using α -radiation source 4-14288
radiometric and photometric calibration capabilities at the Navy Primary Standards Department 4-8863
radiometric and photometric concepts based on meas. techniques 4-8936
radionuclide calibrator, National Physical Laboratory, construction and performance 4-14230
radionuclide calibrator measurements in UK hospitals, intercomparison 4-16957
radionuclide calibrators, efficiency 4-16992
radionuclide calibrators, performance evaluation in Argentina 4-16956
radionuclide metrology in life sciences, conf., Paris, France (Sept. 1982) 4-13473
rare earth permanent magnets, measurement methods and standards 4-4428
reflection standards calibration device (*Hungarian*) 4-27573
relative fluorescent luminaire goniophotometry, calibration 4-4450
respiratory inductance plethysmograph single-position calibration 4-17028
rock magnetic anisotropy measurement, calibration of Digico instrument 4-3849
roentgen stereophotogrammetric system: construction, calibration and technical accuracy 4-12685
SEM, use of test objects with latex spheres in calibration 4-22877
sensitometer, monochromatic, low-cost high-intensity, exposures determ. of photographic materials 4-43009
sensors/transducers survey, calibration and testing for pressure measurement 4-48113
simultaneous photoacoustic transmittance/reflectance spectroscopy (SIPATRS) 4-37200
single-pass e^+e^- linear colliders, colliding γ e and $\gamma\gamma$ beams, polarisation effects and monochromatisation 4-54459
skin TLD response calibration in beta radiation 4-48789
sodium polyacrylate, mol. characterisation by aqueous gel permeation chromatography-light scatt. method 4-57620
space sensor low background IR calibration facility 4-13200
space/terrestrial solar cells performance testing and calibration 4-7885
spectrograph at Mt. Wilson Solar Tower Telescope, recalibration of Doppler meas. 4-53142
spectrometers used for remote natural-resource studies, spectral polarisation characts. determ. 4-27606
spectroradiometric calibration of an infrared sensor evaluation facility 4-8934
split-fibre probe calibration, for bubbly two-phase flow 4-55455
standards and calibration apparatus, NKO Dutch calibration organisation aspects (*Dutch*) 4-37064
steel, stainless, tube wall thickness, calibration of ultrasonic equipment 4-53648
stellar photometry in near-IR, intrinsic colours and absolute calibration 4-22332
strain gauge load cells (*Rumanian*) 4-8892
strain gauge temp. effects obs. and compensation (*German*) 4-37092
synthetic and process material nondestructive assay calibration standards 4-33096
temperature measurement means, automatic measurement and checking 4-4403
thermal expansion, reference materials W and α - Al_2O_3 4-32224
thermistor thermometer, using triple point of succinonitrile 4-22781
thermocouples calibration facilities 4-255
thermoluminescence dosimetry, automatic post reading calibration 4-48757
TLD, long term stability of dosimeters used in national monitoring programme 4-48774
transducers, general characteristics, performance 4-48109
transducers and instruments, maintenance/handling/storage policy 4-48117
turbine flowmeters working with cryogenic liquids, conversion charact. eval. 4-5979
U-tube capillary viscometer calibration, kinetic energy correction 4-29218
ULTRAMAT 21 and 22 microprocessor-based gas analysers for standard applications 4-35967
US testers, calibration, reference reflector quality (*German*) 4-7673
US transducer standards, equiv. oct. based, for NDT 4-33894
Van de Graaff accelerator, BNU 500 kV, energy calibration via proton reactions (*Korean*) 4-37960
Van de Graaff accelerator, energy calibration by time-of-flight and by comparing protons with H_2^+ ions 4-5053
vibration measurement appls. of back-to-back type, calibration 4-13618
viscometer, flared capillary, calibration meas., water-sucrose solns. 4-38919
VUV light standard using electron impact photoemission cross-sections 4-5428
X-ray equipment, calibration technique for health risk reduction (*Swedish*) 4-8081
X-ray film in-situ calibration technique 4-48269
XPS analysers, calibration tests 4-48268
 $\text{Al}_2\text{Ga}_{1-x}\text{As}$ layered semiconductor, quantitative anal., SIMS method, matrix calibration 4-16702
Au calibration standard, eqn. of state, compression to 70 GPa 4-48067
 ^{252}Cf calibration facility, D_2O -moderated, spectral and dosimetric characts. 4-43656
Co-Ni alloys, surface composition, AES determ. 4-7775
Cu calibration spheres, acoustic props. 4-44315
D decoupler pulse angle calibration in NMR expts. 4-38207
 ^1H autoradiographs, calibration method 4-52518
 ^1A , $\text{A}=125, 131$, radionuclides, verification by calibrators in Hungary 4-16955
 ^{125}I , radiopharmaceutical, assay using radionuclide calibrator 4-16982
LiF thermoluminescent dosimeters, mixed radiation environment, absolute energy deposition calibration 4-48756
 $^{14}\text{N}(\text{d},\alpha)$ and $^{14}\text{N}(\text{d},\text{p})$ reactions absolute calibration for surface adsorption studies 4-46821
 ^{231}Rh self-powered neutron detectors calibration 4-14090
Si photodiodes, self-calibration technique developments 4-27595
Si:Bi, ion implanted, characterisation by Rutherford backscattering 4-45152
Si:Li detector for PIXE anal., accurate calibration 4-48873

calibration continued

- ^{117}Sn , gamma emitter identification for advanced physics laboratory class 4-36865
 $^{99\text{m}}\text{Tc}$ radiopharmaceuticals, assay using radionuclide calibration 4-16958
U prototype nondestructive assay reference materials, interlaboratory comparison program 4-33016
WC calibration spheres, acoustic props. 4-44315
Zr alloy, tube wall thickness, calibration of ultrasonic equipment 4-53648
- californium**
see also nuclei with
delocalisation of 5f electrons under press., X-ray diff. study 4-55782
neutron source for radiation therapy, dosimetric characts. (*Russian*) 4-16987
 ^{24}Cf , $\text{A}=294,252$, ^{226}Ra , ^{239}Pu and ^{241}Cf and ^{252}Cf , comparative toxicity in C57BL/Do black and albino mice 4-3597
 ^{252}Cf calibration facility, D_2O -moderated, spectral and dosimetric characts. 4-43656
 ^{252}Cf neutron source, U concentrations in ore determ. appl. (*Russian*) 4-47454
 ^{252}Cf source, utilisation efficiency increase by centralised positioning for neutron activation anal. 4-7789
- californium compounds**
 CfPO_4 , vibr. props. (*German*) 4-2277
- calorimeters**
see also calorimetry
calibrating equipment absolute calibration accuracy dependence on switch characts. (*Chinese*) 4-48134
CHARM calorimeter, pattern recognition for hadronic showers 4-23527
differential scanning microcalorimeter DSM-2M for studying polymers (*Russian*) 4-27528
electrical matching boil-off flow calorimeter 4-53690
EM calorimeters using wire chambers 4-18853
EM shower calorimeter performance at PEP-4 4-23468
instrumentation for track meas., vel. meas., and EM energy meas., calorimeters, computation methods 4-28313
ion beam energy content meas. by calorimeter-Faraday cup 4-43731
laser comparator, independently calibrated 4-33702
laser pulses energy meas., using BaTiO_3 pyroelectric digital calorimeter 4-44123
lead glass scintillator sandwich EM shower detector, test results and practical evaluation 4-957
lead-glass drift calorimeter design with MWPC detection 4-23521
low-temperature, programmable decade resistor appl. 4-17885
microcomputer-based temp. control system, high accuracy, calorimeter appl. (*Chinese*) 4-42944
PEP-4 status report, results for e^+e^- beams 4-14281
photon energy fluence calorimeter for absorbed dose determ. of orthovoltage X-rays 4-41629
proton decay underground expts., neutrino background expt. study 4-48890
segmented photon-hadron scintillator calorimeters using coloured wavelength shifter 4-23483
Si-W calorimeter as luminosity monitor in e^+e^- colliding beam machine 4-28279
Soudan II detector for nucleon decay expts. 4-990
thin multiwire chamber operation in high multiplication mode 4-23469
ultra-relativistic heavy ion collisions, future expts., correlations, spectra, detectors 4-43521
vacuum adiabatic calorimeter, heat capacity of synthetic sapphire, α - Al_2O_3 , 70-700K 4-22782
wire chamber conf., Vienna, Austria (February 1983) 4-17624
Ne(AR), solid, prototype calorimeter performance 4-956
U-scintillator sandwich calorimeter for EM shower meas. at CERN ISR 4-48866
- calorimetry**
see also calorimeters; specific heat; thermal analysis
10 GHz thin-film barretter mount, microcalorimetric technique, effective efficiency meas. 4-42984
 β -lactoglobulin, water binding by TSC, differential scanning calorimetry 4-16833
absorbed dose determination with a water calorimeter in comparison with an ionisation chamber 4-21817
acenaphthylene, heat of polymerisation, adiabatic calorimetric obs. 4-35901
acetic-propionic acids mixtures, enthalpies of mixing, calorimetric meas. 4-29625
adsorption calorimetry, study of consecutive processes 4-29795
trans-azobenzene, sp. ht. and heat of fusion meas. 4-39535
bacteriorhodopsin photocycle, photoacoustic calorimetry studies 4-41445
bis(p-toluene sulphonate), polymerisation and polymorphism, microcalorimetric study 4-57556
cycloalkanes-methylcycloalkanes-(n-decane), excess heat capacity meas. using microcalorimeter 4-29654
deconvolution of calorimetric signals 4-37105
diagnostic X-ray beams, calorimetric measurement of energy fluence 4-41614
differential scanning microcalorimeter DSM-2M for studying polymers (*Russian*) 4-27528
EM wave power meas., advanced temp. control method 4-27527
emissivities and absorptivities meas., calorimetric meas. 4-27526
erythrocyte plasma membrane, RF EM radiation effect, calorimetric approach 4-52387
ethylene adipate oligomer, filled, thermodynamic state of macromolecules in boundary layers 4-39539
formic-acetic (propionic) acids mixtures, enthalpies of mixing, calorimetric meas. 4-29625
Grafoil, adsorpt. of N_2 , heats and entropies of adsorpt. at 79.3K 4-50631
graphite, adsorpt. of Xe, heat of adsorpt. and vibr. freqs., calorimetric obs. 4-29772
hexamethylbenzene- d_{18} , thermal anomaly below 20K 4-56042
n-hexyl-4-n-pentyloxyphenyl-4-carboxylate, heat capacity near smectic-A-hexatic-B and hexatic-B-E transitions 4-2334
laser beams, large aperture and high power, calorimetry at 10.6 μm 4-17892
laser calorimetry study of two photon absorption, intensity dependence for semiconductors 4-25700
laser power meter using calorimeter sensor 4-43003
low-voltage switching arcs, energy balance components, calorimetric evaluation 4-10917

calorimetry continued

- methanol-chloroform(acetone)(tetrachloromethane), mixtures, molar excess enthalpies using isothermal dilution calorimeter 4-25055
 methanol-chloroform-acetone(benzene-tetrachloromethane), mixtures, molar excess enthalpies using isothermal dilution calorimeter 4-25055
 naphthalene anion radical salts, solid, interaction with water, thermochem. 4-31013
 organic hydrolysis reactions in calorimeter, rate consts. thermokinetic obs. (Russian) 4-41202
 polyacene anion radical sodium salts, solvation enthalpy and cryst. lattice energies 4-11318
 polydimethylsiloxane-solvent systems, heats of dilution, calorimetric meas. 4-29652
 polyethylene, high density, uniaxial stretching, anisotropy effects (Russian) 4-16461
 a-Si:H, mol. H₂, calorimetric detect. 4-44964
 solar absorber roof, houses, simulation of three systems (German) 4-26326
 sp. ht. and heat of fusion meas. 4-39535
 thermoluminescence attachment for a Du Pont 990 cell base equipped with a DSC cell 4-53757
 α,ω -thiadiazines, ¹³C NMR chemical shift, heat of protonation 4-46785
 uranyl acetate dihydrate+thiourea, adduct synthesis and decomp., thermal anal. obs. 4-30972
 [Mg(H₂O)₆](NO₃)₂, specific heat, calorimetry, PMR, neutron quasielastic scatt. 4-20870
 DyF₃, heat capacity, 5 to 350K, calorimetric meas. 4-29650
 ErF₃, heat capacity, 5 to 350K, calorimetric meas. 4-29650
 (Ni(NH₃)₆)(NO₃)₂, phase transitions, Raman spectra, calorimetry and neutron scatt. 4-55993
 SO₂-O₂-NiO system, temp.-controlled desorpt. and microcalorimetric obs. 4-3426
 Si detectors in EM calorimetry 4-43768
 WS₂, sp. ht., heat of form., Gibbs energy, calorimetric meas. 4-41245

calorimeters *see calorimeters***CAMAC**

- Apple-CAMAC data acquisition systems 4-23540
 ATLAS accelerator data acquisition system 4-23546
 digital delay CAMAC module with 550 MHz preset counter for TRISTAN accelerator 4-9648
 fast ADC scanner for multiparameter nuclear physics experiments 4-23531
 LSI-1V23 with SKYMNK-Q array processor as data acquisition front end processor 4-23535
 MBDDDT, interactive debugging tool for VAX-MBD CAMAC system 4-23556
 MLE microprocessor based large logging expt. system 4-28333
 multirate CAMAC system organisation, in high-energy physics expts. 4-28338
 multiparameter data acquisition system 4-23545
 networked VAX/LSI/CAMAC data acquisition system development 4-28334
 nuclear data acquisition system based on auxiliary crate controller 4-23533
 Nuclear Structure Research Lab., VAX based data acquisition system 4-28331
 particle detectors, computer aided measurement and analysis (Hungarian) 4-54535
 real time computer appl. in nuclear and particle physics, conf., Berkeley, CA, USA (May, 1983) 4-27231
 Reticon controller for VUV/visible spectroscopy 4-50080
 SHIVA, multitask data acquisition system 4-23549
 TPC data acquisition electronics, CAMAC interface 4-23534
 TPAQ I, a CAMAC system for multichannel data acquisition, storage and processing 4-23541
 TPAQ I CAMAC System for multichannel data acquisition, storage and processing 4-55623
 TRIUMF's data acquisition system 4-28318
 TRIUMF Time Projection Chamber data acquisition system 4-28328

camera lenses *see photographic lenses***camera tubes, television** *see television camera tubes***cameras**

- see also coronagraphs; television cameras*
 aerial photography, integral aircraft camera system 4-309
 Anger camera, count rate variations with detector orientation 4-21785
 architectural photogrammetry, UMK 6.5/1318 universal measuring camera developments 4-37233
 attachment for laser radiation recording, by thermal stabilisation of photoemulsions 4-10340
 Avioptoph aerial camera system, quality control for new Wild objectives (French) 4-42190
 Bathynap, free fall time lapse camera and current meter system, pollutant/biology appl. 4-13048
 CCD camera at Kitt Peak National Observatory, computer control system 4-36587
 cine camera, kinematic anal. of claw linkage mechanism by complex polar vector rotation (Chinese) 4-13684
 commutating objectives, siting errors, effect on characts. of high-speed film cameras (Russian) 4-43080
 conference on close range photogrammetry precision and speed at York, England (September 1982) 4-36801
 double-crystal topography camera 4-34371
 electronic still camera [with CCD imager] 4-4491
 film camera, dynamic characteristics control (Russian) 4-17982
 framing camera tube for subnanosecond imaging applications 4-24236
 Fresnel lens manufacture for cameras 4-19614
 gamma camera, orthogonal hole transmission pattern use for qualitative QC (French) 4-16977
 gamma camera image sharpness, objective rel. to subjective assessment 4-8097
 gamma camera performance standards, testing for overall and local overloading (Hungarian) 4-52466
 high-speed cameras with opto-mech. commutation, image quality anal. (Russian) 4-32364
 history of optical engineering at Los Alamos 4-8701
 Hycam rotating prism high speed camera improvements, on board timing, event pulse generators, report 4-48242
 image blur due to intrinsic camera body vibr., meas. using speckle photography 4-4489

cameras continued

- image tube camera, picosecond, ultrashort laser pulses for study (Chinese) 4-55213
 IR detectors development, three generations (Czech) 4-48205
 Kinor 35C sand tripod shoulder camera (Russian) 4-43101
 Kodak Disc System, equipment and features (Spanish) 4-13689
 KWR-15 equip. for film zoom lens remote control (Russian) 4-43103
 Leica R4 system, review, construction and top plate layout 4-17969
 Leica R4 system review, camera front, base and back, power supply, film transport mechanism 4-17970
 Leica R4 system review, exposure meas., lens fitting, motor winder, conclusions 4-37222
 Leica R4 system review, exposure meas. modes 4-32338
 Leica R4 system review, viewfinder exposure information data display, shutter performance, flash synch, exposure meter details 4-22857
 lens transmission coefficient calc. in oblique parallel beams for different antirefl. coatings 4-32350
 light metering, automatic offset correction for a logarithmic current-voltage converter (German) 4-22862
 macro camera, engineered 6X7 cm/35 mm close-up system 4-43075
 Mavica camera system, equipment and features (Spanish) 4-13689
 medical endoscope cameras, automatic focusing system 4-26493
 meteor camera control system (Dutch) 4-47539
 Nikon FA, automatic multi-pattern metering, multi-point logic and scene evaluation 4-37225
 Nikon FA, lenses, inputs, flash, screens and motor drives 4-43070
 Nikon FA, multi-mode automation and automatic multi-pattern metering 4-37223
 objective working distance testing using automated photoelectric instrum. 4-10476
 p-i-n photodiode in photodetector for auto-focus systems (Japanese) 4-53791
 Pentax Program A, metering modes, lens compatibility, speed control and optics 4-43072
 Philips powder camera, modifications for amorphous phase detection 4-53814
 picture shift errors in cameras, compensation using gyroscopic attachments (Russian) 4-32357
 plate camera construction for 12 beam position laser recording (German) 4-49300
 Polaroid instant 600 system 4-4490
 positron camera design with dense drift space MWPCs 4-18858
 quantitative photo-instrumentation system development using 70 mm camera and analyser, geotechnical centrifuge appls. 4-37229
 reflex cameras, photographic and viewfinder channel matching method anal. 4-4495
 remote sensing photographic equipment system developed by VEB Carl Zeiss Jena 4-42221
 remote sensing photographic system, high-performance, MSK-4 multispectral camera 4-42222
 remote sensing photographic system, LMK aerial camera system materialisation and functional principles 4-42223
 rotating prism drum camera, speed control using electrical synchronisation 4-32373
 rotation mirror high speed camera design, reln. between section shape and information (Chinese) 4-43076
 Schmidt camera, comparison with general optical systems, aberrations anal. (Spanish) 4-48230
 Synchrotron Topography Project at National Synchrotron Light Source 4-317
 variable anamorphic lens for a 35-mm SLR 4-304
 X-ray crystallographic apparatus, enclosure for super precession camera 4-318
 X-ray framing camera, plasma diagnostics 4-9001
 X-ray streak camera, absolutely timed, for laser fusion expts. 4-20031
 X-ray streak camera transmission photocathode sensitivities at 0.266 μ m 4-27633
 X-ray uniformly redundant array camera for ICF plasma diagnostics 4-55646
 zone plate shadow camera for 100 keV X-rays and 6 MeV protons 4-27631

candoluminescence *see luminescence***canted spin arrangements**

- see also weak ferromagnetism*
 garnet bubble films, H⁺ implanted, depth selective conversion electron Mossbauer spectroscopy 4-35210
 magnetic oxides, substituted, localised canting models 4-6951
 manganese formate dihydrate, antiferromag., spontaneous magnetisation, temp. Barkhausen effect development 4-11745
 rare earth-transition metal alloys, RT₅, R₂T₁₇, mag. anisotropy 4-6965
 Cd_{1-x}Cu_x-Fe₂O₄, ferrite, canted spin struct., Yafet-Kittel mag. ordering 4-51097
 CsCoCl₂·2H₂O, mag. soliton study by nucl. mag. relax. 4-16116
 DyRb₂Si₂, mag. struct., neutron diff. study 4-56551
 FeCl₂²⁺ salts, mag. susceptibility meas., weak ferromag. below Neel temp. 4-16013
 Fe₂(PO₄)₂·x2.5H₂O, hyperfine fields, Mossbauer spectra study 4-40304
 Fe₂M_{1-x}F₂, spin-flip effects, magnetisation studies 4-56622
 Rb₂CrCl₄, two-dimensional ionic ferromag., crystal and mag. structure, neutron diff. study 4-6950
 Rb₂Cr_{1-x}Mn_xCl₄ single cryst., mag. phase diagram, neutron diff. study 4-51052
 RbFeCl₃·2H₂O, spin-cluster reson. intensity, temp. depend. 4-20866

capacitance

- see also photocopacitance*
 bilayer lipid membranes, roughness rel. to optical parameters and capacitance 4-52284
 capacitance sensor for cryogenic liquid level meas. (Chinese) 4-13645
 conducting plates, capacitance, variational estimates 4-1315
 electrostatic field of an open spherical shell between two parallel conducting planes 4-1314
 glow discharge films, density of states determ. by capacitance-freq. measurements (Korean) 4-15811
 linear and nonlinear dielectrics, quasi-static capacitance and ultraslow relax. 4-35345
 lipid bilayers, capacitance and optical parameters, combined anal. 4-31181
 merocyanine-malachite green p-n heterojunctions, depletion layer characts. and photovoltaic energy conversion 4-7880

capacitance continued

- metal-semiconductor junction admittance dispersion, dielec. relax. contrib. 4-35067
- metal-semiconductor-metal contact one-dimensional transport eqns., steady-state computer soln. 4-25456
- metal/molten salt interface, capacitance calc. 4-2654
- MIS structure, charge changes due to change in mag. flux under quantum Hall effect conditions 4-20735
- p-n junction capacitance, diffusion voltage depend., Schottky formula modification (*Polish*) 4-11577
- proteins and constituent amino acids, dielec. props. and far IR spectra 4-36098
- semiconductor junctions, trapped charge emission rates from nonexponential capacitance transients 4-45866
- semiconductor/electrolyte system, depletion layer capacitance, surface photovolt. meas. 4-15957
- semiconductors, compensated, capacitance and relax. times at carrier exclusion 4-45807
- semiconductors, uniformly doped, associated capacitance 4-2646
- SOS films, ion implanted, elec. characts. 4-35072
- surface barrier struct., capacitance-voltage characts., effect of series resist. 4-25434
- Al, etching and passivation under AC conditions, influence of temp. 4-57490
- Al foil, chemical composition and thermal processing parameters effect (*Polish*) 4-7780
- Al/ Al_2O_3 /Pb inelastic electron tunnelling junctions, conductance changes during infusion doping 4-50953
- n-Al_{0.9}Ga_{0.1}As/Si MBE layers capacitance and Hall effect meas. 4-50962
- An/anodic oxide/GaAs struct., proton irradiation effects 4-35084
- CdS, polycrystalline, in CdS/NaOH and CdS/cysteine interfaces, capacitance meas. 4-11586
- Fe electrode with passive film, capacity and photocurrent meas. 4-56431
- FeF₂, antiferromagnet, mag. sp. ht., capacitance meas. technique 4-56646
- Fe_{0.68}Zn_{0.32}F₂, random field Ising antiferromagnet, crit. behaviour, hysteresis effects, capacitance study 4-56663
- GaAs surface, anodic oxide growth, coupled ellipsometric and capacitance meas. 4-56440
- GaAs-Pd Schottky barrier diodes, capacitance-voltage characts., effect of H₂ adsorption 4-20722
- Hg_{1-x}Cd_xTe, deep levels in near-surface region, C-V characts. of MOS struct. 4-50762
- InGaAs/InP n-n heterojunction, deep levels, capacitance and DLTS studies 4-25425
- InP MIS diodes, capacitance changes caused by piezoelec. effects 4-35074
- InP/Pd surface-barrier Schottky diodes, H adsorption effects 4-35069
- InP/Si₃N₄-based MIS struct., C-V characts. and flat band pot. 4-50934
- KNiF₃, antiferromagnet, mag. sp. ht., capacitance meas. technique 4-56646
- Nb-NbO₂-Pb Josephson junctions, tunnelling props. 4-2693
- Nb₂Ge/oxide/Pb Josephson tunnel junctions, penetration depth and capacitance 4-50991
- SbSI thin films, prep. and dielec. props. 4-30392
- Si inversion layers, complex capacitance in strong inversion region 4-50931
- Si MOS structure, strong inversion layers, freq. response calc. 4-40055
- a-Si:H, density of states distrib. determ., capacitance-voltage method 4-39760
- n-Si/Au Schottky diodes, elec. characts. and electron beam annealing 4-15961
- TiO_x films, series equivalent capacitance and dissipation factor meas. 4-16165

capacitance measurement

- chlorophyll-A, surface conductance in ambient gases, I(V) characts., dielec. loss, capacitance 4-16829
- copper phthalocyanine Langmuir-Blodgett films, gas detector appls. 4-243
- cryogenic liquids, continuous level monitoring using capacitive devices 4-27531
- dimensional noncontacting comparator, using feedback capacitor gauge 4-48078
- DLTS meas., Boonton 72BD capacitance meter modification 4-42987
- haemoglobin, Langmuir-Blodgett films, dielec. props. 4-16830
- high-frequency capacitance measuring method for non-destructive quality control of reserve and dry-charged power sources 4-7834
- MOS structure, capacitance-time transient response method for bulk generation lifetime and surface generation vel. meas. (*Chinese*) 4-6895
- pressure distribution capacitive meas. under human foot sole (*German*) 4-17009
- resonant bridge for capacitance meas. of very high loss factor (*Polish*) 4-22790
- transformer bridge with automatic balancing for elec. variables meas., design and error analysis (*Czech*) 4-42991
- SiO₂ trapped charge distrib. by C-V anal. in polycrystalline Si-SiO₂-Si capacitors 4-50925

capacitance meters *see capacitance measurement***capacitor storage**

- high-voltage plasma focus project, Dusseldorf Univ. 4-34336
- pulsed high-energy-density plasma generation by EM implosion 4-38987
- staged implosion plasma switch for vacuum magnetic energy stores 4-39013

capacitor stores *see capacitor storage***capacitors**

- see also electrolytic capacitors; thick film capacitors; thin film capacitors; varactors*
- diffused p-n junction capacitors, transient response 4-30057
- epoxies, Al filled, dielec. props., elec. susceptibilities 4-40380
- high-pressure air system, synchronous capacitor conversion 4-52088
- PET, contact-injected space charge 4-11596
- n⁺-GaAs-Al_{0.3}Ga_{0.7}As-n⁺-GaAs SIS capacitors, resonant Fowler-Nordheim tunneling 4-40017
- InSb/anodic oxide/metal struct., carrier generation times and capture cross sections 4-50335
- Pb(Fe_{1/3}Nb_{2/3})O₃-Pb(Fe_{2/3}W_{1/3})O₃, low firing multilayer capacitor material, dielec. props. 4-30404
- Pb(Mg_{1/3}Nb_{2/3})O₃, dielec. props. rel. to ceramic processing 4-51174
- p-Si:B MOS capacitors with Al gate, donor-like traps, atomic models 4-6897

capacitors continued

- Si/SiO₂/Al capacitors, H migration under electron avalanche injection 4-29711
- Si/Ta₂O₅/Al MIS capacitors, elec. props. 4-15964
- Si-SiO₂ interface in MOS capacitor, hole trap props. 4-45887
- SiO₂ layers of MOS capacitors, hole traps. 4-50948
- Ta and alloys, development history, prod. and appls., ASTM standards 4-51573
- capacity, channel** *see channel capacity*
- capillarity**
see also bubbles; contact angle; drops; foams; liquid films; surface tension
- n-alcohols, flowing through capillary streaming classification, electric double layers (*Japanese*) 4-38877
- bubble in drop, eccentrically placed, slow axisymmetric thermocapillary migration in zero gravity 4-1814
- condensation in narrow capillaries, density functional theory 4-45457
- crystal melt growth, macroparticle capture and critical growth rate 4-34433
- cylindrical capillary jets in external flow, stability 4-10720
- deep-water gravity waves, subharmonic generation 4-34116
- dynamic contact angle in liq.-gas systems 4-2410
- dynamic contact angle problem 4-20433
- equilibrium state stability with disconnected free surface 4-45452
- evaporation of liquid from capillary tubes, transitional regime 4-20341
- extrusion rheometer, determ. rheological props. of ceramic pastes (*Czech*) 4-19780
- ferrosuspensions, Couette and Poiseuille flows in mag. field, couple stresses contrib. 4-38881
- friction and contact angle anal. 4-15747
- heat pipe wicks, thermophysical characts., porous surface defects effects 4-19708
- high molecular weight compounds, swelling mechanism and kinetics (*Russian*) 4-7503
- laser control of the flow of resonant molecules through capillaries 4-5963
- laser induced liquid surface deforms., holographic real-time interferometry obs. 4-45456
- liquid bridges with thermocapillarity 4-6626
- liquid flow in porous solid, heat and mass transfer, surface phenomena 4-34073
- liquids, capillary rise kinetics 4-34748
- magnetic capillary fluid, equilib. stability 4-40203
- mass transport along surfaces, different driving forces 4-29674
- microgravity research with sounding rockets, materials science expts., review 4-12320
- molecular theory, book 4-22533
- nearly spherical amorphous bodies, capillarity-induced spheroidization by viscous flow 4-57263
- nonisothermal flow of a rarefied gas in a circular cylindrical channel 4-34136
- nylon 6.6, filled and unfilled melts, unstable capillary flow 4-24475
- particle interactions in powder mechanics conf., Eindhoven, The Netherlands (Aug. 1983) 4-47746
- pendent drops in capillary tube 4-19861
- poly(ethylene oxide) mixture solns., Poiseuille flow, thermal elec. noise generation 4-29188
- polypropylene, filled and unfilled melts, unstable capillary flow 4-24475
- quasi-one-dimensional liq. spreading, size capillary effects (*Russian*) 4-39633
- red blood cell in plane Couette flow of plasma, 2D approach 4-47020
- shocks and phase transitions, viscosity-capillarity criterion 4-5905
- smectic liquid layers, solidlike behaviour, yield stress behaviour 4-55717
- steam condensation in capillaries 4-10526
- supercooled melt, crystal front propagation, boundary layer props. 4-34751
- thermocapillary convection in thin horizontal layer of liq. with deformable surface 4-44563
- thermocapillary flow in two dimens. slot, surface contamination effect 4-38919
- thin drop spreading by gravity and capillarity 4-34154
- two-phase displacement in Hele Shaw cell 4-49876
- viscometer, flared capillary, calibration meas., water-sucrose solns. 4-38919
- viscometer, flared capillary, flow eqn. 4-38786
- viscometers, capillary, working eqn. 4-19900
- viscous fluid, thin annular film surrounding circular pipe, nonlinear anal. 4-34754
- Hg retraction mechanisms in capillary ducts network (*French*) 4-39629
- SF₆, capillary rise, wetting layers, and critical phenomena in confined geometry 4-34752
- capillary phenomena** *see capillarity*
- capillary waves**
see also gravity-capillary waves with edge constraints, eigenvalue calc. 4-5904
- liquid drops, simulated microscopic, surface thickness 4-20435
- nonlinear gravity-capillary standing waves in water of arbitrary uniform depth 4-49835
- short-wavelength capillary wave parametric excitation at a liq.-metal surface bordering an unstable plasma 4-29246
- vertical jets with surface tension, capillary waves 4-15009
- wave generation at inertial surface 4-44614
- capture cross-sections, nuclear** *see nuclear reactions and scattering*
- Caratheodory's principle** *see thermodynamics*
- carbon**
see also nuclei with
- see also carbon fibres; charcoal; diamond; graphite*
- (001)2×1, missing spots in LEED 4-39064
- activated, Freudlich adsorption const. for organic cpd. adsorption 4-29773
- active, H₂O adsorption and enthalpy of immersion, theory 4-12383
- adsorbed nitro compounds on C, Raman spectra 4-35437
- adsorbed on Ru, thermodynamic and chem. props. 4-7754
- amorphous, 3.4 micron absorpt. band, implications for interstellar dust 4-8555
- amorphous, granular metallic deposits, cond. during nucleation and growth 4-39715
- amorphous, mass absorpt. coeffs. (25-250 μm), app. to IRC+10216 dust shell anal. 4-30468
- amorphous, nucleation of Sb, atomistic nucleation theory 4-39439
- amorphous film, granularity of metallic deposits, cond. meas. (*French*) 4-30086

carbon continued

amorphous film on Si substrate, struct. radial distrib. functions 4-56166
 amorphous with Cu island films, surface and volume diffusion during condensation 4-2474
 atmospheric $^{13}\text{C}/^{12}\text{C}$ ratio since 1400 AD, from tree ring studies 4-42090
 atom, X-ray emission model for laser produced plasma on perspex 4-10828
 atoms, fast electron scatt., theoretical cross-sections 4-5377
 atoms from nuclear process, solid state reactions (*German*) 4-16681
 Auger backscattering factor, effects of electron energy and angle of incidence 4-35528
 bilayer films, laser irradi., hole formation 4-28793
 black, graphitised, Kr monolayer, validity of Brunauer-Emmett-Teller eqn. 4-2431
 black, laser heating and rapid cooling, phase transformations obs. 4-34629
 black, minority elements spatial distrib., X-ray photoemission study 4-56131
 black powder, attenuated total refl. method for optical const. meas. 4-25704
 blacks, oxidised, oligobutadiene rubbers adsorption 4-16683
 blacks, work function, rel. to pH and surface chem. 4-35043
 C, Xe, Ne isotopes and chem. composition 4-58412
 carbyne rhombohedral form, cryst. struct. 4-11040
 clusters, bond energy calcs. 4-10201
 combustion generated particles in Arctic atm., conc. 4-26335
 combustion rate 4-52046
 combustion rate in flowing gas streams 4-52011
 depth profiling in Ti using elastic recoil anal. 4-46819
 diamonds from S Africa kimberlites, C isotopes and chem. composition 4-58120
 diffusion, in arc-fused MgO, gas evolution 4-34724
 diffusion in steel during low C lath martensite form. 4-16392
 dislocation core behaviour calcs. 4-25278
 dissolved organic C determination, in conc. brine solns. 4-12396
 fibre glass, struct. rel. to neutron irradi. 4-55881
 fibre precursors prep., solubility and susceptibility of carbonaceous quinoline insoluble substances 4-16360
 fibre reinforced C, US strength inspection 4-7665
 film, ion irradiation, variation of struct. and electrophysical props. (*Russian*) 4-50664
 films, diamond-like, obtained by ionised deposition of acetylene (*Japanese*) 4-2471
 films, diamondlike, surface anal. by AES and LEED 4-20515
 films, ion beam deposition, structural, elec. and optical props. 4-29841
 films, optical props., ellipsometric study 4-30430
 foil, atom (ion)(molecule) impact, excited atom emission, population invest. 4-43831
 foil, elastic multiple scatt. of transmitted electrons, energy loss straggling 4-45236
 foil, fast at. and mol. ion impact, Auger electron emission 4-11202
 foil, fast Li^+ ion impact, autoion. 4-11203
 foil, Fe ions collisions, charge state distrib., microscopic anal. 4-19194
 foil, ion beam excitation, metastable fraction yield 4-12003
 foils, H and H^+ bombardments, convoy electrons prod. 4-23796
 glass-like, a C_6H polymer intercalation cpd., struct. and annealing behaviour 4-39176
 glass-like, prep. by carbonisation of phenol formaldehyde resin 4-51612
 glassy, elec. cond. and Hall effect 4-6754
 glassy, negative magnetoresistance study 4-15894
 glassy cathodes, electron field emission (*German*) 4-57077
 Grafoil, adsorpt. of N_2 , heats and entropies of adsorpt. at 79.3K 4-50631
 grains, crystalline and amorphous, form. in astrophysical environment 4-53032
 graphitisability of carbonaceous materials, TEM and X-ray diffr. obs., model development 4-41146
 Graphon, C black, Raman spectra 4-35424
 growth and reactivity on Ni surface, field emission microscope studies 4-29751
 hard coating on brittle Ge, indentation and liq. impact studies 4-15792
 inhomogeneous distrib. in Fe-Cr (*Russian*) 4-6389
 intercalated with k, KC_x , sorption of H_2 isotopes at low temps. 4-39688
 interstellar C grains, fit to extinction curve without graphite 4-4064
 ion beams obtained by sputtering source in heavy ion acceleration complex (*Rumanian*) 4-28274
 ion-induced electro-emission 4-7296
 ions, electron impact excitation cross sections 4-13488
 isoelectronic sequence, MCDF-EAL method appl., higher-order relativistic corrections 4-5148
 isotope separation by laser photodissoc. of OCS 4-23834
 isotopic analysis of Pacific cores, implications for N Atlantic Late Pleistocene deep water form. 4-21955
 laser prod. plasmas, ion expansion vel., recombination effect 4-38983
 Leclanche type batteries, electrolyte absorption capacity of conducting C blacks 4-52131
 linear polytypes (carbynes), unified structural approach 4-6317
 mesophase spherule, carbonaceous, microstruct. study using TEM and X-ray diffr. 4-29643
 molecule, MCSCF stationary points characterisation 4-33296
 molecule, scattered-wave χ_α calculation, semi-relativistic variant 4-43804
 nuclear shieldings, two-centre integrals, CNDO/S parameterised calcs. 4-1071
 overlayers Ag electrode, adsorpt. of NH_3 , Raman spectrosc. obs. 4-50632
 oxygen reducing porous C electrode performance in alkaline fuel cells and metal air batteries 4-36004
 particles, laser radiation initiated combustion 4-3419
 pollutant, C filaments in aerosols from Cu smelter, chem. and physical props. 4-26336
 polycrystalline targets, elastically reflected electrons, spatial distrib. 4-25838
 probe surface exposed to low press. plasma, impurity ions energies determ. 4-51432
 pyrolytic, deposition from propane in tumbling and stationary beds 4-12031
 resistor, thermometry in high magnetic fields at low temperatures 4-17891
 reusable C mould for directional solidification of Si for solar cells 4-36012

carbon continued

self-diffusion coefficients from carburization kinetics of Fe particles 4-39560
 simultaneous depth profiling of C, O using $^{12}\text{C}(^3\text{He},p_0)^{14}\text{N}$ and $^{16}\text{O}(^3\text{He},\alpha_0)^{15}\text{O}$ 4-46822
 solid state effects on thermal neutron cross-sections 4-39057
 spheroids, randomly oriented, optical absorpt. 4-19372
 surface, Ni ion impact, convoy electron prod. and total electron yield 4-11201
 target, solid and gaseous, charge-changing cross section by hydrogenic ions impact 4-43962
 tetrahedral mag. susceptibility rel. to bonding 4-45994
 thermal conductivities meas. of glassy-metallic ribbons, using C chip as heater and thermometer 4-42972
 thick layers, electron transmission, EELS 4-51423
 thin film cryogenic thermometers, fast response 4-42963
 thin films, α -particle stopping power meas. 4-50385
 thin films, diamond-like, under internal compressive stress, stress relief forms 4-50696
 thin films, refl. and transmission Auger anal. 4-46381
 thin films, sputtering yield on different substrates (*Japanese*) 4-3011
 thin foils, protons energy straggling 4-5114
 UV lines in DC white dwarf BPM 11668, obs. 4-22374
 vacuum deposited target, sputtering yield, sputtered atom photon emission meas. (*Japanese*) 4-3010
 valence band struct., X-ray and electron spectra studies 4-29887
 vitreous, wetting by Al, contact reactions 4-50614
 Au-C multilayer normal incidence mirrors for soft X-rays, spherical and plane, study using synchrotron radiation 4-22894
 Au-C spherical and plane multilayer normal-incidence mirrors for soft X-radiation 4-27637
 C fragments from beam foil excited CO, Auger electron line shape 4-28547
 C I, photoionisation cross sections rel. to excitation of C II lines 4-3919
 C I, Stark parameters, plasma-broadened line in wall-stabilised arc 4-5171
 C I 1560 and 1657 Å multiplet, Skylab SO82-B obs. of Sun 4-31805
 C I observations of Egg Nebula (AFGL 2688) 4-3982
 C I spectral line isotope shifts, appl. to radioactive dating 4-9722
 C I-IV photoionisation cross-section spectra 4-48994
 C II, prod. in vacuum arc, UV fluoresc. by optical pumping with line radiation 4-54636
 C II, UV lines excitation by photoionisation of C I 4-3919
 C II column abundance in V861 Scorpii (HD 152667) 4-36716
 C II in B-type stars, non-LTE calcs. 4-8470
 C III, photorecombination rates calc. for 5000 to 100000K electronic temps. (*Russian*) 4-8387
 C IV, excitation of Fe II fluoresc. lines in Bowen mechanism in V1016 Cygni 4-17525
 C IV absorption in 0215+015, visible obs. BL Lac object 4-4078
 C IV ions in laser plasma, population inversion 4-14372
 C ions+H collisions, electron capture at low keV energies 4-19234
 C V, ground state, electron impact excitation, R-matrix method study 4-49167
 C^+ , electron impact ionisation cross-sections 4-5458
 C^+ , impact on C foil, Auger electron emission 4-11202
 C^+ , dielectronic recomb. through $1s^2s-1s^2p$ excitation 4-5466
 C^+ , photoproduction in galactic halo 4-53236
 C^{n+} ($n=1-3$), excitation by C foil, metastable function yield 4-12003
 a-C:H film, comp. elec. dielec. const., rel. to struct. 4-29845
 a-C:H film, ESR study 4-30267
 C:H films, amorphous, DC cond. and ESR meas. 4-56353
 a-C:H glow discharge film, white photoluminescence 4-40511
 C:H hard amorphous RF plasma deposited coating, optical and protective props. 4-24111
 a-C:H thin films, optical const. and dielectric props. 4-46339
 C-B substrate for dispersed Fe, Mossbauer study 4-25659
 C-SiC CVD coating for fusion reactor, performance results 4-20527
 C+Ar slow collisions, differential Ar L- and C K-shell vacancy production 4-23795
 C+ H_2 (Ar), cross-sections for one-electron capture 4-19219
 C+ H^+ , K-K shell electron capture in asymmetric collisions at high and intermediate energies 4-10051
 C+ $\text{H}(\text{H}^-)$ (H^+), charge transfer cross-sections determ. 4-14527
 C+methane, C-H insertion reaction, activation barriers, semiempirical calcs. 4-51962
 C^+S^{3+} , radiative electron capture, L-shell nonequilibrium effect 4-14536
 C^+H_2 , electron capture cross-sections meas., 10-150 keV 4-10037
 C^+H_2 , endothermic reactions, threshold behaviour 4-57546
 $\text{C}^{2+}\text{He}(\text{Ne})(\text{Ar})$, state-selective electron capture 4-14553
 C^{3+}H , charge transfer cross-sections, distorted wave calcs. 4-38283
 C^{3+}He , state-selective electron capture 4-14553
 $\text{C}^{4+}\text{He}(\text{H}_2)$, charge exchange, multiple scatt. theory appl. 4-14543
 $\text{C}^{5+}\text{H}(1s)$, charge capture, fully quantal calcs. 4-14560
 C^{6+}H , charge transfer, exponential distorted-wave approx. calcs. 4-38318
 C^{6+}H , charge transfer cross sections 4-14531
 C^{6+}H , electron capture, sublevel Stark mixing 4-14565
 C^{6+}H , X-ray emission cross sections meas. 4-28544
 C^{6+}He , electron capture cross-sections, unitarised distorted wave approx. calcs. 4-38317
 C^{6+}He , electron capture into different (n,l) states 4-14556
 C^{6+}He collisions, electron capture study by multichannel model 4-19235
 C^{4+}H , electron capture, ionisation, crossed beam coincidence study 4-19177
 C^{q+}H ($q=3$ to 6) ionisation collisions, time-of-flight analysis 4-9980
 C^{q+}He , electron capture processes, final state anal. 4-14548
 $\text{C}^{q+}\text{He}(\text{Ar})(\text{H}_2)(\text{N}_2)$, electron capture cross sections 4-14537
 C^{q+}Li , state-selective electron capture cross sections 4-14557
 C_2 , $d^3\Pi_u$ - $a^3\Pi_u$ Swan system, emission spectrum 4-5288
 C_2 , ground and excited states, transition moments, ab initio MRD CI calcs. 4-5145
 C_2 towards χ Oph, HD 154368, 147889 and 149404, visible obs. 4-31892
 C_2 , ultrahigh resolution photodetachment obs. 4-9844
 C_3 , Bogolyubov inequality appl. to thermodynamic functions calc. 4-1235
 CH_3 films, amorphous, prep., struct., phys. and optical props. 4-7261
 CV, electron impact 2^3S excitation 4-5425

carbon continued

- ^{12}C , doubly-charged negative ion search via accelerator mass spectrometry 4-53794
 ^{12}C isotope separation by multiple-phonon dissociation 4-23832
 $^{12}\text{C}/^{13}\text{C}$ in giant stars, turbulent diffusion mixing effects 4-53148
 ^{12}C , ^{13}C replacement in ^{199}Hg -C cpds., chem. shift, weak field isotope effect 4-14449
 $^{12}\text{C}^{6+}$ Ar charge changing collisions study using recoil ions 4-14568
 ^{13}C in land snail shells, palaeoclimate anal. (French) 4-52875
 ^{13}C NMR, solid state, reson. assignment using ^{13}C - ^{13}C dipolar interactions 4-20869
 ^{13}C NMR chem. shift prediction, multivariate method using partial least-squares anal. 4-19087
 ^{13}C NMR spectrometer with heteronuclear proton suppression, S/N ratio improvement 4-37125
 ^{13}C spin relaxation parameters, Howarth's model for polymers 4-38196
 $^{13}\text{C}/^{12}\text{C}$ ratio, meas. in low mol. weight hydrocarbons and monocarboxylic acids 4-42388
 ^{13}C -labelled polymers, liquid scintillation assay 4-46837
 ^{14}C , abundance meas. using accelerator mass 4-57614
 ^{14}C content of meteorites and their terrestrial ages 4-36639
 ^{14}C dating by tandem accelerator mass spectrometry, target preparation 4-47419
 ^{14}C detection using CW laser radiation producing selective initial state enrichment 4-19293
 ^{14}C environmental transport following shallow land burial 4-57802
 ^{14}C first-order dating of Holocene molluscs 4-22108
 ^{14}C , formation, behaviour, emission from LWR power plant (German) 4-37841
 ^{14}C in atm., conc., effect of pollutant CO_2 (1860-1950) 4-26338
 ^{14}C in lake sediments, and atm. CO_2 var. over past 30000 yrs. 4-58273
 ^{14}C labelled plant material for liq. scintillation counting, prep. method 4-12707
 ^{14}C , radionuclide metrology by liquid scintillation technique 4-16961
 C^{12}/H dual-labelled samples, effect of quench and radionuclide proportions on accuracy of scintillation counter 4-14275
 $\text{C}^+(2p^2, 2p^2, 2d)$, electron impact excitation cross sections 4-10138
 $\text{C}_2(4)$ crystalline modification, electronic struct. calcs. 4-11432
 $\text{C}^{4f} \text{ } ^5\text{S}_0$ multiplets, half-capacity configs. 4-18925
 Cu^- sputtered ion prod. mechanism for H_2^+ and D_2^+ bombardment 4-46417
Fe-Al-C, phase composition and ordered phase formation (Russian) 4-7446
Fe-C, dislocation enhanced Snoek relax. peak 4-50427
Fe-Ni-C, Mossbauer study of atomic and mag. ordering (Russian) 4-7100
Fe-Ti-C, microstructure study 4-56036
GaAs-C, defect states, thermodynamic calcs. 4-39819
GaAs-C, localised vibr. mode of C, cluster Bethe lattice treatment 4-2294
GaAs-C, semi-insulating, LEC-grown, C shallow acceptors study 4-40624
Li/SiO $_2$ high rate cells positive electrode characteristics 4-35994
MgO-C, arc-fused, DC conductivity, hysteresis 4-34693
MgO-C, arc-fused, dielectric behaviour 4-35346
MgO-C, arc-fused, diffusion of C, $^{12}\text{C}(\text{d,p})^{13}\text{C}$ reaction studies 4-34711
O I, Stark parameters, plasma-broadened line in wall-stabilised arc 4-5171
Si-(H,C,N,O) background secondary ion emission under Cs^+ bombardment 4-46392
Si-C, acceptor ground state problems 4-15852
Si-C, ion implantation at low temp., SiC formation, IR and EBIC studies 4-15508
a-Si-C, local struct., NMR, EPR, Raman scatt., and IR absorpt. studies 4-39131
Si-C, O crystals, O precipitation C and heat treatment effects 4-39515
a-Si-C/O,H film, photolum. props., effect of O_2 4-40513
 Si_3N_4 -C, amorphous composites, CVD, etching in HF soln. 4-7617
 Si_3N_4 -C composites, CVD amorphous, ESCA study 4-20104
W/C multilayered films, anal. by AES (French) 4-29848
W-C multilayer normal incidence mirrors for soft X-rays, spherical and plane, study using synchrotron radiation 4-22894
W-C spherical and plane multilayer normal-incidence mirrors for soft X-radiation 4-27637
ZnO-C, compacted powder, plasma deposition of C, A ion bombardment, annealing, AES 4-6392

carbon compounds

- see also organic compounds
adsorption on Rh III studied using optical second harmonic generation 4-34785
carbonate sediments of N Indian Ocean DSDP sites, thermoluminescence ages 4-41889
 CH_4 fermentation (French) 4-52177
clay suspension - CO_2 system, vibration augmented heat and mass transfer 4-19798
 2CN , semiempirical calc. of electronic correl. hypersurfaces 4-46738
 CO_2 in atmosphere, contrib. from global deforestation 4-31125
desorption of CO_2 from boiling KHCO_3 soln. 4-35935
diatomic molecules containing C, abundances in interstellar clouds 4-4071
dichlorodifluoromethane, IR multiphoton dissociation, threshold processes 4-54824
interplanetary dust, C, compounds form. by heterogeneous catalysis 4-47577
methane, protonated, reaction with H, flow drift tube expt. 4-41212
poly(dimethylsilylene-co-methylphenylsilylene) films, Si-C inorganic films synthesis by ion irradiation 4-20264
spectroscopic absorpt. model 4-23710
tetrachloromethane + CS_2 , excess molar enthalpy, 0.1-330 MPa 4-25059
vibr. relax., quenching cross sections, fluoresc. 4-23793
water hyacinth for methanol production (French) 4-52179
water hyacinths methane fermentation (French) 4-52178
Br-CN, 01^0 state, isotope shifts, direct l-doublet transitions 4-14384
 CH_3^+ atomisation energies, Moller-Plesset study 4-35865
CN, adsorbed on Ag, charge transfer, surface enhanced Raman scatt. study 4-56944
CN distribution in globular cluster NGC 2808 giants 4-13379
CN group molecules in interstellar grain mantles, IR absorption features 4-53238
CN interstellar lines, excitation temp. and microwave background determ. at 2.64 and 1.32 mm 4-47726

carbon compounds continued

- CN photofragments, rot. resolved emission and alignment 4-28515
CN, supersonic jet source, MODR study 4-54767
CN variation in M55 red giants 4-17570
CN, vibr. excited, laser excitation spectra, rot. anal. 4-5242
CN $^-$, electron-propagator calculations with a transition-operator reference 4-28574
CN $^-$, photodetachment threshold by laser optogalvanic spectroscopy 4-1220
CN $^+$ ion + molecule reactions, kinetics, selected ion flow tube obs. 4-46750
 C_2N_2 , electron impact, parent and fragment ions, form. cross sections, ionisation pot. 4-14591
 C_2N_2 , photodissoc. of $\text{C}^1\Pi_u$ state 4-9854
 C_2N_2 , triply differential photoelectron spectra obs. of photoionisation dynamics 4-9831
 C_2N_2 , vertical electron affinity meas. by electron transmission spectroscopy 4-1291
 C_2N_2 , integrated IR intensities 4-38167
CO (J=6-5) emission at 691 GHz from Orion Nebulae, IRTF obs. 4-27158
CO, A $^1\Pi$ state, four photoionisation photoelectron spectra 4-1212
CO, absorpt. on matrix isolated Ag clusters, IR investig. 4-28436
CO absorption line systems in 250 PKS 0237-233, chance coincidences (Russian) 4-47719
CO adsorbed mols. on Ni (100), Auger line shapes, angle depend. changes 4-35524
CO, adsorbed on Cu ($10\bar{1}0$), flash desorption spectra evaluation 4-56146
CO adsorbed on Cu/ZnO, IR transmission spectroscopic study 4-56143
CO, adsorbed on metals, stretching band vibr. shift, IR obs. 4-54670
CO adsorbed on Ni (100), anharmonic damping of adsorbate vibr. modes 4-20480
CO adsorbed on Ni (100), molecule-substrate vibr., IR study 4-39674
CO adsorbed on Pd film, Auger, electron loss spectra studies 4-50645
CO, adsorbed on Pt (001), valence band shakeup, synchrotron radiation photoemission spectra 4-30606
CO adsorpt. on Ni surface, shape reson. energies, Xalpha scatt.-wave calcs., photoionisation 4-54606
CO, adsorption and desorption kinetics on polycryst. Pd surfaces 4-20493
CO, adsorption kinetics and electron scatt. on Ni (110), angle-resolved UPS study 4-21109
CO adsorption on Cr thin films, internal stress meas. 4-39691
CO, adsorption on Ni (110), CO-S interactions 4-2456
CO, adsorption on oxidised Cu (111) and (110) surfaces, IR spectra, LEED, and surface pot. meas. 4-29794
CO adsorption on Pd (100), SIMS and high resolution EELS studies 4-45524
CO, adsorption on Pd (111) surface, photoemission spectra, C KVV Auger spectroscopy; 4-30605
CO adsorption on polycryst. Zr, AES and ESCA studies 4-15767
CO adsorption on Pt (100), IR reflection-absorption study 4-45522
CO, adsorption on Pt (111), thermal He scatt. study 4-34794
CO, adsorption on $\text{Pt}_3\text{Ni}_{100-x}$, vibr. EELS, TDS meas. 4-40589
CO, adsorption-desorption kinetics on polycryst. Rh surfaces 4-56147
CO and CO_2 , photoexcitation and photoionisation, cross sections calcs. 4-9847
CO, atm. conc. at Mirny station, Antarctica (Russian) 4-12990
CO, Auger transitions anal. using SCF Xalpha multiple scatt. method 4-23601
CO, $\text{B}^1\Sigma^+$ state, electron impact electronic excitation, reson. and threshold effects 4-19288
CO $\text{B}^1\Sigma^+$ state, multiphoton-induced fluoresc. and ionisation 4-23738
CO, beam-foil excited, C-fragment Auger electron line shape 4-28547
CO, bond dissociation energies, ab initio calcs. 4-33290
CO bonding to metal surfaces, mol. orbital cluster model anal. 4-20477
CO CW laser line correl. investigation (Chinese) 4-49331
CO CW tunable laser with two wavelengths (Chinese) 4-49330
CO, catalytic oxidation on Pt (100), surface phase transitions 4-25133
CO chemisorbed on Cu or Ag films, dielec. const. study (Japanese) 4-2860
CO chemisorbed on metals, excited states and decay mechanisms 4-56142
CO, chemisorbed on Ni (111) K coadsorption, metastable quenching spectroscopy 4-6655
CO, chemisorbed on surface vicinal to Cu (110), IR spectrum, effect of defect sites 4-56945
CO, chemisorption on $(1\times3)\text{Pt}_{0.98}\text{Cu}_{0.02}$ (110), thermal desorption and PES meas. 4-25155
CO, chemisorption on $(1\times3)\text{Pt}_{0.98}\text{Cu}_{0.02}$ (110), (1×1) surface formation 4-25156
CO, chemisorption on Pd clusters, stoichiometric species interconversion, IR spectra study 4-34791
CO, chemisorption on Pt, effect on surface core level shifts 4-30041
CO, chemisorption on PtCu (111), thermal desorption and PES meas. 4-25157
CO coadsorbed with H on Pd, methanol decomp. and interactions, TDS, LEED, AES studies 4-41256
CO coadsorbed with K on Ni (111), atomic exchange 4-15770
CO, coadsorbed with Na on Cu (100), reduced stretch vibr. freq., EELS study 4-29766
CO, coadsorption and interaction with D_2 on Rh (100), electron spectroscopic study 4-50639
CO, coadsorption with D_2 on Ni (100), temp. induced effects, thermal desorption, work function, UPS and XPS meas. 4-29793
CO, coadsorption with K on Pt (111) 4-20486
CO, coadsorption with K on Cu {100}, valence band photoemission study 4-57076
CO column densities in interstellar clouds, estimation method 4-4071
CO combustion analysers, extractive and in situ using non-dispersive infrared detection 4-26253
CO compact CW electric discharge laser 4-55080
CO, comparison of autoionisation and PES 4-5295
CO, compressed, depolarised Raman spectrum, collision-induced component 4-19063
CO, compressed, rot. Raman band, motional narrowing 4-19061
CO, coord. on ZnO ($10\bar{1}0$) surface, high resolution electron energy loss vibr. investig. 4-15560
CO, core-level photoelectron and Auger shape reson. phenomena 4-54800
 α -CO crystal, order-disorder reorientations and metastability 4-2132
CO, density shaping to fit one-electron props., constrained RHF calcs. 4-23585
CO desorption from Rh by He^+ and Ne^+ impact 4-11404

carbon compounds continued

- CO, desorption from stainless steel and Inconel 625 surfaces 4-34775
 CO desorption kinetics and adsorpt. equilib. on Ru (001), adsorbate interaction effects 4-11400
 CO, desorption on W, dissoci. kinetics, XPS 4-40606
 CO discharge medium, optogalvanic spectra characts. (*Chinese*) 4-54672
 CO distribution in face-on galaxies 4-27193
 CO effect on ZnO electrical conductivity obs., sensor appl. 4-34967
 CO, electron elastic scatt. integral cross-sections calcs. 4-5393
 CO, electron energy loss spectra 4-10170
 CO, electron impact, dissoci. and at. excitation, mass spectra study 4-49169
 CO, electron impact dissociative excitation, extreme UV spectra 4-5492
 CO, electron impact vibr. excitation, 2 and 20 eV reson. 4-5488
 CO, electron-beam-controlled laser, submicrosec. pulse emission by Q-switching 4-19474
 CO, electronic struct., Penning ionisation electron spectra, UPS 4-1213
 CO, electronically excited states of chemisorbed molecules 4-33359
 CO emission and distrib. in NGC 1068, 4321, 5248, anal. 4-27191
 CO emission from BI Crucis, He 3-1138 and He 3-1359 shells 4-17524
 CO emission from late-type stars, mass loss rates and outflow anisotropy 4-31817
 CO, fluid, depolarized rotational Rayleigh bands, induced effects on second moment 4-28426
 CO, fundamental band, integrated intensity, IR obs. 4-5219
 CO, galactic plane survey, correl. with γ -ray emission 4-31893
 CO gas, electron drift velocity determ., time-of-flight method 4-38928
 CO gas evolution from north-eastern Kentucky oil shale pyrolysis 4-41305
 CO, gas transport in highly crosslinked polypropylene glycol networks rel. to mol. wt. distrib. 4-45420
 CO gas-discharge laser active medium, scaling laws for gain and saturation parameter 4-14677
 CO, gaseous mag. resonance and thermal cond. 4-24519
 CO IR lines perturbed by H₂ and He, pressure broadening 4-33397
 CO, IR refl.-absorption spectroscopy of adsorbed mol. on metal surfaces 4-16188
 CO in atm. of primitive Earth, H₂O and CO photochem. reactions producing H₂ and organic cpds. 4-42179
 CO in atmosphere, 2-D photochem. model of troposphere 4-42078
 CO in atmosphere of Moscow, USSR, conc. variations in AD 1970 to 1982 period (*Russian*) 4-52835
 CO in comets, spectra, observed and expected 4-31798
 CO in irregular galaxy NGC 1569, obs. 4-53264
 CO, in stratosphere, latitudinal distribution 4-42111
 CO, in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
 CO induced hex=(1 \times 1) phase transition on Pt(100) 4-6487
 CO, interstellar, in M82, distrib. of J=2-1 emission 4-27176
 CO, interstellar, J=1-0 emission obs. rel. to axisymmetric distrib. of H₂ in Galaxy 4-47670
 CO, isotopic modifications, vibr.-vibr. exchange probabilities calc. 4-28542
 CO J=2-1 lines obs. of interstellar molecular clouds showing NH₃ emission 4-27160
 CO laser, discharge, with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 CO laser, electron-beam-controlled, pulse shape anal. 4-23966
 CO laser, pulsed electron-beam-controlled, with intracavity water cell, emission spectrum 4-19432
 CO laser induced thermal desorption from Cu (100) 4-20470
 CO, localised MO calcs. 4-48900
 α -CO mol. cryst., potential models and torsional stability 4-45274
 CO molecular gas jet, cylindrical supersonic, vibr. nonequilib., Monte Carlo calc. of outgoing radiation 4-10792
 CO molecules on metal surface, oxidation mechanisms (*Russian*) 4-34779
 CO, nonelectronic reduction, MINDO/3 study 4-21423
 CO, multiphoton ionisation versus dissoci. processes 4-33461
 CO, noncooled laser with short-pulse electron beam excitation 4-23956
 CO, nonequilib. discharge, vibr. kinetics and dissoci. rates 4-50107
 CO, nonequilib. discharge, self-consistent electron energy distrib. function 4-50108
 CO on Titan, VHF obs. 4-53093
 CO orientation at step sites of Pt(321) surface, implications for catalytic oxidation 4-34781
 CO, oxidation on kinked Pt (321) surfaces 4-31023
 CO, photoionis. cross sections of valence orbitals 4-9846
 CO, photoionis. spectrum, 15-40 eV range 4-9845
 CO post discharges, coupling of electron and vibr. energy distrib. 4-28539
 CO, pot. energy function, anharmonicity parameters 4-49113
 CO pulsed electron-beam controlled laser, active medium gain 4-14678
 CO reduction of Ni surface oxide, ellipsometry, AES 4-41260
 CO, reson. multiphoton ionis. via A¹II state, photoelectron obs. 4-9833
 CO sensor using ZnO single crystals 4-32249
 CO solid phase in interstellar grain mantles, IR absorption features 4-53238
 CO, submillimetre rot. lines from molecular cloud dense cores 4-47675
 CO supersonic CW electroionisation laser, optimum lasing regimes 4-19429
 CO, thermal conductivity in temp. range 300-430K at press. up to 10 MPa 4-1863
 CO towards runaway star AE Aurigae, UV obs. 4-53166
 CO two photon excitation spectrum, dynamical Stark effect 4-14492
 CO, vibr. relax., Raman Q-branch width 4-23786
 CO vibrational CARS spectroscopy of methane/N₂O flames 4-19060
 CO, viscosity at intermediate temp. 4-10806
 CO⁺, dissoci. of energy selected states by threshold photoelectron-photoion coincidence 4-9856
 CO⁺, equilib. struct., microwave spectrosc. obs. and Born-Oppenheimer approx. calcs. 4-14396
 CO⁺, glow discharge cathode sheath, ion mobility laser induced charge, optogalvanic detection 4-24621
 CO⁺, supersonic jet source, MODR study 4-54767
 CO⁺, vibrationally excited, isotope substitution, collisional quenching 4-5266
 CO⁺, vibrationally excited A state radiative quenching 4-9829
 CO²⁺, electron impact dissoci., ion kinetic energy spectroscopy, predissoc., appearance energies 4-38341
¹²C¹⁸O, reson. multiphoton absorpt. in intense IR laser fields, nonadiabatic calcs. 4-14388

carbon compounds continued

- CO/N₂/Ar quadrupole glass, mol. rotations, dielec. studies 4-29350
 CO/NO adsorption on Pt (100), IR reflection-absorption study 4-45522
 CO-CO₂ mixture form. through CO₂ electrochem. reduction, O₂ pump of stabilised ZrO₂ use 4-37079
 CO-H₂ discharge, plasmachemical conversion to hydrocarbons (*French*) 4-15320
 CO-He RF discharges, UV-visible emission, residence time anal. 4-24641
 CO-SF₆-air mixtures, breakdown, attachment and ionisation 4-34225
 CO+⁴He(⁴He), vibr. relax., rot. sudden approx. calcs. 4-5329
 CO+⁴He, ro-vibr. relax. in large f limit, semiclassical model 4-49133
 CO+⁴He, vibr. deactivation rate consts. for CO, semiclassical study 4-23785
 CO+Ar²⁺, single and double electron transfer reactions, time of flight meas. 4-3397
 CO+Ar(N₂), IR lines, broadening coeffs., temp. dependence 4-23690
 CO+H, translation to vibr. energy transfer, CO vibr. state distrib. 4-14513
 CO+H₂, collisional energy transfer, pot. energy surface 4-33507
 CO+H₂ collisions, vibr. and rot. inelasticity calc. 4-19165
 CO+H⁺(O⁻), energy distrib. of detached electrons 4-9963
 CO+H⁺ collisions, ionisation cross sections for 5 to 4000 KeV H⁺ in gases 4-9973
 CO+He, high energy scatt., obs. of vibr. 'rainbow' 4-9918
 CO+He metastable atoms, chemi-ionisation reactions at high energy 4-1249
 CO+He₂⁺, thermal energy charge-transfer reactions 4-21444
 CO+He⁺(He), excitation mechanisms, charge exchange 4-10018
 CO+Li⁺ clustering reactions, energy depend. study 4-41204
 CO+NO reaction on Pt (100), chemical autocatalysis, isothermal desorpt. 4-21491
 CO+OH, reaction rate consts., press. depend. 4-30957
 CO⁺+CO, vibr. relax., quenching cross sections, fluoresc. 4-23793
 CO²⁺+Ar(N₂)(H₂), dissoci. charge exchange, predissoc. 4-38341
¹²C¹⁶O+p-H₂, rovibrational excitation cross-sections calcs. 4-23792
 CO₂ 13-molecule clusters, ground state struct. calc. 4-10199
 CO₂ absorpt. by alkaline electrolyte in Ag-Zn secondary cell 4-16768
 CO₂ absorption coeffs. at HF laser wavelengths, photoacoustic meas. 4-1865
 CO₂ adjacent channel leaky waveguide lasers, phase locking 4-49387
 CO₂ adsorption on Fe, effect of preadsorbed H, volumetric meas., changes in work function and resist. 4-29797
 CO₂ adsorption on Pd, surface structure effects 4-6664
 CO₂ air pollution uptake by oceans 4-22001
 CO₂ and N₂ jets, supersonic mixing, IR diagnostics 4-10716
 CO₂, anharmonic force field pot. function, curvilinear internal coordinator 4-38324
 CO₂ Antares driver amplifier post pulse study 4-14730
 CO₂ Antares laser beam alignment system performance 4-14707
 CO₂, aq., heat capacities, volumes and temp. depend. of ionisation 4-39532
 CO₂ atmos. conc. during last 120000 years, ocean phosphate extraction model 4-42072
 CO₂ atmos. conc. obs. at Hawaii in support of HAMEC project 4-42211
 CO₂ atmospheric levels in pre-industrial era 4-31570
 CO₂ atmospheric temp. rise due to anthropogenic CO₂? a different view 4-52808
 CO₂, Auger transitions anal. using SCF Xalpha multiple scatt. method 4-23601
 CO₂, autoionising resonances probing using fluoresc. polarisation 4-9827
 CO₂ CW tunable laser resonator optimisation 4-24018
 CO₂ CW tunable waveguide high-pressure lasers 4-5608
 CO₂ cascade lasers with electric discharge excitation 4-28661
 CO₂ circulation laser radiation ang. divergence 4-5626
 CO₂ clusters, electron attachment, mol. beam electron impact mass spectrosc. 4-10205
 CO₂ collision induced microwave absorpt. at 0.091 cm⁻¹, temp. dependence 4-14402
 CO₂ compact sealed TEA lasers with corona-discharge preionisation 4-23952
 CO₂, compressed, depolarised Raman spectrum, collision-induced component 4-19063
 CO₂, compressed, Raman spectrum motional narrowing, hydrodynamic theory 4-19062
 CO₂ compressed, rot. Raman band, motional narrowing 4-19061
 CO₂, core-level photoelectron and Auger shape reson. phenomena 4-54800
 CO₂, crystal packing and struct. parameters calc. using ab initio intermol. SCF calc. 4-34450
 CO₂, decomposition in supersonic SHF discharge, nonequilib. plasmachem. processes 4-52000
 CO₂ density meas. using thick-source alpha particle gas densimeter, gas composition effect 4-42928
 CO₂, determ. of vibr. distrib. in nonequilibrated rarefied flows from 15 μ m band spectrum 4-9767
 CO₂, diffusion and heat of absorption in polymer films (*Russian*) 4-56078
 CO₂, dipole moment function, third derivative determ. 4-19044
 CO₂, dissociation under nonequilibrium conditions 4-52001
 CO₂, dissociative electron attachment, O⁻ prod. 4-5500
 CO₂ electroionisation amplifier for laser fusion, energy and operating characts. 4-19421
 CO₂ electron beam controlled atm. pressure laser utilising CO₂-N₂-H₂O mixture, energy characts. 4-28659
 CO₂, electron diffra., anharmonic struct. anal., harmonic force consts. 4-5360
 CO₂, electron elastic scatt., intermediate and high energies, two-pot. calcs. 4-23810
 CO₂, electron energy loss spectra 4-10170
 CO₂, electron impact dissociative excitation, extreme UV spectra 4-5492
 CO₂, electron impact excitation of optically forbidden states 4-10163
 CO₂, electron inelastic scatt., Rydberg series, 11-14 eV 4-10166
 CO₂, electron reson. scatt., vibrational excitation 4-5489
 CO₂, electron scatt., absolute total cross-sections in low-energy region 4-10149
 CO₂, electron scatt. cross-section, threshold behaviour 4-5400
 CO₂, electron-beam-controlled laser, thermal self-interaction, numerical analysis 4-14667
 CO₂, electron-beam-controlled CW laser, energy characts. stabilisation by silica gel 4-19475

carbon compounds continued

- CO₂, electron-ion recombination 4-10077
 CO₂, electronic excited states, electron impact spectra 4-33547
 CO₂, electrons elastic scatt. in intermediate energy range 4-54863
 CO₂, electrostatic interactions, lattice dynamic calcs. 4-6451
 CO₂, emission rates for conventional and synthetic fuels 4-35978
 CO₂, far IR hybrid laser, CW and pulsed, with improved efficiency and amplitude stability at short far IR wavelengths 4-28715
 CO₂, fast-flow lasers, gas-discharge chamber energy characts. investigation looking at discharges in N₂ and air 4-28749
 CO₂, fixed-alignment waveguide laser 4-1412
 CO₂, fluid depolarized Rayleigh bands, induced interactions 4-54733
 CO₂, forest canopy in winter, O₃, CO₂ and particle fluxes for deciduous forest 4-42013
 CO₂, form by CO oxidation on Pt and Pd, time resolved IR emission spectra 4-14407
 CO₂, free positron and ortho-positronium lifetime 4-5521
 CO₂, from Mount St. Helens summit crater, ¹³C/¹²C ratio rel. to mantle origin 4-12861
 CO₂, fundamental bands, CARS study 4-23705
 CO₂, gas, bulk discharge ignition volt., impurity effects 4-6220
 CO₂, gas, electron drift velocity determ., time-of-flight method 4-38928
 CO₂, gas discharge with electronegative component bounded by a dielect., change in form study 4-34358
 CO₂, gas dynamic laser, effects of stagnation temp. and pressure, nozzle profile (*Japanese*) 4-38446
 CO₂, gas evolution from north-eastern Kentucky oil shale pyrolysis 4-41305
 CO₂, gas probe using K₂CO₃ solid electrolyte 4-37091
 CO₂, gasdynamic lasers behind nozzles of wedge and profiled geometries, amplification ratio 4-33644
 CO₂, high-gain short-pulse laser chain multiband operation using saturable absorbers 4-23950
 CO₂, higher order l-doubling 4-14383
 CO₂, hybrid laser, multiline oscillation by cavity length tuning 4-19419
 CO₂, IR absorpt. in wing of ν₃ vibr.-rot. band 4-38183
 CO₂, in atmos., 15 μm band absorpt. and emission 4-42174
 CO₂, in atmosphere, var. over past 30000 yrs., lake sediments ¹⁴C anal. 4-58273
 CO₂, in atmosphere and climate change 4-22068
 CO₂, in atmosphere at Barrow, Alaska, conc. variability obs. 4-42091
 CO₂, in atmosphere-ocean carbon cycle models 4-3799
 CO₂, in ice age atmosphere, ¹³C content in V19-30 core 4-17239
 CO₂, in mid-troposphere, conc., mathematical model 4-58267
 CO₂, in Mount St. Helens gas plume, emission rates meas. 4-12858
 CO₂, in stratosphere and troposphere over Australia, var. with time 4-52830
 CO₂, in Titan's atmosphere 4-17432
 CO₂, inclusions in olivine of geobarometry Loihi Seamount ultramafic xenoliths 4-41842
 CO₂, increase effects, satellite-based detection of climatic changes 4-26868
 CO₂, inverted, stimulated light scatt. induced by thermal nonlinearity 4-10276
 CO₂, LF viscosity meas. near crit. point 4-11330
 CO₂, laser, 30-W RF excited waveguide, design and performance characts. 4-1382
 CO₂, laser, band-stop absorption filters utilisation 4-1403
 CO₂, laser, closed-circle-type, EM driven 4-14718
 CO₂, laser, continuous, freq. stabilisation and band selection (*Spanish*) 4-28727
 CO₂, laser, discharge, with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 CO₂, laser, electron-beam sustained, laser-induced freq. sweeping 4-44085
 CO₂, laser, high power, use in rapid solidification laser processing, book contrib. 4-7622
 CO₂, laser, medical and industrial applic. developments 4-44132
 CO₂, laser, mode pulling obs. 4-49322
 CO₂, laser, OH catalyst control via NbH_x-H₂ equilb. 4-33641
 CO₂, laser, pulsed, radiation recording by thermal stabilisation of photoemulsions 4-10340
 CO₂, laser, pulsed, using passive Q switch with SF₆ gas 4-44111
 CO₂, laser, treatment of materials, conference, Pianore, Italy (July 1980) 4-36794
 CO₂, laser active medium energy charact. determ. from gain meas. 4-19422
 CO₂, laser beam upper hybrid resonance absorption in magnetised plasma 4-34269
 CO₂, laser discharges, optogalvanic effect, temp. perturbation model 4-33642
 CO₂, laser effects, instrumentation and biomedical appl. (*Czech*) 4-55109
 CO₂, laser emission freq. stabilised tuning using two-section interferometer 4-19493
 CO₂, laser frequency selection by Ge-window temp. control (*Chinese*) 4-14713
 CO₂, laser frequency stabilisation with NH₂D Stark cell (*Chinese*) 4-55100
 CO₂, laser impedance fluctuations, multi-step ionisation and temp. perturbation models 4-33643
 CO₂, laser materials processing systems, development and appl. (*Japanese*) 4-10352
 CO₂, laser power stabilisation by feedback loop, freq. stability (*Chinese*) 4-55069
 CO₂, laser produced highly refracting plasma, time resolved schlieren study 4-6190
 CO₂, laser pulses, atmospheric propag. 4-47403
 CO₂, laser using electrochemical transformation of organic compounds 4-49323
 CO₂, laser with plasma cathode, nonself-sustained discharge 4-28660
 CO₂, laser with radioisotope preionisation 4-49326
 CO₂, laser-plasma interaction studies, stimulated Brillouin scatt. under well-defined interaction conditions 4-15287
 CO₂, lasers, optimisation of corona discharge photoionisation sources 4-5567
 CO₂, lasers, sealed-off, with La_{1-x}Sr_xCO₃ oxide cathodes 4-28712
 CO₂, lasers, transversely excited, anomalous gain coeff. meas. 4-28658
 CO₂, lasers appl. as thermal source (*Czech*) 4-38496
 CO₂, lasers operating in atm. and ultra-atm. press. regimes with a self-maintaining discharge 4-5566
 CO₂, liquid flow in cylindrical channel, Brillouin light scatt. study (*French*) 4-34191

carbon compounds continued

- CO₂, low press. glow discharge CO₂⁻ ion densities 4-29273
 CO₂, measurement of air samples, design of IR laser spectrometer 4-42210
 CO₂, molecular laser, lower output, with stabilised output frequency (*Polish*) 4-44086
 CO₂, multiline AM mode-locked TEA laser, independently adjustable 4-28722
 CO₂, of deep origin near Mount St. Helens, isotopic comp. rel. to mantle derivation 4-12956
 CO₂, particulate scatt., total hemispherical emittances 4-24339
 CO₂, pollutant in atm. (1860-1950), effect on ¹⁴C conc. 4-26338
 CO₂, pollution affecting climate, general circulation model study 4-42151
 CO₂, positron scatt., integrated elastic cross section, model pot. description 4-5359
 CO₂, pulsed high repetition rate laser, appls. in chemistry and isotope separation 4-23959
 CO₂, pulsed laser attenuation by plasma breakdown in aerosols at reduced particle density 4-10363
 CO₂, pulsed laser optoacoustic detection of flame species 4-26232
 CO₂, pumping laser for methyl alcohol submillimetre wave laser 4-23955
 CO₂, regeneration of weak acid ion exchange resins with added anion exchanger 4-51968
 CO₂, rot. collision no.'s calcs., 350-2000K 4-19037
 CO₂, selective branch laser operating in sequence bands (*Chinese*) 4-49324
 CO₂, slow electron impact, rot. and vibr. excitation 4-10148
 CO₂, solid, electronic band struct., determined from hv-depend. of photoemission 4-34872
 CO₂, stopping cross section of ⁴He 4-1012
 CO₂, supercritical, turbulent pipe flow, heat transfer and flow resist. 4-10777
 CO₂, supercritical fluid chromatography/Fourier transform IR spectroscopy 4-12398
 CO₂, TEA high-power laser, direct pulse shaping 4-24032
 CO₂, TEA hybrid laser design and operation 4-38495
 CO₂, TEA laser, semiconductor preionised, operation up to 100 Hz 4-1383
 CO₂, TEA laser pulse meas. by plasma detector 4-39011
 CO₂, TEA lasers, photoionisation origin identification 4-28657
 CO₂, TEA lasers, plasma effect in injection-mode locking 4-38445
 CO₂, TEA lasers, sealed, high-PRF semicond.-preionised, without solid catalyst 4-28709
 CO₂, TEA multimode laser, phase conjugate study 4-5661
 CO₂, TEA UV laser, lifetime improvement study by catalytic reaction of decomposed products (*Chinese*) 4-55012
 CO₂, thermal cond. at high press. 4-29231
 CO₂, thermal radiation in atm., radiative parameterization in climate model 4-42153
 CO₂, total electron scatt. cross section in energy range 4 to 300 eV 4-5375
 CO₂, transverse electric atm. laser amplifier, picosec. time response 4-38444
 CO₂, transverse flow laser, small signal gain along gas flow direction, anal. (*Chinese*) 4-55011
 CO₂, transversely excited discharge, accurate press.-broadened linewidth meas. 4-29271
 CO₂, Van der Waals mol's. role in vibr. relax. kinetics 4-5330
 CO₂, vibr. nonequilb., radiation characts., 12-19 μm 4-9769
 CO₂, vibr. relax., two-photon Raman excitation, CARS study 4-33411
 CO₂, vibr. transition moments, Fermi reson. overtones 4-9835
 CO₂, vibrational energy transfer, pulsed spectrophone measurements 4-23789
 CO₂, warming of Earth, implications of Australia climatic variations anal. 4-31625
 CO₂, waveguide laser with Fox-Smith mode selector 4-28723
 CO₂⁺, ²Π_g state Renner splitting, ab initio UHF calcs. 4-1038
 CO₂⁺, ²Π_g state, radiative lifetimes, supersonic jet time resolved UV spectra 4-23755
 CO₂⁺, impact on C foil, Auger electron emission 4-11202
 CO₂⁺, intramol. decay, fluoresc. quantum yields and lifetimes 4-38228
 CO₂⁺, UV emission study of CO₂+He₂ 4-26178
 CO₂⁺, double electron transfer reactions time-of-flight meas. 4-5343
¹¹CO₂, prod. by proton irradi. of N gas optimisation 4-12706
¹²CO₂⁺, photoionisation branching ratio, fluoresc. meas., rot. lines, ODR, red shift 4-54819
 CO₂-Ar (methane), binary mixtures, thermal cond. at high press. 4-29232
 CO₂-Ar CW gasdynamic laser emitting at 18.4 μm 4-10278
 CO₂-climate models, shortcomings, energy policy implications 4-52874
 CO₂-D₂ gasdynamic thermal-mixing laser 4-10277
 CO₂-gasdynamic laser medium with wedge and profiled nozzles, apparatus, pulse gain meas. 4-23953
 CO₂-H₂O(HDO)(D₂O) van der Waals complexes, RF and microwave spectra, struct. and internal rot. 4-54678
 CO₂-methyl nitrite, methyl nitrite (-CO₂), ¹HNMC spectra, conformational exchange, intramol. vibr. redistrib. 4-43902
 CO₂-N₂ gasdynamic lasers employing two-dimensional wedge nozzles, gain optimisation, analytical studies 4-10275
 CO₂-N₂ gasdynamic lasers, 10.6 μm, gain optimisation, theory 4-33640
 CO₂-N₂ plasma, weakly ionised, electron transport coeffs. 4-10823
 CO₂-N₂-He bulk self-sustained discharge in long gaps 4-24682
 CO₂-N₂(methane), liq. vap. equilb. study 4-24983
 CO₂-N₂(methane)(N₂-methane), vapor-liq. equilb. meas. 4-29583
 CO₂-Ne(Ar) mixture, laser transitions between symmetric and deform. modes 4-49325
 CO₂+acetylene(ethylene)(ethane), vibr. energy transfer, rate consts., fluoresc. meas. 4-33506
 CO₂+Ar, line widths and shifts, collision-induced phase shifts effects 4-1241
 CO₂+Ar⁺, charge stripping, collision gas press. depend. 4-33521
 CO₂+Ar²⁺, single and double electron transfer reactions, time of flight meas. 4-3397
 CO₂+cyclohexane, excess enthalpies, 7.5 to 12.5 MPa 4-25058
 CO₂+F⁻ collisions, autodetaching states, electron spectra study 4-9972
 CO₂+F⁻ collisions, electron detachment study by differential time of flight energy loss study 4-9970
 CO₂+H, hot atom laser induced fluoresc. expts. 4-41241
 CO₂+H₂S, vibr. energy exchange, IR fluoresc. meas. 4-5332
 CO₂+H⁻, shape reson. charge exchange, non-Franck-Condon behaviour 4-49148

carbon compounds continued

- $\text{CO}_2 + \text{H}^+$ collisions, charge exchange to shape resonances 4-9971
 $\text{CO}_2 + \text{H}^+$ collisions, ionisation cross sections for 5 to 4000 KeV H^+ in gases 4-9973
 $\text{CO}_2 + \text{HF}$, ($v=1-7$), vibr. relax., rate consts. meas. 4-9915
 $\text{CO}_2 + \text{He}^+$, thermal energy charge transfer reaction, CO_2^+ emission 4-26178
 CO_2 hot atoms, vibr. excitation, diode laser probe investig. 4-49135
 $\text{CO}_2 + \text{Li}^+$ clustering reactions, energy depend. study 4-41204
 $\text{CO}_2 + \text{NO}^+(\text{O}_2^+)(\text{N}^+)(\text{N}_2^+)$, ion association reaction, drift tube meas. 4-41209
 $\text{CO}_2 + \text{Na}^*(3p)$, collision, nonreson. electronic to vibr. energy transfer 4-9920
 $\text{CO}_2 + \text{Ne}$, collisional ionisation 4-57537
 $\text{CO}_2 + \text{Xe}$, multiple collision rot. rainbows, meas. and scatt. calc. comparison 4-1243
 $\text{CO}_2^+ + \text{CO}_2$, equilib. studied using mass spectrometer ion source 4-13723
 $\text{CO}_2^+ + \text{H}$ reactions, const. rate coeff. 4-51986
 $\text{CO}_2^+ + \text{H}_2(\text{H})$ reactions, quasi-static drift tube study 4-41211
 $(\text{CO}_2)_2$, rot. fine struct., high resol. IR predissociation spectra 4-54685
 CO_2 and hydrates, laser photodissoc., cluster struct. 4-9860
 C_2O , generation and identification 4-16644
 C_2O_2 , core-electron photoelectron spectra, shake-up satellites studied HAM/3 semiempirical MO method 4-43916
 $\text{CO}_2^+(\text{C}_2\text{S}_2^+)$, predissociation, excess energy partition and branching ratios 4-9848
 CO_2HF , IR matrix isolation spectra, vibr. freq. 4-54692
 COS in ocean surface waters, photochem. production 4-26721
 COS , in stratosphere, latitudinal distribution 4-42111
 COS , in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
 CS in Comet IRAS-Araki-Alcock (1983d), prod. rate and scale length of parent molecule 4-13248
 CS in comets, spectra, observed and expected 4-31798
 CS , multitransition EHF study of interstellar dense molecular cloud cores 4-53241
 $\text{CS-Carbon tetrachloride (chlorobenzene)(nitrobenzene)}$ binary liq. mixtures, US absorption study 4-15589
 $\text{CS} + \text{H}_2$ ($J=0$), approximate collisional excitation rates 4-13179
 $\text{CS} + \text{O}_2(\text{NO}_2)$, reaction and quenching rate coeff. 4-16621
 CS_2 , chemical reactions for atmospheric conditions 4-42049
 CS_2 , electron scatt., absolute total cross-sections in low-energy region 4-10149
 CS_2 , hydrodynamic rot. friction coeffs. 4-11329
 CS_2 , intermol. force models and cryst. struct. 4-29391
 CS_2 , jet-cooled, ${}^1_2\text{g}_2^- \text{B}_2^+(\Sigma_u^+)$ transition, UV spectra 4-19075
 CS_2 , liq., collision-induced depolarised Rayleigh line shapes, temp. and density effect 4-33404
 CS_2 , liq., density fluctuations, polarised light scatt. 4-2932
 CS_2 , liq. and cryst., high-pressure Raman study up to 45 kbar at 300K 4-25739
 CS_2 , liq. and cryst., time-resolved spectroscopy of vibrational overtones and two-photon states 4-51275
 CS_2 , near-UV absorpt. cross-sections, appl. to Venus stratosphere absorpt. spectra (French) 4-28453
 CS_2 /methanol system, coexistence curve in vicinity of crit. point 4-2317
 $(\text{CS}_2)_n$ cluster, electron impact and collisional ionisation 4-10206
 CS_2 polymer films, plasma-polymerized from CS_2 , photocond. props. 4-25899
 ${}^{12}\text{C}^{16}\text{O}$ (11^1_0)- 00^0_0 band absolute intensity meas. at $5.2 \mu\text{m}$ 4-19049
 ${}^{12}\text{CO}$, interstellar, search for radio emission at high galactic lat. 4-31885
 ${}^{12}\text{CO}/{}^{13}\text{CO}$ ratio in Venus mesosphere 4-3944
 ${}^{12}\text{C}^{16}\text{O}$, 4.4 μm cascade laser 4-38443
 ${}^{13}\text{C}^{16}\text{O}^+$, $\text{A}''\Pi-X^2\Sigma^+$ transition, laser induced fluoresc. excitation 4-14476
 ClCN , 01^1_0 state, isotope shifts, direct I-doublet transitions 4-14384
 CO_2 compact RF excited waveguide laser design and recent applications 4-49393
 DF-CO_2 transfer laser, high-press., continuously tunable, optically pumped 4-23951
 DF-CO_2 chemical supersonic laser ring model with unstable-telescopic resonator, energy characts. 4-19435
 DF-CO_2 pulsed chem. transfer laser amplifier, CO_2 vibr. populations 4-19433
 $\text{HCN-CO}_2(\text{d}_1)$ complex, RF and microwave rot. spectra and struct. anal. 4-38160
 $\text{He} + \text{CO}$ collisions, close coupled scatt. calc. comparison with meas. at $E_{\text{cm}} = 27.7 \text{ meV}$ 4-19168
 ICN , direct photofragmentation, product state anharmonicity effect 4-43927
 $\text{N}_2\text{-CO}$, thermal conductivity of binary mixtures 4-55477
 $\text{N}_2\text{O-CO}_2$, thermal conductivity of binary mixtures 4-55477
 $\text{O}_2\text{-CO}_2(\text{N}_2)$ thermal electron diffusion, attachment and cooling 4-28558
 OCS , core-level photoelectron and Auger shape reson. phenomena 4-54800
 OCS , electron impact excitation differential cross-sections 4-10167
 OCS , electron scatt., absolute total cross-sections in low-energy region 4-10149
 OCS electronic transition moment changes of ${}^1\text{A}'-X^1\Sigma^+$ system with vibr. excitation 4-28509
 OCS , fluoresc. excitation spectra of neutral fragments from photodissoc. by VUV photons 4-9828
 OCS , hydrodynamic rot. friction coeffs. 4-11329
 OCS , IR multiphoton excitation 4-54696
 OCS , photodissociation, excited fragments fluoresc. decay 4-23763
 OCS , supersonic mol. beams, single and double reson., microwave spectra 4-33428
 OCS , two-step laser photodissoc. for O, C and S isotope separation 4-23834
 OCS , vibrationally excited, vibronic spectra spectral moments and shifts 4-23752
 $\text{OCS} + \text{Ne}^+(\text{Ar}^+)$ reactions, emission spectra study 4-3381
 $\text{OCS} + \text{S}(\text{D})$, adiabatic and diabatic reactions, S_2 internal state distrib. 4-12344
 $\text{SC}(\text{NH}_3)_2$, incommensurate structural phase transitions, Raman scatt. study 4-25000
 $\text{SF}_6\text{-CO}_2$ mixtures, DV voltage breakdown in rod-plane gaps 4-24646
 $\text{UF}_6\text{-CO}$ mixtures, vibr. relax., ultrasonic attenuation meas. 4-19157

carbon fibre reinforced composites

- 2D-C-C fibre reinforced BN 4-30674
acetal matrix, wear mechanism 4-41009
conductive plastics, microstruct., elec. and mech. props. 4-15407
damping capacity and natural freqs. 4-40878
delamination and defects, NDT using video-compatible thermography 4-26121
epoxy matrix, controlled interfacial bonding, tensile strength and fracture toughness 4-12147
epoxy matrix, fracture at low temp. 4-16477
epoxy matrix, hybrid composite with C fibres, direct jobs. of failure and toughness 4-3212
epoxy matrix, laminates, failure, edge stresses effect 4-26037
epoxy matrix, mech. props. rel. to 2 MeV electron irradi. 4-30757
epoxy matrix (Japanese) 4-21308
epoxy matrix 4-34544
epoxy matrix laminates, thermal expansion, strain deviation from lamination theory 4-25063
epoxy resin matrix, laminates, impact and subsequent fatigue damage 4-57316
epoxy resin matrix, notch, compressive strength, effect of environment 4-51831
epoxy-polyethersulphone matrix, fatigue behaviour, effect of morphology 4-51778
fractographic analysis of aerospace structural element 4-26020
graphite fibre reinforced Al composite wires, NDT of voids using X- or γ -rays 4-30898
graphite fibre reinforced Al wires, nondestructive evaluation of thermal cycling, US torsional vel. obs. 4-30899
graphite fibre reinforced epoxy, accelerated environmental testing 4-26125
graphite fibre reinforced epoxy, biaxial stress behaviour, creep and recovery tests 4-46585
graphite fibre reinforced epoxy (polyimide), tensile strengths, thermal aging effects 4-46534
graphite fibre reinforced epoxy composite, moisture and thermal expansion coeffs. 4-50543
graphite fibre reinforced epoxy composites, electron irradi. effects on interlaminar shear and flexural strength props. 4-2231
graphite fibre reinforced epoxy composites, fibre-matrix adhesion rel. to fibre finish 4-16525
graphite fibre reinforced epoxy composites, NDE, computer analysis of X-ray and acoustic images 4-30896
graphite fibre reinforced epoxy laminate, transient wave propag. produced by steel ball impact 4-14916
graphite fibre reinforced epoxy laminates, bilinear failure analysis 4-16510
graphite fibre reinforced epoxy laminates, low vel. impact behaviour 4-51779
graphite fibre reinforced epoxy laminates, low vel. impact damage, residual strength assessment 4-51780
graphite fibre reinforced epoxy resin, out of plane thermal expansion, holographic interferometry 4-20380
graphite fibre reinforced epoxy unidirectional laminates, mech. props. rel. to high temp. welding exposure 4-3183
graphite fibre reinforced wires, nondestructive evaluation by US vel. and attenuation 4-30900
graphite fibre-epoxy composites, physical ageing 4-35739
graphite intercalation compound with acceptors, fibrous, synthesis kinetics and composite formation 4-46476
graphite reinforced epoxy angle-ply laminated panels, free vibrs. 4-33993
graphite reinforced epoxy composite shells, nonlinear stress-strain, strength response 4-51730
laminates, three-component, fracture criterion 4-12167
plastic matrix, circular cylinders, axial compressive buckling, surface imperfections effect 4-38745
plastic matrix, dynamic testing, damage growth, acoustic emission (German) 4-51924
plastic matrix, failure mechanism under interlaminar shear 4-46605
plastic matrix, strength, moulding pressure influence 4-12117
plastic matrix, strength props. 4-26013
plastic matrix, technological advancements in reinforcements, filters, resins and processes 4-46489
plastic matrix, temp. and moisture effects on failure, damage accumulation eqn. 4-46604
plastic ring with nonlinear section, compressive behaviour 4-49782
plastics, fatigue life, statistical prediction and expt. tests 4-3203
polycapromamide matrix, failure mechanisms 4-30815
polycarbonate matrix, fracture toughness of short fibre thermoplastics 4-46612
polyester matrix, hybrid composite, flexural and impact properties (Japanese) 4-26041
polyimide matrix 4-34544
polyimide resin matrix, mech. props. rel. to 2 MeV electron irradi. 4-30757
tribology rel. to filler material (German) 4-16514
ultrasonic velocity, refraction and propagation 4-55930
Al matrix, prod. methods 4-7400
Al-Cu matrix, dry wear characts. (Japanese) 4-46625
C matrix, 3D, acoustic imaging of billets 4-3335
C matrix, high temp. flexural strength using precision bending apparatus 4-41125
C matrix, US strength inspection 4-7665
Sn-Sb-Cu matrix, squeeze casting, tensile strength, SEM obs. 4-51585

carbon fibres

- see also carbon fibre reinforced composites
cell, C fibre and HNO_3 , with temp. difference between electrodes 4-46862
graphite fibre as positive electrode in rechargeable Li cell 4-41332
graphite fibre intercalation compound with acceptors, struct., elec. and optical props. 4-45703
graphite fibre intercalation compound with $\text{ICl}(\text{Br}_2)(\text{CuCl}_2)$, elec. resist. and Shubnikov-de Haas oscillations 4-45706
graphite fibre-Br intercalation cpd., electrode appl. in thermocell 4-46861
graphite intercalation compound with acceptors, fibrous, elec. resist. meas., current aging 4-45705
graphite intercalation compound with acceptors, fibrous, synthesis kinetics and composite formation 4-46476
graphite intercalation compound with Br_2 , exfoliation, X-ray diffr. study 4-46463

carbon fibres continued

- graphite intercalation compound with K, fibrous, synthesis and elec. props. 4-45704
- intercalated with CuCl_2 , elec. resist. and Shubnikov-de Haas oscillations 4-40003
- mechanical and acoustic props., fabrication and appl. (Czech) 4-26034
- surface oxidation, XPS studies, digital difference spectrum technique 4-35740
- tensile failure rel. to structure 4-7551

carbon microphones *see* **microphones****carbon steel**

- austenite isothermal precipitation and polymorphic transformations (Russian) 4-51664
- boiler type 15 YuA, mech. props. and struct. 4-51692
- boronized layers, in-depth phase anal. by glow discharge optical emission spectroscopy (Chinese) 4-16572
- carbide morphology effect on fatigue crack growth 4-3260
- case-hardening response, effect of Al treatment 4-51845
- chromised sintered, mech. props. 4-40709
- cold formability, microstruct. effect (French) 4-46533
- contact fatigue crack initiation under repeated oblique force 4-30834
- corroded, influence of H_3PO_4 , Mossbauer study 4-21361
- corrosion and microstructure after tempering in range 100-700°C 4-21359
- corrosion fatigue, electrochem. aspects 4-21392
- corrosion in chemical cleaning solns., inhibition by magnetite addition 4-41051
- corrosion inhibition by amine base polycondensation product in acid solns. of type KL-1 4-41034
- corrosion inhibitor, KhOD-1, for acid corrosion and corrosion-mech. failure 4-51896
- cyclic fatigue damage rel. to overstress ratio (Japanese) 4-26046
- diffusion of C during low C lath martensite form. 4-16392
- dual-phase, ferrite-martensite, tensile deform. 4-57291
- etched in HCl soln. with and without inhibitor 4-51866
- eutectoid, mech. props., effect of Cr additions up to 1% 4-51773
- eutectoid, pearlitic, crack resist., failure in cyclic loading, struct. sensitivity 4-51804
- eutectoid, prestressing, H embrittlement, effect of surface residual stress 4-12223
- eutectoid, subcritical thermomech. treatment, microhardness 4-12092
- evolutions of H, effects of Si- or Mn-contents (Japanese) 4-3159
- fatigue, changes in residual stress, domain size and microstrain 4-7558
- fatigue behaviour, effects of N-ion implantation 4-30824
- fatigue crack propag. rel. to initial residual stress (Japanese) 4-26047
- fatigue damage, strain hardening index 4-12156
- fatigue damage line of Wohlerdiagram (German) 4-46591
- ferrite-pearlite, crack tip plasticity, monotonic and cyclic 4-30792
- ferritic, low C, with fine grain size, cleavage fracture 4-30802
- ferritic-pearlitic, weld heat-affected zone, max temps., metallographic study 4-30709
- forged and cast, rot. bending fatigue, size effect, plastic strain 4-12144
- formability diagrams, modified (German) 4-16432
- forming, dislocation cells geometrical characts. (French) 4-29441
- fractographic features and fatigue crack development before failure 4-40978
- fracture characteristics during bending tests with different notch types 4-46677
- fracture toughness, ductility, temp. depend. 4-26030
- friction and wear in fretting, atmos. press. effect 4-21335
- hardness and residual austenite, cooling rate effects during quenching (Russian) 4-25981
- heat treated, erosion behaviour rel. to mech. props. 4-7607
- heat treated, failure mechanism in abrasive wear 4-41001
- high C, metastable phases obtained by high power laser surface melting 4-15532
- high level radwaste containers for basalt and salt, general and pitting corrosion 4-18599
- hypoeutectoid graphitic, tensile props. rel. to microstruct. (Japanese) 4-35664
- impact fatigue crack growth 4-16473
- impact fatigue crack propag., welding residual stress field 4-26032
- Inconel 600-steel systems, crevice corrosion in seawater 4-12249
- laser surface alloying, fusion zone defect characts. 4-16560
- laser surface melting parameters 4-6401
- low C, aluminide coated, deformation and diffusion bonding 4-46663
- low C, annealing textures, development and control 4-51690
- low C, cast components, strengthened by elastoplastic deform., failure mechanism 4-35700
- low C, chemically capped, annealing, anomalous struct. form., heating rate influence 4-30733
- low C, cold rolled, recrystallisation (Russian) 4-7477
- low C, cold-rolled, recovery, recrystn. and grain growth during annealing 4-16417
- low C, corrosion fatigue strength and crack growth, tensile prestrain effect (Japanese) 4-51877
- low C, corrosion in pickling solns., inhibitor additions 4-16565
- low C, cyclic microplasticity, internal friction and elasticity modulus defect meas. 4-7517
- low C, deform. mechanism close to inclusions under compression 4-40917
- low C, disappearance of serrated flow 4-40888
- low C, dislocation microstruct. during deep drawing 4-24825
- low C, dual-phase, continuously annealed, temper-aging 4-40831
- low C, dynamic, single to multiple peak transition, effect of test method 4-40819
- low C, fatigue crack propag. under periodic oversteering (Japanese) 4-51791
- low C, fatigue damage measurement, S/N-sensors appl. 4-7669
- low C, fatigue life distrib. (Japanese) 4-21405
- low C, flow stress at high temp. and high strain rate. 4-35654
- low C, flow stress at high temp. and high strain rate 4-35655
- low C, heater tubes, high press., brittle failure rel. to H embrittlement process 4-3251
- low C, high temp. corrosion in an electrolytic plasma (Russian) 4-21363
- low C, high temp. stress strain curve interpretation 4-40886
- low C, hot ductility, AlN and NbC precipitation 4-30703
- low C, martensitic, low temp., two-phase precipitation, X-ray diff. study (Russian) 4-35631
- low C, NDT, correcting for chem. comp. 4-46681
- low C, plastic deform. in mixed $\gamma + \alpha$ range (French) 4-7535

carbon steel continued

- low C, resistance spot welded sheet, quality assessment 4-7687
- low C, structural, short fatigue crack propag. at sharp notch 4-26023
- low C, surface fatigue crack initiation and propag. on smooth cylindrical specimens (Japanese) 4-51790
- low C, tempering processes, quenching temp. effects, elec. resist. and thermal expansion studies (Russian) 4-35641
- low C, texture and mech. anisotropy of single cryst. and polycrystals (Japanese) 4-51749
- low C, thermoelastoplastic stress analysis during phase transform. 4-50410
- low C, thermomechanical strengthening, mech. props. and microstruct. (Ukrainian) 4-7484
- low C, unkilld, high temp. creep 4-26015
- low C, use in quadrupole magnet cores 4-48850
- low C, warm-rolled, texture-induced cleavage fracture 4-26056
- low C, yield strength of nonpolyhedral structures (Slovak) 4-7515
- low C, 4-21280
- low C ferrite-martensite, quench ageing process, Mn and V influences (Russian) 4-51697
- low strength line pipe, sulphide stress cracking, H embrittlement mechanism 4-12252
- low-C, anodic electrolytic heating, surface-active substances influence (Russian) 4-7629
- low-C, controlled decarburisation in N_2 -based atm. 4-30721
- low-C, deep drawability criterion appls. (French) 4-46525
- low-C, US shock treatment, struct. changes 4-41091
- martensite, inhomogeneity obs., effect of low temp. tempering, X-ray diff. study (Russian) 4-25976
- materials design, stress and strain state eval. 4-40916
- medium C, annealed, fatigue damage under fully reversed tension-compression cycling (Japanese) 4-35809
- medium C, crack closure and fatigue threshold, effect of environment 4-26022
- medium C, heat treated, fatigue processes (Japanese) 4-35810
- medium C, oxidation resist., diffusional Al siliciding effect 4-41089
- medium C, three-dimensional stress in surface layer, meas. method (Chinese) 4-44505
- metal coated, corrosion fatigue, electrochem. aspects 4-21392
- methane bubble growth in 1020 steel 4-57328
- microalloyed, niobanitride precipitation, improved props. in sheet and strip production (Croatian) 4-46514
- mild, Al additions, SCC behaviour 4-46654
- mild, circular plates deformed in hemispherical dies, stamping and spring-back 4-49710
- mild, cold-worked, stress relax. expts. 4-16429
- mild, corrosion by sulphate reducing bacteria in oil storage conditions 4-46644
- mild, corrosion in HCl, inhibition by amidopolymers 4-41039
- mild, corrosion in NaCl solns., inhibition by Al salt-thiourea mixtures 4-12234
- mild, corrosion in permafrost 4-12248
- mild, corrosion inhibition in marine environment, using 3-methyl-4-amino-5-mercapto-1,2,4-triazole 4-3300
- mild, critical stress intensity factor rel. to precracked load 4-16513
- mild, cylinders, DC flash welded, heat affected zone size, hardness, failure map 4-16512
- mild, diffusion welded joints, fractography, SEM obs. (Japanese) 4-51794
- mild, dynamic fracture toughness by instrumented charpy test 4-7671
- mild, fatigue crack arrest under const. amplitude loading 4-40944
- mild, fatigue crack growth under load stepdown, effect of mean stress on delay 4-57315
- mild, H embrittlement, metallographic study 4-35708
- mild, localised corrosion and passivation in solns. 4-57456
- mild, low C, neutron irradiated, beneficial effect on mech. props. in blue-brittle range 4-45197
- mild, neutron irradi., improvement in mech. props. 4-45196
- mild, nonlinear toughness parameters evaluation 4-12281
- mild, welded, corrosion in marine atmosphere 4-12240
- N^+ implanted, surface modifications to wear and fatigue resistance, Mossbauer study 4-51873
- oxide scale adherence during descaling, temp. depend. 4-41104
- pack aluminisation (Korean) 4-41073
- passivity, study using impedance technique 4-57481
- pearlite, interlamellar spacing meas. 4-57504
- plasma surfacing of corrosion and wear-resistant materials 4-35779
- plastic flow and residual stress distrib. caused by rolling contact (Japanese) 4-57289
- polarization behaviour, effect of shot peening 4-26083
- polishing with magnetabrasive powders 4-26106
- quenched and tempered, small semi-elliptical cracks, threshold stress amplitude 4-3209
- quenching process analysis, transform. kinetics, stress depend. (Japanese) 4-21210
- radwaste geological disposal, carbon steel containment canisters 4-18598
- reactive behaviour in $\text{BCl}_3 + \text{H}_2$, surface compositional changes 4-57603
- rolled wire, torn during drawing, fractographic analysis 4-51802
- sheet specimens, evaluating hardening laws at large tensile strains 4-16413
- spheroidised, void growth 4-40906
- strands embedded in concrete, cathodic protection in Cl^- environment 4-41040
- stress relaxation during tempering 4-12099
- structural, cleavage induced fracture, limiting crack tip radius 4-40950
- structural, heat treatment to reduce temper brittleness 4-40839
- support plates for IN600, steam generator tubing, eddy current probe detection of defects, temp. effects 4-16584
- surface crack growth during push-pull fatigue (Japanese) 4-26048
- surface crack propagation in elastic-plastic region (Czech) 4-38764
- tensile necking, operant strain rate sensitivity 4-16448
- tensile testing, heat treatment and prestrain effects, ductility indices 4-25991
- thin-walled tubes, deform. and fracture after explosion 4-30798
- tubes, tuberculation in synthetic cooling water (Japanese) 4-21370
- type AISI C 1010, internal friction studies 4-40867
- US inspection of continuously cast slabs using EM acoustic transducer (French) 4-46722
- vacuum-quenched, white layers 4-40841
- warm-rolled, impact-tested, cleavage delaminations 4-26052
- wear rate, US vibration effect 4-57355

carbon steel continued

- welded piping systems, acoustic emission method for diagnosing defects 4-12272
- welded plate, transverse restraint testing machine, vel. and displacement meas. 4-46721
- weldments, pitting corrosion in permafrost 4-35782
- yield surface from reverse loading under biaxial stress, yield point for type Ck 15 4-7534
- Cr-V-Mo electrolytic coatings, microhardness, internal stresses, comp. depend. 4-3285
- Fe electrocoated, fatigue limit reduction 4-3234

carbon tetrachloride, CCl₄ see organic compounds**carbonitriding see surface hardening****carburing see surface hardening****carcinotrons**

No entries

cardiology

see also blood; electrocardiography; haemodynamics

- acoustic technology in medicine, review (Japanese) 4-3602
- aerospace medicine, noninvasive cardiovascular exploration methods 4-47086
- angiography, theory and practice of image anal., cardiac appl. 4-12700
- aorta-carotid artery arch, prognosis, nonlinear compartmental model appl. 4-52250
- arterial blood press. in rats during atrial fibrillation, spectral anal. 4-16905
- artificial heart, digital system for P-wave detection and synchronisation 4-21849
- artificial heart, piston-bellows type, technique for real-time estimation of haemodynamic state and parameters 4-57921
- ballistocardiograph, based on gyro force measuring transducer 4-52520
- biomedical engineering conference, Columbus, OH, USA (Sept. 1983) 4-47753
- bisyncytia, 2D anisotropic, with normal and extreme conductivities, current flow patterns 4-57875
- cardiac emission tomography, mathematical description 4-47061
- cardiopulmonary parameters estimation using quasi-optimal inputs 4-31270
- cardiovascular effects of simulated zero-gravity in humans 4-8130
- cardiovascular fluid dynamics, book 4-31991
- cardiovascular monitoring, US sonomicrometry, microprocessor-controlled system 4-52416
- contactless measuring method for cardiologic examinations (Hungarian) 4-47097
- control of the heart, systems and models 4-57819
- coronary blood flow and myocardial metabolism studies, short-lived radionuclides 4-12696
- coronary blood flow meas. using double fibre optic system and dye dilution tracings (German) 4-16936
- coronary cineangiograms, motion anal. of coronary arteries (Japanese) 4-8082
- coronary death, catastrophe theory 4-12621
- coronary obstructions, computer-aided anal. from monoplane cineangiograms, 3D reconstruction of arterial segment 4-12702
- coronary occlusion and reperfusion, flow and time depend. index of ischemic injury 4-3586
- coupled nonlinear oscillators system rel. to heart 4-16862
- CT, heart structure and function quantification, imaging requirements 4-12703
- defibrillation, reciprocal pulse current waveform, efficacy and safety, dog expts. 4-21847
- digital radiography in cardiac imaging, review of systems 4-12704
- Doppler US cardiology, basic techniques, review 4-12670
- dynamic hepatic scintigraphic imaging, mathematical and statistical models in nuclear medicine 4-3616
- echocardiograms, use of computer anal. for left ventricular function assessment 4-21751
- echocardiography, clinical overview 4-12666
- echocardiography, two-dimensional, automatic real-time endocardial edge detection 4-41599
- EEG alpha wave, cardiac hypothesis for origin 4-41489
- electrical brain stimulation rel. to cardiopulmonary function localisation 4-26383
- electrosurgical dispersive electrodes, use for ventricular defibrillation 4-52526
- embryonic chick cardiac cells, periodically forced oscillator, global bifurcations 4-57867
- embryonic heart, early developing chick, optical indications of excitation-contraction coupling 4-7969
- endocardial electrodes for continuous electrostimulation, improvements 4-3648
- energetics, similarity principle 4-41540
- glycosides, cardiac, quantitative determ. in aglycone-sugar mixture by IR spectroscopy 4-52537
- heart, artificial, automatic control (Japanese) 4-58041
- heart, piston pump without valves, pipe capacity with T junction 4-10770
- heart-lung bypass machines, power and weight characts. of thermoregulating devices 4-3649
- hydraulic simulator, flexible, for cardiovascular studies 4-21866
- imaging, conf., Southampton, England (July 1982) 4-8650
- impedance cardiograph, high-sensitivity, high-linearity, low-leak, self-balanced 4-3641
- left ventricular angiograms, automated quantification 4-12701
- left ventricular dyskinesia, demonstration with nuclear cardiologic methods (Hungarian) 4-52464
- left ventricular volume determined from scintigraphy and digital angiography by a semi-automated geometric method 4-31333
- left ventricular wall, motion and thickness anal. using two dimensional echocardiography 4-21753
- M-mode echocardiography in the study of left ventricular function, review 4-12669
- magnetocardiology, signal averaging method appl. (German) 4-58031
- mammalian myocardium, elec. field model for elec. transfer of excitation between cells 4-21644
- myocardium, system for meas. of US effects on membrane elec. and mech. props. 4-21865
- muscle membrane, frog, electrogenic Na⁺ pump, cation selectivity of binding sites 4-26371
- myocardial ²⁰¹Tl scintigraphs, math. bases for computerized interpretation 4-3613

cardiology continued

- myocardial extracellular space meas. using automatic electronic image analyser 4-21853
 - myocardial perfusion, ²⁰¹Tl and beyond, review 4-12693
 - Myocardial perfusion, regional changes meas. using dynamic CT and contrast medium, dog expts. 4-12683
 - myocardial scintigraphy of ischaemic heart patients (Hungarian) 4-52467
 - myocardial tomography, 7-pinhole, inability to obtain accurate ²⁰¹Tl kinetic data 4-21781
 - myocardium, ²⁰¹Tl single photon emission transaxial tomography, 2 years' experience 4-3614
 - myocardium, effect of a LF mag. field on contractility 4-52380
 - myocardium, energy balance and its correction with antiarrhythmics 4-52369
 - myocardium, regional perfusion quantification by exponential infusion of ¹⁴C-butanol, dog expts. 4-41613
 - NMR, pot. appls. 4-12679
 - NMR, real time movie images, rabbit heart expts. 4-57984
 - NMR echo-planar imaging, piglet obs. 4-21763
 - NMR imaging of the heart, ECG-triggered 4-52431
 - nuclear cardiac images, edge detect. and wall motion, algorithms inter-comparison 4-12698
 - nuclear cardiology, parametric imaging 4-12697
 - nuclear heart function meas. device, arrhythmic error eliminator (Chinese) 4-26500
 - organ flow curve, stabilised deconvolution 4-26471
 - pacemaker cells, synchronisation of chains by phase resetting action potential effects 4-21641
 - parametric scans prod. with the SUPER-SEGAMS (Hungarian) 4-52465
 - percutaneous transluminal coronary angioplasty, dedicated radiographic system 4-36223
 - physical techniques in cardiological imaging, overview 4-12647
 - pigeon, auditory threshold determ. by heart-rate conditioning 4-52359
 - polyurethane elastomers, appls. in artificial hearts 4-36258
 - postoperative cardiac tamponade, computer-aided diagnosis 4-17013
 - programmed electrical stimulation: how, when and where in tachycardia evaluation, review 4-3639
 - prospectively gated cardiac CT, dog expts. 4-26512
 - prosthetic aortic heart valves, sounds prod., expts. on Starr-Edwards prosthesis 4-21756
 - prosthetic aortic heart valves, sounds prod., study method using fast Fourier transform 4-21755
 - prosthetic aortic heart valves, sounds prod. expts. on Smeloff prostheses 4-21757
 - pulsatile cardiac assist pump simulation with minimal myocardial lesions 4-17019
 - pulse measuring portable electronic apparatus using ear tip optical transmission 4-31318
 - Purkinje fibres, canine, slow inactivation of a tetrodotoxin-sensitive current 4-57873
 - Purkinje strands, conducted action pot., sheep expts. 4-7959
 - Purkinje strands, sheep, elec. props., elec. and chem. pots. in clefts 4-21638
 - radiological techniques in cardiology, overview 4-12699
 - radionuclide angiocardiology, accuracy of deconvolution algorithms 4-16971
 - radionuclides, cardiological appls., overview 4-12692
 - reverberator period in arbitrary model of active medium, cardiac arrhythmias appl. 4-12603
 - Roentgen-kymography, improvement by video technique 4-16953
 - rotational kymography device, cine left ventriculograms automated anal. 4-36232
 - single photon emission tomography in cardiology, review 4-12695
 - subtraction gated CT with dynamic spatial reconstructor, cardiac evaluation, dog expts. 4-36212
 - tilting disc heart valve, component materials and haemodynamic performance 4-41650
 - transmembrane action pots., dual microcomputer anal. system 4-41659
 - transmural coronary vasodilator reserve and flow distribution during severe exercise in ponies 4-3580
 - ultrasound examination of heart, reliability 4-57968
 - US imaging in real-time, review 4-12668
 - US imaging techniques 4-12667
 - US tissue characterisation, review 4-12671
 - valve prostheses, design of system for accelerated loading, press. and flow patterns obs. 4-58042
 - valvular regurgitation, assessment using Fourier amplitude ratio 4-16968
 - ventricular function, 1st pass and equilib. meas. using radioisotopes, review 4-12694
 - ventricular response during atrial fibrillation, quantitative electrophysiological model 4-41488
 - vibrations recording, problem of meas. on soft tissue 4-47095
 - volume-to-flow ratios, rel. to minimal cardiac transit times 4-41544
 - wall motion quantitative assessment in multiple-gated studies using temporal Fourier anal. 4-16972
 - Ca²⁺ channel of frog heart, energy profile 4-52311
- carrier avalanches see impact ionisation**
- carrier communication**
- ionized communication channel, optical carrier propag., self-focusing phenomenon 4-55146
- carrier concentration see carrier density**
- carrier density**
- see also current density; electron density; electron density (metals)
 - ambipolar semicond., drift distrib. of carriers heated by spatially inhomogeneous radiation 4-34994
 - compensated semiconductor, low temp. mobility, temp. and field depend. 4-11526
 - excited states, ESR and Hall effect studies 4-11480
 - gap-free semiconductor, fluctuation model, Fermi level 4-34857
 - graphite-KHg intercalation cpd., C₄KHg, magnetoplasma-helicon wave propag. 4-39950
 - graphite-Rb intercalation cpd., C₈Rb, magnetoplasma-helicon wave propag. 4-39950
 - heavily doped semiconductors, plasma freq., cryst. lattice polar vibr. effect, carrier conc. correction 4-39414
 - III-V semiconductor laser diodes, threshold carrier density meas. 4-10297
 - inhomogeneous semiconductors, electron transport and Einstein rel. 4-56335
 - narrow-bandgap semiconductor devices, Fermi energy expression as function of carrier conc. 4-29864

carrier density continued

narrow-gap semiconductors, electron density fluctuations, parametric excitation 4-11551
 plasma flow, subsonic, probe elec. characts. 4-6022
 polymers, TSC, high temp. peak, effects of free carriers conc. and charge (French) 4-50831
 semiconductor, carrier surface recombination rate, lifetime, mobility, contactless microwave resonator meas. 4-39933
 semiconductor, highly excited, carrier out-of-equilibrium distrib. function, nonlinear modulation 4-56336
 semiconductor, two-dimensional steady-state equations, singular perturbation analysis 4-29961
 semiconductor bar with partially narrow cross-section, current oscill. (Japanese) 4-2620
 semiconductor degenerate materials with nonuniform band struct., elec. current, carrier density 4-50839
 semiconductor filament theory, steady-state, heuristic approach 4-50801
 semiconductor gain-guided lasers, field dynamics 4-38486
 semiconductor hetero-n-i-p-i superlattices, elec. characts. 4-6878
 semiconductor impurity profile determ., electrochemical C-V method 4-40039
 semiconductor passivation and protection in solar cells 4-57377
 semiconductor periodic struct., SAW effective reflection 4-6640
 semiconductor plasma, bounded, recomb. and averaged forces 4-25387
 semiconductor superlattices, Einstein relation modification, electron conc. depend. 4-56422
 semiconductor surface layer parameter effects on Josephson junction props. 4-30122
 semiconductors, amorphous, defects, impurities and doping effects, statistical theory anal. (Chinese) 4-55723
 semiconductors, deep level determination using capacitance-volt. charact. meas. 4-29928
 semiconductors, direct gap, photoexcited by high-intensity pulses, electron and hole kinetics, appl. to GaAs 4-15918
 semiconductors, free carrier influence on equilibrium lattice parameter 4-34457
 semiconductors, generation-recombination induced dissipative struct. stability 4-6793
 semiconductors, Hall effect and magnetoresistance with two-type current carriers 4-6809
 semiconductors, radiation defect cluster form. as function of charge carrier density 4-45198
 semimetals, electrical cond. and thermopower, effects of phonon drag 4-11527
 SOS films, ion implanted, elec. characts. 4-35072
 stripe-geometry DH lasers, index antiguiding effect on far-field distrib. 4-1396
 thick film resistor, electrical conductivity, electron hopping and diffusion coeff. 4-6778
 (TMTSF)₂ClO₄, low field and anomalous high-field Hall effect 4-20637
 two-dimensional systems, quantised Hall effect 4-20676
 Ag-As-Se vitreous system, recombination parameters and photoinjected carrier distrib. (Russian) 4-39934
 AlGaAs diode laser, carrier-induced index change 4-23983
 AlGaAs multiquantum well lasers, gain and carrier lifetime meas. 4-28690
 n-AlGaAs/GaAs heterojunction interface, electron transport props. 4-15954
 Al_{0.1}Ga_{0.9}As MOCVD layers on semi-insulating GaAs, bulk and transfer doping 4-50958
 n-Al_{0.1}Ga_{0.9}As:Si MBE layers capacitance and Hall effect meas. 4-50962
 Al_{0.1}Ga_{0.9}As:Si(Sn) MBE films, doping and elec. props. 4-15509
 Al_{0.1}Ga_{0.9}As/GaAs heterostructures, photoluminescence, Al isovalent impurity effects (Russian) 4-40533
 n-AlGaAsGaAs MBE selectively doped heterostruct., long-lifetime photocond. 4-15955
 Al_{0.48}In_{0.52}As LPE layers, undoped and Si-doped, elec. props. 4-20745
 Bi_{1-x}(Te)(Re), number of spins, free carrier conc., EPR spectra 4-51123
 Bi, electron irradi., galvanomagnetic props. at 4.2K, rigid-band model 4-35014
 Bi thin films, elec. characts., temp. depend. 4-30096
 Bi_{1-x}Sb_x alloys, pure and Te doped electron conc. and cyclotron mobility 4-15876
 Bi₂Se₃(Te₂):Cu, Cu electromigration, carrier conc. and effective ion charge 4-34727
 Cd_{0.8}As_{0.2} films, pulsed laser evaporation and elec. props. 4-46437
 Cd_{0.8}Hg_{0.2}Te, refractive index calc. rel. to freq. and mole fraction 4-40385
 Cd_{0.8}Hg_{0.2}Te sputtered epilayers, 32×32 planar IR photovoltaic mosaic arrays 4-55220
 Cd_{0.8}Hg_{0.2}Te:Cu, Bridgman grown crystals, Au segregation, elec. props. 4-46432
 Cd_{1-x}Mn_xSe, subnanosecond luminesc. spectroscopy under high intensity optical excitation 4-7244
 CdS, photocond. meas., control of carrier conc. by stimulated emission 4-56387
 CdS single cryst., recombination parameters and photoinjected carrier distrib. (Russian) 4-39934
 CdSe:Ag, Ar(Cl) film, photoelec. props., electron density and mobility 4-25402
 n-CdSiAs₂ film, photoelectric and luminescence props. (Russian) 4-50874
 n-CdSnAs₂, heavily doped, elec. resist. and Hall coeff., press. depend. 4-20657
 Cd_{0.9}SnO₄ thin films, influence of point defects on electrical properties 4-40091
 CdTe, plastic deform., thermopower and elec. props. 4-39943
 CdTe, single crystals, growth from melt, elec. and optical props. 4-35564
 CdTe:In(Al) epitaxial layers, LPE growth and doping characts. 4-34820
 Co silicides, layer growth on evaporated Si, elec. props. 4-35095
 CoO(Cr), elec. props. and defect struct. 4-39901
 (Cu_{0.9}Ag)(Zn_{0.1}Cd_{0.9})Te₄ diamondlike semiconductors, synthesis and props. 4-24769
 CuInSe₂, elec. props., intrinsic defect influence 4-45806
 CuInSe₂ polycryst. thin-film photovoltaic device research, deposition techniques 4-21544
 Cu_{2-x}Se, true carrier concentration 4-56366
 Fe₂O₃ thin films, quantum size effect study 4-40101
 Ga_{1-x}Al_xAs, Hall mobility, electron conc. and resistivity meas. at 300K 4-11544
 GaAs, carrier density and mobility, Hall meas. 4-39930
 GaAs doping superlattices, time-resolved luminescence study 4-21034

carrier density continued

GaAs electrodes, photoluminescent props. appl. to dead layer model of photoelectrochem. cells 4-7225
 GaAs epitaxial growth by MO-CVD, optical and elec. props. (Japanese) 4-34832
 n-GaAs epitaxial layers, cyclotron resonance line, plasma shift (Russian) 4-35005
 n-GaAs ingots, electrical props. (French) 4-25337
 GaAs, ion implanted, spectroscopic ellipsometry anal. 4-39327
 GaAs lasers, threshold current characteristics under short pulse excitation 4-28689
 GaAs, magnetoresist. meas., electron scatt. mechanisms 4-2625
 GaAs, optical refr. index dispersion, doping depend. 4-35404
 GaAs, single-crystal, polycrystalline and amorphous, picosecond range process investigation 4-20939
 GaAs:C, semi-insulating, LEC-grown, C shallow acceptors study 4-40624
 GaAs:Cr, thermally converted, defect profiles, photoluminescence spectra 4-2965
 GaAs:Ge, neutron transmutation doping elec. and optical characterisation 4-34507
 GaAs:In, photoluminescence study (Russian) 4-7249
 GaAs:Se, implanted, deep levels, TSC and photolum. studies 4-2542
 GaAs:Si, ion implanted, SiO_xN_y capped annealing, elec. activation 4-50829
 GaAs:Si, MBE growth, Si doping, compensation effects 4-40651
 GaAs:Si encapsulated in Si₃N₄, free carrier conc. and Hall mobility 4-50693
 GaAs:Si LEC crystals, Si doping effect on elec. props. 4-6810
 GaAs:Si(Se)(S), shallow ion implantation, elec. and structural props. 4-45166
 GaAs:Sn, low pressure metalorganic VPE growth 4-25892
 GaAs:Zn, elec. props. rel. to implantation conditions 4-34980
 GaAs/Ga_{0.7}Al_{0.3}As selectively doped heterostruct., transport. props. 4-35054
 GaAs-Al_{0.1}Ga_{0.9}As, low temp. fractional quantum Hall effect 4-20675
 GaAs-Al_{0.1}Ga_{0.9}As modulation doped quantum well heterostruct., carrier density distrib. 4-20712
 GaAs-AlGaAs heterostructures, hot electron transport, expt. anal. 4-40038
 GaInAs, organometallic VPE growth, photoluminescence characterization 4-51509
 Ga_{0.47}In_{0.53}As, MBE growth on InP substrate, elec. props. 4-16326
 Ga_{1-x}In_xAs epitaxial layers, grown with transition layer, elec. props. 4-50959
 n-GaP, charge carrier conc. and mobility determ. by Raman spectroscopy 4-7193
 GaP single cryst., heat-treated, electrophys. props. and photolum. 4-25808
 GaP:Fe³⁺, excited states, ESR and Hall effect studies 4-11480
 GaS₂Se_{2-x} solid solns., elec. props. study, rel. to struct. and optical props. 4-29987
 GaSb films, plasma-assisted epitaxy in H plasma 4-51527
 Ge, dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907
 Ge, heavily doped, laser annealed, photolum. study 4-21032
 Ge single crystalline island on insulator, zone melting recrystn. 4-21129
 Ge:Ga, O and Ge:Sb, O, thermal donors, charge state and energy level spectrum 4-20600
 Ge:Ga(P)(B)(As), ion implanted, laser annealed, phonon softening, Raman study 4-15597
 Ge:Li, gamma irradi., recomb. centres 4-6805
 Ge:Sb, negative magnetoresist., impurity conc. depend. 4-20678
 n-Ge:Sb, negative magnetoresistance theory 4-25380
 p-Ge:Zn, nonequilibrium hole lifetime, recombination centre depend. 4-11542
 Ge-Si-Cu, solid soln., electron irradi. effect on electrophys. props., radiation defect form. control by alloying 4-56363
 (GeTe)_{1-x}(AgSbTe₂)_x, density of states effective mass, Kane model anal. 4-2503
 (GeTe)_{1-x}(AgSbTe₂)_x solid solns., thermolec. power, temp. depend. 4-35018
 Hg-As-Se vitreous system, recombination parameters and photoinjected carrier distrib. (Russian) 4-39934
 Hg_{0.8}Cd_{0.2}Te, Ar⁺ ion implantation, radiation defects form. 4-15506
 Hg_{0.8}Cd_{0.2}Te, electron localisation, magnetoresist., Hall effect meas. 4-35016
 Hg_{0.8}Cd_{0.2}Te, ion implantation, radiation defect form. 4-15507
 Hg_{0.8}Cd_{0.2}Te thin films, sputtered, annealed, elec. props., struct., comp. 4-40086
 Hg_{0.8}Cd_{0.2}Te:Al³⁺, ion implanted, defect distrib. profile 4-24845
 Hg_{1-x}Cd_xTe films, isothermal growth, elec. props. 4-40655
 Hg_{1-x}Cd_xTe, LPE growth using slider boat, annealing effect on epilayer props. 4-34819
 HgCr₂Se₄, spin-lattice relax., EPR study 4-35225
 InAs, iodide synthesis of bulk crystals and epitaxial layers, elec. parameters 4-11415
 In_{1-x-y}Ga_xAl_yAs:Mn, MBE growth, doping and elec. characts. 4-30636
 InGaAs films, LPE, carrier conc., Hall mobility, Al addition gettering effect 4-46456
 InGaAs, MOCVD growth using new AsH₃ cracking method, photoluminesc. and elec. props. 4-21153
 InGaAs/InP VPE layers, background carrier conc. and X-ray linewidth 4-50957
 In_{0.53}Ga_{0.47}As LPE on (100)-InP substrates at low growth temps., Hall meas. 4-21171
 In_{0.1}Ga_{0.9}As:Si(Sn) MBE layer, elec. and optical props. 4-46300
 InGaAsP 1.3 μm diode laser, carrier-induced index change 4-23983
 InGaAsP film lasers, chirped picosec. pulses, time-depend. wavelength evaluation 4-24041
 In_{0.1}Ga_{0.9}As_{0.1}P_{0.9} layers, high temp. LPE, electron Hall mobility, scatt. mechanism 4-40087
 InGaP and InGaAlP, MBE grown, doping studies, elec. and optical meas. 4-15510
 InP, LEC growth, elec. props., impurity conc. 4-40632
 InP, MOCVD epitaxy, C-V, Hall and photoluminesc. characts. 4-40664
 InP, optical refr. index dispersion, doping depend. 4-35404
 InP, polycrystalline ingots, synthesis by direct reaction, microstruct. and carrier mobility 4-40722
 InP, unintentionally doped LEC crystals., annealing effects 4-34901
 InP:Cd LPE layers, impurity concentration meas. by ionized impurity scatt. anal. 4-20231

carrier density continued

- InP:Fe, semi-insulating, Si⁺ implantation, capless annealing of damage (Chinese) 4-20265
- InP:Se, implanted, transient annealing using graphite strip heater and electron beam methods 4-34509
- InP:Se, ion implanted, rapid thermal and electron beam annealing 4-15537
- InP:Si, n-type doping in MBE growth, elec. and optical props. 4-2219
- InP:Sn(S)(Zn) crystal, liq. encapsulation Czochralski grown, defect struct., synchrotron X-ray topography 4-45137
- n-Sb, conductivity transients under intense laser excitation 4-15875
- n-InSb, cryst., electron density fluctuations, parametric excitation 4-11551
- InSb, crystallisation, influence of elec. current 4-51481
- p-InSb film, polycryst., elec. props., effect of laser irradiation 4-2663
- InSb, free carrier Faraday rotation investig. using tunable CW CO₂ laser (Chinese) 4-20948
- InSb, lattice relaxation controlled free carrier conc., transport props. study (French) 4-56357
- n-InSb, metal-insulator transition under high hydrostatic press. 4-56219
- InSb, nonequilibrium plasma, recomb. and diffusion at high excitation rates 4-25389
- n-InSb, plastic deform. effect on elec. transport props. 4-56348
- n-InSb, thermal-electric instability in static mag. and elec. fields 4-34997
- InSb:Te(Se)(S) 4-40098
- In₂-xSn_xO_{3-x} single crystals, elec. props. 4-39897
- Na₂CO₃-x-electrolyte-Na cell, elec. props. study 4-52125
- Pb_{1-x}Mn_xTe semimag. semicond., transport and mag. props. 4-56569
- PbSe, energy band struct. meas. 4-56190
- Pb_{1-x}Sn_xSe, struct. phase transition, elec. cond. and Hall effect studies 4-11272
- Pb_{1-x}Sn_xSe, LPE, doping, charge carrier mobility and conc. 4-56457
- Pb_{1-x}Sn_xTe heavily doped ferroelec. semicond., Curie temp. effects 4-35392
- Pb_{1-x}Sn_xTe, multiply doped, electrophysical props. 4-29993
- Pb_{1-x}Sn_xTe:In, liquid phase epitaxy, elec. cond., deep levels in forbidden zone 4-51556
- PbTe, mag. susceptibility theory 4-46007
- PbTe:Cd, LPE growth, carrier conc., doping depend. 4-45559
- PbTe:In, photoelectric effects study 4-56392
- PbTe:Ti,Na, influence of resonant states on Hall effect 4-56371
- p-PbTe:Ti epitaxial films, refl. and transmittance meas. 1 to 15 μm 4-40547
- RuS₂, single cryst., growth and phys. props. 4-29970
- Sb_{2-x}Bi_xTe₃, extruded melt, thermoelectric props. 4-56373
- (Sb₂Te)_{0.75}(Bi₂Te)_{0.25}(Tl₂Te)_x solid solution, transport props. and Seebeck coeff. 4-29999
- n-Si, carrier scatt. anisotropy in mixed scatt. region 4-20644
- Si concentrator solar cells thermal non-uniformities 4-52167
- Si, conductivity transients under intense laser excitation 4-15875
- Si, dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907
- Si, doping profiles, electroreflectance technique 4-11864
- Si, electrical resist. and carrier conc., grain size and doping effects 4-29973
- Si, electron irradiated, group III acceptors deactivation, MOS capacitor study 4-20726
- Si, heavily doped, ion implanted, laser annealed, electronic struct. study 4-15838
- Si, heavily doped, laser annealed, photolum. study 4-21032
- n-Si inversion layer, higher subband effects on screening 4-40065
- p-Si inversion layer in MOSFET, atomic roughness and Hall mobility 4-15963
- Si inversion layers, conductivity, electron-electron interaction effects 4-6903
- Si, laser-induced free-carrier absorption, Auger constant 4-34536
- Si MIS struct., magnetoresistance meas. 4-40066
- Si MOS inversion layers, electron transport, semiclassical Monte Carlo model 4-56437
- Si many valley semicond., loops for hot electron props. 4-15882
- Si n⁺-p-p⁺ solar cells, open-circuit voltage, temp. depend. under high illum. levels 4-7878
- n-Si, neutron transmutation doped, piezoresist. and Hall effect, annealing and quenching effects 4-6776
- Si, photoelectromagnetic effect, influence of HF field 4-56389
- Si, single-crystal, polycrystalline and amorphous, picosecond range process investigation 4-20939
- Si, thermal processing, effect on thermophysical props. and structural perfection 4-50836
- Si:As, ion implanted, controlled diffusion by electron beam heating 4-15699
- Si:B, carrier profiles meas. by IR ellipsometry 4-45175
- Si:B (BF₃), cryst. and amorphous, carrier and implant profiles 4-29459
- Si:Ga MBE growth, high Ga implantation doping using liq. metal Ga ion source 4-39320
- Si:Ga(P)(B)(As), ion implanted, laser annealed, phonon softening, Raman study 4-15597
- a-Si:H, nonsubstitutional dopant states and carrier density statistics 4-56271
- a-Si:H:B p-i-n solar cell, carrier collection enhancement by B doping in i-layer 4-52155
- Si:H:F films, amorphous-microcryst. mixed phase, elec. props., appl. to power sensors and strain gauges 4-50855
- Si:P, implanted, solar cells obtained by incoherent light annealing, elec. charact. 4-21547
- Si:P, ion implanted, damage-dependent atom and carrier profiles 4-20227
- Si:P, ion implanted, laser annealed, precipitation study 4-39520
- Si:P epitaxial layers, reflectance, transmittance and Hall mobilities meas. 4-40548
- Si:P films, dielectric props. meas. 4-40327
- Si:P⁺, ion implanted, extended defect reduction by uniform heating 4-29450
- SiC (6H), impact ionisation and superlattice 4-25358
- SmS, elec. props. in strong elec. field 4-25362
- SnO₂:F films, sprayed on glass substrates, elec. and optical props. 4-37021
- SnTe:In, influence of In on SnTe props., rel. to stoichiometry 4-55858
- (TMTSF)₂ClO₄, Hall effect, magnetoresist. meas. up to 22 T 4-25322
- V₂O₅, electron density, 1/f noise meas., temp. depend. 4-45805
- WSi₂ thin films, elec. cond. and Hall effect studies 4-50963

carrier density continued

- ZnGeAs₂, chalcopyrite struct., Bridgman growth, melting point, elec. props., DTA, X-ray diff. studies 4-15411
- ZnO weak accumulation layers, electron transport phenomena 4-45854
- n-ZnSe epitaxial layers on n-GaAs, photocurrent versus electrode potential 4-25395
- ZnSe:Ga, MBE grown on GaAs substrate temp. effect on photoluminescence and elec. props. 4-21062
- ZnTe epitaxial layers, vapour growth and elec. props. 4-25885
- ZrC-ZrN, electronic struct. parameters calc. to two-band approx. 4-25225
- carrier diffusion length** *see carrier lifetime*
- carrier lifetime**
- back-surface field solar cell, EBIC characterisation 4-46872
- Boltzmann approximation relaxation, in Dohler's cond.-thermopower anal. 4-39894
- disordered semiconductors, nonequilibrium transport and energy relax. 4-45777
- electron diffusion in a quantizing magnetic field 4-20618
- geminate recombination, time depend., Monte Carlo simulation 4-45808
- heterodiodes, elec. and photoelec. props., minority carrier lifetime 4-25426
- MIS minority carrier vertical solar cells performance in concentrated sunlight 4-12481
- MOS structure, capacitance-time transient response method for bulk generation lifetime and surface generation vel. meas. (Chinese) 4-6895
- nonequilibrium charge carriers lifetime meas. in semiconductors, microwave photomodulation phase method 4-37115
- one-dimensional insulators, space-charge-limited currents and trap-filled limit 4-35006
- p-n junction, highly-doped emitter, diffusion length and surface recomb. vel. meas. with SEM 4-35052
- p-n junction solar cells, electric field effect on minority carrier lifetime 4-26291
- p-n junctions, EBIC linescans, computer simulation 4-35060
- p-n junctions, injected minority carrier lifetimes, double-pulse technique (German) 4-35049
- p-n junctions, photoelectric effect under recomb. radiation generation and absorpt. conditions 4-15942
- p-n junctions, planar, diffusion-limited saturation currents 4-45863
- PDA-TS quasi-1D polymer cryst., carrier drift, anomalous elec. field depend. 4-50798
- photoconductivity decay method for light with low penetration depth (German) 4-25392
- polycrystalline material, transport props. at grain boundaries under illumination 4-15874
- polycrystalline semiconductor-insulator-semiconductor solar cells, fill factor, grain size effects 4-7871
- polyolefin films, chemical modification of near-surface charge trapping, SEM, ATR, TSC meas. 4-56364
- Schottky barriers, minority carrier lifetime excited by electron bombardment 4-25440
- semiconductor, carrier surface recombination rate, lifetime, mobility, contactless microwave resonator meas. 4-39933
- semiconductor, minority carrier diffusion length determ. from induced current profiles of Schottky diode under electron irradiation 4-50834
- semiconductor, minority carrier diffusion length meas. by SPV method, effect of sample thickness (Chinese) 4-39924
- semiconductor, nonequilibrium carrier diffusion, radiative recombination effects 4-50840
- semiconductor filament theory, steady-state, heuristic approach 4-50801
- semiconductor wafers, carrier lifetime meas. using photomagnetolectric contactless method 4-4421
- semiconductor/electrolyte junction, photoresponse, space charge region width effects 4-45879
- semiconductors, collection length of photogenerated minority carriers 4-25367
- semiconductors, compensated, capacitance and relax. times at carrier exclusion 4-45807
- semiconductors, photoacoustic studies of carrier props., theory 4-24915
- SIS structures, UV irradiation effects on inverted surface layer 4-40018
- solar cell minority carrier lifetime meas. by photoelectric freq. modulation (Korean) 4-21552
- solar cell minority carrier lifetime meas. using open-circuit voltage decay 4-52165
- solar cells, interdigitated back contact, diffusion length and surface recomb. vel. determ. 4-12476
- solar cells, surface photovoltage measurements of minority carrier diffusion lengths 4-30017
- solar cells minority carrier lifetime measurement, 3-D analysis of photocurrent decay technique 4-52142
- solar photovoltaic energy converters—fundamentals and advanced concepts 4-7883
- SOS structure, review of physico-chemical and electrical props. (French) 4-40068
- SPRITE detectors, spatial resolution optimisation 4-43059
- thick film resistor, electrical conductivity, electron hopping and diffusion coeff. 4-6778
- trapping in one dimens., elec. field depend. 4-56365
- Ag-As-Se vitreous system, recombination parameters and photoinjected carrier distrib. (Russian) 4-39934
- Al-SiO₂-Si structure, p-n junction formation in Si by Al electromigration through SiO₂ 4-30081
- AlGaAs diode laser, carrier-induced index change 4-23983
- AlGaAs multiquantum well lasers, gain and carrier lifetime meas. 4-28690
- (AlGa)As-GaAs double heterostructures, MBE grown, optical props., effect of As species 4-16251
- Al_{1-x}Ga_xAs/GaAs heterostructures, photoluminescence, Al isovalent impurity effects (Russian) 4-40533
- Bi₁₂GeO₂₀, photocurrent kinetics during fundamental light absorption 4-35026
- Bi₁₂GeO₂₀ sillenites, photocurrent rel. to nonequilibrium charge carrier lifetime (Russian) 4-20685
- Bi₁₂SiO₂₀ sillenites, photocurrent rel. to nonequilibrium charge carrier lifetime (Russian) 4-20685
- CdHgTe, SPRITE detectors, optimisation of spatial resolution 4-38628
- Cd_{1-x}Hg_xTe:Te:As, Bridgman grown crystals, Au segregation, elec. props. 4-46432

carrier lifetime continued

- Cd_{1-x}Mn_xSe, subnanosecond luminesc. spectroscopy under high intensity optical excitation 4-7244
- CdS films, minority carrier diffusion length, solar cell appl. 4-20747
- CdS, photocond. meas., control of carrier conc. by stimulated emission 4-56387
- CdS_{1-x}Se_x films, struct., elec. and optical props. 4-30094
- CdSb single cryst., recombination parameters and photoinjected carrier distrib. (Russian) 4-39934
- CdSe sprayed films, photoconductivity, non-equilibrium carrier relaxation 4-6913
- CdTe:In(Al) epitaxial layers, LPE growth and doping characts. 4-34820
- CdTe/electrolyte interface, photocurrent meas., minority carrier diffusion lengths 4-45875
- p-Cd_{1-x}Zn_xTe/electrolyte junction, photoelectrochem. studies 4-45872
- Cu₂Ag_{1-x}Cd_xInTe₂, photocond. meas. 4-30009
- p-Cu₂O single cryst., resist. depend. of minority carrier diffusion length, Schottky solar cells 4-11588
- Cu₂S/CdS solar cell, degradation in hot moist air and recovery in H₂ and air 4-16781
- Ga_{1-x}Al_xAs semiconductor alloy variable-gap cells with several junction energy gaps for a high efficiency solar energy system 4-21558
- GaAs diffused p⁺-n junction solar cells, photovoltaic characts. and modelling 4-41346
- GaAs, diffusion length meas. by filtered cathodoluminescence 4-50841
- GaAs, doping superlattices, MBE growth and electronic props. 4-15945
- GaAs doping superlattices, time-resolved luminescence study 4-21034
- p-GaAs, electron diffusion length, conc. dependence 4-50832
- α -GaAs, laser annealing dynamics 4-15522
- GaAs, proton and electron irradi., proton annihilation and damage profiles 4-40562
- GaAs, proton irradiation effect on minority carrier diffusion length, solar cell appl. 4-21546
- GaAs, semi-insulating, field-assisted photoelectromagnetic effect 4-39961
- GaAs:In, photoluminescence study (Russian) 4-7249
- GaAs-Al_xGa_{1-x}As heterostructure, 2D electron gas, parabolic negative magnetoresist. 4-25432
- GaAs-Al_xGa_{1-x}As quantum well structures, recomb. enhancement due to carrier localisation 4-7234
- GaAs_{1-x}P_xN_{1-x}Te VPE layers, minority carrier lifetime, photoluminesc. meas. 4-51333
- n-GaP, luminescence and deep level studies of dislocations 4-16257
- GaP, single dislocations, recomb. efficiency 4-55831
- Ge, combined effects of CO₂ and Nd laser radiation, carrier recomb. rate meas. 4-30025
- Ge wafers, carrier lifetime meas. using photomagnetolectric contactless method 4-4421
- Ge:Li, gamma irradi., recomb. centres 4-6805
- p-Ge:Zn, nonequilibrium hole lifetime, recombination centre depend. 4-11542
- Ge/sapphire/metal MIS structures, internal photoemission 4-25454
- GeS, band struct. and lifetime determs., angle-resolved photoemission 4-35549
- Hg-As-Se vitreous system, recombination parameters and photoinjected carrier distrib. (Russian) 4-39934
- p-H_{0.68}Cd_{0.32}Te, excess photogenerated carrier lifetime, optical modulation spectroscopy 4-20666
- HgI₂ single cryst., characterisation using thick detector struct. 4-2624
- InGaAsP 1.3 μ m diode laser, carrier-induced index change 4-23983
- InP, diffusion length meas. by filtered cathodoluminescence 4-50841
- InP, nonequilibrium electron system, cond. electrons and donors, far IR magnetoabsorpt. study 4-16099
- n-InP, study of electron diffusion const. 4-25365
- InP:Fe photoconductors, ³He⁺ bombardment, picosec. photoresponse 4-45820
- InP:Mn, optical absorpt. tail and minority carrier diffusion length from surface photovoltage measurements 4-30420
- InSb/anodic oxide/metal struct., carrier generation times and capture cross sections 4-50935
- InSe/Au Schottky barriers, photovoltaic effect and solar energy conversion 4-6863
- In_{2-x}Se_x amorphous films, carrier mobility and lifetime meas. 4-45789
- In_{2-x}Sn_xO_{3-y}, weak localisation and correlation effects of 2D electrons 4-11606
- LiNbO₃, nonequilibrium electron diffusion obs. 4-20668
- NbO₂, threshold switching, decay and recovery of on-state, trapping effects 4-6842
- PbS_{1-x}Se_x diode laser, time delays, minority carrier lifetimes 4-49359
- Pb_{1-x}Sn_xSe diode laser, time delays, minority carrier lifetimes 4-49359
- Pb_{1-x}Sn_xTe diode laser, time delays, minority carrier lifetimes 4-49359
- PbTe:Ga, strongly doped, photoelec. behaviour near Curie temp. 4-39981
- Se, amorphous, hole lifetime in strong elec. fields 4-6807
- Si, amorphous based alloy solar cell modelling 4-52151
- Si amorphous pin solar cells, carrier collection length and fill factor 4-52135
- Si crystal, lifetime doping, comparison of Nd:YAG fundamental and second harmonic Q-switched laser-beam 4-29981
- Si, dark-probe pulse method studies (Russian) 4-25405
- Si, electronic transport at grain boundaries 4-20670
- Si extrinsic photoconductive detectors, operating temp. 4-37177
- Si, heavily doped, energy gap narrowing meas. 4-50835
- Si, laser-induced carriers in picosec. time range 4-11856
- Si, minority carrier lifetime, SEM cathodolum. assessment 4-35499
- Si, minority-carrier diffusion lengths, surface photovoltage measurements using liquid electrolyte junction 4-45876
- Si n⁺-p-p⁺ solar cells, open-circuit voltage, temp. depend. under high illum. levels 4-7878
- a-Si p⁺-i-n⁺ diode solar cells, storage current meas. 4-52157
- a-Si p-i-n junctions, carrier lifetime study 4-15941
- Si photovoltaic cell, bulk minority carrier diffusion length and photogenerated carrier profile 4-3461
- Si, polycrystalline, solar cells, grain boundary and intragrain Al diffusion, minority carrier diffusion lengths 4-46875
- Si polycrystalline grain, minority carrier transport meas. in SEM, EBIC response 4-39931
- Si, proton and electron irradi., proton annihilation and damage profiles 4-40562
- Si ribbon solar cells, EFG technique, minority-carrier diffusion length, illum. effects. 4-52141
- Si, shaped, structural and electronic props., annealing influence 4-25364
- Si solar cells, electron irradiation and light injection 4-46870

carrier lifetime continued

- Si, solution growth from liq. Sn, photovoltaic solar cell appl. 4-40690
- a-Si, transport and related props., transient expts. 4-45775
- Si wafer, minority carrier diffusion length control by O precipitation 4-45811
- Si:Au, nonequilibrium carrier lifetime determ., dynamic grating method 4-6806
- Si:H, amorphous, collection lengths and diffusion lengths in p-i-n solar cells 4-50830
- Si:H, amorphous, solar cells, light soaking and regenerative annealing, hole diffusion lengths 4-46876
- a-Si:H, carrier dynamics, surface and interface effects obs. by transient grating spectroscopy 4-39928
- a-Si:H, MIS diodes, trap level and conc., DLTS 4-15887
- a-Si:H, P films, transient-photocurrent studies 4-40094
- a-Si:H, reversible photoinduced changes of electron hole lifetimes and gap states 4-39926
- a-Si:H,P, doping depend. of carrier lifetime 4-2622
- a-Si:H film, carrier dynamics at surface and interface, transient grating method obs. 4-20667
- Si:O, annealing behaviour of recombination centres 4-39823
- Si:O, minority carrier lifetime, heat treatment effects 4-6803
- Si:O epitaxial layers, preannealing effects on minority carrier generation lifetimes 4-45549
- SiC-Si-Si p-i-n heterojunction solar cells, mobility-lifetime products and interface props. 4-52148
- Si₃Ge_{1-x}/GaAs heterojunction systems, radiation-stimulated gettering of struct. defects 4-30067
- n-ZnSe epitaxial layers on n-GaAs, photocurrent versus electrode potential 4-25395

carrier mean free path

- see also electron mean free path (metals)
- semiconductor films, electron transport phenomena, review 4-35097
- semiconductor structure, short, low field mobility, size effects 4-20721
- Bi, epitaxial film, transport props., effect of annealing 4-35100
- Sb films, vacuum deposited, struct. and galvanomag. props. 4-40096

carrier mobility

- see also carrier mean free path; carrier relaxation time; current density; electron-hole recombination; electron mobility (metals)
- ambipolar semicond., drift distrib. of carriers heated by spatially inhomogeneous radiation 4-34994
- amorphous semiconductors, carrier diffusion, review 4-6791
- amorphous semiconductors, carrier recombination rate study 4-25370
- amorphous semiconductors, transient induced absorpt. spectroscopy from picoseconds to milliseconds 4-40472
- anthracene: 2,3-dimethylnaphthalene, charge carrier transport, photoconductivity meas. 4-11557
- Boltzmann approximation relaxation, in Dohler's cond.-thermopower anal. 4-39894
- bounded two-dimensional systems, conductivity activation temp. depend. 4-45664
- carbazole-containing semiconductors, bulk photoconductivity kinetics (Russian) 4-25406
- compensated semiconductor, low temp. mobility, temp. and field depend. 4-11526
- coronene layers, evaporated, dispersive electron transport 4-15976
- dielectric fluids, electron thermalisation ranges and free-ion yields, density and mol. shape effects 4-25411
- disordered semiconductors, nonequilibrium transport and energy relax. 4-45777
- electrophotographic layers, monopolar cond., photodischarge kinetics 4-39990
- energy-dependent and independent models, Hall mobility of hopping carriers 4-25346
- ferromagnetic semiconductor, energy-gap between spin branches, influence of intense EM field 4-50868
- gap-free semiconductor, fluctuation model, Fermi level 4-34857
- geminate cation-electron pair recomb. in liq. hexane, time-resolved meas. 4-38326
- geminate recombination, time depend., Monte Carlo simulation 4-45808
- heterostructure devices, band offsets at interfaces 4-6879
- hydrocarbons, liq., quasifree electron mobility determ. by partial waves method 4-24517
- I⁺L element, charge carrier motion 4-15939
- ice:HF(NH₃)(NH₄F), electron as probe for defects 4-29983
- II₂V₂ semicond. cpds., local dilation and stoichiometric vacancies 4-55818
- implanted, transient annealing, elec. characts. and microscopic anal. 4-24859
- impurity elec. cond., self-consistent current relax. theory 4-20643
- inhomogeneous semiconductors, electron transport and Einstein rel. 4-56335
- MESFET optimum semiconductors for HF and low-noise appl. 4-29965
- methane, liq. and solid, electron-ion recombination and electron thermalisation 4-29984
- MOS structure, capacitance-time transient response method for bulk generation lifetime and surface generation vel. meas. (Chinese) 4-6895
- naphthalene, injected electrons, band motion at low temps. 4-25334
- nonhomogenous solids, one-carrier space-charge-limited currents under planar, spherical and cylindrical flow 4-11541
- PDA-TS quasi-ID polymer cryst., carrier drift, anomalous elec. field depend. 4-50798
- physics and chemistry of ice, conference, Rolla, MO, USA (1982) 4-27232
- poly N-vinylcarbazole/ZnO/poly N-vinylcarbazole double layer photoreceptor, electrophotography (Japanese) 4-30011
- poly-N-vinylcarbazole, doped, amorphous and photoconductive, glass transition in charge carrier transport phenomena 4-39916
- poly-p-phenylenesulphide, conducting polymer, carrier mobility 4-39879
- polycarbonate:I films, elec. cond. and carrier mobility 4-25355
- polydiacetylene, acoustic solitary wave polaron motion 4-29906
- polyethylene, dispersive hopping transport cond. mech. 4-11531
- polymer electrets, radiation-induced charge transport, Teflon FEP, Hostaphan PETP and Solef PVDF 4-16142
- polyvinylidene fluoride, step volt. current transient characts. 4-6794
- positron 4-35011
- proteins, hopping charge transport models, tunnelling process features, electronic processes 4-16828
- quantum well heterojunction, impurity scatt. limited mobility 4-30061
- semi-magnetic semiconductors, dark and photomagneto resist. 4-30006

carrier mobility continued

semiconductor; doped nondegenerate, carrier mobility and scatt. mechanisms 4-11524
 semiconductor, electron mobility, path integral representation for polaron 4-6790
 semiconductor, impurity-ion potential, mobility of scattered electrons 4-39892
 semiconductor alloys, electron scatt., Boltzmann eqn. 4-20641
 semiconductor hetero-n-i-p-i superlattices, elec. characts. 4-6878
 semiconductor selectively doped heterostructure, dynamic negative differential cond. 4-50919
 semiconductor structure, short, low field mobility, size effects 4-20721
 semiconductor superlattices, Einstein relation modification, electron conc. depend. 4-56422
 semiconductor superlattices, low temp. mobility and carrier statistics 4-11579
 semiconductors, carrier diffusion drift transport under strong electron-hole scatt. conditions 4-6775
 semiconductors, charge carrier transfer processes, numerical anal. 4-20706
 p-semiconductors, effective carrier mobility theory 4-11539
 semiconductors, electrical characterisation using carrier transport phenomena, thin film resistivity meas. 4-25336
 semiconductors, free carrier optical mixing, magneto-conductivity tensor, magneto-optical phenomena 4-46234
 semiconductors, Hall effect and magnetoresistance with two-type current carriers 4-6809
 semiconductors, trap trajectories, dissipative effects cutoff 4-25369
 SOS films, ion implanted, elec. characts. 4-35072
 SOS structure, review of physico-chemical and electrical props. (French) 4-40068
 TCNQ salt, TMA-I-TCNQ, intrinsic semicond., elec. props. and phase transitions 4-2617
 ternary magnetic semiconductors, prep. and charact. 4-29964
 tetrabenzofulvalene films, drift mobility, anomalous field depend. 4-29974
 thick film resistor, electrical conductivity, electron hopping and diffusion coeff. 4-6778
 triarylmethane-bisphenol-A-polycarbonate solid soln., hole transport 4-25344
 1,3,5-trinitrobenzene, charge carrier mobility meas. using photoinjected carriers from semicond. electrodes 4-20652
 ZnO/Si p-n and n-n heterojunctions, conductivity 4-45864
 n-AlGaAs/GaAs heterojunction interface, electron transport props. 4-15954
 Al_{1-x}Ga_{1-x}As/Si, MBE growth and characterisations, H₂ gas effects 4-16330
 n-Al_{1-x}Ga_{1-x}As/Si MBE layers capacitance and Hall effect meas. 4-50962
 Al_{1-x}Ga_{1-x}As/GaAs layers, modulation doped, 2-D electron gas, low field mobility calc. 4-20710
 Al_{1-x}Ga_{1-x}As/GaAs quantum well structs., electron-transport, quantum size effect 4-45865
 n-Al_{1-x}Ga_{1-x}As/GaAs selectively doped heterostructs. for high electron mobility transistors 4-35048
 n-AlGaAsGaAs MBE selectively doped heterostruct., long-lifetime photocond. 4-15955
 Al_{0.48}In_{0.52}As LPE layers, undoped and Si-doped, elec. props. 4-20745
 Al_{0.48}In_{0.52}As layers, MBE, lattice matched to InP substrate, mobilities 4-40658
 Ar, quasifree electron mobility determ. by partial waves method 4-24517
 As₂Se₃, amorphous, transient photocurrent quantum efficiency, spectral depend. 4-45831
 Bi, electron irradi., galvanomagnetic props. at 4.2K, rigid-band model 4-35014
 Bi thin films, elec. characts., temp. depend. 4-30096
 Bi_{1-x}Ge_{0.20} photocurrent kinetics during fundamental light absorption 4-35026
 Bi_{1-x}Sb_x alloys, pure and Te doped electron conc. and cyclotron mobility 4-15876
 Bi_{1-x}Sb_xTe_y, elec. cond. and electron mobility, elongation effects 4-34982
 Cd₃As₂ films, pulsed laser evaporation and elec. props. 4-46437
 Cd(S₂Se)₂/Cu/Michler's ketone double layer system, optoelectronic props., Xerographic apps. 4-4488
 CdSe, heterophase photoconductors, magnetoresist. spectral depend. 4-25378
 CdSe, UPE layers, cond., electron mobility, cryst. struct. and morphology 4-57102
 CdSe:Ag, Ar(Cl) film, photoelec. props., electron density and mobility 4-25402
 n-CdSiAs₂ film, photoelectric and luminescence props. (Russian) 4-50874
 n-CdSnAs₂, heavily doped, elec. resist. and Hall coeff., press. depend. 4-20657
 Cd₃SnO₄ thin films, influence of point defects on electrical properties 4-40091
 CdTe_{1-x}Te_xCu, doping effect, hole mobility, thermoelectric props. 4-56375
 n-Cd_{1-x}Zn_xAs₂, electron mobility, composition depend. 4-15878
 CoO(Cr), elec. props. and defect struct. 4-39901
 CuAlO₂, photoelectric props. and band struct. 4-45827
 CuFe₂O₄-Cu_{0.5}Fe_{2.5}O₄-Fe₃O₄, ferrites, effect of composition on carrier and elec. cond. mechanism 4-56399
 p-CuInS₂, RF sputtered thin films, elec. props. study 4-30089
 Cu₂O, prep. of bulk single crystals by plastic flow method, elec. props. 4-51484
 Cu₂-Se, electronic and lattice thermal cond. meas. 4-6570
 p-Ga_{1-x}Al_xAs, alloy scatt. potential calc. 4-6773
 Ga_{1-x}Al_xAs, Hall mobility, electron conc. and resistivity meas. at 300K 4-11544
 GaAs, carrier density and mobility, Hall meas. 4-39930
 p-GaAs, electron diffusion length, conc. dependence 4-50832
 GaAs, electron indicated, deep donor levels excitation and annealing (Russian) 4-56265
 GaAs epitaxial growth by MO-CVD, optical and elec. props. (Japanese) 4-34832
 n-GaAs, erosion laser plasma irradi., compensation study 4-45180
 GaAs, LEC growth, deep traps at implanted layer interface 4-25291
 GaAs, MBE growth, elec. and luminescence props. 4-30637
 GaAs, seminsulating, electron mobility associated with impurity compensation 4-34983
 GaAs:Si, annealing effect on elec. and optical props. 4-25339
 GaAs:Si, MBE growth, Si doping, compensation effects 4-40651

carrier mobility continued

GaAs:Si(Se)(S), shallow ion implantation, elec. and structural props. 4-45166
 GaAs:Te, IR optical susceptibilities of (001) face surface electrons under weak modulation fields 4-2931
 GaAs:Zn, ion implantation, diffusion and segregation 4-34506
 GaAs/Ga_{0.7}Al_{0.3}As selectively doped heterostruct., transport. props. 4-35054
 GaAs/N-AlGaAs, selectively doped MBE heterostructs., high electron mobility 4-25427
 GaAs-(AlGa)As heterostructure, modulation doped, electron mobilities 4-6877
 GaAs-Al_{1-x}Ga_{1-x}As, low temp. fractional quantum Hall effect 4-20675
 GaAs-AlGaAs heterostructures, modulation-doped, hot electrons 4-40027
 GaAs-AlGaAs heterostructures, hot electron transport, expt. anal. 4-40038
 GaAs-AlGaAs modulation doped heterojunctions, two-dimens. hole system, mobility 4-40026
 GaAs-Ga_{1-x}Al_xAs heterojunction, doping considerations, low temp. mobility 4-20708
 GaAs-GaAlAs staircase heterostruct., transient electronic transport, Monte Carlo simulation 4-30059
 GaAs_{1-x}P_xGaAs strained layer superlattices, two-dimens. electron gas obs. 4-15938
 GaInAs, organometallic VPE growth, photoluminescence characterization 4-51509
 Ga_{0.47}In_{0.53}As layers, MBE, lattice matched to InP substrate, mobilities 4-40658
 Ga_{0.47}In_{0.53}As, MBE growth on InP substrate, elec. props. 4-16326
 Ga_{1-x}In_xAs epitaxial layers, grown with transition layer, elec. props. 4-50959
 n-GaP, charge carrier conc. and mobility determ. by Raman spectroscopy 4-7193
 GaS₂Se₂ solid solns., elec. props. study, rel. to struct. and optical props. 4-29987
 GaSb films, plasma-assisted epitaxy in H plasma 4-51527
 GaSe, γ -irrad., elec. props. 4-50808
 p-Ge, phonon limited cond. and Hall mobility calcs. 4-20653
 Ge single crystalline island on insulator, zone melting recrystn. 4-21129
 Ge:Cu single cryst., negative photocond. and hole mobility (Russian) 4-35023
 Ge:Li, gamma irradi., recomb. centres 4-6805
 Ge/sapphire/metal MIS structures, internal photoemission 4-25454
 Ge-Si-Cu, solid soln., electron irradi. effect on electrophys. props., radiation defect form. control by alloying 4-56363
 Ge_{43-x}Pb_xS_{56.5} chalcogenide glass films, bipolar photoconductivity 4-56384
 (GeTe)_{1-x}(AgSbTe₂)_x solid solns., thermoelec. power, temp. depend. 4-35018
 H₂O and D₂O ice, cond. band electrons, mobility and trapping 4-29966
 Hg_{0.8}Cd_{0.2}Te thin films, sputtered, annealed, elec. props., struct., comp. 4-40086
 Hg_{1-x}Cd_xTe films, isothermal growth, elec. props. 4-40655
 Hg₂ single cryst., characterisation using thick detector struct. 4-2624
 Hg_{1-x}Mn_xTe, IR detector material, band structure, elec. props., mag. props. 4-39937
 Hg_{1-x}Mn_xTe, low temp. elec. and mag. props. 4-25381
 HgTe, hole mobility and Hall effect 4-45802
 In_{1-x}Al_xAs epilayers on InP substrates, deposition and props. 4-30638
 InAs, iodide synthesis of bulk crystals and epitaxial layers, elec. parameters 4-11415
 InAs MISFET, magnetoconductance study of inversion layers 4-20727
 InAs-GaAs high-electron mobility monolayer superlattice 4-15936
 In_{1-x-y}Ga_xAl_yAs:Mn, MBE growth, doping and elec. characts. 4-30636
 InGaAs films, LPE, carrier conc., Hall mobility, Al addition gettering effect 4-46456
 InGaAs, MOCVD growth using new AsH₃ cracking method, photoluminesc. and elec. props. 4-21153
 In_{0.2}Ga_{0.8}As-GaAs strained-layer superlattices, electron mobilities 4-11576
 In_{0.53}Ga_{0.47}As LPE on (100)-InP substrates at low growth temps., Hall meas. 4-21171
 In_{0.53}Ga_{0.47}As/plasma oxide MOS structs., inversion layers, low field electron mobility 4-45884
 In_{1-x}Ga_xAs₂P_{1-y} layers, high temp. LPE, electron Hall mobility, scatt. mechanism 4-40087
 InP, LEC growth, elec. props., impurity conc. 4-40632
 InP, MOCVD epitaxy, C-V, Hall and photoluminesc. characts. 4-40664
 InP, organometallic VPE, morphology, photoluminesc., electron mobility 4-3080
 InP, polycrystalline ingots, synthesis by direct reaction, microstruct. and carrier mobility 4-40722
 InP, transient electronic transport under condition of high-energy injection 4-50822
 InP:Cd LPE layers, impurity concentration meas. by ionized impurity scatt. anal. 4-20231
 InP:Si, ion implanted, laser beam annealing, Hall effect and ellipsometry studies 4-50346
 InP:Te, ion implanted, photoluminescence study 4-35481
 InSb, crystallisation, influence of elec. current 4-51481
 n-InSb, metal-insulator transition under high hydrostatic press. 4-56219
 InSb, multipass synchronous acoustic wave generation using AC Hall drift current 4-30027
 InSb, nonlinear elec. cond. meas. 4-25356
 InSb quantum wells, energy level scheme and transport props. 4-40036
 InSb, Shubnikov-de Haas meas. 4-15889
 n-InSb, thermal-electric instability in static mag. and elec. fields 4-34997
 n-InSb:Te, negative magnetoresistance study 4-6812
 InSb:Te(Se)(S) 4-40098
 In₂Se₃ amorphous films, carrier mobility and lifetime meas. 4-45789
 In₂-Sn₂O₇ single crystals, elec. props. 4-39897
 Mn_{1-x}Cr_x(Fe₂)S antiferromag. semicond., elec. props., stoichiometry and cation substitution effects 4-34978
 α -MnSe:I, elec. resist., Hall effect and thermoelec. power 4-39908
 Na⁺ induced surface states in Si-SiO₂ interface, transient capacitance spectroscopy 4-50885
 NaCl crystal, stress relax., current carried by dislocations (Japanese) 4-20669
 Ni-Zn ferrite, thermopower and cond., composition depend. 4-29998
 Pb_{1-x}Mn_xTe semimag. semicond., transport and mag. props. 4-56569
 PbSe:Cd, heavily doped, elec. and optical props. 4-15920

carrier mobility continued

- Pb_{1-x}Sn_xSe, LPE, doping, charge carrier mobility and conc. 4-56457
 Pb_{0.8}Sn_{0.2}Te epitaxial films, vacuum deposited, growth and high mobility props. 4-16316
 Pb_{1-x}Sn_xTe heavily doped ferroelec. semicond., Curie temp. effects 4-35392
 Pb_{1-x}Sn_xTe, multiply doped, electrophysical props. 4-29993
 PbTe, hot electron drift vel., Monte Carlo simulation 4-20664
 n-PbTe layers, heavily doped, LPE grown, temp. depend. of mobility 4-20749
 PbTe RF sputtered films, struct. and transport props., substrate depend. 4-40092
 (PbTe)_{1-x}(Cr,Fe,Ni)₂Te₃, solid solns., thermoelec. props. 4-6815
 RuS₂, single crystal, growth and phys. props. 4-29970
 Sb films, vacuum deposited, struct. and galvanomag. props. 4-40096
 (Sb₂Te₃)_{0.75}(Bi₂Te₃)_{0.25}(Tl₂Te₃)_x solid solution, transport props. and Seebeck coeff. 4-29999
 n-Si, carrier scatt. anisotropy in mixed scatt. region 4-20644
 a-Si, elec. props. study, interface and surface effects study 4-39976
 Si, electron drift velocity in bulk material, semi-empirical eqn. 4-50804
 Si, heavily doped, energy gap narrowing meas. 4-50835
 Si, heavily doped, hole and electron mobilities, device models implications 4-20655
 p-Si inversion layer in MOSFET, atomic roughness and Hall mobility 4-15963
 Si, ion-implanted polycryst., IR radiation annealing using graphite heater 4-24854
 Si MIS struct., magnetoresistance meas. 4-40066
 Si, microcrystalline, Hall and photo-Hall study 4-50844
 Si n⁺-p⁺ solar cells, open-circuit voltage, temp. depend. under high illum. levels 4-7878
 a-Si p-i-n junction solar cells, high efficiency, junction and film props. anal., design and fabrication 4-52163
 a-Si p-i-n junctions, carrier lifetime study 4-15941
 p-Si, phonon limited cond. and Hall mobility calcs. 4-20653
 Si, polycrystalline, elec. cond., modelling and numerical analysis 4-50805
 Si polycrystalline MBE films, prep. and active device appl. 4-16334
 Si, proton and γ -ray irradi., point defect-group radiation defect interactions 4-34531
 Si structural defects and electronic effect in devices and unprocessed material 4-39935
 Si, thermal processing, effect on thermophysical props. and structural perfection 4-50836
 a-Si, transport and related props., transient expts. 4-45775
 Si:H, amorphous, geminate recombination effect, prep. parameters (Chinese) 4-6798
 a-Si:H, carrier dynamics, surface and interface effects obs. by transient grating spectroscopy 4-39928
 a-Si:H, compensated, localised states, drift mobility, charge collection meas. 4-45692
 a-Si:H, elec. cond. study 4-39905
 a-Si:H, electron-transport meas. 4-40090
 a-Si:H, Schottky barrier, electron drift mobility 4-45766
 a-Si:H, transient photocurrent in weak electron phonon coupling 4-39974
 a-Si:H, travelling wave method for meas. drift mobility 4-11540
 Si:H,F, amorphous film, glow discharge deposition and high resistive props. 4-16342
 a-Si:H film, carrier dynamics at surface and interface, transient grating method obs. 4-20667
 a-Si:H films, photocurrent reversal, time-of-flight expts. 4-6887
 a-Si:H n-i-n diodes, characs., SCLC model including diffusion 4-40034
 a-Si:H thin films, high field breakdown 4-40341
 Si:P, implanted, solar cells obtained by incoherent light annealing, elec. characs. 4-21547
 Si:P epitaxial layers, reflectance, transmittance and Hall mobilities meas. 4-40548
 Si-Ge epitaxial layers, plasma CVD growth from SiH₄-GeH₄ mixture 4-21157
 Si-SiO₂ interface, RF plasma induced radiation defects, carrier mobility in inversion layers 4-35077
 SiC-Si-Si p-i-n heterojunction solar cells, mobility-lifetime products and interface props. 4-2148
 SmS, elec. props. in strong elec. field 4-25362
 SnO₂ films, highly doped, Hall effect anal. 4-39996
 SnO₂:F films, sprayed on glass substrates, elec. and optical props. 4-57021
 SnS₂ MIM struct., SCL cond., elec. characs. 4-30084
 SnTe, crystal growth by iodide method, impurities and elec. props. (Russian) 4-6796
 (SnTe)_{1-x}(PbSe)_x, hot-wall film growth, physicochemical characs. 4-57111
 Te, current-voltage characs. and Gunn domains 4-34996
 Te, drift mobility, elec. cond. temp. depend. calcs. 4-39917
 TlInTe₂-InGaTe₂, electrophysical props. 4-56367
 V₂O₅-P₂O₅, vitreous, Hall effect, elec. cond. and thermopower 4-45814
 WSi₂ thin films, elec. cond. and Hall effect studies 4-50963
 Xe, liquid, electron swarm drift. meas. 4-35037
 ZnGeAs₂, chalcopyrite struct., Bridgman growth, melting point, elec. props., DTA, X-ray diffr. studies 4-15411
 ZnO:In film, prep. by spray pyrolysis, elec., struct. and optical props. 4-30095
 ZnS, Hall effect for bulk photovoltaic current 4-39979
 ZnS, piezoelec., bulk photovoltaic effect, mag. field influence 4-45823
 ZnSe, thin film, photoinduced discharge characteristics (Korean) 4-40093
 ZnSe:In, impurity states and carrier mobility 4-25283
 ZnTe epitaxial layers, vapour growth and elec. props. 4-25885
 ZnTe, filiform crystals, effects of pulsed laser radiation on electrophysical props. 4-55867
 ZrC-ZrN, electronic struct. parameters calc. to two-band approx. 4-25225

carrier relaxation time

- see also electron relaxation time (metals)*
 polar semiconductors, photoexcited, time dependent. relax. times 4-45803
 semi-magnetic semiconductors, dark and photomagnetoresist. 4-30006
 semiconductor microcontacts, hot electrons relax. time, energy depend. 4-34995
 semiconductors, compensated, capacitance and relax. times at carrier exclusion 4-45807
 semiconductors, electron relax. mech., point contact spectroscopy study 4-2621

carrier relaxation time continued

- semiconductors, free carrier optical mixing, magneto-conductivity tensor, magneto-optical phenomena 4-46234
 semiconductors, hot electron relax. in strong mag. field 4-11537
 semiconductors, nonlinear current density in DC mag. field, higher harmonic generation 4-25388
 two-dimensional weak localisation, inelastic-scatt. time, effects of mag. fields 4-2565
 GaAs, electron momentum relax. time meas., third harmonic generation in crossed MM elec. and static mag. fields 4-6821
 GaAs, magnetoresist. meas., electron scatt. mechanisms 4-2625
 GaAs/Al_{0.3}Ga_{0.7}As heterostructure, 2D electron gas, negative magnetoresist. and inelastic scatt. time 4-50912
 GaAs-AlGaAs multiple quantum wells and bulk GaAs, photoexcited, hot carrier relaxation 4-56361
 Ge, carrier relax. time, electroreflectance meas. 4-35008
 InP, nonequilibrium electron system, cond. electrons and donors, far IR magnetoabsorpt. study 4-16099
 P, black, far IR cyclotron reson. absorpt. meas. 4-7067
 Pb_{1-x}Sn_xSe, surface band bending, temp. depend. 4-15932
 Pb_{1-x}Sn_xTe, surface band bending, temp. depend. 4-15932
- carrier scattering at surfaces** *see surface scattering*
carrier scattering by dislocations *see dislocation scattering*
carrier scattering by impurities *see impurity scattering*
carrier scattering by point defects *see point defect scattering*
carrier traps *see electron traps; hole traps*
CARS *see coherent antiStokes Raman scattering*
- cartography**
 Adriatic Sea, sedimentological textural map 4-17139
 analogue contour line conversion to digital form by raster scanning and vectorisation (German) 4-47129
 computer imaging processing for remotely sensed data 4-36508
 computer method for recognition of aerial features in remote sensing digital data 4-36497
 geological mapping, computer assisted methods 4-36272
 global soil maps, refinement from remotely sensed data 4-17158
 N Greenland, mapped at 1:100000 scale by aerial photography 4-31399
 latitude, longitude and ellipsoid height, conversion from NAD-27 to predicted (NAD-83) 4-31401
 magnetic anomalies, uniform grids from raster data [magnetic anomalies], software package 4-31659
 map projection choice, strain criteria appl. 4-12743
 map revision using stereo-orthophotos (German) 4-36510
 meridional distance determ., new eqns. 4-41688
 Mount St. Helens, topographic and structural changes, March to July 1980, from photogrammetric data 4-12850
 Mount St. Helens, topographic changes from large-scale photogrammetry and digital terrain models 4-12851
 ocean floor mapping (1947-77) 4-58164
 remote sensing photographic equipment system developed by VEB Carl Zeiss Jena 4-42221
 remote sensing photographic system, high-performance, MSK-4 multispectral camera 4-42222
 remote sensing photographic system, LMK aerial camera system materialisation and functional principles 4-42223
 remote sensing photographic system FEAG digital photowrite and photoscan system 4-42225
 Rhea, cartographic control network from Voyager obs. 4-53091
 satellites use, precision anal., appl. to SPOT (French) 4-31394
 seismic structural map precision, errors and choice of profile density (Russian) 4-21893
 shallow coastal area mapping technique by photogrammetric method 4-31688
 Sherbro Island, Sierra Leone, SIR-A use for grassland swamp cartography (French) 4-41922
 snow, mapping with active microwave sensors 4-52905
 spaceborne SAR data for mapping, image processing and algorithms 4-52941
 stereoscopic digitising plotting system for cartography 4-31700
 digital terrain model data compression method 4-36509
 thematic map data for digital image processing 4-8337
 topographic mapping through tropical forest, VHF radar technique 4-22152
 transformation ('Umbezifferung') of map grids, ang. distortions and conformal projections (German) 4-26580
- cascade showers** *see cosmic ray showers and bursts*
Cassegrain antennas *see reflector antennas*
cast iron *see iron alloys*
- casting**
 alloys, shrinkage-caused porosity, rel. to solidification rate (French) 4-16380
 composition of exothermal mixtures effect on ferrous metal casting properties (Bulgarian) 4-35623
 devitroceramic fibre reinforced Al alloys, prod. scale squeeze casting and mech. props. 4-30667
 equiaxed zone formation 4-40768
 IN-100, rheocastings, nature of γ' precipitates 4-35630
 metal, pure, chill-cast, meniscus solidification and surface quality 4-51647
 mirror blank fabrication, expts. with waffleplate and honeycomb casting 4-10472
 polystyrene-b-butadiene-b-4-vinylpyridine ABC copolymer, morphology control by binary solvent casting 4-57185
 solidification process, boundary element numerical model 4-57211
 solidification process, coupling of boundary element and finite difference methods 4-57210
 steel, cast, A- and V-segregation, formation mechanism, review 4-40791
 steel, high strength, cast and forged, comparative study of fracture and fatigue 4-57325
 steel, high-speed, cast, props., C and rare earth metal contents influence 4-40977
 steel, high-speed, cast and powder, props. 4-40976
 steel, low-alloy, continuously cast, mech. props. and struct. changes during hot deform. 4-40920
 Al, slow solidification of a cylinder with constant heat efflux 4-50469
 Al-Si, LM6, hollow plate shaped castings, solidification times in sand moulds 4-14871
 C fibre reinforced Sn-Sb-Cu composite, squeeze casting, tensile strength, SEM obs. 4-51585

casting continued

- Cd₈₁-₁₉Te, polycrystalline ingot, thermal modelling of casting 4-3055
 Cu, pure, ribbon, melt spinning, multilayer deposition 4-51575
 Fe, pearlitic structures stabilised with Sb additions (*French*) 4-40761
 Nb₃Sn, crystallisation by arc casting 4-40637
 Ni base superalloy, turbine components, investment casting, directional solidification 4-40700
 Ni-Cr-Nb(W), cast heat-resist., carbide reactions and precip. 4-40788
 SmCo₅, microstructural effects of casting conditions and melt additions 4-7397

castings

- automated X-ray inspection of castings, local feature method for flaw detection 4-7685
 solidifying ingot, stress-strain rate (*Russian*) 4-25958
 stationary instability in axisymm. flow excited by rot. HF mag. field 4-38901
 steel, low C, cast components, strengthened by elastoplastic deform., failure mechanism 4-35700
 steel, US inspection of continuously cast slabs using EM acoustic transducer (*French*) 4-46722
 steel, wear behaviour for mining industry 4-40997
 Al, surface roughness effects on ultrasonic sizing algorithms 4-35827
 Al-Sc, decomp. features 4-57235
 Al-Zn-Mg, polygonized struct. thermal stability, Mg effect 4-3149
 Fe, nodular, scale factor effects on strength 4-12124
 Fe, pearlitic structures stabilised with Sb additions (*French*) 4-40761
 Fe, white, wear behaviour for mining industry 4-40997

cataclysmic binary stars

see also novae

- 0139-68, AM Herculis star, photometric and spectroscopic obs. during optical low state 4-17555
 1329-294, new edge-on object, spectra 4-8497
 084003+2802, cataclysmic variable in Cancer, discovery position and magnitudes (November 1977) 4-4011
 3A 0729+103, optical pulsations obs. 4-53174
 accretion disc and mass transfer, models and evolution 4-58455
 accretion discs, influence of frictional parameter α on struct. 4-27080
 accretion disk flow evolution, dwarf novae collective relaxation oscils. 4-8496
 FO Andromedae, new member of SU UMa subgroup of dwarf novae, magnitude estimates and supermaxima 4-53187
 IO Andromedae, photometric study (1967 to 1982) 4-22387
 EG Andromedae, symbiotic star, discovery of UV activity from photometric obs. 4-22407
 R Aquarii, circumstellar reddening charge, recombination spectra 4-58451
 VY Aquarii, new outburst, visual magnitude estimates, and precise position 4-17519
 VY Aquarii, photometric obs. of Nov.-Dec. 1983 outburst of SS Cygni star 4-47625
 VY Aquarii, recurrent nova, visual magnitude estimates (1983 December 11 to 20) 4-27102
 VY Aquarii, recurrent nova, visual magnitude estimates during outburst (December 1983) 4-22397
 TT Arietis, nova-like variable, long-term photographic photometry (1928 to 1982) 4-47634
 TT Arietis, nova-like variable, visual magnitude estimates (1983 November 3 to 8) 4-17518
 TT Arietis, nova-like variable, visual magnitude estimates (1983 December 1 to 10) 4-27104
 KR Aurigae, magnitude estimates and light curve for photometric min. (1981-1982) 4-42471
 KR Aurigae, visual magnitude estimates (1983 September 11 to October 30) 4-27103
 KR Aurigae, visual magnitude estimates (1983 September 4 and 8) 4-8491
 AC Cancri, nova-like variable, accretion disc model, spectral/photometric obs. 4-31846
 ZZ Canis Minoris, symbiotic star, highly excited emission lines obs. 4-58442
 OY Carinae, eclipsing dwarf nova, spectroscopy and photometry during quiescence 4-22379
 OY Carinae, outburst and quiescent luminosities of eclipsing dwarf nova 4-22378
 CPD-48°1577, brightest known cataclysmic variable, spectra, photometry and mass transfer 4-47624
 BI Crucis, symbiotic star with Mira variable, IR emission feature and circumstellar CO 4-17524
 SS Cygni, discovery of eclipses, orbit parameters determ., UVB obs. (*Russian*) 4-17530
 SS Cygni, dwarf nova, spectroscopic obs. and orbital parameters 4-8474
 V1016 Cygni, Fe II fluoresc. lines excited by C IV in Bowen mechanism 4-17525
 CH Cygni, symbiotic star, differential photometry and absolute spectrophotometry (1981 to 1983) 4-47638
 CI Cygni, symbiotic star, periodogram study of light curve 4-27096
 CH Cygni, symbiotic star, photometric activity during August 1982, UVB and H α obs. 4-22400
 CI Cygni, symbiotic star, spectrophotometric study during 1980 eclipse 4-42452
 CH Cygni, symbiotic star, spectroscopic behaviour (1981 to 1983) 4-4009
 CI Cygni, symbiotic star, UVRI photometry during 1982 eclipse 4-53189
 V1500 Cygni (Nova 1975), orbital period from photometric obs., (summer 1981) 4-42450
 dwarf novae, accretion disc outbursts and mass transfer 4-53179
 dwarf novae, accretion disc theory rel. to outburst light curves 4-31826
 dwarf novae, orbital period-colour relation, accretion disc models 4-42479
 dwarf novae, outbursts, disc instability model 4-31845
 dwarf novae, outbursts 4-58446
 E2003+225, AM Herculis star, photometric study (*Russian*) 4-13337
 E 1405-451, linear polarization meas. of AM Her object 4-31858
 eclipsing cataclysmic binaries, tidal distortion of secondary rel. to phases of eclipses 4-47656
 RX Gruis, UX UMa star, mass loss, accretion disc and energy distrib., UV/visible anal. 4-42475
 GX 1+4, X-ray symbiotic star, H α obs. and JHKL photometry 4-13368
 H 0139-68, linear polarization meas. of AM Her object 4-31858
- cataclysmic binary stars continued**
 H 2252-035 (AO Psc), system model, orbit and white dwarf rot. 4-42462
 HBV 475 (V1329 Cyg), symbiotic star of protoplanetary nebulae, IR photometry 4-13334
 Henize S63, symbiotic star in LMC, UV and optical spectra 4-31834
 AM Herculis, atm. parameters from soft X-ray spectrum anal. 4-58487
 AM Herculis (3U 1809+50), long term photometric behaviour (March to November 1983) 4-42467
 AM Herculis (3U 1809+50), new optical low state, visual magnitude estimates and BV photometry (August to November 1983) 4-17553
 AM Herculis stars, mag. field effects on rot., synchronisation with orbit, mass transfer role 4-17558
 AM Herculis stars, polarisation due to white dwarf shock front 4-47652
 EX Hydrae, eclipsing cataclysmic binary, B and V photoelectric sequences 4-17528
 T Leonis, dwarf nova, cycle length determ. from photometric obs. 4-22388
 T Leonis, dwarf nova, orbit, components masses, energy distrib. and accretion 4-47621
 MV Lyrae, photometric obs. during inactive state 4-8488
 magnetic white dwarfs in binary systems, rot. synchronisation 4-13299
 TU Mensae, SU UMa star, components masses, orbit anal., visible obs. anal. 4-53180
 BX Monocerotis, symbiotic star, highly excited emission lines obs. 4-58442
 SY Muscae, symbiotic star, variable UV emission lines 4-58445
 in NGC 7099 (M30), globular cluster, spectrum and photometry 4-8480
 novae, self-similar solns. for isothermal flows 4-4001
 novae, self-similar solns. for isothermal flows 4-4002
 V2051 Ophiuchi, eclipsing Gem star B and V photoelectric sequences 4-17528
 V2051 Ophiuchi, white dwarf eclipsing cataclysmic variable, spectra and UVB photometry 4-8495
 AR Pavoris, IUE obs. of 1982 UV eclipse of symbiotic binary 4-17514
 AG Pegasi, symbiotic star, periodogram study of light curve 4-27096
 GK Persei (Nova 1901), visual magnitude estimates (1983 September 9 to November 5) 4-22399
 PG 1012-029, eclipsing cataclysmic binary, components masses, orbit, evolutionary status 4-47617
 PG 1711+336, photometric obs. and discovery of periodic light vars. 4-27092
 positions for 15 stars 4-58440
 PU Vulpeculae, nova-like variable, weakening of H β emission (November and December 1983) 4-42473
 VV Puppis, AM Her star, B and V photoelectric sequences 4-17528
 HM Sagittae, symbiotic star, radio history (1977 to 1980) 4-31837
 V1223 Sagittarii, intermediate polar, orbit, rot., accretion disc emission model 4-31843
 V1223 Sagittarii, intermediate polar, white dwarf as accreting object, period anal. 4-8500
 VZ Sculptoris, VY Scl star, luminosity, mass transfer and accretion disc nature 4-42476
 secular evolution of cataclysmic binaries, review 4-31844
 spectroscopy, positions and finding charts 4-27086
 symbiotic binary stars, evidence for warm wind from red star 4-4005
 symbiotic stars, dust envelopes characts. and IR excesses, KLN obs. (*Russian*) 4-17531
 symbiotic stars and related objects, reddening and emission lines obs. 4-27087
 symbiotic stars misclassified as planetary nebulae, relative emission-line fluxes 4-22462
 transition waves in accretion discs rel. to dwarf novae outbursts 4-53177
 UX Ursae Majoris, time-resolved spectrophotometry of nova-like variable 4-27088
 SU Ursae Majoris stars, mass transfer and elliptical accretion rings form. 4-47633
 SU Ursae Majoris stars, outburst types and superhump origin, mass transfer effects 4-42455
 SU Ursae Majoris type dwarf novae, observational behaviour and interpretation (*German*) 4-31839
 V0332+53, X-ray transient, identification of probable optical counterpart 4-17556
 V 2051 Ophiuchi, cataclysmic binary, nature of outbursts 4-58439
 PU Vulpeculae, nova-like variable, H β emission obs. 4-27094
 PU Vulpeculae (Nova 1979), spectrum of 1979 August-September 4-27107
 X-ray emission origin 4-42477
 compact X-ray sources, optical counterparts 4-22439
 He cataclysmic binaries, vertical struct. and stability of accretion discs 4-42449
- cataloguing**
 molecular structure numbering and cataloguing 4-49177
 star catalogue computer data-base facilities of ESA for astronomical satellite operation 4-53056
- catalysis**
 see also catalysts; reaction kinetics
 acetylene catalytic hydrogenation, Raman diagnostics of heterogeneous chem. processes 4-46836
 alcohols, conversion mechanism over H-ZSM-5 zeolite 4-57599
 alkanes, large protonated, catalytic cracking, surface model including MINDO/3 4-46789
 alloys, amorphous, corrosion resistance, passivation and catalysis 4-57410
 aromatic hydrocarbons, exhaustive catalytic oxidation, kinetics 4-52057
 Belousov-Zhabotinsky reaction, computer simulations 4-30923
 1-butene+Pt surface collisions, energy transfer and catalytic reaction 4-35937
 coupled nonlinear rate eqns. anal. soln. for positive catalytic feedback loops (hypercycles) 4-12327
 Diels-Alder and cycloaddition reactions, acid catalysis, MINDO calcs. 4-46788
 diethylmalonate in dioxane-H₂O mixts., acid-catalysed hydrolysis, kinetic and thermodynamic studies 4-41183
 diffusion-retarded reaction, first-order, in catalytically active membranes, temp. depend. 4-52050
 effectiveness factor concept for catalyst deactivation reaction problem 4-30920
 electrolytic gas detectors, protecting the sensors 4-52044
 enzyme-catalysed ¹⁵N-label exchange, ¹H NMR meas. 4-57848

catalysis continued

- glucomylase-ion exchange resin, enzymatic complex, IR spectroscopy investig., catalytic and physicochem. props. 4-12385
heavy water production and electrolysis, new hydrogen technology development 4-32994
heterogeneous catalysis and adsorption, theoretical aspects 4-29816
heterogeneous chemical processes, Raman diagnostics, local concs. determ. 4-46836
heterogeneous reaction, interfacial sound modes, dispersion relation 4-31022
isothermal open systems, autocatalysis 4-30951
laser-chemical reactions, influence of rare gases 4-16675
linear n-stage catalytic reaction, relax. mechanism 4-52003
metal surfaces, molecular adsorption processes, poisoning and promotion 4-45510
methane, tritiated, catalytic oxidation, T recovery for fusion fuel cycle (*Japanese*) 4-18772
methanol, photoinduced oxidation reaction on TiO₂ semiconductor electrodes 4-57581
methanol+formamide, C-N bond breakage catalysed by serine peptidases 4-46787
methanol oxidation on α -MoO₃ crystal and acidic centres density determ. (*French*) 4-52043
nitrobenzoic acid, liq. phase hydrogenation on Pd catalyst in two-phase flow reactor 4-57598
nylon, with pendant viologen groups, synthesis, electron transfer catalytic appls. 4-35899
olefins, conversion mechanism over H-ZSM-5 zeolite 4-57599
phenol+acetaldehyde catalytic reaction, solvent effect on catalytic stage of condensation (*Russian*) 4-30974
sucrose, hydrolysis on cation exchange membrane, H⁺ counterion catalysis 4-52050
theoretical chemistry, conf., Louvain-la-Neuve, Belgium (June 1983) 4-42577
water, tritiated, catalytic reduction method for T recovery, feasibility study 4-54387
XPS and AES, metallurgy, catalysis and semicond. technology appls. 4-51420
Bi₂O₃, electronic props. rel. to oxidation catalysis 4-29886
CO₂ laser, OH catalyst control via NH₃-H₂ equilib. 4-33641
CO₂, TEA UV laser, lifetime improvement study by catalytic reaction of decomposed products (*Chinese*) 4-55012
C-N bond breakage catalysed by serine peptidases 4-46787
Co complexes, cobalt octoate solns., homogeneous Ziegler-type hydrogenation catalysts, EXAFS study 4-35870
CuO-ZnO-Cr₂O₃ (Al₂O₃), phase-structural characteristics, catalytic precipitation (*Russian*) 4-35625
Fe+H₂ system, thermal waves and nonuniform steady state 4-12382
 α -Fe₂O₃ electrodes, photodecomposition of water, surface studies (*Chinese*) 4-57589
H₂ evolution from p-type semiconductors with small metal aggregates on surface 4-41353
MoO₃, electronic props. rel. to oxidation catalysis 4-29886
n-MoSe₂ electrodes used in photoelectrochem. solar cells, surface defects, photocatalytic process 4-41347
NH₃ catalytic decomposition on Pt surface, N₂ vibr. excited mol. formation 4-33360
NH₃, photocatalytic synthesis in fluidised bed reactor 4-12331
Ni (111) layers, on C, heterogeneous catalytic props., effect of metal-support interactions 4-57602
Ni complexes, nickel octoate solns., homogeneous Ziegler-type hydrogenation catalysts, EXAFS study 4-35870
Ni deactivation during activated C gasification, XPS 4-41262
Ni, electroless plating, catalytic activity of Fe, Ni and Ni-P 4-40681
O₂ adsorbed on Ag, surface enhanced Raman spectra 4-57600
Pd catalyst for electroless plating, Rutherford backscatt. study 4-25903
Pd, chemisorption of acetylene, catalysis, UPS, XPS, LEED, work function, desorption, mol. beam meas. 4-41257
Pd/Sn catalyst for electroless plating, Rutherford backscatt. study 4-25903
Pt (100), CO, NO and CO/NO adsorption, IR reflection-absorption study 4-45522
Pt catalyst supported on γ -Al₂O₃ and TiO₂, XPS 4-40607
Pt surface, (321), CO orientation at step sites, implications for catalytic oxidation 4-34781
Rh catalyst supported on γ -Al₂O₃ and TiO₂, XPS 4-40607
RuO₃, hydrated, catalytic efficiency for water photo-oxidation in sacrificial system 4-26217
TiO₂, surface photoreactions, catalytic activity 4-35936
V, determ. in water, modified catalytic-photometric method 4-16701
V₂O₃-TiO₂ surface, oxidation of alcohols, IR and X-ray diff. obs. 4-52049
ZnO, surface photoreactions, catalytic activity 4-35936

catalysts

- see also catalysis*
adsorbent surface, hydroxyl groups, diffuse-reflectance spectroscopy, near IR region (*Russian*) 4-35426
European Community solar programme, photochemical and photobiological research 4-57747
glucomylase-ion exchange resin, enzymatic complex, IR spectroscopy investig., catalytic and physicochem. props. 4-12385
heavy water production and electrolysis, new hydrogen technology development 4-32994
heteropolytungstates, W-W connectivities, 2-dimens. ¹⁸³W NMR investig. 4-33422
highly dispersed metal catalysts, appl. of EXAFS 4-30566
metallic glasses, corrosion resist. and catalytic behaviour 4-46637
polyaromatic compounds, restrictive diffusion in gamma-Al₂O₃ 4-29668
propene, selective catalytic oxidation to acrolein, ab initio MO study, mechanism 4-41248
PVC-supported redox catalysts, apparent surface coverage determ. 4-32235
reactor for surface spectroscopic analysis and atmospheric pressure kinetic studies 4-46848
self-replicating information containing polymers from oligomeric mixtures, condensation reactions 4-26226
surface science conf., Warwick, England (Apr. 1983) 4-27238
transition metal sulphides, periodic effects in catalytic activity, SCF Xalpha calcs. 4-5143
zeolite-metal interactions, mag. and Mossbauer study 4-56711

catalysts continued

- Al₂O₃, pyrogenic, surface and pure struct. 4-40715
CO₂, Van der Waals mol. role in vibr. relax. kinetics 4-5330
Co complexes, cobalt octoate solns., homogeneous Ziegler-type hydrogenation catalysts, EXAFS study 4-35870
 α -Cr₂O₃, desorpt. of O₂, isothermal kinetics (*French*) 4-45484
D, T catalysed, assessment of fuel cycle for fusion reactors 4-14204
H evolution site in photocatalytic process on Pt/TiO₂, H-D isotope effect 4-21484
H₂-O₂ alkaline fuel cells, Ti-doped Raney Ni catalytic props. improvement by Ni(OH)₂ surface coating 4-21540
LaNiO₃ preparation and oxygen reduction performance, application as catalyst in fuel cells 4-35888
MoO₃-BiPO₄ biphase catalyst, low energy ion scatt. study 4-46828
NH₃ plasma chemical synthesis, electrode material effect 4-16660
NO+CO reaction on Pt (100), chemical autocatalysis, isothermal desorpt. 4-21491
N₂O, Van der Waals mol. role in vibr. relax. kinetics 4-5330
Ni complexes, nickel octoate solns., homogeneous Ziegler-type hydrogenation catalysts, EXAFS study 4-35870
Ni surface, C deposition, growth and reactivity, field emission microscope studies 4-29751
Ni, surface catalysis of LaNi₅ 4-41247
Ni-Cr₂O₃ catalyst, isotropic, superparamagnetic, ferromag. reson. linewidth 4-40237
NiO-Al₂O₃ system, struct., diffuse refl. spectrosc. obs. 4-25781
OH catalyst in CO₂ laser, NbH₄-H₂ equilib. 4-33641
Pd/SiO₂ supported catalysts, proportion of different plane orientations, gas chemisorption method 4-35942
PdCl₂, low-lying unoccupied states distrib., X-ray absorpt. near edge struct. studies 4-7271
PdO crystal and catalyst, local electronic struct., X-ray absorption spectra studies 4-2510
Pd₃Zr₆₅, amorphous, active methanation catalyst prep. 4-46795
Pt and Pd, CO₂ form. by oxidation of CO, time resolved IR emission spectra 4-14407
Pt group metal catalyst-semiconductor suspension contacts, photoelectrochem. H₂ evolution 4-31124
Pt/CeO₂ supported catalyst, O₂ and N₂O adsorption, EPR study 4-34774
Pt-Pd-Rh, environmental effect on composition depth profiles determ. by SIMS (*Polish*) 4-31021
Pt-Pd-Rh alloys, environmental effect on composition depth profiles determ. by SIMS (*Polish*) 4-31021
Pt-Rh, environmental effect on composition depth profiles determ. by SIMS (*Polish*) 4-31021
Pt-Rh alloys, environmental effect on composition depth profiles determ. by SIMS (*Polish*) 4-31021
Rh, adsorption isotherms of H₂, 193 to 500K 4-15762
Rh dispersed particles, adsorption of benzene, dispersion effect on ¹H NMR line width 4-45499
Rh, SiO₂-supported, desorpt. of H₂ kinetics investig. 4-2433
Rh/SiO₂ catalyst, of NO, decomposition kinetics 4-7707
Ru, SiO₂ supported, carbonaceous deposits, ¹³C NMR, chemical shift, spin-spin relax. times 4-16110
Sb₂SnFe_{0.25}O₂₅ catalyst, adsorp. and desorpt. activation energy of O₂ determ. using isochor technique (*French*) 4-35932
Ti-containing Raney-Ni catalytic props. improvement for hydrogen anodes of H₂-O₂ fuel cells 4-57714
Ti-containing Raney-Ni catalysts long term perform. for H₂-O₂ alkaline fuel cells 4-57715
TiO₂, electrostatic pot. calcs., surface reducibility, catalytic activity 4-6644
- cataphoresis** *see electrophoresis*
- catastrophe theory**
coronary death, catastrophe theory 4-12621
critical imperfection territory 4-38725
discrete systems nonlinear vibration theory (*Chinese*) 4-42706
elastic column structures, instability studied using catastrophe theory 4-19748
environmentally assisted fracture, atomistic crack tip model, catastrophe theory formalism 4-50418
hyperbolic umbilic canonical diff. integral for semiclassical collision theory and optics 4-22638
Ising lattice system, permissible phase numbers, catastrophe theory anal. (*Chinese*) 4-48014
nonelementary theory, tutorial 4-8728
optics, catastrophe, paraxial eikonal validity 4-23893
phase transitions, stat potential, singularities and phases 4-15611
- cathode-ray oscilloscopes**
see also oscillographs
data display option for laboratory microcomputers 4-17882
digital storage oscilloscopes for shock testing 4-1542
portable type, dual-trace, design features for battery operation 4-8888
Tektronix 2236 CRO use for amplifier/filter band-pass characts. and freq. meas. (*French*) 4-22801
Tektronix colour oscilloscope (*Norwegian*) 4-37088
- cathode-ray tube displays**
see also cathode-ray oscilloscopes
electric-field exposure of persons using video display units 4-57934
stereo TV displays, effect of camera separation and head movement on visual performance 4-16877
VDU usage, operator fatigue and eyestrain, polarising filter appl. 4-46987
- cathode-ray tube screens** *see cathode-ray tubes; fluorescent screens*
- cathode-ray tubes**
see also image converters; image intensifiers; image storage tubes; television camera tubes; television picture tubes
1976 CIE-UCS chromaticity diagram with color boundaries 4-35400
colour facsimile CRT system focus correction 4-49490
LaB₆ point cathode, use in laser cathode-ray tube 4-28710
- cathode rays**
No entries
- cathodes**
see also electron emission; oxide coated cathodes; photocathodes; thermionic cathodes
arc spot movement, influence of surface roughness and temp. 4-41222
arc spots, thermal runaway prevention 4-24652
damage at high power electron beam lasers, microscopic study 4-14709

cathodes continued

- electron beam formation in a diode with a multiple-tipped explosive emission cathode 4-28276
 field-emission source of electrons for electron-probe instruments 4-22873
 glow discharge, particle-cathode collision, energy distrib. 4-29278
 graphite, field emission in microwave current modulator 4-46428
 hollow cathode discharge, current density, intensity, plasma potential meas. 4-2024
 hollow cathode discharge, plasma heating, optogalvanic effect (*French*) 4-24673
 hollow cathode lamp, optogalvanic signal temporal behaviour 4-24677
 low-current arc cathode processes on metals with very thin oxide films 4-2025
 new solid cathode for organic electrolyte lithium cells 4-7841
 oscillating virtual cathodes, high-power coherent microwave generation 4-33599
 plasmatron electrodes, rotating electrode discs, cathodic and anodic spot phenomena 4-15306
 point cathodes, electron field emission current, positive prepulse effect 4-3021
 stable explosive emission from cathodes with a bounded emitting surface 4-29283
 STEM, field emission cathode prototype gun appl. 4-22874
 transition metal trichalcogenides as cathode for secondary Li battery 4-31084
 Al, macroparticle dynamics obs. in vacuum arc, using laser Doppler anemometry 4-24667
 Ba₂Sr(WO₆)₂, impregnated, development and properties (*Chinese*) 4-52018
 C cathodes, glassy, electron field emission (*German*) 4-57077
 Cd, macroparticle dynamics obs. in vacuum arc, using laser Doppler anemometry 4-24667
 Cu, macroparticle dynamics obs. in vacuum arc, using laser Doppler anemometry 4-24667
 He-Ne laser Al cathode anal. using scanning electron microscope (*Chinese*) 4-49385
 HfN, thermochemical cathodes in air, discharge, temp. in arc spot 4-41221
 La_{1-x}Sr_xCoO₃ oxide cathodes for sealed-off CO₂ lasers 4-28712
 Li- SO_2 batteries, porous C cathode collectors, performance anal. 4-7844
 Mo, macroparticle dynamics obs. in vacuum arc, using laser Doppler anemometry 4-24667
 Na₂Co₂-electrolyte-Na cell, elec. props. study 4-52125
 W, hollow cathode, plasma generation, ion density fluctuations (*Korean*) 4-38975
 Zn, macroparticle dynamics obs. in vacuum arc, using laser Doppler anemometry 4-24667
 ZrN, thermochemical cathodes in air, discharge, temp. in arc spot 4-41221

cathodes, electrochemical *see electrochemical electrodes***cathodochromism**

- 1976 CIE-UCS chromaticity diagram with color boundaries for cathode ray tube phosphors 4-35400

cathodoluminescence

- alkali metal halides, cathodoluminescence spectra, effect of O impurities 4-30531
 brown diamonds, luminescence decay times, cathodoluminescence and photoluminescence 4-57000
 crystal plate, light emission by moving fast electron 4-7265
 electron microscopy conferences, EUREM 80, ICXOM and HVEM 80 (Aug.-Sept. 1980) 4-13482
 III-V alloy material, appl. of computer controlled SEM cathodolum. mode system 4-34380
 metal surface, electron irradiated, light emission, role of surface bremsstrahlung 4-21046
 phosphors, cathodoluminescence intensities below 3 kV 4-21048
 refractory metals surface, polycryst., visible emission excited by electrons, optical characts. 4-21045
 scanning electron microscopy, cathodoluminescence use in biology 4-52543
 SEM, simple collectors for cathodolum. made from Al foil 4-17036
 SEM cathodoluminescence mode detection system, computer controlled, appl. to semicond. study 4-34380
 semiconducting materials, microscopy studies, conf., Oxford, England (Mar. 1983) 4-17636
 semiconductor, variable gap, cathodoluminesc., nonequilib. carrier distrib. 4-25817
 semiconductor materials and devices 4-34379
 semiconductors, cathodoluminescence studies of dislocations 4-16258
 semiconductors, dislocation properties and struct., Colloquium, Aussois, France (Mar. 1983) 4-13475
 semiconductors, time-resolved cathodoluminescence, delayed coincidence meas. 4-46335
 Al_{0.9}Ga_{0.1}N, reactive MBE growth and optical characterisation 4-16328
 Al_{1-x}In_xAs epitaxial layer, lattice matched to InP, direct energy gap, cathodoluminesc. study 4-45616
 α -Al₂O₃:Ga³⁺ crystals, cathodoluminesc. and thermoluminesc. spectra 4-25815
 BaO film on W and Ag, low-voltage cathodolum. characts. 4-11944
 CdS, powder layers, transformed into heterojunction solar cells using transient heating techniques, SEM studies 4-26294
 CdTe, defect imaging using X-ray and scanning cathodoluminescence 4-15482
 CdTe, small-angle grain boundaries, screw dislocations, refl. X-ray topography, scanning cathodoluminescence imaging 4-2213
 CdTe surface, photoetching effect, cathodoluminescence imaging 4-16255
 GaAlAs stripe geometry DH lasers, life testing, low temp. cathodoluminesc. spectra 4-38479
 GaAlAs-GaAs DH stripe laser, life-tested, low temp. SEM cathodolum. 4-35498
 GaAs, crystal defects obs. by X-ray topography and SEM transmission cathodolum. 4-6360
 GaAs, diffusion length meas. by filtered cathodoluminescence 4-50841
 GaAs epitaxial multilayer, appl. of computer controlled SEM cathodolum. mode system 4-34380
 GaAs, LEC grown semi-insulating, cryst. homogeneity improvement by annealing 4-51470
 GaAs, quantum wells, localisation induced excitonic electron-hole recombination, cathodoluminesc. study 4-39923

cathodoluminescence continued

- GaAs quantum wells, MBE, impurity trapping, interface struct., luminesc. 4-45666
 GaAs semi-insulating LEC single crystals, dislocations, transmission cathodolum. obs. 4-20195
 p-GaAs surface recombination rate meas., using cathodoluminescence 4-8922
 GaAs:Mg, ion implantation, cathodoluminesc. study and computer simulation 4-21047
 GaAs:Si, LEC grown, dislocations study 4-34499
 GaAs:Te, impurity distrib. around dislocations 4-11175
 GaAs-AlGaAs single and multi-quantum well structs., MOCVD growth 4-51507
 GaAs_{0.11}P_{0.89}N, recomb. mechanism, cathodoluminesc. study 4-57001
 n-GaP, luminescence and deep level studies of dislocations 4-16257
 GaP:N, effect of heat treatment on N conc. change, cathodolum. study 4-24842
 GaP:N LED, degradation and cathodoluminescence profile 4-35494
 InGaAsP-InP LPE double heterostructure, cathodolum. anal. 4-35497
 In_{1-x}Ga_xP solid soln., donor-acceptor recombination, band struct. effects 4-25809
 InP, diffusion length meas. by filtered cathodoluminescence 4-50841
 InP ingots, LEC, Ge doping conc. local variations, SEM cathodolum. spectra 4-34520
 InP/InGaAsP aged LEDs, dark spot defects 4-56999
 MgO:Fe, cathodoluminescence obs. in SEM 4-25816
 Na₂O-BaO-B₂O₃-SiO₂-CeO₂ glass, radiation colouring, radio- and thermoluminescence 4-11190
 Si, minority carrier lifetime, SEM cathodolum. assessment 4-35499
 Si:Ti, ion implanted, photo- and cathodoluminesc. studies 4-21013
 SiC:Al, 6H polytype, CVD epitaxial growth, Al doping using metalorganics and luminesc. props. 4-30644
 Si₃N₄, amorphous film, luminescence study 4-25818
 Xe crystal, exciton luminesc. from high-energy states (*Russian*) 4-30532
 Y₂O₃:Eu phosphors, cathodoluminesc. enhancement by coagulation 4-35493
 ZnS:Te:Al; Te doping and implantation, cathodoluminescence study 4-45162
 ZnSe, cryst., cathodolum. spectra and images in SEM 4-35500
 ZnSe, MOCVD, donor spatial distrib., cathodolum. study 4-34521
 ZnSe:Mn AC electrolum. thin film devices, electron-impact-excited luminesc. 4-51357
 ZnSe:Mn luminescent thin films, scanning CW laser beam annealing 4-50350
 ZnSe:Ni, luminescence and electroabsorption studies 4-35496
 ZnSiO₄:Mn phosphor, cathodoluminesc., voltage dependence, hysteresis obs. 4-21044

cathodophosphorescence *see cathodoluminescence***cathodothermoluminescence** *see cathodoluminescence***catholytes** *see electrolytes***Cauer filters** *see active filters***causality** *see physics fundamentals***causticity** *see pH***cavitation***see also bubbles; vortices*

- acoustic cavitation, bubble phenomena in sound fields. I 4-44276
 acoustic cavitation, chemical assay by I₂ release 4-24287
 acoustic cavitation, review 4-19863
 bubble dynamics obs. using ultra high speed holocinematography 4-24499
 cavitation flow in a channel with oscillatory wall 4-19862
 channel with oscillatory wall, cavitation flow 4-44665
 cleaning jets, erosion efficiency modelling 4-24456
 developed cavitation flow past a wedge in a channel 4-5926
 drag of cones in cavitation flow 4-1791
 gas bubble expansion near liq. free surface, shock wave and liq. flow interactions (*Ukrainian*) 4-38864
 liquid jet, submerged, discharged into cavitating liq., press. variation meas. 4-10713
 liquids, cavitation nuclei distrib. by tensile strength meas. 4-55427
 metallic cylindrical shell mag. imploded on axial mag. field, geometrical integrity 4-44819
 model microjet cavitation, impact press. meas. 4-10712
 Navier-Stokes finite analytic numerical method soln. 4-44599
 nonspherical bubble dynamics surrounded by viscoelastic fluid 4-34171
 planar and axisymmetric cavitation flow problems 4-44662
 PMMA, polymerization initiated by ultrasonic cavitation 4-52007
 polystyrene, polymerization initiated by ultrasonic cavitation 4-52007
 slender axisymmetric cavities in flow around bodies in longit. gravity force field 4-38853
 sonochemistry in nonaqueous liquids 4-20291
 subharmonic emission as an indicator of ultrasonically-induced biological damage, V79 cells obs. 4-31278
 submerged jets, micro-bubbles, turbulent press. fluctuations, cavitation, noise generation 4-1793
 thin axisymmetric cavity shape formed behind body moving in ideal incompressible fluid 4-44663
 two dimensional test section inserted in cavitation tunnel (*Chinese*) 4-44772
 two-phase flow through contractions, cavitation limit and precavitation 4-1792
 US induced transient cavitation, measurement by chem. dosimetry 4-44664
 US vibration of plate, emulsification mechanism (*Japanese*) 4-28912
 vortex ring, vapour phase, static and dynamic equil. (*French*) 4-38835
 water, magnetic and ultrasonic fields effects (*Russian*) 4-5925
 Ti in molten Pb, cavitation erosion, ultrasonic field effects 4-41042

cavities (solid) *see voids (solid)***cavity resonators***see also acoustic resonators; laser cavity resonators*

- azimuthally symmetric EM cavity modes, accurate reson. freq. determ. using numerical programs 4-54929
 cavity degenerate parametric amplifier and cavity four-wave mixing configurations 4-24088
 cyclotron resonance masers with counterrunning waves, nonstationary processes, theory 4-55002
 cylindrical resonator, transition radiation, electron bunch shape influence 4-49255

cavity resonators continued

- dielectrics, low loss, optimisation of complex permitt. meas. in cylindrical TE_{01n} mode cavities 4-48152
- EM toroidal resonators with circular cross-section, eigenmode and eigenfreqs. calc. 4-38369
- Fabry-Perot cavity containing nonlinearity of finite response time, periodic oscils. and chaos 4-24070
- Fabry-Perot cavity filled with BDN saturable absorbing dye, optical bistability 4-24100
- Fabry-Perot cavity spectrometer, appl. to microwave double resonance 4-4443
- Fabry-Perot resonator, mirror confinement, optical bistability, radiation press. effects 4-1435
- fibre optic Fabry-Perot resonator as temp. sensor and optical spectrum analyser 4-38602
- field distribution meas., using computer-controlled system 4-27538
- Gunn source for ESR spectroscopy 4-42999
- maser oscillator with external feedback loop, frequency stability obs. 4-28651
- microwave cavity for atmospheric pressure plasmas (*French*) 4-24588
- modulated intense relativistic electron beam interaction with cavity 4-49247
- multicell resonant structure EM field computation, particle accel. appls. 4-54910
- multimode resonator system, high-pressure, for frequencies up to 215 GHz 4-32289
- nematic liquid cryst., nonlinear Fabry-Perot resonator using a photoinduced Fredericksz transition 4-49440
- open resonators with dielec. inclusions, spectral theory (*Ukrainian*) 4-38375
- optical resonator axis stability and instability from first principles 4-38502
- optical ring cavity, global and local chaos in the pumped nonlinear Schrodinger equation 4-44140
- particle accelerators, cavities, computation of resonant modes using URMEI code 4-14250
- passive cavity gyro, performance, optical misalignment tests 4-43038
- permittivity meas. using open resonator 4-269
- phase conjugate mirror resonator losses, directional behaviour in aberrated multiaperture cavities 4-28773
- quasioptical gyrotron for fusion appls. 4-48740
- radially stratified dielectric-loaded cavities, design theory, atomic freq. standards appl. 4-48066
- semiconductor nonlinear Fabry-Perot resonator, picosecond light pulse amplitude and polarisation instability 4-10357
- single-resonator parametric light source, transient and nonlinear processes 4-49458
- superposed parametric transducer, effect of crack in nonferromagnetic conductor (*Russian*) 4-42950
- thin-film waveguides for inertial sensors, rotation sensing using resonant cavity 4-44206
- TM_{010} cavity tuning and matching, atomic emission spectrometry appl. 4-26254
- two-photon optical multistability and phase-conjugated reflectivity 4-5667
- Nb superconducting HF resonant cavities cooled by He II, thermal behaviour 4-43735

CCD see charge-coupled devices

c.c.d. circuits see charge-coupled device circuits

CCTV see closed circuit television

CDW see charge density waves

celestial mechanics

see also Earth orbit; N-body problems; stellar motion

- algebraic integrability of dynamical systems, necessary condition for existence of algebraic first integrals 4-58364
- artificial satellite, combined perturbations on orbit (*Chinese*) 4-8401
- artificial satellite orbits, method for short and long-period terms elimination from Hamiltonian (*Russian*) 4-47546
- artificial satellite theory, reduction of Brouwer's Hamiltonian rel. to critical inclination 4-58365
- artificial satellite with atmospheric drag, advances in motion 4-17377
- artificial satellites, orbit, perturbations calc. method 4-58353
- artificial satellites, orbit perturbation due to air drag (*Chinese*) 4-8402
- artificial satellites, orbit perturbations due to atm. drag (*Russian*) 4-13165
- artificial satellites, orbital decay prediction (*Japanese*) 4-42286
- asteroid belt, effects of sweeping Jovian 7:3, 3:2 and 2:1 resonances 4-13229
- asteroid motion near 2:1 commensurability, von Zeipel approach 4-13238
- asteroids, 3/1 Kirkwood gap, planar-elliptic restricted three-body problem anal. 4-13232
- asteroids, Kirkwood gaps anal., planar circular restricted three-body problem 4-42355
- asteroids orbits, mean anomaly and perihelion length anal. 4-22341
- BASIC program for computing horizontal coordinates of the Moon (*German*) 4-31745
- binary stars, long-term captures of low-mass intruders 4-31861
- black holes in EM fields and second law of black hole physics 4-4028
- book on Solar System bodies and processes 4-27262
- Brown's conjecture in restricted three-body problem, examination 4-42294
- characteristic exponents of second order linear ordinary differential eqns. 4-38369
- P/Comet Chernykh (1978 IV), orbit perturbations due to Jupiter and Saturn (*Russian*) 4-13252
- P/Comet Crommelin (1983n), determ. of secular accel. parameter (A) 4-42370
- P/Comet Halley, observational history, orbit and prospects for 1985/6 apparition 4-27047
- P/Comet Halley meteoroid stream, shell model 4-17466
- P/Comet Harrington (1953 VI), secular decel. anal. and ephemerides (1987 to 1988) 4-42361
- comet orbit evolution, influence of Sun induced evaporation 4-22355
- P/Comet Schwassmann-Wachmann 3, 1930/1979 apparitions and orbit evaluation (1800 to 2000) (*Russian*) 4-13251
- comets, capture by Uranus 4-13260
- comets, galactic perturbations on nearly-parabolic cometary orbits 4-31797
- comets, orbits, dynamical evolution processes 4-31799
- COSMOS 54 rocket, spin drag data rel. to atmospheric density at 280 km altitude 4-31708
- celestial mechanics continued
 - cylindrical satellite orbit, solar radiation press. effect 4-42287
 - dynamical astronomy div. of AAS, 14th regular meeting, Chicago (June 1983) 4-8634
 - dynamical systems, book 4-31899
 - Earth orbit, definition of ecliptic 4-58361
 - Earth orbit, planetary perturbations, effect on Earth nutation 4-8174
 - Earth-Moon system, motion in modern tabular ephemerides 4-42289
 - Earth-Moon system, past and future evolution 4-13213
 - elliptical orbit motion effect on optical sensor blurring 4-42281
 - Eudoxos' planetary theory, mathematical model 4-36595
 - EURECA platform, orbit prediction and control 4-26973
 - first-order resonances in three-degrees-of-freedom systems, theory 4-42297
 - four-body problem, hierarchical stability, planet appl. 4-36568
 - Galilean satellites phenomena, theory using Chebyshev polynomials (*French*) 4-8423
 - Galileo Orbiter, mission design, trajectory and objectives 4-17376
 - general relativistic effects on motion of minor planets and comets 4-8369
 - GEOS III satellite, laser ranging accuracy, Shanghai Obs., estimation 4-13073
 - geostationary orbits, introduction for engineers and operators 4-42614
 - geostationary satellites, orbits, gravity field effects (*Russian*) 4-13167
 - homoclinic bifurcations and the area-conserving Henon mapping 4-53018
 - Hori's method for non-canonical systems, general algorithm for determ. of $T_1^{(n)}$ and $Z_2^{(n)}$ 4-42293
 - inner planets, effects of solar oblateness on orbital theories (*Russian*) 4-13274
 - Kepler's equation, soln. using methods of iteration 4-42292
 - Kepler's equation soln. for hyperbolic orbits 4-36570
 - Kowalevski's exponents, rel. to necessary condition for existence of algebraic first integrals 4-58363
 - Lagrangian planetary equations for secular perturbations 4-36599
 - long periodic orbits near an equilibrium and the averaging method in higher-order resonances 4-53017
 - lunar physical libration series, additive terms determ. from Earth-based obs. (*Russian*) 4-53070
 - Mars, orbit and G var., use of Viking lander ranging data 4-4317
 - Mars orbit perturbations due to asteroids, and asteroid mass determ. 4-58387
 - Mercury, insolation variations due to orbital eccentricity oscils. 4-8414
 - Mercury, perihelion precession in nonlinear and Lorentz-invariant version of Newtonian gravit. 4-3921
 - meteor showers, planetary perturbations rel. to secular vars. of dates of max. activity 4-42375
 - meteor stream assoc. with Comet Lexell (1770 I), evolution and decay 4-13261
 - multisatellite Earth radiation budget expts., cloud anal., orbit selection for max. coverage 4-36564
 - N-body problem solution, use of numerical integration with Lie series 4-53016
 - perihelion precession within generalised theory for the two-body problem 4-36566
 - perihelion procession, elementary theory 4-47
 - periodic orbits in a dynamical system with three degrees of freedom 4-36569
 - periodic orbits in a two-dimensional galactic potential 4-36721
 - planetary orbits, problematic aspects of general relativity 4-47940
 - planetary orbits and quadrupole moment of Sun, effects of solar rot. obliquity 4-26984
 - planetary range data, radio ranging rel. to testing of Strong Equivalence Principle 4-47727
 - planetary ring systems, dynamics of elliptical rings 4-3951
 - planetary satellites, gravitational escape and capture theory 4-3905
 - potentials forming a double velocity field 4-36571
 - proper spline construction 4-36565
 - radiation pressure perturbation of nearly circular equatorial orbit (*Russian*) 4-47530
 - relativistic binary system, rate of change of orbital period 4-3907
 - relativistic corrections for satellite orbiting the Earth 4-47529
 - satellite orbits and geopotential models use for station coordinates determ. (*Russian*) 4-13038
 - satellites, change in mean anomaly due to rotating oblate atmosphere with diurnal density var. 4-26976
 - Saturn ring system, resons. with satellites rel. to radial struct. 4-53089
 - solar orbiting spacecraft tracking expt. to test general relativity and solar interior 4-47989
 - space vehicles, gravitational orbit-attitude coupling for very large spacecraft 4-42280
 - spacecraft, optimal trajectories to short period comets (1981-90) (*Russian*) 4-13166
 - sporadic meteors, effects of astronomical selection on meteor flux and distrib. of orbital elements 4-42374
 - Szebehely's problem extension to holonomic systems 4-58370
 - three rigid bodies problem, restricted case anal. of stationary motions 4-58362
 - three-body problem, circular restricted case, almost rectilinear halo orbits anal. 4-58367
 - three-body problem, general case, Hill curves in unchanging plane (*Chinese*) 4-8370
 - three-body problem, general case, topological stability, planets appl. 4-36567
 - three-body problem, generalised case of two fixed centres of variable masses 4-8371
 - three-body problem, Hill stability of coplanar systems with appl. to solar system 4-42295
 - three-body problem, restricted case, three-dimens. periodic halo orbits near collinear libration points 4-58368
 - three-body problem, rigid bodies of arbitrary shape/struct., regular motions 4-13173
 - three-body scattering, topology 4-3906
 - three-dimensional magnetic binary problem, symplectic nature 4-27116
 - triaxial galaxies, preferred orbit planes in galaxy tumbling about principal axis 4-47692
 - triaxial satellite translational-rot. motion about triaxial planet, stationary soln. 4-27022
 - triple close approach in three-body problem, limit for bounded orbits 4-58366
 - triple stars, dynamics and decay time 4-17548
 - two-parameter families of planar orbits, inverse problem 4-42296

celestial mechanics continued

variable-mass many-body problem, equations of motion 4-13174
 Venera 13 and 14, ballistic flight and navigation 4-36556

cell model (liquids) *see liquid theory***cell motility**

amoebae, Dictyostelium discoideum, thermotaxis on temp. gradient 4-3526
 bacteria, coupling between flagellar motor rotation and proton flux 4-26370
 fibroblasts, thermotactic response and motility 4-3539
 lung, hamster, mag. particles behaviour, clearance and cytoplasmic motility 4-21636
 micro-organism conditional motion probabilities 4-52303
 microbial ecology, boundary value soln. existence and uniqueness 4-12555
 sperm, X- and Y-bearing, human, separation using free-flow electrophoresis 4-52540

cells (electric)

see also fuel cells; photoelectric cells; photoelectrochemical cells; primary cells; secondary cells

fluorides, F⁻ ion conductors, props. and appl. 4-6555
 glass fibre insulation, energy density 4-35992
 glasses, electrochem. behaviour, absolute pot. value of vitreous, liq. and cryst. electrodes and EMF of respective galvanic cells (*German*) 4-3454
 graphite fibre-Br intercalation cpd., electrode appl. in thermocell 4-46861
 melts, undercooled, electrochem. behaviour, absolute pot. value of vitreous, liq. and cryst. electrodes and EMF of respective galvanic cells (*German*) 4-3454
 mixed-phase electrodes in solid state cells 4-52123
 polyacetylene electrode in Na-polyacetylene cells 4-52126
 polyacetylene electrodes in Li cells, electrochemical study 4-52127
 Ag intercalation cpd. with TiS₂ and NbS₂, solid-state cells 4-52121
 Ag/Ag₂RbI₃/Ag solid-state cell with solid electrolyte, impedance parameters of reversible interface 4-57708
 Cu intercalation cpd. with TiS₂ and NbS₂, solid-state cells 4-52121
 Cu/Rb₂Cu₁₆Cl₁₃/Cu₂MoS₈- γ /Pt electrochem. cell for Cu conc. determ. 4-45110
 I₂-phenothiazine galvanic formation cells 4-52128
 Li/LiI(Al₂O₃) interface, in solid state galvanic cell, effect of press. 4-41325
 Li-Li₃N-TiS₂ solid state cells, cycling 4-52122
 Li-SO₂ high power chemical current source electrochemical processes 4-35993
 Li₃S-P₂S₅-LiI glasses, Li⁺ ion cond., electrochemical cell appl. (*French*) 4-39592
 β -Li₂V₂O₅, electrodes for Li cells 4-52124
 Na₂CoO₂- γ -electrolyte-Na cell, elec. props. study 4-52125
 Pb acid cell for traction appls., prep. of high porosity PbO₂ 4-16661
 α -RbCu₄Cl₃, solid-electrolyte cell, stability 4-31081

cellular arrays

gate arrays, electronics under skin, for diabetic patients (*German*) 4-52517

cellular automata *see finite automata***cellular biophysics**

see also biomembrane transport; biomembranes; cellular effects of radiation; cellular transport and dynamics; lipid bilayers

AC electric fields, review (*Rumanian*) 4-31192
 adsorptive endocytosis, coated vesicle form. energetics, statistical mech. model 4-41458
 alga Hydrodictyon reticulatum, ohmic resistance of intercellular junctions 4-36078
 algae, F⁻ influence on growth, PIXE and PIGME anal. 4-46954
 algae, phys. mechanism for establishing populations in frazil ice 4-16847
 algae fluorescence sensor based on fibre optics 4-41660
 alveolar type II cells, isolated, rat, transmembrane pot. expts. 4-3532
 bacterial adhesiveness and invasiveness differentiation in cell culture monolayer 4-41670
 bacterial bioluminescence and bioluminescent analysis 4-12731
 bacterial growth at 250°C, possible artefactual basis 4-46957
 bacterial spores in dry state, core and coat, dielec. props. 4-16848
 biomembrane phase transition, statistical mechanical model 4-12534
 bipolar cells in monkey retina selective for the cones likely to be blue-sensitive 4-46993
 blood, NMR and ESR studies 4-12677
 blood cells, mag. filtration, vol. and surface mechanisms 4-57918
 blue-green algae, luminesc. spectrum, temp. influence 4-31284
 cement, prosthetic biocompatibility with tissue 4-41025
 CHO cells, hyperthermic survival rel. to cellular population density and time of plating 4-41473
 cholinergic amacrine cells of rabbit retina, On and Off inputs 4-26407
 chromatin structure and function, role of nucleosome 4-12548
 chromatophores of Rhodospseudomonas spheroides, intramol. mobility, Mossbauer obs. 4-31153
 cochlear inner hair cells, intracellular recordings, crossed olivocochlear efferents stimulation effects 4-16888
 coliform bacteria, UV absorbance spectrum rel. to interstellar extinction curve 4-40666
 conductometric cytometer, signal conversion cct. for recording with pulse height analyser 4-58050
 conference on origin of life and related topics at Jerusalem, Israel (June 1980) 4-36793
 cultures attached to ultrathin plastic films, preparation for EM anal. 4-3660
 cyanobacterial thylakoid membrane arrangements exam. using HVEM and semi-thick sections 4-41667
 cytofluorometry, multi-beam and single-beam, automated screening system for gynecologic cytology 4-21767
 cytoplasmic membrane, cyanobacterium, energy transduction 4-36080
 dielectric analysis of blood by means of a raster-electrode technique 4-47118
 DNA, cellular content and incorporated bromodeoxyuridine, flow cytometric meas. 4-3537
 DNA double strand, phys. stability map. correl. with genetic map 4-31166
 dynamic dielectrophoretic levitation of living individual cells 4-52302
 E. coli, chemotactic stimulation, distinction between changes in membrane pot. and surface charge 4-41460
 edge cell, a possible intrasplenic mechanoreceptor 4-52367
 EJ/T24 human bladder oncogene product, transforming region, 3D struct. prediction 4-7950

cellular biophysics continued

electrical fusion of cells and nuclei in vitro 4-3534
 electrically stimulated biological struct., freq. dependence of analytical model 4-57872
 electron microscopy conferences, EUREM 80, ICXOM and HVEM 80 (Aug.-Sept. 1980) 4-13482
 entropy-driven processes in biological systems 4-12543
 epidermis cell thickness profile determination with refl. contrast microscope 4-41680
 epileptic cortex, human, intracellular study, rel. to in vitro maintenance of epileptiform activity 4-57879
 epithelial cells, single renal, fluoresc. microscopy direct evaluation using mitochondrial probe 4-17031
 epithelium cell, buccal, two-dimens. phase imaging in scanning optical microscope 4-37164
 erythrocyte and ghost cytoplasmic resistivity and voltage-dependent apparent size 4-26368
 erythrocyte deformability, abolition by malaria parasite maturation 4-52306
 erythrocyte deformability, blood viscosity, effect of high osmotic media 4-21696
 erythrocyte ghosts, photoelectron microscopy obs., lectin binding sites imaging with colloidal Au markers 4-52307
 erythrocyte membrane, constitutive eqns. incorporating evolving preferred configuration 4-57864
 erythrocyte membranes, viscoelastic props. in HF elec. fields, meas. method 4-41467
 erythrocyte suspension, chicken, intracellular distrib. and transport props. of small mol., NMR study 4-7952
 erythrocyte suspensions, PMR spin echo relax., H⁺ T₂* compartmental location effect 4-7948
 erythrocytes, malarial parasite infected, Mossbauer spectroscopy 4-41464
 erythrocytes and phosphatidylcholine/phosphatidylserine vesicles, free energy pot. for aggregation 4-21629
 ESR of human blood, erythrocytes and plasma at 77K 4-31185
 foetal medullary neuronal activity, technique for chronic extracellular recording 4-21859
 ganglion cell responses, carp, deduction of colour fundamentals 4-52324
 ganglion cells, tadpole and adult frog retinae, comparison of receptive field props. 4-7981
 ganglion cells in cat's retina, differences between X- and Y-type cells 4-12577
 glutaraldehyde fixed cells, surface morphology alterations caused by centrifugation 4-47124
 HeLa cells, macromolecule synthesis after thermal shock 4-41470
 holostean retina, cellular mechanisms for colour coding, rel. to colour vision evolution 4-7996
 horizontal cell polarisation, anal. of neural mechanisms mediating effect 4-7985
 horizontal cells, turtle and catfish, dynamic response 4-36107
 horizontal cells in tiger salamander retina, receptive field props., contribs. of rods and cones 4-7983
 image-analytic cytometry slide analyser design 4-26548
 information value of a gene and a protein; thermodynamic characts. of biological organism 4-12524
 intestinal protozoan parasite Giardia lamblia, attachment theory, adhesive force calcs. 4-21628
 intracellular structures, prep. method for obs. in SEM 4-58057
 intracellular water meas., electron microprobe calibration 4-36082
 lateral geniculate nucleus, cell size changes following brief monocular blockade of retinal activity in kittens 4-16872
 lateral geniculate nucleus, rhesus monkey, responses of single cells to colour and luminance contrast 4-26408
 lectins and antibodies, cell surface-associated, direct visualisation in freeze fracture electron microscopy 4-52548
 leucocyte labelling with colloidal ¹¹¹In in whole blood 4-31337
 light microscopy scanning, high resolution, of cells, coordinate origin marking 4-17030
 liquid crystals role in live organisms (*Czech*) 4-3535
 liver cells, electrogenesis stability in inbred mice, in vivo and in vitro obs. 4-31187
 lymphocyte subpopulations, differential retention on polystyrene-polyamine copolymer surface 4-7946
 lymphocytes, mouse, hyperthermic enhancement of antibody-complement cytotoxicity 4-21633
 lymphocytes, T and B, membrane surface area and viscosity determ. using fluoresc. probes 4-31183
 magnetic filtration using rare earths as soluble paramag. agents 4-8158
 mammalian cells, normal and transformed, elec. props. 4-57863
 mammalian retina, on and off pathways through amacrine cells, review 4-12574
 man models, inhomogeneous, with large numbers of cells, moment-method soln. and SAR calc. 4-31283
 melanoma xenografts, human, micronucleus form. after exposure to hyperthermia 4-52305
 membrane fusion, stalk mechanism 4-52283
 membrane optical properties, transmission function, optical image processing 4-41451
 membrane temperature rate sensitivity predicted from the Nernst eqn. 4-57862
 microelectrode amplifier for intracellular stimulation and recording 4-12738
 mitosis, math. principles, rel. to interaction forces and vibr. freqs. 4-46955
 mitotic index of onion roots, 60 Hz ultra-HV elec. field effect 4-16919
 multicompartmental model for cell proliferation kinetics, model reference adaptive identification scheme 4-52301
 myocardial extracellular space meas. using automatic electronic image analyser 4-21853
 neuron, in vitro, combined light and electron microscopy method for visualisation by radioautography and serial sections 4-58055
 oceanic faecal pellets and sediment trap particles, metabolic activity and bioluminesc. 4-41468
 pacemaker cells, synchronisation of chains by phase resetting action potential effects 4-21641
 plant cell rapid embedding for electron microscopy, use of ultra-low viscosity medium 4-17034
 plant cell tissue, elec. cond. rel. to struct. (*Russian*) 4-21631
 plant cells, microfilament bundles staining method for HVEM 4-41669
 plant tissues, intracellular water crystn. 4-31186

cellular biophysics continued

- plant tissues grown in vitro, stress-induced alignment of division plane 4-41558
 platelet adhesion on HEMA-styrene copolymer, adsorbed protein effect 4-7945
 platelet survival curve, biological approach 4-21632
 platelets, human, aggregation, Ca excited levels, photoionic detection method 4-26561
 polyhydroxyalkyl methacrylate biocompatibility, adsorpt. obs. of plasma proteins 4-3650
 populations separation method using mag. field 4-31376
 pressure injection of pl vols. into Limulus ventral photoreceptors, quantitative method 4-26553
 protein degradation in rabbit reticulocyte lysates and after injection into HeLa cells, temp. effects 4-57829
 purple membrane, two-dimens. crystal-liq. phase transition, X-ray diffraction study 4-7947
 radiolabelled blood cells, dosimetry 4-16993
 Raman spectra of lining cells, absence of coherent vibr. 4-3536
 red blood cells, cryoprotection, glass-forming tendency and amorphous state stability 4-31191
 retina, carp, bipolar cells, effects of GABA and glycine 4-12573
 retina, carp, horizontal cell response, information processing 4-12570
 retina, carp, light-induced and antidromic activation of ganglion cells 4-26412
 retina, cat, bipolar and ganglion cells, synaptic patterns and response props. 4-7989
 retina, cat, spatial anal. of on and off ganglion cells 4-7986
 retina, frog, melamine-embedded, electron microscopy and obs. of cryst. organisation of photoreceptor outer segments 4-41671
 retina, Xenopus, blue-sensitive rod input to bipolar and ganglion cells 4-7980
 retina, Xenopus, identified photoreceptors and horizontal cells, intracellular recordings 4-7979
 retina, Xenopus, rod and cone inputs to bipolar and horizontal cells 4-12572
 retinal cell types, various, response to light during spreading depression 4-12578
 retinal ganglion cell responses, rhythmicity 4-26402
 retinal ganglion cells, cat, bimodal receptive fields 4-26404
 retinal horizontal cells, rabbit, variations in struct. and response props. 4-12569
 retinal horizontal cells in culture, elec. props. 4-12567
 retinal horizontal cells in culture, rel. to photoreceptor neurotransmitter candidates 4-12568
 retinal neurocircuitry, cellular interaction, conf., Katata, Japan (Nov.-Dec. 1982) 4-8644
 retinal neurons with identified neurotransmitters, connections, review 4-12575
 seminiferous epithelium, mouse, response to low dose, high energy ion and X-ray irradi. 4-36191
 steel, mild, corrosion by sulphate reducing bacteria in oil storage conditions 4-46644
 stereocilia of sensory cells in normal and hearing impaired ears 4-36137
 striate cortex, cat, simple cells, direction asymmetry by moving stimuli and static receptive field plots 4-31214
 thermophilic archaeobacteria, cell membrane based on bipolar ether lipids 4-46956
 thermotolerance persistence in slowly proliferating plateau phase cells 4-57868
 thrombocytes, native actin detect. by fluoresc. method 4-52299
 thymus, rat, cell fragments after whole-body X-irrad., SEM study 4-36190
 tissue internal structure visualisation by SEM 4-17037
 trace element uptake and transport in plants PAC study 4-41465
 tumour cell clones, heterogeneity in induced thermal resistance 4-36079
 tumours, murine, treated with hyperthermia, change in hypoxic and chronically hypoxic cell fractions 4-41469
 vascular endothelial stress fibres, human, induction by fluid shear stress 4-47030
 vascular smooth muscle cells, single, isolated, sensitive force transducer system 4-47117
 viral diagnostic electron microscopy, cell procedure 4-3659
 visual cortex, area 17, cat, functional basis for slow movement preference 4-31215
 visual striate cortex, cat, supra- and infragranular cells, orientation and receptive field position 4-41505
 water-cryoprotector mixture, vitreous phase stability, internal friction meas. appl. 4-41449

cellular effects of radiation

- see also *biological effects of ... (type of radiation)*
 see also *photosynthesis*
 425 MHz radiofrequency radiation effects on lymphocytes, laboratory exposure of rats 4-41569
 alveolar macrophages, rat, effect of whole-body irradi. on phagocytic activity 4-21741
 antigenic similarity between cells transformed by UV in vitro and in vivo 4-52401
 ascites tumour cells growing in vivo, repair, split doses rel. to cell cycle 4-31289
 astrocytoma cells, rat, dose-rate dependence of heat radiosensitisation 4-8045
 ataxia telangiectasia cells, actively growing, deficient repair of pot. lethal damage after X-irrad. 4-57964
 B-lymphocytes, radiation-induced change in function, nonsyngeneic stem cells inactivation (Russian) 4-36168
 bacterial killing during solar eclipse, biological implications 4-8036
 bacterial polymer deposition on solid surfaces, mag. modulation 4-31275
 blood, X-ray induced chromosome aberrations and spontaneous sister chromatid exchanges, storage effects 4-47037
 blood lymphocyte spontaneous cytotoxicity following local radiation therapy for bladder carcinoma 4-12632
 bone marrow, mouse, response of stromal progenitor cells to graded repeated doses of X-rays or neutrons 4-8049
 bone marrow, rat, long-term fractionated irradi., CFUc recovery (Russian) 4-36175
 bone marrow cells, mouse, thymidine kinase inhibition after low-dose γ -ray exposure 4-57950
 bone marrow cells, radiation effect on elec. charge density (Russian) 4-36177

cellular effects of radiation continued

- bone marrow cells, rat, proliferative activity and differentiation rate rel. to radiation sickness (Russian) 4-36169
 C^3H 10T1/2 cells, transform. by X-irrad., timing of steps 4-26480
 cerebellum, developing rat, γ -irrad. early effects, cell pyknosis induction 4-12633
 cerebellum, developing rat, cell death following X-irrad. of 3 to 100 rad 4-31295
 characean cells, vacuolar pot. offset in response to EM radiation 4-57939
 chloroplasts, pea, light induced changes in afterglow 4-12551
 CHO cells, hyperthermic killing and hyperthermic radiosensitisation 4-41472
 chromatin degradation in white blood cells of irradiated rats (Russian) 4-36171
 chromosomal studies on radiation-induced gynogenesis and diploid gynogenesis in the fish *Oryzias latipes* 4-8046
 chromosome aberration rate in black and Norway rats born after γ -irrad. 4-52396
 chromosome aberrations induced by radiation, weighted identity test for dose-response functions comparison 4-8056
 chromosome dosimetry in radiological protection, recent developments 4-48748
 chromosomes, interphase, human, X-ray induced breakage and rejoining 4-31299
 chromosomes of mouse bone marrow cells, effect of NMR 4-52386
 colon adenocarcinoma, heterogeneous, human, sensitivity of cell subpopulations to UV light 4-8055
 colony-forming units-spleen, response to heavy charged particles 4-8054
 cyclic nucleotide responses and radiation-induced mitotic delay in *Physarum polycephalum* 4-57962
 cytogenetic damage induced in germ line of male mice, RBE of ^{239}Pu α -particles, fission neutrons and ^{60}Co γ -rays 4-3596
 cytogenetic lesions in potato seedlings, post-irrad. recovery (Russian) 4-12641
 DNA in human lymphocytes irradi. at G_1 stage, unscheduled synthesis (Russian) 4-12536
 DNA strand breaks repair in NHK 3025 cells after combined electron radiation and hyperthermia 4-8048
 DNA synthesis in developing rat brain, effects of low γ -radiation doses 4-31288
 Drosophila, imaginal wing buds, γ - or X-irrad., cell death ultrastruct. 4-41580
 E. coli, base substitution mutations induced by tritiated water 4-41588
 E. coli, lethal damage induction by Cherenkov radiation associated with high-energy X-rays 4-57951
 E. coli B and its S-30 and DNA-plus-membrane fractions, radiation-induced mol. changes 4-31291
 E. coli DNA synthesized after UV irradi., degradation obs. 4-47040
 embryo, preimplanted, mouse, effects of tritiated amino acids 4-57954
 embryo, sea urchin, abnormal morphogenesis induced by UV partial irradi. given at cleavage stage 4-31292
 erythrocyte ghosts, human, RF irradiation, 330 MHz, heat capacity study 4-21733
 erythrocyte irradiation studies, safe exposure levels of He/Ne laser light of human body appl. 4-47033
 erythrocyte plasma membrane, RF EM radiation effect, calorimetric approach 4-52387
 erythrocytes, human, effects of UV on aggregation 4-52391
 erythrocytes and ghosts, X-ray-induced struct. changes in membrane proteins and cell morphology 4-47038
 erythroleukaemia, murine, differentiating cell line, effect of heat on haem induction by radiation 4-7938
 eukaryotic cells, quantitative analysis of UV-induced cell killing 4-21743
 fertilisation success of rainbow trout, *Salmo gairdneri*, mag.-field exposure effects 4-31272
 fibroblasts, skin, from cancer prone individuals, chromatid damage after G_2 phase X-irrad. 4-3538
 fractionated irradiation, tissue responses, effect-independent measures 4-36182
 gamma irradiated cultured hamster cells, recovery from lethal and mutagenic damage 4-21746
 gastrointestinal syndrome and mucosal clonogenic cells, relationships between target cell sensitivities, LD₅₀ and cell survival 4-8050
 genetic damage rel. to US irradi. 4-36161
 genetically significant dose to Turkish population from X-ray exam. 4-47076
 giant chromosomes puffing by MM-wave radiation, nonthermal effect 4-31286
 haematologic and immunologic effects of pulsed microwaves in mice 4-31281
 haematologic effect of ^{241}Am exposure, 1976 Hanford incident 4-16990
 haematopoietic early progenitor cells, mouse, proliferative compensation of residual radiation damage 4-52398
 haemopoiesis, prenatal irradi. effects on foetal, neonate and young adult mice 4-47041
 haemopoiesis in the beagle foetus after in utero irradiation 4-8040
 haemopoietic colony-forming cells, mouse, response to γ -radiation and HTO (Russian) 4-36173
 haemopoietic deficiencies, residual, in mice after repeated X-ray doses, cellular anal. 4-36186
 haemopoietic stem cell changes during long-term irradi. at different dose-rates (Russian) 4-12635
 haemopoietic stroma precursor regeneration after irradi. and curettage (Russian) 4-12549
 HeLa cells, stimulation of DNA and RNA synthesis by low-intensity visible light 4-57942
 HeLa plateau phase cells, stimulation of nucleic-acid synthesis by low-intensity visible light 4-57943
 hepatoma cells, effect of thermotolerance on thermal radiosensitisation 4-57855
 histiocytic lymphomas, human, radiation sensitivity in vitro 4-21737
 hypothalamus, RF destruction of tuberoinfundibular region, natural killer cell abrogation in mice 4-8034
 hypoxic cells in EMT6 spheroids in suspension culture, radiation response 4-41575
 ICRP publication 32, inhalation limits of Ra daughters by workers, comments 4-3629
 immune function in aging atomic bomb survivors residing in the United States 4-21747
 insect cells, cultured, radiosensitivity expts. on lepidoptera 4-8051
 insect cells, cultured, radiosensitivity obs. on diptera 4-8052

cellular effects of radiation continued

- insulin synthesis, B-DNA→A-DNA EM induced transition 4-41446
 ionising radiation exposure, dose effect relationship simulation for cell populations (*Russian*) 4-12634
 islet allograft, rat, survival prolongation by direct UV irradiation of graft 4-52403
 laser-induced multiphoton processes in living cells 4-36165
 leaf cells, *Elodea anacharis*, UV activation of gas bodies 4-16921
 leukemia cells, mouse, covalent DNA-protein crosslinking after hyperthermia and radiation 4-3599
 leukemia L1210 cells, photoinactivation *in vitro* by haematoporphyrin 4-3590
 leukocytes, mononuclear, human, effects of γ -radiation and hyperthermia on DNA repair and NAD⁺ level 4-41586
 Lewis lung carcinoma, continuous irradiation, at clinically-used ultra low dose rates, mouse expts. 4-36187
 LF EM current induction in biological systems electrochem. and elec. aspects 4-3591
 liver carcinoma cell line, human, BEL-7402, biological effects of Ar laser (*Chinese*) 4-52389
 lung fibroblasts, normal, human, differential recovery from pot. lethal damage, γ -ray and N-ion irradiation 4-36183
 lymphoblastoid cells, human, UV light-induced immunoglobulin heavy-chain class switch 4-8047
 lymphocytes, human, γ -ray-induced proliferation delay duration, estimation by harlequin staining technique 4-41589
 lymphocytes, human, adaptive response to low concs. of [³H]thymidine or X-irradiation 4-52402
 lymphocytes, human, chromosome aberrations induced by 23 MeV γ -particles, dose-effect relationship 4-57953
 lymphocytes, human, chromosome aberrations induction by 4.9 MeV protons 4-21739
 lymphocytes, human, chromosome damage at 1st division after ⁶⁰Co γ -irradiation 4-8057
 lysis, US-induced, by nontrapped bubbles in a rot. culture tube, kinetics and mechs. 4-12625
 magna-field irradiation, radiobiological considerations 4-47042
 mammalian cells, cultured, expt. system for investigation of effects of synchrotron radiation 4-41683
 mammalian cells, survival after exposure to spatially correlated triads of protons 4-26482
 mammalian cells, UV radiation action spectra, shift due to screening 4-52392
 mammary cells, rat, ¹³⁷Cs γ -irradiation, *in situ* repair kinetics 4-16927
 mammary epithelial cells, cultured normal human, reproductive death rel. to X-irradiation 4-41574
 mammary sarcoma cells, mouse, EMT6, thymine base damage prod. by US 4-41563
 mammary tumour cells, mouse, effect of heat, radiation and pH 4-12552
 mammary tumours, transplanted, mouse, time dependence of response to single or split radiation doses 4-8043
 melanoma cell line, human, established, radiosensitivity rel. to parent melanoma xenograft 4-16928
 methionine sensitivity of *Chlamydomonas reinhardtii* cultures, near UV and visible light effect 4-16922
 microwave bioeffects, irradiation system, specimen temp. control using regulator circuit 4-41657
 microwave tissue heating, cancer therapy appls. 4-26497
 microwaves, 434 MHz, rel. to nonthermal effects on human whole blood 4-21730
 mitochondria, rat liver, *in vitro* effects of microwave radiation 4-57940
 mitotic inhibition of ICR 2A frog cells, monochromatic UV and photoreactivating light exposure 4-36184
 mutation by [³H]cytosine decay in DNA of *E. coli* 4-41581
 natural killer cell activity, murine, suppression by 2450 MHz microwaves 4-31280
 neonatal oocyte development and selective oocyte-killing by X-rays in the Chinese hamster, *Cricetulus griseus* 4-47036
 neuroblastoma cells, culture, human, microwave radiation-induced Ca²⁺ efflux 4-57941
 nucleus chromatin struct. rel. to low-energy β -radiation absorpt. (*Russian*) 4-36166
 oncogenic transformation of C3H/10T^{1/2} cells by X-rays, fast-fission neutrons, and cyclotron-produced neutrons 4-8041
 oncogenic transformation of mouse BALB/3T3 cells by ²³⁸Pu α -particles 4-21744
 oocytes, rat, effect of lifetime intake of organically bound ³H and HTO 4-52400
 pancreas function of islets of Langerhans after irradiation (*Russian*) 4-12637
 parotid cell function *in vitro* following X-irradiation *in vivo*, rat expts. 4-57963
 phagocytic cells in mouse blood, early effect of sublethal X-irradiation, chemiluminesc. obs. 4-21740
 pigment apparatus of higher plants, selective effect of ruby laser radiation 4-31282
 plant cells, irradiation, plasma membranes biogenesis (*Russian*) 4-36172
 primordial germ cells in the fish *Oryzias latipes*, unique responses to γ -rays 4-57952
 protoplasts, isolated alfalfa, γ -irradiation, effect on development (*Russian*) 4-12640
 pyrimidine dimers, cyclobutane-type, prod. and excision repair in DNA of *Turbatrix aceti* 4-57957
 Pyrocystis lunula, laser-induced bioluminesc., temp. depend. 4-26479
 radiobiological characteristics of CBWA mice (tetrahybrids) (*Russian*) 4-36179
 red blood cell membrane of rats, low power He-Ne laser irradiation effects (*Chinese*) 4-57945
 roots, garden pea, mechanism of 60 Hz elec. field induced effects 4-26472
 rotation in nonuniform alternating fields 4-3587
 seeds subjected to acute γ -irradiation, primary leaf development of *Phaseolus vulgaris* L. 4-16923
 simian virus 40 irradiated with van de Graaff electrons, lack of enhanced reactivation in UV-irradiated CV-1 monkey cells 4-21742
 sister chromatid exchange freqs., diagnostic US effects, recent literature review 4-36160
 sister chromatid exchanges in bone marrow cells of mice maintained on tritiated water 4-57955
 skin, mouse, changes at early times after X-ray and accelerated He ion exposure (*Russian*) 4-12638

cellular effects of radiation continued

- skin tumours in mice, radiation induction, dose-response models 4-16925
 small intestine irradiation at different times of day, S-phase cell distrib. 4-21736
 sperm, mouse, radiation-induced DNA content variability 4-3595
 spin resonance: theory and expt. 4-31190
 spinning in rot. elec. fields 4-3588
 subharmonic emission as an indicator of ultrasonically-induced biological damage, V79 cells obs. 4-31278
 sublethal damage repair in cultured fish cells 4-41471
 survival kinetics in peripheral blood and bone marrow during total body irradiation for marrow transplantation 4-36185
 suspended particles, spinning in a 2-pulsed, 3-electrode system 4-3589
 T-lymphocytes, human, proliferating in long term culture, radiosensitivity to ⁶⁰Co γ -rays 4-16924
 taste buds of embryos and adults of the fish *Oryzias latipes*, γ -irradiation effect 4-31297
 thymocytes, bat, *in vitro* γ -irradiation, correl. between some cytological indices (*Russian*) 4-36174
 thymocytes, rat, effects of CW and pulsed US *in vitro* 4-12624
 thymocytes, rat, possible association of membrane and nuclear changes on γ -irradiation 4-47039
 thyroids, rat, differential rates of loss of chromosome aberrations after X-ray or neutron irradiation 4-41585
 tissue target-cell survival-curve shape, implications for values of split-dose recovery doses 4-47035
 tracheal ciliated cells in rabbit, SEM study 4-52404
 tumour cells, nucleic acid and protein synthesis, impulse laser radiation effect (*Russian*) 4-12628
 tumour DNA preparations, γ -irradiation, EPR spectra features 4-41572
 tumour xenografts, human, radiosensitivity rel. to hypoxia and cell-cell contact 4-3598
 UV-induced cytoplasmic lesions in eggs of *Sciara ocellaris*, photoreactivation 4-57956
 V79 Chinese hamster cells, NaCl effect and radiosensitisation 4-52405
 vertebral bone marrow CFU-S surviving in radionuclide-contaminated mice, radiosensitivity obs. 4-52399
 X-ray post-irradiation changes in rat radiosensitivity depend. on dose of preliminary irradiation (*Russian*) 4-12636
 yeast, radiation effects and hyperthermia cell cycle kinetics 4-26484
 yeast, *Saccharomyces cerevisiae*, heat shock induction of radiation and thermal resistance 4-7941
 yeast, *Saccharomyces cerevisiae*, heat-shock induction of UV light resistance 4-7940
 yeast, X-ray-induced giant cell form., process and chitin ring form. 4-52397
 yeast cells, dose and LET dependence of RBE values for lethal lesions 4-57961
 yeast cells, wavelength dependence of inactivation and membrane damage by synchrotron vacuum-UV radiation 4-41577
⁹⁰Sr-induced osteosarcomas serially transplanted in CBA mice, cell surface morphology variation 4-31287
- cellular method**
 Si, energy band calcs. using variational cellular model 4-34871
- cellular transport and dynamics**
see also cell motility
 acetylcholine receptors in embryonic chick muscle, single-channel currents 4-46967
 amphibian gastrulation, contact guidance system, expt. manipulation by mech. tension 4-36154
 amphibian neural crest cells, perpendicular orientation and directional migration in DC elec. fields 4-57866
 ATP-dependent electrogenic proton transport into isolated vacuoles of the yeast *Saccharomyces carlsbergensis* 4-52312
 axon membranes, lobster, single K⁺ channels with delayed K⁺ channels 4-46968
 axonal transport study, radiation microprobe, design and use 4-17038
 bacteria, coupling between flagellar motor rotation and proton flux 4-26370
 blood, bovine, forming artificial rouleaux, rheological behaviour 4-21693
 blood, hardened red cell suspensions, flow in straight, bifurcating or locally constricted cylindrical tubes 4-16918
 cardiac cells, embryonic chick, periodically forced oscillator, global bifurcations 4-57867
 cardiac muscle membrane, frog, electrogenic Na⁺ pump, cation selectivity of binding sites 4-26371
 chloroplast thylakoid membrane, spinach, permeability to amine buffers 4-36083
 coupled cells, continuum model 4-3542
 cytoplasmic membrane of dialysed external segment of retina rod, Na⁺ cond. 4-12554
 cytoplasmic streaming in characean cells cut open by microsurgery, mol. mechanism 4-7956
 cytoplasmic streaming in *Caulerpa*, microtubule-associated system 4-7957
 dielectrophoresis, dynamic and static cond. struct. 4-31189
 electrotonic coupling between leech Retzius cells, freq. domain anal. 4-7951
 epithelial membranes, ionic channels, review 4-12553
 epithelium, rat proximal tubule, nonequilibrium thermodynamic model 4-21623
 erythrocyte aggregation, effect of immunoglobulins and IgG-fragments, human expts. 4-21692
 erythrocyte density and O₂ transport, training-dependent changes 4-31195
 erythrocyte electrophoretic mobility meas. by laser cytopherometry, multiple sclerosis diagnosis appl. 4-8071
 erythrocyte membranes, human, water exchange, NMR investig. 4-41477
 erythrocyte sedimentation, settling curve derivation 4-21630
 erythrocyte soln., study by correlation heterodyne spectrometer 4-8169
 erythrocyte suspension, chicken, intracellular distrib. and transport props. of small mols., NMR study 4-7952
 erythrocyte suspension, nonNewtonian viscosity theory, erythrocyte deform. effect 4-21684
 erythrocyte suspensions, bovine, complex viscosity expts. 4-21688
 erythrocyte transit time through 5 μ Nucleopore filter, obs. 4-31188
 erythrocytes aggregation, background and development of space project 4-52505
 erythrocytes osmotic fragility, photometric determ. in haemolysis chamber 4-26560
 flow cytometric histograms, randomisation test 4-26555

cellular transport and dynamics continued

- gap junction channels gating 4-46959
- gap junction in rat liver, reversible struct. transition, high-resolution electron microscopy obs. 4-46958
- gap junction structures, variation and conservation in connexon conformation and packing 4-46953
- haemolysate-loaded liposome suspensions, flow props. 4-21694
- hydrodynamics and cell division 4-21634
- ionic channels in membranes, conf., Airlie, VA, USA (Oct. 1983) 4-42578
- Leukocytes human, moving, virus-induced order-disorder transition 4-52309
- lung cells, Chinese hamster, rot. diffusion of TEMPONE 4-26369
- macrophage IgG Fc receptor, mouse, role as ligand-dependent ion channel 4-7953
- mammalian myocardium, elec. field model for elec. transfer of excitation between cells 4-21644
- membrane barrier function destruction rel. to elec. strength reduction 4-52293
- mollusc, *Lymnaea stagnalis*, single pot. dependent K^+ channels 4-52308
- mollusk neurons, single K^+ -dependent Cl^- channel, conductance states multiplicity 4-41484
- muscle fibres, temp.-jump-activated, intrinsic shortening speed, varying osmotic press. effect 4-41539
- myelinated axon diffusive model, threshold conditions 4-16861
- neuroblastoma cell membrane patches, voltage-dependent Ca^{2+} block of single Na^+ channels 4-46969
- neuroblastoma cells, batrachotoxin-modified Na^+ channels, gating kinetics 4-46960
- neuroblastoma cells, culture, human, microwave radiation-induced Ca^{2+} efflux 4-57941
- nicotinic acetylcholine receptor activation, mouse clonal muscle cell expts. 4-46966
- paramecium cell, rotational movement induced by ion conc. and AC elec. field (Japanese) 4-3543
- plant cuticles, influence of water transport on photoacoustic signal 4-36086
- plant sieve elements, translocation mechanism based on high proton mobility and K^+ counterflux 4-46962
- postsynaptic membrane model, effect of microwaves, ionic channel cond. increase (Russian) 4-12629
- protein transport in regenerating optic nerve, regulation by optic tectum in goldfish 4-16874
- Purkinje strands, sheep, elec. props., elec. and chem. pots. in clefts 4-21638
- Raman spectroscopy of suspensions appl. 4-47122
- red blood cell in plane Couette flow of plasma, 2D approach 4-47020
- respiring cells and vesicles, membrane potential, proton motive force and pH gradient meas. 4-26562
- retinal ganglion cells, cat, functional transmitters 4-7987
- rotation in nonuniform alternating fields 4-3587
- Saccharomyces cerevisiae, ion transport, ^{39}K , ^{23}Na and ^{31}P NMR studies 4-7954
- selective filters of Ca and Na channels in excitable membranes, comparison of struct. 4-41475
- shear viscoelasticity of suspensions of biological cells with fluid membrane 4-21691
- smooth muscle cells in K-free medium, transmembrane Ca current isolation 4-41474
- spin resonance: theory and expt. 4-31190
- spin resonance of cells, method for dielec. props. determ. 4-41655
- spinning in rot. elec. fields 4-3588
- suspended particles, spinning in a 2-pulsed, 3-electrode system 4-3589
- T lymphocytes, human, voltage-gated K^+ channels rel. to mitogenesis 4-36087
- T lymphocytes, K^+ channels, patch clamp study using monoclonal antibody adhesion 4-36088
- thermodialysis in living cells for SO_4 transport 4-46963
- thylacoid membranes of higher plant chloroplasts, electron transport chain of photosynthesis, EPR 4-12550
- trachea, excised, rabbit, bioelec. props. and ion transport 4-36094
- tRNA transport from eukaryotic cell nucleus, carrier-mediated translocation process 4-36089
- water permeability through biomembranes, isotopic effects, fluoresce. and light scatt. 4-58052
- wheat leaves, microviscosity of water, EPR spectra 4-12602
- wheat root cells, mag. relax., transmembrane exchange mechanism 4-41476
- white blood cells motion characterisation and pseudopod kinetics, dynamics scene anal. appl. 4-7958
- Ca^{2+} , fast extracellular transients, involvement in epileptic processes 4-16851
- K^+ channel kinetics in squid axons with elevated levels of external K^+ conc. 4-41480
- Na^+ , single channels, in membrane patches of GH_3 cells, statistical anal. 4-46949
- O_2 transfer in a capillary tissue unit, haemorheological factors 4-21695

cementation steel see alloy steel**cements (building materials)**

- used only for those materials which bind together particulate matter so as to form a coherent mass of considerable strength. For cements that cause two or more separate masses to adhere see adhesion
- acid digestion radwaste residue, immobilisation in cement, glass and other forms 4-23223
- glass fibre cement, total porosity, diffusion coeff. and strength 4-51615
- glass-ceramic fibre reinforced, alkali-resistant fibres development 4-40736
- Portland cement, flexural strength, fracture toughness rel. to void content 4-26035
- radwaste solidification systems retrofit in Spain, cement binding matrix use 4-23229
- soil-cement samples, shear Mode II fracture toughness test 4-26130
- toughening with fibres, fracture model 4-12169
- Cs radioactive waste, leaching mechanism in cement 4-48651
- Sr radioactive waste, leaching mechanism in cement 4-48651

centrifuges

- binary liquid mixtures, mutual diffusion coeffs., ultracentrifugal method (German) 4-2363
- cryogenic liqs., heat transfer in centrifugal force field 4-34071
- gas, enrichment, source-sink geometry effect 4-4358
- gas centrifuges up to 1962, review, principles of high speed rot. 4-43604

centrifuges continued

- gas centrifuges up to 1962, review, principles of separation physics 4-43603
- non dilute suspension with particles of two different sizes, centrifugal separation 4-44702
- soil mechanics studied using laboratory centrifuge equipment 4-17154
- ultracentrifuge, air-driven, design principles (Chinese) 4-13634
- virus detection by electron microscopy after direct ultracentrifuge specimen prep. 4-58059

ceramals see cermets**ceramics***see also refractories*

- AE during deformation and fracture 4-57518
- alumina ceramics, bending strength 4-40899
- anisotropic brittle solids, crit. grain size/preexisting flaw size relations 4-15581
- anodic ceramic films on Al-Mg dielec. breakdown during form. (Russian) 4-7122
- archaeological neutron activation γ -spectrum processing by Hewlett-Packard minicomputer 4-31043
- artificial joint replacement materials 4-26551
- bending beam, constant load creep, non-stationary stress distrib. 4-24353
- bioceramics, advances, present and future research needs 4-51603
- brittle, thermal shock by water quenching, critical temp. difference rel. to drop height 4-16487
- brittle materials, strength test, C-ring technique 4-51939
- cement, prosthetic biocompatibility with tissue 4-41025
- ceramic humidity sensors, ionic and electronic types 4-27534
- chloroprene-PbTiO₃ piezoelectric ceramic composites, props. 4-35362
- composite powder materials, consolidated, struct., elec. cond., percolation theory approach 4-51569
- composites, ceramic-ceramic, mech. props. (French) 4-16502
- conference, Saint-Vincent, Italy (June 1983) 4-47759
- corrosion resistance to HCl 4-12216
- corundum ceramics, sintering temp. reduction 4-12047
- cristobalite, high temp. transform. from tridymite 4-55967
- cutting tool materials, impact resist., fatigue wear rel. to microstructure 4-12199
- dense, gas permeability meas. apparatus 4-46702
- diphasic ceramic composites, sol-gel method prep. 4-57167
- diphasic xerogels, prep. by sol-gel process, ceramic-metal composite prod., X-ray diff., SEM, TEM 4-46481
- elastic moduli, rel. to melting point, effects of impurities on sintering 4-51708
- elastic-plastic fracture, energy principle, appl. to fracture mechanics of graphite 4-38773
- elastic-plastic fracture, evaluation of plastic fracture energy (Japanese) 4-38761
- electron microscopy conferences, EUREM 80, ICXOM and HVEM 80 (Aug.-Sept. 1980) 4-13482
- electrooptic, cryst. microstruct., piezoelec. and optical props. 4-35414
- engine applications 4-51605
- fatigue curves, universal, using identification curves 4-12277
- fatigue life and failure strength prediction 4-3219
- ferroelec. ceramics, dielec. const., expt. study (German) 4-46171
- ferroelectric, soft modes and grain size effects 4-30408
- ferroelectric ceramics, piezoelec. charge generation by impact, expt. study (German) 4-46186
- ferroelectrics, structural engineering and tailormade materials 4-35374
- fine polishing of semiconductors and ceramics, magnetic field assisted 4-16517
- floating target surface pot. meas. with parallel beam technique 4-39066
- fracture mechanics, pore-flaw model 4-51787
- fracture mechanics methods appl. (Czech) 4-24385
- fracture strength, statistical distribution anal. 4-46594
- fracture toughness, modified indentation technique 4-24390
- friction and wear study (French) 4-16515
- gas laser, glass ceramic tubes, design and construction 4-19472
- glass ceramic, machinable, elastic moduli, second-order press. derivatives 4-51709
- glass ceramic S0115M, and joints based on optical contact, strength 4-30814
- glass ceramics, nuclei distrib. within filament 4-39151
- glass-ceramic fibres, alkali resistant, development for reinforcing cement 4-40736
- glass-ceramic material based bioactive implants (German) 4-8155
- glass-ceramics, surface damage and fracture, effect of crystallites 4-16482
- glassceramics, appls. in optics 4-28800
- glassy and crystalline systems from sols and gels, chem. basis and technical appl. 4-57124
- heterogeneous system, prediction of fatigue life and fracture stress 4-26036
- high level radwaste immobilisation, ceramic process and plant design 4-23259
- high temperature, research in Shanghai Inst. of Ceramics 4-57166
- high waste loaded commercial radwaste ceramics 4-23258
- HTGR, high porosity materials on heat transfer surfaces, radiative props. 4-14085
- HTR module under breakdown conditions, ceramic component examination (German) 4-12311
- humidity sensors, ionic and electronic types 4-27534
- industrial, crack behaviour rel. to microstruct. (French) 4-16501
- ion-implanted ceramics, struct. (Japanese) 4-11166
- kaolin, sintering and struct. with surface-active additives 4-40719
- kaolin-BaCO₃ reactions, mineralisers influence 4-40729
- kaolins, TEM study 4-21188
- Li_2O - ZnO - Al_2O_3 - TiO_2 - SiO_2 , glass-ceramic, polymorphic conversion 4-57216
- macrocrack trajectory in orthogonal cutting by finite element method (Japanese) 4-55915
- Maxwell calcs. of elec. cond. 4-25088
- metal nitride particles, (group IIIa, IVa, Va and VIa metals), prep. by reactive gas evaporation (Japanese) 4-21190
- mica, phosphate-bonded, fabrication by hot isostatic pressing 4-35592
- microcellular materials, sintering calc. 4-46465
- mullite, IR-transparent, prep. 4-40725
- mullite substrates, obtained by dry-processing, struct. and morphological characterisation 4-51618

ceramics continued

- Nasicon ceramic electrolytes, densification and props., effect of decomp. 4-16362
- new optical materials, conf., Geneva, Switzerland (Apr. 1983) 4-27228
- nuclear fuels, percolation model for bubble interlinkage 4-27965
- nuclear waste immobilisation materials, book contrib. 4-4964
- oxide ceramics, sol-gel processing route using colloid dispersions 4-57146
- paste, rheological props. determ. (Czech) 4-19780
- phase diagrams, new expt. methods 4-35606
- phosphate foam glass ceramic, textural and mech. props., bone implant appl. 4-51589
- piezoceramic half-space boundary, electroelastic wave refl., energy analysis (Ukrainian) 4-38750
- piezoceramic multilayer plates, elasticity relations (Ukrainian) 4-25684
- piezoceramic transducer, high reliability, manufacturing quality control 4-33888
- piezoceramic-metal thin composite circular plate, forced vibr. anal. (Chinese) 4-55267
- piezoelectric, dielec. and thermodynamic props. 4-56855
- piezoelectric, differentially poled, guided acoustic interface wave propag. 4-28942
- piezoelectric, elastic and dielec. nonlinearities 4-30398
- piezoelectric 4-40348
- piezoelectric ceramic materials, pulsed electron beam damage threshold and props. 4-45190
- piezoelectric ceramic-PbSnTe interface, channelled acoustic wave propag. vel. meas. in polydomain ferroelec. 4-2421
- piezoelectric ceramics, cryst. struct., transducer appl. (French) 4-20918
- piezoelectric ceramics, fracture strength 4-26021
- piezoelectric elements, endurance prediction from subcrit. crack growth characts. 4-30876
- piezoelectric materials, static and dynamic strength calcs. 4-39375
- piezoelectric signals on cantilever bending 4-30396
- plasma-sprayed coatings, model for thermal cond. 4-50599
- plasticity and deformation (Japanese) 4-21276
- PLZT, hot-pressed, translucent, prep., characterisation and props. 4-51607
- PLZT transparent materials, electro-optical effects and appls. 4-51240
- PLZT-10, ferroelectric ceramic, light modulation, linear operators (Russian) 4-28822
- polycrystalline, broadened Gd^{3+} EPR spectra 4-25634
- porcelain, phosphate containing, glass phase segregated struct. 4-40790
- porcelain, stomatologic, phase comp. and struct. 4-40721
- porcelain electrical insulators, strength and reliability 4-35697
- porcelain extrusion body, yield strength and struct., effect of compressive loading 4-51770
- powder compacts, mech. props. (Japanese) 4-40960
- powder particles, flame spraying, interface interaction, struct. transform. 4-51485
- powders, EDS-derived, characterisation 4-51571
- powders, hot isostatic pressing combined with reactive sintering using gases 4-40697
- preparation from gels, conf., Würzburg, Germany (Jul. 1983) 4-53344
- pyroxene glass ceramics, Fe-bearing and spinel type, synthesis 4-51611
- quartz, fibre based ceramic material, acoustic props. and test methods 4-12297
- quartz glass-sand ceramics, strengthening by chem. activation of contact bonds 4-51594
- rare earth ceramics, prep., elec. cond. meas. 4-2611
- reliability and mech. props., high temp. appls. (Japanese) 4-51750
- research in specific application areas 4-51606
- self-sealing ceramic coatings, high temp. protective props. 4-21349
- shells, multilayer, piezoceramic, with layer thickness polarisation, electroelasticity relations 4-55333
- sialon, plasma etching 4-7672
- sintered, high-temp. bend testing, apparatus and meas. 4-51932
- sintered powders, modelling of physical and morphological props. (French) 4-51721
- sintering, computer controlled dilatometer appl. (French) 4-53678
- sol-gel synthesis, technical appl. 4-3117
- Space Shuttle thermal protection system, LI-900 reusable insulation tiles, fracture behaviour 4-3223
- spherical powder prep. using sol-gel processes 4-57150
- strength and toughness, fracture mechanics 4-12168
- strong high-temp. ceramics developments 4-12045
- substrates, surface finish and microstruct., theoretical considerations 4-29737
- sulphide, precursor powders, prep. by evaporative decomp. of solns. 4-25910
- surface films, tribological behaviour, physical principles 4-6685
- surface flaws produced by Knoop indentation, crack opening behaviour 4-40951
- SYNROC, high level radioactive waste immobilisation, structural incorporation, irradiation and leach resist. 4-23155
- Synroc D, nuclear waste ceramic, large scale densification by hot isostatic pressing 4-27962
- SYNROC-B, sintered, leaching behaviour, temp. effects 4-9270
- Synroc-D, nuclear waste ceramic, phase equilib., O fugacity effect 4-54250
- Synroc-D, polyphase nuclear waste ceramic, microstructure and mineral chemistry 4-727
- thermal conductivity meas. in range 10 to 1000°C and 1-40 bar press. 4-15727
- thermal properties and thermal shock fracture (Japanese) 4-35691
- thermal shock resistance, influence of porosity (French) 4-57351
- thermal stability theory of non-plastic solid state 4-30819
- thermophysical properties, conf., Baden-Baden, Germany (Sept.-Oct. 1982) 4-13472
- thick film strain gauge pressure transducer, using ceramic diaphragm technology 4-248
- tough components, development trends 4-46478
- UK developments and strategy 4-46477
- ultrafine electroceramic powder preparation from metal alkoxides 4-40716
- US power composite transducer, piezoceramic position influence (Chinese) 4-55300
- US transducers, piezoelectric ceramics, cyclic strength 4-49647
- ZnO ceramics, characterisation by depolarisation thermocurrents 4-20900
- Al_2O_3 , sintered body prep., mech. props., thermal expansion and corrosion resist. 4-12146
- AlN, hot-pressed, mech. props., influence of oxidation (French) 4-16558

ceramics continued

- Al_2O_3 ceramic, crack resistance 4-16486
- Al_2O_3 ceramic tools, hot isostatic pressing process 4-30670
- Al_2O_3 , compatibility with liquid Na, mech. and thermal props. 4-30841
- Al_2O_3 , delayed fracture, crack coalescence and microscopic crack growth 4-16485
- Al_2O_3 fibrous insulators, thermal cond. at high temps. (Japanese) 4-50600
- Al_2O_3 , ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
- Al_2O_3 powder, mixed α/γ phases, surface area, sinterability, photostimulated exoelectron emission (French) 4-57080
- Al_2O_3 powder compact, sinterability rel. to pore coordination no. distrib. 4-57145
- Al_2O_3 , SnO_2 -coated, stability in air and molten glass 4-57381
- β - Al_2O_3 , struct., props. and production, review 4-51596
- Al_2O_3 , surface damage, microstruct. and mechanisms, SEM obs. (German, English) 4-51775
- Al_2O_3 , universal fatigue curves using indentation flaws 4-12277
- Al_2O_3 -CaO- SiO_2 - TiO_2 system, compatibility relationships of calcium aluminate 4-57198
- Al_2O_3 - Cr_2O_3 ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
- Al_2O_3 - Cr_2O_3 system, solid soln. form., high temp. X-ray diff. (German, English) 4-51635
- Al_2O_3 -MgO spinel ceramic, corrosion-resist. 4-40718
- Al_2O_3 -MgO- B_2O_3 system, spinel formation 4-57199
- Al_2O_3 - $MoSi_2$ ceramic mixture, synthesis and mech. props. 4-51595
- β - Al_2O_3 - Na_2O , ceramics, separability of inter- and intragranular resist. 4-50574
- Al_2O_3 - SiO_2 , mullite, mech. props. 4-16483
- Al_2O_3 - Y_2O_3 system, sintering, eutectic form and struct. 4-57203
- Al_2O_3 - ZrO_2 , ground surfaces, residual stresses, stress induced phase transform. 4-3135
- Al_2O_3 - ZrO_2 - SiO_2 , ceramic powders, glass densification, sol-gel prep. 4-35594
- As-Ge-Se glass-ceramic, IR transmission props. 4-28794
- B_2O_3 , high temp. fracture, expts. and simple theoretical models 4-35684
- B_2O_3 , hot-pressed, mech. props. (French) 4-16503
- B_2O_3 , transport and mag. props., free C effects 4-45774
- B_2O_3 - Li_2O - TiO_2 -BaO-CuO(Gd_2O_3) vitroceraamics, struct. and partial crystallisation, EPR study 4-46098
- (Ba,Lu)(Ti,Mn) PO_3 , PTC materials, prep. from anatase, rutile and $BaCO_3$ 4-16361
- (Ba,Pb) SnO_3 solid solns., posistor effect 4-50818
- $Ba_{0.15}La_{0.85}Nb_{10}Ti_{10}O_{30}$ transparent ceramics for electro-optical appls. 4-35375
- $Ba_2TiGe_2O_8$, glass-ceramic, piezoelectric props. and hydrophone appl. 4-35364
- BaTiO₃ ceramic, ferroelec. props. and hot pressing 4-56858
- BaTiO₃ ceramic, BaZrO₃ modified, elec. resist. and dielec. characts, temp. depend. 4-15871
- BaTiO₃ ceramics, positive temp. coeff. of resist. with Curie points between 60 and 360°C 4-25383
- BaTiO₃ ceramics, recrystn., kinetic process 4-57255
- BaTiO₃ ceramics, sintering, anomalous grain growth, twin lamellae 4-57159
- BaTiO₃ coarse grained ceramics, dielec. const. 4-7111
- BaTiO₃, doped, precipitation and calcination, DTA and TGA obs. 4-57148
- BaTiO₃, metatitanate, synthesis reaction, solid-solid reaction interfaces 4-21189
- BaTiO₃, sintered, production of fine grain size by fast firing 4-12049
- BaTiO₃, sintering in presence of LiF (French) 4-57165
- BaTiO₃:La(Mn), lifetime spectra of positrons 4-7267
- BaTiO₃-Bi₂O₃ powder mixtures, liq. phase sintering 4-40720
- BaTiO₃-LiF (1-2 wt.%), sintering behaviour 4-25930
- $Ba_2TiSi_2O_8$, glass-ceramic, piezoelectric props. and hydrophone appl. 4-35364
- BeO, thin films and ceramics, TSEE yield rel. to gas adsorption 4-7321
- Be_2SiO_4 , irradiated surface layer, electron and hole centres (Russian) 4-39813
- BiFeO₃, ferroelec., elec. cond. reduction using TiO₂ and ZrO₂ additions 4-56343
- Bi₂Te₃ piezoceramic, struct. characters. and densification (French) 4-39220
- Bi₂Ti₂O₁₂, forged ferroelectric ceramics, degree of preferred orientation (Chinese) 4-51685
- Bi₂Ti₂O₁₂, formation from Bi₂O₃-TiO₂ mixtures 4-25934
- CaHf₂O₆:Gd³⁺, EPR spectra broadening 4-25634
- CaLa₂S₄ IR window material prep. using densification techniques 4-28789
- Ca₃(PO₄)₂, $\alpha \rightleftharpoons \beta$ phase transform. 4-50504
- Ca₁₀(PO₄)₆(OH)₂, hydroxyapatite, lattice thermal expansion 4-2356
- β -Ca₂SiO₄, polymorphism and transform. 4-40773
- CaZrO₃ powder, coprecipitation, sintering and densification (French) 4-57156
- Cr₂O₃-MgO spinel, elec. cond. during synthesis 4-40717
- Cu- Al_2O_3 , manufacture and props. (Polish) 4-3115
- α -Fe₂O₃ powder, sintering, microstruct. and density rel. to purity 4-57152
- KNbO₃ ceramic, ferroelec. props. and hot pressing 4-56858
- KNbO₃ ferroelectric ceramics, positive temp. coeff. of resistivity 4-45767
- LaCrO₃, for high temp. noise resistor 4-13643
- LaErO₃, microstructure, elec. cond. meas. 4-56035
- LaYbO₃, microstructure, elec. cond. meas. 4-56035
- LiAlO₂, ceramics for solid breeder concept for fusion reactors 4-54386
- Li₂B₄O₇ sintered crystal and thin evaporated layer, TSEE, dosimetric appl. 4-3024
- LiI-SiO₂ composite, enhanced ionic cond. 4-34703
- LiNbO₃ ceramics, dielectric spectra, piezoelec. grain reson. 4-2879
- Li₂O, ceramics for solid breeder concept for fusion reactors 4-54386
- Li₂O- Al_2O_3 - SiO_2 , foamed glass ceramic lead through seal, dielec. const., microwave appls. 4-17896
- Li₂O-MgO- Al_2O_3 - SiO_2 , synthesis, thermodynamic anal. 4-57143
- Li₂SiO₃, ceramics for solid breeder concept for fusion reactors 4-54386
- Li₂SiO₃, solid and liquid., blanket materials, heat of formation meas. by vapourisation method 4-48714
- Mg₂Al₂Si₂O₁₈, sintered cordierite, residual glass content, IR spectra 4-39149

ceramics continued

- MgF₂-CaF₂, ceramic powders, sintering pre-eutectic densification 4-51588
 MgO and MgO-LiF mixture layers, radiative cooling 4-38540
 MgO-Al₂O₃-SiO₂, cordierite glass-ceramic, hot-pressed, thermal expansion 4-45364
 MgO-Al₂O₃-SiO₂-TiO₂ glass ceramics, γ -irrad., ESR studies 4-7054
 Mg₂TiO₄ spinel, immobilization of ⁹⁹Tc from radioactive wastes 4-16397
 Mo fibre reinforced MgO, prop. method and mech. props. 4-57169
 MoO₃-K₂O-Li₂O-Al₂O₃-SiO₂ glass-ceramic, nucleation kinetics 4-29329
 Na_{0.5}La_{0.5}Bi_{0.5}-Ti_{0.5}O_{1.5} layer-structured ferroelec. ceramics, pyroelec. props. (Japanese) 4-35371
 Na₂O-La₂O₃-TiO₂-B₂O₃-SiO₂ system, heat treatment, leaching, phase decomposition 4-7470
 Ni-Zn ferrite, fast sintering mechanism 4-57157
 Ni-Zn ferrite, thermopower and cond., composition depend. 4-29998
 NiO, recryst., diffusion induced 4-21233
 O₂ production in cold plasma reactor, solid dielectric influence 4-19991
 PLZT 9.2 ferroelectric ceramic, photorefractive sensitivity study 4-25724
 PLZT ceramics, domain determ. by Ag photodeposition 4-35397
 PLZT ceramics, subjected to high elec. fields, autocorrel. anal. of piezoelec. coupling 4-7126
 PLZT electro-optic ceramic depolarisation at low temps. 4-44165
 PLZT electro-optical ceramic as light-gate array for non-impact printer 4-55185
 PLZT ferroelectric ceramics, transparent, dielec. props., electron- and γ -irrad. and mag. field effects 4-46191
 PLZT transparent ferroelec. ceramics, electronic processes and phase transitions 4-11846
 PLZT, transparent ceramics, prep. of active powders 4-12048
 PLZT:Al, photoferroelectric sensitivity enhancement by thermal diffusion and ion implantation 4-34728
 P₂O₅-CaO-Al₂O₃-SiO₂ glass-ceramic material based bioactive implants (German) 4-8155
 PZT, electrically excitable mech. resonance, effects of domain struct. 4-35398
 PZT ferroelectric ceramics, shock wave-explosive energy conversion 4-34580
 PZT powders, sintering and characterisation 4-16363
 PZT, solid solns., form. reaction sequence, role of raw materials 4-25929
 PZT:Mn,Ce, ferroelectric ceramic, stabilisation effects 4-46192
 PZT/silicone rubber composite, piezoelec. props. 4-40353
 PZT-SA ceramics, 1 MHz fundamental freq., use in fixed path double crystal interferometer 4-44312
 (Pb, Ba, La)Nb₂O₆ ceramics, hot-pressed, transparent, anisotropies 4-20945
 (Pb, La)TiO₃ ceramics, mech. props., ageing changes 4-35678
 (Pb,Ni)(Zr,Ti,Zn,Nb)O₃ piezoelectric ceramic, dynamic strength and dynamic nonlinearity 4-20917
 (Pb_{0.6}Bi_{0.4})_{0.97}La_{0.02}Nb_{0.98}O₃ piezoelectric ceramic, mechanical props. 4-40940
 Pb_{1-x/2}(BiLi)_{x/2}TiO₃ and Pb_{1-x/2}(BiLi)_{x/2}(NaCe)_{y/2}TiO₃ ferroelectric solid solutions, piezoelec. props. 4-25683
 PbBi₂Nb₂O₃, grain-oriented ceramic, fabrication process 4-40726
 Pb₂CrO₅ ceramics, photovoltaic effect 4-30016
 Pb(Fe_{1/2}Nb_{1/2})O₃-Pb(Fe_{2/3}W_{1/3})O₃, low firing multilayer capacitor material, dielec. props. 4-30404
 Pb₂Ge₂O₁₁ pyroelectric glass-ceramics, oriented grain growth from germanate glass 4-30676
 Pb_{2-x}La_{1-x}Li_{0.5x}O_{4.5} ceramic pyrochlore structured system, dielectric relaxation and conduction meas. 4-40334
 Pb(Mg_{1/3}Nb_{2/3})O₃, dielectric and electrostrictive props. 4-40321
 Pb(Mg_{1/3}Nb_{2/3})O₃, dielec. props. rel. to ceramic processing 4-51174
 Pb_{0.15}(NaBi)_{0.42}Bi_{0.42}Ti_{0.15} ferroelec. ceramic SAW device 4-10517
 Pb_{1-x/2}(NaBi)_{x/2}Bi_{1/2}Ti_{1/2}O₃ layer-structured ferroelec. ceramics, pyroelec. props. (Japanese) 4-35371
 PbNb_{0.5}In_{0.5}O₃, phase transition, X-ray and dielec. studies 4-25694
 PbNb_{0.5}Sc_{0.5}O₃, phase transition, X-ray and dielec. studies 4-25694
 Pb_{0.99}Nb_{0.02}(Zr_{0.6}Sn_{0.4})_{0.94}Ti_{0.06}0.98O₃, electrostriction study 4-40354
 Pb(Ni_{1/3}Sb_{2/3})₂Ti₁Zr_{0.5}MnO₃ ferroelec. ceramics, dielec. const., expt. study (German) 4-46171
 Pb(Sc_{0.5}Nb_{0.5})O₃ ceramic, ferroelectric, dielec. and thermal props. 4-35388
 PbSc_{0.5}Nb_{0.5}O₃; ferroelectric ceramics, transparent, dielec. props., electron- and γ -irrad. and mag. field effects 4-46191
 Pb(Sr_{1-x}Ta_x)O₃ ceramics, depolarisation and reversible pyroelectricity 4-40359
 Pb(Ti,Zr)O₃, form. by thermal decomposition of oxalate precursors 4-51593
 PbTiO₃ piezoelectric ceramics, rare earth substituted, SAW and US appls. 4-30397
 PbTiO₃:La ceramic, internal stress anisotropy 4-39373
 Pb(Zr,Ti)O₃ ceramic US piezoelec. transducers, vibr. anal. 4-24323
 Pb(Zr,Ti)O₃ piezoelec. ceramic, photomechanical effects 4-7157
 Pb(Zr,Ti)O₃ piezoelectric plate, fracture mechanics and strength 4-39374
 PbZrO₃ ceramics, electrostrictive high-temp. props. meas. 4-22795
 PbZrO₃-Pb₂FeNbO₆-PbTiO₃:U pyroelec. ceramic, elec. cond. 4-39898
 PbZrO₃-PbTiO₃ system ceramics, electric polarisation effect study (Chinese) 4-2864
 PbZrO₃-PbTiO₃:Nb₂O₅ ceramic, FE₁-FE₂ phase transition, doping effects 4-40368
 PbZrTiO₃:Nb ceramic, phase transition props. (Chinese) 4-2881
 PbZr_{1-x}Ti_xO₃ ceramic, elec. cond. and ageing 4-34970
 SbNbO₄-TiO₂ ferroelectric ceramics, phase comp. and dielec. props. 4-51202
 Si-Al-O-N, form. in Si₃N₄-Y₂O₃-Al₂O₃-Si₂Al₄O₄N₄ system 4-57163
 Si-Al-O-N powders, prep. from kaolinite (Japanese) 4-51600
 Si-base, Y₂O₃ sputtered coatings for prevention of solid-state reaction with metals 4-7616
 Si-Si₃N₄ powder compacts, nitridation, sintering, microstructural development obs. 4-57154
 SiAlON ceramic, hot pressed, grain boundary struct. 4-39311
 Si_{6-x}-x₂Al₂O₃N_{8-2x}, z=3, gas press. sintering, density and weight change (Japanese) 4-40732
 SiC, doped with (B,C) or (Al,C), pressureless sintering, microstructures 4-57155
 SiC fibre, coreless, tensile strength, effect of oxidation curing polycarbosilane fibre 4-21224
 SiC fibre, synthesis by polycarbosilane pyrolysis, struct. rel. to precursor mol. struct. 4-16357

ceramics continued

- SiC, grain boundaries, microstruct. characterisation by TEM (French) 4-15493
 β -SiC, hexagonal particles, growth processes, twinning, TEM obs. 4-55845
 SiC, high density ceramic, microstruct. rel. to sintering 4-57151
 SiC, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 SiC, polycryst. self-bonded, impurities distrib. 4-45176
 β -SiC, sintering, effects of variability of base powder 4-57142
 SiC, universal fatigue curves using indentation flaws 4-12277
 Si₃N₄ compact, reaction bonded, microstruct. rel. to nitriding atmosphere comp. 4-51590
 Si₃N₄ ceramic, laser generated US waves, freq. spectrum 4-33892
 Si₃N₄ ceramics, sintered, diffusion joining, flexural strength 4-40731
 β -Si₃N₄, dense, room temp. microhardness, effect of densification aid conc. changes 4-12145
 Si₃N₄, dense polypolyphase, fabrication, comp. and microstruct. 4-30668
 Si₃N₄ form. from SiO₂ 4-46480
 Si₃N₄, high density ceramic, microstruct. rel. to sintering 4-57151
 Si₃N₄, hot pressed, damage penetrations at elongated machining grooves 4-57319
 Si₃N₄, hot pressed, liq. phase sintering, microstruct. correl. with mech. props. 4-57350
 Si₃N₄, hot-pressed, heat conduction rel. to processing conditions and microstruct. 4-12051
 Si₃N₄, liq. phase sintered, high temp. failure initiation 4-12136
 Si₃N₄, nitridation of Si, optimisation of process 4-51608
 Si₃N₄, plasma etching 4-7672
 Si₃N₄, prod. props. and applications 4-51604
 Si₃N₄, reaction-bonded, prep. by nitridation with Si₃N₄ additions, microstruct. 4-57147
 Si₃N₄, Si nitridation, kinetic data anal. 4-51609
 Si₃N₄, sintered, high-temp. bend testing, apparatus and meas. 4-51932
 Si₃N₄ sintering obs., using high-temp., high-pressure dilatometer 4-263
 Si₃N₄, Weibull statistics, used to correl. modulus-of-rupture, bill-on-ring and rotational fast fracture tests 4-24389
 Si₃N₄-based, structural ceramics, crystalline anal., Raman microprobe 4-3368
 Si₃N₄-C composites, CVD amorphous, ESCA study 4-20104
 Si₃N₄-SiO₂-Al₂O₃-Y₂O₃ ceramics, liquid phase sintering 4-7405
 Si₃N₄-SiO₂-Y₂O₃, SiYON ceramics, hot-pressed, creep resist. (French) 4-16459
 Si₃N₄-TiN composites, prep. by CVD, thermal cond. 4-6571
 Si₃N₄-Y₂O₃, hot isostatic pressing, effect of Y₂O₃ additions 4-51937
 Si₃N₄-Y₂O₃, hot pressed, strength degradation, structural reliability at high temp. 4-40952
 Si₃N₄-Y₂O₃ (3-7 wt.%), densification, hot isostatic pressing 4-7404
 Si₃N₄-Y₂O₃-SiO₂, hot-pressed, oxidised, struct. and morphology rel. to intergranular phase 4-57382
 Si₃N₄-Y₂O₃-SiO₂ system, hot pressing densification mechanism 4-57149
 Si₃N₄-ZrO₂-MgO composites, hot-pressed, oxidation behaviour 4-57383
 Si₃N₄-ZrO₂-Y₂O₃ ceramic, hot pressed, microstruct., strength oxidation resist. 4-57287
 Si₄N₄-Y₂O₃, amorphous powder, calcination, microstruct. and sinterability (Japanese) 4-51601
 SiO₂ fibrous ceramics, Space Shuttle tile, nondestructive evaluation, sonic vel. meas. 4-30897
 SiO₂, kersil, radiation-optical props. 4-55873
 SiO₂-Al₂O₃-K₂O-Na₂O-Fe₂O₃ porcelain bodies, Fe oxides colouring effects 4-40734
 SiO₂-Al₂O₃-K₂O-Na₂O electroceramics, acoustic emission during cyclic loading 4-41129
 SiO₂-Al₂O₃-MgO-CaO-Na₂O/K₂O-F₂-P₂O₅ system based machinable bioactive glass-ceramics (German) 4-7475
 SiO₂- α -Al₂O₃ system, stable and metastable phase equilb. diagrams 4-51636
 SnO₂, activated sintering, densification and elec. props. rel. to oxide additions 4-57153
 SnO₂-based combustion monitor sensor 4-37086
 SnO₂-Cr₂O₃ system, phase equilb. 4-39525
 SnO₂-TiO₂ ceramic gas-sensitive resistor device (Japanese) 4-27505
 SrBi₂Nb₂O₃ piezoelectric ceramic, mechanical props. 4-40940
 Sr₂Nb₂O₇ ceramic, solid phase synthesis and elec. props. 4-50877
 SrTiO₃ boundary layer capacitor material, grain boundary area, TEM obs. 4-55846
 SrTiO₃ glass-ceramics, dielectric props. 4-40322
 Sr₂TiSi₂O₈, glass-ceramic, piezoelectric props. and hydrophone appl. 4-35364
 SrZrO₃, thin ceramic layers, heat cond. coeff. meas. 4-2387
 TiB₂ powders, removal of oxide contamination 4-25932
 TiB₂-TaC system, sintering kinetics, struct. and props. of heterophase materials 4-7406
 TiC, grinding material, mech. props., prep., appls. (Polish) 4-3246
 TiC, sintering, mech. props. rel. to nonstoichiometry (Japanese) 4-40926
 TiN-TiC system, shock compaction of powders, chem. content depend. 4-12044
 V containing ceramic pigments, V ion valence states and coloration, EPR, optical spectra obs. (Japanese) 4-51130
 W fibre reinforced MgO, prop. method and mech. props. 4-57169
 W₂C, hemicarbid, deform. mechanisms (French) 4-16457
 YCrO₃, sintered refractory, heat treatment, physical props., MHD electrode appl. 4-3112
 Y₂O₃ single crystal, O ion self-diffusion coeffs., 1100-1500°C 4-39564
 ZnO, sintered, grain growth after primary recrystallisation 4-57158
 ZnO varistor ceramic, grain growth and elec. props. rel. to sintering temp. and additives 4-25914
 Zr O₂, transform. toughened ceramics, compressive surface stresses introduction technique 4-16411
 ZrO₂, CaO(MgO) partially stabilised, aged, elec. cond. and microstruct. relationship 4-50575
 ZrO₂ fibrous insulators, thermal cond. at high temps. (Japanese) 4-50600
 ZrO₂, P₂O₅ stabilised bicrystals, grain boundary grooving rel. to MgO sintering additive 4-57162
 ZrO₂, powdered monoclinic and stabilised ceramic, X, γ or β irrad., exoemission and thermoluminesc. 4-3029
 ZrO₂, stabilised ceramics, sintering additives 4-40730
 ZrO₂, surface damage, microstruct. and mechanisms, SEM obs. (German, English) 4-51775
 ZrO₂, tetragonal, Y₂O₃-(Al₂O₃)-stabilised, stress-induced crack zone size meas. by Raman microprobe 4-3368

ceramics continued

- ZrO₂, thermal barrier coatings, plasma sprayed, oxidation and corrosion resistance 4-41096
 ZrO₂, Y₂O₃ stabilised, grain boundary resistivity rel. to Al₂O₃ and SiO₂ additions 4-56076
 ZrO₂:CaO, stabilised, defect struct., models 4-20188
 ZrO₂:Y₂O₃/Pt interface, polar behaviour and charge storage 4-40024
 ZrO₂-based ceramics, plasma-sprayed thermal barriers (*French*) 4-51842
 ZrO₂:CaO ceramics, vacancy mobility and isothermal damping spectra (*French*) 4-39566
 ZrO₂:MgO, partially stabilised ceramic, stress induced polymorph form., decomposition during annealing 4-57238
 ZrO₂:Y₂O₃, TZP, high ionic cond. 4-56067
 ZrO₂:Y₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
 ZrC ceramic, brittle fracture in bending under laser impulse heating 4-35696

Cherenkov counters see *Cherenkov counters*

Cherenkov radiation see *Cherenkov radiation*

cerium

- see also nuclei with
 α and γ phases, 4f-related features, photoemission studies 4-57071
 anodisation, cryst. oxide film formation (*Japanese*) 4-46645
 atom, M-series X-ray emission spectrum, excitation energy depend. 4-18972
 dissolution in Ce-Sn melt at high temp., enthalpy (*French*) 4-50511
 electronic structure of γ - and α -Ce, XPS, EELS and bremsstrahlung isochromat 4-25209
 energy struct. calcs. (*Russian*) 4-50712
 hyperfine interaction in 3-d ferromagnets 4-39855
 impurities in metals, degenerate Anderson model soln. 4-40130
 mixed valence system, intersite correls. and cryst. struct., role in valence determ. 4-56297
 mixed valency, bistability and collective effects 4-56287
 mixed valent props., effect of d-f correl. 4-6746
 Ba_{0.39}Sr_{0.61}Nb₂O₆:Ce, single cryst. plate growth by Stepanov method 4-3061
 Ba₂Sr_{1-x}Nb₂O₆:Ce monocrystalline plates obtained by Stepanov method 4-25870
 CaF₂:Ce³⁺, lowest 4f₇-5d near UV transition, two-photon excitation 4-2939
 CaS:Cu,Ce phosphors, phosphorescence decay and thermoluminesc. 4-25795
 Ce³⁺ in matrices, lower d band edge energy, stimulated emission 4-51302
¹³⁸Ce/¹⁴²Ce in meteorites, primordial ratio and evolution 4-42387
¹⁴⁰Ce+H⁺ collisions, total K-shell ionisation cross sections 4-9983
 GdMgB₂O₆:Mn(Bi)(Ce), energy transfer, luminesc. 4-46313
 He II photoelectron spectra, features in valence band region 4-16296
 Na₂O-CaO-SiO₂:Ce³⁺, reduced glass, UV irradi., photochemical reaction, ESR obs. 4-16094
 PZT:Mn,Ce, ferroelectric ceramic, stabilisation effects 4-46192
 PbF₂:La,Ce, dipolar relax. times, anomalous press. depend. 4-11841
 SrCl₂:Ce, luminescence study (*Russian*) 4-51346
 Sr₂(PO₄)₂F:Ce, Mn, halophosphate yellow-emitting phosphor for fluorescent lamps 4-11922
 YAG:Ce³⁺, scintillators, for scanning electron microscopes and transparent screens 4-18015
 YAG:Nd,Ce lasers, pulsed and continuous, admixtures effect obs. (*Czech*) 4-23998
 YAlO₃:Ce, scintillators, for scanning electron microscopes and transparent screens 4-18015

cerium alloys

- core level EELS study of 4d to 4f excitations 4-3003
 electron spectroscopies in impurity model 4-7278
 magnetic susceptibility meas., fractional valence 4-11668
 mixed valent props., effect of d-f correl. 4-6746
 valence sensing by dil. impurity probes, PAC study 4-40290
 valency, L_{III} X-ray absorpt. study 4-56283
 Ce-Sn melt, Ce dissolution enthalpy (*French*) 4-50511
 (Ce mischmetal, Sm)Co₅ magnets, coercivity improvement by additions of transition metal powders 4-7031
 CeAg, cryst. fields and press. depend. of spin dynamics, inelastic neutron scatt. study 4-2744
 CeAg, magnetic and struct. props. at high press., elec. resist. study 4-30162
 CeAgPb, lattice parameters, X-ray diff. study 4-2144
 CeAl₃, coupled phonon and crystn. elec. field excitations, Raman scatt. 4-25757
 CeAl₂, thermal expansion and lattice constns., X-ray diff. study 4-20381
 CeAl₂, valence instabilities, bound state of phonons and cryst. field excitation 4-55934
 CeAl₃, thermal and elec. cond. meas. at low temps. 4-56315
 CeAl₃, thermal expansion and magnetostriction, reson. level model 4-2357
 CeAl₃ valence fluctuation cpd., far IR absorption 4-35445
 CeAlCo, cryst. struct. determ. 4-24763
 Ce₂Co₁₁, relation with Ru₂B₃ and pyrochlore structures 4-6380
 CeCoGa, mag. and crystallographic props. (*Russian*) 4-6957
 Ce(Co_{1-x}Ni_x)₂, Laves system, valency compensation effect, mag. susceptibility, X-ray obs. 4-15425
 Ce₂Co₂Si₅, crystal structure 4-45058
 CeCu₃, cryst. struct. determ. 4-45052
 CeCu₅(Ni₃)(Co₂)(Fe₂), valence state of Ce (*Russian*) 4-6745
 CeCu₂Si₂, elec. resist., thermopower, and thermal cond., 60 mK to 300K 4-20629
 CeCu₂Si₂, Kondo lattice, superconductivity, Anderson model anal. 4-50980
 CeCu₂Si₂, magnetism and supercond. 4-56543
 CeCu₂Si₂ single cryst. growth, Bridgman method 4-21127
 CeCu₂Si₂ single cryst., superconductivity and Fermi surface 4-35110
 CeCu₂Si₂ valence fluctuation cpd., far IR absorption 4-35445
 CeGaCo, cryst. struct. determ. 4-24763
 Ce₂Ga₁₀Ni, cryst. struct. and lattice constns., X-ray diff. studies 4-34448
 Ce_{1-x}Gd_xAl₃, x=0.05, 0.2, effect of ferromagnetism on Kondo state 4-56753
 Ce(In_{1-x}Sn_x)₃, thermolec. power meas. 4-29950
 CeIr₂, Fermi level reson. in electron addition spectrum 4-11958
 (Ce_{1-x}La_{x-1})Be₁₃, valence regime mag. props. 4-6949

cerium alloys continued

- Ce_{1-x}La_xMn₂Si₂, mag. props., X-ray diff., magnetometric meas. 4-11682
 Ce_{0.9-x}La_xTh_{0.10}, phase diagram and crit. points, Fermi liquid model 4-55966
 CeMn₂Si₂, X-ray spectroscopy study 4-46368
 Ce(Mn_{1-x}Ti_x)₂Si₂, T=Fe, Co, Cu, mag. props., X-ray diff., magnetometric meas. 4-11682
 Ce_{0.7}Nd_{0.3}Ni₂Si₂ and CeNi_{5-x}Cu_xAl₃, hydrogenation characteristics, H₂ storage appl. 4-41253
 CeNi, intermediate valence compounds, physical props. 4-2555
 CeNi₅, formation enthalpy and bonding, dissolution calorimetry studies 4-50540
 Ce(Ni_{1-x}Co_x)₂, X-ray L_{III} absorpt., elec. resist., mag. susceptibility studies, spin fluctuations 4-57032
 CeNi_{5-x}Cu_x, mag. characts. 4-56539
 CeNi_{5-x}Cu_xH₂, mag. characts. 4-56539
 CeNi₂Fe, ferromagnetic order, Curie temp., magnetisation 4-56542
 CeNi₂Ge₂, elec. resist., thermopower, and thermal cond., 60 mK to 300K 4-20629
 CeNi₂Ge₂ single cryst. growth, Bridgman method 4-21127
 Ce₂Ni₃Si₃, crystal structure 4-45058
 CePd₃, bremsstrahlung isochromat spectra 4-2988
 CePd₃ valence fluctuation cpd., far IR absorption 4-35445
 CePd₃, XANES spectra, expl. evidence for shake-down peak 4-35518
 Ce(Pd_{1-x}Ag_x)₃, mixed valence, Ce 4f ground state props., X-ray absorpt. spectra 4-30565
 Ce(Pd_{1-x}Ag_x)₃Gd³⁺, intermediate valence cpds., impurity ESR spectra 4-16091
 CePd₃B₂ alloys, valence change and nonmag.-mag. transition, sp. ht. meas. 4-56652
 Ce(Pd_{1-x}Rh_x)₃, mixed valence, Ce 4f ground state props., X-ray absorpt. spectra 4-30565
 Ce(Pd_{1-x}Rh_x)₃Gd³⁺, intermediate valence cpds., impurity ESR spectra 4-16091
 CeRh₂B₂, ¹¹¹Cd quadrupole interaction, transferred hyperfine field 4-35284
 Ce(Rh_{1-x}Pt_x)₂, mixed valence, X-ray L_{III} absorpt. 4-57031
 Ce(Rh_{1-x}Ru_x)₂, mixed valent, elec. resist., mag. susceptibility, supercond. transition temps. 4-56290
 Ce(Rh_{1-x}Ru_x)₂, mixed valence, X-ray L_{III} absorpt. 4-57031
 CeRh₂Si₂, mag. ordering study 4-40146
 CeRh₂Si₂, mag. props., lattice parameters and EXAFS measurements 4-2740
 CeRu₂, Fermi level reson. in electron addition spectrum 4-11958
 CeRu₂Si₂, Kondo lattice system, mag. behaviour 4-2726
 Ce₂Si_{100-x}, amorphous alloys, Ce valence state, mag. study 4-45999
 CeSi_{2-x}Ga_x, electronically driven volume transition, mag. susceptibility study 4-46033
 CeSn₃, high-energy mag. response 4-16014
 CeSn₃, intermediate valence cpd., inelastic neutron scatt. 4-56286
 CeSn₃, thermal expansion and magnetostriction, reson. level model 4-2357
 Ce_{1-x}Y_xIn₃, mag. ordering, Kondo lattice, mixed valence, Neel temps., susceptibility, resist. meas. 4-56289
 (Ce_{1-x}Y_x)Pd₃, mixed valence, Ce 4f ground state props., X-ray absorpt. spectra 4-30565
 Ce_{1-x}Y_xPd₃Gd³⁺, intermediate valence cpds., impurity ESR spectra 4-16091
 Fe-C-Si-Ce system, cast Fe, eutectic crystallisation 4-12062
 Fe-Cr-Al-Ce, high temp. corrosion in Na₂SO₄-NaCl molten salt, Ce addition effect 4-7637
 FeAl-Ce, liq., enthalpy of form. 4-51628
 (GdCe)Fe₂ ferrimagnetic alloys, mag. compensation, Mossbauer effect hyperfine meas. 4-46063
 Ge-Ce, paramag. susceptibility temp. depend. (*Ukrainian*) 4-25513
 Ir-Ce alloys, surface composition, AES and thermionic work function 4-21074
 Ir-Ce-Mo alloys 4-21074
 Ir-Ce-Re alloys, surface composition, AES and thermionic work function 4-21074
 La_{1-x}Ce_x(Pb_{1-y}Sn_y)₃, mag.-nonmag. transition of Ce impurities, elec. resist., supercond. transition temp. 4-56333
 La_{1-x}Ce_xRh₂, mixed valent Kondo system, elec. resist. saturation, mag. susceptibility meas. 4-56332
 Mg-Li-Ce, rapid solidification processing, refined microstructure, Hall-Petch strengthening 4-40807
 Mg-Mn-Ce, superplastic flow mechanisms, quantitative evaluation 4-21266
 Y-Ce dil. alloy, transport props., temp. depend. 4-29959

cerium compounds

see also cerium alloys

- Ce₂Pr_{1-x}O₂, electrical conductivity and oxide ion transference number 4-50880
 electron spectroscopies in impurity model 4-7278
 electronic structure, 4f localisation, photoemission study 4-3017
 f level occupancy, hybridisation and coupling to conduction states 4-29919
 mixed valence compound, electronic struct. and photoemission spectra, correlation effects 4-7315
 mixed valency, bistability and collective effects 4-56287
 mononictides:Gd³⁺, exchange and cryst. field effects, EPR study 4-11767
 mononictides, spin dynamics, neutron scatt. study 4-56641
 mononictides and monochalcogenides, mag. props. 4-11692
 perovskite struct., elec. and mag. props. 4-50806
 photoemission, many-body effects (*Japanese*) 4-21111
 Al-CeO₂-Si MIS struct., cond. switching with memory 4-50936
 CeAg₂Si₂, mag. ordering, neutron diff. study 4-51031
 CeAu₂Si₂, mag. ordering, neutron diff. study 4-51031
 CeB₆, periodic Anderson Hamiltonian with orbital degeneracy, ordered states 4-25506
 CeBi, hybridization-mediated anisotropic coupling and excitation behaviour 4-56608
 CeBi, mag. props. study 4-30151
 CeCu₂Si₂, cryst. struct., band struct., and Fermi surface props. 4-6690
 CeCu₂Si₂, supercond. occurrence in Kondo lattice systems 4-40103
 CeFeP₂, mag. and elec. props., Mossbauer spectra 4-11684
 CeH₂, proton spin-lattice relax. and metal-insulator transition 4-30313
 CeH₂(D₂), mag. props. at low temps. 4-2739

cerium compounds continued

- CeN, homogeneity range, heats of soln. 4-12381
 CeN, mixed valence compound, electronic struct. and photoemission spectra, correlation effects 4-7315
 CeN₂O, homogeneity range, heats of soln. 4-12381
 CeNH₄P₂O₁₂, cryst. struct. refinement, X-ray diffr. study (*French*) 4-20158
 CeNbF₇, mag. props., 4.2 to 200K 4-6943
 CeNi₂P₂, cryst. struct. determ. 4-50260
 CeO₂, crystalline anodic oxide film formation on Ce (*Japanese*) 4-46645
 CeO₂, mixed valence compound, electronic struct. and photoemission spectra, correlation effects 4-7315
 CeO₂, precipitated, thermal treatment, texture rel. to atmosphere 4-40728
 CeO₂, undoped and ZrO₂ doped, hydrothermal crystn. and cryst. growth 4-40617
 CeO₂-O₂ system, ordered intermediate phases, high resolution electron microscopy study 4-2311
 Ce₂O₃-ZrO₂ powders, sintering, dilatometry 4-57161
 Ce₂O₃S, standard free energy of form. determ. 4-3423
 Ce₂Pd₁₇, cryst. struct., Guinier powder diffr. studies 4-24776
 CePd₂Si₂, mag. ordering, neutron diffr. study 4-51031
 CeRh₂B₂ itinerant ferromagnet, elec. resist., temp. dependence 4-2612
 CeRh₂Si₂, mag. ordering, neutron diffr. study 4-51031
 CeRu₂D₂, struct. investigations and mag. props. 4-11111
 Ce₂S₃, Schottky levels and thermodynamic contribs., calorimetric and optical studies 4-6518
 CeSb, mag. props. study 4-30151
 CeSb_{1-x}Te_x, mag. props., effect of Te substitution, neutron diffr. study 4-11695
 CeSb_{1-x}Te_x solid solns., mag. props. 4-6964
 CeSb_{1-x}Te_x solid soln., mag. props. and cryst. field splitting energy 4-56600
 CeTe, high press. effects and phase transform. 4-29604
 CeTe, transport props. and cryst. field energy 4-34973
 Ce₂(VO₄)₂, single cryst. plate growth by Stepanov method 4-3061
 FeO-Ce₂O₃, ferrous cerite, synthesis and props. 4-57131
 KCaLa_{1-x-y}Ce_xTb_y(PO₄)₂, green emission and energy transfer mechanisms 4-46304
 LiCe(MoO₄)₂, cryst. struct., thermal parameters, thermal vibr. ellipsoids, X-ray diffr. study 4-11059
 Li₂Ce₄(MoO₄)₇, ferroelec. solid soln., cryst. struct., neutron diffr. study 4-11060
 (NH₄)₂Ce(PO₃)₅, cryst. struct. determ. 4-24785
 (NH₄)₂O-Ce₂O₃-4P₂O₅, prep., cryst. struct. and morphology 4-6305
 Na₂O-BaO-B₂O₃-SiO₂-Ce₂O₃ glass, radiation colouring, radio- and thermoluminescence 4-11190
 Na₂O-CaO-SiO₂-As₂O₃-Ce₂O₃ glass, solarisation mechanism and glass struct., EPR study 4-57583
 Ni-Cr-CeO₂, oxidation, effect of oxide dispersion 4-26109
 Pb_{1-x}(BiLi)_{x/2}TiO₃ and Pb_{1-x-y}(BiLi)_{x/2}(NaCe)_{y/2}TiO₃ ferroelectric solid solutions, piezoelec. props. 4-25683
 Pb_{1-x}(NaCe)_{x/2}B₂Ti₄O₁₅, layer-structured ferroelec., grain orientation effects 4-46193
 Pt/CeO₂ supported catalyst, O₂ and N₂O adsorption, EPR study 4-34774
 Si₃N₄-SiO₂-Ce₂O₃, sintered in high press. N₂, props. and struct. 4-40724
 (Sr_{1-x}Na_{1-y})_{1-y}(Nb_{2-x}Y_x)CeO₄, dynamic hologram recording 4-49304
 Sr_{1-x}Ce_xF_{2+x} cubic solid solns., dielec. relax. expts. 4-46181
 Sr₂O-ZrO₂-Ce₂O₃ system, solid state phase relations, 1200-1600°C 4-57202
 TiPO₃-Ce(PO₃)₃, phase equilibrium relations and cryst. struct. 4-20335
 (U, Ce)O_{2-x}, O potential and lattice parameter studies, lattice defects 4-15446
 UO₂-CeO₂, solid soln., reaction with liq. Na 4-14053

cermets

- cemented carbide tools, wear in presence of dil. organic acids 4-57356
 diphasic xerogels, prep. by sol-gel process, ceramic-metal composite prod., X-ray diffr., SEM, TEM 4-46481
 eutectic alloys, composite materials, surface props. for thermionic converter appl. 4-56414
 powder particles, flame spraying, interface interaction, struct. transform. 4-51485
 sintered carbide inserts visual inspection, electro-optical computerised system 4-35787
 Al/MgO cermets, optical props., multiple scatt. corrections 4-46214
 Ag₂O-W cermets, phys. props., effect of W spatial distrib. 4-51610
 BN-TiC cermets, effect of cubic BN content on cutting performance of polycryst. tools 4-40994
 Co-WC, brittle fracture, strength depend. on defect size distrib. 4-51784
 Cr₃Cu/Cr cermet film, in-situ annealing of resistors 4-7357
 Cr₃C₂-Co(Cu), sintered, phase boundaries geometry 4-46482
 Cr₃C₂-Ni-P hard metal layers appl. to steel parts by hot press-facing 4-51901
 Fe-Ni-Cr-Mo cermet matrices, struct. and props. 4-3116
 Mo-Cr₂O₃-Al₂O₃, composite materials, surface props. for thermionic converter appl. 4-56414
 Ni-TiO₂, reaction mechanisms and kinetics in Ni-Ti-O system 4-25948
 TiC hard metal with TiN additions, fracture characts. 4-7574
 TiC/Ni microlaminates, evaporated, prep. and props. 4-15785
 TiC-Co, sintered, phase boundaries geometry 4-46482
 TiC-Ni, limiting strength, fracture stress rel. to defect size (*Japanese*) 4-26040
 TiC-Ni composites, liq. phase sintering 4-40735
 TiC-Ni-B, slurry coatings applic. using conc. solar energy 4-7643
 TiC-Ni-Mo hard metal grades, for milling tools 4-7410
 TiC-TiN-WC-TaC-Mo-Ni-Co, cermet, sintering and mech. props. 4-40733
 WC composites, electroerosion resist. in electric-spark machining 4-46627
 WC-Co, Co enrichment at WC grain boundaries, STEM study 4-16401
 WC-Co, deformed at room temp., anal. of defects in carbide phase (*French*) 4-16458
 WC-Co, high temp. deform. and fracture (*French*) 4-16504
 WC-Co, ion plated with TiN, interfacial structure, transverse rupture strength (*Japanese*) 4-46599
 WC-Co, limiting strength, fracture stress rel. to defect size (*Japanese*) 4-26040
 WC-Co, sintered, stress corrosion crack growth 4-35781

cermets continued

- WC-Co alloys, microstruct., optical and electron microscopy study 4-7413
 WC-Co composites, fracture stress, elastic limit, microstruct. 4-51732
 WC-Co(Cu), sintered, phase boundaries geometry 4-46482
 WC-Ni-B, slurry coatings applic. using conc. solar energy 4-7643
 WC-TiC-CO hardmetal, short-time induction sintering process 4-30664
 Zr/Al₂O₃ cermets, optical props., multiple scatt. corrections 4-46214
- CESR**
 conduction electron spin relax. in strong mag. field 4-34966
 graphite, neutron irradi., CESR study 4-25638
 graphite, pyrolytic, neutron irradi., ESR studies at low temp. 4-7066
 graphite intercalation compound with Li(K), CESR studies 4-46111
 graphite intercalation cpds., CESR 4-46110
 graphite-K intercalation cpd., NMR and CESR studies (*French*) 4-39757
 graphite-Li intercalation cpd., C₆Li, metallic character from CESR meas. 4-40229
 graphite-tetrahydrofuran cpd., NMR and CESR studies (*French*) 4-39757
 superconducting state, cond. electron spin relax. 4-11633
 Ag, electron spin susceptibility, CESR meas. 4-30282
 AgCl-NaCl solid soln., microscopic structure and electronic props., ESR study 4-40228
 Al, transmission ESR studies 4-46109
 Cu, electron spin susceptibility, CESR meas. 4-30282
 Ge-P(B) amorphous films, ESR spectra, temp. depend. 4-11770
 Li, electron spin susceptibility, CESR meas. 4-30282
 Li, pulsed spin transparency 4-56774
 Nb, CESR in normal and supercond. states 4-11771
 Nb, supercond. and normal states, CESR and relax obs. 4-56773
- chalcogenide glasses**
 amorphous chalcogenide alloys for optical data storage, performance parameters 4-14650
 DC transport mechanism, correlation with amorphous Si:H 4-45765
 doping, transport and optical props 4-45160
 film, bias-induced switching 4-50878
 films, control layers in DC electrolum. ZnS:Mn thin films 4-25814
 hierarchy of structural states 4-24734
 light irradiated, structural effects, nonlocal diffusion theory 4-29533
 light-sensitive struct., electrically controlled 4-28637
 localised states and photoinduced changes 4-50769
 luminescence, model 4-16246
 modified semiconductor, extrinsic conduction and band gap 4-29976
 nuclear spin relax. phenomena 4-40270
 photoconductor-liquid crystal structure with glass fibre component as spatial and temporal light modulator 4-55186
 photodarkening mechanisms, bonding dynamics 4-46208
 radiation processes and radiolysis (*Russian*) 4-11179
 Sb₂S₃/As₂S₃ heterostructure based photothermoplastic material, production and characts. (*Russian*) 4-35061
 system, Raman and IR vibr. spectra studies 4-46254
 thick films, X-ray radial distrib. function anal. 4-44895
 thick films threshold and memory switching, thermophonic investigations 4-45901
 thin film and bulk, photostruct. changes, neutron diffr. studies 4-44976
 threshold-switching voltage stability, γ-irrad. and elec. forming effects 4-6841
 time resolved photoluminescence and localised states 4-46309
 triplet exciton recomb., ODMR studies 4-39782
 vibr. props. and intermediate range order 4-45292
 A_x-S(Se)(Ge-Se) glass IR optical fibre cable for continuous CO laser transmission, design and expt. study 4-38610
 Ae-S-Se-Te system, glass form. and props. 4-11295
 Ag-As-Se vitreous system, recombination parameters and photoinduced carrier distrib. (*Russian*) 4-39934
 Al-As₂Te glass system, elec. switching phenomena 4-6843
 As-Bi system materials for quantum electronics, physico-chem. parameters and characts. (*Russian*) 4-24732
 As-Ge-Se, optical fibre prep. (*Japanese*) 4-49591
 As-Ge-Se glass-ceramic, IR transmission props. 4-28794
 As-S, fibre waveguides for middle IR range, optical losses below 1 dB/m 4-55204
 As-S, optical fibre prep. (*Japanese*) 4-49591
 As-S-Br system, noncrystalline struct., Raman spectra 4-40429
 As-S(Se) amorphous chalcogenide films, photodarkening, thickness dependence 4-40382
 As-Se, fibre waveguides for middle IR range, optical losses below 1 dB/m 4-55204
 As-Se, thin film, optical recording kinetics (*Russian*) 4-30427
 As-Se amorphous system, medium range order and crystallisation 4-44972
 As-Se chalcogenide glass, bulk, powdered and thin film, photostruct. changes 4-45323
 As-Se chalcogenide glass film, plasma effects on light transmission and solubility 4-34656
 As-Se films, photo-induced microhardness changes, composition depend. 4-29521
 As₃₀Ge₅Se_{70-x} chalcogenide glasses and melts, thermal and elec. cond. 4-11528
 As₂Ge₁₅Te₈₁ glassy semicond., elec. transport props., influence of cryst. inclusions 4-15904
 As₂S₃, amorphous, photodarkening process 4-2227
 As₂S₃ amorphous films, photostructural transformation, quantum output, spectral and field dependence (*Russian*) 4-20344
 As₂S₃ amorphous films on polycrystalline Ag₂S substrates, photochemical reactions, Raman study 4-7739
 As₂S₃, amorphous semiconductor glass struct., X-ray diffr. 4-2083
 As₂S₃ amorphous thin films, struct., Fourier anal. method (*Russian*) 4-44966
 As₂S₃ chalcogenide glass films, photoluminescence polarisation 4-46307
 As₂S₃ chalcogenide glass, time resolved photoluminescence and localised states 4-46309
 As₂S₃ glass, medium range order and optical props., Raman scatt. study 4-44971
 As₂S₃ glass, photoinduced changes and energy states (*Russian*) 4-56395
 As₂S₃, low-temperature thermal expansion of disordered solids 4-39547
 As₂S₃-Fe chalcogenide glasses, optical and electronic props. 4-45782
 As₂S₃/Sb₂S₃ glassy semiconductor heterostruct. based photothermoplastic material (*Russian*) 4-17998
 As₂S₃-As₂Se₃ glasses, photoacoustic spectra 4-15389

chalcogenide glasses continued

- As₂S₃-As₂Te₃ system, glass-cryst. transitions, DTA and X-ray microprobe anal. study 4-50206
 (As₂S₃)_{1-x}(Sb₂S₃)_x glasses, far IR and Raman spectra 4-20960
 As₂S₃Se_{1-x} chalcogenide glass, polarised room temp. Raman scatt. studies 4-46255
 As₂S₃(Se₂)_x(Te₂)₃, chemical bonding and heat of formation 4-24733
 As₂S₃-Te_x chalcogenide layers, photostructural changes (*German*) 4-20113
 AsSe amorphous chalcogenide films, photostruct. transformations 4-45322
 As_{1-x}Se_x chalcogenide glass, photoluminescence fatigue 4-51341
 As₂Se₃, amorphous, anomalous transient photocurrent 4-20689
 As₂Se₃, amorphous, transient photocurrent quantum efficiency, spectral depend. 4-45831
 As₂Se₃, amorphous and cryst., luminesc. centres, time resolved photoluminesc. and photoinduced absorpt. meas. 4-46310
 As₂Se₃ amorphous films, elec. and photoelec. props. controllability 4-45790
 As₂Se₃ chalcogenide glasses, lux-ampere characts., temp. and energy depend. 4-45829
 As₂Se₃ chalcogenide glass system, photostruct. change and photoacoustic effect 4-46308
 As₂Se₃, glassy and liquid, transient photoconductivity meas. 4-39980
 As₂Se₃/Cu(Ag), photoelectron and Auger lines, chem. shifts 4-25849
 As₂Se₃/Ni, Fe glassy films, carrier transport 4-15973
 As₄₀Se₆₀/Ge₂₅Se₇₅ multilayered amorphous film struct., long-range interactions 4-20959
 As₄₀Se₆₀-Ge₂₅Se₇₅ multilayered amorphous struct., long-range interaction 4-15951
 As_xSe_{100-x}/Se multilayer photoreceptors, transient photocond. (*Japanese*) 4-30013
 As₂Se₃Cu_x, amorphous, electronic band struct., XPS and Raman scatt. study 4-45591
 As₂(Se_{1-x})₃, amorphous, layer correlations, neutron diffr. study 4-34410
 AsSe_y-Te_x, cryst. and amorphous struct., X-ray diffr. study 4-2168
 As₂Se₃/Cu(Cd) amorphous film, elec. props., impurity effects 4-45783
 As₂Se₃(Te₃) chalcogenide glasses, photocarrier recomb. and band struct. parameters 4-45830
 (As₂Se₃)_{1-x}(Ti₂Se)_x chalcogenide glasses, elec. cond. and activation energy 4-45795
 As₂Te₃, amorphous, dispersive transport, TOF and transient field effect meas. 4-45784
 As₂Te_{1-x} glasses, crystn. and local order, DSC, X-ray diffr., and Mossbauer studies 4-2084
 Bi₂S₃ film, cathodic electrodeposition, struct. and composition charact. 4-34816
 CdGa₂Te₄ amorphous Z 4-50688
 Cu_x(As₄₀Se₆₀)_{100-x} system glasses, elec. and optical props. for x=5 to 30 4-45788
 Ge-Bi-Sb-Se and Ge-Bi-S system glasses, optical and elec. props. 4-45785
 Ge-P-S, optical fibre prep. (*Japanese*) 4-49591
 Ge-S-Ag amorphous films, photoinduced metal surface deposition 4-46449
 Ge-Sb-S glasses, defects and sensitive light-induced phenomena, EPR study 4-44977
 Ge-Sb-Se glasses, elastic props., US vel. meas. 4-2252
 Ge-Se, amorphous, XPS and AES chem. shifts 4-21104
 Ge-Se-Te films, amorphous, elec. props., electrode effects 4-2613
 Ge-Te amorphous thin films, struct. transforms. induced by elec. nanosecond switching 4-50688
 Ge_{22.5}As₁₀Se_{67.5}, sputtered film, photodarkening effect 4-30548
 Ge₁₀As₄₀Se₅₀S₂₅, sputtered film, photodarkening effect 4-30548
 Ge₂₀Bi₅S₇₅ glasses, composition and DS calorimetry 4-50207
 Ge₂₀Bi₅Se_{80-x}, amorphous, photocond. props., Bi content depend. 4-45832
 Ge_{43.5-x}Pb_{56.5} chalcogenide glass films, bipolar photoconductivity 4-56384
 Ge(S₂Se)₂, crystal and glass, struct. models and vibr. spectra 4-7198
 Ge₂, glassy, optical gap, temp. depend. 4-2894
 Ge₂S₃, glassy, photoluminescence and EPR 4-16243
 Ge₂S_{1-x} glasses, composition and DS calorimetry 4-50207
 (Ge₂S₃)_{1-x}(Ge₂Se₃)_x glasses, molar refr., wavelength depend., influence of struct. 4-40397
 Ge(S₂Se_{1-x})₂ glasses, Raman spectra and athermal laser annealing 4-7197
 Ge₂₀Sb₂₅S_{77.5} glasses, composition and DS calorimetry 4-50207
 Ge₂(Se_{1-x})_{1-x} glasses, companion A₁^c line, Raman spectra anal. 4-55949
 GeSe, amorphous, heterogeneous struct., EXAFS and small-angle X-ray scatt. studies 4-6276
 GeSeTe amorphous semicond., conduction mechanism, Mossbauer studies 4-25353
 GeSe₂ chalcogenide glass, low freq. Raman scatt. and layer modes 4-46252
 GeSe₂ chalcogenide glass, time resolved photoluminescence and localised states 4-46309
 GeSe₂, chemical bonding and heat of formation 4-24733
 GeSe₂/Cu(Ag), photoelectron and Auger lines, chem. shifts 4-25849
 GeSe₂-GeTe-Sb₂Te₃ chalcogenide glasses, isothermal and continuous heating crystallisation 4-20111
 Ge₂Se₃ chalcogenide IR optical glass, flocculent inhomogeneities 4-6280
 Ge₂₅Se₇₅, sputtered film, photodarkening effect 4-30548
 Ge₂Se_{1-x}, amorphous, struct. and photoluminesc. 4-46312
 Ge₂Se_{1-x} glasses, molar refr., wavelength depend., influence of struct. 4-40397
 Ge₂Se_{1-x} system, struct. and photoluminesc. 4-51320
 Ge₂Se_{1-y} glasses, y=0.05-0.38, doped and undoped, optical absorpt., photoluminescence, photocond. meas. 4-25782
 (GeSe₃)_{100-x}Bi_x, amorphous, elec. transport props. under high press. 4-45786
 (GeSe₃)_{100-x}Bi_x chalcogenide glasses, struct. charges by Bi doping 4-55743
 GeSn_{4/2}(Se_{4/2})₂ chalcogenide glass cluster stability, vibr. spectra study 4-46256
 Ge_{1-x}Sn_xSe₂ glasses, Mossbauer study of bonding chemistry 4-29330
 Ge₂₀Te₈₀ glass, double stage crystallisation, DSC, X-ray diffr., TEM 4-34643
 Ge₁₅Te₈₅S₂-based amorphous semicond. film, struct. 4-44975
 GeTe(Se) amorphous films, local struct., XPS and UPS studies 4-44973

chalcogenide glasses continued

- Hg-As-Se vitreous system, recombination parameters and photoinjected carrier distrib. (*Russian*) 4-39934
 In-Te amorphous thin films, struct. transforms. induced by elec. nanosecond switching 4-50688
 In₂Se_{3-x} amorphous films, carrier mobility and lifetime meas. 4-45789
 Li₂S-GeS₂ glasses, ionic Li cond., NMR studies 4-6546
 Sb-chalcogenide system, Raman and IR vibr. spectra studies 4-46254
 Se, glassy, dynamical elastic modulus meas. near and below T_g (*French*) 4-39362
 Se-based chalcogenide glasses, internal friction background below T_g (*French*) 4-39383
 Se-Ge-As system chalcogenide glass form. 4-28799
 Se-Sn-As chalcogenide glass and cryst. cpds., ¹¹⁹Sn Mossbauer studies 4-56836
 Se-Te, amorphous, gap states, isothermal photocurrent transient spectroscopy 4-34916
 Se-Te amorphous semiconductors, phys. props. and crystallisation 4-2082
 Se₆₀S₂₀Te₂₀ chalcogenide glass, crystallisation kinetics 4-44974
 Se_{1-x}Te_x amorphous alloys, struct. relax., US attenuation studies 4-34417
 Se_{1-x}Te_x amorphous films 4-56379
 Se₈₀Te₂₀ amorphous mixture, semicond.-metal transition and crystallisation 4-45631
 a-Se₉₀Te₁₀-In₂O₃ interface props. 4-50927
 Si-Te amorphous thin films, struct. transforms. induced by elec. nanosecond switching 4-50688
 (Si₂Ge_{1-x})₂S₂ glass, microstructure from Raman meas. 4-20115
 Si₂Se_{1-x} glasses, chem. bonding and at. struct., Raman scatt. and neutron diffr. meas. 4-6291
 Te_{96.8}As_{1.0}Ge_{0.2} film with capping layer, reversible optical storage 4-1359
 (Te₉₅S₅)₉₀Se₁₀ thin film, for optical data storage stability 4-29847
- change of state** *see phase transformations*
- channel capacity**
 millimeter wave propagation through precipitation, relationship of cross polarisation discrimination to attenuation 4-22065
 optical channels, fundamental limits 4-54964
- channel flow**
see also pipe flow
 2D flow channel with backward facing step and rib roughening, axial vel., AGR appl. 4-14108
 acoustic power dissipation through duct terminations, vorticity obs. 4-28903
 aeration of flow in a short culvert-type spillway curved in the vertical plane 4-1833
 annular channel with intermediate heat carrier, heat exchange 4-24431
 bed-wave form in eroding channel 4-3784
 binary gas mixture, flow in vertical plane-parallel differential-temp. channel 4-19887
 blowdown results for initially isothermal sat. liq. from press. vessel 4-38868
 boundary layer-ZZ 4-1827
 buoyancy driven flow in rectangular cavity, external mag. field effect, Czochralski growth appl. 4-44747
 canal system to horizontal drain system, filtration calcs. (*Ukrainian*) 4-38872
 cavitation flow in a channel with oscillatory wall 4-19862
 cavitation flow in a channel with oscillatory wall 4-44665
 circular channels with eccentricity, numerical modelling of gasdynamics (*Russian*) 4-10778
 cold traps, snowing criteria 4-10764
 combined convection and radiation in rectangular ducts 4-38813
 combined convection in wavy channels, const. fluid props. calcs. 4-38886
 combined free and forced convection in channel, solute dispersion coeff., Grashof number 4-38817
 combustion chamber, twisted annular flow, mixing and mass transfer 4-34185
 confined flow around rectangular cylinder, wakes, vortices 4-34188
 convection dislocation and onset of chaos 4-5896
 convective diffusion of solute in MHD radiating convective flow in vertical channel 4-19823
 convective heat exchange in annular channel (*Russian*) 4-14963
 cross-waves generation in long deep channel by parametric reson. 4-38844
 cylindrical channel, arc characts. in turbulent He flow, multilayer model (*Russian*) 4-15325
 density discontinuity interaction with turbulent boundary layer at permeable channel surface, heat transfer 4-10666
 developed cavitation flow past a wedge in a channel 4-5926
 developing isothermal flow between two parallel plates, collocation finite element-finite difference soln. 4-10772
 diabatic two-phase annular flow, nucleate boiling 4-38704
 diagonal MHD channel secondary flow effect calc. 4-26301
 diffusers with diverging channel, normal shock response 4-10705
 diffusional deposition from laminar viscous stream in rectangular channel 4-29162
 divergent channel flow stability, numerical approach 4-49883
 duct, cylindrical, thick-wall, hot gas exhaust, radiation impedance calc. 4-33834
 duct, hydrodynamic, sound generation by turbulent flow 4-29078
 duct terminations, high amplitude acoustic transmission, theory 4-28904
 ducts, long, adiabatic critical two-phase flow 4-10733
 EM flow meas. in open channel, electrode arrangement criteria (*German*) 4-38921
 extended k-ε turbulence model for curved channel flow prediction 4-10763
 fast flows in smooth channels 4-1837
 fission reactors, particulate debris, 1-D model of heat removal 4-54336
 flexible channel, two-dimensional flow, subsonic flapping flutter, theory 4-38879
 flow about elastic plates, drag coeff. meas., hydrodynamic characteristics 4-34057
 flow in mixing chamber of injector 4-1802
 flow in vertically vented compartments, oscillatory behaviour, finite difference study 4-34061
 fluid flow along a channel with an asymmetric oscillating construction 4-1838
 forced convection and mass transfer between heated channel and upper mixing chamber 4-34080
 forced convection in fluid-flow in heat exchangers corrugated wall channels 4-1712

channel flow continued

free boundaries in one dimensional flow 4-34189
 free convection effects on turbulent transport of liq. flowing in horizontal channel 4-38810
 free convection in a dead-end channel (*Russian*) 4-1834
 free convection in channels of structural members, heat transfer (*Russian*) 4-1714
 free oscillations of viscous incompressible fluid in semi-infinite channel 4-44722
 fully developed axial turbulent flow in rod bundles, finite element model 4-15031
 gas mixture component, diffusion-viscous flow through channels 4-15054
 gas suspension, polydisperse flow, heat transfer in channels and pipes 4-19892
 gas-liquid mixer, cold blocking of channel by hot fuel jets 4-38876
 gas-liquid nonequilibrium duct flow 4-29209
 gas-solid flow anal. using method based on turbulent model 4-44698
 gases, compressible, laminar flow calc. in presence of heat transfer in two dims. channels 4-44521
 gradient flow, adverse press., obs. of turbulent boundary layer coherent structures (*Chinese*) 4-1709
 heavy fluid instantaneous releases in rectangular channel, gravity current prod. 4-15025
 holdup of liquid draining from inclined tubes 4-44731
 hydraulic drag of sphere-filled cylindrical channels 4-29181
 hydraulic drive channel, model of nonstationary fluid motion, undissolved gases and wall compliance influence (*Russian*) 4-44728
 incompressible viscous flow through porous-walled channel, Brinkman model appl. 4-34182
 incompressible viscous flow within a rectangular domain, analytical solns. 4-1831
 jet, turbulent, surrounded by highly flexible duct, buckling 4-15012
 laminar isometric flow of liquid in eccentric ring channels (*Russian*) 4-43626
 laminar MHD channel flow with anisotropic conductivity, stability anal. 4-10789
 linear stability in flow between two concentric rotating spheres 4-34048
 liquid film flow with air in horizontal duct, viscous wave and film breakdown 4-29150
 liquid metal flow in the rectangular duct with strong non-uniform mag. field 4-49887
 liquid metals, inhomogeneous flow in induction pump channel 4-38884
 liquid metals, turbulence suppression by mag. fields 4-29204
 liquid moving in underground channel, cooling problems soln. 4-34184
 low-viscosity fluids, steady flows in channels and tubes of periodic profile 4-1839
 MHD, two dimensional flow, finite element anal. 4-44753
 MHD channel flow, effect of mag. field orientation and wall conductivity, finite element method 4-1842
 MHD convection and mass transfer through horizontal porous channel 4-1823
 MHD flows, 3D in rectangular duct with thin cond. walls and strong nonuniform mag. fields 4-29201
 MHD generator channel, contracted discharge at slag covered electrode wall 4-44868
 MHD waves in differentially rotating annulus, stability anal., appl. to Earth core 4-24480
 mixed convection heat transfer in a horizontal open-channel flow with uniform bottom heat flux 4-38831
 mixed convection in channel heated on one side 4-38811
 motion of circular cylinder in rectangular channel 4-5959
 natural convection, laminar regime, vel. profiles along heated wall of rectangular enclosure 4-38826
 natural convection in a partially divided enclosure 4-19822
 Newtonian liquid hole pressures at small Reynolds numbers 4-15030
 non-Newtonian fluid, laminar flow in channel of twin screw mixer (*German*) 4-49862
 nonisothermal flow of a rarefied gas in a circular cylindrical channel 4-34136
 ocean bottom boundary layer, oscillatory turbulent channel flow, viscosity effects 4-41954
 one-dimensional method for calc. steady flows 4-44721
 open-channel flow, interactions of turbulent eddies with a free surface 4-29075
 oscillation development in boundary layer flow in converging channel, pulsation effect (*Russian*) 4-10775
 parallel plate duct flow, forced convection heat transfer 4-24423
 parallel Rayleigh-Benard rolls, optimal merging near plane boundary 4-24435
 parallel-plate channel in inclined field, incompressible developing MHD flow 4-10790
 pattern in bubble sheet 4-19890
 phase separation phenomena anal. in branching conduits 4-44695
 planar and axisymmetric cavitation flow problems 4-44662
 planar channels, friction and heat transfer, supersonic flow with shock waves nonuniformity influence 4-5958
 planar induction pumps, flow rates, primary longit. effect 4-38883
 plane channel flow, spot-like turbulence development 4-44737
 plane Poiseuille flow stability, computation (*Russian*) 4-38792
 Poiseuille flow, finite-amplitude perturbations 4-5956
 Poiseuille flow, free and induced oscils. 4-34190
 polymer solns., dilute, drag reducing in rectangular open channel flow, turbulence struct. 4-10649
 polymer solns., migration, hydrodynamical changes slip hypothesis 4-29137
 potential fluid flow through planar circular grid, flow visualisation 4-29097
 Power-law fluid flow in straight channel hydrodynamic inlet region 4-44735
 pressure fluctuations induced by travel of air pockets in a closed spillway 4-1832
 PWR core fuel elements thermohydraulic flow measurement by laser Doppler anemometry (*German*) 4-37826
 radial flows between two parallel disks, flow separation and heat transfer 4-44569
 river, deforming channel, simulation of processes 4-3783
 river meandering simulation expt. (*German*) 4-49885
 rotating fluid systems, geostrophic turbulence, stable baroclinic eddies and self-exciting dynamos 4-31624
 shallow water oscillations in parabolic cross section rot. channel, oceanographic appl. 4-38885

channel flow continued

shark scales, turbulent boundary layer in fine grooves (*German*) 4-1710
 shock triggering of supersonic jets from plane channels 4-38851
 shrouded fin array, vertical flow, heat transfer, buoyancy effect 4-24426
 side wall effect on rot. flow over bottom topography 4-24439
 sinusoidal channel, two-phase flow 4-44730
 sloshing flow in circular cylindrical tank, meas. using laser Doppler velocimeter 4-1828
 slow broadside motion of flat plate along centre line of fluid filled two dims. channel 4-44733
 slow viscous flow, two dims., past a plate midway between an infinite channel 4-44734
 solute dispersion from time-depend. releases in parallel flow 4-29185
 solute dispersion in MHD channel flow, radiation effect 4-44746
 spillways under conditions of double flow expansion, energy recovery under 3D conditions 4-3450
 static pressure distrib. and tangential stresses on curvilinear channel walls 4-44726
 static pressure measurement, pitot tube appl. 4-8136
 steady turbulent flow of electrically conducting fluid in channel in mag. field 4-19894
 steady two-dimensional turbulent flow in curved channel 4-44739
 steam, wet, slug flow, time and struct. features 4-1804
 steam-water countercurrent flow in inclined channel, flooding 4-38795
 steam-water flows, countercurrent, stratified, condensation, heat transfer coeff. 4-38862
 streamwise vorticity fluctuations in turbulent channel flow 4-34106
 supersonic annular jet, interaction with obstacle 4-44669
 supersonic three dims. jet flow in channel 4-44672
 supersonic two dims. flow, compact bend in channel 4-44636
 suspension of neutrally floating particles, vorticity, Couette and Poiseuille flows 4-24465
 Taylor-Couette flow, spectral numerical methods for Navier-Stokes eqn. 4-19886
 thermal EHD induction pump with harmonics and inhomogeneous fluids 4-44750
 thermocapillary flow in two dims. slot, surface contamination effect 4-49819
 thermodynamic and fluid dynamic aspects of internal vessel conditions during decompression regimes of sat. liq. 4-38869
 three-dimensional MHD channel flow, channel flow widening, numerical anal. 4-38910
 three-dimensional reattached wall jet 4-10714
 transverse flow in cylinder with longitudinal ribs, boundary-layer separation 4-14947
 turbulence flow in entrance region of two dims. straight channel with inlet disturbances 4-29178
 turbulence structure study in near wall region, variable-interval time-averaging technique 4-49808
 turbulent axisymmetric flow of incompressible fluid over cylinder 4-29067
 turbulent channel flow, effects of imperfect spatial resolution on hot film and hot-wire meas. 4-34056
 turbulent cross-transfer intensity variation in complex shaped subchannels, expt. 4-14098
 turbulent duct flow, heat and mass transfer with mist form., saturation model appl. (*Japanese*) 4-38867
 turbulent flow and heat transfer in narrow isosceles triangular duct 4-38802
 turbulent fluctuations, zero-crossing frequency, shear flow 4-34053
 turbulent gravity-stratified shear flows 4-38861
 turbulent oppositely twisted streams, mixing in initial section of annular channel 4-19888
 two fluid flow phase distrib. calc. using TOFFEA code 4-49886
 two-phase flow, pressure drop and countercurrent flow limited breakdown prediction 4-38870
 two-phase flow in straight/curved channels, particle size and velocity distribution simultaneous meas. using optical system (*German*) 4-49884
 unsteady dispersed-film flow in channels of complex geometry, heat transfer 4-34064
 unsteady flow between rectangular plates and between circular plates 4-19893
 unsteady natural conc. convection in closed region, inertial conditions influence 4-44562
 vertical channels, steady, turbulent, bubbly flow, numerical calcs. (*German*) 4-29165
 viscoelastic Maxwellian liquid, flow stability in plane channel 4-19891
 viscous compressible fluid in semiinfinite tube with horizontal axis, unsteady motion 4-44724
 viscous fluid flow near intersection of cylindrical surface with flat surface 4-5957
 viscous liquid unstable oscils. in channel flow 4-44738
 viscous turbulent sublayer, microscales and correl. tensors 4-1841
 vortices formation in wake of wedge in turbulent flow, channel wall influence 4-44594
 wall plume fed by vertical channel discharge 4-44585
 water, flow pattern over cylinder, turbulence and channel blockage effect 4-29182
 water, turbulent flow in compact triangular rod bundle, heat transfer, gas phase effect 4-14965
 waterway flow, velocity pulsations, random process, statistical anal. 4-44736
 wet team in vertical and inclined channels, press. losses 4-10737
 CO₂ liquid flow in cylindrical channel, Brillouin light scatt. study (*French*) 4-34191
 He, boundary stability at supercrit. param. in heated channels 4-15735
 He, two-phase flow in region of low press. 4-15022

channeling radiation see *channelling radiation*

channelling

see also *energy loss of particles*

annual review of nuclear and particle science, book 4-31979
 applications to solid state problems 4-73
 axial channelling of ultra-relativistic electrons in thick single crystals, anomalous passage 4-11205
 baryons, heavy flavoured, mag. moment meas., planar channelling through bent crystal 4-18251
 charged particle channelling above solid surfaces in external fields, surface collision cascades 4-29501
 continuum model derivation by the averaging method 4-50389

channelling continued

- crystal lattice, spatial distrib. of channelled ions, semi-empirical calc. 4-11208
 crystals, coherent Coulomb excitation and disintegration of relativistic nuclei 4-29499
 dechannelling, axial, in perfect crystal 4-6415
 dechannelling, orientation depend., using Rutherford backscattering and charact. X-ray yields 4-15561
 defect analysis by channelling and X-ray diffraction techniques 4-45120
 deformation quantification using electron channelling 4-35808
 diamond, band struct. and electron band populations in case of axial channelling 4-25211
 diamond (001), electron radiation 4-11209
 dielectrics, cryst. and amorphous, radiation damage 4-20235
 electron channelling, soliton type potential 4-24884
 electron spectroscopy, electron channelling and rapid electron-material interactions (*French*) 4-50392
 energy loss and channelling phenomena for GeV particles 4-2242
 impurity atom location, modified continuum model for evaluation of channelling expts. 4-45224
 ion axial channelling, electron loss mechanisms 4-20278
 ion beam anal., conf., Tempe, AZ, USA (May 1983) 4-42579
 ion beam analysis of near surface regions 4-41297
 lattice steering, dechannelling length, explicit expression 4-45233
 light channelling in thick phase diffr. grating 4-10417
 metal-Si₃N₄-SiO₂/Si, MNOS structures, ionised and neutral Ar atom beam milling, damage effects study 4-45217
 nonequilibrium statistical theory, kinetic coeffs. and parameters of quasiequilib. distrib. 4-24883
 orthoclase feldspar, Al-Si ordering, electron-induced X-ray emission study 4-20144
 planar channelling in bent single cryst., charged particle deflections 4-54560
 position-sensitive detectors, ion implanted, channelling effect in dead layer 4-48872
 sapphire, ballistic phonon imaging, bulk focusing and crit. cone channelling effects 4-45481
 secondary electron image contrast, electron channelling effect 4-20061
 self-polarization and spin precession of channelled particles 4-29498
 semiconductor characterisation, SEM developments 4-24698
 statistical averaging of the Green's function of channelled particles 4-20277
 strained-layer superlattices, reson. effect between planar-channelled particle wavelength and layer period 4-29495
 surface channelling of swift light ions, measurements and simulation 4-34553
 surface science, use of channelling or ion scattering 4-2240
 thick crystals, electron channelling radiation spectrum 4-11210
 transport coeff. in channelling theory 4-55896
 CaSO₄, anhydrite, electron channelling effects, low energy limit 4-6416
 Co single crystal, self-sputtering, weight loss anal. 4-7304
 Cu-In, dil., vacancy clustering detection, PAC and lattice location meas. 4-34522
 Fe-Pd surface alloy, ion channelling and TEM studies of epitaxial growth 4-45544
 GaAs (100), disorder dechannelling anal. 4-45142
 GaAs, laser-induced surface damage, channelling study 4-40576
 GaAs, proton and electron irradi., proton annihilation and damage profiles 4-40562
 GaAs:Cr, semi-insulating, Cr lattice location by ion channelling and X-ray emission 4-39328
 GaAs:Cr, Si, ion implanted, annealing of amorphous layers 4-39325
 GaAs:S(Si), ion implantation, use of RBS and PIXE for site determ. 4-45147
 GaAsP, form. by ion implantation and annealing, Schottky contact study 4-50317
 GaAs_{1-x}P_x-GaP, MOCVD grown, strained-layer superlattice structures, planar channelling studies 4-45223
 GaP, pulsed laser-induced surface damage, Rutherford backscatt. channelling study 4-20239
 GaSb ingots, Bridgman growth, texture, cryst. orientation, grain boundaries, SEM, chem. etching, electron channelling 4-29364
 GaSb-AlSb superlattice interface and lattice strain measurement by ion channelling 4-2420
 InGaAs/GaAs strained layer superlattices, ion channelling studies 4-20271
 InGaAs/GaAs strained layer superlattices, strain meas. by channelling angular scans 4-20272
 In_{0.5}Ga_{0.5}As-GaAs, strained-layer superlattices, axial channelling and He ion backscattering studies 4-45220
 InP, disorder production and annealing during He RBS/channelling anal. 4-11197
 InSb, radiation damage by α -particle bombardment 4-45201
 LiF, channelling radiation from relativistic electrons 4-29496
 α -Li₂O, channelling of 1.0 MeV protons, backscattering spectra (*Chinese*) 4-29493
 LiNbO₃, ⁴He⁺ implantation damage depths, proton channelling studies 4-50325
 LiNbO₃, channelling of 1.0 MeV protons, backscattering spectra (*Chinese*) 4-29493
 Mg, implanted heavy ions, lattice location studies by Rutherford backscatt. channelling 4-55849
 Mo-Co, proton irradi., defect-impurity complexes, channelling obs. 4-29490
 NaCl surface, Cu coated, electron channelling, average penetration depth 4-50390
 NbC_{1-x}, ion channelling, local at. displacements around C vacancies 4-20275
 Ni (110), clean and with adsorbed O, surface anal. by AES induced by surface channelled ions 4-30588
 Ni:Au, vacancy-solute complex creation and annihilation during irradi. 4-45124
 Ni:In, vacancy-solute complex creation and annihilation during irradi. 4-45124
 PbSe/SnTe epitaxial bicrystals, vacuum deposited, interfacial order, He⁺ channelling study 4-25169
 Si (100), (2 \times 1) reconstructed, ion beam scatt. study 4-7298
 Si (111)-(2 \times 1) surface, struct. study 4-6631
 Si, alpha-particle channelling stopping power, position depend. 4-55894
 Si, amorphous films, epitaxial recryst. on sapphire, ⁴He⁺ backscatt./channelling studies 4-25185

channelling continued

- Si, band struct. and electron band populations in case of axial channelling 4-25211
 Si bent crystal, radiation induced defects, on channelling study 4-45202
 Si, energy loss and channelling phenomena for GeV particles 4-2242
 Si, impurity trapping, influence of fast solidification 4-15647
 Si, ionised and neutral Ar atom beam milling, damage effects study 4-45217
 Si on ZrO₂, epitaxial low-mass film on high-mass substrate, Rutherford backscattering and channelling anal. 4-45221
 Si, proton and electron irradi., proton annihilation and damage profiles 4-40562
 Si, resonance dechannelling of protons 4-45234
 Si, resonance dechannelling of H⁺ and He⁺, ionic charge meas. 4-45235
 Si, thermally nitrated, struct., channelling anal. 4-45464
 Si:Al film on sapphire, recrystallised, electrically active impurity neutralisation 4-50964
 Si:As, implanted, struct. modification during annealing 4-50328
 Si:As (B), ion implanted, pulsed electron beam annealing 4-15536
 Si:B, low energy B ion implantation, planar and axial channelling effects 4-50314
 Si:B (BF₃), cryst. and amorphous, carrier and implant profiles 4-29459
 Si:H(He), microstruct. study by Rutherford backscatt., TEM and SEM 4-24839
 Si:B, ion implanted, dopant conc., electron and ion channelling studies 4-50332
 Si-SiO₂ structure formed by 200 keV O ion implantation, O depth distrib. 4-45167
 Sm₂(CoFeMn)₁₇, site occupancy of Fe and Mn, electron channelling, blocking obs. 4-55789
 Ta, displacement field determ. of H(D) by fast ion channelling and Rutherford backscattering 4-45222
 TaH_{0.8}, lattice location of H by channelling method using nucl. reaction anal. 4-6391
 Te self-implantation damage, channelling anal. 4-45156
 V, channelling studies of D, defect interactions 4-50387
 V₃Ga Al₅ crystals, growth from ion-implanted supersaturated Ga-V solid solns., channelling studies 4-39323
 W surface, (100) and (110), scatt. of fast protons incident at grazing angles 4-51443
- channelling radiation**
 dechannelling, orientation depend., using Rutherford backscattering and charact. X-ray yields 4-15561
 diamond, type-Ia and IIa, relativistic positron and electron channelling radiation, platelet effects 4-34554
 diamond (001), electron radiation 4-11209
 diamond crystal, ultrarelativistic electron-induced radiation study, oriented depend. 4-2989
 electron and positron channelling radiation, characts., appls., classical and quantal descriptions 4-34559
 electron channelling, soliton type potential 4-24884
 electrons, 350 MeV, channelling radiation in Si crystal 4-11207
 electrons, MeV, axial channelling radiation in high-Z materials 4-2243
 electrons in crystals, induced and spontaneous transitions 4-35511
 energy and angle dependent cross section for channelling radiation in nearly-free electron approx. 4-34556
 relativistic charge particles in naturally occurring hollow channels, stimulated X- and gamma-ray emission 4-50391
 relativistic electron electron radiation in low freq. region in crystal 4-2239
 relativistic electrons and positrons channelling in single crystal, emission spectra 4-2246
 relativistic particle channelling in single crystal, drift chamber for radiation studies 4-961
 thick crystals, electron channelling radiation spectrum 4-11210
 Al₂O₃-SiO₂ zeolites, positron channelling, X-ray and γ -ray stimulated threshold free emission 4-24886
 GaAs, ion implantation induced displacement of Ga and As 4-39315
 La, spectra of short-wavelength edge of bremsstrahlung generated by electrons 4-2245
 LiF, channelling radiation from relativistic electrons 4-29496
 Mo, axial channelling radiation from 5 MeV electrons 4-2243
 Ni, electrons incoherent scatt. and linewidth of planar channelling radiation 4-2241
 PbSnTe-piezoelec. ceramic interface, channelled acoustic wave propag. vel. meas. in polydomain ferroelec. 4-2421
- channels, cable** *see electric conduits*
chaos *see random processes*
characteristic temperature *see Debye temperature*
characteristics measurement
see also headings for specific characteristics, e.g. gain measurement; viscosity measurement
 capacitance-voltage characts. obs. of MIS structures, at IR freq. automated system 4-42981
 Large Coil Task and high field cluster test program, Japanese progress 4-14173
 light source spectral characts. meas. using set of filters 4-33726
 semiconductor lasers, microwave performance, freq. response characts. meas. technique 4-44106
 n-GaAs, thickness determ. by metal-semiconductor characts. meas. 4-42918
 SiO₂ trapped charge distrib. by C-V anal. in polycrystalline Si-SiO₂-Si capacitors 4-50925
- charcoal**
see also carbon
 biomass pyrolysis unit design and operation 4-21520
 thin adsorbents, residual adsorp. capacity prediction 4-31020
- charge (electric)** *see electric charge*
charge compensation
see also crystallography
 alkali metal halides, dislocation damping, temp., freq. and charge depend. 4-24828
 quartz, interstitial ions, charge compensating, thermal and radiation induced mobilities 4-20418
 β -Al₂O₃-Gd₂O₃, ionic distribution, X-ray study 4-39270
 β -Al₂O₃-Na₂O-Ag₂O, X-irrad., Ag⁺ ESR study 4-40222
 InP, doped and undoped VPE, optical characterisation of acceptors 4-35477
 InP, electron irradi. defects, elec. and optical investigations 4-34902

charge compensation continued

InP:Si(Si), compensating aspects of implantation damage 4-34510
 KBr(Cr)(I):Ge²⁺(Sn²⁺)(Pb²⁺), impurity-cation vacancy interactions, luminesc. study 4-11934
 ZnSe:Ga, defect levels, photocapacitance study 4-29920

charge-coupled device arrays *see charge-coupled device circuits***charge-coupled device circuits**

astronomical CCDs, origin and props. of ghost images 4-47540
 astronomical spectroscopy in red and near IR, CCD appl. 4-17407
 CCD camera at Kitt Peak National Observatory, computer control system 4-36587
 electronic still camera [with CCD imager] with CCD imager 4-4491
 moire topography using CCD TV camera 4-42913
 sensor for two-dimens. optical meas. of ocean wave slope 4-17266
 simultaneous detection of spatially separated signals, spectroscopy appl. 4-13677
 spectral time meas., appl. of CCD for optical image recording 4-10454
 surface roughness meas. using CCD image sensor 4-32228
 zero suppressing cct. for digitisation of analogue pulses over long memory times 4-34566
 GaAs electroabsorptive CCD spatial light modulator, Fourier transform. appls. 4-24155
 HgCdTe CCD sensors technology developments and performance (Czech) 4-48205
 HgCdTe frontside- or backside-illum. detectors, new struct. for IR CCD focal plane arrays 4-48201
 Si liquid crystal light valves, status and issues 4-24159

charge-coupled devices

see also charge-coupled device circuits

GEC MA328, charge diffusion effects for X-ray detection 4-17398
 metering unit for optical elements near field determination, linear sensor appl. (German) 4-14815
 optical detectors for spectroscopy, review 4-36586
 X-ray detectors, charge diffusion effects 4-17397

charge density waves

anisotropic materials, superconductivity and CDW state 4-50976
 classical CDW model above threshold, harmonic mixing 4-20636
 conduction noise, vortex-array model 4-40000
 electron system, quasi-one-dimens., fluctuations competition 4-15993
 electron-electron and electron-lattice interactions, four-site four-electron model 4-29856
 ferromagnetism, SDW, and CDW, coexistence 4-25507
 graphite anomalous magnetoresist. at high mag. fields, CDW transition 4-25323
 half-filled band, Peierls dimerisation, electron-electron interaction effects 4-45638
 impurity pinned CDW dynamics, diagrammatic anal. 4-34892
 incommensurate CDW pinned by impurities, current oscils. 4-6768
 incommensurate CDW superconductor, collective modes 4-2529
 incommensurate chain, CDW sliding dynamics 4-25327
 interacting one-dimensional fermion system, $1-e$ expansion Peierls divergence 4-45756
 localisation length, matrix continued-fraction calcs. 4-25229
 metals, anisotropic, supercond. transition temp. and CDW interactions (Russian) 4-45905
 metastable ohmic cond., characteristic field 4-2575
 nonlinear cond. with strong impurity pinning 4-29909
 one-dimensional Fermi gas, correl. functions, low temp. asymptotic behaviour 4-20580
 one-dimensional N-sites N-electrons system, extended Peierls-Hubbard model, optical and mag. excitations 4-45653
 one-dimensional N-sites N-electrons system, extended Peierls-Hubbard model, lattice relax. 4-45654
 one-dimensional N-sites N-electrons systems, extended Peierls-Hubbard model 4-25227
 Peierls model with disorder, exact soln. 4-25230
 phase-kink soliton in weak elec. field, excitation energy 4-45656
 pinned, nonlinear cond. and noise spectrum 4-20639
 polar ferromagnet, coexistence of charge and mag. ordering 4-46046
 polyacetylene, solitons and polarons, molecular geometry 4-25250
 polyacetylene and itinerant Peierls systems, theory of electronic structures and lattice distortions 4-56240
 quantized Hall effect due to charge density waves 4-39866
 quasi-1D conductors, CDW ordering and impurity effects 4-15868
 quasi-one-dimensional conductors, effect of one-dimensional quantum fluctuations 4-2592
 sliding charge density waves, AC props. 4-34960
 sliding charge density waves, DC props. and electrostatic interactions 4-34959
 sliding conductivity from Ginzburg-Landau eqn., sliding soliton lattice model 4-29952
 solids, phase excitations, X-ray diffr. 4-44886
 space-charge wave, periodic noise generation 4-29912
 superconductor, soft phonons and Raman scatt. (Chinese) 4-50981
 superionic conductors, charge density waves, microscopic model 4-25267
 switching phenomenon, CDW conduction, theory of onset 4-39884
 TCNQ salt, TMTSF-DMTCNQ, irradi., ESR, X-ray diffuse scatt. obs. 4-2593
 (TMTSF)₂H₂F₃, anomalous phase transition, DC cond., thermopower, spin susceptibility, X-ray diffuse scatt. meas. 4-2594
 (TMTSF)₂X family, quasi-one-dimens. conductors, long-range Coulomb interactions, bosonisation method 4-29951
 transition metal dichalcogenides, Raman scatt. and IR spectra in CDW state, microscopic theory 4-46263
 TTF-TCNQ, far-IR spectra and elec. cond. 4-25759
 TTF-TCNQ, irradi., ESR, X-ray diffuse scatt. obs. 4-2593
 two-dimensional CDW state in strong mag. field, density functional theory 4-6719
 Ag₂TaS₂ (2H), elec. resist. meas., CDW anomaly, temp. depend. 4-6756
 Al, locally averaged Compton profile 4-11959
 Au₂₁Cu₃₀Zn₄₇, lattice dynamics above martensitic transformation, neutron scatt. study 4-50449
 Fe₂Nb₂Se₅, thermoelec. power and elec. resist. 4-56324
 In microbridges, resistive state and charge imbalance waves 4-45936
 K, energy spectrum of incommensurate CDW, energy gaps 4-56200
 K_{0.3}MoO₃, transient elec. response 4-25421
 K_{0.30}MoO₃, CDW superlattice, electron beam effects 4-55878
 K₂Mo₂O₁₁, quasi-2D metal, CDW instabilities and elec. props. 4-25325
 Na, energy spectrum of incommensurate CDW, energy gaps 4-56200

charge density waves continued

NbS₂, single molecular layer suspensions, H₂(H₂O) intercalated, X-ray and electron microscopy studies 4-55808
 NbSe₂ (2H), CDW superlattice, electron diffr. study 4-45346
 NbSe₂, collective modes and supercond. rel. to Raman scatt. results 4-2529
 NbSe₃, charge density wave study 4-45657
 NbSe₃, NQR study of 145K charge density wave transition 4-30353
 NbSe₃, phase coherence in current carrying CDW state 4-39882
 NbSe₃, vol. depend. of current oscils., finite-size effect 4-25326
 NbSe₃/Fe, transient nonlinear conduction and switching due to CDWs 4-25328
 (NbSe₄)₂l, one-dimensional cond. and phase transitions 4-39885
 (NbSe₄)₂l₃₃₁, cryst. struct., X-ray diffr. obs., CDW instability 4-55804
 NbSe₂(2H), layered, CDW, effects of defects 4-56330
 (Nb_{1-x}Ta_x)Te₄, charge density waves of variable incommensurability 4-39798
 Ni complex, tetrathiosquarato nickel (II) polymer, electronic struct., symm. breaking due to interchain interactions 4-34854
 TaS₂ (1T), CDW induced energy gap, tunnelling meas. 4-56252
 TaS₂ (1T), CDW struct., X-ray study 4-45320
 TaS₂ (1T), elastic anomalies, nearly commensurate-commensurate CDW phase transition 4-56250
 TaS₂ (4Hb), CDW excitations, soft modes, Raman spectra study 4-56248
 TaS₂, single molecular layer suspensions, H₂(H₂O) intercalated, X-ray and electron microscopy studies 4-55808
 TaS₂/Hf(W) (1T), commensurate CDWs, effects of doping, elec. resist. meas. 4-56328
 TaS₂-IT, far IR studies for commensurate CDW 4-40455
 TaS₂, CDW conductor, origin of quasi-periodic current noise 4-6848
 TaS₂, charge density wave coherence and metal-insulator transition 4-11441
 TaS₂, electron irradi. effects, charge density wave pinning, dielectric and cond. props. 4-39887
 TaS₂, electron irradi. induced defects, CDW pinning 4-56326
 TaS₂, evidence for tunnelling of CDWs, elec. props. meas. 4-2596
 TaS₂, nearly commensurate CDW, AC conduction 4-29955
 TaS₂, one-dimensional, CDW transport, thermoelec. aspects 4-34957
 TaS₂, one-dimensional, electron irradi., CDW transport, noise spectrum 4-34956
 TaS₂, orthorhombic, bolometric spectrum and thermal hysteresis in resist. meas. 4-29956
 TaS₂, orthorhombic, effect of CDW gap on Raman spectra 4-40458
 TaS₂, orthorhombic, local distortion of pinned CDW, rel. to metastable ohmic cond. 4-2597
 TaS₂, orthorhombic, spontaneous decay of metastable CDW states 4-29953
 TaS₂ quasi-1D cryst., elec. cond. and dielec. const., freq. depend. 4-45755
 TaS₂, strandlike domains in charge density wave states 4-11463
 TaS₂/Nb, pure and doped, sliding CDW cond., dielec. const. and threshold field 4-56327
 TaS₂(2H), layered, CDW, effects of defects 4-56330
 TaSe₂ (1T), CDW induced energy gap, tunnelling meas. 4-56252
 TaSe₂ (2H), CDW state, nucleation processes 4-15830
 TaSe₂ (2H), discommensuration arrays, dark field imaging and convergent beam electron diffr. obs. 4-11310
 TaSe₂-2H, CCDW state, phasing onto lattice and crossover in DC arrays 4-29913
 TaSe₂-2H and 1T, charge density wave amplitudes 4-39796
 (TaSe₄)₂l, current oscils. and CDW velocity, size depend. 4-2601
 (TaSe₄)₂l, one-dimensional cond. and phase transitions 4-39885
 Ti dichalcogenides, thermal expansion, US velocity and attenuation meas. 4-20383
 Ti_{1-x}Hf_xSe₂, plasmon and interband transitions, IR thermorefectance meas. 4-56256
 Ti₅₈Ni₃₇Al₅, diffuse electron scatt. from incommensurate phase 4-20369
 TiSe₂ 1T polytype, CDW state, electron-lattice interaction 4-56216
 TiSe₂, stress-induced resistivity anisotropy 4-2591
 TI overlayers, quasi-one-dimensional, CDW study 4-56246
 VSe₂, NMR study of charge density wave state 4-2836
 VSe₂(1T), layered, CDW, effects of defects 4-56330
 ZrTe₃, transport and elastic anomalies, CDW transitions 4-55906

charge exchange

for charge exchange in particle and nuclear physics see elementary particle interactions and nuclear reactions and scattering
see also charge transfer states; ionisation
 air+Ar⁺(Sb⁺)(As⁺)(P⁺)(N₂⁺)(N⁺)(O⁺)(O₂⁺)(Ge⁺)(Cr⁺)(Fe⁺)(Cl⁺), charge transfer cross section meas. 4-49157
 alkali atom+alkali ion collisions, selective valence electron transfer 4-23806
 alkali atom+nitromethane, electron transfer collisions, harpoon model 4-10063
 alloys, binary liquid, atomic and electronic struct.; self-consistent theory 4-44925
 alloys, nearly-free-electron type, screening charge transfer and pseudoatom size 4-34845
 ambient gas, mutual neutralisation rate enhancement 4-1258
 aromatic azines, substituted, charge transfer complexes with tetracyanoethylene and 1,4-benzoquinones 4-7715
 asymptotic theory for relativistic velocities and binding energy 4-1265
 atom+ion, ionizing collisions, electron loss to continuum cusps, linewidths 4-10023
 atom+ion collisions, resonant charge transfer cross sections determ. by drift tube techniques 4-38322
 atom-ion collisions, charge exchange, ionisation, variational continuum distorted waves 4-14533
 atom-ion collisions, simultaneous charge transfer and excitation 4-54851
 atom-ion collisions charge transfer and simultaneous excitation for RTE 4-9998
 atomic collisions, charge transfer in the presence of a magnetic field 4-14567
 9,9-bianthryl and its derivatives, dual fluoresc. in polar solvents, excited states, broken symmetry 4-28483
 fac-ClRe(CO)₃(2,2'-bipyridine), photoexcited, excited state electron transfer, transient Raman obs. 4-28443
 collisional electron transfer into the continuum of ionic projectiles 4-43972

charge exchange continued

collisionally induced electronic transitions, continuum channels representation 4-10046
 complex systems, H and H^+ transfer, reaction probability curve, threshold region, analytical formulae 4-7698
 continuous energy state model for charge transfer in multiply charged ions impact on atoms 4-19240
 continuum distorted wave approx., classical deflection function appls. 4-10045
 coronene, adsorbed on $\gamma\text{-Al}_2\text{O}_3$, room temp. phosphoresc. and delayed charge transfer fluoresc. 4-28502
 crown ethers, charge transfer complexes with organic π -acceptor, 2-dicyanoethylene 1,3-indane dione 4-46761
 cyanide adsorbed on Ag, surface Raman enhancement, charge transfer excitation role 4-51270
 N-(p-cyano-phenyl)-carbazole, twisted intramol. charge transfer fluoresc. quenching by external heavy at. perturber (*German*) 4-38226
 cyanopropyl cations, effect of separation of charge centre and cyano group 4-43784
 d^7 ions in strong field situations g shift, charge transfer contrib. 4-15861
 Diels-Alder and cycloaddition reactions, acid catalysis, MINDO calcs. 4-46788
 differential cross sections in ion-neutral charge exchange collisions 4-19229
 diphenyl ketyl radical, ground and excited states, reactivity study, time resolved spectra 4-35869
 diphenylcarbene, excited triplet, reaction with electron donors, charge transfer reaction, picosecond laser studies 4-21429
 diphenylpolyenes, excited state interactions and photoprocesses 4-9812
 doubly differential cross-section determ. using time-of-flight and focusing analysers 4-27626
 electrodes, electrochem. and photochem. processes, Mirage effect studies 4-41225
 electronic and atomic collisions, conf., Berlin, Germany, (July-Aug. 1983) 4-15
 ethane ions, charge stripping, vertical ionisation energies determ. 4-16630
 ferrocenes, charge distrib. and bond orders derived using struct. reson. valence bond theory 4-14336
 ferrocenylalkyl cations, charge distrib. and bond orders derived using struct. reson. valence bond theory 4-14336
 gases, effective charges from stopping powers of heavy ions 4-19916
 graphite intercalated with K and furan, tetrahydrofuran or NH_3 , Raman scatt. study 4-46272
 graphite intercalation compounds, intralayer screening, self-consistent effective-mass theory 4-45587
 graphite intercalation cpds., stage order, disorder, and phase transitions 4-34636
 graphite- AsF_6^- intercalation cpd., charge transfer and density of states 4-39749
 graphite-Ba intercalation cpd., C_6Ba , electronic struct., XPS and UPS studies 4-39755
 graphite-Cs intercalation cpd., CsC_8 and CsC_{24} , charge transfer and Auger spectra 4-40583
 heavy particle collisions, intermediate energies, distorted wave calcs. 4-38283
 highly charged ion+atom collisions, low energy autoionis. electron emission, spectra 4-10026
 hydrogenic Rydberg atoms+ H^+ , ion scatt., classical-trajectory Monte Carlo calcs. 4-11622
 inert gas atom+ion charge transfer cross-sections 4-54857
 inert gas atoms+ H^+ (He^+), multiple ionisation cross sections meas. 4-23803
 inert gas atoms+ $H(H^+)(H^-)$, charge transfer cross section, expt. data compilation 4-42621
 inner shell vacancy transfer studied with highly ionized, decelerated heavy ions 4-19226
 ion+atom collisions, charge changing cross section, effective charge 4-5342
 ion-ion collision, resonant two-electron charge exchange (*Russian*) 4-54860
 ion-ion collisions, charge transfer and ionisation processes 4-37
 ion-molecule charge transfer studied by optically detected EPR spectra 4-51965
 ion-surface charge exchange, short-wavelength photon emission 4-49145
 ionisation and charge transfer, final state interactions, Faddeev-Merkuriev eqns. calcs. 4-10025
 light atom+heavy highly stripped ion, δ -electron emission in strong projected field 4-9947
 metal chlorides, X-ray photoelectron spectra, charge transfer satellites 4-7307
 metal sulphides, X-ray photoelectron spectra, charge transfer satellites 4-7307
 metal surface, atom scatt., resonant charge exchange, surface ionisation 4-11985
 metal surface, inelastic ion and atom collisions, charge transfer 4-11981
 metal-adsorbate systems, surface enhanced Raman scatt., ground state charge transfer mechanism 4-56941
 metals, work functions, overlapping spherical atomic charge density approx. 4-56413
 methane, X-ray scatt., charge transfer model 4-9790
 methanol-methyl cyanide (methyl isocyanide) (H_2O) (methanol) (methyl fluoride), ab initio MO calcs. 4-43783
 methyl halides + $\text{Cl}^-(\text{Br}^-)(\text{I}^-)$, electron detachment, charge transfer, elastic and inelastic scatt. cross sections 4-41187
 methyl viologen and anionic solutes, ion pair complexes, luminesc. props., application to polar energy storage 4-40492
 N-methyl-4-cyanopyridinium ion+aniline, charge transfer interaction, electron absorpt. interaction 4-7716
 molecule, structure and charge distrib., electro-optical parameters used for interpretation vibr. intensities 4-54667
 multicharged ion+neutral atom, charge stripping cross-sections calcs. 4-9946
 multicharged ions, excitation transfer in charge-transfer reactions 4-28553
 muons in gases, charge exchange, kinetic equations 4-19224
 N-(1-naphthyl)-carbazole, twisted intramol. charge transfer fluoresc. quenching by external heavy at. perturber (*German*) 4-38226
 neutral particle scatt. angle determ. using time of flight energy analyser 4-27625
 nonadiabatic electron transfer in polar medium, elemental theory 4-43978

charge exchange continued

nylon, with pendant viologen groups, synthesis, electron transfer catalyst appls. 4-35899
 organic molecules, small and medium sized, one-electron props., SCF ab initio calcs. 4-43778
 orientation and spin exchange in electron-atom collisions 4-43990
 oxide and passive layers on electrodes, model for electron transfer reactions 4-56466
 plastocyanin+ FeCN_6 , electron exchange kinetics 4-41189
 polarization diffusion effects on reaction rates in polar solvents 4-12332
 polyacetylene derivatives, doped, thermoelectric power, temp. depend. (*Korean*) 4-39881
 polyenes, ion-radical organic solids, electronic struct. 4-14334
 polymethine cyanine+p-benzoquinone (p-dinitrobenzene)(methylviologen), electron transfer, fluoresc. meas. 4-30934
 propane, protonated, ionization energies of ions formed by ion/molecule reactions 4-35874
 propane ion, struct. and reactions study 4-49176
 pyridine adsorbed on Ag, surface Raman enhancement, charge transfer excitation role 4-51270
 radiation-produced cationic intermediates, selective bleaching, photon energy depend. 4-57586
 rare earth alloys, RNi, hydrogen storage material, poisoning by CO , O_2 and H_2O , XPS and UPS studies (*Chinese*) 4-52218
 rare earth amorphous alloy film, R-Fe, mag. props. and hydrogenation 4-56717
 rate coeff. calc. from time-depend. wave packet methods 4-35880
 Rydberg states decay in highly charged ion field, electron transfer cross section determ. 4-28388
 second row ion collisions, charge state distrib., inner- and outer-shell contribs. separation 4-5347
 second-order continuum distorted-wave theory of charge transfer at high energy 4-54850
 semiconductor surface space charge layer, band degeneracy and nonparabolicity effects 4-15933
 slow charge exchange reactions, semiclassical studies 4-19241
 solution-phase chemistry, solvent dynamics and electron transfer, continuum theory 4-3395
 spin-polarised radicals, electron exchange reactions, time-resolved CIDEP 4-54762
 sulfimine charge transfer complexes, N 1s spectra, energy separation of satellite peaks 4-30486
 surface reaction dynamics 4-57597
 symmetric resonant charge transfer, impact parameter method, at. two-state expansion 4-54854
 symmetry selection rules for chem. reactions, rovibronic states 4-12362
 tetracyanobenzene-benzene complex, triplet energy transfer to benzophenone 4-28389
 thiophenes, substituted, charge transfer and UV photoelectron spectra 4-54855
 Thomas peak, CDW calcs. 4-10045
 time-of-flight energy analyser for charge exchange processes investig. 4-27624
 transfer ionization and Coulomb ionization in collisions of multiply charged ions with atoms 4-19245
 transition metal alloys, ordering and segregation, electronic theory anal. 4-45344
 transition metal dichalcogenides, intercalated, struct. elec. and mag. interactions 4-11070
 transition metal-Si(Ge) alloys, heat of form., rigid band model anal. 4-11320
 trialkyltiniodides complexes with I in CCl_4 solns., UV spectra 4-12359
 3-tricyanovinyl-N-methylpyrrole, cryst. and mol. structures, mol. charge transfer 4-34472
 triphenylamine cation radicals, substituted, electron exchange with neutral mol., kinetics 4-49156
 variational principle for arbitrary energies 4-10044
 AgN_3 , light stimulated charge carrier transfer, photocurrent and dark current studies 4-35024
 $\text{Ar}^+:\text{Ar}(\text{N}_2)(\text{O}_2)(\text{CO})(\text{CO}_2)(\text{methane})(\text{ethane})$, single and double electron transfer reactions, time of flight meas. 4-3397
 $\text{Ar}+\text{Ar}^+$ doubly differential cross-section determ. using time of flight energy analyser 4-27625
 $\text{Ar}+\text{Ar}^{3+}(\text{Ar}^{4+})$, L-MM Auger spectra 4-9950
 $\text{Ar}+\text{As}^+(P^+)(\text{Sb}^+)(\text{In}^+)$, charge transfer cross section meas. 4-49157
 $\text{Ar}+\text{H}^+(\text{He}^+)$, multiple ionis. by charge transfer and direct ionis. 4-10032
 $\text{Ar}+\text{N}_2^+$, charge exchange, ab initio calcs. 4-10066
 $\text{Ar}+\text{N}_2^+:\text{Ar}+\text{N}_2$, state selected reaction threshold photoelectron-photoion coincidence obs. 4-10069
 $\text{Ar}+\text{NO}^+(\text{O}_2^+)=\text{Ar}^++\text{NO}(\text{O}_2)$, charge transfer, vibronic and FS state reactions 4-10067
 $\text{Ar}+\text{S}^{3+}$ collisions, K-K charge transfer interference struct., impact param. depend. 4-19244
 $\text{Ar}^++\text{Ar}(\text{N}_2)$ electron transfer reactions, low energy, mol. dynamics calcs. 4-10065
 $\text{Ar}^++\text{H}_2(\text{N}_2)(\text{O}_2)$, charge transfer reaction, 10 eV region 4-10064
 Ar^++N_2 , charge exchange, ab initio calcs. 4-10066
 Ar^++N_2 , charge transfer reaction at low and intermediate energies, crossed beam study 4-57542
 Ar^++N_2 , charge transfer reaction below 0.1 eV 4-10068
 $\text{Ar}^++\text{H}_2(\text{He})(\text{CH}_4)(\text{Ar})(\text{CO}_2)(\text{Xe})$, charge stripping, collision gas press. depend. 4-33521
 $\text{Ar}^{3+}+\text{He}(\text{Ne})(\text{H}_2)$, Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 $\text{Ar}^{6+}+\text{He}(\text{Ne})(\text{H}_2)$, Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 $\text{Ar}^{3+}+\text{H}$, electron capture, electronic state population 4-14552
 $\text{As}_2\text{S}_3(\text{Se}_3)(\text{Te}_3)$, chemical bonding and heat of formation 4-24733
 $\text{Be}^{4+}+\text{H}$, charge transfer collisions with translation factors 4-14564
 Bi-BiBr₃ liquid mixtures, nonmetal-metal transition and elec. cond. under press. 4-45636
 Br^++O_2 , reactions at room temp., state depend. reactivity from 0.04 to 5 eV collision energy 4-46759
 C foil, atom (ion)(molecule) impact, excited atom emission, population investig. 4-43831
 C target, solid and gaseous, charge-changing cross section by hydrogenic ions impact 4-43962
 $\text{C}^{4+}+\text{He}(\text{H}_2)$, charge exchange, multiple scatt. theory appl. 4-14543
 $\text{C}^{4+}+\text{He}(\text{Ar})(\text{H}_2)(\text{N}_2)$, electron capture cross sections 4-14537

charge exchange continued

- $C_2H_2^+$, ionization energies of ions formed by ion/molecule reactions 4-35874
 $C_2H_2^{2+}$ ions, correl. between fragmentation reactions and structure 4-16631
 CH_3O^+ , ionization energies of ions formed by ion/molecule reactions 4-35874
 CN^+ ion + molecule reactions, kinetics, selected ion flow tube obs. 4-46750
 $CO^{2+} + Ar(N_2)(H_2)$, dissociation, charge exchange, predissociation 4-38341
 CO^{2+} , double electron transfer reactions time-of-flight meas. 4-5343
 $^{12}C^{6+} + Ar$ charge changing collisions study using recoil ions 4-14568
 $Cr(100)$, Br_2 chemisorption, cpd. form. and corrosion 4-29804
 $Cs + iodomethane$, electron transfer, differential cross-sections, ionic exit channel selection 4-10074
 Cu adsorbed layer on $Ni(100)$, electronic struct. and magnetism, self consistent calc. 4-56407
 Cu complexes, Schiff bases with ONO donor tridentate dibasic ligands (I), IR spectra, mag. meas. 4-46014
 Cu , polycrystal, Ar ion double scatt. effect, computer calc. 4-12001
 $Cu-Cs$ plasma, recombining, population inversion, visible region transitions 4-10827
 D , atomic beams polarisation by collisional pumping 4-38314
 $D + inert$ gas atom, detachment collision, electrostatic vs. dynamical coupling 4-10027
 $D_2^+ + Ar(H_2)$, collisional dissociation and charge exchange cross sections 4-12356
 D_3 , beam form., visible spectra, radiative lifetimes and charge exchange 4-49041
 D_2H , beam form., visible spectra, radiative lifetimes and charge exchange 4-49041
 Fe complex, $Fe(bpy)_3^{3+}$, reduction rate at SnO_2 /propylene carbonate interface 4-46791
 Fe ions passing through Be , C , Al and Cu foils, equilib. charge state distrib., microscopic anal. 4-19194
 $Fe^{6+} + He(Ar)(Ne)(N_2)$, total charge transfer cross sections 4-33525
 $Fe^{4+} + inert$ gases ($q=12$ to 21), coincidence meas. of recoil-ion charge-state spectra prod. by ionisation and charge transfer at 1.4 MeV/u 4-9977
 $FeOCl$, intercalated α -picoline, charge transfer effects, Mossbauer study 4-40313
 ^{57}Fe -implanted rare earth elements, isomer shifts of conversion electron Mossbauer spectra 4-30366
 $GeSe_2$, chemical bonding and heat of formation 4-24733
 H , atomic beams polarisation by collisional pumping 4-38314
 H muonic atom, muon transfer to He , charge exchange mechanism 4-33567
 H^+ heavy ion collisions, charge equilib. 4-19249
 H^+ scattering from polycrystalline cesiated W surface, H^- formation 4-7291
 H^+ transfer collisions, internal excitation effect 4-38323
 $H + Ar^{1+}(C^{9+})(O^{8+})$, electron capture, ionisation, crossed beam coincidence study 4-19177
 $H + B^{3+}(C^{6+})$, charge transfer cross sections 4-14531
 $H + C^{3+}$, charge transfer cross-sections, distorted wave calcs. 4-38283
 $H + H_2(N_2)(O_2)(H_2O)(C)(C$ cpds.), charge transfer cross-sections determ. 4-14527
 $H + H^+$, resonant charge exchange mechanisms 4-49155
 $H + H^+$ collision, electron transfer and excitation cross-section 4-38319
 $H + heavy$ ions, electron capture processes, cross sections 4-13491
 $H + ions$, charge exchange, quantum electrodynamic approach 4-14530
 $H + multicharged$ ion, charge transfer, exponential distorted-wave approx. calcs. 4-38318
 $H + multiply$ charged fully stripped ion, charge exchange, theoretical cross section data 4-47773
 $H + multiply$ charged fully stripped ion, charge exchange, theoretical cross section data 4-47774
 $H + Na(K)(Rb)$, charge exchange cross-sections meas., 0.2 to 5.0 keV 4-10036
 $H + O^{3+}$ thermal energy collision, charge transfer and fine struct. excitation 4-19216
 $H + CO_2$, shape reson. charge exchange, non-Franck-Condon behaviour 4-49148
 $H + CO_2$ collisions, charge exchange to shape resonances 4-9971
 $H + H_2^+$ charge exchange cross-sections, 20-2000 eV 4-10028
 $H + H_2(N_2)(O_2)(H_2O)(C)(C$ cpds.), charge transfer cross-sections determ. 4-14527
 $H + inert$ gas atom, detachment collision, electrostatic vs. dynamical coupling 4-10027
 $H + O_2(N_2)$, charge transfer electron detachment to shape reson. 4-28555
 $H + atom$ charge transfer, large scatt. angles, strong pot. Born approx. calcs. 4-10052
 $H + Cs(Rb)(K)(Na)$, charge exchange collisions, Lyman-alpha emission cross-sections 4-10035
 $H + H$, electron transfer and excitation, triple-centre basis calcs. 4-10055
 $H + H_2$, diabatic rearrangement, self-consistent eikonal treatment 4-57545
 $H + H_2(D_2)$, isotope effects, linear and circular-polarisation meas. 4-23804
 $H + H_2(N_2)(O_2)(H_2O)(C)(C$ cpds.), charge transfer cross-sections determ. 4-14527
 $H^+ + H^-$, charge transfer, generalised exponential-linear model 4-19218
 $H^+ + H^-$, neutralisation process, full CI calcs. 4-14529
 $H^+ + H(1s)$, charge exchange, high energy scatt. calcs. 4-10047
 $H^+ + H(1s)$, charge transfer, variational continuum distorted waves 4-14533
 $H^+ + He$, density matrix describing electron transfer determ. 4-19228
 $H^+ + He(Ar)$ $H(2P)$ excitation, charge-changing collisions, polarisation obs. 4-10030
 $H + K(Na)$, charge transfer to metastable $2S$ level of H 4-38321
 $H^+ + Kr(Xe)$, elastic scatt. and charge exchange at $E_{cm}=0.5-30$ eV 4-9879
 $H^+ + Li$, charge transfer collisions, mol. state calcs. 4-10061
 $H^+ + Li$, electron capture, two-centre AO expansions 4-54852
 $H^+ + Li$ charge transfer collisions, one-active-electron model 4-10058
 $H + N_2(H_2)$, excited state charge exchange reactions studied by microwave optical double reson. technique 4-51995
 $H + Na(K)(Rb)$, charge exchange cross-sections meas., 0.2 to 5.0 keV 4-10036

charge exchange continued

- $H_2 + K^+$ slow collision, H atom form. and excitation 4-12360
 $H_2 + O^+(N^+)$, low energy charge exchange, Lyman spectra 4-14555
 $H_2 + Ar(H_2)(Mg)(Na)(Cs)$, charge exchange, $c\Pi_u$ state population, predissociation 4-49144
 $H_2^+ + Ar(Mg)(Na)(Cs)$ dissociation, charge exchange obs., 1.5 to 6.5 keV 4-49143
 $H_2^+ + H_2$, electron transfer reactions, vibr. state and mol. orientation effects 4-41188
 $H_2^+ + H_2$, symmetric charge transfer reaction, state-selected investig. 4-28551
 $H_2^+ + H_2(Ar)(Mg)(Na)(Cs)$ dissociation, charge exchange, translational spectrosc. obs. 4-10071
 $H_2^+ + Mg$ (alkali atom), near reson. dissociation, charge exchange, keV energies 4-10072
 $HF + NH_3$, proton transfer reaction, hydration effect, quantum chemical approx. 4-21450
 $(H_2NHS_2)^+$, H^+ transfer along H-bonds, ab initio MO calc. 4-49146
 $(H_2OHS_2)^+$, H^+ transfer along H-bonds, ab initio MO calc. 4-49146
 $H(1s) + H(2s)$ collisions, ion pair production 4-9938
 He ion, MeV region, Zr oscill. of equilib. mean charge 4-19250
 $He + Ar^{2+}(Ne^{2+})(Kr^{2+})$, low energy electron capture cross sections 4-14550
 $He + Au^{13+}$, transfer ionisation and excitation, correl. two-electron effects 4-43977
 $He + CO(NO)$, excitation mechanisms, charge exchange 4-10018
 $He + H^+$, parity-unfavoured autoionising states, excitation cross-sections calcs. 4-9958
 $He + Ne^{9+}(Ar^{9+})(Kr^{9+})(Xe^{9+})$, electron capture and transfer ionisation cross section 4-49154
 $He + O^{2+}$, charge transfer cross-sections, distorted wave calcs. 4-38283
 $He^+ + CO(NO)$, excitation mechanisms, charge exchange 4-10018
 $He^+ + H(He^+)$ charge transfer and ionisation processes 4-10056
 $He^+ + He$, elastic scatt. and charge exchange at $E_{cm}=0.5-30$ eV 4-9879
 $He^+ + H_2$, charge exchange involving ion excitation, asymptotic theory, cross section calc. 4-33526
 He^+ -laser excited atoms, $He I$ 2^3P-3^1D intercombination satellite, kilometre path-length absorpt. meas. 4-14359
 $He^+ + Li$, charge exchange cross-sections calcs. 4-10060
 $He^+ + Ne$, $He(3^1P)$ prod., ang. correl. meas. 4-9999
 $He^+ + O_2 \rightarrow He + O + O^+$, dissociation, charge transfer, production ang. distrib. and energy spectra 4-10070
 $He^{2+} + H$, charge transfer cross section, mol. calcs. 4-14561
 $He^{2+} + H$ collisions in presence of a laser field, charge transfer cross section calc. 4-14566
 $He^{2+} + H(1s)$, excitation and ionisation cross sections calc. 4-14526
 $He^{2+} + H(1s)$, charge transfer cross sections, HeH^{2+} quasimolecule 4-10015
 $He^{2+} + Li$, single electron capture cross sections, AO expansion method 4-54853
 $He^{2+} + Si(111)$ surface charge exchange, short-wavelength photon emission 4-49145
 $He_2^+ + CO_2$, thermal energy charge transfer reaction, CO_2^+ emission 4-26178
 $He_2^+ + N_2$, kinetic modelling at high press. 4-35885
 $He_2^+ + N_2(CO)$, thermal energy charge-transfer reactions 4-21444
 $He^+ + Ne^+ \rightarrow Ne^+ + He^+(1^2S)$, charge transfer cross-sections meas. 4-10031
 Hg -based liq. alloys, thermodynamic and electronic props., higher order correlation effects 4-45709
 $Hg-Li$ dil., liq., thermolec. power minimum, elec. resist. meas. 4-34952
 $K + iodomethane$, electron transfer, differential cross-sections, ionic exit channel selection 4-10074
 $K^+ + Ne(Ar)(Kr)(Xe)$, ionisation and charge exchange cross-sections, 0.5 to 7.0 keV 4-10038
 Kr^{4+} ($q=1$ to 9), charge transfer cross sections on various gas targets 4-19246
 $Kr + Ar^{4+}$, Kr M-NN Auger spectra 4-9951
 $Kr + Kr^+$, charge transfer cross-section, 0.08 to 2 eV 4-10034
 $Kr^{18+} + inert$ gases, coincidence meas. of recoil-ion charge-state spectra prod. by ionisation and charge transfer at 1.4 MeV/u 4-9977
 $Kr^{4+} + Kr$, K-shell excitation by K-to-L-shell charge transfer 4-9994
 $Kr^{4+} + Ne(Ar)(Kr)$ collisions ($q=13, 25, 27$), multipole ionisation, projectile charge state effect 4-9978
 Li -like ions + H_2 , charge exchange and radiative decay 4-19254
 $Li-Si$ liquid alloys, 6Li spin-lattice relax. times, mag. field and temp. depend. 4-46138
 $Li-Sn$ liquid alloys, 6Li spin-lattice relax. times, mag. field and temp. depend. 4-46138
 $Li^+ + Ca$, charge transfer cross-sections, perturbed stationary state calcs. 4-10062
 $Li^+ + Li^+$ collisions, charge transfer and ionisation cross-sections 4-10039
 $Li^+ + Na$ charge transfer reactions, core-independent parameters calcs. 4-10059
 $Li^{2+} + H$, charge exchange cross sections 4-14563
 $Li^{3+} + H$, charge exchange, impact parameter depend. 4-14562
 $Li^{3+} + H$, laser induced charge-transfer cross section collision, perturbation approach 4-49140
 $Li^{3+} + He$ collisions, charge exchange process 4-9981
 $Mg + H^+$, dissociative near-reson. charge exchange, theory 4-49142
 $Mg^+ + Ba(Sr)$ collisions, total charge transfer cross-sections 4-54858
 MgO , dissolution mechanisms of H_2O and CO_2 , O^- state 4-34647
 MgO , thermal expansion anomaly and low temp. internal friction 4-34673
 $Mo_{1-x}Nb_xS_2$ layered cpds., Li insertion and charge transfer 4-45573
 $N^+ + Ar$, charge transfer reactions 4-28552
 N_2^+ laser pumped by charge transfer 4-49335
 $N_2^+ + N_2$, electron transfer reactions, low energy, mol. dynamics calcs. 4-10065
 NH_3 , X-ray scatt., charge transfer model 4-9790
 NO dimer in solid, core-level photoemission, intermolecular screening 4-3018
 $NO^+ + Ar \rightarrow NO + Ar^+$, reaction cross-sections, vibronic state depend. 4-23799
 $Na-Sb$ liquid alloys, NMR relax. and metal-nonmetal transition 4-46131
 $Na + 1$ to 25 keV $H(1s)$, charge changing cross section meas. 4-49153
 $Na + Ar^+(Na^+)$, charge transfer, final state distrib. M and L depend. 4-19252
 $Na + Ar^+(Na^+)$, charge transfer, final state distrib., vel. depend. 4-19253
 $Na + Li^+$, charge exchange, coherence effects study 4-14528

charge exchange continued

- Na⁺+Ar, ionis. and charge exchange cross-sections, 0.5 to 7.0 keV 4-10038
 Na⁺+SO₂→Na⁺+SO₂⁻, crossed beam investig. 4-10073
 Ne, charge transfer to multicharged recoil ions in a Penning trap 4-5349
 Ne+Kr, excitation transfer in charge-transfer reactions of multicharged ions 4-28553
 Ne²⁺+Xe, electron capture, transfer ionisation, translational spectra 4-38313
 Ne⁹⁺+H₂O vapour collisions, reaction rate consts. 4-19251
 Ne₂⁺+N₂, thermal energy charge transfer, N₂⁺(B-X) emission 4-49141
 Ni (110) surface, adsorbed O, He⁺ and Li⁺ scatt. and neutralisation 4-11987
 Ni-Zr crystallised glasses, local order, EXAFS studies 4-50240
 O⁺+methane, primary and secondary reactions, energy and mass anal. 4-7701
 O³⁺+Ar, ionising collision, electron loss to continuum cusps, linewidths 4-10023
 O⁹⁺+He(Ar)(N₂)(H₂), electron capture cross sections 4-14537
 O₂⁺ vibrationally excited, collisional relax. and reaction 4-19209
 O₂⁺+NO, charge transfer collisions, influence vibrational excitation 4-3871
 OH₂, X-ray scatt., charge transfer model 4-9790
 Pd₁₆Mo₂S₈, struct., bonding and charge transfer 4-11080
 Rb⁺+Rb, symmetric reson. charge transfer, transition probability, total cross section 4-54854
 Ru complex, Ru(bpy)₃²⁺ bound to porous Vycor matrix, quenching by quinones in benzene solns. 4-28500
 Ru complex, tris(3,4,7,8-tetramethylphenanthroline) Ru(II), photoinduced electron transfer, emission line shape 4-9817
 Ru(II) complexes, photoexcited, quenching reaction kinetics by dialkylviologens in micellar soln. 4-28499
 SO₂, electron affinity, flowing afterglow study 4-33523
 SO₂, electron affinity, electron transfer equilib. study 4-33524
 Sm⁸⁺, inner shell vacancy transfer 4-19226
 U⁸⁺+inert gases (q=30 to 48), coincidence meas. of recoil-ion charge-state spectra prod. by ionisation and charge transfer at 1.4 MeV/u 4-9977
 Xe¹⁺, inner shell vacancy transfer 4-19226
 Xe⁹⁺, (q=1 to 11), charge transfer cross sections on various gas targets 4-19246
 Xe⁺+inert gas (H)(methane), charge transfer and fine struct. transitions, 2 to 20 keV 4-10033
 Xe¹⁺+Xe, K-shell excitation by K- to L-shell charge transfer 4-9994
 Zr²⁰⁺+inert gases, coincidence meas. of recoil-ion charge-state spectra prod. by ionisation and charge transfer at 1.4 MeV/u 4-9977

charge-injection device arrays *see charge-coupled device circuits***charge-injection devices** *see charge-coupled devices***charge measurement**

- see also electrometers*
 dust particles in motion, charge meas. 4-53700
 integrator-charge storage cct., tomographs appl. 4-26505
 low-conductivity liquid, charging in pipe flow with surface electrochem. reaction 4-5976
 MNOS structure charge transport region determ., using automatic system 4-8921
 noncontact moving charge meas., mathematical model 4-53701
 piezoelectric transducers calibration, for electric discharge acoustic signals 4-32274
 wall charges meas. probe, for electrodeless discharges at 60 Hz 4-22799

charge-ordered states

- Hubbard model, extended, ordered states taking into account electron-phonon interaction 4-34887
 TCNQ salts, complex, charge ordered, with lattice distortions, mag. props. 4-56520

charge storage diodes

- InSb MIS struct., annealing effect on charge storage 4-56433
 Si bulk-barrier-diode temperature transducer, struct., simulation and sensitivity (German) 4-37080

charge transfer *see charge exchange***charge-transfer device arrays** *see charge-coupled device circuits***charge-transfer devices** *see charge-coupled devices***charge transfer states**

- adsorbates on metal surface, surface enhanced Raman scatt., short-range reson. charge transfer contrib. 4-7196
 7-amino-3-methyl-1,4-benzoxazine-2-one, excited states H-bond form. intramolecular charge transfer state, fluoresc. 4-9810
 1-aminonaphthalenes, photophysics, solvent effects 4-9820
 4-aminopyridine, soln., excited state charge transfer effect, visible and phosphoresc. spectra 4-49087
 aniline, and Ar complex, triplet state nonradiative lifetimes 4-38231
 anthracene, cryst., charge transfer band, two-photon CARS and CSRS study 4-40432
 anthracene-TCNB, charge transfer states, photocurrent spectra 4-51447
 copper phthalocyanine, charge transfer excitations, electro-reflectance spectra 4-16179
 N,N-dimethylaniline, carbonyl derivatives, photophys. kinetics 4-54815
 3,5-dinitropyridine charge transfer sandwich complexes investig., pot. energy surfaces of form. 4-11494
 graphite-FeCl₃ intercalation cpds., acceptor site for donated electrons, Mossbauer anal. 4-11810
 heterocyclic N cpds., saturated, on Ag electrodes, charge transfer excitation, surface enhanced Raman scatt. 4-46239
 N,N'-imethyl-1-aminonaphthalene, photophysics, solvent effects 4-9820
 ionic crystals, negative U-centres, charge state stability 4-20598
 molecular crystals, polaris. effects 4-29932
 4-nitrobenzylidene-4'-n-heptyloxylaniline, binary liq. crystal systems, phase diagrams 4-50189
 organic polymers, properties anal. (French) 4-45753
 N-phenylpyrroles, excited CT state population and mol. conformation 4-1207
 picric acid-naphthalene (anthracene) mixtures, organic eutectics and mol. complexes obs. 4-50474
 piperidines+tetrachloro-1,2-benzoquinone, electron donor-acceptor interaction 4-26203
 poly(phenylene sulphide):I₂, ¹²⁹I Mossbauer spectra 4-7099
 poly-N-vinylcarbazole film, extrinsic carrier photogeneration, charge transfer complex (Japanese) 4-30012

charge transfer states continued

- PS+charge transfer mols. in bilayer membrane, reactivities, temp. depend. 4-49188
 pyrene, fluoresc., heavy atom quenching via charge transfer complexes 4-38246
 pyridine, substituted, on Ag electrode 4-46239
 rare earth compounds, mixed valence, charge transfer soft-phonon model 4-15602
 TCNQ mixed salts, crystal field and charge transfer, electric field gradient calc. 4-30339
 tetrachlorophthalic-hexamethylbenzene charge transfer crystals, delayed thermal fluoresc. 4-56981
 trialkyltinhalides, donor site determ., charge transfer spectra 4-50770
 triplet excited, ESR studies 4-6708
 Ag, adsorbed CN, charge transfer, surface enhanced Raman scatt. study 4-56944
 BiI₂GeO₁₀, optical excitation of traps, charge transfer, electro-optic study 4-30443
 CoFe₂-Al₂O₃, polar magneto-optical Kerr effect and dielec. tensor 4-46235
 Cr(CO)₆, 01s PES satellite band, CI calcs. 4-23611
 Fe complex, iron(1,3-diketonate)₃ charge transfer transitions, electrochromism spectra 4-1190
 Fe complexes, polypyridine-Fe(III), ligand-to-metal charge-transfer excited states lifetimes, isotopic substitution and temp. effects 4-15858
 Fe(CN)₆⁴⁻ charge transfer interactions with heterocyclic cations, visible electronic absorpt. spectra 4-26205
 1,2-acetophenone charge transfer complexes, equilib. consts. 4-26202
 Os complexes, polypyridine-Os(III), ligand-to-metal charge-transfer excited states lifetimes, isotopic substitution and temp. effects 4-15858
 Pb_{1-x}Sn_xSe solid solutions, two-electron exchange between Sn centres, Mossbauer obs. 4-25312
 Sr₃SrGd₂□W₂₄O₈₄:Eu³⁺ luminesc., low-lying charge-transfer transition 4-2951
 SrTiO₃:Fe, photochromic centres, Mossbauer spectroscopy studies 4-40314

charge transfer transitions *see charge transfer states***charged dislocations** *see dislocation dipoles***charging, contact** *see static electrification***charm particles**

see also D mesons; psi mesons

- ³P₁ and ¹S₀ charmonium, Crystal Ball detector physics 4-32714
 annual review of nuclear and particle science, book 4-31979
 baryon nonleptonic decay, MIT bag model and QCD-corrected Weinberg-Salam model calc. 4-13901
 baryons, uncharmed and charmed, anomalous magnetic moments 4-54020
 charmonium, power-law corrections to QCD sum rules 4-18180
 charmonium spectroscopy, even power potential Dirac eqn. study 4-4531
 hadron mass spectra, quark-gluon coupling, QCD 4-53970
 hadron spectroscopy in a flux-tube quark model with colour-magnetic interactions 4-18209
 heavy quark spectroscopy, sum rule approach, review 4-32646
 lifetime meas. for D, F and A_c reviews 4-32681
 lifetimes, results from Fermilab spectrometer 4-32682
 meson spectroscopy for superposition of linear-cum-logarithmic pot. with Coulomb pot. 4-27710
 transverse correlation of charm pairs, ψψ and partons transverse momenta 4-18201
 weak decays of leptons, quarks, hadrons in intermediate vector bosons 4-27737
 weak interactions of leptons and quarks, book 4-53385
 B_c→e⁺X, semileptonic decay branching ratio for charm prod. 4-9098
 e⁺e⁻ annihilation, charmed-strange exotic mesons, F⁺ meson, 2020 MeV state 4-23025
 e⁺e⁻→charmed hadrons, energy distrib. in QCD cluster model 4-4687
 e⁺e⁻→e⁺X, 29 GeV, prompt e⁺ prod., b and c quark semileptonic branching ratios 4-48495
 e⁺e⁻→F⁺X, 35 GeV, F obs. and branching ratio from φπ final state 4-48496
 η_c(η_c)→2γ, partial widths taking account of spin-spin interaction 4-18264
 η_c→γX, inclusive γ spectrum meas. for gluonium-gluonball props. 4-4684
 F weak decay, results from CLEO 4-27734
 F⁺ hadronic decay branching ratio using quark combinatorics 4-18235
 F⁺ decay in νN and ν̄N, lifetime meas. 4-27726
 γγ→pp, 2.0-3.1 GeV, differential cross section, η_c prod. cross section 4-9133
 γp, 20 GeV, inclusive charm prod. cross section, D lifetimes, A_c⁺ and D* prod. 4-43361
 A_c lifetimes, WA58 expt. using tagged photon beam 4-27735
 A_c⁺, hadronic decay branching ratio using quark combinatorics 4-18235
 A_c⁺, νN→μ⁺A_c⁺→μ⁺Δ⁺, cross sections 4-9095
 A_c⁺ decay in νN and ν̄N, lifetime meas. 4-27726
 A_c⁺ lifetime in statistical model 4-4675
 A_c⁺→pK⁰(Δ⁺), nonleptonic weak decay rates using current algebra and SU(6) theory 4-48474
 A_c⁺→2⁺γ, branching ratio calcs. in nonrelativistic quark model 4-9105
 νN→μ⁺c̄sX, charmed and strange hadron production, QCD anal., gluon distrib. funct. determ. 4-18227
 ν̄N→μ⁺c̄sX, charmed and strange hadron production, QCD anal., gluon distrib. funct. determ. 4-18227
 pN→(A_cD)(DD)X, charm prod. in fixed target beam dump expts. 4-18311
 pN→charm, beam dump expts. 4-27766
 pp→charmed particles, charm. cross-sections and decay modes 4-27765
 pp→A_cX, peripheral description, cross section determ. 4-497
 πp→A_cX, peripheral description, cross section determ. 4-497
 ψ→ηγ, allowed and hindered mag. dipole transition amplitudes in quarkonia 4-18263
 qg→c̄c̄q, charm particle creation 4-43321
 γp→charm particles, total hadronic cross-section 4-27744
 qq bound states, relativistic two-body eqn. using QCD gluon exchange 4-32594

Charpy testing *see dynamic testing***charring** *see combustion***Chebyshev approximation**

- acoustic beamforming, Chebyshev complex function approx. 4-19670
 Bessel functions zeros, Chebyshev series approx. 4-32023
 heat equation, Chebyshev collocation operator spectrum 4-10673

Chebyshev approximation continued

polynomial expansion in irregular grids for meteorology (*Chinese*) 4-53456
stream-vorticity function, direct soln. by Chebyshev approx. 4-19845

chelates *see coordination complexes***chemical analysis**

see also chemical analysis by nuclear reactions and scattering; chromatography; electrochemical analysis; electron probe analysis; ion microanalysis; mass spectroscopic chemical analysis; polarimetry; pollution detection and control; radioactive chemical analysis; spectrochemical analysis; thermal analysis; X-ray chemical analysis
alkaline earth ditellurides, MTe_2O_3 , $\text{M}=\text{Ca-Ba}$, cryst. growth, DTA, X-ray diffr., chem. anal., dielec. and optical props. 4-50225
Applikon ASA 2020 Titro-Analyzer (*Dutch*) 4-46807
coal, mineral identification, TEM study 4-35972
coal trace elements analysis for improved quality control (*Dutch*) 4-26242
computerised analytical instruments, cost-effective data system 4-17884
Danish flint artefacts, patination and wear traces 4-43158
detection methods for atoms and radicals of gas phase (*German*) 4-16724
dimethylmercury, determ. in air 4-12519
electrolytic gas detectors, protecting the sensors 4-52044
electronic analytical balances, time-saving appls. 4-8873
exothermal mixtures, props., composition effects (*Bulgarian*) 4-35623
fuels 'live' chromatography by column switching of SICHRMAT 2 gas chromatograph 4-35969
gas chromatograph with integrated microcomputer for high resolution detection (*German*) 4-21509
gas detection using SAW delay lines 4-31146
gas measuring instrument with photometric evaluation of chemical reactions (*German*) 4-21511
gas turbine combustor exit, temp. meas. by gas analysis technique 4-13637
geostandards and geochemical analysis 4-42239
glass, optical properties, book 4-36811
graphite furnace atomiser, spatially resolved Arrhenius determination for absorbance meas. 4-3436
high-speed process chromatography for the Claus process 4-35968
inductively coupled plasma water-cooled torch analytical performance 4-10899
industrial gas analysis (*Dutch*) 4-52064
liquefied natural gas spills meas., pyroelectric detector based sensor development 4-7785
methylmercury chloride, determ. in air 4-12519
microanalytical balances, microprocessor based 4-7766
microchemical robot for DNA sequence analysis 4-21870
microprocessor-aided Technicon autoanalyser, for wet chemistry analysis 4-27495
microprocessor-controlled total organic C analyser, water pollution control appl. 4-12518
nitrate aerosols, mass conc. meas. using quartz crystal aerosol monitor 4-31148
nuclear power plants, trends in chem. anal. procedures 4-33131
nuclear reactor fuel burn-up, balance determ. by γ -spectrometry of fission products 4-28041
operating nucl. plants, analytical chem. support by central laboratory 4-33081
particle induced X-ray emission spectroscopy and its analytical applications 4-31054
photon-detectors in laboratory medicine 4-31317
reference materials for quality assurance of chemical analysis 4-14080
role of physics in development, conf., Dhaka, Bangladesh, (Jan. 1982) 4-27244
seawater alkalinity and total carbonate determ. method, by photometric titration 4-26856
semiconductors, impurity conc. and chem. nature, submillimeter BWT spectroscopy 4-35966
spent nuclear fuel, isotope correl. anal. 4-28040
sputter-initiated resonance ionization spectroscopy for surface chem. anal. 4-12434
sulphate aerosols, mass conc. meas. using quartz crystal aerosol monitor 4-31148
surface plasmon resonance for gas detection and biosensing 4-26238
TLR-157 resin-based flux, for cored solder wires (*Polish*) 4-7781
ULTRAMAT 21 and 22 microprocessor-based gas analysers for standard applications 4-35967
 Ag(I) complexes, triphenylphosphine-aniline mixed ligands, anal. and IR spectra 4-16714
Al foil, thermal processing parameters, specific capacitance effect (*Polish*) 4-7780
B, atmospheric, determ. and sampling 4-16809
 Be(II) complexes, N-aralkylsalicylaldimine Schiff bases, struct. investig. 4-14424
C determination, dissolved organic, in conc. brine solns. 4-12396
CO combustion analysers, extractive and in situ using non-dispersive infrared detection 4-26253
 $\text{CaO} \cdot \text{Al}_2\text{O}_3 \cdot 8\text{H}_2\text{O}$ powders, precip. from soln., precipitate phases, precip. mechanisms 4-2336
 CdTe_2O_3 , cryst. growth, DTA, X-ray diffr., chem. anal., dielec. and optical props. 4-50225
Co III complexes, quinoxaline-2-thione-4-ones, prep. and characterisation 4-16643
Cr solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
 $\text{Cs}_{0.7}(\text{Ti}_{1.65}\text{Mg}_{0.35})\text{O}_4$, ion exchange, chem. and struct. anal. 4-7711
Cu complexes, Schiff bases with ONO donor tridentate dibasic ligands (I), IR spectra, mag. meas. 4-46014
Cu II complexes, quinoxaline-2-thione-4-ones, prep. and characterisation 4-16643
F determ., PIGME anal., precision determ. 4-46835
Ge solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
hydrocarbons detection in water, using FIDMAT analyser and stripping device 4-36046
 $\text{K}_{0.17}\text{Mg}_2\text{Al}_{4.17}\text{Si}_{4.83}\text{O}_{18}$, K-substituted synthetic cordierite, cryst. struct. 4-45083
 Li_7Pb_3 eutectic, combined N_2 determ., fusion reactor material 4-33162
 $\text{MoO}_3 \cdot \text{BiPO}_4$ biphasic catalyst, low energy ion scatt. study 4-46828
 NO_2 detect. of ambient levels using passive sampler 4-16808

chemical analysis continued

Ni solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
 Ni(II) complexes, quinoxaline-2-thione-4-ones, prep. and characterisation 4-16643
 NiO-MgO solid solns., segregation, fractional chem. anal. and ESCA obs. 4-34657
O plasma, microwave discharge, O dissoc. and recombination 4-2022
O₂ monitoring in flue gases 4-27503
 ^{90}Sr determ. by ion exchange method using silica gel supported hydrated MnO_2 4-16719
V, determ. in water, modified catalytic-photometric method 4-16701
 ZnTe_2O_3 , cryst. growth, DTA, X-ray diffr., chem. anal., dielec. and optical props. 4-50225

chemical analysis by mass spectrometry *see mass spectroscopic chemical analysis***chemical analysis by nuclear reactions and scattering**

see also chemical effects of nuclear reactions and scattering; neutron activation analysis; radioactive chemical analysis
artificial borehole, high-resolution gamma-ray spectra using 14 MeV pulsed neutron generator 4-58299
concentration in Indian toothpastes, fission track techniques 4-12421
concrete, boration effect on induced activity by proton bombardment 4-7788
depth profiling by ion beam techniques and microtopology 4-43132
heavy ion beams for bulk anal., calibration 4-52070
high resolution depth profiling of F, Ne, Na in materials using nucl. reson. 4-46823
impurity anal. of solids, in-beam low-level system for nucl. reaction γ -rays 4-46820
ion beam anal., conf., Tempe, AZ, USA. (May 1983) 4-42579
ion beam analysis of near surface regions 4-41297
light elements in solids, positron anal. as quantitative technique in ion beam anal. 4-46813
neutron depth profiling at National Bureau of Standards 4-46815
precision standard reference targets for microanalysis by nucl. reactions 4-46825
rock chemical analysis by PIXE and charged particle activation anal. 4-47418
shallow depth profiling and nucl. reaction narrow reson. width meas. 4-46826
thin film surface anal., comparative study of methods 4-52076
 Al_2O_3 anodic film in borate soln., composition determ. by Rutherford backscatt. 4-56173
C and O simultaneous depth profiling using $^{12}\text{C}(^3\text{He},\text{p})^{14}\text{N}$ and $^{16}\text{O}(^3\text{He},\alpha)^{15}\text{O}$ 4-46822
C content in thin films, $^{12}\text{C}(\alpha,\alpha)^{12}\text{C}$ resonance RBS anal. 4-46833
C local anal. by track, reconstruction of $^3\text{He}(\text{n,p})^3\text{H}$ reaction 4-16720
KCl, prep. and O-containing impurity purification, optical studies 4-57092
N depth profiling using $^{14}\text{N}(\text{n,p})^{14}\text{C}$ 4-46824
 $^{14}\text{N}(\text{d},\alpha)$ and $^{14}\text{N}(\text{d},\text{p})$ reactions absolute calibration for surface adsorption studies 4-46821
 ^{15}N depth profiling using 4.29 keV reson. of $^{15}\text{N}(\text{p},\alpha\gamma)^{12}\text{C}$ 4-43455
 PdH_x , H profile, ^{15}N nuclear resonance reaction studies (*Chinese*) 4-55857
Pt (100), adsorption of O_2 , Rutherford backscatt., nuclear microanal., work function, and LEED meas. 4-56150
 SiF_4 , porous, distrib. determ. using nuclear reactions, XPS and Auger anal. 4-45170
T, depth profiling in solids using $^3\text{H}(\text{d,n})^4\text{He}$ nucl. reaction 4-14197
 $\text{TaH}_{0.8}$, lattice location of H by channelling method using nucl. reaction anal. 4-6391
 UF_6 , highly enriched, direct fission assay 4-33052

chemical association *see association***chemical batteries** *see cells (electric)***chemical bonding** *see bonds (chemical)***chemical bonds** *see bonds (chemical)***chemical composition** *see chemical analysis***chemical diffusion** *see diffusion***chemical effects of nuclear reactions and scattering**

see also chemical analysis by nuclear reactions and scattering; radiation chemistry
No entries

chemical effects of radiation *see radiation chemistry***chemical elements** *see elements (chemical)***chemical energy conversion**

biomass upgrading, by pyrolysis and gasification processes 4-52184
brown coal, utilisation technology and trends in GDR (*German*) 4-36021
ethanol photochem. dehydrogenation for production of H_2 from dilute aq. soln. 4-41237
ethanol versus petroleum, energy and economic anal. for New Zealand 4-35977
European Community solar programme, photochemical and photobiological research 4-57747
fossil fuel energy technologies, environmental impacts and public health risks 4-57746
high temperature solar energy reactors 4-57664
latent heat storage, low temp., by reciprocal salt pairs 4-52212
low-grade fuel gas production by waste gasification and pyrolysis 4-57742
MASCOT bench scale plant for H_2 production by UT-3 thermochemical water decomposition cycle 4-41384
solar energy by nitrogen fixation 4-57796
thermodynamic limits, effects of temp., intensity and atmospheric conditions 4-26293
waste cellulose acid hydrolysis to glucose, used as fermentation substrate for ethanol production 4-57743
wastes/biological materials combustion for energy 4-57744
wood pyrolysis kinetics anal. by isothermal thermogravimetry 4-57531
wood residues, conversion to methanol by gasification methods 4-7795
 $\text{Ca(OH)}_2/\text{CaO}$ reversible chemical reaction system for thermal energy storage 4-57797
 H_2 production, electrolytic and thermochemical, using central receiver solar systems, assessment 4-41386
 H_2 storage systems mathematical modelling 4-41387
 NH_3 production from coal using Texaco coal gasification process, operating data 4-57745

chemical energy conversion continued

- P_2O_5 fuel cells, utilising co-product hydrogen, DC power applications economics 4-36003
 RuO_2 , hydrated, catalytic efficiency for water photo-oxidation in sacrificial system 4-26217

chemical engineering *see chemical technology***chemical engineering computing**

- see also computerised control; computerised instrumentation*
 ethanol from sugar beet in pilot plant with direct digital control 4-35975

chemical equilibrium

- see also chemical reactions; reaction kinetics*
 acetate H-bond complexes, association, equilib. const. and thermodynamic props. 4-41197
 alkene isomer groups, standard chem. thermodynamic props., extrapolation to higher C numbers 4-31014
 aniline-cyclohexane, binary mixtures under shear flow near crit. points 4-2319
 Belousov-Zhabotinski reaction mixture, periodic and chaotic regimes 4-41196
 Belousov-Zhabotinskii chem. wave annihilation by negative elec. field 4-26192
 Belousov-Zhabotinsky reaction, computer simulations 4-30923
 benzoxazole derivatives, intramol. single and double H^+ transfer 4-7697
 chemically reacting gases, equilib., thermodynamic processes 4-35931
 coupled double well oscillator in condensed media, classical dynamics 4-52041
 dilute solns., chem. equilib. anomalies near crit. points 4-3424
 3,5-dinitropyridine charge transfer sandwich complexes investig., pot. energy surfaces of form. 4-11494
 gas mixtures, explosion anal. with shift in chemical equilib. of products taken into account 4-7729
 global kinetics models and lack of thermodynamic equilibrium 4-21490
 instabilities, fluctuations and transitions, computer simulation 4-12325
 instabilities, fluctuations and transitions, mol. interactions effect 4-12326
 isobutyric acid-water, binary mixtures under shear flow near crit. points 4-2319
 Kramers theory extension of chem. relax. to nonwhite noise case 4-35857
 liquid-solid powder close systems, stability conditions, thermodynamic props. (French) 4-35944
 metastable steady-state structs., relative stability in chem. reaction systems 4-12339
 mixing to a molecular level in turbulent media 4-21439
 molecular gas, radiatively excited, theory of collisional equilibration 4-7691
 nitrobenzene-n-hexane, binary mixtures under shear flow near crit. points 4-2319
 nonequilibrium stationary state in chem. reactions, detailed balance (Chinese) 4-51959
 nonequilibrium systems, pulsating 4-184
 nonlinear systems, chaotic behaviour, rel. to intramol. energy transfer in isolated mols. 4-3374
 Oregonator, reversible, thermodynamic and kinetic stability analyses 4-46784
 organometallic cpds., structural aspect of thermal stability 4-54881
 passivating film stability on Fe alloys, chem. heterogeneity effect within metal phase 4-57464
 propane ion, structs. and reactions study 4-49176
 Rankine-cycle engines trichlorofluoroethane; lubricant mixtures thermal stability 4-52185
 reactions, generalised excess entropy, probability density for conc. fluctuations near stable steady state (German) 4-21420
 reversible proton transfer, spectroscopic study 4-16625
 Schlögl's mechanism, in continuous stirred tank reactor, flow rate, bistability and limit cycles 4-12338
 spherically symmetric atoms association in diatomic mols., Percus-Yevick approx., equilib. props. 4-41175
 spiral waves, rotating, in excitable media 4-26260
 tautomeric equilibrium, shift, excitation and solvation effect, quantum-mechanical study 4-57592
 thermal relaxation times meas., using modulated IR beam 4-26195
 thermokinetic systems, small amplitude periodic parameter variations 4-30991
 twisted scroll rings as wave sources 4-21448
 unimolecular reactions, chem. activation, master eqn. deductions 4-51960
 viscous shock-layer, flow prediction, laminar or turbulent 4-34126
 voltammetric responses, curve fitting, reaction reversibility effect 4-16704
 waves, 3-D organising centres in excitable media 4-26259
 weakly-ionised mol. plasma near cold electrode, chem. equilib. 4-44797
 Ag^+ selective solvation in solvent mixts., ^{109}Ag NMR study 4-41182
 CO_2 regeneration of weak acid ion exchange resins with added anion exchanger 4-51968
 $CO_2^+ + CO_2$, equilib. studied using mass spectrometer ion source 4-13723
 Cu(II) complexes, mixed ligand, stabilities, ESR investig. 4-49063
 $D_3^+ + D_2 \rightleftharpoons D_5^+$ equilibria in corona discharge, exptl. determ. 4-23851
 $D_5^+ + D_2 \rightleftharpoons D_7^+$ 4-23851
 EuP, stability during heating in vacuum, thermodynamic props. 4-57593
 $Fe(CN)_6^{4-}$ charge transfer interactions with heterocyclic cations, visible electronic absorpt. spectra 4-26205
 H_2/O_2 recovery by rapid cooling of low-pressure equilibrium mixtures in solar furnaces 4-35871
 $H_3^+ + H_2 \rightleftharpoons H_5^+$ equilibria in corona discharge, exptl. determ. 4-23851
 $H_5^+ + H_2 \rightleftharpoons H_7^+$ equilibria in corona discharge, exptl. determ. 4-23851
 $HSO_4^- (H_2SO_4)_m$ acid cluster, ($m=0, 1, 2, 3, 4$), hydration studies of atmospheric interest 4-33580
 HfO_2-CaO , phase relations and ordering 4-7439
 1,2-acetophenone charge transfer complexes, equilib. consts. 4-26202
 $LiAlF_6$ in 1,2-dimethoxyethane soln., mol. relax. investig. 4-2360
 $LiSCN$, quadrupole form. const. UV absorpt. spectra 4-49046
 OH catalyst in CO_2 laser, NbH_3-H_2 equilib. 4-33641
 W-halogen lamps containing dibromomethane, role of CO, chem. equilib. calc. 4-16645

chemical exchanges

- see also ion exchange; isotope exchanges*
 anisole, isodesmic reaction energies, using STO-3G optimised mol. struct. 4-21426
 7-azaindole, exciplex formation in alcohol and H_2O solns., fluoresc. spectra shift and bandwidth 4-3394
 carboxylic acid dimers, H bonded, H^+ transfer, NMR relax. investig. 4-14447

chemical exchanges continued

- catechol, isodesmic reaction energies, using STO-3G optimised mol. struct. 4-21426
 chlorotrifluoromethane + H_2 , reaction in shock waves, 1400-1600K, rate consts. 4-30939
 1,2-dichloroethane, IR and Raman spectra, exchange broadening, picosecond kinetics 4-7178
 erythrocyte membranes, human, water exchange, NMR investig. 4-41477
 etiopyrphyrin I in hydrocarbon solvents, 77K, spectroscopic manifestations of dimerisation 4-52034
 exchange reactions, rate coeff. calc. from time-depend. wave packet methods 4-35880
 fluorene:acridine, solid-state photochemical H abstraction reaction 4-7735
 fluorene:acridine crystals, photochem. H abstraction kinetics, time resolved optical nuclear polarisation study 4-30997
 fluorene:acridine- d_9 , photochemical H abstraction, triplet-triplet absorpt., decay kinetics 4-7736
 formyl radicals, disproportionation reactions, absolute rate consts., 295-475K 4-30938
 graphite intercalation with Br and ICl, intercalate displacement and exchange study 4-39559
 guaicol, isodesmic reaction energies, using STO-3G optimised mol. struct. 4-21426
 halopropionyl halides, halogen-for-halogen substitution, stereochem. consequences 4-30961
 kaolinite, heat of adsorption of water with $Cs^+(Li^+)$ exchange cations 4-55934
 laser-chemical reactions, influence of rare gases 4-16675
 methane + $Ar^+(Kr^+)$, atomic capture cross section meas. 4-21458
 methyl + H_2 -methane + H, reaction dynamics, intrinsic reaction coordinate approach 4-35863
 methyl radicals, in methanol glass, H abstraction, reaction rate consts. distrib. 4-30936
 methylamine-formic acid complex, H^+ transfer, medium effect, ab initio STO calcs. 4-38036
 molecular ions+gas targets, H^+ loss meas. 4-21458
 2-naphthylammonium ion-benzophenone, H-atom transfer reaction, laser flash photolysis 4-7699
 nearly degenerate states, H-atom transfer multichannel and two-state calcs. 4-35868
 peptides, small, chem. exchange by two dims. magnetisation transfer in rot. frame 4-41194
 phenol, isodesmic reaction energies, using STO-3G optimised mol. struct. 4-21426
 proflavine, excited state H^+ transfer reactions, time-resolved and steady-state fluoresc. obs. 4-30935
 quantum model for reson. and direct reactive scatt. 4-26191
 radioisotopes separation determ. of coefficient in chemical exchange of multistage extraction 4-5510
 reversible proton transfer, spectroscopic study 4-16625
 silanol-epoxide- $Al(acac)_3$ mixtures, disproportionation, polymerisation, NMR investig. 4-5256
 sodium octanoate micelle solns., light scatt. study 4-30482
 uranyl acetate dihydrate+thiourea, adduct synthesis and decomp., thermal anal. obs. 4-30972
 veratrole, isodesmic reaction energies, using STO-3G optimised mol. struct. 4-21426
 $Ar_2 + Xe(Kr)$, van der Waals bond exchange, ang. and vel. distrib. 4-21454
 CN^+ ion + molecule reactions, kinetics, selected ion flow tube obs. 4-46750
 $Cr(H_2O)_5OH^{2+}$ anation by DL-alanine in aq. soln., kinetics and mechanism 4-51997
 $Cr_2O_3-Ba(ClO_4)_2 \cdot 3H_2O$, thermal dissoci. and reactions, thermal and X-ray diff. obs. 4-26197
 Cu(II) complexes, mixed ligand, stabilities, ESR investig. 4-49063
 $D + H_2$, exchange reactions, rate consts., EPR and thermometric meas. 4-57535
 $D + H_2$ -HD + H, reactive scatt., rate consts., adiabatic T matrix theory 4-21445
 $F + D_2 \rightleftharpoons FD + D$, product ang. distrib., quasiclassical trajectory study 4-21441
 $F + H_2$, state to state reactive scatt., product rot. state distrib. 4-21457
 ^{18}F -tetrafluoromethane, nucl. recoil hot atom reactions mechanism study 4-35929
 H-atom transfer, exponential DWBA formula, extensions to lower barrier pot. and higher energies 4-51981
 $H + Br_2(Cl_2)(NO_2)(NO_2Cl)(PCl_3)$, chemiluminesc., product distrib. 4-35145
 $H + D_2 \rightleftharpoons HD + D$, chemical exchanges product quantum state distrib. 4-21440
 $H + H_2$, exchange reactions 4-54594
 $H + H_2 \rightleftharpoons H_2 + H$, pot. energy surface, barrier height 4-35877
 $H + HS \rightleftharpoons H_2 + S$, transition state geometry, activation barrier, ab initio SCF CI calcs. 4-26182
 H + OH exchange, quantum model 4-26191
 H + n-alkanes, kinetic isotope effects for H abstractions 4-57544
 $HBr + H(D)$, exchange reactions, quantal sudden calcs. 4-21433
 $HF + NH_3$, proton transfer reaction, hydration effect, quantum chemical approx. 4-21450
 $(H_2O)_2$, H^+ transfer, ionisation, ab initio pot. energy surface calcs. 4-23581
 $(H_2O)_3^+$, H^+ transfer, ionisation, ab initio pot. energy surface calcs. 4-23581
 $Kr + N_2H^+$, endothermic proton transfer reaction, role of internal energy and translational energy 4-57543
 $Li + Na_m \rightleftharpoons NaLi + Na$ exchange reactions, prod. state anal. by laser induced fluoresc. 4-3382
 $N + O_2^+$, upper atmosphere reaction and 755.5 nm emission 4-21427
 NCl radicals, metastable singlet states kinetics 4-12353
 $N^+(D) + D_2 \rightarrow ND^+(B^2A) + D$, chemiluminesc. reactions, spectroscopy and dynamics 4-52016
 $N^+(D) + H_2 \rightarrow NH^+(B^2A) + H$, chemiluminesc. reactions, spectroscopy and dynamics 4-52016
 $Na + K_m \rightleftharpoons NaK + K$ exchange reactions, prod. state anal. by laser induced fluoresc. 4-3382
 O^+ + methane, primary and secondary reactions, energy and mass anal. 4-7701
 Xe + IBr, reaction, electronically excited XeBr form. 4-7696
 $Xe_2 + Kr$, van der Waals bond exchange, ang. and vel. distrib. 4-21454

chemical industry

- complex industrial wastewater treatment by reverse osmosis 4-36043
- nuclear fuel reprocessing plants, use of conventional instrumentation (French) 4-33048
- nuclear fuel reprocessing plants in-line control (French) 4-33049
- process networks, criteria for placement of heat engines and pumps 4-31110
- process networks, design process for equipment selection and process matching 4-31111
- secondary energy resources utilisation 4-57624
- H₂ production from fossil fuels, economic feasibility of advanced technology 4-3486
- NH₃ production from coal using Texaco coal gasification process, operating data 4-57745
- Nb and alloys 4-51573
- Ta and alloys, development history, prod. and applics., ASTM standards 4-51573
- Zr and alloys, development history, prod. and applics., ASTM standards 4-46467

chemical kinetics *see reaction kinetics***chemical lasers**

- analysis, theoretical and experimental 4-33645
- closed-cavity power, geom. and physical optics models, comparison with HF expts. 4-10331
- closed-cavity solutions with partially coherent fields in space-freq. domain 4-10330
- HF laser cavity, supersonic flow with different chemical compositions, viscous mixing calcs. (French) 4-14999
- I(P_{1/2}) form., branching fraction and rate const. 4-30950
- nozzles, short, nonequilib. gas expansion including electrochem. kinetics (Ukrainian) 4-38912
- operational modes and methods (Spanish) 4-19417
- parabolic system with coupled nonlinear boundary conditions, numerical soln. 4-57558
- stimulated thermal scattering of laser radiation in chemically active media 4-28748
- Ar-S₂ gas mixture, light localisation and amplification during flow (Russian) 4-49340
- Br population inversion possibility as result of BrI photodissoc. by solar radiation 4-10290
- DF, CW lasers, use of N₂ as diluent gas 4-44096
- DF, high-press. chemical lasers, reactant-surface stretching effect 4-44095
- DF laser propagation, analytical modelling 4-1427
- DF-CO₂ pulsed chem. transfer laser amplifier, CO₂ vibr. populations 4-19433
- DF-CO₂ supersonic laser ring model with unstable-telescopic resonator, energy characts. 4-19435
- F₂-H₂ chemical laser, F atom absolute conc. determ. from UV absorpt. by F₂O radicals 4-28677
- HBr pulsed and CW laser principles (German) 4-55024
- HCl pulsed and CW laser principles (German) 4-55024
- HF chemical laser, ring shaped active medium, quasi-1-dimens. calcs. 4-49339
- HF chemical laser stabilization, photoacoustic Zeeman spectroscopy of Na²⁰O 4-38217
- HF chemical lasers, electron-beam initiated, 250 J output energy 4-14681
- HF discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
- HF laser, electrically initiated, parametric characts. (Chinese) 4-49398
- HF laser excited by a capacitively coupled discharge 4-49399
- HF laser initiated by discharge creeping on surface of a dielectric 4-14683
- HF multiline laser output line temporal meas. using grating spectrometer 4-22843
- HF photoinitiated chemical laser, effect of polyatomic gases on efficiency 4-38458
- HF pulsed and CW laser principles (German) 4-55024
- HF rot. laser emission from ClF+H₂ reaction, gain, time evolution 4-38457
- HF single field laser, mode interactions 4-5633
- HF small CW chem. laser, struct. and performance (Chinese) 4-49338
- Hg, produced by HgI₂ two-photon dissoc., laser output at 5461, 4358 Å 4-5578
- I 1315 nm laser, optically pumped, driven by exploding metal films and wires 4-14714
- I 1.27 μm laser, neutron feedback ICF driver 4-14208
- I 1.3 μm transition, transition probability and collision broadening 4-9721
- I laser pulse fifth and sixth harmonic generation 4-5653
- I laser pumped by solar radiation 4-19434
- I photodissociation laser amplifier, design (Korean) 4-14682
- I photodissociation laser with pulsed flashlamp pumping, internal losses 4-14737
- Li resonance line lasing at 670.7 nm, LiI photodissociation 4-23967
- O₂-I CW transverse-flow laser, small-signal gain and saturation parameter 4-28676
- O₂-I laser, atomiser use in chem. generator of singlet O₂ 4-10289
- O₂*+HI system, photochem. and kinetics 4-52031
- SF₆+H₂ laser, high current relativistic electron beam pumping 4-5579
- XeO photochemical laser, relax. mechanism of lower active levels, luminesc. obs. 4-28678

chemical potential *see thermodynamic properties***chemical reactions**

- see also association; atom-atom collisions; atom-ion collisions; atom-molecule reactions; atomic inelastic collisions; catalysis; charge exchange; chemical exchanges; chemically reactive flow; chemiluminescence; chemisorption; CIDEP; CIDNP; corrosion; dissociation; electrolysis; free radical reactions; heat of reaction; ion-molecule reactions; isomerisation; molecule-molecule reactions; oxidation; photochemistry; polymerisation; pyrolysis; radiolysis; reaction kinetics; reduction (chemical); solvation*
- acetylenediolate dianion, form. in mono-electronic reduction of CO, reactions study 4-21423
- acrylic polyisocyanate, crosslinked copolymers, reactivity, coatings hardness (Polish) 4-21173
- active regions of mols. in chemical reactions 4-16614
- alkene, small ring, hydrogenation and strain energies, enthalpy, struct. 4-16637

chemical reactions continued

- alkenes, pyramidal, electronic struct. and reactivities 4-16636
- alkoxy silanes, hydrolysis and condensation reactions, sol-gel process appl. 4-57606
- aminopyrone, protonation, four centres problem, CNDO/2 and MNDO calcs. 4-9679
- astatotrifluoromethylbenzene isomers, synthesis, identification, boiling points 4-57622
- atomic, mol. and solid state theory conf., Flagler Beach, USA, March 1983 4-31952
- atomic collision experiments at border line between classical and quantum mechanics 4-33500
- atomic hopping motions of interstitial species in time depend. inhomogeneous interactive fields 4-16648
- atoms, excited, slow collisions, ionisation processes investigated using plasma electron spectroscopy 4-9936
- 7-azaindole, exciplex formation in alcohol and H₂O solns., fluoresc. spectra shift and bandwidth 4-3394
- Belousov-Zhabotinski reaction mixture, periodic and chaotic regimes 4-41196
- Belousov-Zhabotinskii chem. wave annihilation by negative elec. field 4-26192
- Belousov-Zhabotinsky reaction, computer simulations 4-30923
- 1,2-benzotripyridene mol. and cation, absorpt. spectra and photochem. rearrangements 4-30960
- bimetallic Lewis acid complexes, prep., struct. studies 4-51998
- bimolecular reactions, diffusion controlled, Brownian dynamics simulation 4-46756
- bis(dimethylaluminium acetylide), electron density distrib., electrostatic mol. pot. 4-49115
- carbonyls, pyramidal, electronic struct. and reactivities 4-16636
- chemical kinetic data sheets for high-temperature chemical reactions 4-4166
- chemically reacting gases, equilib., thermodynamic processes 4-35931
- chlorooxirane, reactive props., likely carcinogenic metabolite, ab initio SCF NO calcs. 4-51979
- collinear three-body collision, rearrangement reaction amplitude, quasiclassical calcs. (Russian) 4-41201
- corundum, single cryst. growth using graphite-based equipment 4-57084
- Coulomb interactions influence on dissipative struct. in reaction-diffusion systems 4-7693
- cyanine dyes, generation effectivity, struct. and solvent effects 4-54622
- dibutyltin dibenzoate, Mossbauer study during polymerisation 4-35902
- dichloro-p-benzoquinone derivatives-hydroxy aromatic Schiff's bases complexes, prep. and characterisation 4-49027
- Diels-Alder and cycloaddition reactions, acid catalysis, MINDO calcs. 4-46788
- diffusion controlled, variational formula for optimum reaction coordinate 4-26190
- diffusion-retarded reaction, first-order, in catalytically active membranes, temp. depend. 4-52050
- 1,1-dimethyl propargyl carbocation, bending acetylenic and allenic struct., minimum energy pathway 4-46735
- 1,1'-diphosphaferrrocene, electronic struct., reactivity, EHT and X α calcs., UPS 4-48944
- disordered media, binary reactions, two-particle continuous-time random walk 4-48004
- electron transfer in proteins and energy coupling in membranes 4-12530
- enzyme-catalysed ¹⁵N-label exchange, ¹H NMR meas. 4-57848
- equilibrium- and transition-state geometries, inifed integral curve search technique 4-35854
- ethylene+silylene, ab initio calcs. at minimal, split valence and extended basis set level 4-16638
- (ethylene)₂⁺ complex, unimol. decomposition investigated by mol. beam photoionisation method 4-46755
- ethylenes, monosubstituted, 2+2 cycloaddition reaction, mechanism, substituent effect, MINDO/3 calcs. 4-46745
- excimer molecules, potential curves, characteristics of radiative transitions 4-19126
- exothermal mixtures, props., composition effects (Bulgarian) 4-35623
- fast reactions in solution meas., temp.-jump technique 4-26174
- fluorenylidene, chem. and phys. props., equilibration of singlet and triplet carbenes 4-30947
- fluorescence quenching in soln. at high quencher conc. 4-1201
- formic acid, protonated, prod. and destruction reactions 4-21462
- formic acid-butanol complexes, interaction studied by ¹H NMR and IR spectroscopy 4-16626
- gas absorption with instantaneous chem. reaction rates calcs. 4-31025
- gas measuring instrument with photometric evaluation of chemical reactions (German) 4-21511
- gelatin+thiobarbituric acid colour reaction, aldehyde determ. in photographic gelatin 4-46803
- generalised excess entropy, probability density for conc. fluctuations near stable steady state (German) 4-21420
- graphite, pyrolytic and single cryst., wetting by Al, contact reactions 4-50614
- graphite furnace atomic absorpt. spectrometry anal., isothermal atomisation 4-3438
- graphite furnace atomiser, spatially resolved Arrhenius determination for absorbance meas. 4-3436
- halopropionyl halides, halogen-for-halogen substitution, stereochem. consequences 4-30961
- heterogeneous plasmachemical reactions investig. in multielectrode plasma jet generator 4-20041
- hydriding system for moderately severe conditions of pressure and temperatures 4-22789
- hydrocarbon reactions in outer solar system atmospheres, rate coefficients calcs. 4-53039
- inhomogeneous systems, diffusion-controlled reactions, Monte Carlo simulation 4-41172
- instability in reaction-diffusion systems, resulting chemical waves 4-12329
- intermittent chaos in forced Brusselator (Chinese) 4-48002
- intermolecular electron tunnelling reactions, matrix charge capture competition correction 4-30053
- interstellar chemistry, effects of shocks on molecular comp. of dense clouds 4-53248
- interstellar complex hydrocarbons form. from ion-molecules reactions 4-4070
- interstellar modelling and reactions for Taurus Molecular Cloud-1, anal. 4-53250

chemical reactions continued

interstellar reactions and modelling in LDN 183 dark dust cloud 4-53251
 IR multiphoton dissoc. reactions, translational energy meas. by transient migration technique 4-26220
 isotope separation, laser-enhanced chemical reaction method 4-19291
 Josephson active junction line and reaction-diffusion systems, periodically oscillating states 4-35124
 kaolin, water interaction, dehydration, IR spectroscopy study 4-56924
 kaolin-BaCO₃ reactions, mineralisers influence 4-40729
 ketones, photoabstraction reactions, natural correl. diagrams, pot. energy surfaces 4-14343
 kinetic processes, photoacoustic detection 4-37207
 Kramers model of chem. relaxation in presence of radiation field 4-7713
 liquid phase reactions, Smolouchowski eqn. appl. 4-35866
 localised chem. events in condensed phases, mol. dynamics 4-30921
 log-derivative method for inelastic and reactive collisions 4-33497
 metal oxidation, optimal control of exothermic processes in laser thermochemistry 4-12386
 metastable steady-state structs., relative stability in chem. reaction systems 4-12339
 methanol+formamide, C-N bond breakage catalysed by serine peptidases 4-46787
 methanol and its radical and carbocations thermochemical props., methylation influence 4-46743
 3-methyl-but-1-yne-3-ol, Meyer-Schuster and Rupe rearrangement reaction, protonation sites calc. 4-23575
 methylamine and its radical and carbocations, thermochemical props., methylation influence 4-46743
 methylene+ethylene, 2D pot. energy surface calc. using MINDO/3 method, reaction mechanism 4-46739
 Meyer-Schuster reaction, intramolecular solvolytic mechanism, MINDO/3 and CNDO/2 calcs. 4-18927
 microscopic kinetic theory in high collision freq. limit 4-35858
 mixing to a molecular level in turbulent media 4-21439
 molecular gases, nonstationary processes and ordering 4-44787
 molecular shape and shapeless struct., stable and unstable forms 4-46733
 nonequilibrium plasma appl. in organic chem. 4-3390
 nonequilibrium state distrib. straight-line paths 4-3392
 nonequilibrium stationary state in chem. reactions, detailed balance (Chinese) 4-51959
 nonequilibrium systems, pulsating 4-184
 nonlinear chem. reaction with diffusion, nonequilibrium phase transition, bifurcations, propag. solns. 4-42660
 nonrigid mols., reaction mechanisms, topological model 4-12323
 nonrigid mols., rovibronic correls. symmetry groups 4-12324
 nuclear waste glass, surface layer alteration by boiling water, struct. (French) 4-52249
 nylon, with pendant viologen groups, synthesis, electron transfer catalyst appls. 4-35899
 oligo-2-hydroxy-1,3-phenylenemethylenes, prep. and props. (German) 4-7703
 one dimensional scheme, conc. fluctuations, probability density, entropy calcs. (German) 4-16628
 organic hydrolysis reactions in calorimeter, rate const. thermokinetic obs. (Russian) 4-41202
 p-block elements, π electron density, reactivity of 2 and 3 element molecules (Japanese) 4-38046
 p-block elements, π electron density, reactivity of 3 and 4 element molecules (Japanese) 4-38047
 parabolic system with coupled nonlinear boundary conditions, numerical soln. 4-57558
 phenol derivatives, H-bonded complexes, IR spectra, thermodynamic const. and freq. shifts 4-46760
 poly(propylene oxide), coordination to ZnCl₂, glass transition, reaction kinetics 4-35894
 polyacetylene:Br, bonding, reactions, EXAFS study 4-11966
 polyatomic reaction dynamics, intrinsic reaction coordinate approach 4-35863
 polyheteroarylene fibre reinforced epoxy composite, IR spectra and struct. 4-12054
 polymer chain with first and second nearest neighbour cooperative effects, irreversible reaction 4-16656
 polymer chains competing irreversible cooperative reactions 4-35894
 polymethine cyanine+p-benzoquinone (p-dinitrobenzene)(methylviologen), electron transfer, fluorescence meas. 4-30934
 proton affinities, gas-phase 4-46746
 protonated intermediates in Rupe and Meyer-Schuster rearrangement, ab initio calcs. 4-23575
 protonated ions with second-row atoms, ab initio SCF and CI calcs. 4-47677
 pyrazoles, phosphoresc. spectra, vibr. anal., proton transfer reactions, acidity const. 4-5280
 qualitative deductions, theorem on mol. rel. stabilities, distortions and reactions 4-28346
 quantum mechanical theory 4-21456
 quantum model for reson. and direct reactive scatt. 4-26191
 quantum-chemical reaction networks, differentiable manifold model, topology methods 4-35862
 quartz glass, wetting by Al, contact reactions 4-50614
 reaction coordinate-transverse normal mode deterministic coupling 4-3393
 reaction path reduced dimensionality effective Hamiltonian, small curvature adiabatic approx. 4-16669
 reactive collisions, dynamic props., laser and mol. beam study 4-35859
 reactive gaseous media, CARS diagnostics 4-19067
 reactive scatt., variation of direct process contrib. with collision energy 4-49127
 reactive scattering, quantum mech. collision resons., probability densities 4-7695
 relativistic electron beams and plasma chemical reactions (Russian) 4-55553
 resonances and interferences in chem. reaction theory 4-21419
 reversible proton transfer, spectroscopic study 4-16625
 Schlogl's mechanism, in continuous stirred tank reactor, flow rate, bistability and limit cycles 4-12338
 semibullvalenes, MNDO study of the rearrangements 4-28371
 semiclassical off-shell wavefunctions and T-matrix elements 4-19188
 short-lived species, diffusion coeff. meas. 4-7709
 silicon methoxide, hydrolysis, sol-gel transition, pH depend., GC and X-ray obs. 4-57607

chemical reactions continued

solid phase, anal. obs. using Raman microprobe 4-32313
 solid-solid reactions, vapour phase diffusion coupled, diffusivity and rate constant 4-51566
 solution-phase chemistry, solvent dynamics and electron transfer, continuum theory 4-3395
 spherically symmetric atoms association in diatomic mols., Percus-Yevick approx., equilib. props. 4-41175
 spiral waves, rotating, in excitable media 4-26260
 static sink trapping, fluctuating nonequilibrium thermodynamics 4-13605
 steel fibre reinforced Al, composite prep. by vacuum infiltration technique, interface stability 4-3107
 stochastic time resolved CIDNP spectroscopy 4-49053
 sucrose, hydrolysis on cation exchange membrane, H⁺ counterion catalysis 4-52050
 symmetrised generalised log-derivative method for inelastic and reactive scatt. calcs. 4-22636
 symmetry selection rules for chem. reactions, rovibronic states 4-12362
 tetraphenylfluorene, chemiluminescence reactions and decay const. 4-51383
 theoretical chemistry, conf., Louvain-la-Neuve, Belgium (June 1983) 4-42577
 thermal equilibrium and chemical reaction, statistical model 4-57527
 thermal unimolecular reactions, separable exponential Kassel model, fall-off behaviour 4-35884
 α,ω -thiadiazines, ¹³C NMR chemical shift, heat of protonation 4-46785
 thiones, photoabstraction reactions, natural correl. diagrams, pot. energy surfaces 4-14343
 transition metal tetrahedral complexes, electrophilic attack 4-16639
 trimolecular reaction model, critical behaviour of fluctuation (Chinese) 4-3376
 twisted scroll rings as wave sources 4-21448
 vibrational product distributions from moments simplistic model investig. 4-21434
 voltammetric responses, curve fitting, reaction reversibility effect 4-16704
 waves, 3-D organising centres in excitable media 4-26259
 waves, chemical, in Belousov-Zhabotinski medium with applied electric field 4-21449
 weakly-ionised mol. plasma near cold electrode, chem. equilib. 4-44797
 Ag complexes, bis(ethylene)dithioformamidine dhalides-Ag(I), preparation and IR spectra 4-51283
 Al₂O₃, leucosapphire, wetting by Al, contact reactions 4-50614
 β -Al₂O₃-Na₂O, O interstitial transport and chemical coloration 4-34723
 Au complexes, bis(ethylene)dithioformamidine dhalides-Au(I), preparation and IR spectra 4-51283
 C, vitreous, wetting by Al, contact reactions 4-50614
 C₃O, generation and identification 4-16644
 C-N bond breakage catalysed by serine peptidases 4-46787
 CaCO₃ (calcite) dissolution rates, mixed kinetic control 4-3755
 CaF₂, wetting by Al, contact reactions 4-50614
 Ca(OH)₂, cryst. form. in exothermal reaction, vacancy prod. 4-29430
 n-CD based photoelectrochemical cells, stabilisation, role of surface reactions 4-57570
 Co complexes, cobalt octoate solns., homogeneous Ziegler-type hydrogenation catalysts, EXAFS study 4-35870
 Co III complexes, quinoxaline-2-thione-4-ones, prep. and characterisation 4-16643
 Cu complexes, bis(ethylene)dithioformamidine dhalides-Cu(I), preparation and IR spectra 4-51283
 Cu II complexes, quinoxaline-2-thione-4-ones, prep. and characterisation 4-16643
 Cu II complexes +SO₂, EPR spectra 4-57553
 CuH₂PO₃, topochem. decomposition, reactivity near reagent/product interface 4-41195
 FH₂, reactive scatt., variation of direct process contrib. with collision energy 4-49127
 Fe(CN)₆³⁻ charge transfer interactions with heterocyclic cations, visible electronic absorpt. spectra 4-26205
 H atom, electron direct reactions, approximations 4-3375
 H+acetylene, reaction mechanism 4-51961
 H+multiply charged fully stripped ion, charge exchange, theoretical cross section data 4-47774
 H+O₂, vibr. energy transfers, pot. hypersurfaces 4-21459
 H₂O₂/N₂ flames, chemical kinetics and thermodynamics 4-57560
 He-acetylene flame, diffusion reaction, spectroscopic studies 4-21471
 LaB₆ powder, effect of Ni additions, reaction character, microstruct. and fracture 4-51599
 Li isotope separation, laser-enhanced chemical reaction method 4-19291
 LiBr aqueous solns., thermophysical props. correlation 4-24704
 Li₂TiO₃, insertion reactions and diffusion 4-52002
 Mg plates, heat exchange during chem. interaction with NaCl aq. solns. 4-44347
 Mg-OH-SO₄-H₂O solubility in seawater, meas. at elevated temps. and press. 4-3756
 NH₃, photocatalytic synthesis in fluidised bed reactor 4-12331
 NH₄ClO₄, topochem. decomposition, reactivity near reagent/product interface 4-41195
 NO, plasmachem. synthesis in N₂-O₂ mixture 4-30926
 Na+Xe, state changing collisions obs. 4-23797
 Na₂ZrP₃O₁₂ synthesis and unit cell data 4-12022
 NeMu⁺, form. and reactivity, muon spin rot. study 4-23843
 Ni complexes, nickel octoate solns., homogeneous Ziegler-type hydrogenation catalysts, EXAFS study 4-35870
 Ni-Cr fibre reinforced Al, composite prep. by vacuum infiltration technique, interface stability 4-3107
 Ni(II) complexes, quinoxaline-2-thione-4-ones, prep. and characterisation 4-16643
 Rb+Rb, collisional ionisation and energy pooling process, mechanism 4-9934
 Ru complexes, reaction with S, oxidation 4-3400
 SO₂ gas absorption with instantaneous chem. reaction in aq. NaHSO₃, rates calcs. 4-31025
 SiO₂ gels, hydrolysis prep., sol-gel transition, X-ray chromatography and NMR obs. 4-57119
 SiO₂-Si interface, Cl incorporation and third phase development during Si oxidation 4-45538
 SmH_{2.95} synthesis, using conventional very high-pressure technique 4-7714
 Ti+Ga powder mixture, reaction and intermetallic form., exothermic effect 4-7741

chemical reactions continued

- U III borohydride+macrocyclic ligands crown ethers (cryptates), ^1H NMR spectra (*French*) 4-16650
- U in situ mining, numerical simulation 4-10757
- W-halogen lamps containing dibromomethane, role of CO, chem. equilib. calc. 4-16645

chemical reactivity *see* **chemical reactions****chemical relaxation**

- amino acids, protonation effects, chem. relax. study 4-51972
- epoxide matrices, deform-strength characts., loading conditions effect (*Russian*) 4-7505
- fibre reinforced epoxy bonded composites, thermal stability (*Russian*) 4-7497
- Kramers model of chem. relaxation in presence of radiation field 4-7713
- linear n-stage catalytic reaction, relax. mechanism 4-52003
- thermal relaxation times meas., using modulated IR beam 4-26195
- Ni^{2+} -malonate ion, chelation kinetics, inhibition by β -cyclodextrin 4-51973

chemical shift*see also* **isomer shift**

- adenosine triphosphate, ^{31}P spectra, spatial localisation preserving chemical shift using surface coil 4-5255
- alcohols, F^- containing, ^{19}F mag. reson. solvate isotope shifts 4-14368
- alcohols, substituted dimers, H bonded, chem. shift, nucl. mag. shielding tensor calcs. 4-16112
- aliphatic cpds., ^{13}C NMR and chem. shift, computerised spectroscopy study 4-49052
- alkyl methylphosphonates, ^{31}P , ^{13}C and ^1H nuclear spin-lattice relax. 4-14452
- aluminosilicates, ^{29}Si NMR chemical shift, nonequivalent tetrahedral sites evaluation 4-28073
- anisole, $^2\text{J}_0(\text{H}, \text{CH}_3)$ meas. by NMR and its conformational implications 4-38206
- aryl oxazolidinones, ^1H and ^{13}C NMR 4-23720
- aryl thiazolidinedithiones, ^1H and ^{13}C NMR 4-23720
- benzene, in thermotropic liq. cryst. mixtures, mol. struct. determ. by NMR 4-19089
- bilirubin dimethyl esters, H-bonded dimers, PMR study 4-19090
- bis(trimethyltin) chalcogenide, ^{119}Sn Mossbauer and NMR spectra 4-39275
- bis(triphenyltin)chalcogenide, ^{119}Sn Mossbauer and NMR spectra 4-39275
- bis(triphenyltin)telluride, cryst. struct., ^{119}Sn Mossbauer and NMR spectra 4-39275
- carbonaceous deposits on SiO_2 supported Ru, ^{13}C NMR, chemical shift, spin-spin relax. times 4-16110
- carboxylic acids, substituted dimers, H bonded, chem. shift, nucl. mag. shielding tensor calcs. 4-16112
- cement hydration, solid-state magic-angle spinning ^{27}Al NMR 4-51989
- chemical bonding effects in X-ray spectral anal. 4-31046
- costaclavine, mol. struct., stereoisomerism, ^1H NMR investig. 4-9801
- cyclohexane, H^+ chem. shifts, isoscreening line diagrams, calcs. 4-49056
- D-mannose- d_5 in potassium lurate liq. cryst., chem. shift and quadrupole splittings separation, D NMR spectra 4-30302
- meta-difluorobenzene, ^1H and ^{19}F NMR study of struct., J-coupling anisotropy and orientational behaviour 4-7082
- electron emission and relax. mechanisms, XPS and AES appls. (*French*) 4-51459
- epicostaclavine, mol. struct., stereoisomerism, ^1H NMR investig. 4-9801
- erythrocyte suspension, chicken, intracellular distrib. and transport props. of small mols., NMR study 4-7952
- ethanol, chemical-shift-resolved tomography using frequency-selective excitation and suppression of specific resonances 4-38208
- ethene, adsorbed in zeolites, NMR spectra, MO calcs. 4-23714
- ethylene-1,2- ^{13}C , ^1H and ^{13}C mag. shielding tensor, NMR determ. 4-54748
- exchange system, NMR spectra field depend., parameters' evaluation 4-23719
- ferroelectric materials, radiospectroscopic investigations of noncodimensional phases 4-35240
- N-(9-fluorenyl)-pyridinium salts, restricted rot., PMR chem. shift 4-54754
- fluorobenzenes, p-substituted, ^{13}C NMR chem. shifts, substituent effects 4-23718
- FT NMR imaging, high resolution chem. shift resolved planar imaging 4-38209
- α -glycine ^2H chem. shift and EFG tensors 4-40256
- (1- ^{13}C)glycyl- ^{15}N -glycine. $\text{HCl}\cdot\text{H}_2\text{O}$, ^{13}C chem. shift and ^{13}C - ^{15}N dipolar tensors 4-19086
- graphite- HSO_3F intercalation cpd., X-ray photoelectron spectra studies 4-40609
- graphite- SbF_5 intercalation cpd., NMR study 4-40257
- heteronuclear relayed correction spectra, suppression of neighbour peak using low-pass J filtering 4-4441
- hexagonal, H^+ mobility in bulk and surface, PMR investig. 4-30291
- high-resolution dilute spin dipolar NMR spectroscopy in the solid state 4-48166
- homonuclear coupled spin systems, selective polarisation transfer, one dimens. multiphase technique for C-C connectivities 4-28472
- hydrocarbons, H^+ chem. shifts, isoscreening line diagrams, calcs. 4-49056
- hydroxy naphthalenes, ^{13}C chemical shift, identification of conformational preference 4-23721
- in vivo proton chemical shift NMR imaging 4-8076
- lanthanide-peptide equilibria in aq. soln., NMR shift contrbs. 4-19084
- lysozyme, two-dimensional chemical-shift correlation using water suppression pulses 4-57847
- metabolites, in vivo, absolute molar conc. by NMR in inhomogeneous B_1 4-13182
- metal difluorides, ^{19}F NMR chem. shift, spin-echo expt. 4-7081
- metallic elements, Auger energy shift 4-38138
- methane dimer, nuclear mag. shielding const. with intermol. interaction, counterpoise contribution 4-28385
- methane disulphonyl fluoride, vibr. spectra and H bonding 4-5210
- methoxy naphthalenes, ^{13}C chemical shift, identification of conformational preference 4-23721
- methyl iodide, in thermotropic liq. cryst. mixtures, mol. struct. determ. by NMR 4-19089
- methylproline peptides, cryst. struct., mol. conform., IR and ^{13}C , NMR spectra 4-35239
- chemical shift continued**
- molecules, partially oriented, chemical shifts and quadrupolar coupling, vibr. corrections 4-38198
- multiple quantum NMR ^1H and ^{15}N chemical shift correls. 4-17909
- naphthalenes, substituted, stability and population of conformers, ^{13}C chemical shift 4-43906
- NMR, relativistic molecular orbital theory 4-1030
- NMR, solid-state, half-analytical gradients and Monte-Carlo simulation 4-56795
- NMR magic angle sample spinning, uniform chem. shift scaling 4-56800
- ordered systems, chem. shift and quadrupole splittings separation, D NMR spectra 4-30302
- organic phosphates, Li halide and LiClO_4 binding, multinucl. NMR investig. 4-1182
- oriented molecules in thermotropic solvent mixtures, diamag. anisotropy effects, NMR obs. 4-56788
- oximes stereochemistry, shift reagent and ^{13}C and ^1H NMR study 4-38197
- (phenyl) $_{3-n}\text{P}_n\text{Cr}(\text{CO})_5$, $n=0-3$ $\text{X}=\text{Cl}, \text{Br}, \text{I}, \text{H}$, back bonding, XPS, NMR and IR study 4-43903
- N-phenyl-O-methylurethanes, o-substituted, intramol. H bond energy determ. using PMR 4-9802
- phenylalanine ring dynamics by solid-state ^{13}C NMR 4-51148
- phosphocreatine, ^{31}P spectra, spatial localisation preserving chemical shift using surface coil 4-5255
- PMMA, solid-state ^{13}C NMR chem. shielding tensor elements 4-11787
- PMR by Fourier transformation, chem. shift and spin coupling separation, dispersion signal elimination 4-37136
- polyacetylenes, cis and trans, ^{13}C NMR chem. shift and electronic struct., tight binding MO theory 4-23847
- polyethylene, ^{13}C NMR chem. shift and electronic struct., tight binding MO theory 4-23847
- polyethylene, low density, ^{13}C NMR, chain branching anal. (*French*) 4-28458
- powdered solids, chem. shift anisotropy study by 2D FT NMR with flipping of spinning axis 4-30303
- proteins, proton chemical shifts obtained using 2D double quantum spectroscopy 4-7920
- 4-pyrone partially oriented in nematic phase, ^1H NMR spectra, ^{17}O chemical shift 4-5248
- pyrrole- ^{15}N in nematic liq. crystals, struct. determ. ^{13}C -satellites in ^1H NMR spectra 4-5249
- quadrupolar nuclei, half-integer, NMR powder spectra, excitation phenomena and line intensities 4-25645
- rare earth intermetallics, X-ray absorption spectra localised versus itinerant final states 4-35517
- selective two-dimensional heteronuclear shift correlation 4-48169
- sepesteonol, struct., 2D NMR spectra 4-43900
- silicates, high resolution ^{29}Si NMR studies 4-47251
- sodium tetramethylammonium silicate soln., struct. forming effects, ^{29}Si NMR 4-30304
- spatial mapping of the chemical shift in NMR 4-11782
- strychnine, spin-lattice relax., NOE and PMR study 4-1188
- strychnine sulphonic acids, struct., stereochemistry, spin-lattice relax., NOE and PMR study 4-1188
- styrenes, 3- and 4-substituted, substituent-induced chem. shifts, data matrix factor anal. 4-9791
- styrenes, 3- and 4-substituted, substituent-induced chem. shifts, linear regression anal. 4-9792
- N-(p-substituted phenyl)-2,6-dimethyl-4-pyridones, substituent effects transfer 4-54753
- α,ω -thiadiamines, ^{13}C NMR chemical shift, heat of protonation 4-46785
- thiamylal, optical purity and ^1H NMR, lanthanide shift reagent investig. 4-54745
- thiopicvalic acid, self-association in solns., PMR chem., shift study 4-41199
- Sd transition metals, double hole binding energy shifts, rel. to AES results 4-3002
- tRNA $_{\text{Met}}$ exchangeable imino protons, E. coli, chem. shift correl. maps, ^1H - ^{15}N NMR obs. 4-16839
- zeolites, ^{29}Si NMR chemical shift, nonequivalent tetrahedral sites evaluation 4-20873
- Ag^+ selective solvation in solvent mixts., ^{109}Ag NMR study 4-41182
- As, at. and mol. 2p binding energies from many body calc. and XPS 4-10177
- $\text{As}_2\text{Se}_3\text{Cu}(\text{Ag})$, photoelectron and Auger lines, chem. shifts 4-25849
- BaF_2 , F nucl. mag. shielding, press. depend. 4-16113
- ^{13}C NMR chem. shift prediction, multivariate method using partial least-squares anal. 4-19087
- ^{13}C - ^1H chemical shift correl. in $^{13}\text{CH}_n$ groups, ($n=1$ to 3), selective approach 4-5250
- CaF_2 , F nucl. mag. shielding, press. depend. 4-16113
- Cd, halogenation, UPS study 4-30609
- Co complexes, dioxygen, ^{59}Co NMR chem. shifts and line widths, model calcs. 4-9794
- Co complexes, specific gravity calc. from X-ray chem. shift 4-11963
- Co complexes, spin-lattice and spin-spin relax. times meas., chemical shift, solvent effects 4-7087
- CsPbF_3 , ^{207}Pb chemical shift meas., mag. shielding study 4-11783
- Cu complexes, EXAFS and chemical shift studies 4-7275
- Cu complexes, specific gravity calc. from X-ray chem. shift 4-11963
- Cu II complexes, copper(II)bis(acetylacetonate), g-tensor, struct. distortions, adduct form., INDO calcs. 4-33322
- $\text{CuBiS}_2(\text{Se}_2)(\text{Te}_2)$, X-ray spectra and chemical shift 4-46361
- $\text{CuBr}(\text{Cl})(\text{I})$, plasmon and X-ray chem. shifts 4-57038
- $\text{CuInSe}_2(\text{Te}_2)$, X-ray spectra and chemical shift 4-46361
- Cu_2S , plasmon and X-ray chem. shifts 4-57038
- $\text{CuSbS}_2(\text{Se}_2)(\text{Te}_2)$, X-ray spectra and chemical shift 4-46361
- CuSe , plasmon and X-ray chem. shifts 4-57038
- Cu_2Te , plasmon and X-ray chem. shifts 4-57038
- $\text{CuTiS}_2(\text{Se}_2)(\text{Te}_2)$, X-ray spectra and chemical shift 4-46361
- EuCl_3 , anhydrous non-stoichiometric phase, Mossbauer studies 4-20890
- GaP, chemical shift effect on donor polarisabilities 4-11477
- Ge-Se, amorphous, XPS and AES chem. shifts 4-21104
- $\text{GeSe}_2\text{Cu}(\text{Ag})$, photoelectron and Auger lines, chem. shifts 4-25849
- H^+ -D chemical shift correl. spectroscopy 4-56801
- H_2O dimer, nuclear mag. shielding const. with intermol. interaction, counterpoise contribution 4-28385
- H_2O , NMR chem. shifts and shielding const. 4-23715
- $\text{H}_2\text{O}-\text{H}^+$ system, nuclear mag. shielding const. with intermol. interaction, counterpoise contribution 4-28385

chemical shift continued

- H_2O^+ , NMR chem. shifts and shielding consts. 4-23715
 H_2PO_4^- , organic and nucleotide derivatives, ^{31}P NMR chem. shift spectra, comparative study 4-54759
 ^3H magnetic resonance spectroscopy, practical aspects 4-13663
 ^{199}Hg - ^{12}C (^{13}C) cpds., chem. shift, weak field isotope effect 4-14449
 ^{199}Hg - ^{29}Si (^{29}Si) cpds., chem. shift, weak field isotope effect 4-14449
 LiAlO_2 , polymorphs, ^{27}Al NMR, chem. shift and quadrupole coupling 4-30301
 LiClO_4 -solvent-nitroxide radical systems, multinuclear NMR study 4-28461
 NH_4^+ , D isotope effects of N chem. shift 4-33423
 NH_4PF_6 , PMR and ^{19}F NMR study at high press. 4-16111
 Na^+ , N,N-diethylacetamide soln., NMR 4-28395
 Ni (II) maleic acid complex, NMR and INDO investig. 4-1177
 Ni (II) succinic acid complex, NMR and INDO investig. 4-1177
 OH^- NMR chem. shifts and shielding consts. 4-23715
 ^{17}O (^{18}O)(^{31}P) NMR effects, further invetig. and appl. 4-1179
 P , at. and mol. 2p binding energies from many body calc. and XPS 4-10177
 PbF_2 - CaF_2 , ^{207}Pb chemical shift meas., mag. shielding study 4-11783
 PbFCl , ^{207}Pb chemical shift meas., mag. shielding study 4-11783
 ReO_2 , orthorhombic and monoclinic, EXAFS study 4-16271
 $\text{Re}_2\text{W}(\text{Mo})$, EXAFS study near ReL_{III} absorpt. discontinuity 4-40572
 Ru (II) porphyrin π -cation radicals, NMR spectra, rel. to horseradish peroxidase cpd. I 4-9796
 Se , at. and mol. 2p binding energies from many body calc. and XPS 4-10177
 Si (111) 2×1 surface, Mott insulator model, ab initio calcs. 4-6858
 Si , chemical shift effect on donor polarisabilities 4-11477
 $\text{Si}_2\text{C}_{1-x}\text{H}_x$, amorphous, plasmon behaviour, XPS study (*Chinese*) 4-2531
 SiO_2 , amorphous thin film, optical phonons, IR transmission 4-56938
 SiO_2 - K_2O aq. solns., two dimens. ^{29}Si NMR spectra 4-49051
 $\text{TiNb}_2\text{O}_7\text{F}$, defect pyrochlore struct., Ti^{4+} ion mobility, NMR study 4-34697
 $\text{TiNb}_2\text{O}_7\text{F}$ pyrochlore, Ti ion mobility, NMR study 4-40269
 U intermetallics, X-ray absorption spectra localised versus itinerant final states 4-35517
 Xe , adsorbed on graphite, NMR study 4-20874
 ZnSe , chemical shift effect on donor polarisabilities 4-11477

chemical structure

- see also bonds (chemical); crystal atomic structure; crystal chemistry; molecular configurations
 2-amino-tetralins, structural similarity 4-33295
 coal, pyridine extracts and residues, chem., struct., CP MAS ^{13}C NMR investig. 4-56794
 computer-aided elucidation 4-54879
 copoly(esterethers), soft segments, chem. struct., mol.wt. effect (*Polish*) 4-19314
 II-VI semiconductor-metal interface, chem. struct. and Schottky barrier form. 4-6891
 III-V semiconductor-metal interface, chem. struct. and Schottky barrier form. 4-6891
 molecular shape and shapeless struct., stable and unstable forms 4-46733
 molecule synthesizing mechanism determ. using mass spectrometry 4-16710
 nuclear geometry classification, metric spaces, pot. energy hypersurface 4-33275
 poly(ethylene glycol), chem. struct., mol. wt. distrib., fast atom bombardment mass spectra 4-35957
 poly(propylene glycol), chem. struct., mol. wt. distrib., fast atom bombardment mass spectra 4-35957
 polyacrylic acid-polymeric heterocyclic amine complexes, struct. and props. (*Russian*) 4-14620
 polymer melts, shear modulus, time domain mech. spectroscopy 4-30743
 solids and mols. symmetry, topological considerations 4-29348

chemical technology

- see also chemical industry; chemical variables control; chemical variables measurement; oil refining
 fluidisation, particulate and delayed bubbling regimes 4-10758
 non-equilibrium thermodynamics appl. in chem. engineering, distillation in wetted-wall column 4-32216
 particle settling velocity calculation program for TI-59 programmable calculator 4-12388
 process networks, design process for equipment selection and process matching 4-31111
 voidage meas. in bubble column 4-8866
 NO_2 detect. of ambient levels using passive sampler 4-16808

chemical vapour deposited coatings see CVD coatings**chemical vapour deposition**

- see also vapour phase epitaxial growth
 belt transport CVD processing 4-25893
 chlorosilane, dissociation to Si in low press. microwave plasma 4-7717
 conducting film on glass, fabrication by pyrolysis or vacuum deposition (*French*) 4-35575
 fine glass particle-deposition mechanism in VAD process, optical fibre preform production appls. 4-14820
 III-V compound polycrystalline thin films for solar cells, growth technology 4-7366
 laser CVD, expt. studies 4-25898
 laser induced chemical vapour deposition 4-21148
 laser-based studies 4-12420
 lightguide manufacture for data transmission 4-10463
 MCVD optical waveguide fibre, modal structure 4-1486
 MCVD optical waveguide fibres, empirical analysis of profile variations using modal structure analysis 4-19582
 MCVD process, deposited mass distrib. determ., fibre fabrication 4-46451
 MCVD process, process for recovering Ge from effluents, optical waveguide prod. 4-46450
 metallic glasses, sample preparation methods and processes characterisation 4-57184
 microwave plasma CVD system, appl. to Si amorphous film fabrication (*Japanese*) 4-3084
 optical fibre fabrication, thermophoretic efficiency variations in MCVD process 4-25897
 optical fibre fabrication, VAD, graded-index fibres (*Japanese*) 4-49584
 optical fibre manufacture (*Spanish*) 4-19609
 optical fibre preform fabrication system improvement, VAD appl. (*Japanese*) 4-49583

chemical vapour deposition continued

- optical fibre preforms, high production rate achievement using VAD (*Japanese*) 4-49586
 optical fibres, single and multimode, hexafluoroethane doped, plasma activated CVD, OH absorption loss study 4-28847
 optical fibres, single mode fabricated by pressurised MCVD method, characts. 4-24186
 optical single-mode 1.5 μm dispersion-free fibres fabrication, VAD appl. (*Japanese*) 4-49585
 phenomenological theory of gas deposition reactions 4-16340
 photo-induced CVD, etching and thin film deposition (*Japanese*) 4-40669
 plasma assisted CVD, review of semicond. appl. 4-57108
 plasma enhanced CVD, technique and semicond. processing appl. 4-12030
 selective absorbing surfaces in practice, review 4-41380
 semiconducting transparent thin films, props. and appls., review 4-25881
 semiconductor device, plasma deposition technology (*Korean*) 4-51512
 single mode fibres, F doped, fabrication by VAD, transmission characts. 4-24268
 single mode fibres prep. using low press. plasma CVD process 4-24267
 solar cells construction and principles (*Dutch*) 4-36010
 thermodynamic models of chem. transport reactions, systems with coexisting solid phases or homogeneity range phases 4-40666
 thin film growth in conveyor furnaces 4-35577
 VAD optical fibres 4-28864
 AlGaAs multiple quantum well heterostruct. visible laser, MOCVD growth 4-19448
 AlGa $_{1-x}$ AsGaAs superlattices grown by MOCVD, monolayer heterointerfaces 4-51463
 AlGaInP/GaInP/AlGaInP DH visible lasers, MOCVD growth and room temp. pulsed operation 4-19443
 AlN, CVD and props. (*Japanese*) 4-11417
 Al $_2\text{O}_3$ films, CVD, deposition rate meas. 4-16339
 B chemical vapour deposition on Be, wear and friction tests 4-7370
 BN, CVD and props. (*Japanese*) 4-11417
 BN, chemical vapour infiltration deposition, thermodynamic studies 4-25894
 C films, diamond-like, obtained by ionised deposition of acetylene (*Japanese*) 4-2471
 C, pyrolytic, deposition from propane in tumbling and stationary beds 4-12031
 CdIn $_2$ Ga $_{2(1-x)}$ Si $_4$ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
 CdS single crystal growth by closed-tube H_2 chem. transport 4-7340
 CdTe thin-film polycryst. solar cells, film prep. techniques 4-21543
 Co, vapour phase growth by closed tube technique 4-7341
 Cr, vapour phase growth by closed tube technique 4-7341
 Cr-Co solid solution, vapour phase growth by closed tube technique 4-7341
 Fe whisker growth rate, in situ TV obs. 4-15795
 GaAlAs BH lasers grown by two-step MOCVD process 4-1406
 GaAs, epitaxial growth from coordination compounds, characterisation by RHEED and SEM (*French*) 4-21160
 GaAs-AlGaAs single and multi-quantum well structs., MOCVD growth 4-51507
 GaAs-Ga $_{1-x}$ Al $_x$ As superlattices, MOCVD growth and struct. study 4-20498
 GaInAs, OMVPE growth, morphology, solid comp., optical and elec. props. 4-46441
 GaN, CVD and props. (*Japanese*) 4-11417
 GeO $_2$ -SiO $_2$:F single mode fibre fabrication using VAD method 4-24269
 InGaAs, MOCVD growth using new AsH_3 cracking method 4-21153
 In $_{0.53}$ Ga $_{0.47}$ As/InP multiple quantum-well laser, optically pumped, chloride VPE grown, lasing characts. study 4-28688
 Mo film formation by low press. CVD 4-21152
 Nb $_2$ Ge $_3$, metastable modifications, prep. by chem. transport reactions 4-57106
 P $_2$ O $_5$ -SiO $_2$:P(B), doping process and CVD on semicond. substrates 4-21156
 Si (III) surface interactions with H_2 , NH_3 , SiH_4 multipolar plasmas, in situ ellipsometry obs. 4-51837
 Si amorphous film deposition by laser induced-CVD and sputtering 4-7369
 Si amorphous films, deposition techniques and appls. 4-7368
 Si amorphous solar cell types, fabrication method for high conversion efficiency 4-16774
 Si, CVD structures formed by amorphous and crystalline growth 4-51511
 Si film, CVD, epitaxial overgrowth process 4-21158
 Si film CVD by substrate preheating using lasers (*Chinese*) 4-57105
 Si films, CO $_2$ laser CVD of SiH_4 , CARS study 4-16338
 Si films, patterned, graphoeptitaxy and zone melting recrystallisation 4-21159
 Si grapho-epitaxy using partly ionised particle beams 4-16335
 Si lateral epitaxial chem. vapor deposition over insulator 4-40663
 Si on Si_3N_4 substrate, mechanism of polycryst. growth from SiH_4/H_2 4-50676
 Si solar cell active layers, cost estimates for amorphous deposition processes 4-21149
 Si, solar grade, prod. and refining processes, future trends 4-7378
 Si thin film CVD growth and nucleation 4-20520
 Si:H, amorphous, CVD prep., optical, electronic and device props. 4-16337
 Si:H amorphous film, growth characterisation of multiple angle of incidence spectroscopic ellipsometry 4-51523
 a-Si:H films, CVD and plasma deposition, defect chemistry 4-29839
 a-Si:H films, photochem. CVD prep., struct., optical, and electronic props. 4-3078
 Si $_2$ intermediate chemical species obs. in CVD by laser excited fluoresc. 4-35576
 SiB $_3$, deposition from gaseous phases, thermodynamic equil. calcs. (*French*) 4-24968
 SiC fibres, prep. and mech. props. 4-26019
 β -SiC plates, CVD, surface morphology rel. to deposition conditions (*Japanese*) 4-40670
 SiC, single crystal CVD on Si, buffer-layer technique 4-51508
 a-SiC:H, prep. by GD-CVD, phys. props. 4-40668
 Si $_{1-x}$ N $_x$ nitride layer form. in semiconductor-insulator struct. by thermal growth and CVD 4-20516
 Si $_3\text{N}_4$ film, photo-CVD by direct pyrolysis, elec. and optical props. 4-40661

chemical vapour deposition continued

- Si₃N₄ films, plasma enhanced CVD deposition, etching and insulation degradation 4-51841
- Si₃N₄ plasma etching of low press. CVD deposited films, NH₄F film obs. by IR spectrophotometry 4-35743
- Si₃N₄-C, amorphous composites, CVD, etching in HF soln. 4-7617
- Si₃N₄-C composites, CVD amorphous, ESCA study 4-20104
- Si₃N₄-TiN composites, prep. by CVD, thermal cond. 4-6571
- SiO₂ film deposition on Si using ionised cluster beam 4-35580
- SiO₂ films, electron beam assisted CVD 4-3079
- SiO₂, low power plasma-enhanced CVD, rate and uniformity control, optical monitoring 4-35579
- SiO₂, pure and doped films prepared by plasma activated CVD, material dispersion characts. 4-1491
- SiO₂-Al₂O₃ VAD fibres, fabrication, transmission loss and refr. index dispersion (*Japanese*) 4-49588
- SiO₂-GeO₂ optical fibre prep. by plasma CVD process, OH contamination 4-24270
- SnO₂ films, CVD grown, low cond. and optical props. 4-21161
- SnO₂ thin films, CVD on rutile substrates, struct. (*Japanese*) 4-11422
- SnS₂ films, chemical transport using S 4-3083
- Ti deposition on stainless steel, kinetics at elevated temps. (*Korean*) 4-30645
- TiC, CVD, acoustic wave irradi. effects 4-51524
- TiC coatings, characterisation of thermal stability and surface irradiation, fusion reactor appl. 4-914
- TiC whiskers, growth and mech. props. (*Japanese*) 4-39738
- TiN, CVD, acoustic wave irradi. effects 4-51524
- TiN coating, CVD grown on TiC, effect of expt. conditions 4-2479
- TiN coating by hollow cathode discharge deposition (*Chinese*) 4-57107
- TiO₂ films, plasma enhanced CVD in RF glow discharge, struct. props. 4-21154
- TiO₂ thin films, CVD deposition, antireflection coating appl. 4-25896
- W film, form., low temp., by vapour phase reaction (*Japanese*) 4-46448
- WSi_x films, property depend. on plasma CVD conditions (*Japanese*) 4-45556
- YIG epitaxial film, CVD, quality and thickness, guided wave optical loss 4-16341
- Zn_{0.9}Cd_{0.1}-In₂S₄ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
- ZnIn₂Ga_{2(1-x)}S₄ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
- ZnO oriented films, MOCVD deposition process 4-30643
- ZnS crystal, CVD, low resistivity res. to heat treatment in Zn 4-16301
- ZnSe, epitaxial growth, interface with GaAs substrate, TEM obs. 4-51510
- ZrO₂ thin films, metal organic CVD, dielec. and elec. props. 4-51521

chemical variables control

see also pollution detection and control

- alcohol measurement and control, nonelectrochemical methods 4-35963
- free radical addition homopolymerization, molecular weight distrib. control 4-30985
- O₂ concentration measurement and control in combustion processes using ZrO electrolyte sensors (*German*) 4-48102

chemical variables measurement

see also chemical analysis; moisture measurement; pollution detection and control

- air composition, using semiconducting gas sensors, surface cond. method 4-22775
- alcohol measurement and control, nonelectrochemical methods 4-35963
- Applikon ASA 2020 Titro-Analyzer (*Dutch*) 4-46807
- chemically sensitive FET sensors, operation as function of insulator-electrolyte interface 4-27507
- combustion processes obs., using CARS technique 4-4484
- concentration meas. using light absorption law 4-12418
- fast reactions in solution meas., temp.-jump technique 4-26174
- gas detectors, copper phthalocyanine Langmuir-Blodgett films appl. 4-243
- gas measuring instrument with photometric evaluation of chemical reactions (*German*) 4-21511
- gas sensor using ZnO single crystals, CO and H₂ sensitive 4-32249
- geothermal steam/gas concentration determ. non-condensable 4-52068
- high-speed process chromatography for the Claus process 4-35968
- ion sensitive FETs, with electrostatic protection 4-37084
- ISFET sensors, electrochemical aspects and appl. 4-26235
- laser particle counter, using He-Ne laser and pulser height analyser 4-44133
- methane concentration meas. using fibre optic gas detection system 4-27512
- methane monitor, using diode-laser absorption spectrometry, air pollution monitoring appl. 4-3515
- on-line detection of gases using IR laser 4-43062
- optical transducers with fibre-optic links using incoherent light 4-53760
- salinity of ocean, meas. errors from radiometric remote sensing 4-22160
- sensors, ISFET, MOSFET, ICD, piezo- and pyroelectric, SAW types, design and characts. (*Italian*) 4-13629
- SnO₂ gas sensor and its appl. 4-37081
- suspensions, concentration anal. using dielec. constant meas. (*Japanese*) 4-16699
- ULTRAMAT 21 and 22 microprocessor-based gas analysers for standard applications 4-35967
- H₂ sensitivity of heat treated ZnO films 4-42945
- hydrocarbons detection in water, using FIDMAT analyser and stripping device 4-36046
- Li-SO₂ cells, physical and chemical meas. 4-7843
- NO₂ sensor based on electrical conductivity changes in phthalocyanine films 4-32248
- NO_x emissions from large scale furnaces, measuring methods and instruments (*German*) 4-52242
- O₂ concentration measurement and control in combustion processes using ZrO electrolyte sensors (*German*) 4-48102
- O₂ monitoring in flue gases 4-27503
- SO₂ gas optical monitoring, techniques and instruments (*German*) 4-21512
- SnO₂ gas sensor, effects of tetraethyl orthosilicate binder (*Japanese*) 4-42946
- SnO₂ sensor for selective detection of gas 4-37082
- SnO₂:Pd sensor characts. determ., resistivity and work function meas. 4-53669

chemically reactive flow

- autocatalytic models for turbulent flows in tubes 4-5878
- Belousov-Zhabotinski reaction mixture, periodic and chaotic regimes 4-41196
- binary mixtures, reactive, amplitude eqns. of onset of convection in porous medium 4-29085
- boundary layer on plate in inhomogeneous chem. props., stationary convective diffusion 4-5886
- combusting flows, optimisation, measurement techniques 4-49906
- combustion diagnostics, uncertainties propag., IR band models 4-38918
- combustion modes in boundary layer with strong injections, nonuniqueness and instability 4-5971
- convective mass and heat transfer of reacting particles with flow, non-linear boundary-value problems 4-38913
- curved flame front, break lines, detect. property 4-38911
- cylindrical combustion chamber, HF oscill. excitation 4-46765
- deformed shell, heat exchange with two-phase chemically reacting flow (*Russian*) 4-14977
- diffusion combustion, turbulent mixing, rel., conc., probability distrib. 4-44761
- dissipative structure form. in hydrodynamic flows with chem. reactions (*Ukrainian*) 4-5974
- distorted flame front propagation in gas flow field 4-44763
- droplet decomposition in reactive atmosphere, large activation energy effects 4-21477
- ethylene-O₂ mixtures, flame propag. in tubes with orifice (*German*) 4-29207
- flame, laminar, propag. in closed container, anal. using finite difference scheme 4-34041
- flame front motion, hydrodynamic coupling with upstream gas flow 4-1850
- flame propagation, laser Doppler velocimetry meas. 4-49896
- flames, premixed, laminar, extinction by stretch and radiative loss 4-41215
- flow visualization in combustion gases using nitric oxide fluorescence 4-44759
- fuel, liquid, surface diffusion combustion of heterogeneous systems (*Russian*) 4-12372
- gas mixtures, explosion anal. with shift in chemical equilb. of products taken into account 4-7729
- gas-film system, heterogeneous, detonation wave front, press. meas. 4-5906
- gas-liquid mixer, cold blocking of channel by hot fuel jets 4-38876
- graphite, surface, high-temp. boundary layer, transport processes 4-44765
- heat and mass transfer coeff. calc. 4-34202
- high-speed gas motion in porous medium 4-29176
- interphase heat and mass transfer in turbulent liquid flows 4-34068
- isothermal flow through reactor with reactions of autocatalytic type, numerical anal. 4-5972
- laminar premixed supersonic free shear, with chem. reactions, stability 4-44638
- Laval nozzle, air plasma, nonequilb. parameters 4-24462
- low-conductivity liquid, charging in pipe flow with surface electrochem. reaction 4-5976
- natural convection influence on fuel mixture ignition concentration limits 4-44760
- nonisothermal flow of chemically reacting media with viscosity depending on temperature and pressure 4-15038
- nonlinear detonation waves 4-34121
- nozzles, short, nonequilb. gas expansion including electrochem. kinetics (*Ukrainian*) 4-38912
- opposed jet flame holder, blow-off vel. prediction 4-29141
- parallel flow, asymptotic theory of dispersion of reactive contaminants 4-44767
- periodic vortex formation in wake behind flame stabilisers 4-44764
- plane steady compressible flow with combustion 4-29208
- polymerizing liquid in cylindrical pipe, nonisothermal rheokinetics 4-29187
- propane-air flame, combustion in a turbulent mixing layer formed at a rearward-facing step 4-29109
- quasisentropic compression of the medium by shock wave loading 4-44642
- reacting polymer jets, turbulent boundary layer treatment 4-44549
- reactive gas assisted laser cutting, phys. mechanism, technical limitations 4-49423
- shock fronts, spontaneous Mach atom form. theory 4-44768
- simulation of a simple reacting gas flow with an upwind scheme 4-49889
- solid-fluid reactions, numerical simulation in isothermal porous spheres 4-19896
- spiral waves, rotating, in excitable media 4-26260
- stagnation point flow in a diffusion cell 4-29172
- standing sound wave effect on turbulent flame flow 4-44762
- steady plane-parallel convective motion, stability 4-44766
- supersonic flow with different chemical compositions, viscous mixing calcs., appl. to chemical lasers (*French*) 4-14999
- supersonic stream, thermal compression by combustion, numerical modelling 4-5911
- supersonic viscous gas jets, interaction, nonequilb. physicochem. processes effects 4-10715
- thermally conducting dissociating gases, unsteady flow, weak discontinuity evolution 4-10643
- turbulent combustion instabilities leading to flashback, secondary effects 4-46764
- turbulent diffusion flames, nonequilb. effects, statistical props. 4-29206
- turbulent micromixing, heat and mass transfer 4-34203
- twisted scroll rings as wave sources 4-21448
- two-phase, transient processes 4-5975
- two-phase flow monolithic catalyst reactor, hydrogenation of nitrobenzoic acid on Pd catalyst 4-57598
- two-phase systems, detonation, shock wave, laminar boundary layer, mass exchange 4-5973
- velocity and temperature meas. by combined use of laser Doppler velocimeter and coherent anti-Stokes Raman scatt. 4-10800
- wave motions of chem. active and two-phase media, exact math. analogy 4-5941
- waves, 3-D organising centres in excitable media 4-26259
- waves, chemical, in Belousov-Zhabotinski medium with applied electric field 4-21449
- Ar-S₂ gas mixture, light localisation and amplification during flow (*Russian*) 4-49340
- C, combustion rate in flowing gas streams 4-52011

chemically reactive flow continued

- DF, high-press. chemical lasers, reactant-surface stretching effect 4-44095
 NO-O₂ in jet or plume, chemical reaction turbulent effects 4-34204
 NO+O₂→NO₂+hv, chemiluminescence in a flow of nonadiabatically cooled dissociated air (*Russian*) 4-26212
 O₂+HO₂, energy transfer reaction, H-atom prod., rate consts. 4-41177
 SiH₄+F₂, laser induced fluorescence in diffusion flames 4-49082

chemiluminescence

- bacterial bioluminescence and bioluminescent analysis 4-12731
 biological luminescence, liquid scintillation counter appl. (*Chinese*) 4-31171
 blue-green algae, luminesc. spectrum, temp. influence 4-31284
 dielectric discharge, active N₂ generator for chemiluminesc. and anal. studies 4-34343
 dioxetanone, ground state, dissoc. pot. energy surface, MINDO/3 SCF calcs. 4-1060
 gaseous chemiluminescence analyser, generalised response 4-26211
 inert gas atoms+metal halides, dissoc. excitation, rate consts., emission obs. 4-41178
 lophine, chemilum. reactions in presence of different metal ions 4-7255
 lucigenin, chemilum. reactions in presence of different metal ions 4-7255
 luminol, chemilum. reactions in presence of different metal ions 4-7255
 oceanic faecal pellets and sediment trap particles, metabolic activity and bioluminesc. 4-41468
 phagocytic cells in mouse blood, early effect of sublethal X-irrad., chemiluminesc. obs. 4-21740
 Pyrocystis lunula, laser-induced bioluminesc., temp. depend. 4-26479
 tetraphenylfluorene, chemiluminescence reactions and decay const. 4-51383
 AlF(a^π), prod. from Al+F₂, vibr. distrib., chemiluminescence 4-12342
 AsI, spectroscopic consts., chemiluminescence, near-IR spectra 4-49020
 Ba+NO₂(N₂O)(O₂), single-collision chemiluminescence study 4-21442
 Cl+BrN₃, chemiluminesc. reactions, vibr. excitation 4-12336
 Cl+H₂Se, IR chemiluminesc. obs. 4-21435
 Cu⁺ concentration measurement on basis of chemiluminesc. kinetic curves from luminol reaction in aqueous soln. with H₂O₂ 4-35964
 DN₃, IR multiphoton excitation and dissoc. 4-3420
 F+BrN₃, chemiluminesc. reactions, vibr. excitation 4-12336
 F+H₂, HF product state distrib. at enhanced collision energies 4-21465
 F+H₂Se, IR chemiluminesc. obs. 4-21435
 F+HBr, IR chemiluminesc. obs. 4-21435
 F+NH₃(ND₃) reaction, vibr. energy partitioning 4-51967
 H+Br₂(Cl₂)(NO₂)(NO₂Cl)(PCl₃), chemiluminesc., product distrib. 4-38145
 H+Cl₂(SCL₂)(PCl₃), IR chemiluminesc., product distrib. 4-38146
 HF+HF, vibr. relax., fast flow IR chemiluminesc. 4-1244
 HO₂(A²A'), excitation mechanisms in various chem. systems 4-9695
 Hg+halogen containing mols., chemiluminesc., emission spectra of HgX where X=halogen 4-26210
 K₂+O₂, crossed beam chemiluminescence study 4-21455
 N⁺+H₂(D₂), chemiluminescence, NH⁺(ND⁺) emission 4-21461
 N⁺(D)+D₂→ND⁺(B²Δ)+D, chemiluminesc. reactions, spectroscopy and dynamics 4-52016
 N⁺(D)+H₂→NH⁺(B²Δ)+H, chemiluminesc. reactions, spectroscopy and dynamics 4-52016
 NO+O chemiluminescence in a flow of nonadiabatically cooled dissociated air (*Russian*) 4-26212
 NO₂, orange chemiluminesc. study 4-41220
 NaCl, γ-irrad., aqualuminesc. spectrum in presence of xanthene dyes 4-12377
 NaO, chemiluminescent electronic emission spectra 4-35909
 NaOH, frozen glassy solution, chemiluminescent and calorimetric studies of phase changes 4-51384
 O+ethylene(propylene)(propylene-d₆), rate consts. determ. using laser photolysis-chemiluminesc. technique 4-30952
 O+pyridine reaction rate const., 323-473K 4-30962
 PI, b⁰+ to X₁0⁺, chemiluminesc., vibr. band assignment 4-21481
 PbO, low-lying states, relativistic CI calcs., rel. to chemiluminesc. spectra 4-28383
 SF₆⁻+D₂→SF₆⁻+DF(v), vibr. energy disposal, flowing afterglow IR chemiluminesc. 4-51983
 SF₆⁻+H₂→SF₆⁻+HF(v), vibr. energy disposal, flowing afterglow IR chemiluminesc. 4-51983
 Sbl, spectroscopic consts., chemiluminescence, near-IR spectra 4-49020
 Zn+N₂O→ZrO⁺+N₂, chemiluminescent oxidation dynamics 4-35910

chemiception

- E. coli, chemotactic stimulation, distinction between changes in membrane pot. and surface charge 4-41460
 olfactory system, spatial filtering 4-52368
 taste buds of embryos and adults of the fish *Oryzias latipes*, γ-irrad. effect 4-31297

chemisorption

- adatom self-energy and chemisorption, Newns-Anderson Hamiltonian anal. 4-25150
 atom-probe studies (*Japanese*) 4-39685
 Auger CVV spectra of chemisorbed atoms, surface plasmon effects 4-40581
 ethylene chemisorbed on Pt (111), orientation and bonding, near-edge X-ray absorpt. fine struct. spectra 4-54743
 ethyldiene chemisorbed on Pt (111), orientation and bonding, near-edge X-ray absorpt. fine struct. spectra 4-54743
 extended Huckel and empirical force field calculations for chemisorption on metal surfaces 4-43813
 formate chemisorpt. on Pt (111) surface, MO study 4-43791
 graphite, dissociative chemisorption of H₂, MINDO/3 study 4-2459
 inverse photoemission, applications and related techniques, instrumentation 4-30557
 metal surfaces, dissociative chemisorption of H₂, role of d orbitals 4-29792
 metals, group VIII, of O₂, oxidation and surface struct. (*Russian*) 4-34779
 metals, of CO, excited states and decay mechanisms 4-56142
 molecular bonds and bond lengths from EXAFS spectra 4-29783
 molecules near roughened Ag, Cu and Au surfaces, surface enhanced Raman scatt. theory 4-51266
 oxide surfaces, electronic struct. DV-Xα cluster calc. 4-11567
 semiconductor surface, theory of electronic structure and chemisorption, review 4-50646

chemisorption continued

- semiconductors, surfaces and interfaces, physics and electronics, conf., Trieste, Italy (Aug.-Sept., 1982) 4-4150
 surface science conf., Warwick, England (Apr. 1983) 4-27238
 theoretical aspects of adsorption and heterogeneous catalysis 4-29816
 transition metal oxides, surface struct. and electronic states 4-11391
 transition metal surfaces, chemisorb. atomic monolayers, orbital population and polarisation effects 4-15769
 transition metal surfaces, of H, ground state props., effective medium theory 4-34796
 transition metals, polarisation effect on chemisorption energy, mag. surface 4-25152
 transition metals, solution of H, enthalpy and vol. 4-15649
 Ag (111), of Cl, LEED, Auger effect and desorption studies 4-29802
 Ag film, chemisorbed CO or O₂, dielec. const., ellipsometry and resist. meas. (*Japanese*) 4-2860
 Ag island film, chemisorbed 1-hexadecane thiol, surface enhanced Raman studies 4-56933
 Ag surface, covered with K or Cs, adsorption of O₂, XPS study 4-21110
 Be (0001), of H, ab initio HF calc. 4-56149
 CdSe thin films regeneration after O chemisorption 4-39690
 Cr (100), Br₂ chemisorption, cpd. form. and corrosion 4-29804
 Cr (110), chemisorption and surface reaction of Br₂ 4-56152
 Cr surface, struct. and kinetic studies of halogen interactions, chemisorption and epitaxial growth 4-29817
 Cu (001), of Cl, MO cluster model 4-56145
 Cu (100) face, elec. double layer with specific chloride ion adsorpt., quasi-mol. model 4-57572
 Cu (110), of CO on surface vicinal, IR spectrum, effect of defect sites 4-56945
 Cu (111), of H, photoemission, thermal desorption spectra 4-2451
 Cu film, chemisorbed CO or O₂, dielec. const., ellipsometry and resist. meas. (*Japanese*) 4-2860
 Cu surface, cetyltrimethylammonium bromide adsorption, surface enhanced Raman scatt. study 4-30475
 Cu/ZnO, chemisorbed CO, IR transmission spectroscopic study 4-56143
 CuNi, of O₂ with (110) surface, AES, XPS, work function meas. 4-40582
 Fe (100) with chemisorbed S, photoemission momentum-depend. line shapes 4-40004
 Fe, chemisorption of H₂, atom-probe study 4-2458
 GaAs (001) surface reconstruction, photoemission study 4-45472
 GaAs (110) with chemisorbed H, reflection electron energy loss study 4-30576
 GaAs (110)-metal interfaces, Fermi level pinning, role of chemisorption-induced defects 4-6889
 GaAs, photoenhanced oxidation, and O₂ chemisorption, AES study 4-16523
 Ge (111), deposition of and reaction with Si, RHEED study 4-45473
 Ge (111), of Pb, LEED and AES meas. 4-15763
 Ge, of O, conductance modification, 2D scaling theory 4-39910
 InP MIS technology, state of the art 4-50943
 LaNi₃, surface poisoning and regenerating by sulphides 4-41247
 Mn with chemisorbed H₂, O₂-induced segregation study 4-6653
 Ni (001), mol. S₂ chemisorption, LEED, AES, work function meas. 4-39689
 Ni (100), O₂ chemisorbed, global phase diagram, renormalisation group study 4-45494
 Ni (100), of I₂, core level photoemission study 4-35552
 Ni (110) with chemisorbed graphite, surface struct. determ. 4-45495
 Ni (111) surface, chemisorbed CO, K coadsorption, metastable quenching spectroscopy 4-6655
 Ni, chemisorption of H₂, atom-probe study 4-2458
 Ni, of O, activation of adsorbed water, XPS anal. 4-41255
 Ni, of O, on (001), surface struct., ion shadowing, blocking meas. 4-39680
 Ni surface, NO chemisorption, bonding mechanism, CASSCF and CI calcs. 4-34783
 Ni with chemisorbed H, polarisation effect on chemisorption energy, mag. surface 4-25152
 NiO surface, O chemisorption, perfect surfaces and cation vacancies, theoretical study 4-39677
 Pb, of O, activation of adsorbed water, XPS anal. 4-41255
 Pd (110) surface, chemisorbed H, selective transition to subsurface sites 4-6654
 Pd (111), of H, subsurface electronic struct. and bonding 4-2453
 Pd clusters, of CO, stoichiometric species interconversion, IR spectra study 4-34791
 Pd, of acetylene, catalysis, UPS, XPS, LEED, work function, desorption, mol. beam meas. 4-41257
 Pd surface, (100), acetylene chemisorpt., EELS evidence of strongly distorted species 4-11401
 Pd, surface, (100) and (111), H chemisorpt., H-Pd bond and H diffusion investig. by SW Xα calc. (*German*) 4-2429
 Pd/SiO₂ supported catalysts, proportion of different plane orientations, gas chemisorption method 4-35942
 Pd-Cu film, of H₂ surface struct., work function, AES and broken bond calc. studies 4-25137
 Pt (111), of H, SCF MO pseudopot. studies 4-52045
 Pt (111), chemisorbed S, reversible phase transitions 4-15761
 Pt (110), chemisorbed formate ions, orientation from EELS selection rules 4-3005
 Pt and Pd, of CO₂, time resolved IR emission spectra 4-14407
 Pt surface, chemisorption and ordering of naphthalene and azulene 4-29811
 Pt surface, covered with K or Cs, adsorption of O₂, XPS study 4-21110
 Pt surface core level shifts, influence of CO, K, and NH₃ adsorbates 4-30041
 Pt surfaces, of H, photoemission props. 4-9683
 Pt-Cu alloys, ethene chemisorption and surface segregation, AES studies 4-29803
 PtCu (111), CO chemisorption, thermal desorption and PES meas. 4-25157
 Pt_{0.98}Cu_{0.02} (110), CO chemisorption on (1×3) surface thermal desorption and PES meas. 4-25155
 Pt_{0.98}Cu_{0.02} (110), CO chemisorption on (1×3) surface, (1×1) surface formation 4-25156
 Rh (100), NO chemisorption and decomposition, desorption studies 4-45512
 Rh, of HCNO, mol. dissoc., AES, EELS, TDS studies 4-41258

chemisorption continued

- Ru surface, (001), CO desorpt. kinetics and adsorpts. equilib., adsorbate interactions effect 4-11400
- Si (001)-(2×1) surface, RHEED obs. of disorder 4-29747
- Si (100), O₂ dissociative chemisorpt., self-consistent cluster and slab model studies 4-34786
- Si (111), adsorbed Cl atom location and electronic struct., first principles study 4-40007
- Si (111), deposition of and reaction with Ge, RHEED study 4-45473
- Si (111)-(2×1) surface, of H, deconstruction mechanism 4-29789
- Si (111)-(7×7) and -(1×1), H₂ chemisorption, IR study 4-6658
- Si, chemisorption of O₂, multiple bonding configurations 4-2449
- Si-V interface, chemical reaction and Schottky-barrier form. 4-45535
- Ti-Al-V (6.4 wt.%), electroplated metal adhesion rel. to H absorption, notch sensitivity and fatigue 4-3290
- TiC (111), of H, high resolution EELS study 4-11977
- TiFe_{0.94}Al_{0.06} intermetallic cpd., H₂ absorption kinetics 4-46792
- V surface, struct. and kinetic studies of halogen interactions, chemisorption and epitaxial growth 4-29817
- V₂O₅, of O₂ and H₂O, surface electronic struct., UPS and XPS studies 4-25415
- W (001), O chemisorption, LEED fine struct. anal. 4-29813
- W (112), of O₂, phase diagram and order-disorder transformations 4-25151
- ZnO, microcryst., optical props., effects of defect prod. by interaction with CO 4-30466
- Zr overlayers on Pt(100) surface, structural and chemisorptive props., LEED and AES study 4-50616
- Zr, polycrystalline, O₂(N₂)(CO)(N₂O) adsorption, AES and ESCA studies 4-15767

chemistry

see also atmospheric chemistry

- photogelatin, chemical developments in last decades (Hungarian) 4-21497

chemistry, physical see physical chemistry**chemistry computing**

see also computerised instrumentation; spectroscopy computing

- 7th Annual Geothermal Conference and Workshop (1983) 4-46856
- activation energy determ. from single kinetic run, FORTRAN 77 program 4-16612
- aliphatic compounds, chemical shift estimation 4-49052
- analytical instruments, cost-effective data system 4-17884
- Belousov-Zhabotinsky reaction, computer simulations 4-30923
- calculations using small- and medium-scale computers, benchmark tests 4-33281
- compound examination for common three-dimensional substructures 4-49178
- diatomic monoxides, heat of form. and dissoc. energies, Gibbs energy functions 4-47778
- directed hybrid atomic orbital generation program, Fock matrix transference in SAMO-type procedures 4-14326
- DNA sequences, computer analysis and manipulation 4-46932
- enzyme-inhibitor modelling at Merk macromolecular graphics facility 4-44009
- gas chromatography, computerised system (Chinese) 4-16725
- instabilities, fluctuations and transitions, computer simulation 4-12325
- intermolecular energy analysis program 4-43936
- laboratory information management systems, Perkin-Elmer LIMS/2000 4-27499
- magnetic resonance spectra simulation, computer programs 4-46085
- metal corrosion, computer program giving electrode potential of compounds as function of pH, project overview 4-3302
- microchemical robot for DNA sequence analysis 4-21870
- microprocessor-aided Technicon autoanalyser, for wet chemistry analysis 4-27495
- molecular modelling, energy optimization with computer animation 4-14599
- molecular models, space-filling, computer generation 4-14600
- molecular structure numbering and cataloguing 4-49177
- multi-instrument network for organic research laboratory with Apple II microcomputer 4-8879
- opened shell/triplet excited state molecule calc. using Reduced Hamiltonian orbital method (Chinese) 4-48909
- physicochemical parameter optimization by unidimensional search, calculator program 4-13626
- polarography, microprocessor controlled instrument, with simultaneous square-wave, AC, DC, and pulse polarograms 4-12397
- quantum chemical calcs. using Floating Point Systems Inc. model 164 attached processor 4-38029
- spectrophotometric high-speed detector, photodiode array technology appl. to HPLC 4-12414
- spectroscopic dispersion/absorption line shapes, computerized data processing in PASCAL 4-13625
- structure, computer-aided elucidation 4-54879
- sugar crystallisation control system (Japanese) 4-30618
- tetramethylammonium with double-stranded oligonucleotides, intermol. interaction energies computations 4-14496
- trace element anal. program (French) 4-46840
- two electron integrals, first and second derivatives over Cartesian Gaussians using Rys polynomials 4-48918
- VisiCalc program for custom computerized analytical reports and data reduction 4-27491
- H, isotopic analysis using a microcomputer 4-16718

Cherenkov counters

- CLEO, recent results and performance 4-9630
- deep-sea Cherenkov detector for cosmic-ray muons 4-27004
- Del fin device, relativistic electrons from laser plasma 4-29254
- gas Cherenkov detector for 16.7 MeV γ -ray meas from D(T, γ)³He reaction 4-18870
- gaseous Cherenkov counter, Vavilov-Cherenkov radiation emitted by ultrarelativistic particles, threshold characts. calcs. 4-962
- gaseous detectors for particle phys. 4-18852
- lead glass shower counters at high energies 4-958
- lead-glass γ -spectrometer radiators irradiated by high energy particles, characts. 4-949
- optimised thin film wavelength shifting coating for Cherenkov detection 4-5085
- particle spectrometers, BNL E766 and E690, description 4-33251
- plastic Cherenkov detector for intermediate energy phys. 4-54541
- proton decay expt. at Park City, Utah 4-993

Cherenkov counters continued

- ring imaging, identification of 200 GeV hadrons 4-5091
- ring imaging Cherenkov counters, applications 4-33267
- ring imaging counters, multistep avalanche chamber with charge-division read-out 4-23467
- ring-imaging Cherenkov counter for $\pi/K/p$ identification 4-23466
- ultraviolet photoionisation counter, struct. and operation (Chinese) 4-23497

Cherenkov detectors see Cherenkov counters**Cherenkov radiation**

see also Cherenkov counters; electron radiation

- dielectric filled waveguide with high-current electron beam 4-5541
- E. coli, lethal damage induction by Cherenkov radiation associated with high-energy X-rays 4-57951
- EAS at sea level, Cherenkov light lateral distrib., rel. to max. development distance 4-8361
- EAS Cherenkov light refl. from mountain snow, detect. 4-8362
- gas laser possibility 4-14665
- gaseous Cherenkov counter, Vavilov-Cherenkov radiation emitted by ultrarelativistic particles, threshold characts. calcs. 4-962
- lower hybrid current drive, Cherenkov and Doppler reson. in tokamaks 4-49985
- oblique angle stimulated Cherenkov radiation anal. with some expt. results 4-49317
- quasars as Cherenkov sources 4-17609
- spent fuel verification by ultraviolet Cherenkov emission 4-28059
- GaAs, Cherenkov radiation from a propagating nonlinear polarization wave 4-19353
- Na vapour with incident electron beam, anomalous Cherenkov radiation in D-doublet struct. (Chinese) 4-1330

chilling see cooling**chip carriers** see integrated circuit technology; packaging**chiral symmetries**

see also SU_N theory

- 4-13746
- 2N dimensional axial chiral anomaly, gravitational contrib. 4-48366
- σ model, non-local charges and their generating functionals 4-37270
- σ model and VDM, four-quark interactions as common dynamical basis 4-4649
- σ -model representation of supersymmetric gauge theory 4-53873
- ABJ anomalies in any even dimensions, nonperturbative approach 4-13841
- α -amino acids, chiral mol. absolute config. determ. by centrosymmetric cryst. precipitation method 4-35930
- asymmetric chiral SU(2) and SL(2,R) theories, many-soliton solns. 4-401
- axion models in supersymm. SU(5) at intermediate mass scale 4-32482
- bag model, deformation, boundary conditions 4-9086
- bag model, deformed chiral, nucleon and isobar deformations 4-13889
- bag model, spherical multiquark states 4-32615
- baryons as solitons and mass formulae 4-53971
- canonical charge algebras for integrable fermionic theories 4-18060
- chiral nucleon bags, system of two axial polarizability 4-13880
- colour confining potentials, spontaneous breaking of chiral symmetry 4-48431
- complete integrability in classical field theory model 4-48353
- conference, weak interactions and neutrinos, Javea, Spain (Sept. 1982) 4-27240
- coset pure gauge theories of non-Abelian chiral group, confinement props. 4-43180
- CP^{N-1} models with quarks, chiral symm. breakdown and PCAC reln. 4-43161
- CP(n) chiral theory, non-self-dual solns. and corresponding gauge fields 4-37268
- dibaryon, doubly strange, in chiral model with SU(3) flavour symm. 4-48365
- dimension reduction and massless chiral fermions 4-32448
- Dirac field confinement, chiral bag model appl. 4-455
- Dirac operator, Reissner-Nordstrom soln. in presence of dyons 4-4543
- effective chiral Lagrangians with baryons, spin 1/2 parity partner mass splittings 4-18152
- finite-temperature QCD at large N 4-48429
- gap equation for confining pot., chiral non-invariant solns., vacuum energy density 4-32574
- gauge field theory, Fujikawa's path integral from chiral anomaly 4-27670
- gauge theories, chiral anomaly evaluation with γ_5 couplings 4-27666
- gauge theories, nonAbelian, dynamical gauge and chiral symm. breaking, effective Lagrangian 4-4578
- gauged fermions from tensor fields 4-48280
- general supersymmetric equations involving unconstrained chiral superfields 4-48373
- glueballs, couplings to quarks, gluons and hadrons, QCD sum rules 4-53952
- Gross-Neveu model, classical vs. quantum 4-4510
- hierarchy model, upside-down, supersymmetry breaking 4-43270
- higher-dimensional supersymmetric Yang-Mills theories, chiral anomalies and constraints on gauge group 4-331
- hot QCD plasma, $q\bar{q} \rightarrow e^+e^-$ as chiral symm. probe 4-43324
- hybrid $ggqg$ baryon, pionic decay in chiral bag model 4-18245
- instantons, chiral symmetry breakdown, finite temp. and density QCD 4-32579
- Kac-Moody algebra and Darboux transformation 4-43234
- Kaluza-Klein theory, fermion chirality, instanton induced compactification, with SU(2) Yang-Mills coupling 4-13840
- Kaluza-Klein theory, harmonic field expans., fermion mass problem 4-13562
- kaon nonleptonic decays, $\Delta I = 1/2$ rule in chiral limit, nonperturbative QCD effects 4-27730
- lattice fermion action, axial vector current anomaly and meson decay constants 4-48315
- lattice fermions and tomography 4-18052
- lattice formulation of pure gauge fields on coset space, confinement (Chinese) 4-43210
- lattice gauge theories, Susskind fermions at strong coupling 4-376
- lattice gauge theories with Kogut-Susskind fermions in the strong coupling region 4-32470
- lattice gauge theory, staggered fermions and rotation gauge invariance 4-32413

chiral symmetries continued

- lattice gauge theory, topological objects, non-integer charges and anomalies 4-43223
- lattice Hamiltonians, variational ground states 4-43206
- lattice QCD, chiral phase transition at strong coupling 4-22981
- lattice QCD, n -flavour, mass inequalities determ., chiral symm. breaking 4-9073
- lattice QCD, strong-coupling expans., chiral symm. breaking, pion mass and decay const. 4-32598
- lattice QCD with Wilson-fermions at finite temperature, Monte Carlo calcs., review 4-43319
- lattice QED, chiral symmetry breaking 4-43301
- light composite fermions in dynamical subquark model of pre-gauge interactions 4-48454
- linear σ model, chiral phase transition in chromodynamics 4-27701
- local and global integrability of anomalous Ward identities 4-32429
- long range potential between two nucleons, hybrid chiral bag model (Chinese) 4-54045
- meson and baryon masses, quenched QCD with light Kogut-Susskind quarks on large lattice 4-48440
- Minkowski lattice, consistent fermion formulation with operator Dirac eqn. approx. 4-9019
- MIT chiral bag model, fermionic vacuum fluctuations, chiral symmetry breaking 4-27711
- $N=1$ supersymmetry theories, effective actions, symmetry principles and Ward identities 4-392
- non-abelian bosonisation and Wess-Zumino action in two dims. 4-53884
- non-abelian bosonisation in 2-0 4-37269
- non-relativistic quark model, chiral quarks 4-48448
- nonabelian chiral anomaly, phenomenological test 4-18071
- nonrenormalisable field theories at temp. 4-43214
- nucleon and delta, chiral soliton model 4-48449
- nucleon spin structure 4-482
- nucleon two body decay branching ratio, SU(5) minimal supersymmetric chiral, chiral Lagrangian calcs. 4-43280
- nucleons static props. in SU(2) \times SU(2) chiral theory 4-22907
- O(N) nonlinear σ -model, vacuum dynamical props. without supersymmetry 4-32406
- O(N) super-chiral model, nonlocal infinitely conserved currents, Kac-Moody struct. (Chinese) 4-398
- O(N) supersymmetric Wess-Zumino model, two-loop calc. of effective potential 4-22938
- perturbation theory, chiral, baryon mass spectra study 4-53901
- pion-condensed nucleus, external vacuum perturbation, chiral σ model anal. 4-48529
- preon model for quarks and leptons, generation and mass spectrum 4-13891
- principal chiral model, exact soln. 4-32460
- pure fermionic model, number of families, SU(16) as smallest gauge group 4-4613
- pure gauge fields on coset space of Abelian chiral group, confinement props. (Chinese) 4-53962
- QCD, chiral symmetry breakdown mechanism 4-48413
- QCD, chiral symmetry breaking in chromomagnetic supercond. 4-13862
- QCD, diagonal, gauge transformations and mass perturbations with massless quarks 4-18158
- QCD, large- N , chiral symm. restoration at finite temp. 4-18171
- QCD, nucleon octet, axial and vector consts. 4-48443
- QCD, scalar meson spectrum from chiral symm. breakdown, linear sigma model realisation 4-436
- QCD, single-point model, in topological limit, fermion dynamics 4-32604
- QCD, topological validation of chiral symmetry 4-22985
- QCD Schwinger-Dyson eqn. soln. for quark propagator 4-48430
- QED with massless fermions, vacuum structure 4-53918
- quark self energy divergence in second quantised chiral bag model 4-32614
- quark soliton models with and without bags, baryon number 4-53956
- quasipotential eqns., class of exact solns. 4-53881
- quenched QCD, lattice regularised, spontaneous chiral symmetry breaking 4-48423
- reduced twisted chiral model and chiral model on lattice, Schwinger-Dyson eqns. 4-32486
- regularisation of fermion functional integral for Weyl fermions 4-43170
- relativistic field theory, charge transport, quantised, chiral anomalies and fractional charge 4-32453
- relativistic statistical systems of particles with scalar interactions 4-364
- Rishon model, chiral symmetry breaking and condensates, 't Hooft's constraints 4-43340
- scalars and pseudoscalars in non-linear chiral dynamics based on QCD 4-53936
- Schwinger model, Coulomb-gauge, with multi-fermions, fermion structures of state vectors 4-32420
- Schwinger model, heavy flavour decoupling, chiral symmetry breaking 4-22983
- Skyrme model, SU(2) \times SU(2), with chiral breaking, πN sigma term and isovector charge radii calc. 4-48357
- soliton from four-dims. chiral model, asymptotic mass calc. 4-366
- spinor loops, dimensional regularization, one-loop finite renormalisation counterterms 4-13758
- spontaneous compactification and CP_N, SU(3) \times SU(2) \times U(1), $\sin^2 \Theta_W$, g_1/g_2 and SU(3) triplet chiral fermions 4-48385
- stability of a chiral breaking vacuum 4-53905
- strongly coupled lattice gauge theory, chiral symmetry breaking 4-13781
- strongly interacting matter in ultra-relativistic heavy ion collisions, deconfined phases, QCD 4-43327
- SU(2) and SU(3) symmetry breaking generation, dynamical mechanism 4-37288
- SU(2) lattice gauge theory, chiral props. of Wilson fermion 4-4545
- SU(2) lattice gauge theory, Monte Carlo meson spectroscopy study 4-32412
- SU(3) \times SU(3) chiral bag model, baryon-meson and axial vector coupling constants 4-18160
- SU(3)*SU(3) sigma model, chiral symm. restoration at finite temp. 4-13790
- SU(4)_L \otimes SU(2)_L \otimes SU(4)_R \otimes SU(2)_R model, number of generations of quarks and leptons from flavour-colour symmetry 4-4654
- SU(5) \otimes SU(5) chiral symmetry breaking, masses of pseudoscalar mesons 4-37303
- Su(5) gauge theory, dynamical supersymmetry breaking 4-48324
- SU(5) GUT, nucleon decay branching ratios 4-27691

chiral symmetries continued

- SU(5) supersymmetric model with diminished mass 4-27690
- SU(N) \times SU(N) chiral models, lattice actions 4-360
- SU(N) \times SU(N) matrix models, stochastic quantisation for numerical simulation 4-32437
- SU(n) chiral field, infinite-dims. Lie algebra determ. 4-43215
- supergravity, chiral $N=2$ $D=10$, covariant field eqns. 4-4312
- supergravity, nonlinear realisation of extended superconformal symmetry 4-53566
- superspace and superfields for describing globally supersymmetric theories and supergravity 4-43263
- superspace struct. in supersymmetry, massless case 4-27673
- supersymmetric confining model of weak interactions based on SU(M)_{sc} \times SU(2)_L \times SU(3)_C \times U(1) 4-32563
- supersymmetric flavon-chromon model using R-breaking mechanism induced by $N=1$ supergravity 4-48453
- supersymmetric gauge theories, Witten index without U(1) chiral symmetries 4-32447
- supersymmetric non-linear σ -models, dims. reduction 4-53822
- supersymmetric Yang-Mills theory, chiral symmetry breaking, gluino condensate, toron contrib. 4-32422
- supersymmetry, nonlinear realisation, low energy effective Lagrangian 4-43264
- SUSY effective potential, superfield tadpole method 4-13842
- symmetry restoration in lattice QCD with Susskind fermions 4-32469
- three-state chiral clock model, melting and wetting transitions 4-17847
- toy model based on SU(10) hypercolour, supersymmetric subconstituents and mass problem 4-22996
- triangle anomaly at nonzero temp. in QCD 4-37331
- two-dimensional σ model with fermions, axial current anomaly 4-53883
- U(N) \times U(N) chiral models, quenched master field equations for unitary matrix models 4-9023
- U(N) lattice gauge theory, chiral symmetry breaking 4-18055
- V_A struct., of weak current and mirror leptons 4-32499
- weak interactions, supersymmetric left-right confining model 4-48407
- weak interactions of quasi Nambu-Goldstone fermions 4-32505
- Wess-Zumino model, dimensional regularization of chiral superfields 4-53904
- Wess-Zumino model, massless, vacuum props. as $c \rightarrow \infty$ 4-32522
- Yang-Mills theory, chiral anomaly in higher dims., path-integral formulation 4-4567
- K $\rightarrow 2\pi$, matrix elements of $\Delta S=1$ transition operators 4-53983
- K nonleptonic decay, $\Delta I=1/2$ rule anal. in chiral SU(3)*SU(3) symm., missing penguins 4-32678
- K₁-K_S mass difference, long distance, chiral contributions 4-43365
- KN \rightarrow KN, sigma term, dispersion integrals and chiral symmetry breaking mechanism 4-13916
- N(1470), Roper resonance, chiral bag model anal. 4-37347
- $n \rightarrow K^0 \bar{p}$, 5-D supersymmetric operator induced, chiral lagrangian calcs. 4-18239
- $\nu_p \bar{\nu}_p \rightarrow \mu^+ \mu^-$, differential cross section in theory of broken chiral symmetry 4-4667
- $p \rightarrow K^+ \bar{\nu}_\mu (K^0 e^+)$ 5-D supersymmetric operator induced, chiral lagrangian calcs. 4-18239
- π form factor and charge radius in QCD 4-9109
- π photoproduction in chiral bag models 4-54000
- $\pi(q\bar{q})$ and Goldstone π , mass chiral and strength function, spontaneous symmetry breaking 4-32592
- πN coupling, chiral quark dynamics 4-9153
- πN coupling constant, chiral boundary condition effects on quark hadron bags 4-18200
- ΠN σ -term using dispersion relations, chiral and scale invariance breaking 4-13915
- $^1H(n,\gamma)^2H$, thermal capture and deuteron electrodisintegration near threshold 4-32865
- SU(3) colour confinement in MIT bag model, implications for supersymmetry 4-48427

chlorine

- see also nuclei with
- adsorbed on Si (111) location and electronic struct., first principles calc. 4-40007
- adsorbed on Si and Ge, local struct., surface EXAFS study 4-6661
- adsorption on Ag (111), LEED, Auger effect and desorption studies 4-29802
- adsorption on Cu, electronic excitations, angle-resolved LEED study 4-2460
- chemisorption on Cu (001), MO cluster model 4-56145
- concentration profiles in SiO₂, silica, fires 4-49534
- doping, of AlN pyrolytic layers, effects in elec. props. 4-56456
- effect on Pd connector contacts and on inlay coupons 4-30048
- gas, pair correl. function, neutron diff. study 4-23780
- interaction with Ru (100), UPS, AES, LEED, work function and desorption studies 4-29805
- ions, fast, Z₂ oscill. of mean charge states after passage through thin foils 4-1260
- laser chemical etching method for drilling vias in GaAs 4-12205
- laser intense CW visible and UV emission from Cl II and Cl III ions 4-49337
- molecular gas, H⁺-stopping cross sections and excitation energies 4-9929
- molecule, dissociative attachment, flowing afterglow-Langmuir probe technique 4-38342
- molecule, electron energy loss spectra 4-10089
- molecule, electronic struct. calc. using ab initio valence-electron wave functions 4-38048
- molecule, ion-pair states, 2-photon double reson. investig. 4-14457
- molecule, vibrationally excited, vibronic spectra spectral moments and shifts 4-23752
- NMR spectrometer, quadrupole superregenerative, for N₂ and Cl₂ freq. band meas. (Chinese) 4-8927
- pionic and muonic X-ray meas. 4-33566
- solid, press. effects on Raman spectra 4-16198
- CdS:Cl, impurity cond., two band approach 4-25343
- CdS:Cl, press. quenched, mag. props. 4-11665
- CdS:Cu, Cl thin films, photocond. props. ageing process influence 4-35027
- CdSe:Ag, Cl film, photoelec. props., electron density and mobility 4-25402
- CdTe:Cl crystal, EPR study 4-46103
- CdTe(Cl), detector geometric characteristics for clinical meas. 4-54558

chlorine continued

- Cl⁻ conc. influence on corrosion fatigue crack growth in austenitic stainless steel 4-12237
 Cl⁻ discharges optogalvanic photodetachment spectroscopy 4-23668
 Cl⁻ in water, positron annihilation, positronium form. inhibition 4-5520
 Cl¹⁶⁺, Is Lamb shift, H-like X-ray spectrum 4-48974
 Cl²⁺, electron impact ionisation cross-sections meas. 4-5459
 Cl-H₂O system, interaction pot., gradient calcs. 4-18953
 Cl+BrN₃, chemiluminesc. reactions, vibr. excitation 4-12336
 Cl+dimethylmercury, kinetics and mechanism, Fourier transform IR study 4-7708
 Cl+H₂, 2D hindered internal rots. 4-46754
 Cl+H₂Se, IR chemiluminesc. obs. 4-21435
 Cl+H₂(D₂)(HD), vibr. excitation, pot. energy barrier, quasiclassical trajectory study 4-3391
 Cl+HBr→HCl+Br reaction, rate consts. determ. using mass spectrometric anal. 4-12346
 Cl+HCl(DCl)(MuCl), reaction probabilities, rate coeffs., variational transition state theory, tunnelling approx. 4-35881
 Cl+MuCl(HCl)(DCl) collinear reactions, exact quantum and vibr. adiabatic quantum, semiclassical and quasiclassical study 4-7712
 Cl+vinyl bromide, bromochloro vinyl radical form. 4-30933
 Cl⁺+Ar(Na)(Mg) collisions, electron detachment cross section 4-9964
 Cl⁺+Cl₂, complex form., dissoci., ion induced dipole pot. 4-12341
 Cl⁺+H₂O, SCF pot. surfaces calc. 4-43798
 Cl⁺+inert gases, electron detachment cross section 4-1251
 Cl⁺+methyl halides, electron detachment, charge transfer, elastic and inelastic scatt. cross sections 4-41187
 Cl⁺+air, charge transfer cross section meas. 4-49157
 Cl¹⁶⁺+He collisions, K X-ray prod. cross section meas. 4-9987
 Cl¹⁶⁺+Ar, quasispherical K-radiation, interference effects 4-18978
 Cl¹⁹⁺+KBr(Ti)(Mn) surface (q=3 to 10), K-shell X-rays and multiple vacancy prod. 4-9986
 Cl₂, A state radiative lifetimes, ion luminesc. using photon-electron coincidence method 4-9822
 Cl₂, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
 Cl₂⁺, vibr., rot. struct., radiative lifetimes, visible obs. 4-33412
 Cl₂+Cl⁺, complex form., dissoci., ion induced dipole pot. 4-12341
 Cl₂+H, chemiluminesc., product distrib. 4-38145
 Cl₂+H, IR chemiluminesc., product distrib. 4-38146
 Cl₂+inert gas atoms, penning ionisation and ion pair form., secondary electron emission 4-33516
 Cl₂(A²Π), scatt. off surface, rot. rainbow effect 4-7293
³⁵Cl(n,γ)³⁶Cl, hot atom reaction, ³⁶Cl γ-ray recoil spectra 4-31007
 Cu(001)c(2×2)-Cl, fine struct. in secondary electron emission 4-40585
 Se-Cl, liq., cond. and thermopower, charged additives effects 4-50811
 Si:(H, Cl) amorphous films, XPS and UPS investig. (Chinese) 4-21102
 a-Si:Cl, H film, EPR study (Chinese) 4-20858
 a-Si:Cl, H films, photocond. and absorption study 4-39972
 a-Si:Cl, vibr. resonance modes 4-39428
 Si:Cl CVD polycryst. film, impurity effect on grain growth 4-6674
 a-Si:H, Cl film, photoluminescence spectra 4-40507
 a-Si:H, Cl films, doped and undoped, Hall mobility meas. 4-39940
 a-Si:H, Cl films, IR spectra study 4-40550
 Si:H, Cl, amorphous films, transport props. rel. to deposition parameters 4-6824
 a-Si:H, Cl, doping in RF glow discharge 4-45158
 SiO₂-Si interface, Cl incorporation and third phase development during Si oxidation 4-45538
 UCl₄-Cl₂, vapour, stretching vibr., IR spectra 4-28440
 ZnS:Cl, excitonic excitation spectra under press. 4-21016
 ZnS:Cu,Mn,Cl, electroluminescence in Cu₂S-ZnS:Cu, Mn, Cl-Al structures 4-16254
 ZnSe:Cl, impurity centres, IR quenching of photocurrent study 4-25281
 ZnSe:Cu, Cl, impurity centres, IR quenching of photocurrent study 4-25281

chlorine compounds

- fac-ClRe(CO)₃(2,2'-bipyridine), photoexcited, excited state electron transfer, transient Raman obs. 4-28443
 ClCN, O¹O state, isotope shifts, direct I-doublet transitions 4-14384
 ClCN, photodissociation and photofragment alignment, electron and nucl. spin effects 4-28515
 ClCN⁺, intramol. decay, fluoresc. quantum yields and lifetimes 4-38228
 ClF, elec. field gradients, TDPAD study 4-40299
 ClF+H₂, HF rot. laser emission, gain, time evolution 4-38457
 ClO+NO₂+M→ClONO₂, recombination reaction, rate constant and isomer production 4-42114
 ClO₃⁻, elec. field gradient, CNDO/2 and INDO calcs. 4-28372
 ClONO₂ production in atmosphere from ClO+NO₂+M reaction 4-42114
 ClO(²Π_{3/2}), CO₂ matrix isolated, ESR study 4-5258

cholesteric liquid crystals

- B-nor cholesterol derivatives, phase transitions, NMR, studies 4-6502
 biaxiality, phase induced, mol. field theory 4-2071
 blue phase, frustration and curvature, rel. to configurational glasses 4-24717
 blue phase I, elasticity, normal shear modes determ. 4-44944
 blue phase systems, electro-optical effects 4-7160
 blue phases, NMR quadrupolar splitting 4-2070
 Borrmann effect for obliquely incident light, transmission spectra 4-20084
 cellulose-based liq. cryst. polymers, cholesteric phase, struct. and optical props. 4-6258
 cholesteric-nematic mixt., blue phase II struct. 4-56960
 cholesteryl benzoate, electronic absorpt. spectra in cryst. and cholesteric phase, effect of impurity conc. 4-11906
 cholesteryl chloride-cholesteryl alkanolates mixtures, electro-optic and dielec. studies 4-39114
 cholesteryl chloride-laurate mixture, optical and EHD effects 4-40417
 cholesteryl cinnamate, cholesteryl liq. cryst., mol. ordering, PMR study 4-46122
 cholesteryl derivatives, solid, dynamic mech. behaviour 4-39359
 cholesteryl esters, optical anisotropy and polarisation field in smectic and cholesteric phases 4-16177
 cholesteryl fluoroalkanoates, phase transition study 4-39499
 cholesteryl laurate, US absorpt. and vel. meas. near transition temp. 4-10957
 cholesteryl myristate, paramorphic quadratic cholesteric textures grown from supercooled blue phases, microscopic obs. 4-2067

cholesteric liquid crystals continued

- cholesteryl nonanoate, cholesteric phase, shear elastic behaviour, US vel. study 4-15373
 cholesteryl oleate liq. cryst. blue phase, elastic constants 4-24891
 cholesteryl oleate-cholesteryl linoleate binary mixtures, X-ray diffr., DSC, and optical microscopy studies 4-11282
 cholesteryl propionate, US absorpt. and vel. meas. near transition temp. 4-10957
 cholesteryl stearate, US absorpt. and vel. meas. near transition temp. 4-10957
 cholesteryl-n-alkyl carbonates, optical anisotropy and relative order 4-40396
 4-cyano-4'-n-alkyloxybiphenyl mixtures, with chiral additions, reentrant polymorphism 4-20353
 deformed state, equilib. eqn., conservation laws and integration 4-2075
 ester-tolan-AsSe struct., I-V characs. and photovoltaic effect 4-6835
 flexoelectric instability in alternating elec. field 4-34404
 (+)-4-n-hexyloxyphenyl 4-(2"-methylbutyl) biphenyl 4-carboxylate liq. cryst., selective reflection 4-7190
 induced cholesteric solns., IR optical rot. dispersion and linear dichroism 4-56882
 isotropic and nematic or cholesteric phases, mol. foundation of unified theory 4-6267
 laminar cholesteric twist cells, domain wall tension and bistability 4-50186
 lattice symmetry of BP I and BP II phases, elastic and lattice consts. 4-20100
 liquid layers, solidlike behaviour, yield stress behaviour 4-55717
 lyotropic, apparent biaxiality 4-50198
 MBBA-d₅, with chiral addition, d NMR study of cholesteric and blue phases 4-10983
 micellar nematics, struct. and phys. props, induction of cholesteric states 4-50182
 microwave radiations visualisation with liquid crystals 4-17946
 monodomain, higher order reflection spectra 4-39120
 nonlinear gyrotropy, theory 4-11865
 optical imaging, three-dimensional viewing and imaging system 4-5676
 optical props. at oblique incidence 4-39110
 optically active cpds., study by means of their liq. cryst. solns. 4-55712
 orientational order param. meas. using PMR spectroscopy 4-6251
 PBLG solutions in benzyl alcohol, phase behaviour 4-24712
 phenyl benzoates cholesteric-nematic mixture, behaviour under DC voltage and mag. fields 4-39089
 photosemiconductor-liq. cryst. struct., optical nonlinearity 4-44141
 polyurethane pseudocapsulated cholesteric films, optical props. (Russian) 4-16264
 N-p-propoxybenzylidene-p-pentylaniline/cholesteryl ethyl carbonate nematic-cholesteric mixtures, optical props. 4-20095
 radiation conditions for EM waves, refr. and refl. 4-10981
 thermomechanical effects, Leslie's theory 4-6265
 1,3,5-trisubstituted benzenes, liq. crystals, thermal props. 4-50195
- chondrites** see meteorites
chopping see cutting
chromatic aberration see aberrations
chromatography
 aniline and derivatives, determination in wastewater by chromatography 4-12394
 astatotrifluoromethylbenzene isomers, synthesis, identification, boiling points 4-57622
 automated chromatography system 4-21499
 bisphenol A-based epoxy resins, gel permeation chromatography calibration 4-33574
 capillary GC/FTIR using moderate-cost interferometer 4-57611
 computer-assisted HPLC 4-31040
 computerised gas chromatographic/mass spectroscopic data analysis 4-27494
 detectors for chromatographic anal. (French) 4-7774
 dimethylmercury, determ. in air 4-12519
 ethylene glycol heat transfer fluid acidic degradation products determ. using ion chromatography 4-36029
 gas chromatographic study of adsorption on surface oxides of Ni(II), Co and Cd 4-35933
 gas chromatography, computerised system (Chinese) 4-16725
 gas chromatography-Fourier transform IR spectroscopy, sensitivity, light-pipe dimensions effect 4-57608
 gas flow spectral absorpt. using laser optothermal detection 4-41283
 glow discharge device for selective detector of trace and micro anal. for liq. chromatography 4-2026
 heavy crude oils and synthetic fuels, hydrocarbon-type analysis by pyrolysis thin-layer chromatography 4-41306
 high performance liquid chromatography, 436 multiwavelength simultaneous detection system (Japanese) 4-26233
 inorganic anions, thin layer chromatography, water effects 4-43833
 ion exchange, for conductivity detection of inorganic anions 4-46844
 ion mobility spectrometer, resistive-coated ceramic electrode design 4-3433
 laboratory automation system 4-3432
 laboratory gas chromatograph interfacing with microcomputer 4-53433
 laser-chromatographic anal. method for multicomponent systems 4-21503
 liquid chromatography, fluorimetric detection 4-7791
 liquid scintillation chromatography, detection limits for tritiated compounds 4-16721
 liquid-phase chromatography, fluorometric detect. modern aspects 4-7778
 magnetic-sector GC/MS instruments, top-hat filter adaptation for data acquisition 4-48246
 mass spectrometer automated control by distributed microprocessors 4-27623
 methanol, laser-chromatographic anal. 4-21503
 methylmercury chloride, determ. in air 4-12519
 microcomputer data acquisition, using Apple II computer and ISAAC interface 4-8883
 microwave induced plasma between electrodes as detector for gas and liq. chromatography 4-3439
 multistep avalanche chamber for β radiochromatography 4-5083
 NIES-MSLS system for identification of multicomponents in mixed mass spectra by library search system 4-52067
 oligoorganosiloxanes, exclusion liq. chromatography and spectroturbidimetric titration study (Russian) 4-31051
 optical resolution, direct, recent advances in methods 4-57618
 polyethylene terephthalate film, thermal endurance test methods 4-35891

chromatography continued

- polymer characterisation by gel permeation chromatography, laser light scatt. detector 4-15362
 polystyrene-PMMA block copolymers study using high-effective gel permeation chromatography (*Russian*) 4-29347
 polystyrene-polybutadiene block copolymers study by gel permeation chromatography ozonolysis and methods (*Russian*) 4-30980
 propylene glycol heat transfer fluid acidic degradation products determ. using ion chromatography 4-36029
 radio-gas chromatography, plastic scintillation counter 4-7769
 sodium polyacrylate, mol. characterisation by aqueous gel permeation chromatography-light scatt. method 4-57620
 spectrophotometric high-speed detector, photodiode array technology appl. to HPLC 4-12414
 spreading phenomena, in chromatographic columns, integrodifferential eqn. calcs. 4-7773
 supercritical fluid chromatography/Fourier transform IR spectroscopy, on line 4-12398
 thin layer chromatograms, positron-emitting radionuclides counting 4-35961
 thin-layer, laser fluorometric detection appl. 4-12402
 transformer oil PCBs detection by chlorine anal., field experience 4-57615
 UV detection in HPLC 4-7790
 vapour-liq. equilib. meas. 4-29585
 Venus atmosphere chemical composition, Sigma-2 gas chromatograph analysis 4-36607
 volatile sorbed cpds., gas chromatographic determ. by partial desorption (*Russian*) 4-41295
 Cm fluorinated compounds, oxidation states in gas phase (*French*) 4-14610
¹⁸F+tetrafluoromethane, nucl. recoil hot atom reactions mechanism study 4-35929
 H isotope separation, gas chromatographic column prep., commercial tritium analysis 4-23833
 HgI₂ cryst. growth from vapour in presence of organic additives 4-45040
 Si. Czochralski growth, C contamination study (*Chinese*) 4-39181
 SiO₂ gels, hydrolysis prep., sol-gel transition, X-ray chromatography and NMR obs. 4-57119
 U isotope separation by redox chromatography 4-9308

chromising see surface hardening**chromium**

- see also nuclei with ...
 atmospheric bulk deposition in Tulsa, Oklahoma 4-46914
 atom, M₂₃ shell Auger and autoionisation spectra 4-48996
 atom, matrix isolated, time resolved ODR, emission and excited state absorpt. spectra 4-23649
 atom, Sternheimer antishielding, 3d contrib. 4-33310
 atoms, 3p photoelectrons, ang. distrib. calcs. 4-19011
 black, selective absorbing surfaces in practice, review 4-41380
 catalyst to interdiffusion in Si (111)-Au interface 4-11350
 chemisorption and surface reaction of Br₂ on (110) surface 4-56152
 chromising of steel, substrate design 4-12238
 coatings, chromised, and plated, endurance evaluation in hot gas erosion atmosphere 4-15669
 corrosion in SO₂ from 850 to 1050°C (*French*) 4-35755
 crystal purification by floating zone refining, residual resist. and ductility props. 4-40643
 diffusion, in GaAs, masking props. of SiO₂ films 4-50583
 diffusion in Cu 4-2381
 diffusion of ⁵¹Cr in α-Cr single crystals 4-29699
 electroplating, magnetic field effects 4-57565
 emerald, width of the Cr³⁺ ESR line 4-25633
 FBR structural materials, integral neutron capture cross sections 4-37771
 FBR structural materials, neutron cross section adjustments (*French*) 4-37772
 FCC, electronic struct. and supercond. 4-45919
 films covered by SiO₂ layer, optical characts. in visible 4-30542
 glass:Cr III, absorpt., excitation and emission spectra; ligand field 4-40493
 grain boundaries, computer simulation (*Russian*) 4-50307
 interatomic forces and phonon anomalies 4-34601
 isotropic difference Compton profile, expl. study 4-35509
 liquid, elec. resist. and melting point 4-45712
 metallisation deposition by UV laser photolysis 4-12032
 molecule, CAS SCF pot. curves, multiple 3d bonding 4-28392
 molecule, f-type functions in orbital basis for calc. mol. interactions involving d electrons 4-1041
 molecule, gaussian 4f functions, SCF and GTO calcs. 4-48950
 molecule matrix isolated, ground and excited state absorpt., fluoresc., predissociation 4-23741
 Mossbauer study of spin-flip phenomenon 4-51168
 needles, cathodic growth, struct., mag. field effect 4-3039
 nucleation and growth characts. on amorphous substrates 4-50690
 oxidation in H₂-H₂O-H₂S gas mixture, early stages study 4-35769
 oxide cathode of DC arc discharge, gas and liq. phase interactions 4-50106
 paramagnetic, Fermi surface press. depend., self-consistent calc. 4-11430
 plating, hard, under reduced press. (*Finnish*) 4-12269
 polycrystalline, secondary ion yields rel. depend. 4-46391
 ruby:Cr³⁺ crystals, random strain thermally detected EPR linewidths study 4-7053
 solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
 substrate for PMMA film, sputtering study 4-30630
 surface, struct. and kinetic studies of halogen interactions, chemisorption and epitaxial growth 4-29817
 surface (100), Br₂ chemisorption, cpd. form. and corrosion 4-29804
 surface magnetism of (110) face, angle-resolved photoemission study 4-30608
 target, sputtering yield depend. on O₂ background press. 4-16288
 TGS:Cr³⁺, γ-irrad., permitt. relax. rel. to domain struct. 4-11838
 thermal expansion, mag. contrib. above T_c 4-51116
 thin film, gas adsorption, internal stress meas. 4-39691
 thin film, internal stresses, microstruct. model anal. 4-45565
 thin film, intrinsic and thermal stresses, deformation method meas. 4-50697
 UPS, valence band spectra meas. 4-46420
 US shock treatment, struct. changes 4-41091
 vapour phase growth by closed tube technique 4-7341

chromium continued

- Al/Cr(Si)(C), bilayer films, laser irrad., hole formation 4-28793
 Al-Al₂O₃-Cr struct., influence of electrode metal on negative differential resistance (*French*) 4-35088
 Al₂O₃:Cr²⁺, thermal cond. meas., uniaxial stress effects 4-15728
 α-Al₂O₃:Cr³⁺, diffusion and elec. cond. studies 4-15694
 α-Al₂O₃:Cr³⁺, N-lines in luminescence spectra 4-21018
 Al₂O₃:Cr³⁺, optical detection of EPR and mag. circular dichroism 4-25654
 Al₂O₃:Cr³⁺ activated crystals, laser generation with electron beam pumping 4-51303
 Al₂(SO₄)₃.18H₂O:Cr³⁺ single cryst., EPR studies 4-56764
 BeAl₂O₄:Cr³⁺, alexandrite, growth habits, X-ray and optical studies (*Chinese*) 4-50231
 BeAl₂O₄:Cr³⁺, cryst. field energy level diagram 4-6747
 Bi₂SiO₂₀:Cr, optical props. study 4-51230
 Co/Cr compositionally modulated films, struct. and mag. props. 4-29826
 CoO(Cr), elec. props. and defect struct. 4-39901
 Cr, corrosion in O₂-S-C gases at 800°C 4-41098
 Cr I, relative oscillator strengths meas. for transitions from levels a⁷S₃, a⁵S₂ and a³D₃ 4-58373
 Cr II 4s²D_{3/2} spectral lines, Stark widths and shifts meas. 4-28401
 Cr III in glass ceramics, ligand field strengths, fluoresc. and absorpt. spectra obs. 4-56965
 Cr thin films, excess noise rel. to internal and external 1/f noise 4-15927
 Cr V complex in deuterated ethanediol, conc. and g-factor meas. for EPR spectra 4-48842
 Cr XXIII resonance time, dielectronic satellite diagnostic application 4-1889
 Cr:BeAl₂O₄ alexandrite, high efficiency CW laser operation 4-1411
 Cr³⁺:Be₂Al₂Si₂O₁₈, emerald, laser action wavelength band peaked at 684.8 nm 4-23997
 Cr³⁺:BeAl₂O₄, alexandrite, high repetition rate laser divergence meas. 4-19486
 Cr³⁺:BeAl₂O₄, alexandrite, vibronic laser output, tunable emission obs. (*Chinese*) 4-55044
 Cr³⁺:BeAl₂O₄ frequency doubled laser based tunable near UV laser system 4-23996
 Cr³⁺:Gd₂(ScGa)₂O₁₂ 4-55046
 Cr³⁺:KZnF₃ tunable near IR laser, 775 to 826 nm spectral range 4-44107
 Cr/Cu microlaminate composites, struct.-prop. relationships 4-50650
 Cr/Cu/Cr cermet film, in-situ annealing of resistors 4-7357
 Cr/n-GaAs Schottky barrier diode, deep levels 4-6862
 Cr/Ni structures, multilayered, RBS anal. for sputtering standards 4-46397
 Cr-Cu dispersion strengthened condensates, struct., microhardness and mech. props. 4-40991
 Cr-MgO dispersion strengthened condensates, struct., microhardness and mech. props. 4-40991
 Cr-Y dispersion strengthened condensates, struct., microhardness and mech. props. 4-40991
 Cr-Y₂O₃ dispersion strengthened condensates, struct., microhardness and mech. props. 4-40991
 Cr²⁺ air, charge transfer cross section meas. 4-49157
 Cr₂O₃-Cr (black chrome) selective solar absorber coating electrode position, Periodic Current Reversal effects 4-36028
⁵¹Cr labelled radiopharmaceutical preparations (*Russian*) 4-36235
⁵¹Cr, radiolabelled blood cells, dosimetry 4-16993
⁵³Cr in tetrahedral oxoanions in aqs. soln. nuclear spin-lattice relax. meas. 4-7088
 CsCdF₃:Cr³⁺, Li⁺, EPR study 4-46094
 Cu-Cr polycor structures, electrophysical props., low temp. diffusion effects 4-2662
 Fe-Cr-Ni, elec. and mag. props. at low temp. 4-56627
 GaAs trisulphide, injection currents 4-25349
 GaAs:Cr, deep level trapping dynamics, freq.-domain study 4-11472
 GaAs:Cr, extrinsic photoconductivity, thermal quenching behaviour 4-50869
 GaAs:Cr, impurity IR absorption spectra, shape and temp. depend. (*Russian*) 4-40487
 GaAs:Cr, impurity state, photoacoustic study 4-20994
 GaAs:Cr, interstitial Cr diffusion coeff. and Cr complexes 4-6560
 GaAs:Cr, S, Cr redistrib. under annealed S implants 4-29697
 GaAs:Cr, semi-insulating, Cr lattice location by ion channelling and X-ray emission 4-39328
 GaAs:Cr, seminsulating, dislocation grain boundaries, photoEMF, photoconductivity spectra 4-15919
 GaAs:Cr, seminsulating, impurity charge, EPR, IR spectra, photocond. studies 4-35469
 GaAs:Cr, Si, ion implanted, annealing of amorphous layers 4-39325
 GaAs:Cr, single crystal growth by gradient freeze method 4-46431
 GaAs:Cr, strong phonon scatt., applied stress effects 4-50446
 GaAs:Cr, thermally converted, defect profiles, photoluminescence spectra 4-2965
 GaAs:Cr,Mn, semi-insulating, dopant redistribution during annealing 4-39330
 GaAs:Cr (100), surface morphology following O₂⁺ and Cs⁺ bombardment, SEM study 4-45477
 GaAs:Cr²⁺, electronic and Jahn-Teller parameters, APR spectrum 4-16089
 GaAsP:Cr, deep level photoluminesc. 4-40497
 β-Ga₂O₃:Cr³⁺, N-lines in luminescence spectra 4-21018
 GaP:Cr, impurity states, ENDOR and optical absorption studies 4-20601
 GdAlO₃:Cr³⁺, mag. Franck-Condon effect, absorpt. and emission spectra 4-11910
 InGaAsP-InP:Cr semiconductor buried-crescent type laser (*Japanese*) 4-55040
 InSb:Cr, compensated, electron energy phenomenological relax. time 4-15943
 KCdF₃:Cr³⁺, Li⁺, EPR study 4-46094
 KZnF₃:Cr³⁺, Li⁺, EPR study 4-46094
 LiNbO₃:Cr, Cr distrib. coeff., growth parameters and elec. fields influence 4-20131
 LiNbO₃:Cr, pyroelectric props. (*Korean*) 4-40364
 MgAl₂O₄:Cr³⁺, N-lines in luminescence spectra 4-21018
 MgO grains, interstellar, Cr³⁺ vibronic transitions rel. to diffuse band spectrum 4-4065
 MgO:Cr³⁺, EPR fine struct. lines, spin-lattice strain coeffs., superposition model 4-30277

chromium continued

- Ni/Cr coatings, electrodeposition, mathematical model of porosity (*Russian*) 4-20517
 Ni-Cr (nichrome) dust particles in motion, charge meas. 4-53700
 PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
 RbCdF₃:Cr³⁺, Li⁺, EPR study 4-46094
 RbMgBr₃:Mn²⁺(Cr³⁺)(Gd³⁺), structural phase transitions, EPR spectra 4-16088
 Si (111)-Cr interface reaction, synchrotron radiation photoemission study 4-6567
 Si:Cr, implanted polycryst., electron-beam annealing 4-24870
 Si:Cr, multiple charge state of interstitials 4-6732
 Si-Cr interface, preparation and reactions 4-25219
 SrTiO₃:Cr³⁺, EPR fine struct. lines, spin-lattice strain coeffs., superposition model 4-30277
 VO₂:Cr, low freq. dielectric relax. meas. 4-46177
 YAG:Nd,Cr lasers, pulsed and continuous, admixtures effect obs. (*Czech*) 4-23998
 ZnAl₂O₄:Cr³⁺, N-lines in luminescence spectra 4-21018
 ZnGa₂O₄:Cr³⁺, N-lines in luminescence spectra 4-21018

chromium alloys*see also chromium compounds*

- Alloy 600, open circuit potential, meas. in water at 250°C, effect of chromate and nitrate additions 4-16535
 Alloys 600 and 690, SCC, in high temp. water 4-16536
 Astroloy, P/M, fatigue crack growth at 650°C, effect of microstruct. 4-16492
 Hastelloy XR, corrosion resistant, evaluation of weldability (*Japanese*) 4-57397
 hip joint endoprosthesis, fracture-proof anchorage stem development 4-31370
 IN600, steam generator tubing, eddy current probe detection of defects, temp. effects 4-16584
 IN738LC, cast superalloy, creep and fracture, 750-950°C 4-16493
 IN 519, Fe-Cr-Ni austenitic alloy, isothermal scaling, influence of Si and Y 4-3278
 IN 718, forged gas turbine disk, high temp. fatigue strength 4-12186
 IN 738LC, Ni-base superalloy, cast, low cycle fatigue behaviour, effect of environment 4-57314
 IN-100, rheocastings, nature of γ' precipitates 4-35630
 IN-738, -939, Ni-base superalloys, creep crack growth 4-7557
 Incoloy 800, Ni-base superalloy, sulphidation attack at intermediate temps. 4-41081
 Incoloy 800 H, oxidation, influence of cold work 4-35760
 Incoloy 800 tubes, estimated life sensitivity to material props. variation, solar panel appl. 4-35705
 Incoloy 800 tubes in KWU steam generators, operating experience (*German*) 4-9316
 Inconel 600, low temp. SCC, environmental variables 4-16532
 Inconel 600, sensitised, low temp. SCC in tetrathionate and thiosulphate solns. 4-16533
 Inconel 600-steel systems, crevice corrosion in seawater 4-12249
 Inconel 617 sheathing for Nb₃Sn internally cooled cabled superconductor 4-45975
 Inconel 625, cyclic stress-strain relationships, creep, fatigue, TREAT Upgrade cladding 4-21294
 Inconel 625, fatigue cycling, fatigue strength, creep damage, TREAT Upgrade cladding 4-21327
 Inconel 625, high temp. reverse bend fatigue strength, TREAT Upgrade cladding 4-21328
 Inconel 625 surfaces, desorption energies of H₂ and CO 4-34775
 Inconel 718, age hardening, struct. transform., mech. props. 4-51755
 Inconel 718, cathodically charged, NMR study of H 4-30308
 Inconel 718, oxidation influence on crack propag. at high temp. (*French*) 4-46653
 Inconel 718 electrodes, vacuum consumable arc remelting in sustained high-current arcs 4-24663
 Inconel thin film coatings, optical const. determ. based on inverse synthesis 4-2975
 Inconel X-750, fatigue, high temp., freq. effects 4-7590
 Inconel X-750, precip. hardened, high temp. fatigue, effect on microstruct. and mech. props. 4-7561
 Ni monic PE16, solution annealing, microstruct., mech. props. rel. to double ageing 4-51754
 Ni-Cr-Co-Ta, superalloy IN 738, carbide transform, etching and EM obs. 4-25963
 Nichrome, sputtered coating on Zircaloy, modular corrosion in steam 4-30848
 nicrosil-nisil high-stability thermocouple, industrial appl. 4-254
 Nimonic 86, Ni-base superalloy, corrosion in nuclear He, study by X-ray diff. and electron probe microanal. 4-51865
 Nimonic alloys, Na₂SO₄-induced corrosion, 650-1000°C 4-26111
 Nimonic PE16, precip. hardening and particle growth 4-57243
 Nimonic PE16, solution treated, γ' particle size and vol. fraction rel. to age time 4-7468
 oxide film development for PWR primary circuits 4-23192
 Rene 41, Ni-base superalloy, diffusion processes and weldability 4-57265
 steel, stainless, irradiation effects on electrophysical props. (*Russian*) 4-45736
 stellite, plasma sprayed coating, laser processing, microstructure, wear, corrosion resist. 4-30854
 Udimet 710, 720, microstruct. and props., effect of B and C additions 4-46512
 Al-Cr, dil., precipitation rel. to recrystn. behaviour, internal friction and dynamic elastic moduli meas. 4-40794
 Al-Cr rapidly crystallised and extruded alloys, struct. and mech. props. (*Russian*) 4-25964
 Al-Zn-Mg-Cr, commercial purity, precip. and microstruct. parameters, effect of trace Cr (*Chinese*) 4-7463
 AlCr₂, order-disorder transition study (*Russian*) 4-6485
 Co-Cr film, corrosion behaviour in Cl and S containing atms., rel. to mag. recording characts. 4-26088
 Co-Cr films, RF sputtered, magneto-optic props. 4-25607
 Co-Cr films, targets-facing sputtering prep. mag. props. rel. to perpendicular recording appls. (*Japanese*) 4-30633
 Co-Cr ion beam sputter deposited thin films, mag. and struct. characts. 4-25603
 Co-Cr RF sputtered films, saturation magnetisation, atomic distrib. effects 4-56720

chromium alloys continued

- Co-Cr sputtered films, domain struct. and mag. props. 4-25614
 Co-Cr sputtered thin films, microstruct. inhomogeneity and mag. props. 4-56167
 Co-Cr-Al cast alloys, hot corrosion attack, ion implantation effects 4-7650
 Co-Cr-Al-M coatings (M=Si, Y, Hf, Zr), oxide struct., effect of deposition and processing variables 4-15788
 Co-Cr-Al-Y coating formed by ion implantation, hot corrosion attacks 4-7650
 Co-Cr-Al-Y coating on Ni-base superalloys, thermal fatigue strength and heat resist. 4-12264
 Co-Cr-Mo, surgical implant alloys, microstructural changes during isothermal forging 4-40833
 Co-Cr-Mo-C implant alloy, ageing behaviour 4-7485
 Co-Cr-Mo-Ni, superalloy, HS 21, carbide grain refinement, nucleation entropy 4-12068
 Co-Cr-Mo-Zr, amorphous ribbons, corrosion resistance in 1N HCl 4-16559
 Co-Cr-Ni-Fe-Mo-Mn spring alloy, low-temp. strain hardening 4-30715
 Co-Cr-W, ternary alloys, oxidation 4-16553
 Co-Cr-W abrasive wear rel. to carbide size 4-57357
 Co-Cr-W-C-Ti alloy, Ti ion implantation effects on friction and surface chem. 4-7606
 CoCr sputtered films, mag. props. and microstruct., heat treatment effects 4-56721
 Co_{100-x}Cr_x thin films, mag. props. study 4-35205
 Cr-I Mo, influence of steel type on activation of fusion reactor first wall 4-9434
 Cr-I V, influence of steel type on activation of fusion reactor first wall 4-9434
 Cr-Al-Y-Fe (Co) coatings on stainless steel, laser surface fusion and oxidation 4-7649
 Cr-B amorphous films, high corrosion resistance props. 4-7631
 Cr-C-Fe composite magnetoabrasive powders, synthesis 4-3106
 Cr-C(N) cathodic sputtered coatings, hardness, wear and fatigue 4-7359
 Cr-Co solid solution, vapour phase growth by closed tube technique 4-7341
 Cr-Fe, cold brittleness temp., plasticity and segregation (*Russian*) 4-51781
 Cr-Fe, itinerant-electron antiferromag., spin glass state, mag. susceptibility 4-51060
 Cr-Fe-V, phase equilb., crit. evaluation 4-21196
 Cr-Ga (0.92 at.%), elec. resist. anomaly at incommensurate-commensurate SDW transition under hydrostatic press. 4-20624
 Cr-Mn dilute alloy, elec. resist. and mag. phase transitions 4-51055
 Cr-Mo-V steel macrostructure and props., effects of electrosag founding 4-35703
 Cr-Ni, elec. and mag. props. 4-2585
 Cr-Ni, radiative props. in HTGR coolant ducts 4-14085
 Cr-Ni foil, deep etching procedures in the electronic technology (*German*) 4-51869
 Cr-Ni-Mo-Nb, austenitic, radiation-chemical effect of corrosion cracking (*Russian*) 4-51864
 Cr-Ti, laser quenched, glass forming ability 4-34408
 Cr-V-Mo electrolytic coatings, microhardness, internal stresses, comp. depend. 4-3285
 CrAg, rare gas matrix, hyperfine splitting, ESR 4-19092
 CrAu, rare gas matrix, hyperfine splitting, ESR 4-19092
 CrB crystal, solidification of Ni-Cr-B type alloy, growth and equilb. morphologies (*French*) 4-20133
 CrBe₂, paramagnetic-ferromag. transition, elec. resist. study 4-11511
 Cr₂C-Co(Cu), sintered, phase boundaries geometry 4-46482
 Cr₂C-Ni-P hard metal layers appl. to steel parts by hot press-facing 4-51901
 CrCu, rare gas matrix, hyperfine splitting, ESR 4-19092
 Cr₁₀Fe_{90-x}Ni_x, conc. mag. transition, lattice crust., Debye temp. 4-20821
 Cr₁₀Fe_{90-x}Ni_x, conc. mag. transition, lattice crust., Debye temp. 4-20821
 CrRe, coexistence of supercond. and itinerant antiferromagnetism, NMR study 4-30126
 CrSi, thermal oxidation resist. and hardness 4-3277
 Cr₃Si, phonon and electron densities of states, regularisation method 4-2291
 Cr₃SnTe₄ amorphous alloys, spin glass behaviour 4-46055
 (Fe,Ni,Cr)₇₉SnB₂₀, amorphous, hyperfine field distrib., Mossbauer spectra 4-35312
 Fe-B-Si-Cr-C amorphous ribbons, high freq. mag. props., Cr and C addition effects 4-56688
 Fe-C/Fe-Cr-C, symmetric sandwich, annealing, C diffusion, modified quasistationary model (*Czech*) 4-6543
 Fe-C-Cr, borided, surface layers comp., struct. and hardness, Mossbauer spectra 4-7632
 Fe-Co-Cr, damping capacity, mag. props., pitting corrosion resist. (*Japanese*) 4-46549
 Fe-Co-Cr containing various admixtures, struct., NMR, nucl. gamma reson. (*Russian*) 4-25961
 Fe-Co-Cr sputtered films, mag. and corrosion props., magneto-optical meas. 4-56719
 α -Fe-Cr, bright nitrided alloys, grain boundary segregation, AES 4-7471
 Fe-Cr, cast, carbide removal mechanisms in quartz abrasion 4-41008
 Fe-Cr, comparison of model predictions and meas. isomer shifts 4-46166
 Fe-Cr, high purity, corrosion in molten basaltic lava and simulated magmatic gas 4-41100
 Fe-Cr, hot corrosion in HCl gas and O₂, protective scale form. 4-51903
 Fe-Cr, inhomogeneous distrib. of C atoms (*Russian*) 4-6389
 Fe-Cr, liq. alloy, elec. resistivity, conc. depend. 4-2582
 Fe-Cr, oxide surface, exoelectron glow curves, interaction with gasoline 4-3026
 Fe-Cr, passivity in organic solns. of H₂SO₄, effect of alloying additions 4-57482
 Fe-Cr, phase separation, crossover phenomenon in dynamic scaling 4-50500
 Fe-Cr, stability of extrinsic grain boundary dislocations rel. to segregation and precip. 4-7458
 Fe-Cr alloy, AE during martensitic transformation 4-57227
 Fe-Cr alloys, irradiation, hardening 4-15543
 Fe-Cr alloys, passive multiple layer films, modulation reflection spectroscopy 4-57432
 Fe-Cr alloys, passive state, quantitative ESCA anal. 4-57466
 Fe-Cr alloys, surface segregation and adsorption, anal. with backscattered ions 4-29623

chromium alloys continued

- Fe-Cr arc sprayed coating, fretting wear and fretting fatigue 4-7611
 Fe-Cr-Al, high purity, oxidation at 800°C, scale topography and morphology 4-41097
 Fe-Cr-Al-Ce, high temp. corrosion in Na₂SO₄-NaCl molten salt, Ce addition effect 4-7637
 Fe-Cr-C, (252); martensite, substruct. 4-25959
 Fe-Cr-C, (252); martensite transform., crystallographic characts. 4-25960
 Fe-Cr-C, sintering, C content determ. 4-12043
 Fe-Cr-Co-M (M=Mo, Ti, Zr) permanent mag. additions effect on ductility and mag. props. 4-11749
 Fe-Cr-Co-Mn, deteriorating effect of Mn on mag. props. 4-25589
 Fe-Cr-Co-Mo-Ti permanent mag., spinodal decomposition and mag. hardening 4-56017
 Fe-Cr-Co-Ni, cold drawn, strain gauge factor, elec. props. (Japanese) 4-6763
 Fe-Cr-Co-Si-Ti, permanent mag. alloy, microstruct., mag. props. rel. to treatment and comp. 4-16065
 Fe-Cr-Co-Ti, stress ageing, spinodal decomp., mag. props. 4-46513
 Fe-Cr-Mn, phase boundaries, thermoelec. studies (Bulgarian) 4-35610
 Fe-Cr-Mn-C, cast, high-Cr, phase transform. features 4-21205
 Fe-Cr-Mn-Ni, scaling resist. rel. to Ni content, subscale layer form. 4-51885
 Fe-Cr-Mo, BCC, dislocation annihilation in small-angle boundaries 4-39299
 Fe-Cr-Mo alloys, passive state, quantitative ESCA anal. 4-57466
 Fe-Cr-Mo(V)(Nb)-C 4-21333
 Fe-Cr-Ni, austenitic, electron irradi., defect props., elec. resist. meas., comp. depend. 4-55877
 Fe-Cr-Ni, ferritic-austenitic, continuous δ - γ transform during cooling 4-3134
 Fe-Cr-Ni, invariant diffusion coeffs. (Russian) 4-50563
 Fe-Cr-Ni, radiation induced segregation, composition profiles 4-20368
 Fe-Cr-Ni (18, 14 wt.%), austenites, irradi. in HVEM, interstitial migration, role of C and Ti (French) 4-34545
 Fe-Cr-Ni alloys, dissolution and passivation kinetics during localised corrosion 4-57437
 Fe-Cr-Ni alloys with square hysteresis loops, mag. sensors 4-53712
 Fe-Cr-Ni-Mo (14.5, 14.5, 2.5 wt.%), single cryst., electrochem. meas. on low index planes 4-57483
 Fe-Cr-Ni-Mo alloys, active dissolution inhibition by Mo surface enrichment 4-46646
 Fe-Cr-P-C, amorphous, structural relax., energy level schemes, DSC meas., vitrification kinetic theory (Russian) 4-24727
 Fe-Cr-P-C amorphous alloys, quenched ribbons mag. props. rel. to Cr content, Mossbauer obs. 4-51098
 Fe-Cr-based amorphous ferroalloy tape, segregation in surface layers (Russian) 4-50513
 Fe-Cr-(Ni), Armo based superalloy, sulphidation/oxidation, 1073-1373K 4-35773
 Fe-Cu melt, elec. cond. study (Russian) 4-50789
 Fe-Cr-Mo-Al-Si-C, superalloys, duplex microstruct., carbide stability regions 4-51667
 Fe-Ni-B-P-xCr amorphous alloy passivation; Cr addition and heat treatment effect 4-57445
 Fe-Ni-Cr, dynamic straining, behaviour multioxidant environment 4-41082
 Fe-Ni-Cr, elastic and mag. props. (Russian) 4-6419
 Fe-Ni-Cr, model alloy, stress-rupture in sulphidising and oxidising environments 4-7636
 Fe-Ni-Cr and Fe-Cr, passivity breakdown and localised corrosion, electrochem. noise meas. 4-57434
 Fe-Ni-Cr austenitic alloys, He embrittlement, effect of pre-injection thermomech. treatment 4-16481
 Fe-Ni-Cr LMFBR cladding, microstruct. and irradiation swelling, rare earth addition effects 4-20270
 Fe-Ni-Cr superalloy, mech. props., microstruct. on prolonged heat exposure (Chinese) 4-3172
 Fe-Ni-Cr-Al, oxidation kinetics, influence of impurities 4-41044
 Fe-Ni-Cr-Mo cermet matrices, struct. and props. 4-3116
 Fe-Ni-Cr-P-B, laser glassing, surface amorphous and crystalline structures 4-34537
 Fe-Ni-Cr-P-B metallic glasses, struct. relax., DSC study 4-45008
 Fe-Ni-Cr-W, amorphous and crystallised, corrosion resist. behaviour 4-46649
 Fe-Ni-Cr(Mn), low temp. mag. sp. ht. meas. 4-30186
 FeCo-V(G)(Mn)(Ni), at. ordering characts., calorimetry, neutron diff., TEM studies (Russian) 4-24965
 Fe₆₀Co₁₀B₁₄Si₁, amorphous ferromagnet, mag. permeability aftereffect 4-46072
 FeCoNiCrBSi metallic glasses, internal friction, dynamic elastic modulus, microhardness meas. 4-40854
 Fe₇₀Cr₃₀ (110) surface segregation, XPS study 4-25134
 (Fe_{1-x}Cr_x)₈₄B₁₆ amorphous, elec. cond. and mag. props. (Chinese) 4-2578
 Fe₇₅Cr₂₅B₂₀ amorphous alloys, elec. resist., structural relax. 4-39873
 Fe_{85-x}Cr₁₅B_x, x=10-20, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
 Fe_{85-x}Cr₁₅B₁₅, amorphous, electric field gradient, Mossbauer spectroscopy 4-35291
 Fe_{85-x}Cr₁₅B₁₅, X=5-30, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
 FeCr₁₀Cr₁₃, amorphous, segregation and crystallisation (Russian) 4-50518
 Fe₃Cr₄Co₂, mag. props. following thermomagnetic treatment 4-46162
 (Fe₇₇Cr₂₃)₇₅P₁₆B₉Al₃, amorphous, ferroimag.-spin glass transition study 4-56615
 FeCr₁₀P₁₃C₇, electron beam irradiated, surface amorphous layer formation 4-11189
 FeCr₃P₁C₇ amorphous coatings deposition by detonation-plasma sputtering (Russian) 4-40646
 FeCr₃P₁C₇, electron beam irradiated, surface amorphous layer formation 4-11189
 Fe₆₈Mn₁₉Cr₁₃ spin glass, Edwards-Anderson order parameter 4-56649
 Fe₃₂Ni₃₆Cr₁₄P₁₂B₆, amorphous ribbons, cold rolling (German) 4-25972
 γ -FeNiCr, antiferromagnetic order near stainless steel composition 4-35201
 FeNiCr metallic glasses, thermal expansion and magnetostriction meas. of amorphous ribbons 4-6532
 Fe₆₀Ni₂₀Co₂₀, FCC, paramag. state, 2 γ states, ⁵⁷Fe Mossbauer isomer shift meas. 4-35309

chromium alloys continued

- Fe₆₅Ni₃₅Cr₁₀ spin glass, mag. struct., viscous change in mag. field, neutron scatt. 4-35181
 Fe₆₅Ni_{35-x}Cr_x, conc. mag transition, lattice crust., Debye temp. 4-20821
 Fe₆₅Ni_{35-x}Cr_x, low temp. specific heat, 5-90K 4-29647
 Fe₇₀Ni_{30-x}Cr_x, exchange anisotropy and thermal expansion 4-25548
 Fe₇₀Ni₃₀Cr₁₄P₁₄B₆ metallic glasses, short range ordering, elec. resist. studies 4-45017
 Fe₇₃Ni₃₆Cr₁₄P₁₂B₆, metallic glass, influence of superimposed tensile stress 4-15392
 Fe₇₃Ni₃₆Cr₁₄P₁₂B₆, metallic glass, internal friction and Curie temp. 4-25551
 Fe₇₂Ni₃₆Cr₁₄P₁₂B₆, metallic glass, internal friction and Curie temp. 4-25552
 Fe₇₃Ni₃₆Cr₁₄P₁₂B₆ amorphous, annealing kinetics for Curie temp. changes 4-25553
 Fe₇₃Ni₃₆Cr₁₄P₁₂B₆, Metglas 2826 A, thermal annealing, embrittlement 4-35692
 Fe₇₃Ni₃₆Cr₁₄P₁₂B₆ glassy metal, reversible struct. relax., shear modulus and internal friction 4-46548
 Fe₇₃Ni₃₆Cr₁₄P₁₂B₆ metallic glass, internal friction and reversible struct. relax. 4-57274
 Ge-Cr-C, low energy interphase boundaries, precipitation on mobile growth ledges 4-7469
 In-Cr, dil., thermodynamics, effect of localised states in energy gap 4-25478
 Mn_{1-x}Cr_xSb, press. effect on Curie temp. (Russian) 4-6975
 Mn_{1.85}Cr_{0.12}Sb, thermal cond., elec. resist. meas. near antiferromagnetic transition temp. 4-56618
 Mo-Cr₂O₃-Al₂O₃, composite materials, surface props. for thermionic converter appl. 4-56414
 Nb-Cr supercond. thin film, density of states, proximity effect studies 4-50996
 Ni-based superalloys, lattice rot., substructure form. during stretching (Russian) 4-25996
 Ni-Co-Cr superalloy, creep rel. to Mg additions (Chinese) 4-57280
 Ni-Cr, corrosion in O₂-S-C gases at 800°C 4-41098
 Ni-Cr, negative creep, specimen length contraction under tensile creep conditions (German) 4-57306
 Ni-Cr, nickel rich alloy, H ion bombard. effect on struct. and composition 4-11200
 Ni-Cr, solidification process, mech. strength, corrosion resist. 4-25949
 Ni-Cr (33.3 at.%), short-range and long-range ordered, internal friction anomalies 4-30738
 Ni-Cr base alloys, intergranular corrosion in electrochemical machining 4-51861
 Ni-Cr bilayers and alloys, silicate formation, phase separation and layer sequence reversal 4-50668
 Ni-Cr FCC alloys, overlapping microtwin boundaries, fringe images, TEM study (Chinese) 4-55842
 Ni-Cr fibre reinforced Al, composite prep. by vacuum infiltration technique, interface stability 4-3107
 Ni-Cr polycrystalline alloy, C and Si bulk-to-surface segregation meas. by AES 4-29638
 Ni-Cr thermocouples, thermoelectric drift due to inhomogeneous comp. changes 4-27525
 Ni-Cr-Al high Cr alloy, complex recrystallisation and precipitation reactions (Russian) 4-51663
 Ni-Cr-Al superalloy, carbide comp. and struct. rel. to Nb and Ta additions 4-12069
 Ni-Cr-Al-Co-W-Mo-Ti, struct. and phase comp., Y additions effect 4-21221
 Ni-Cr-Al-Fe-Y, wrought heat-resist. alloy, struct. and props. 4-41071
 Ni-Cr-Al-Mo, directionally crystallised, annealing, microstructure 4-7493
 Ni-Cr-Al-Y(Zr), transient oxide scale form. and struct. 4-7638
 Ni-Cr-Al-Zr, surface comp., quantitative Auger microprobe study 4-35527
 Ni-Cr-Co, Udimet 520 superalloy, γ strengthened, mech. props. rel. to protective coatings 4-40971
 Ni-Cr-Fe (16, 7 at.%), previously covered with external Cr₂O₃ layer corrosion in H₂-H₂S mixtures 4-51872
 Ni-Cr-Fe-Al-C, austenitic, deformed, heat resist., struct. fineness influence 4-57272
 Ni-Cr-Fe-Si-B-C metallic glass, internal friction, shear modulus meas. 4-40853
 Ni-Cr-Mo system, ageing, carbide formation 4-12071
 Ni-Cr-Nb(W), cast heat-resist., carbide reactions and precip. 4-40788
 Ni-Cr-S, solubility of Cr₂S₃ phase, X-ray analysis 4-51670
 Ni-Cr-W superalloy, CMSX-2, improvement of creep strength by heat treatment 4-7489
 Ni-Cr-W superalloy, dispersion hardened, steady-state creep, phys. parameters 4-51762
 Ni-Cr-W-Co-Ti, ZrN modified, ductility 4-3193
 Ni-Cr-W-Mo, superalloy, GH37, creep strength rel. to hot corrosion by Na₂SO₄-NaCl coating 4-30853
 Ni-Cr-rare earth oxide, oxidation, effect of various oxide dispersions 4-26109
 Ni-Fe-Cr, surface, He thermal desorption, time of flight spectra studies 4-29799
 Ni-Fe-Cr-Nb, electron diff. anal., of δ -phase (Chinese) 4-7464
 Ni₄₀Co₂₀Cr₁₂Mo₆Fe₈B₁₆, amorphous alloy, corrosion in deaerated H₂SO₄ 4-51856
 Ni₃Mn-Ni-Cr system, L1₂ superstruct. stability and order disorder transformation (Russian) 4-24997
 Ni₅₅Mo₂₅Cr₇B₈ amorphous alloy, shock wave consolidation 4-45267
 Pd-Cr-Os/Cu-Fe thermocouple, thermoelectric props. at low temp., technology and appl. 4-8907
 Pd-Cr-Ru thermocouple electrode, thermal EMF props. determ. for low-temp. appl. 4-8908
 Pr(Co_{1-x}Cr_x)₅, magnetic props. and cryst. struct. 4-46066
 Pr₂(Co_{1-x}Cr_x)₁₇, lattice parameters and mag. props. 4-30160
 Pt_{1-x}(Mn_{0.5}Cr_{0.5})_{1-x}, spin wave stiffness constant, magnetisation meas. 4-16022
 Si_{1-x}Cr_x, amorphous film, metal-insulator transition and minimum metallic cond. 4-15821
 Ti-Al-Cr-Mo-V, impurity distrib. study 4-11174
 Ti-Al-Mo-Cr, CORONA 5, fatigue crack growth rate, microstruct., O content 4-40969
 Ti-Al-Mo-Cr (7.5, 2.5, 1.8 wt.%), decomp. of metastable β -phase, effect of thermal treatment 4-40744
 Ti-Cr (2 wt.%), phase transforms. on cooling 4-12066

chromium alloys continued

- Ti-V-Cr-Al (13, 11, 3 wt.%), β -solution treated, microstruct.-prop. relationships 4-30735
 Ti-V-Cr-Al-Sn cold-formable sheet alloy 4-40902
 $\text{Ti}_{0.8}\text{Zr}_{0.2}\text{Mn}_{0.8}\text{Cr}_{1.0}\text{Fe}_{0.2}(\text{Co}_{0.2})$ alloys, H storage (*Chinese*) 4-57798
 V-Cr supercond. thin film, density of states, proximity effect studies 4-50996
 $(\text{V}_{0.9}\text{Cr}_{0.1})_3\text{Si}$, X-ray emission spectra and electronic struct. (*Russian*) 4-51411
 Zr-Cr, metallic glasses, band struct. and mag. props. 4-45604
 Zr-Cr-Fe (1.15, 0.1 wt.%), ZrCr₂ precip., electron metallographic study 4-30708
 Zr(Cr_{1-x}Co_x)₂ and hydrides, mag. props. study 4-6946

chromium compounds

see also chromium alloys

- oxides, bond length-bond strength relationships and valency (*German*) 4-15419
 $\text{Al}_2\text{O}_3\text{-Cr}_2\text{O}_3$ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
 $\text{Al}_2\text{O}_3\text{-Cr}_2\text{O}_3$ finely dispersed oxide, solid-phase reactions 4-57118
 $\text{Al}_2\text{O}_3\text{-Cr}_2\text{O}_3$ system, solid soln. form., high temp. X-ray diff. (*German, English*) 4-51635
 $\text{Ba}(\text{Cr}_2\text{SiO}_4)$, hashemite, lattice parameters, refractive index, from Jordan 4-47256
 $\text{Bi}_{2-x}\text{Cr}_x\text{WO}_6$, crystal structures and struct. transitions 4-39481
 CdCr_2S_4 , prep. and charact. 4-29964
 CdCr_2S_4 , spin wave longitudinal pumping, damping and relaxation 4-35160
 CdCr_2S_4 , ternary mag. semicond., coexistence of Cr²⁺ and Cr⁴⁺ ions, ferromag. reson. study 4-30287
 CdCr_2Se_4 , ¹¹¹Cd quadrupole coupling, TDPAC study 4-35295
 CdCr_2Se_4 , ferromag. semicond., reflectance magnetocircular-dichroism spectra and electronic struct. 4-30445
 $\text{p-CdCr}_2\text{Se}_4$, mag. ordering influence on photoconductivity 4-15909
 CdCr_2S_4 , prep. and charact. 4-29964
 CdCr_2Se_4 , spin wave damping study 4-56592
 CdCr_2S_4 , spin wave longitudinal pumping, damping and relaxation 4-35160
 $\text{CdIn}_{2-x}\text{Cr}_{2x}\text{S}_4$ solid soln., mag. props., EPR study, 4.2 to 300K 4-11765
 $\text{Co}_2\text{Cr}_{1-x}\text{S}_x$, elec. and mag. props., anomalies 4-34976
 Cr (III) complexes, absorpt. bands with fine struct., singlet-triplet transitions 4-20988
 Cr complex, (phenyl)₃-PX₂Cr(CO)₅, (X=H, Cl, Br, I), XPS obs. 4-38249
 Cr complex, bisarene π type, surface ionis. investig. 4-25847
 Cr complex, Cr₂(mhp)₄, electronic absorpt. and emission spectrum 4-1171
 Cr complex, Cr(CO)₅(1,3,5,7 tetrathian), stereochem. nonrigidity, PMR investig. 4-28455
 Cr complex, ferrocene π type, surface ionis. investig. 4-25847
 Cr complexes, Cr(III)(NH₂)_n, surface enhanced Raman scatt. at outer Helmholtz plane, electrochem. interface enhancement 4-38189
 Cr complexes, dinuclear Cr(II) complexes, ground term splitting, Wigner-Racah algebra calc. 4-6749
 Cr complexes in aq. solns., T₂ excited states, photophysics, picosecond laser spectroscopy 4-41240
 Cr III complexes, aqs. soln., time resolved fluoresc. spectra, phosphoresc. 4-21006
 $(\text{Cr}_x\text{Al}_{1-x})_2\text{O}_3$, neutron diff. study of critical exponents (*German*) 4-6995
 CrB, cryst. morphology, SEM obs. and theory 4-11022
 CrB₂, electronic struct., Fermi levels, valence bands, solid-state and cluster calcs. 4-50724
 Cr_{23}C_6 coatings for use in high temp. nucl. reactors, development 4-16568
 Cr_2C_3 , wetting by Fe-B, Co-B and Ni-B eutectic melts 4-2413
 $\text{Cr}(\text{CO})_4^+$ in Kr at 20K, EPR spectra 4-38213
 $\text{Cr}(\text{CO})_6$, 01s PES satellite band, CI calcs. 4-23611
 $\text{Cr}(\text{CO})_6$, electronic struct. from X-ray spectra 4-11434
 $\text{Cr}(\text{CO})_6$, IR multiphoton dissociation at 5 μm 4-28514
 CrCl₃, magnetic, electric and dynamic line width second moments and their contribution to ⁵¹Cr nuclear quadrupole resonance line widths 4-30350
 $\text{CrCl}_3\text{-}\alpha\text{-picolinium}$ binary salt solns., tetrahedral and octahedral complexing of trivalent cations 4-29663
 CrCl_4 , Xalpha eigenvalues, ligand depend. on occupation no., ligand field integrals 4-14327
 $\text{Cr}_{1-x}\text{Co}_x\text{Cr}_2\text{S}_4$, phase relationships with Cr₂S₄ and spinel struct. 4-15616
 CrF₃, bonding, covalency and transferred hyperfine interaction, lattice effects 4-45046
 $\text{Cr}_{1-x}\text{Fe}_x\text{Cr}_2\text{S}_4$, phase relationships with Cr₂S₄ and spinel struct. 4-15616
 $\text{Cr}_2\text{Fe}_{3-x}\text{O}_4$, calorimetric studies 4-56043
 $\text{Cr}_2\text{Fe}_{2-x}\text{Te}_3$, mag. props., 100 to 1100K, susceptibility meas. 4-11681
 CrH_x , nonstoichiometric, electron struct. and K emission spectra (*Russian*) 4-25215
 $\text{Cr}(\text{H}_2\text{O})_6\text{OH}^{2+}$ anation by DL-alanine in aq. soln., kinetics and mechanism 4-51997
 Cr(I) ¹⁴N(NO) complexes, spin density transfer, EPR spectra 4-14456
 Cr(III) complex, Cr(L-histidine)₂(OH)₂, ferromag. interactions, mag. susceptibility and EPR 4-51122
 Cr(III) complexes of 2-amino-benzothiazole, IR spectra 4-46269
 CrMnAs , cryst. struct. and mag. props. 4-11675
 $\text{Cr}_{1-x}\text{Mn}_x\text{Cr}_2\text{S}_4$, phase relationships with Cr₂S₄ and spinel struct. 4-15616
 CrN film on Cu substrate, high performance low cost solar-selective absorber, development 4-31120
 $(\text{Cr}(\text{NH}_3)_6)(\text{Cr}(\text{CN})_6)$ and $(\text{Cr}(\text{H}_2\text{O})_6)(\text{NH}_3)_3(\text{Cr}(\text{CN})_6)$ ordered bimetallic magnets, ferromag. props. 4-56576
 $(\text{Cr}(\text{NH}_3)_4\text{HP}_2\text{O}_7)_2\text{H}_2\text{O}$, cryst. struct. determ. 4-45072
 CrNiAs , cryst. struct. and mag. props. 4-11675
 CrO_4^{2-} , self-diffusion coeff. in K₂CrO₄ at 35°C 4-15672
 CrO_3 , molecular stratification on dispersed silica 4-41268
 Cr_2O_3 additive in ZrO ceramics, characterisation by depolarisation thermocurrents 4-20900
 Cr_2O_3 , cation self-diffusion 4-25080
 $\alpha\text{-Cr}_2\text{O}_3$, desorpt. of O₂, isothermal kinetics (*French*) 4-45484
 Cr_2O_3 films on flat glass, prep. from gels 4-57369

chromium compounds continued

- Cr_2O_3 , magnetic phase transitions, modulation and thermomodulation spectroscopy (*Russian*) 4-6972
 Cr_2O_3 , nonstoichiometric, elec. cond. anomaly 4-56347
 $\alpha\text{-Cr}_2\text{O}_3\text{-Ga}^{3+}$, EPR absorpt., mag. cluster model extension (*German*) 4-20859
 $\text{Cr}_2\text{O}_3\text{-Ba}(\text{ClO}_4)_2\cdot 3\text{H}_2\text{O}$, thermal dissociation and reactions, thermal and X-ray diff. obs. 4-26197
 $\text{Cr}_2\text{O}_3\text{-Cr}$ (black chrome) selective solar absorber coating electrode position, Periodic Current Reversal effects 4-36028
 $\text{Cr}_2\text{O}_3\text{-MgO}$ spinel, elec. cond. during synthesis 4-40717
 CrOF_4 , force fields, mean amplitudes of vibr. calc. 4-38141
 $\text{Cr}_{2.0}\text{Se}_3$, charge carrier localisation and delocalisation, transport props. study 4-11564
 Cr_3Si , electronic struct. study 4-25219
 $\text{Cr}_{1-x}\text{Ti}_x\text{As}$, mag. and crystallographic props. 4-56620
 CrVO_4 , paramag., superexchange interactions, X-ray line widening (*Russian*) 4-51019
 $\text{Cr}_{0.5}\text{V}_{0.5}\text{S}_2$, rechargeable positive electrode for ambient temp. Li cell 4-35992
 CrZrF_6 , cryst. struct., binding and phase transition studies (*German*) 4-24783
 $\text{Cs}_2\text{Cr}_2\text{Br}_9$, collective excitations, inelastic neutron scatt. study 4-11738
 CsCrCl_3 , heat capacity, thermodynamic functions, structural phase transitions 4-25048
 CsI-CrO_4^{2-} , ionic thermocurrents study 4-2372
 CuCr_2S_4 , film, elec. and galvanomagnetic props. 4-56454
 $\text{Cu}_2\text{Cr}_2\text{Se}_4\text{-Br}_2$, prep. and charact. 4-29964
 $\text{Cu}_2\text{CrSn}_{2-x}\text{S}_4$, spin glass behaviour, Mossbauer and susceptibility studies 4-11728
 $\text{Cu}_{0.3}\text{Fe}_{0.7}\text{Cr}_2\text{S}_4$, film, elec. and galvanomagnetic props. 4-56454
 $\text{CuO-ZnO-Cr}_2\text{O}_3$ (Al_2O_3), phase-structural characteristics, catalytic precipitation (*Russian*) 4-35625
 $\text{Cu}_2\text{Zn}_{1-x}\text{Cr}_2\text{Se}_4$, transition from helimag. to ferromag., mag. props. study 4-25557
 $(\text{Fe,Cr})_2\text{C}_3$ coatings, cryst. defects, electron diff. and microscopy studies 4-11133
 $\text{Fe}_{2-x}\text{Cr}_x\text{CaO}_4$ system, mag. props. 4-30149
 $\text{Fe}_{1-x}\text{Cr}_{2-x}\text{O}_4$, interacting Jahn-Teller and mag. transitions 4-56621
 FeCr_2S_4 , film, elec. and galvanomagnetic props. 4-56454
 FeCr_2S_4 , preparation, by chem. transport method, phys. props., 120-300K 4-57095
 $\text{Fe}_{1-x}\text{Cu}_x\text{Cr}_2\text{S}_4$, valence state of ions 4-56559
 $\text{Fe}_2\text{O}_3\text{-Cr}_2\text{O}_3$ CVD coatings, modulation reflection spectroscopy anal. 4-57432
 HgCr_2Se_4 , ferromag. semicond. thin film, elec. props. and prep. 4-29837
 $\text{n-HgCr}_2\text{Se}_4$, reflectivity and dynamical cond. 4-30453
 HgCr_2Se_4 , spin-lattice relax., EPR study 4-35225
 HgCr_2Se_4 thin film, ferromag. semicond., optical-absorption spectra 4-30538
 KBr:CrO_4^{2-} , Ca²⁺ paramagnetic centres, form. and stability 4-56765
 KBr(I):Ag^+ , CrO_4^{2-} , degenerate local impurity vibrations, anharmonic interactions, Raman and IR studies 4-29561
 $\text{MgFe}_{2(1-x)}\text{Cr}_2\text{O}_4$ solid solns. with spinel structure, elec. cond. and cation ordering 4-2618
 $\text{MgO-Cr}_2\text{O}_3\text{-Fe}_2\text{O}_3\text{-SiO}_2\text{-Al}_2\text{O}_3\text{-CaO}$ refractories, thermomech. and deform. props. 4-12121
 $\text{Mn}_{1-x}\text{Cr}_x\text{S}_2$ antiferromag. semicond., elec. props., stoichiometry and cation substitution effects 4-34978
 $\text{Ni-Cr}_2\text{O}_3$ catalyst, isotropic, superparamagnetic, ferromag. reson. line-width 4-40237
 $\text{NiFe}_{2(1-x)}\text{Cr}_2\text{O}_4$ solid solns. with spinel structure, elec. cond. and cation ordering 4-2618
 $\text{NiO-Cr}_2\text{O}_3$, pure and doped, single crystals, heterodiffusion of Co, Mg and Cr impurities, 800-1700°C (*French*) 4-20409
 $(\text{PbTe})_{1-x}(\text{Cr,Fe,Ni})_x\text{Te}_3$ solid solns., thermoelec. props. 4-6815
 $\text{Rb-Cr}_2\text{O}_3$ system, compound formation, equilib. O pot. meas. 4-30680
 RbCrCl_3 , heat capacity, thermodynamic functions, structural phase transitions 4-25048
 Rb_2CrCl_4 , ionic ferromag., optically detected ferromag. reson. 4-56819
 $\text{SiO}_2\text{-Cr}_2\text{O}_3$ coloured glasses, spectral absorption coeff. in near IR region 4-16174
 $\text{Sn}_{1-x}\text{Cr}_x\text{Te}$, as-grown and Zn annealed, mag. phase transitions, mag. susceptibility meas. 4-51035
 $\text{SnO}_2\text{-Cr}_2\text{O}_3$ system, phase equilib. 4-39525
 $(\text{Ti,Cr})\text{O}_{2-x}$, solid solubility, temp. depend., electron microscopy obs., linear cationic interstitial small defect models 4-56024
 $\text{TiO}_2\text{-Cr}_2\text{O}_3$, dielec. props. due to crystallographic shear planes 4-40326

chromosomes see cellular biophysics**chromosphere**

- electron density diagnostics from flare line identification list 4-36662
 fibrils and wave propagation in a magnetic cylinder 4-13183
 flare of 1980 April 10, mag. var., radiation bursts anal. and atm. parameters 4-47581
 network cells boundaries and origin of X-ray bright points (*Russian*) 4-47590
 nonlinear MHD wave propag., case of uniform vertical mag. field 4-13272
 oscillations in Ca II K-line 4-42399
 plage magnetic field enhancements, assoc. oscils. in EUV flux 4-42418
 plages, Ca II H and K line profiles, mag. field correlation search 4-17493
 spicule oscillations, penetration to corona, mag. field role 4-13278
 spicules rel. to solar atmosphere mass balance, acoustic-gravity wave theory 4-58420
 sunspot structure in photosphere, chromosphere and corona results from X-ray, EUV, optical and radio obs. 4-42393
 supergranules vel. fields from network Ca II K-line obs. 4-13277
 surge, 1980 October 2, dynamics from obs. in C IV and H α lines 4-13269
 temperature distribution in transition region and inner corona 4-27049
 temperature rise, effect of radiative instability due to CO IR vibr.-rot. bands 4-27062
 transition region, absorbers of EUV line emission 4-42426
 transition region, electron density from Be-like ions spectra 4-53040
 transition region, mag. elements diamagnetic propulsion and energy balance 4-47580
 transition region plasma characts. and O V UV line ratios 4-42416
 unresolved fine structures rel. to temp. 4-17475

chromosphere continued

- Ca II irony-coronal X-ray activity relation, interior struct. effects 4-13295
- Ca II K-line, centre-to-limb var. rel. to Wilson-Bappu effect 4-17495
- Ca II K-line obs., 1976-82 chromosphere variability 4-53109
- Ca II network geometry 4-36655
- H α filaments and filament channel systems, morphology 4-3966
- H α flare loops observed on disk, true shape determ. 4-13265

chronographs *see* **chronometers****chronometers**

- marine, accuracy testing using PPKh-1 checking instrument 4-32240
- mechanical, checking method using quartz synchrotronometer and electronic freq. meter 4-4381
- spectrochronograph with better than 10 ps time resolution 4-298

CI calculations (atoms) *see* **atomic electron correlations****CI calculations (molecules)** *see* **molecular electron correlations****CIDEP**

- aliphatic ketones, zero-field splitting const. in photoexcited triplet states, electron polarisation CIDEP study 4-1185
- p-benzosemiquinone radicals, monoprotonated, CIDEP enhanced ENDOR 4-1187
- spin-polarised radicals, electron exchange reactions, time-resolved CIDEP 4-54762

CIDNP

- ketones, cyclic aliphatic, photolysis, CIDNP biradical study 4-43899
- kinetics, recording process effects 4-49055
- nuclear spin polarisation effects, large hyperfine coupling systems, Kapstein's rules 4-14445
- stochastic time resolved CIDNP spectroscopy 4-49053

cinematography *see* **cinematography****cinematography**

- see also* **cameras**
- 16 mm film, use in motion picture production (*Russian*) 4-43102
- 35-mm film projection, screen illumination 4-32353
- 35-mm release prints, lubrication for extended projection print life 4-17972
- afocal supplementary lenses for changing projection formats (*Czech*) 4-53789
- boiling processes, cine recordings, computer-aided processing (*Russian*) 4-55977
- Camraprompter for TV and film production 4-48233
- cine camera, kinematic anal. of claw linkage mechanism by complex polar vector rotation (*Chinese*) 4-13684
- cinecopying device, K23ETO-1 optical additive film printer system (*Russian*) 4-13695
- colour film, future developments 4-8967
- colour film, preservation and long-term storage, inexpensive method 4-32354
- colour films, psychophysical relationship of image-quality 4-8976
- colour motion picture and photographic film materials, chemical-processing (*Russian*) 4-17977
- colour motion picture films, improvement prospects and trends (*Russian*) 4-17974
- continuous motion reproduction (*Russian*) 4-13694
- current state in Western Europe (*Russian*) 4-43108
- darkroom lighting in motion-picture lab., safety aspects (*German*) 4-8974
- Eastman colour negative 16 mm-film 7291 for motion pictures 4-32352
- Eastman Kodak Co. tools for improved telecine quality 4-48231
- film and video: options for production 4-22541
- film and video technology for production and direction 4-48219
- film printing machines (*German*) 4-8973
- film projectors, advanced, parameters (*Russian*) 4-32355
- films with antifriction protection (*Russian*) 4-17975
- foreign video equipment at the International Photo and Motion Picture Technical Exhibition (*Russian*) 4-13697
- Fort Worth Museum of Science and History audio installation 4-19662
- Fujicolour motion picture negative films 4-22864
- high speed photography and videography, techniques and latest developments 4-8970
- high-definition TV systems, parameter requirements (*Russian*) 4-43098
- image resolution in motion picture and television, comparison (*Russian*) 4-43107
- kinetophone sound motion pictures restoration 4-27621
- Kinor 35C sand tripod shoulder camera (*Russian*) 4-43101
- KWR-15 equip. for film zoom lens remote control (*Russian*) 4-43103
- large screen 3-D, aesthetic and technical considerations 4-48232
- Mosfilm Studios, new lighting equipment (*Russian*) 4-43106
- NMR, real time movie images, rabbit heart expts. 4-57984
- photographic lighting control in film studio, central equipment room (*Russian*) 4-13696
- picture shift errors in cameras, compensation using gyroscopic attachments (*Russian*) 4-32357
- projection performance of theatrical motion-picture films using xenon short-arc lamps 4-8977
- projector light flux, determ. methods (*Russian*) 4-14773
- raster-holographic human portrait shooting (*Russian*) 4-32358
- stereophony in cinematography (*Russian*) 4-43097
- tape splicing of theatrical release prints 4-22865
- telecine color image projection room of the Kemerovo Radio and TV Centre (*Russian*) 4-32360
- telecines, development trends and improvements (*Russian*) 4-43105
- television cinedecoder, semi-automatic (*Russian*) 4-13699
- test-film Working Group meeting, achievements (*Russian*) 4-43100
- thermal imaging method of studying thermal fields in film projection equipment (*Russian*) 4-43104
- triacetate cellulose substrate based colour cinefilm, thermal- and photo-stability study using mass spectrometry (*Russian*) 4-16722
- ultra high speed holocinematography, bubble dynamics obs. appl. 4-24499

circuit analysis computing

- see also* **circuit CAD**
- advanced optical system design and anal. using SYSCAP 2.5 computer anal. program 4-38560
- dielectric tube waveguide standard field generator, electromagnetic field spatial variation 4-10211
- EM wave coupling of cables (*French*) 4-49246

circuit breakers

- see also* **circuit breaking arcs**
- JET ohmic heating sub-system, saturable inductors 4-48734
- low-voltage switching arcs, energy balance components, calorimetric evaluation 4-10917

circuit-breaking arcs

- see also* **circuit breakers; sparks**
- low-voltage switching arcs, energy balance components, calorimetric evaluation 4-10917

circuit CAD

- see also* **circuit analysis computing**
- bidirectional communication links, CAM of grade-index fibre couplers (*German*) 4-33754
- JBL's central array design program 4-19676

circuit oscillations

- see also* **circuit resonance**
- No entries

circuit resonance

- see also* **circuit oscillations**
- passive resonant cct. for IETS, sensitive robust cct. design 4-315
- tone-arm outrigger damping devices 4-8734

circuit theory

- see also* **distributed parameter networks; filters; lumped parameter networks**
- EM circuit calculation using tableau approach, numerical method 4-54899
- induced electromotive forces role in circuits 4-53395

circular polarisation *see* **polarisation****circular waveguides**

- electron beam propagation in cylindrical waveguide, integrodifferential eqns., numerical realization 4-23881
- metallic waveguides, circular, smooth and corrugated, TE₀₁ mode propag. at 394 μ m 4-38579

circumstellar shells

- see also* **stellar atmospheres; stellar winds**
- 10 and 20 μ m features, nature and radiative transfer calcs. 4-47596
- A 0538-66, neutron star enveloped in distended stellar atmosphere, X-ray spectrum obs. 4-58473
- A 0538-66, recurrent X-ray transient, outburst IR continuum from accretion disc 4-58475
- A 0538-66, outburst cycle and primary envelope interaction with neutron star 4-17559
- accretion disc and mass transfer, models and evolution 4-58455
- accretion discs, shock wave propag. due to nucleus explosion 4-13181
- accretion discs, theoretical developments and appl. to dwarf novae 4-31826
- accretion discs of He cataclysmic binaries, vertical struct. and stability 4-42449
- accretion disk models, X-ray emission and dynamo generated mag. field role 4-58379
- accretion disks, theory (*Japanese*) 4-4026
- ET Andromedae (HD 219749), Ap star, IUE spectra rel. to circumstellar envelope 4-13324
- R Aquarii, circumstellar reddening charge, recombination spectra 4-58451
- V923 Aquilae, shell Be star, shell nature and mass loss 4-42460
- V1343 Aquilae (SS 433), accretion disc models rel. to changing precession period 4-47629
- V1343 Aquilae (SS 433), accretion disc precession instability models, spectra anal. 4-3995
- V1343 Aquilae (SS 433), compact object mass-black hole evidence 4-42480
- V1343 Aquilae (SS 433), H α photometry rel. to eclipses of accretion disc (*Russian*) 4-13335
- 1343 Aquilae (SS 433), light curve and accretion disc model (*Russian*) 4-53190
- V1343 Aquilae (SS 433), precession effects rel. to HZ Her (*Russian*) 4-17529
- ϵ Aurigae, 1982-4 eclipse, UV obs. and secondary nature 4-42494
- ϵ Aurigae, evidence for extended atmosphere during eclipse from $\alpha(16)\lambda(9)$ photometry 4-22430
- ϵ Aurigae, struct. of disc-shaped secondary from UV spectra during eclipse 4-47659
- Becklin-Neugebauer object, 2-5 μ m spectroscopy 4-17572
- BU Tauri (Pleione), spectrophotometric obs. of shell star in Pleiades 4-58443
- C stars, high resolution spectroscopy 4-17499
- AC Cancri, nova-like variable, accretion disc model, spectral/photometric obs. 4-31846
- ZZ Canis Minoris, symbiotic star, forbidden O III lines intensities rel. to dense circumstellar nebulosity 4-58442
- carbon stars with gas-dust rings (*Russian*) 4-8494
- AG Carinae, 1980/81 shell event in P Cygni star 4-8498
- cataclysmic variable stars, influence of frictional parameter α on accretion disc struct. 4-27080
- Centaurus X-3, eclipsing X-ray binary, neutron star shell, light curve effect 4-13372
- central stars of bipolar and cometary nebulae, spectral types and extinction 4-53061
- U Cephei, far-UV emission lines rel. to circumstellar envelope 4-17542
- cool giant stars, IR emission rel. to dust and gas shells 4-53160
- θ Coronae Borealis, Be star, shell phase rel. to C IV reson. lines vars. 4-53175
- R Coronae Borealis, temp. of circumstellar shell (*Russian*) 4-42463
- R Coronae Borealis stars, graphite grains form. models, mass loss rate effects 4-13321
- BI Crucis, symbiotic star with Mira variable, IR emission feature and circumstellar CO 4-17524
- V367 Cygni, β Lyr star, shell, luminosity and atm. parameters 4-42495
- SS Cygni, dwarf nova, accretion disc vels. rel. to orbital parameters 4-8474
- NML Cygni, OH-IR star, MERLIN obs. of asymmetrical OH envelope 4-58430
- CI Cygni, symbiotic star, accretion disc radius from spectrophotometric obs. 4-42452
- HR Delphini (Nova 1967), postnova shell, geometrical and kinematic struct. 4-3991
- dust grains electric charge, theory for R Coronae Borealis stars (*Russian*) 4-42431

circumstellar shells continued

- dust grains formation in expanding gas flow around cool luminous stars, theory 4-53147
 dust shells of novae and supernovae 4-31850
 dwarf novae, accretion disc outbursts and mass transfer 4-53179
 dwarf novae, orbital period-colour relation, accretion disc models 4-42479
 dwarf novae, outbursts, disc instability model 4-31845
 early-type stars in OB associations, IR excesses due to circumstellar emission 4-53233
 Egg Nebula (AFGL 2688), supergiant extended circumstellar shell, C I obs. 4-3982
 envelope masers, characteristics (*French*) 4-47595
 envelopes and chromophores of cool giants and supergiants 4-8460
 envelopes of early and late-type stars, review (*German*) 4-31824
 extreme C stars, SiC abundances in circumstellar shells 4-22402
 RX Gruis, UX UMa star, mass loss, accretion disc and energy distrib., UV/visible anal. 4-42475
 HBV 475 (V1329 Cyg), symbiotic star of protoplanetary nebulae, IR photometry 4-13334
 HD 153919 (=4U 1700-37), eclipsing X-ray binary, struct. model and light curve 4-36720
 He 3-1138 and He 3-1359, P Cyg stars, circumstellar CO emission 4-17524
 Herbig Ae/Be stars with nebulosity, catalogue, wind parameters and luminosities 4-36593
 HZ Herculis, clock mechanism and precessing accretion disc 4-4031
 HZ Herculis (Hercules X-1), precession effects characts. rel. to V1343 Aquilae (SS 433) (*Russian*) 4-17529
 HR 212, binary Be star, no relation between light vars. and secondary shell phase 4-22396
 IRAS discoveries 4-42523
 IRC+10216, shell composition and mass 4-30468
 Keplerian gaseous discs, low freq. one-armed oscils. 4-13182
 late-type stars, circumstellar envelope structure, 1612 mHz VLA obs. 4-13317
 late-type stars, mass loss rates and outflow anisotropy, CO data anal. 4-31817
 CW Leonis (IRC+10216), shell spectra, line identifications and abundances 4-42555
 long period variable stars, circumstellar shells, high resolution spectroscopy 4-17499
 long-period variable stars, circumstellar shell anal., H₂O 13.5 mm line obs. 4-27105
 MV Lyrae, cataclysmic variable, accretion flow instabilities rel. to light vars. in inactive state 4-8488
 α Lyrae, IR flux absolute calibration (1.24-4.6 microns) 4-17508
 β Lyrae, stellar wind(s) model from He I emission line obs. 4-36719
 α Lyrae (Vega), far-IR emission region, source size, KAO obs. 4-36684
 M-type giants and supergiants, IR silicate features as measure of grain size in circumstellar dust 4-27063
 M-type supergiants, circumstellar shell high resolution spectroscopy 4-17499
 Magellanic Clouds supergiant Be stars with dust shells, discovery and photometry 4-42459
 masers, emission props., geometrical effects 4-8373
 molecules in circumstellar envelopes, reviews (*Russian*) 4-8550
 SY Muscae, symbiotic star, mass ejection model for variable UV emission lines 4-58445
 Nova Aquilae 1982, IR photometry, model in terms of pre-existing dust shell 4-47630
 Nova Vulpeculae 1976, IR devel., circumstellar dust shell models anal. 4-17523
 O-type stars, Compton redshift in circumstellar matter rel. to radial vels. 4-3984
 O-type subdwarfs, obs. of sharp shortward-shifted features in UV spectra 4-13313
 OH 231.8+4.2, circumstellar shell, 3-D structure 4-53171
 α Orionis, dust shell struct. at 10 microns 4-47608
 α Orionis, shell struct., comp. and mass loss, visible obs. 4-42457
 Parsamian 13, cometary nebulae with T Tau star, expanding photosphere and luminosity 4-4060
 AR Pavoris, IUE obs. of 1982 UV eclipse of symbiotic binary 4-17514
 PG 1012-029, eclipsing cataclysmic binary, accretion disc nature and spectra 4-47617
 protostars, centrifugally driven MHD winds from contracting mol. discs 4-13391
 protostars, gravit. torques rel. to mass of circumstellar dust 4-22368
 protostellar discs, stability ang. momentum transfer 4-47687
 PSR 1937+214, millisecond pulsar, rot. slow-down rate rel. to accretion disc spin-up models 4-53194
 ζ Puppis, O4ef star, expanding shells, UV spectra 4-47632
 R 136a, supermassive object in LMC, X-ray luminosity and supermassive accretion disc existence 4-58456
 S22 (HD 34664), LMC emission line star, accretion disc model for UV to IR energy distrib. 4-4006
 V1223 Sagittarii, intermediate polar, orbit, rot., accretion disc emission model 4-31843
 α Scorpii, dust shell struct. at 10 microns 4-47608
 VZ Sculptoris, VY Scl star, luminosity, mass transfer and accretion disc nature 4-42476
 semi-regular variable stars, circumstellar shell anal., H₂O 13.5 mm line obs. 4-27105
 shell stars, spectrum var. and shell oscils. 4-13182
 SiO masers, multilevel model 4-8374
 SMC X-1, eclipsing X-ray binary, neutron star shell, light curve effects 4-13372
 supernovae, UV line profiles from photosphere and circumstellar gas 4-58458
 symbiotic stars, dust envelopes characts. and IR excesses, KLN obs. (*Russian*) 4-17531
 T Tauri stars, optical thickness of dust shell rel. to light variability 4-53159
 T Tauri stars, shell mass flow and spectral characts. 4-47612
 transition waves in accretion disks rel. to dwarf novae outbursts 4-53177
 Type II supernovae with circumstellar dust shells, model appl. to SN 1979c/SN1980k 4-8503
 SU Ursae Majoris stars, mass transfer and elliptical accretion rings form. 4-47633
 SU Ursae Majoris type dwarf novae, elliptical ring model for light curves (*German*) 4-31839

circumstellar shells continued

- γ^2 Velorum, WR star, circumstellar model and UV spectral features 4-47620
 white dwarf accretion, radiative shock stability, numerical study 4-53019
 Wolf-Rayet ring nebulae, atlas and types 4-42519
 pulsating X-ray binaries, accretion disc inner radius rel. to masses, radii and mag. fields 4-53210
 X-ray binaries, massive, evidence for accretion discs 4-58484
 C grains, amorphous and crystalline, form. 4-53032
 C stars, interstellar reddening, circumstellar emission, bolometric magnitude, JHK photometry (*Chinese*) 4-58438
 H₂O masers due to young star wind-shell gaseous condensations interaction 4-53151
 OH maser sources, IR obs. rel. to physical parameters of circumstellar shell and OH excitation 4-58526
 OH/IR stars, OH 1612 MHz maser emission obs. of circumstellar shells 4-27108
 OH-IR stars, shell diameters and mapping, UHF obs. 4-47631
 SiO masers, linear polarization by anisotropic pumping 4-17379

citation analysis see information analysis

civil engineering

- see also architecture; building; dams
 Antarctica buildings with foundations on snow, settlement and deformation study 4-22008
 fluid transient control, matched impedance 4-10782
 road building in wetlands, radar remote sensing of ground struct. 4-12915
 seismic props. of standard soils 4-3719
 seismic risk for commercial buildings in Memphis, Tennessee, USA 4-12782
 seismological and wind effects in civil engineering, conf., Sept. 1979, Tsukuba, Japan 4-26
 soil mechanics, British experience with self-boring pressure meter 4-3857
 soil mechanics, preconsolidation and slope stability in weak alluvial soil 4-3771
 solar chimney power plants, pilot plant principles and construction 4-21568

civil engineering computing

- see also architectural CAD; town and country planning
 programs based on pavement design computations for use on microcomputer 4-12183
 reinforced concrete members, design and analysis 4-49699

cladding techniques

- rapid solidification laser processing at high power density, book contrib. 4-7622

claddings

- gas turbines, protection for high temperature blades and vanes 4-26112
 LMFBFR, type 316 stainless steel cladding, controlled biaxial strain-rate testing 4-4946
 LMFBFR cladding alloys, screening for FCCI and fission induced LME 4-18595
 LMFBFR cladding alternatives, screening for FCCI susceptibility 4-18596
 LMFBFR claddings, susceptibility to fission product induced embrittlement 4-18597
 LMFBFR fuels, cladding component chemical transport simulation (*Japanese*) 4-23149
 LWR, fuel-cladding mechanical interaction of fuel designs 4-4947
 LWR fuel relocation and pellet-cladding interaction, FUMAC model 4-54239
 MOX fuel, EPR-II irradiated, high burnup, fuel-cladding chemical interaction 4-54260
 optical W-fibres, finite cladding effects, leaky mode interpretation 4-1485
 reactor fuel element cladding, laser use at Los Alamos Hot Cell Facility 4-18703
 single mode depressed inner cladding fibres, transmission window 4-24230
 single mode fibre, quadruple-clad, pure SiO₂ core, for low dispersion over extended spectral range 4-44237
 steel, austenitic stainless, claddings, cold worked, ion irradiat., void swelling, and dose depend. 4-39351
 steel, austenitic stainless, type 316, EBR-II driver fuel elements, eutectic penetration induced cladding rupture 4-18605
 steel, defect detection trial plate, near surface defects, US inspection 4-41122
 steel, fatigue testing of explosive-clad grade 35 specimens 4-51906
 steel, stainless, boilup in high temp. UO₂, out-of-pile expts. 4-23359
 steel austenitic stainless, FBR fuel pin cladding, strain due to power cycles 4-27967
 Zircaloy, in-reactor iodine SCC, LWR fuel pin failure 4-16547
 Zircaloy, liquid, oxidation kinetics in steam, modelling of fission fuel cladding melting 4-30850
 Zircaloy clad fuel rods, temp. escalation under severe nucl. damage conditions (*German*) 4-9293
 Zircaloy cladding bundles, rapid oxidation in air, expt. studies 4-18569
 Zircaloy fuel cladding, H₂ injection effects on H₂ uptake in BWRs 4-736
 Zircaloy LWR fuel rod cladding tubes, creep anisotropy effect on ballooning 4-33000
 Zircaloy PWR fuel element cladding, azimuthal temp. variation under LOCA conditions 4-33001
 Zircaloy tubes, SCC, 350-450°C, crack pattern development 4-16546
 Zircaloy-2, release of fission recoiled ¹³⁵Xe 4-29700
 Zircaloy-4 cladding, oxidised, failure-bearing capability in LWR LOCA 4-37765
 Zircaloy-4 fuel sheathings, failure model for LOCA, steam or inert atm., 900-1600K 4-54248
 Zircaloy-4 tubing, I₂ induced crack growth between 500 and 700°C, fracture mech. anal. 4-3289
 Ag metal cladding for graded refr. index waveguides (*Chinese*) 4-49517
 Cu reactor fuel cladding burst strength during postulated accident 4-33117
 GaAs clad optical waveguide modulators 4-55181
 GeO₂-ZnO-K₂O glass as cladding in hollow fibres for IR transmission 4-44224
 Zr oxidation self-sustaining propag. in drained spent fuel storage 4-18568

classical algebra see algebra**classical field theory**

see also classical mechanics; electromagnetic field theory; gravitation; special relativity
4-47885

σ model, non-local charges and their generating functionals 4-37270

chiral invariant Gross-Neveu model, classical vs. quantum 4-4510

covariant vector fields, zero's for point groups 4-27308

Euclidean space and Riemannian manifold, classical Lagrangian geometry 4-109

gases, classical and degenerate, extended thermodynamics 4-5989

hamiltonians, multidimensional, diagonalisation in semiclassical approx. 4-17716

irreversible classical fields, bracket formulation 4-42843

Lagrangian dynamical systems, canonical theories 4-36917

Lagrangian in classical field theory 4-36916

Parisi-Wu stochastic quantisation, functional approach 4-4240

relativistic unification, Cauchy continuum mechanics 4-22600

scalar electrodynamics, instability of strongly charged sources 4-4241

Yang-Mills theory, dynamics of spatially homogeneous models 4-4572

classical mechanics

see also classical mechanics of continuous media; classical mechanics of discrete systems; classical theories of fluid structure

electron spin, determ. of gyromagnetic ratio 4-22547

Newton's third law, rule governed approach to physics 4-47815

quantum mechanics comparison, observables 4-4254

Schrodinger eqn., geometric derivation from classical mechanics in curved Weyl spaces 4-27296

classical mechanics of continuous media

see also elasticity; fluid mechanics; mechanical contact; plasticity

anisotropic solid whose deformation characts. depend on form of stressed state, elasticity relation 4-49675

augmented Lagrangian methods, numerical soln. of boundary-value problems, book 4-36831

balance relations and fundamental concepts employed in continuum mech. motivated on basis of atomistic considerations 4-32042

bar, elastic, cylindrical, long, partially embedded in a layered elastic half space, torsion anal. 4-33931

bars, linear, elastic, orthotropic, with multicircuit closed section, static computation using semi-momentless theory of shells (Polish) 4-49672

beam, response to transient pressure wave load 4-44455

beam resting on viscoelastic semi-space, dynamics and stability 4-5793

beam-columns, cantilever type, subjected to cyclic reversed bending, symm. limit theory 4-14885

beams, continuous, inertialess, responses to traversing mass, Stokes problem generalisation 4-49670

beams, elastic, spatially curved, of thin-walled open cross section with local deform., elastic theory 4-14883

beams, inhomogeneous, orthotropic, cantilever type, subjected to shear forces, shear stress distribution and shear stiffness (German) 4-55320

beams, vibrating, design for max. difference between adjacent natural freqs. 4-33933

Berger equation, boundary integral eqn. analysis 4-36908

Berger plate theory 4-44362

bonded anisotropic materials, stress singularities 4-34003

boundary layer width determ. from condition of min. energy 4-47876

cable, elastic, suspended, large amplitude free vibr., parametric anal. 4-33970

cable, suspended, nonlinear behaviour 4-33936

canonical maps between Poisson brackets in Eulerian and Lagrangian descriptions of continuum mechanics 4-17699

Cauchy flux and sets of finite perimeter 4-27295

circular cylindrical shell subjected to torque, vibr. and stability 4-4212

column, freestanding, loaded through a roller bearing, stability 4-55356

column, Timoshenko type, supported by elastic half space, forced flexural vibr., Timoshenko theory 4-5830

compact symplectic manifolds, lifting theorem, classical and quantum parallels 4-8743

composite material, effective elastic moduli, improved rigorous bounds 4-28973

composite material mechanics with a small-scale structural flexure 4-44368

composite materials, vibration theory, geometrically linear formulation 4-44367

composite materials having small-scale distortions in their struct., continuum theory 4-1594

composite materials of disordered structure, statistical theory 4-19722

composite winding, continuous model for force analysis 4-44365

composite with small-scale curvatures in struct., quasiuniform states analysis 4-44392

composites, non-local effective elastic property bounds 4-28972

cone, deformable, with asymmetrically perturbed surface, three-dimens. problem 4-19723

cone, hollow, inhomogeneous, orthotropic, stress state anal. 4-55328

cone-shaped optical elements, monolayer and multilayer, deform. calc. 4-28990

conoidal shell analysis by modified isoparametric element 4-49668

curvilinear orthotropic inhomogeneous bodies of revolution, thermostress state 4-55327

cylinder-fluid prestressed compressible system, initial stress influence on the backward wave 4-19766

cylinders, corrugated, finite size, elastic equilb. investigation 4-44369

cylinders, elastic, longitudinally corrugated, three-dimens. stressed state anal. 4-49674

cylindrical cavity in elastic medium, singularities due to concentrated pressure loading 4-49686

damaging materials, constitutive eqns. 4-100

Dirichlet problem, necessary and sufficient conditions for regular soln. for hyperbolic eqn. of second order (Italian) 4-27294

Dirichlet problem of fourth order partial differential eqns. with variable coeffs. 4-32049

dissipative materials and variational formulations 4-53482

dynamical systems, equivalent linearisation 4-98

effective characteristics of media containing foreign inclusions 4-39745

elastic continua nonconservative stability problems, appl. of integral eqn. method for non-self-adjoint eigenvalue problems 4-33967

elastic dielectric dynamics, Lagrangian density 4-24346

elastic dielectrics, nonlinear couple stress theory, dynamic deform. appls. 4-14886

elastic solid of revolution interaction with liq. transient processes 4-19724

classical mechanics of continuous media continued

elastic space, continuous, displacement gaps (Ukrainian) 4-4227

elastic structures, natural vibr., calc. by bounding (French) 4-14881

elastic structures, shape design sensitivity anal. 4-19720

elastic-electrostatic analogy, implications on certain path-independ. integrals 4-4229

elastic-plastic material, small deforms. superposed on large deforms. 4-14896

elastic-plastic media, formulation of initial and boundary value problem 4-44366

elasticity problems with singularities, uniform finite element refinements 4-32048

granular materials, progressive damage continuum model 4-38710

gyroscopic conservative continuous systems, dynamic, instability, effects of damping and circulatory forces 4-19719

hyperelastic incompressible body anal. by finite element method 4-19718

hyperelastic materials, uniformity 4-49685

inertia in simple dipolar continua 4-53481

inhomogeneous elastic media, separation of vector wave eqn. 4-13516

integrable systems in rigid dynamics, topological anal. (Russian) 4-36903

invariant manifolds, construction of coarse theories from fine theories 4-47850

laminates, multilayer, anal. using three-dimens. super-elements 4-55323

light-weight mirror deformations, refined math. model of deform. mechs. 4-10393

linear elastodynamic systems, boundary stabilisation 4-32050

liquid filled reservoir dynamic interaction with elastic half-space (Russian) 4-10690

material with gas-filled penny-shaped cracks, thermal-relax. effects 4-49676

materials with fading memory, nonlinear functional differential eqn. in Banach space 4-27297

mechanical boundary value problems, approx. solns. (Polish) 4-47873

mechanical systems governed by linear and nonlinear Mathieu eqns., sensitivity anal. (Polish) 4-47874

membranes, lofty, air-supported, lateral stability 4-24347

micropolar elasticity, boundary integral eqn. method 4-32044

mixed problems of mechanics of continuous media, spectral relationships for integral operators 4-19775

mixture of two elastic solids occupying an unbounded domain, static equilb. eqn. boundary-value problem uniqueness 4-4228

multilayer media, thermal elastoplastic wave damping (Ukrainian) 4-38749

nonconservative damped continuous system, harmonic forced motion with nonpotential follower forces 4-38748

nonlinear shell theory, deform. charact. construction 4-42723

periodic medium, processes not described by averaged characts. 4-8749

pipes and shells, nonlinear anal. 4-33930

plane, piecewise-homogeneous, containing band with four circular holes, state of stress 4-44372

plane stress-strain problem soln. using conjugate gradient algorithm 4-97

plate, elastic, containing circular hole, stresses due to hydrostatic compression under various support conditions in plane stress and strain 4-19726

plate, infinitely extended with articulated hole edge support, Kirchhoff differential eqn. analytical soln. with boundary collocation (German) 4-55321

plate, piecewise-homogeneous with an elastic inclusion, stressed state 4-44373

plate, plane notch problems, eigenfunction expansion generalised variational method 4-38711

plate, plastic, circular, optimal design 4-19725

plate, rectangular, nonlinear, transverse response, equivalent linearisation 4-98

plate, simply-supported, Babuska circle paradox, penalty resolution 4-17697

plate element, discrete Kirchhoff theory, work equiv. loads 4-14884

plate equations, corrected, systematic development (German) 4-53483

plate orthotropic, optimal orientation of axes of elastic symm. 4-55325

plate response to transient pressure wave load 4-44456

plate weakened by two circular holes and a crack, stressed state anal. 4-55324

plate-liquid system, basic identities (Russian) 4-36904

plates, anisotropic, rectangular, unsymm. laminated, transient response, symm. considerations 4-33935

plates, elastic, static deform., two dimens. eqns., asymptotic theory 4-33929

plates, elastic-plastic, simple model using sandwich of four layers and two-dimens. quadrilateral elements 4-33951

plates, elastoplastic, bending problem soln. 4-44427

plates, multilayer, in equilb. and vibr., shear model comparative anal. 4-55331

plates, multilayer, laminated, thick, and thin, invariant eight-node hybrid-stress element 4-55322

plates, multilayered, stress anal. around circular holes 4-5792

plates, rigid-plastic, square, in damping medium, dynamic response 4-1595

plates, stress-state min. principle, plate model systematic generation 4-49671

plates, under plane stress, openings optimisation 4-10536

plates and shells, one- and three-layer, of complex geometry, stress-strain state, numerical study 4-55329

plates composite, laminated, moderately thick, triangular shear-flexible finite element 4-14882

quasi-one-dimensional compression, ultrahigh, attainability 4-8745

relaxation problem in continuum elasticity theory 4-19721

rigid body orientation determ. 4-49673

rigid perfectly plastic continua dynamics, uniqueness of velocity field (Chinese) 4-10557

rod elastic element equal-strength construction, for piezoelectric devices (Russian) 4-1592

rods, flexible, elastic, statics problems, numerical methods 4-44374

shear and membrane locking in curved C^0 elements 4-22587

shear effect, inclusion in the ACM finite element 4-17695

shell, cylindrical, carrying capacity 4-44371

shell, cylindrical, three-layer, induction coeffs. calc. under axisymmetric load (Russian) 4-44363

shell, ribbed, spherical, stability, effect of reinforcement parameters 4-44431

shell, sandwich type, cylindrical, immersed in compressible fluid stationary reaction to axisymm. press. wave propag. 4-53497

classical mechanics of continuous media continued

- shell, spherical, isotropic, Vekua system of equil. eqns., general soln. 4-44370
- shell theory, methods of stress-state synthesis 4-13515
- shell theory, soln. of geometrically nonlinear problems 4-44361
- shells, anisotropic, laminated, cylindrical, anal. using Flugge-type theory 4-33934
- shells, cylindrical, displacements and stress based on an improved theory 4-49669
- shells, cylindrical, with conc. masses, behaviour under dynamic external press. 4-55326
- shells, helicoidal, general, undergoing large one-dimens. strains or large inextensional deformations 4-33932
- shells, ruled membrane type, general soln. 4-1593
- shells, sandwich, cylindrical, with transverse core deformability, nonlinear stability theory (*Polish*) 4-49733
- shells, spherical, three-layered, stability 4-55359
- shells—governing equation, computerised analysis 4-19727
- shells consisting of multiple free sliding layers, continual analysis (*Ukrainian*) 4-5846
- shells of revolution, imperfect, ribbed, basic nonlinear and linearised eqns. 4-55330
- shells of revolution with arbitrary local deviations, finite element model 4-44364
- sphere elastic, thick-walled interaction with acoustic medium, soln. using Chebyshev-Laguerre polynomials 4-10537
- stress intensity factors, evaluation by R-functions method 4-42722
- surface lattice beam, statics and vibrations 4-1640
- surface lattice beams, stability in one-dimens. continuous model 4-1597
- system of connected bodies with damping elements, engineering stability 4-44432
- trusses, two-bar, optimisation under creep conditions using method of contours of complete nonuniqueness 4-24348
- two-gap Lamé pot. and elliptic solns. of Kovalevskaja problem 4-47864
- viscoelastic isotropic bodies, nonlinear theory 4-19741
- yielding, Riemannian and non-Riemannian terminology 4-4224
- zero energy deformation mode suppression 4-32046
- Be, relaxation problem in continuum elasticity theory 4-19721
- Cd, relaxation problem in continuum elasticity theory 4-19721
- Co, relaxation problem in continuum elasticity theory 4-19721
- In, relaxation problem in continuum elasticity theory 4-19721
- Mg, relaxation problem in continuum elasticity theory 4-19721
- β -Sn, relaxation problem in continuum elasticity theory 4-19721
- Zn, relaxation problem in continuum elasticity theory 4-19721

classical mechanics of discrete systems

see also *N-body problems*

- 3-dimensional Hamiltonian systems, bifurcation sequence termination 4-84
- abstract description, correspondence with quantum mechanics 4-36919
- acceleration-dependent Lagrangians, canonical quantisation 4-22583
- analytic function reln. to integral of motion 4-22581
- analytic mechanics, generalised variational principles, nondifferentiable potentials 4-53463
- angular velocity measurement device, orientation and calibration determ. using ang. inform. 4-49664
- arbitrary shaped container containing liq., liq. natural freq. and mode determ. 4-10535
- arcs, uniform, in-plane vibr., natural freqs. 4-1591
- back-bone curves for nonlinear systems with several degrees of freedom 4-10532
- balance relations and fundamental concepts employed in continuum mech. motivated on basis of atomistic considerations 4-32042
- bar, elastic, of asymmetric cross-section, dynamics 4-19716
- beam, helical rectangular, simplified discrete method for design 4-49659
- beams, elastically connected parallel system, free and forced vibr. 4-44359
- bifurcation theory and dissipative structures, computational methods, book 4-31988
- bilinear oscillator, subharmonic reson. and chaotic motions 4-32033
- billiards with analytic boundaries 4-8733
- Birkhoff-Gustavson normal form, algebraic quantisation 4-22582
- book 4-8664
- Brusselator, spherically symmetric struts. (*Chinese*) 4-53457
- cellular automata, alternative to differential eqns. in modelling physics 4-47858
- cellular automata, appl. to ergodic theory and sofic systems 4-47857
- cellular automata, conf., Los Alamos, NM, USA (March 1983) 4-47747
- cellular automata, physics simulation 4-48043
- cellular automata, random, complex, emergent props. 4-48011
- cellular automata, universality, complexity 4-47856
- circle one-dimensional mapping, math. model of discrete system of phase synchronisation 4-4208
- collisions, extension of Landau diagrams 4-4216
- component structures, exact natural freqs. or crit. buckling loads, Lagrangian Multipliers 4-1586
- composite winding, continuous model for force analysis 4-44365
- conservative system, second energy variation in stability problems 4-47855
- conservative systems, energy, exact critical value 4-8738
- constant force generator, Newton's second law demonstration 4-53421
- cranking planar mechanisms on a microcomputer 4-14880
- cylinder, noncircular, with initial stresses, flexural wave propagation 4-44465
- Darboux's problem of quadratic integrals 4-53460
- deck flooring with biregular system of beams, stability 4-49667
- dissipative systems, inverse problem in classical mechanics 4-27289
- dynamical systems, book 4-31989
- elastic solid, inhomogeneous, transient response to moving torsional load in cylindrical bore 4-49661
- ellipsoid rolling along horizontal plane 4-53467
- equations of motion of systems with nonideal bilateral constraints 4-53468
- Euler-Lagrange eqn., dynamical symms. determ. 4-22586
- Feynman path integrals, stochastic formulation, classical rep. of Schrödinger eqn. 4-47909
- filament, flexible, motion under transverse impact 4-19717
- filament configuration in flow taking into account bending rigidity (*Russian*) 4-10531
- fluid mixtures with two point interactions, dynamical macroscopic eqns. 4-37060

classical mechanics of discrete systems continued

- forced Van der Pol eqn., stable subharmonics 4-32034
- forced Van der Pol oscillator, bifurcations 4-36900
- frame or truss with rigid connections, elastic crit. load, effect of axial lack-of-fit nonlinear anal. 4-5786
- geometrical setting for the KAM theorem 4-83
- gyroscope, dynamically tunable, transfer functions determ. 4-38709
- gyroscope, Kovalevskaja, exceptional case of motion 4-44358
- gyroscope, mechanically adjusted, eqn. of motion determ. 4-49663
- gyroscopes with an electrostatic suspension, perturbing moment probability charact. determ. 4-48156
- gyroscopic stabiliser, three-axis, differential eqns. of motion on moving base (*Russian*) 4-44360
- gyroscopic-pendulum systems, eqns. of motion in Rodrigue-Hamilton parameters 4-55316
- half-space containing disc-like inclusion, axisymmetric twisting 4-55319
- Hamiltonian dynamic systems, mean potential and kinetic energy over the microcanonical manifold (*French*) 4-166
- Hamiltonian dynamics, Dirac-Bergmann generalised, formulation on Whitney sum 4-8736
- Hamiltonian dynamics, time-depend. formalism for gauge transformations 4-8737
- Hamiltonian systems, nonlinear behaviour computation using Lie algebraic methods 4-27290
- Hamiltonian systems, nonlinear time dependent, first integrals 4-53462
- Hamiltonian systems and Painlevé conjecture, explicit integrability 4-53461
- heavy rigid dynamically almost symm. body with fixed point, periodic motions 4-42704
- heavy solid body on smooth horizontal plane, qualitative anal. of motion 4-42702
- Henon-Heiles Hamiltonian, separability of integrable case 4-36901
- inertial and EM forces 4-32010
- inertial navigation eqns., limiting capabilities for const.-height information 4-55315
- integrable systems and Painlevé prop. 4-36895
- integrals of motion and semiregular Lepagean forms in higher-order mechanics 4-4210
- invariant manifolds, construction of coarse theories from fine theories 4-47850
- inverse classical scatt. for centrosymm. electric and mag. fields 4-47882
- iterated maps of an interval with cusp max., band splitting-merging bifurcation 4-4214
- Kepler movement, complete treatment without differential calculus (*Italian*) 4-42707
- Kolmogorov's theorem on invariant tori, canonical transformations by Lie method 4-53470
- Kovalevskaya pot., class of motions, Euler-Poisson eqn. anal. 4-47859
- Lagrangian, uniqueness description, from admissible Lax representations 4-17688
- Lagrangian and use of higher order derivatives, implications and extension to field theory (*Rumanian*) 4-36894
- lagrangian systems, linear stability of periodic orbits 4-85
- Landau-Lifshits eqn. and integrable systems 4-42712
- large discrete buckling structures, stability 4-5791
- linear chain system mathematical models 4-53476
- linear systems, one-dimens., infinitesimal symm. transforms. 4-42708
- linear transformations of forces and generalised Gauss principle (*Russian*) 4-42714
- lines, helical, exact solns. of nonlinear theory of inextensible rods 4-55314
- linkage optimum synthesis with autocorrelation concept, modified least squares technique 4-5789
- Lorenz system, intermittent chaos, symbolic dynamics approach 4-42858
- mechanical energy accumulator of shell type prepared by winding, using filament reinforced composite 4-49662
- mechanical systems governed by linear and nonlinear Mathieu eqns., sensitivity anal. (*Polish*) 4-47874
- moments of inertia, demonstration using Tinker toys 4-66
- multibody systems with constraints subject to friction (*German*) 4-5787
- Newtonian system, global canonical first-order eqn. of motion 4-8735
- Newtonian systems, path integrals in parametrised theories 4-36896
- non-holonomic constrained systems dynamics 4-22579
- nonconservative dynamical system, motion and conservation laws via field method 4-47852
- nonconservative dynamics, symplectic approach 4-42710
- nonconservative systems, asymmetric, dynamics, stability and instability 4-4218
- nonconservative systems, nonlinear, component mode analysis 4-4219
- nonholonomic higher order systems, Gauss principle generalisation 4-17689
- nonlinear oscillator with impact energy absorber, stochastic auto-oscills. 4-22576
- nonlinear oscillators subject to periodic forcing, repeated reson. and homoclinic bifurcation 4-42713
- nonlinear second-order systems, parametrically excited, stability of periodic oscills. and rots. 4-53465
- nonlinear superposition theorem of Lie and Abel's differential equations 4-17687
- nonentangle thread dynamics in a liq. (*Russian*) 4-10530
- nuclear collective motions, classical hamiltonian soln., schematic model of two level pairing 4-23069
- numerical soln. of eqns. of motion, accuracy and preservation prop. 4-32035
- one degree of freedom system, transient state study (*Rumanian*) 4-8731
- one degree of freedom system with time-lag, forced self-excited vibr. 4-42705
- one-degree-of-freedom statically compressed system, simple harmonic motion bounds, axial compression effect 4-53458
- one-dimensional mechanical system, generalized canonical transformations and constants of the motion 4-53471
- open systems, weak-coupling theory 4-17686
- oscillations of systems with large elastic forces of threshold type 4-53469
- particle dynamics, higher-order special self-adjoint differential eqns. connection 4-4211
- pencil writing tip fracture, stress anal. 4-1683
- pendulum, radially flexible, subjected to high-freq. harmonic excitation 4-1590
- period doubling dynamical systems, topology universality 4-42711
- perturbation methods based upon varying action integrals 4-8732

classical mechanics of discrete systems continued

- planar frames, elastoplastic geometrically nonlinear analysis (*Rumanian*) 4-38707
 plates in prismatic assembly with supporting struct., buckling and vibr., VIPASA computer program 4-1587
 regular and irregular motion, mech. results and fibre optics analogies 4-1503
 relativistic and nonrelativistic classical mechanics, constants of motion 4-42715
 rigid body, quasi-spherical, deformable, free motions 4-49666
 rigid body motion matrix tensor treatment 4-4215
 rigid body relative motion full soln. (*Ukrainian*) 4-36893
 rigid body with elastic and dissipative elements, dynamics, small perturbation asymptotic behaviour 4-49665
 rod, elastic, material distribution, Lagrange problem soln. 4-55318
 rolling system dynamic investigation, multibody approach 4-53459
 rotators, coupled, regular and chaotic motion 4-22584
 round body rolling on concave curve, simple harmonic motion 4-42666
 satellite rotation rel. to centre of mass, dissipative mag. moment effect 4-53464
 separation of motions and averaging method, mech. system with infinite no. of degrees of freedom (*Russian*) 4-8740
 shell, impulsively loaded, nonlinear dynamics, explicit algorithm 4-49660
 solid body rotary motion as a whole 4-22578
 solid body translational rotational motion control 4-4206
 solid heavy body, bifurcation and stability of permanent rotations 4-4207
 sphere rolling on horizontal rotating plane, motion along expanding spiral 4-42703
 springs, distorted and combined, teaching approach 4-64
 springs, helical coil, stress anal. 4-1583
 stability and stabilisation of motion with respect to part of variables 4-22575
 stability of steady motions of systems of a certain type 4-53466
 star-like cross section bodies, aerodynamic charact., drag at Mach 2, 3 velocities (*Russian*) 4-8739
 stochastic natural oscillations in phys. systems with inertial self-excitation 4-37024
 string, longitudinally moving, vibr. anal., winding set dynamics 4-19767
 string, rotating inextensible, iterative soln. of non-linear boundary value problem 4-47853
 structures, fast modal response analysis 4-5788
 substructure synthesis method, vibr. analysis 4-14879
 symmetrical system motion, cases of loss of control 4-22577
 system of connected bodies with damping elements, engineering stability 4-44432
 systems with self action, classical Lorentz invariant theory, Lagrangian formulation 4-27288
 time-dependent systems, generalised canonical transformations 4-27291
 tripod stand mounted optical instrument system, ang. deflection estimation 4-5790
 two interacting particles in external field, integrable models of motion 4-47854
 two-body problem, perihelion precession within generalised theory of classical mechanics 4-36566
 two-dimensional integrable Hamiltonians with transcendental invariants 4-53473
 two-dimensional integrable systems, complete Whittaker theorem and its appl. 4-22580
 two-element link with point mass, natural oscills. 4-55317
 zero energy deformation mode suppression 4-32046

classical theories of fluid structure

- see also kinetic theory; liquid theory*
 broken symmetry and invariance properties of classical fluids 4-39073
 diatomic mols. fluid mixtures, Monte Carlo simulation and thermodynamic perturbation theory 4-2044
 dispersion, conductivity, struct. effect 4-2386
 simple fluid, structure factor determ., role of poles 4-24706
 Rb, struct. factor at long wavelengths, classical theory anal. 4-29303

classification

- see also indexing*
 asteroid classification, numerical taxonomy approach 4-3948
 galaxies, quantitative classification from diameter-surface brightness diagram 4-13431
 galaxies in southern groups, morphology rel. to elliptical fraction at low density 4-13442
 land use/land cover classification from Landsat imagery, appl. of land-form and vegetative factors 4-52962
 Milky Way Galaxy, Hubble type 4-22473
 remote sensing, contextual classification of multispectral image data 4-22140
 Ti-Al-V, microstructure, standard scales and classification 4-51623
 YM29, planetary nebula, N/O and He/H ratios rel. to classification 4-22461

classification, pattern *see* pattern recognition**clathrates *see* molecules; organic compounds****clay**

- baked clays geomagnetism and archaeology (book) 4-53370
 clay suspension -CO₂ system, vibration augmented heat and mass transfer 4-19798
 compressed powdered, γ -ray attenuation and scatt. coeffs. 4-2987
 Ethiopian soil, exoemission, rel. to endemicity of non-filarial elephantiasis 4-3593
 kaolinite, heat of adsorption of water with Cs⁺(Li⁺) exchange cations 4-35934
 loam soil, dielectric props. determ. 4-31697
 model materials, wax-kaolin mixtures, mech. and thermal props. (*Swedish*) 4-12133
 PIXE anal. for archaeological studies 4-52713
 plastic refractories, work of fracture, temp. depend. 4-30781
 powder compacts, mech. props. (*Japanese*) 4-40960
 seismic response of clay embankment to earthquake shaking 4-17070
 soil mechanics studied using centrifuges, scaling laws 4-17155

cleaning *see* surface treatment**cleanliness *see* hygiene****cleavage fracture *see* brittle fracture****Clebsch-Gordan coefficients**

- see also elementary particle theory*
 algorithm for Clebsch-Gordan coefficients 4-60
 angular momentum, coupling consts., packed storage program 4-47889

Clebsch-Gordan coefficients continued

- corepresentations, additional symm. 4-47896
 irreducible representations of space group C_{6v}⁴ 4-11032
 Lie algebras, Clebsch-Gordan coeffs. and matrix elements calc. 4-32481
 polynomial zeros of Clebsch-Gordan and Racah coeffs., symbolic binomial expansions 4-53508
 SU₄ \supset SU₂ \times SU₂ and U_n \supset SO_n, isofactors and bases of class 2 representations 4-4584
 SU(3), general recurrence formulae, group theoretical methods, carrier spaces (*Rumanian*) 4-47926
 SU(m/n) Gelfand basis, Clebsch-Gordan coeff. 4-36933
 U(3) group, C-G series, irreducible representations (*Chinese*) 4-27317

climatology

- see also atmospheric humidity; atmospheric precipitation; sunlight; wind*
 West Africa, rainy season, rainfall occurrence times anal. 4-42018
 agricultural crop location allowing for climate and weather fluctuations 4-17250
 air pollution causing climate changes, model (*Chinese*) 4-13007
 air pollution influence on global climate 4-36480
 Alaska, correl. between climatic parameters and varve thickness rel. to paleoclimatology 4-36421
 Amaranthos area, NW Greece, atmothermal springs, microclimatological study 4-47316
 N America, precipitation climate of corn belt from tree ring records 4-26795
 Andean Piedmont, Chile, Upper Cainozoic devel., role of tectonics and climate (*French*) 4-52618
 Angola-tropical Atlantic region climatic anomalies, atm.-ocean mechanisms 4-22071
 anomalous propagation statistical data, Tyrrhenian Sea X-band link 4-26785
 E Antarctic ice cores, microparticle props., implications for paleoclimatology (30000 yr record) models 4-31626
 applications of climatology, book 4-31999
 arctic haze absorpt. of solar radiation and climate effects 4-47409
 S and W Asia, climate anal. (book) 4-4162
 North Atlantic, CTD meas. in 1981, climatic changes 4-36406
 NE Atlantic, Upper Quaternary sediment stratigraphy, fossils and climate record 4-26687
 NE Atlantic Ocean, low-freq. surface temp. and salinity fluctuations 4-12920
 N Atlantic region, calibration of onset of ice-rafting and history of glaciation 4-47297
 Atlantic-European area, air temp./sea surface temp. (1876 to 1973) (*German*) 4-17257
 atmosphere circulation patterns during glacial inception 4-47388
 Australia, rainfall and Southern Oscillation indices, seasonal relationships (1932-74) 4-47339
 Australia climatic variations and implications for CO₂ warming of atm. 4-31625
 Bay of Bengal, severe cyclonic storms striking coast, probability model 4-58280
 biothermostasis involving S-cycle, atm. albedo var. and cooling via S-chem. 4-13016
 book, introduction to climate 4-31998
 NE Brazil, rainfall anomalies and large-scale circulation 4-42147
 changes in climate and anthropogenic influences, book 4-36833
 chemical composition correlation (book) 4-36840
 China, plum rains, climatic fluctuations in past 500 years 4-42155
 cloud cover influence on climate, high-latitude interactions, review 4-53388
 conference on coastal zone meteorology/air-sea interactions at The Hague, Netherlands (May 1982) 4-22526
 conference on statistical climatology at Tokyo, Japan (November-December 1979) 4-53362
 cooling of atmosphere on global scale due to the IR thermal emission 4-22074
 cryosphere of Northern Hemisphere, temp. sensitivity (*Russian*) 4-52876
 cumulus parameterization scheme for tropical atmos. climate studies 4-36458
 Czechoslovakia, climatological processing of atmospheric landscape component 4-12974
 data harmonic anal., FFT use 4-52878
 data theoretical probability distrib. models, reviews 4-58274
 Edinburgh, Scotland, 1721-1975 July-August air temp., tree ring anal. 4-58272
 El Nino winter (1982-3), climatic anomalies and circulation 4-41931
 empirical estimates of climatic vars. 4-22077
 central England, monthly and annual mean temps., correl. 4-42144
 England, temp. and rainfall reconstruction from tree rings 4-13012
 England and Wales, precipitation spatial patterns in AD 1861 to 1970 period 4-58268
 estimation of climatic elements, use of exponential smoothing 4-58319
 Ethiopia, ages of post-glacial arid episodes and implications for climate prediction 4-22072
 Europe, temp., press. and precipitation patterns in a warmer world 4-47399
 Europe and Mediterranean vegetation evolution 4-36482
 evaporation-limited tropical temperatures as a constraint on climate sensitivity 4-8311
 extreme value and return period for small samples, statistical prediction method 4-58318
 extreme wind speeds for German Wind Loading Code DIN 1055, Part 4 (*German*) 4-47386
 four-year cycle due to solar wind, correl. with atm. phenomena 4-58278
 S France, water requirements, rainfall, evapotranspiration and water usage 4-58204
 Franz Josef glacier, recession, climatic effects 4-12954
 general circulation models applied to Hamburg GCM, climate states test 4-47338
 generalised linear model estimation problem, optimum linear restriction, appl. to climatic data 4-58276
 glacial and non-glacial regimes, estimation of probability of spontaneous climatic transition (*Russian*) 4-42148
 glacial Lake Agassiz, independent registration of Emerson Phase in NW Minnesota and NW Ontario 4-31527
 last glacial maximum, reduced advection into Atlantic Ocean deep eastern basins 4-21988
 glaciogenic geology and climates of pre-Pleistocene times, book 4-36824
 global angular momentum and energy balance 4-22070

climatology continued

- global atmos. effects. GCM simulations of nuclear war consequences 4-47401
- global climate changes due to E. equatorial Pacific sea temp. anomalies 4-8309
- global Hopf bifurcation in a simple climate model, appl. to Quaternary glaciation cycles 4-36484
- global modelling, use of global soil maps 4-17158
- global temperature effected by cloud cover distrib. 4-22075
- global thermal conditions statistics in northern hemisphere, empirical model 4-17258
- Great Britain, temp. seasonal variations in AD 1861 to 1980 period 4-36481
- Greece, climate zones delineated by thunderstorm day statistics 4-58269
- Gulf of Mexico, climatic features of air-sea interactions 4-47289
- N Hemisphere, blocking situations, characts. from 30 yrs of obs. 4-3790
- Late Holocene summer temp. vars. in Northern Hemisphere, comparison of evidence 4-36483
- ice age 100000 year ice sheet cycle model due to climate periodic changes 4-41994
- ice age climate model with solar constant and Earth orbit changes 4-42150
- ice ages, simple climate models with periodic and stochastic forcing 4-47400
- ice ages 4-17177
- ice ages chronology and Earth orbit var. 4-52877
- ice ages climate model, with orbital forcing and precipitation-temp. feedback 4-42152
- ice samples, cores and climatology 4-29967
- Illinois, USA, floods, streamflow and related climatic conditions 4-31528
- India, monsoon climate, classification and moisture regime stability 4-58279
- India, summer monsoon, calamitous behaviour probability model 4-58281
- India, summer monsoon rainfall and Southern Oscillation (1901 to 1981) 4-36431
- far infrared absorpt. in CO₂ 15 μ m region, parameterization for climate studies 4-36485
- Ireland, summer weather in AD 1881 to 1981 period 4-17253
- isotopic climatic data from Antarctica, autoregressive evolutive spectral anal. 4-22076
- Japan, visibility, climatological anal. and effects of wind 4-31639
- Lake Dieri (ancestral Lake Eyre), South Australia, Pleistocene environment of sedimentation 4-26724
- Lake Superior, climatic implications of recent diatom assemblages in sediments 4-52762
- land surface processes, albedo and energy balance 4-22080
- location and scale parameters estimation, asymptotic theory, appl. to climatic data 4-58275
- Madeira Abyssal Plain, turbidite deposition, climatic control 4-17141
- NE Mali, radiocarbon chronology of Holocene hydrological changes 4-17178
- Markov chain modelling, use of precipitation data simulation 4-58317
- minimum cross-entropy spectral analysis method for palaeoclimate O isotope data 4-13057
- late Miocene vegetation and climatic vars. results from pollen record in NW Wyoming 4-47402
- monthly wind stress over world ocean, error estimates (1870-1976) 4-22042
- mountain weather and climate, book 4-31985
- multiple nuclear explosions, effect on atm. 4-46911
- Neogene climates, glacial eustatic sea level vars. rel. to continental margin phosphorites 4-47249
- Northern Hemisphere, spatial and temporal characts. of surface air temp. vars. 4-12972
- Northern Hemisphere, mean surface air temp. var. (1656 to 1975) 4-58277
- W Norway, tax records as index of Little Ice Age environmental/economic deterioration 4-13014
- nuclear war effects and long-term biological consequences 4-46912
- ocean role in climate change, Atlantic 3-D circulation and mixing models 4-36401
- Pacific, climate-correlated sedimentation, V19-29 core record below Peru current 4-41984
- Pacific Ocean, equatorial region, 1982-3 climate anomaly and air-sea interactions 4-13018
- Pacific Ocean, equatorial sea surface temp. anomalies and extratropical climate anomalies prod. 4-8242
- palaeoclimate, determ. from ¹⁸O and ¹³C in land snail shells (French) 4-52875
- periodic and pseudo-periodic systems, detect. of parameters change with unknown change times 4-58316
- Plateau State, Nigeria, rainfall distrib., var. and probability 4-42019
- Pleistocene climate change model 4-17259
- Pleistocene glaciations, implications of Quaternary sea-level events on N San Clemente Island, California 4-36407
- polar glaciation rel. to ice age genesis 4-47312
- pollen data calibration methods 4-31658
- Potomac River, USA, streamflow since 1730, drought anal. from tree ring obs. 4-47307
- Potsdam, precipitation, radiation balance and dryness index spectral behaviour (German) 4-17256
- precipitation changes simulated by general circulation climate model 4-36479
- predictability in the wavenumber-frequency domain 4-58219
- Primorskii Krai, eastern USSR, microclimate zones of rice growing area 4-17260
- principle components analysis appl. to East Africa rainfall stations regional classification 4-58321
- quasi-periodic meteorological series and second-order autoregressive processes 4-42145
- quasi-three dimensional climate model 4-31627
- Upper Quaternary climate of N Atlantic from sediment record 4-26687
- Quaternary ice ages, coupled climate-ice sheet model 4-42154
- radiation budget studies, satellite obs. 4-22079
- Red River, Winnipeg, Canada, 19th century breakup/freezup, climatic implications 4-13015
- Rome, Italy, air temp. (1782-1975), effects of natural events/human activity 4-3816
- Rothamsted, England, monthly extreme air temp. and air frost probability 4-42143
- sub-Sahara, 1941-82 rainfall anal. 4-42020

climatology continued

- Sahel area of Africa, wind fields during wet and dry periods 4-58222
- Sahel drought and associated land surface albedo changes 4-42121
- Sahel region, Tunisia, desertification, soil characts. 4-31529
- sea-ice fluctuations and climate change 4-31628
- self-oscillations and predictability in climate dynamics 4-36478
- short term oscillations in tropical ocean-atm. coupled system (Chinese) 4-42146
- short-term climate var. and global outgoing longwave radiation 4-58270
- short-term climate var. and global outgoing longwave radiation, lagged correl. 4-58271
- Sicily, climate and sunlight parameters rel. to solar energy utilisation 4-8303
- snow cover, effect on weather and long-term climate 4-47398
- solar constant variation effects 4-36667
- spectral analysis, statistical test for distinguishing signal from noise 4-12976
- statistical techniques for data anal. 4-58313
- Stocking, New Zealand, variations, rel. to climate 4-12955
- sunspot, aurora and radiocarbon obs. rel. to climate fluctuations since 7000 BC 4-13017
- surface albedo data for climatic modelling 4-22073
- surface temperature history from borehole temp. gradients anal. 4-42217
- synoptic cloud generation in low resolution spectral atmos. model 4-42149
- systems analysis 4-22078
- temperature variability of free-atmosphere 4-17261
- theory, symposium, Lisbon (Oct. 1981) 4-17642
- time-series separation into components, appl. to temp. and climatic data 4-58315
- trace gases coupled perturbations on climate 4-42156
- tree ring ¹³C/¹²C ratio since 1400 AD, rel. to climate 4-42090
- United Kingdom, estimation of missing climatological data 4-12975
- W United States, climatic implications of last two cycles of Lake Bonneville 4-36420
- United States, long-term normal percent possible solar radiation levels rel. to climate 4-47356
- USA, climate change, of seasonal precipitation 4-26793
- USA drought duration spatial characts. 4-26742
- USSR, state observational and monitoring system 4-36494
- volcanic eruption climate perturbations causing tree ring frost damage 4-26679
- weather/solar data anal., relevance to building services 4-52811
- Yucatan peninsula, Maya prehistory and climate effects 4-13013
- zonal temperature variability, generation through fluctuating meridional energy transports, energy balance climate model anal. 4-8310
- CO₂ and climate change 4-22068
- CO₂ for infrared radiative parameterization in climate model 4-42153
- CO₂ increase and atmos. temp. rise? a different view 4-52808
- CO₂ increase effects, satellite-based detection of climatic changes 4-26868
- CO₂ levels in pre-industrial era 4-31570
- CO₂ pollution affecting climate, general circulation model study 4-42151
- CO₂ variations over past 30000 yrs., lake sediments ¹⁴C anal. 4-58273
- CO₂-climate models, shortcomings, energy policy implications 4-52874
- ¹⁴C variations rel. to shortcone pine ring widths, evidence for climate-Sun relation 4-26794
- climb, dislocation** *see dislocation climb*
- clinical equipment** *see biomedical equipment*
- clinical measurement** *see biomedical measurement*
- clipping circuits** *see limiters*
- clock paradox** *see special relativity*
- clocks**
 - see also atomic clocks; chronometers; time measurement*
 - crystal resonator, interferometric meas. of vibrations (French) 4-24067
 - dual mixer time difference system, for time-domain frequency stability meas. (Korean) 4-37073
 - light metering circuit with time interval memory (German) 4-278
 - quartz oscillator piloted by Bucharest broadcasting station (Rumanian) 4-42929
- closed circuit television**
 - volcano monitoring system 4-13086
- closed loop control systems** *see closed loop systems*
- closed loop systems**
 - see also feedback*
 - active mirror segment figure control 4-1458
 - microcomputer-controlled devices for human implantation 4-17016
 - mirror fatigue control, edge actuated 4-1513
 - MOSFET sensor for tracking HV surface fields 4-42988
- cloud chambers**
 - thermal diffusion, automatic temperature controller 4-14276
- cloud physics** *see clouds*
- clouds**
 - see also atmospheric precipitation; sky*
 - acid precipitation formation, microwave remote sensing 4-26349
 - aerosol cloud, radiative transfer calcs. 4-26802
 - aerosols in weather modifying expts., ice nucleation props., chem. kinetic theory appl. 4-12979
 - Antarctic coastal clouds, biogenic nuclei 4-31616
 - arctic stratus, optical props. depend. on microstructure 4-47410
 - asymmetric vorticity couplet in upper troposphere near GARP cloud cluster 4-52813
 - tropical Atlantic, high cloud occurrence statistics 4-8264
 - Bridge Range cloud seeding expt., Montana, USA 4-58225
 - bushfire generated cumulus near Sydney, Australia 4-17252
 - cirrus, IR emissivity and optical props. (Russian) 4-31641
 - cirrus cloud global distribution 4-47374
 - cirrus particle single-scattering phase function determ. 4-42157
 - Climax I and II cloud seeding expts., treatment differences estimation 4-13055
 - cold stratified clouds, precipitation model (Chinese) 4-42029
 - convective boundary layer with clouds, obs. of shallow convection 4-42015
 - convective storms in weakly-sheared atmos., microphysical obs. 4-36451
 - coverage data, minimal storage strategy, optimization 4-36496
 - cumuli as source of troposphere and F-region gravity waves (Russian) 4-52839
 - cumulus, cloud droplet growth by condensation (Chinese) 4-58246

clouds continued

- cumulus cloud parameterisation scheme for heat, moisture and momentum fluxes 4-47349
- cumulus clouds, parameterisation schemes in linear model of wave-CISK 4-47382
- cumulus convection mechanism, wave-CISK theory for divergence generated gravity waves 4-42070
- cumulus parameterisation 4-36433
- cumulus parameterization scheme for tropical atmos. climate studies 4-36458
- daily total solar radiation monthly mean values estimation for Australia 4-42138
- diffuse/global solar radiation computation from cloud cover observations 4-52862
- direct/diffuse/global solar radiation estimation, daily and monthly, using sunshine duration meas. 4-52860
- diurnal variability and behaviour of clouds 4-26792
- dot-source hailclouds (*Chinese*) 4-58254
- droplet electric charging by propagating positive streamer 4-12984
- droplet size and conc. measurement, with FSSP infrared airborne equipment 4-26825
- droplet size distribution during condensational growth 4-17209
- electric charging of drops by propagating positive streamer 4-12984
- electrostatic charge on ice cryst. clouds, laboratory expts. 4-42118
- engineering meteorology (book) 4-47795
- flat-plate solar collector transient response for periodic solar intensity variation 4-26315
- Florida Area Cumulus Experiment, phase 2, expt. design, data and implementation 4-31654
- Florida Area Cumulus Experiment, phase 2, replicated and confirmatory anal. 4-31655
- forest in subalpine zone, cloud water deposition to canopy 4-52805
- freely suspended droplets, contact and immersion freezing by bacterial ice nuclei 4-47368
- funnel clouds observed over Shetlands, Scotland 4-52869
- global cloud cover models, satellite obs. 4-58287
- global temperature effected by cloud cover distrib. 4-22075
- hailcloud formation from merging of clouds (*Chinese*) 4-42030
- heat burst of 1976 May 29, assoc. temp., humidity, cloud and wind char. acts. 4-36427
- heavy rain cloud cluster development over China (*Chinese*) 4-13008
- high clouds over tropical Atlantic and Pacific, occurrence statistics 4-8264
- hourly all-sky solar radiation model, based on meteorological parameters 4-42136
- hurricanes, latent heat release in NWP models, use of lower saturation criteria 4-36435
- ice build-up on cylinders in clouds, ice density study 4-22037
- ice cloud monitoring by laser methods, review 4-26899
- ice concentrations (*Chinese*) 4-47333
- ice crystal growth at $-8 \pm 2^\circ\text{C}$, struct. 4-24747
- ice particles in the atmosphere 4-31572
- ice-nucleus sources, propag. by diffusion 4-26779
- icing clouds microstructure, in situ measurements 4-22039
- Indian Ocean area, precipitable water content during 1979 summer monsoon 4-22036
- IR cooling of cloudy atmosphere, numerical model 4-8315
- IR reflection and transmittance, 1-2.5 μm , airborne radiometer obs. 4-42170
- Landsat data for limnological research, cloud cover as a factor 4-31653
- laser beam propagation, study of pulsed blue-green beam 4-26808
- laser beams in cloud, multiple scatt. theory 4-26807
- laser methods for cloud monitoring, review 4-26898
- Lidar, simplified data acquisition of aerosol concentration in atmosphere (*German*) 4-22124
- light reflection, calc. of luminosity coefficient (*Russian*) 4-13023
- lower atmosphere (book) 4-8667
- maritime stratus clouds, optical pulse broadening estimates 4-52884
- measurement of water droplets, comparison of different instruments 4-3843
- measurement techniques for cloud microstructures 4-26897
- measurement using laser radar (*Japanese*) 4-58306
- microstructure of clouds and rain, review 4-26790
- microwave radiometry for sea surface temp., wind speed and atm. water content determ. 4-47420
- microwaves propagation, influence of clouds and rain on temp. profiles determ. 4-42040
- momentum transport by a line of cumulonimbus 4-8293
- multisatellite Earth radiation budget expts., cloud anal., orbit selection for max. coverage 4-36564
- noctilucent cloud, orientation of light scattering particles 4-3860
- noctilucent cloud particle motion influenced by gravity waves (*Russian*) 4-52834
- observer consistency in cloud cover extent judgements 4-13033
- Oklahoma, United States, thunderstorm cloud tops, motions and temp. 4-47337
- Oklahoma multicell storm, hail growth, trajectories and form. 4-8292
- Oklahoma tornadic storms, 1979 May 2, cloud/temp./rel. struct. 4-8290
- Oklahoma tornadic storms, 1979 May 2, radiative transfer calcs. 4-8291
- optical backscatter and extinction as visible and IR freqs. 4-42172
- optical depth determ. from sunlight intensity, use of photodiode radiometer 4-47429
- optical properties of ice clouds, review 4-26806
- optics of clouds, using cotton or styrofoam simulated clouds 4-3846
- overshooting cloud top temperatures, theory of satellite IR remote sensing 4-26831
- tropical Pacific, high cloud occurrence statistics 4-8264
- physical parameterisation method, use of movable basic functions, stochastic coalescence parcel calcs. 4-8288
- polar stratosphere clouds, form., role of aerosols, temp., humidity 4-17234
- radar observations (book) 4-47796
- radiative characts. rel. to microphysics and geometric shapes 4-26805
- radiative transfer effect on ice crystals falling in atm., mass/heat budgets 4-8289
- radio emission rel. to microstruct. 4-42132
- radiowave depolarisation on satellite radiopaths, due to ice clouds 4-22051
- rainbands belonging to midlatitude cyclones 4-42058
- relative diffusion in turbulent media: the fractal dimension of clouds 4-58245

clouds continued

- remote sensing, conf., Liverpool (Dec. 1982) 4-47764
- remote sensing of cloud cover by satellite, 2-D histogram procedure 4-26824
- review 4-26775
- seeding experiments with dry ice, numerical simulation 4-31577
- seeding of stratocumulus with dry ice, influence on rainfall 4-26745
- Sierra Nevada winter storms, cloud ice crystals and supercooled liquid water distrib. 4-47362
- simulation, aids research in forecasting rain, hail and snow 4-47390
- small cumulus cloud top mixing and entrainment 4-36456
- solar power available at ground level determ. using satellite mean., for solar collector system optimisation 4-7826
- Southern Plains, USA, low-precipitation severe thunderstorms, temp. profiles and cloud characts. 4-47341
- NW Spain, condensation nuclei obs. at Villanubla 4-52799
- spatial and temporal scales involved in cloud and precipitation processes 4-26789
- squall line cloud cluster in GATE, water budget and winds 4-8294
- storms, graupel and hail devel., simulation 4-13049
- stratified clouds, ice pellets and graupel, microphysical obs. (*Chinese*) 4-47328
- stratocumulus clouds in Africa and Europe, radiative props. 4-42166
- mixed stratocumulus layers thermodynamics, saturation point budgets 4-47381
- stratocumulus precipitation modified by fallstreaks from higher cloud 4-26745
- stratus clouds in California, radiative effects 4-42167
- streamers propagation through large population of neutral droplets 4-42127
- structure and optical properties, conf., May 1980, Williamsburg, USA 4-22524
- structure formation from three-dimens. turbulence inverse cascade 4-31622
- surface discrimination from snow in remotely sensed data 4-31671
- surface global radiation and cloudiness from satellite obs. 4-3858
- synoptic cloud generation in low resolution spectral atmos. model 4-42149
- temperature and thickness determ. from satellite microwave radiometry 4-47430
- thermal atmospheric radiation meas., Manresa, Spain 4-52858
- thermodynamic limits, effects of temp., intensity and atmospheric conditions 4-26293
- thundercloud electric fields, dynamic interactive computer model 4-58234
- tops of cumuliiform clouds, lidar polarisation obs. 4-26741
- transient trace gas transport in cumulus cloud, photochemical model 4-42075
- tropical deep convective systems, dynamics and elec. activity 4-47318
- tropical mesoscale anvil clouds, heat and moisture budgets 4-36455
- turbulent wind pulsations in clouds (*Russian*) 4-52833
- types and classifications, observers' guide 4-42618
- typhoon track forecasts for middle latitudes, use of satellite cloud feature anal. 4-31692
- unresolved cloud effects on remote sensing of diseased vegetation 4-42158
- warm stratocumulus, large droplets distrib. (*Chinese*) 4-47331
- Washington, USA, orography effect on Pacific cyclones rainbands 4-17227
- Washington, USA, Pacific cyclones rainbands in occlusions 4-17228
- water content of stratocumulus and cumulus clouds, heterogeneous distrib. and bimodal drop spectra (*French*) 4-58238
- water sampler and pollutant trajectories anal. 4-26348
- wave motions from high level cloud space-time spectra anal. 4-31607

Clusius-Dickel columns see isotope separation

cluster analysis see pattern recognition

cluster approximation

- aggregation by kinetic clustering of clusters 4-42875
- alloys, substitutionally disordered, density of states and local-environment fluctuations 4-34851
- atomic and molecular clusters (*German*) 4-55774
- band structure of crystals, validity of cluster method 4-11428
- binary liquid systems, directionally bonded, coexistence, spinodal curves, four-cluster approx. calcs. 4-50486
- diamond-like crystals, surface relax. and reconstruction, MNDO calc. 4-50619
- driven-cluster model for first-order phase transitions 4-220
- glyoxal, correlated ground state wave function, direct cluster expansion method 4-14344
- graphite and linear lattices, Heisenberg Hamiltonian, coherent state, variational derivation 4-34843
- Heisenberg spin glasses, disorder and competing interactions, finite cluster calc. 4-2784
- Hubbard chains, uniform dimerised, thermodynamic props. 4-6687
- ionic crystals, polarisation by point defects, dipole approx. 4-11831
- Ising model, cluster variational method, density matrices reduction 4-48033
- Ising systems, cluster variation method, general algorithm 4-20331
- lattice gas model, cluster variation model, free energy calc. 4-22696
- metal surfaces, dissociative chemisorption of H_2 , role of d orbitals 4-29792
- metal-H alloys, disordered interstitial electronic density of states 4-29860
- metals, amorphous, local electronic struct. theory, cluster approx. anal. 4-56196
- molecular crystals, exciton-phonon interactions, dynamical CPA, cluster generalisation 4-56229
- oxide surfaces, electronic struct. DV-X α cluster calc. 4-11567
- polar ferromagnet, coexistence of charge and mag. ordering 4-46046
- quasidegenerate coupled-cluster approach with hermitian model Hamiltonian 4-8767
- random binary alloys, phonon freq. spectrum 4-45283
- random impedance-capacitance network, elec. cond. theory 4-34940
- random-bond Ising model, boundary between spin glass and ferromagnetic states 4-11703
- rare earth orthovanadates, electronic struct., rel. to photoelectron and optical spectra 4-39752
- Se, electron struct., cluster approx. 4-15812
- semiconductor, doped, impurity density of states, cluster model 4-29921
- semiconductor alloys, ternary, phonon spectra, embedded cluster calc. 4-6456

cluster approximation continued

- semiconductor-insulator interface, inversion layer, two-dimens. density of states for electrons bound to impurities 4-30082
 semiconductors, doped, Anderson localised regime, theory of interacting donor electrons 4-50767
 semiconductors, Frenkel pair generation, ab initio adiabatic potentials (*Russian*) 4-25193
 spatially disordered systems, electron localisation, short range order effects 4-45691
 spin glasses, cluster model and replica symmetry breaking 4-56650
 spinless fermion model, cluster approach 4-169
 transition metal diborides, electronic struct., Fermi levels, valence bands, solid-state and cluster calcs. 4-50724
 transition-metal compounds, supercond., cluster-deformation model for lattice dynamics 4-39412
 V₂Ge-Co(Fe), X-ray emission spectra and electronic struct. (*Russian*) 4-51411
 Ag-Au clusters with adsorbed molecules, surface enhanced Raman scatt. theory 4-25747
 CO bonding to metal surfaces, mol. orbital cluster model anal. 4-20477
 CdSe_{1-x}Te_x films, impurity luminesc., photocond. meas., comp. depend., band struct. 4-35506
 CdTe:Mn, impurity states calcs. (*Russian*) 4-50766
 Co alloys, cryst. and amorphous, struct. phase transforms., mol. orbital models 4-39476
 CRH₃, nonstoichiometric, electron struct. and K emission spectra (*Russian*) 4-25215
 α-Cr₂O₃:Ga³⁺, EPR absorpt., mag. cluster model extension (*German*) 4-20859
 Cu, 3d, 4d and sp impurities, electronic struct., self consistent cluster calc. 4-34910
 Cu (001), chemisorption of Cl, MO cluster model 4-56145
 Cu (100) face, elec. double layer with specific chloride ion adsorpt., quasi-mol. model 4-57572
 Cu, charge-density distrib. around Fe-Fe dimer, X_α cluster calc. 4-2541
 Cu₂, atomic cluster calc., augmented Gaussian-orbital basis 4-19315
 Fe (100), (110), and (111), adsorption of acetylene, structs. and reactions 4-45504
 GaAs:C, localised vibr. mode of C, cluster Bethe lattice treatment 4-2294
 GaAs_{1-x}P_x (110) surface, electronic and atomic struct. calcs. 4-6851
 Ge:H, C(Si)(O), crystalline, electronic struct. of impurity complexes 4-25290
 H₂ solid, metal region, valence band calcs. 4-20553
 NO, molecularly adsorbed on Ni, SCF X_α scattered wave cluster study 4-45519
 NaCl:Ag⁺, optical absorpt. and electronic struct., multiple scatt. X_α study 4-25287
 NbH, electronic charge distrib. of absorbed H 4-2180
 Ni (100), adsorbed O, coverage-depend. vibr. shift 4-29762
 Sc₂O₃, electron energy struct. and optical props. 4-34876
 Si (111)2×1 surface, Mott insulator model, ab initio calcs. 4-6858
 Si, dislocations, static and moving, localised electron states calc. 4-6733
 Si, electronic struct., cluster approach (*Russian*) 4-34868
 Si surface, adsorbed F atoms, electronic struct. and associated nucl. quadrupole interaction 4-39663
 Si, vacancies, interaction between dangling bonds 4-11140
 a-Si:H, B, dopant states, tight-binding model 4-6743
 Si:N(O), off-centre impurities theory 4-56270
 SiO₂, vitreous, IR and neutron vibr. spectra, cluster models 4-7199
 V₂Si-G(Fe)(Co), X-ray emission spectra and electronic struct. (*Russian*) 4-51411
 Y₂O₃, electron energy struct. and optical props. 4-34876
 Zr-Cu amorphous alloy, electronic density of states calc. 4-2498

cluster model (nuclear) see nuclear cluster model**clustering, impurity see segregation****clustering, solute see segregation****clusters, atomic see atomic clusters****clusters, globular (stellar) see globular star clusters****clusters, metal see metal clusters****clusters, molecular see molecular clusters****clusters, stellar see stellar clusters and associations****clusters of galaxies****see also galaxies; intergalactic matter**

- 2347+007, galaxy group assoc. with gravitationally-lensed quasar 2347+007 A, B 4-58529
 Abell 1185, BV photometry 4-42552
 Abell 1795, discovery of optical line emission assoc. with radio galaxy (4C 26.42) 4-47691
 Abell 2124, 2243, and 2244, WSRT obs. of rich clusters 4-53293
 Abell clusters, intrinsic shape of cD-type galaxies 4-13411
 Abell clusters, radioemission at 102.5 MHz and intracluster matter nature 4-13445
 binary-galaxy rich clusters 4-4101
 brightest members of rich and poor clusters, surface brightness profiles of cD-type galaxies 4-13410
 clusters and superclusters, dynamics and internal substructure 4-47715
 Coma cluster, alignment of galaxies 4-8586
 Coma Supercluster, galaxy clusters distrib. and large scale environment 4-36742
 core effects on general relativistic degenerate fermion config. static struct. 4-26987
 correlation functions for galaxy distrib., three and four point functions for Zwicky catalogue galaxies 4-42532
 covariance function at large separation 4-17594
 D and cD galaxies in clusters, density environments 4-13409
 density and radial vel. struct. 4-31929
 diffuse gas interaction with radiogalaxies and quasars 4-53295
 distance moduli and Hubble const. 4-42572
 distances, determ. from photometric meas. rel. to global value of Hubble constant 4-31901
 elliptical galaxies with shells, cluster membership 4-13412
 evolution, tidal stripping rel. to mergers as function of richness 4-53291
 first-ranked galaxies in groups 4-8584
 flattening distrib. of cluster galaxies, environmental effects 4-4085
 formation, clustering vels. with adiabatic perturbations 4-8575
 formation, collisionless damping of density fluctuations in expanding Universe 4-13457
 formation, pregalactic clouds collapse rel. to voids and filaments 4-22469

clusters of galaxies continued

- formation and super-weakly interacting particles 4-58509
 galaxies alignments, rel. to tidal forces and form. from pancakes 4-4102
 galaxy content of southern groups, search for elliptical galaxies at low density 4-13442
 gas contents anal. from SHF obs. of background radiation 4-31930
 geometrical analysis of catalogues of galaxies, implications for clustering models 4-17401
 Hydra I cluster (Abell 1060), density and radial vel. struct. 4-31929
 IC 2082 cluster, appl. of fibre optic multi-object spectroscopy at Anglo-Australian telescope 4-31762
 intervening cluster towards gravit. lensed quasar Q2345+007, model 4-53303
 intracluster gas, accretion by galaxies 4-17590
 intracluster gas, X-ray spectra 4-58375
 intracluster hot plasma, dynamics, heating and prod. 4-58521
 IR emission, limits on contrib. to diffuse far-IR background 4-27210
 large-scale distrib., redshift anal. 4-13443
 large-scale non-linear density fluctuations 4-42533
 large-scale structure of neutrino-dominated Universe 4-22501
 Local Group, search for mysterious mass in galaxies 4-31924
 Local Supercluster, peculiar Virgocentric vel. of Local Group from galaxy redshifts 4-22475
 Local Supercluster structure 4-36741
 luminosity distribution evolution, effects of relaxation and tidal stripping in rich clusters 4-47713
 microwave background radiation towards rich clusters, gravit. temp. decrease 4-42564
 missing mass problem, mysterious mass in Local Group galaxies 4-31924
 in neutrino-dominated Universe, nonlinear clustering theory 4-8585
 NGC 3607 and 5846 galaxy groups, hot intergalactic gas, X-ray detect. 4-58523
 NGC 4696 in Centaurus cluster, accreting intracluster gas, UV and visible obs. 4-58524
 nonlinear cosmological clumping, appl. of (*Russian*) 4-13464
 optical identifications of Einstein Medium Sensitivity Survey X-ray sources 4-4111
 percolation analyses of observed and simulated galaxy clustering 4-8587
 Perseus cluster, galaxy-accretion flow collision rel. to filaments of galaxy (NGC 1275) 4-27175
 Pisces-Perseus supercluster, H I 21 cm redshift distrib. of apparently isolated galaxies 4-31903
 primeval departures from homogeneity and cosmogeny sequence 4-8603
 radial galaxy distribution, secondary maxima and subclustering 4-13444
 review of poster papers at Nice, France, plasma conf. 4-58525
 satellite galaxies, orbital decay, simulation calcs. 4-8558
 small galaxy groups, 5 GHz obs. 4-58502
 spectral energy distrib. for galaxies in high redshift clusters 4-17597
 superclusters, nonlinear dynamical evolution 4-13440
 superclusters, review 4-22477
 superclusters formation, growth of asphericity in cosmology 4-4100
 thermodynamics and galaxy clustering, nonlinear theory of high order correl. 4-47712
 two-point correl. function, for galaxies in complete redshift survey 4-13441
 Ursa Major cluster galaxies, diameter-surface brightness diagram 4-13431
 Virgo, catalogue of dwarf galaxies 4-27013
 Virgo Cluster, photometry of 109 galaxies near cluster centre to serve as standards 4-53292
 Virgo cluster, sensitive H I detection survey of early-type disc galaxies 4-31915
 Virgo cluster field, QSO 1216+158 identification, redshift and spectral/photometric characs. 4-13454
 Virgo cluster galaxies, diameter-surface brightness diagram 4-13431
 Virgo region, faint blue galaxies, Tautenburg Schmidt plate study 4-53294
 X-ray emission, Einstein obs. rel. to cluster struct. 4-47714
 X-ray emission and intergalactic gas 4-58522
 Zwicky clusters, galaxy prob. distrib. 4-17602

clutter**fishing sonar, inverse problem (French) 4-55261****c.m.o.s. integrated circuits see field effect integrated circuits****c.m.o.s.i.c. see field effect integrated circuits****CNDO calculations**

- aminopyrrole, protonation, four centres problem, CNDO/2 and MNDO calcs. 4-9679
 benzimidazole derivatives, substituent effects on UV spectra, PPP and CNDO/S-CI calcs. (*German*) 4-28375
 para-benzoquinones and its tetrachloro- and tetramethyl derivatives, XPS, CNDO/SCI calcs. 4-54798
 2-carbomethoxy-1,4-benzoquinone, conformation, molar Kerr const., MNDO CNDO CI calcs. 4-18932
 di-(z-pyrryl)ketones and S analogues, elec. dipole moments, conformations, IR obs. 4-43881
 1,2-dihaloethanes, conformational equilib., CNDO/2 calcs. 4-43810
 1,2-dihaloethanes, conformational equilib., CNDO/2 calcs. 4-43810
 N,N-dimethylformamide and N,N-dimethylformamide, vibr., polarisabilities and Raman intensities 4-43886
 diphenylamines, substituted, electronic struct., electrostatic pot. distrib., CNDO/2 calc. 4-33323
 ethene, adsorbed in zeolites, NMR spectra, MO calcs. 4-23714
 fluorobenzenes, polar, CNDO/2 and INDO SCF calcs. 4-1062
 formamide, compliant fields, general harmonic pot. functions calcs. 4-23609
 formamide, vibr., polarisabilities and Raman intensities 4-43886
 formic acid, compliant fields, general harmonic pot. functions calcs. 4-23609
 Heitler-London component of intermolecular interaction energies 4-23776
 indazole derivatives, substituent effects on UV spectra, PPP and CNDO/S-CI calcs. (*German*) 4-28375
 lactate dehydrogenase, pyruvate substrate behaviour in active centre, semiempirical MO study 4-14329
 Meyer-Schuster reaction, intramolecular solvolytic mechanism, MINDO/3 and CNDO/2 calcs. 4-18927
 molecules and ions, binding energies in singlet ground states 4-14330
 organic cpds., C_{3v} coordination distortion in R₃C-O moiety, X-ray, conformational and quantum chem. study 4-43811
 pentametal heterocyclic-system benzoderivatives, MO and ionisation pots. calc., photoelectron spectra assignment 4-23606

CNDO calculations continued

- 1,3-perinaphthadiyl with triplet state, absorpt.-emission spectra, vibronic coupling effects 4-43893
 polymers, electronic struct., spectroscopic CNDO MO model 4-33568
 pyrazine, ion derivatives, aq. solns., electronic and IR spectra, pH depend. 4-54709
 pyridazine, ion derivatives, aq. solns., electronic and IR spectra, pH depend. 4-54709
 quantum mechanical interaction between atoms in π -system of mol. 4-23604
 strylycanine dye, unsymmetrical, solvent polarity indicator, solvatochromism, polarography and MO calcs. (*German*) 4-1054
 surface geometry and bulk props., improved CNDO formalism 4-29748
 TCNQ($-d_4$ -(F₄), near IR and visible electronic transitions, vibronic struct. 4-5214
 1,2,5-thiadiazole, electronic struct., CNDO/2 calcs. 4-43809
 thiocarbonyls, halogen substitution effects on mol. inversion in π - π^* states 4-48942
 two-rotor molecules, potential energy surfaces calc. 4-43834
 ArF, $2\sigma \rightarrow 2\sigma$ transition, CNDO, INDO calcs. 4-33321
 BrO₃⁻, elec. field gradient, CNDO/2 and INDO calcs. 4-28372
 C nuclear shieldings, two-centre integrals, CNDO/S parameterised calcs. 4-1071
 Cd(BrO₃)₂·2H₂O, Zeeman effect, elec. field gradient 4-11505
 ClO₃⁻, elec. field gradient, CNDO/2 and INDO calcs. 4-28372
 Cu (100) face, elec. double layer with specific chloride ion adsorpt., quasi-mol. model 4-57572
 Cu₂Br₂(PH₃)₃ complex, electronic struct., CNDO calcs. 4-1021
 Cu₂C₂(PH₃)₃ complex, electronic struct., CNDO calcs. 4-1021
 GeF₆²⁻ ions, electronic struct., alkali metal cations effects, CNDO/2 calcs. 4-9680
 GeF₆²⁻ ions, electronic struct., ammonium ions effects, CNDO/2 calcs. 4-9685
 H₂IO₆, Zeeman effects, NQR, INDO and CNDO calcs. 4-30342
 HCl, $2\sigma \rightarrow 2\sigma$ transition, CNDO, INDO calcs. 4-33321
 HeF, $2\sigma \rightarrow 2\sigma$ transition, CNDO, INDO calcs. 4-33321
 IO₃⁻, elec. field gradient, CNDO/2 and INDO calcs. 4-28372
 N nuclear shieldings, two-centre integrals, CNDO/S parameterised calcs. 4-1071
 NS₂⁺, electronic struct., force const., IR and Raman freq., CNDO/2 calcs. 4-38069
 NeCl, $2\sigma \rightarrow 2\sigma$ transition, CNDO, INDO calcs. 4-33321
 NeF, $2\sigma \rightarrow 2\sigma$ transition, CNDO, INDO calcs. 4-33321
 P cpds., KLL Auger and core-level photoelectron shifts 4-19014
 Se, X-ray photoemission study of new allotrope 4-12010
 SiO₂, vitreous, oppositely charged dangling bond pair, form. energy, CNDO/2 calcs. 4-15837

coagulation

- aerosol, coagulating, radiation transmission, Mie theory 4-49656
 gradient coagulation, role in flotation extraction of fine particles 4-16687
 monodisperse colloid soln., coagulation kinetics, dynamic light scatt. 4-7757
 Smolouchowski equation, large-time asymptotic soln. 4-46805
 suspensions, aggregative stability in mixed solvent, dielec. anal. 4-16690
 Y₂O₃:Eu phosphors, cathodoluminesc. enhancement by coagulation 4-35493

coal

- see also mining*
 anisotropic elastic moduli, determ. from radial displacements in cylindrical borehole 4-52697
 boilers, fluidised-bed furnaces, pulsed air supply to aid combustion 4-7802
 brown coal, utilisation technology and trends in GDR (*German*) 4-36021
 Chinese energy resources present status of utilisation and research 4-26262
 coal-fired MHD generator power takeoff analysis and expt. 4-26302
 combustion, convective transport in air fluidised bed 4-21476
 combustion, in fluidised bed furnaces, heat transfer on staggered tube bundles 4-19814
 combustion technology for advanced cycles, review 4-52083
 electricity generating systems, comparative risks 4-31078
 EPRI Workshop on Environmental Control Technology for Coal Gasification, Palo Alto, CA, USA (July 1982) 4-12443
 Exxon Donor Solvent coal liquefaction pilot plant operations 4-12440
 fluidised-bed coal combustion: in-bed sorbent sulfation model 4-12368
 fracture toughness under quasi-static and impact loading 4-12283
 gamma-ray detector, Monte Carlo model of neutron capture analysers 4-14279
 gamma-ray multienergy densitometry 4-13667
 gas fluidized bed heat transfer 4-34179
 gasification, fine gasborne particles meas., size, conc. and vel. determ., laser holography appl. 4-48082
 gasification, underground projects, technical summary 4-16731
 gasification, US temperature profiling 4-48127
 graphitizability of carbonaceous materials, TEM and X-ray diffr. obs., model development 4-41146
 in-situ capture gamma-ray anal. of coal in oversize borehole 4-7768
 liquefaction of coal, the Australian scene, replacement liquid fuels 4-35976
 liquid fuel, H-coal and coal-to-methanol liquefaction, technical and economic analysis 4-41312
 mineral identification, TEM study 4-35972
 natural gas and coal use in Pacific Northwest 4-7803
 polished surfaces mapping by automated reflectance microscopy 4-42227
 polycyclic organic emissions from coal-fired utility boilers, meas. 4-3509
 potential of fossil fuel, Western countries (*German*) 4-7796
 pyridine extracts and residues, chem., struct., CP MAS ¹³C NMR investg. 4-56794
 pyrolysis, anal. of devolatilization using entrained flow reactor, FTIR spectroscopy method 4-3406
 renewable energy sources, Department of Energy research and development programme, strategic overview 4-57637
 resource uncertainty estimation methodology 4-12441
 role in European Communities energy policy 4-3482
 San Juan Basin, Colorado-New Mexico, relations between heat flow, palaeotemps., coal rank and petroleum maturation 4-17108
 seams, fault survey, use of channel waves (*Russian*) 4-26858
 separation of mineral inclusion, cyclone-tribocharging and electrostatic differential deflection method 4-31062
 suspensions, shear thinning, rheology 4-29048

coal continued

- thermoelectric power stations coal combustion efficiency improvements by using oxygen enriched air 4-41310
 trace elements analysis for improved quality control (*Dutch*) 4-26242
 underground coal gasification research 4-3448
 utility solid waste physical-chemical characteristics and leachate composition 4-31133
 vitrinitic surfaces, SIMS study 4-35971
 NH₃ production from coal using Texaco coal gasification process, operating data 4-57745

coating processes *see* coating techniques**coating techniques**

- see also anodisation; cladding techniques; coatings; electrodeposition; electrophoretic coating techniques; encapsulation; epitaxial growth; metallisation; spray coating techniques; vapour deposition*
 antireflective-interference-layer-systems produced by dip coating and neutral soln. processes 4-24260
 electroless plating, Pd/Sn and Pd catalysts behaviour on different substrates, Rutherford backscatt. study 4-25903
 fibre reinforced composite, controlled interfacial bonding, tensile strength and fracture toughness 4-12147
 float glass, on-line coating, appl. in highly insulating windows and heated glass (*French*) 4-35754
 metallurgical coatings, conf., San Diego, CA, USA (April 1983) 4-13
 optical elements of chem. unstable glasses, protection from moisture and biological overgrowths 4-10482
 optical fibre extrusion coating, influence of nylon and process parameters on comprehensive strain 4-44263
 optical fibres, silicone coated by pressurised dies, fabrication and props. 4-44262
 particles thrown by detonation waves, laser visualisation, coating appls. 4-39398
 polyimide solutions, spin coating, non-Newtonian shear viscosity 4-29039
 PVC plastisols, gelation, props. of coatings (*Polish*) 4-21174
 solar energy absorbing selective coating, on Cr steel 1X13 (*Russian*) 4-21574
 steel, chromising, substrate design with small alloying additions 4-12238
 steel parts, hot press-facing with Cr₃C₂-Ni-P hard metal layers 4-51901
 surface film form. on Si (111) wafers, deposition mechanism effect, X-ray diffr., RHEED obs. 4-56174
 web coating, design of metallisation equipment 4-30843
 CdS:In film, photoanode for electrochemical photovoltaic cells 4-46867
 CoFe₂O₄ spinel film, prep. by new plating method in aq. soln., structural, mag., magneto-optical props. 4-21170
 Fe₂O₄ spinel film, prep. by new plating method in aq. soln., structural, mag., magneto-optical props. 4-21170
 Mo-MoO₃, black molybdenum, solar selective coatings, deposition by chem. conversion from solution 4-26325
 N-P-W chemically deposited layers, Rutherford backscatt. spectrometry study 4-25174
 Ni-P chemically deposited layers, Rutherford backscatt. spectrometry study 4-25174

coatings

- see also anodised layers; antireflection coatings; claddings; decorative coatings; electrodeposits; electrophoretic coatings; epitaxial layers; insulating coatings; protective coatings; spray coatings; sputtered coatings; vapour deposited coatings; varnish*
 acrylic polyisocyanate, crosslinked copolymers, reactivity, coatings hardness (*Polish*) 4-21173
 aluminised layer on austenitic stainless steel, struct. and phase comp. after heat treatment 4-3158
 aluminized Fe, gas phase transport and solid diffusion effects (*French*) 4-26092
 aluminized steel, gas phase transport and solid diffusion effects (*French*) 4-26092
 black coating total reflectance props. from 0.2 to 20 μ m, optical black appl. 4-55148
 brittle, mech. behaviour, effects of residual stresses 4-51839
 coatings, electrolytically and chemically deposited, mech. props. (*German*) 4-51553
 disilicides, MeSi₂, Me=Mo, W, Ti, V, Nb, Ta, diffusion-grown layers, texture 4-46530
 explosion deposited powder coatings, phase comp., struct. 4-57393
 float glass, on-line coating, appl. in highly insulating windows and heated glass (*French*) 4-35754
 inhomogeneous interference coatings having a refractive index that varies as a function of thickness 4-57018
 light-splitting coating for the viewing systems of optical instruments 4-55171
 low emittance surfaces at low temps., fabrication, meas. and appls. 4-35753
 metal, residual stress 4-3298
 metallurgical coatings, conf., San Diego, CA, USA (April 1983) 4-13
 NDT, leaky Rayleigh waves in presence of loading and stiffening layers 4-30894
 optical black sample reflectance spectra in 12-700 μ m range 4-55149
 optical system design and production using thin film technology 4-44186
 optimised thin film wavelength shifting coating for Cherenkov detection 4-5085
 oxide films on flat glass, prep. from gels 4-57369
 phosphosilicate glass film on Si wafer, characterisation by energy dispersive X-ray spectroscopy 4-41151
 polyethylene oxide-alkali salt complexes, ionic cond. props., appl. as cond. coatings 4-34709
 PTFE-coated glass fabric, tear resist, influence of flexural fatigue 4-35720
 roll coating operations 4-35752
 solar energy absorbing selective coating, on Cr steel 1X13 (*Russian*) 4-21574
 space radiation effects, simulated by protons and electrons, rel. to Galileo Orbiter 4-45209
 specular black vane cavities 4-55169
 surface diffusion-infiltration coatings of rare earths on steel and Fe, by chem. process (*Chinese*) 4-57387
 thickness measurement, comparison of methods 4-22759
 Al coating, hydraulic pulse densified, form. model 4-26101
 BaTiO₃ sheets and coating films from alkoxide solns. 4-57368
 Ni electroless coatings, struct., corrosion resist., stripping rate rel. to heat treatment 4-46660

coatings continued

- Ni etched electroless plate, scatt. characts., solar collector surface finish appl. 4-55147
 Ni-P-PTFE composite electroless coatings, process characts. 4-46661
 Se, electrolyte, Debye length determ. 4-52022
 SiO₂ sheets and coating films from alkoxide sols. 4-57368
 SiO₂-transition metal oxide sheets and coating films from alkoxide sols. 4-57368
 TIS thin films, chemical method for prep., characterisation 4-35588

coatings, protective *see protective coatings*

coaxial cables

- complex permittivity meas. of solid tissue, 2 to 18 GHz range 4-26559
 guard cable, lightning stroke or phase-to-earth fault induced voltage anal. (French) 4-49208
 microwave liquid He-vacuum junction 4-37109
 permittivity and dielectric loss meas. appl. 4-48154
 preaccelerators, heavy ion, branched coaxial and bifilar shielded lines, dispersion eqns. 4-23440

coaxial lines *see coaxial cables*

cobalt

- see also nuclei with*
 adsorbed CO on (1010) surface, flash desorption spectra evaluation 4-56146
 atom, M_{2,3} shell Auger and autoionisation spectra 4-48996
 atom, Sternheimer antishielding, 3d contrib. 4-33310
 atom bremsstrahlung spectrum, energy depend. of high energy tip 4-5455
 atomic beam, photon impact excitation, electron spectrosc. obs. 4-1094
 based magnetic fluids, saturation magnetisation study 4-30215
 black, solar absorber, photodesorption (Korean) 4-39670
 chemisorption of pyridine, surface enhanced Raman scatt. 4-30474
 conduction band distrib., X-ray absorpt. and APS study 4-57043
 critical point energies, soft X-ray APS study 4-7283
 diamond,⁵⁷Co, ion implanted, amorphisation, ⁵⁷Fe Mossbauer study 4-15548
 diamond:Co, heated and implanted, lattice damage reduction, impurity distrib., Mossbauer study 4-34504
 diamond:Co, ion implanted, amorphisation, Mossbauer study 4-34551
 dilute impurity hyperfine fields 4-39861
 electrodeposits, positron lifetime studies 4-51404
 electron-phonon interaction, point contact spectra studies (Russian) 4-56238
 FCC, two-photon pair momentum-density distrib., angular correl. for positron annihilation radiation calcs. 4-56198
 ferrofluid, struct., neutron scatt. studies 4-30238
 ferromagnet, hyperfine interaction of Ce, nucl. orientation study 4-39855
 ferromagnetic, bulk and surface props., spin polarised electron spectroscopy 4-6698
 film, lateral self-diffusion and electromigration 4-34690
 film, radiofrequency resonance field effects, nuclear echo (Russian) 4-51157
 film, recorded magnetisation patterns obs. by electron holography 4-25601
 films, annealed, elec. resist. and photoelec. work function 4-6909
 films and particles, electrodeposition by reducing redox polymer 4-25902
 graphite-Co system, diamond form. 4-30655
 HCP plate-shaped fine particles, magnetisation configurations 4-40200
 hexagonal crystal, appl. of elastic radiation from a point force in an anisotropic medium 4-45273
 high purity pre. by anion exchange and floating zone refining 4-40644
 impurity diffusion in doped and pure NiO, 800-1700°C (French) 4-20409
 local magnetisation above Curie temp. 4-20825
 magnetic fluid, anisotropy, torque magnetometry studies 4-30230
 magnetisation, under high mag. fields to 180000 Oe (French) 4-7005
 mixed oxidation-chlorination, mass transfer at 1000K 4-41086
 molten, static electroconductivity numerical calcs. (Russian) 4-6760
 morphology and cryst. struct., electron microscopy study (French) 4-20142
 nuclear reactions induced by heavy ions, recoil atoms ionisation 4-4896
 overlayers on Cu(111), mag. props. calcs. 4-11740
 passivation in conc. HNO₃ sols. 4-57447
 phonon dispersion, role of Van der Waals forces 4-2287
 pollution of environment by cobalt, book 4-42635
 powders, obtained by electrolytic method, single-domain state 4-30224
 PWR out-of-core radiation control, Co deposition in primary coolant systems 4-33144
 PWR radiation control, effects of cold shutdown, Co releases 4-14145
 radioactive corrosion product deposition in BWRs on stainless steel 4-21385
 relaxation problem in continuum elasticity theory 4-19721
 self-sputtering on single crystals 4-46398
 single crystal, self-sputtering, weight loss anal. 4-7304
 surfaces, polycryst. and (1010), oxidation, 300 to 700K, AES study, struct. and temp. effects 4-30860
 thin film, adsorption and decomposition of water, work function and elec. resist. meas. 4-34776
 thin films, even magnetooptical effect, Kerr effect 4-56896
 thin films, pretreated and passivated, water adsorption, work function, elec. resist. meas. 4-34777
 trace determination, in Co (III) complex, by laser photoacoustic spectrosc. 4-37209
 transformation plasticity, anisothermal, geophysical implications 4-25995
 transient creep near transform. temp. 4-34567
 vapour phase growth by closed tube technique 4-7341
 yield-stress, stress relax. and plastic deformation 4-34579
 Al-Al₂O₃-Pb:Co²⁺ MIM junction, EPR study 4-46096
 Au/Co bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
 CdBr₂:Co²⁺, Co²⁺ pairs, thermally detected EPR studies 4-25629
 CdCl₂:Co²⁺, Co²⁺ pairs, thermally detected EPR studies 4-25629
 CdCl₂:Co, Co²⁺ ion location, EPR study 4-29458
 Co I hyperfine struct. and isotope shifts, determ. by high-resolution optical spectrosc. 4-18961
 Co III, three-lowest config. anal., UV region 4-54628
 Co/Cr compositionally modulated films, struct. and mag. props. 4-29826
 Co-CoSi₂ interface, stability and reactions, Rutherford backscatt. study 4-50589
 Co-Cu₂O, diffusion couple, displacement reaction, kinetics and morphology, impurity effects 4-41099

cobalt continued

- Co²⁺ + acetaldehyde(ethanol)(methyl ether)(acetone), reactions in a spark wake 4-35872
⁵⁷Co source, sideband and quantum beat meas. 4-40309
⁶⁰Co build up in BWR on stainless steel 4-54259
⁶⁰Co contamination of stainless steel in BWR 4-32996
⁶⁰Co generation in continuously refuelled PHWR 4-54358
⁶⁰Co in EDTA, mobility in radwaste burial site, lab. and field eval. 4-28029
⁶⁰Co radioactive aerosols, inhaled, metabolic parameter estimation 4-26523
 CsMnCl₃·2D₂O:Co²⁺, energy transfer of exciton 4-39780
 γ-Fe₂O₃:Co, DC cond., Seebeck voltage, X-ray diff., IR spectra 4-6782
 GaP:Co, impurity states, ENDOR and optical absorption studies 4-20601
 H solubility, surface contamination effects 4-25028
 InP:Co, deep levels, space charge spectra, photoluminescence and EPR studies 4-39814
 InP:Co, Hall effect, elec. resist. and DLTS studies 4-25374
 InP:Co, LEC single crystals, precip. identification 4-35563
 La₂Li₃Cu₁₀O₄:Co³⁺, intermediate spin impurity, mag. props. (French) 4-2727
 α-LiIO₃:Co²⁺, paramagnetic centre struct., RFDS method study 4-2811
 LiNbO₃:⁵⁷Co, Mossbauer emission studies 4-20892
 MgCl₂:Co²⁺, Co²⁺ pairs, thermally detected EPR studies 4-25629
 MgF₂:Co crystals, UV luminesc. 4-7233
 MgO:⁵⁷Co, Mossbauer second order Doppler shift 4-2851
 MgO:⁵⁷Co, pure and doped, Mossbauer emission spectroscopy 4-20893
 Na₂Zn(SO₄)₂·4H₂O:Co²⁺, optical absorpt. spectra band splitting, spin-orbit interaction 4-2948
 Ni₁₀Zn₉₀:Fe₂O₄:(Mn, Co), magnetic cation distrib. 4-40163
 Si:Co, implanted polycryst., electron-beam annealing 4-24870
 Si:Co, impurity-electron irr. induced defect reactions, Mossbauer study 4-45178
 Si:Co, segregation behaviour, Mossbauer and TEM studies 4-45341
 SiO₂:Co, amorphous and cryst., implanted, Fe prod., Mossbauer spectra study 4-35274
 α-Ti single crystal, diffusion coeff. of ⁶⁰Co 4-6564
 YIG:Co doped films, optical and magnetooptical props. 4-30444
 ZnS:Co, central force constant of impurity paramag. ion complex 4-24927

cobalt alloys

see also cobalt compounds

- actinide alloys, R-Co, 3d ferromagnetism onset and spin fluctuations, expt. and band models 4-2755
 Astroloy, P/M, fatigue crack growth at 650°C, effect of microstruct. 4-16492
 Heusler alloys, Co-based, Sn impurity hyperfine fields, Mossbauer effect 4-56826
 hip joint endoprosthesis, fracture-proof anchorage stem development 4-31370
 IN738LC, cast superalloy, creep and fracture, 750-950°C 4-16493
 IN738LC, Ni-base superalloy, cast, low cycle fatigue behaviour, effect of environment 4-57314
 IN-100, rheocastings, nature of γ' precipitates 4-35630
 IN-738, -939, Ni-base superalloys, creep crack growth 4-7557
 Ni-Cr-Co-Ta, superalloy IN 738, carbide transform, etching and EM obs. 4-25963
 Nimonic alloys, Na₂SO₄-induced corrosion, 650-1000°C 4-26111
 rare earth alloys, R₂Co₁₇, R=Gd-Tm, mag. domain struct., Kerr magneto-optical effect, powder method, wall grooving method 4-7003
 rare earth alloys, R₂Fe₂Co₁₄, R=Tb, Ho-Tm, mag. domain struct., Kerr magneto-optical effect, powder method, wall grooving method 4-7003
 rare earth alloys, rapidly quenched, mag. hysteresis 4-51099
 rare earth alloys, RCo₂B₂, crystal struct., anal. 4-45055
 rare earth alloys, RCo₂, RCo₃, R=Gd, Tb, Ho, Er, mag. domain struct., Kerr magneto-optical effect, powder method, wall grooving method 4-7003
 rare earth alloys, RCo₅-xM_x, M=Ni, Cu, Al, Si, mag. props. 4-7017
 rare earth alloys, RCo₅, R₂Co₁₇, cryst. struct., polystyrene latexes simulation, metallography 4-50242
 rare earth alloys, RCo₅ and R_xY_{1-x}Co₅, mag. anisotropy, cryst. field theory 4-6970
 rare earth permanent magnets, R₂Co₁₇, precip. hardened, microstructure, mag. domain struct., TEM study 4-7002
 rare earth permanent magnets, R-Co, domain wall pinning 4-7001
 rare earth-Co magnet assemblies for charged particle beams 4-9627
 rare earth-Co magnets, homogeneity rel. to coercivity characts. 4-7026
 rare earth-Co magnets, props., measurements and standards 4-8926
 rare earth-Co matrix magnets, air ageing characts. 4-7035
 rare earth-Co permanent magnet alloys, oxidation behaviour rel. to mag. props. 4-7034
 rare earth-Co permanent magnets, European market and appls. 4-4431
 rare earth-Co permanent magnets and their appls., workshop, Baden, Austria (Aug./Sept. 1982) 4-8651
 rare earth-Co sintered magnets, mech. deform. characts. 4-4429
 rare earth-transition metal alloys, R₂Co₁₇-xT_x, R=Ce, Pr, Sm, Er, Yb, T=Ti-Fe, Cu, Zn, Hf, anisotropy fields 4-6966
 rare earth-transition metal alloys, R(Co_{1-x}M_x)₅, giant intrinsic mag. hardness 4-16068
 Rb₂Co_{0.85}Mg_{0.15}Fe₄, antiferromagnetic, random-field effects in 2-D and 3-D, birefringence study 4-56645
 reare earth-Co permanent magnet alloys, development and prod. 4-7027
 Rene 41, Ni-base superalloy, diffusion processes and weldability 4-57265
 Sm_{1-x}Er_x(Co,Fe,Cu,Zr)₇, 3 permanent magnets, B-H loop meas. meas. 4-56706
 stellite, plasma sprayed coating, laser processing, microstructure, wear, corrosion resist. 4-30854
 structural phase transformations in cryst. and amorphous Co alloys, mol. orbital models 4-39476
 superalloys, high temp. corrosion rel. to rare earth or refractory additions, review 4-16539
 Udimet 710, 720, microstruct. and props., effect of B and C additions 4-46512
 Ag-Co electrodeposits, Auger anal. for light elements 4-45174
 Al-Co, dil., defect electronic structure, extension of muffin-tin Greens-function theory 4-45674
 Au-Co, activity coeffs., phase equilib., 1073-1673K 4-35607
 Au-Co (2 at.%), precipitation kinetics, elec. resist. and magnetisation meas. 4-7472

cobalt alloys continued

- Au-Co metastable solid solns., electrodeposition and growth from melt 4-40689
 Au-Co thermocouple electrode, thermal EMF props. determ., for low-temp. appl. 4-8908
 Be-Co system alloys, struct. and physicochem. props., Co influence 4-57254
 CaCo₂Al₃, cryst. struct., X-ray diffr. study (*German*) 4-24761
 (Ce mischmetal, Sm)Co₅ magnets, coercivity improvement by additions of transition metal powders 4-7031
 CeAlCo, cryst. struct. determ. 4-24763
 CeCo₅, valence state of Ce (*Russian*) 4-6745
 Ce₂Co₁₁, relation with Ru₂B₃ and pyrochlore structures 4-6380
 Ce(Ni_{1-x}Ni_x)₂, Laves system, valency compensation effect, mag. susceptibility, X-ray obs. 4-15425
 Ce₂Co₃Si₅, crystal structure 4-45058
 CeGaCo, cryst. struct. determ. 4-24763
 Ce(Ni_{1-x}Co_x)₂, X-ray L_{III} absorpt., elec. resist., mag. susceptibility studies, spin fluctuations 4-57032
 Co-B eutectic melts, wetting of refractory compounds 4-2413
 Co-base alloys, corrosion, chloride-induced high temp. SEM and energy dispersive X-ray anal. (*German*) 4-57390
 Co-base eutectic superalloys, MC-carbide reinforced, gas turbine blade appl. 4-16354
 Co-base superalloys, stress rupture at 704°C, effect of liq. sulphate-chloride environment 4-41083
 Co-based amorphous alloy ribbons, Young's modulus rel. to quench rate 4-35652
 Co-based amorphous alloys, reversible displacive transformation, mag. meas. 4-55990
 Co-based metallic glasses, high freq. mag. props., stability 4-30206
 Co-Cr film, corrosion behaviour in Cl and S containing atms., rel. to mag. recording characts. 4-26088
 Co-Cr films, RF sputtered, magneto-optic props. 4-25607
 Co-Cr films, targets-facing sputtering prep. mag. props. rel. to perpendicular recording appls. (*Japanese*) 4-30633
 Co-Cr ion beam sputter deposited thin films, mag. and struct. characts. 4-25603
 Co-Cr RF sputtered films, saturation magnetisation, atomic distrib. effects 4-56720
 Co-Cr sputtered films, domain struct. and mag. props. 4-25614
 Co-Cr sputtered thin films, microstruct. inhomogeneity and mag. props. 4-56167
 Co-Cr-Al cast alloys, hot corrosion attack, ion implantation effects 4-7650
 Co-Cr-Al-M coatings (M=Si, Y, Hf, Zr), oxide struct., effect of deposition and processing variables 4-15788
 Co-Cr-Al-Y coating formed by ion implantation, hot corrosion attacks 4-7650
 Co-Cr-Al-Y coating on Ni-base superalloys, thermal fatigue strength and heat resist. 4-12264
 Co-Cr-Al-Y coatings on stainless steel, laser surface fusion and oxidation 4-7649
 Co-Cr-Mo, surgical implant alloys, microstructural changes during isothermal forging 4-40833
 Co-Cr-Mo-C implant alloy, ageing behaviour 4-7485
 Co-Cr-Mo-Ni, superalloy, HS 21, carbide grain refinement, nucleation entropy 4-12068
 Co-Cr-Mo-Zr, amorphous ribbons, corrosion resistance in 1N HCl 4-16559
 Co-Cr-Ni-Fe-Mo-Mn spring alloy, low-temp. strain hardening 4-30715
 Co-Cr-W, ternary alloys, oxidation 4-16553
 Co-Cr-W abrasive wear rel. to carbide size 4-57357
 Co-Cr-W-C-Ti alloy, Ti ion implantation effects on friction and surface chem. 4-7606
 Co-Fe-B metallic glass and cryst., hyperfine fields and mag. moments 4-56568
 Co-Gd amorphous ribbons and films, crystn. kinetics 4-45003
 Co-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Co-metalloid alloys, conc. amorphous and cryst., band gap theory of strong ferromagnetism 4-45992
 Co-Mo, phase diagram, piecewise-smooth approximation 4-30687
 Co-Mo sputtered films, domain struct. and mag. props. 4-25614
 Co-Mo system, HCP to FCC transition, solute stabilisation 4-40771
 Co-Mo-W(Ta) and Co-Nb-Ta, phase diagrams, μ phases interactions, physicochem. anal. 4-46491
 Co-Nb-B glasses, short-range order reversible transforms., mag. anisotropy changes 4-44997
 Co-Ni alloys, surface composition, AES determ. 4-7775
 Co-Ni-Fe base metallic glasses, struct. relax. study 4-6269
 Co-P, rapidly cooled alloys, metastable states, composition and struct. 4-55964
 Co-P amorphous electrodeposits, positron lifetime studies 4-51404
 Co-P amorphous films, anisotropy fluctuations, laser diffraction study 4-30161
 Co-Pd, phase transition study (*Russian*) 4-56003
 Co-Pt, magnetomechanical hysteresis 4-20842
 Co-Pt, ordering in elastic stress field 4-21204
 Co-Pt alloy films, high coercivity, high-rate sputtering using Target-Facing type method 4-25883
 Co-Pt disordered alloys, magnetomech. damping, plastic deformation effects 4-40869
 Co-Pt sputtered films, mag. props. study 4-30249
 Co-Pt sputtered thin films for high density recording 4-25602
 Co-rare earth magnet, active magnetic suspension using feedback controller 4-5545
 Co-S system, dil., thermodynamics, 1550-1650°C 4-51627
 Co-Sm-B system, phase diagram and cryst. structs. 4-40748
 Co-Sm-Fe-Cu-Zr powdered materials, mag. struct. form., vibr. effect 4-2793
 Co-Ta-Zr amorphous sputtered film, zero-magnetostriction, mag. props. 4-30247
 Co-Ti, laser quenched, glass forming ability 4-34408
 Co-Ti, martensitic transformation, ageing and phase hardening effects (*Russian*) 4-35627
 Co-WC cermet brittle fracture, strength depend. on defect size distrib. 4-51784
 Co-Zr(Nb)(Mo) amorphous and crystalline films, mag. props. 4-11750
 Co-B metallic glass, field evaporation charge-state of B ions, isotopic variations 4-35554

cobalt alloys continued

- Co₂B-³⁷Fe, mag. struct. and Curie temp. (*French*) 4-51029
 Co₇₂B₁₅Si_{12.5} metallic glass wire, mech. and mag. props. 4-56689
 CoCr sputtered films, mag. props. and microstruct., heat treatment effects 4-56721
 Co_{100-x}Cr_x thin films, mag. props. study 4-35205
 Co₉₂Fe_{0.8}, electronic struct., UPS and KKR calc. studies 4-29876
 Co₆₆Fe₄Mo₇Si₁₆B₁₂ metallic glass, creep-induced and field-induced anisotropy 4-56607
 Co₇₂Fe₄Mo₇(SiB)₂₇ metallic glasses, mag. hysteresis, temp. depend. 4-16063
 Co₅₈Fe₂Ni₁₀Si₁₁B₁₆ metallic glass ribbon, initial permeability, annealing effects 4-30204
 Co₅₈Fe₂Ni₁₀Si₁₁B₁₆ metallic glasses toroids, mag. props. and winding methods 4-30207
 Co₅₈Fe₂Ni₁₀Si₁₁B₁₆, amorphous, mag. props., tensile stress effects 4-35167
 Co₅₈Fe₂Ni₁₀Si₁₁B₁₆ amorphous alloy annealed, mag. props., effect of tensile stresses 4-40215
 Co₇₃Fe₄Si₁₅B₁₀ amorphous ribbons, domain struct., anisotropy effects 4-30199
 Co₇₃Fe₄Si₁₅B₁₀ amorphous ribbons, domain struct., applied current effects 4-56678
 Co₇₀Fe₄Si₁₀B₁₅ composite, high freq. mag. props. 4-46068
 CoGa_{1-x} spin glass, specific heat meas. 4-51068
 Co₂MnAl_{0.98}-Si₃Sn_{0.02}, Sn hyperfine field trends, Mossbauer effect studies 4-45698
 Co₅₀Nb_{50-x} glasses, magnetostriction and local order 4-56751
 CoNi, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
 Co₅₈Ni₁₀Fe₂Se₁₁B₆ ribbons, amorphous, coercive field, surface roughness effect 4-7011
 Co₅₈Ni₁₀Fe₂Si₁₁B₁₆, Vitrovac 6010, annealed, mech. and phys. props. (*German*) 4-57273
 Co₂Ni_{1-x}MnGe, structural and mag. transitions under press. 4-6978
 Co₂Pt_{1-x} thin films, mag. and transport props. 4-56718
 Co₂Re₅As₁₂, preparation, cryst. struct., elec. and mag. props. 4-29387
 Co₂Re₅P₁₂, preparation, cryst. struct., elec. and mag. props. 4-29387
 CoSi, thermal oxidation resist. and hardness 4-3277
 Co₇₂Si₁₂B₁₅, amorphous wire and ribbon, structural relax., DSC obs. 4-10997
 Co₇₂Si₁₀B₁₅ metallic glass, structural relax., crystn., precip., internal friction, shear modulus meas. 4-39382
 Co_{95-x}Si₅B_x metallic glasses, mag. aftereffect, permeability disaccommodation meas. 4-40205
 Co₂TiAl(Ga), ferromagnetic Heusler alloys, hyperfine field, Knight shift 4-50778
 Co₄₀U₆₀, glassy, electronic struct., photoemission and X-ray emission studies 4-45595
 Co₈₇Zr₅Nb₈ amorphous sputtered cores with multilayer struct., magnetisation props. 4-35206
 Cr-Co solid solution, vapour phase growth by closed tube technique 4-7341
 Cr₃C₂-Co(Cu), sintered, phase boundaries geometry 4-46482
 Cu-Al-Co (15, 2 at.%), FCC heterophase single crystals, twinning and brittle fracture 4-12174
 Cu-Al-Co (7, 1 wt.%) bronzes, stress corrosion resist. rel. to ageing and Cu content 4-12230
 Cu-Al-Si-Co (2.8, 1.8, 0.4 wt.%), superplastic Coronze 638, deform., strain hardening effect 4-51726
 Cu-Al-Si-Co (2.8, 1.8, 0.4 wt.%), Coronze 638, superplastic, cavitation damage, fracture 4-51771
 Cu-Be-Co, bearing alloys, heavy load support appl., wear props. 4-35734
 Cu-Co, averaged, void form. during ductile fracture 4-21300
 Cu-Co, tensile deform., precipitating stages, acoustic emission obs. (*Japanese*) 4-26005
 Cu-Co-Si, textured wire, yield function for simultaneous torsion and extension 4-40901
 DyCo₂Si₂, antiferromag. ordering, mag. moments, neutron diffr. study 4-2734
 DyCo₂Si₂, Mossbauer hyperfine spectra 4-35286
 ErCo₂, hydrogenation kinetics and surface compositions, AES study 4-2440
 ErCo₂, mag. props. 4-20788
 ErCo_{5-x}Cu_x alloys, permanent mag. props. 4-35203
 Er_{1-x}Y_xCo₂, band metamagnetism and magnetostriction (*Russian*) 4-51048
 (Fe,Co,Ni)-(Si,B) amorphous alloys, Curie temp. 4-40166
 (Fe,Ni,Co)_{1-x}(B,P,Si)_x alloys, amorphous, phonon thermal cond., 2 to 100K, heat treatment effect 4-6573
 (Fe,Ni,Co)₂V ordered alloys, high cycle fatigue, 25-850°C 4-7560
 Fe-based Invar alloys, amorphous, Young's modulus meas. 4-45245
 Fe-Co, ferromag. powders, obtained by electrolytic method, single-domain state 4-30224
 Fe-Co, liquid, elec. resist. meas. 4-45711
 Fe-Co, phonon generation by nonequilibrium electrons, optimum temp. determ. (*Russian*) 4-24935
 Fe-Co-B amorphous alloys, mag. props. 4-46010
 Fe-Co-B-Si, amorphous alloy, thermal aged, struct. changes, calorimetric evidence 4-45010
 Fe-Co-Cr, damping capacity, mag. props., pitting corrosion resist. (*Japanese*) 4-46549
 Fe-Co-Cr containing various admixtures, struct., NMR, nucl. gamma reson. (*Russian*) 4-25961
 Fe-Co-Cr sputtered films, mag. and corrosion props., magneto-optical meas. 4-56719
 Fe-Co-Ta, Recalloy, mag. props., thermal expansion, elec. resist., hardness (*Japanese*) 4-46069
 Fe-Co-Ti alloys, NiAs-type struct., lattice parameter and mag. props. 4-56540
 Fe-Co-V, cold rolling, mech. props. 4-7553
 Fe-Co-V, heat treatment, ductility and structure 4-7509
 Fe-Co-V, ordered-disordered alloy, cold rolled, shear bands in BCC lattice 4-51745
 Fe-Co-X (X=Mn,V,Ti), low temp. fission neutron disordering, Frenkel pairs, elec. resist. obs., 22K 4-15545
 Fe-Cr-Co-M (M=Mo, Ti, Zr) permanent mag. additions effect on ductility and mag. props. 4-11749
 Fe-Cr-Co-Mn, deteriorating effect of Mn on mag. props. 4-25589

cobalt alloys continued

- Fe-Cr-Co-Mo-Ti permanent mag., spinodal decomposition and mag. hardening 4-56017
 Fe-Cr-Co-Ni, cold drawn, strain gauge factor, elec. props. (*Japanese*) 4-6763
 Fe-Cr-Co-Si-Ti, permanent mag. alloy, microstruct., mag. props. rel. to treatment and comp. 4-16065
 Fe-Cr-Co-Ti, stress ageing, spinodal decomp., mag. props. 4-46513
 Fe-Cu-Co-C melts, thermodynamic props., C solubility and Fe/Cu activity coeffs. (*Chinese*) 4-7421
 Fe-Ni-Co film on LiNbO₃ mag. anisotropy studies 4-56716
 Fe-Ni-Co maraging steel, hardening study (*Russian*) 4-51676
 Fe-Ni-Co-Ti (23, 10, 10 wt.%), martensitic transform., γ -phase precipitate lattice parameters, internal stresses 4-21209
 Fe-Co, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
 FeCo, stoichiometric, vacancy formation enthalpies, positron annihilation 4-34483
 FeCo-V(G)(Mn)(Ni), at. ordering characts., calorimetry, neutron diff., TEM studies (*Russian*) 4-24965
 FeCo₂B, mag. struct. and Curie temp. (*French*) 4-51029
 (FeCo)₈₀B₂₀, amorphous, ¹¹B NMR relax. study 4-40265
 Fe₇₅Co₂₅B₂₀ amorphous alloys, elec. resist., structural relax. 4-39873
 Fe₆₇Co₁₈B₁₄Si metallic glass, mag. props., tensile stress effect (*French*) 4-35202
 Fe₆₇Co₁₈B₁₄Si₁, METGLAS 2605CO, Mossbauer study 4-56832
 Fe₆₇Co₁₈B₁₄Si₁ metallic glass, piezomag. and elastic props. 4-16079
 Fe₆₇Co₁₈B₁₄Si₁ metallic glass, surface oxidation study by AES 4-41101
 Fe₉Co₇₂B₁₉Si₂Mo₂ amorphous, field induced anisotropy 4-25546
 FeCoNiCrBSi metallic glasses, internal friction, dynamic elastic modulus, microhardness meas. 4-40854
 (Fe₉₀Co_{0.55}Ni_{0.35})₇₈Si₈B₁₄, metallic glass, crystn., precip. sequence (*Chinese*) 4-51662
 Fe₇₂Co₄₈P₁₀B₁₀, thin amorphous wires, fine struct. of spin-wave instabilities, FMR 4-16102
 Fe₄Co₇₀Si₁₅B₁₀ metallic glass, flash annealing and mag. props. 4-30726
 Fe₇₀Co₇₅Si₅B₁₀ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
 Fe₇₀Co₇₅Si₅B₁₂, amorphous ribbons, quenched, mag. anisotropy rel. to rotational field annealing (*Chinese*) 4-56714
 Fe₇₀Co₇₅Si₅B₁₆TM_x, amorphous alloys, magnetostriction study 4-7044
 Fe₇₀Co₇₅Si₅B₁₀, amorphous, relax. processes occurring below Curie temp. (*Russian*) 4-26070
 Fe₇₀Co₇₅Si₅R₁₀, amorphous, density, effect of isochronal annealing 4-55899
 FeCoV, magnetisation and mag. moments 4-35199
 Fe₃Cr₄Co₂₅, mag. props. following thermomagnetic treatment 4-46162
 Gd-Co amorphous films, double-layered, mag. props. anomalous loop obs. 4-35196
 Gd-Co-(Bi) amorphous films for magneto-optical recording 4-30244
 GdCo amorphous films, DC getter sputtered, mag. anisotropy and chem. comp. 4-56715
 GdCo₂, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293
 Gd₆₁Co₃₃ metallic glass, defects, variable energy positron studies 4-51406
 Gd₂(Co_{1-x}Mn_x)₁₇, mag. anisotropy, spin echo ⁵⁹Co NMR spectra 4-6969
 Gd₂Y_{1-x}Co_x, magnetovolume effects 4-46081
 Hf-Co-Ga, cryst. struct. and mag. props. (*Russian*) 4-24764
 HoCo₃, lattice distortion meas. using X-ray powder diff. 4-6497
 HoCo₄, mag. struct., neutron diff., magnetisation, and Mossbauer studies 4-6952
 Ho₁₉Co₈₁ thin films, sputter deposit, vertical Bloch line pair movements, electron microscopy obs. 4-20840
 Ho₂Co_{17-x}M_x (M=Ni,Fe,Mn,Cr,V,Ti,Cu,Al), cryst. struct. and mag. props. 4-40169
 Ho₂Co_{17-x}M_x, M=Al, Y-Fe, Ni, Cu, lattice const., Curie temp., coercive force, comp. depend. 4-6979
 Ho(Co_{1-x}Ni_x)₅, magnetic moments and sublattice magnetisations (*Russian*) 4-25587
 La-Pr-Nd-Co-Cu-Fe-Mg, La-Pr-Nd-Co-Cu-Mg, synthetic mischmetal alloys, mag. props. 4-7013
 LuCo₃, mag. props. 4-20788
 Mn-Co-Cu metastable γ -phase alloys, lattice parameters, transform. below Neel temp. 4-24760
 Mn-Ge-Co, antiferromag. Invar type, mech. and thermal props. rel. to comp. 4-20847
 Mn₃Co_{1-x}, mag. ordering, neutron diff. study 4-56552
 Mo-Co, proton irradi., defect-impurity complexes, channelling obs. 4-29490
 NdCo₂, lattice distortion meas. using X-ray powder diff. 4-6497
 NdGa₃Co_{4-x}, cryst. struct. and lattice const., X-ray diff. studies 4-34446
 Ni-Co, diffusion coeff. for H, temp. depend., 260-1000K (*Japanese*) 4-25093
 Ni-Co, liquid, elec. resist. meas. 4-45711
 Ni-Co, magnetoresistive sensors using ferromagnetic thin films 4-22770
 Ni-Co alloys, deformed by rolling, substruct. and texture 4-30759
 Ni-Co-Cr superalloy, creep rel. to Mg additions (*Chinese*) 4-57280
 Ni-Co-P films used in rotating disc, elastic stress-induced coercive field changes 4-30243
 Ni-Co-Zn, electrodeposition, current density, pH effect 4-40692
 Ni-Cr-Al-Co-W-Mo-Ti, struct. and phase comp., Y additions effect 4-21221
 Ni-Cr-Co, Udmet 520 superalloy, γ' strengthened, mech. props. rel. to protective coatings 4-40971
 Ni-Cr-W-Co-Ti, ZrN modified, ductility 4-3193
 Ni₄₀Co₂₀Cr₁₂Mo₆Fe₂B₁₆, amorphous alloy, corrosion in deaerated H₂SO₄ 4-51856
 Ni₆₃Fe₁₂Co₂₅ thin film, coercive force determ. (*Russian*) 4-51107
 Pr(CO_{1-x}M_x)₂, (M=Zn, Fe, Mn, Cr, V, Ti), magnetic props. and cryst. struct. 4-46066
 PrCo₃, permanent magnets, mag. domain struct. (*Slovak*) 4-46062
 Pr₂(Co_{1-x}Cr_x)₁₇, lattice parameters and mag. props. 4-30160
 Pr₂(Co_{0.8}Fe_{0.2})₁₇, heat capacity anomaly, magnetisation vector rotation 4-50538
 Pr₂(Co_{1-x}Fe_x)₁₇, lattice parameters and mag. props. 4-30160
 Pr₂(Co_{1-x}Mn_x)₁₇, lattice parameters and mag. props. 4-30160
 Pr₂(Co_{1-x}Mn_x)₁₇, mag. anisotropy, saturation magnetisation, Curie temp. 4-6968
 Pr₂Co_{17-x}T_x, T=Al, Cr-Fe, Cu, mag. and structural props. 4-51042

cobalt alloys continued

- Pt₃Co, mag. moment distrib. and superlattice dislocations 4-11707
 R-Co, 3d ferromagnetism onset and spin fluctuations, expt. and band models 4-2755
 ScCo₂, mag. props. 4-20788
 Sm-Alnico V alloys, mag. anisotropy props. 4-51043
 Sm-Co amorphous films, elec. and mag. props., temp. depend. 4-30246
 Sm-Co amorphous films, prep. by oblique incidence method, mag. props. 4-25605
 Sm-Co amorphous films with perpendicular anisotropy, RF sputtering and mag. props. 4-20839
 Sm-Co based polymer bonded magnets, mag. props., ageing behaviour 4-7029
 Sm-Co magnets, sintered, coercivity mag. anisotropy 4-7016
 Sm-Co permanent magnets, precip. hardened, reversed domains, nucleation and propag. 4-7014
 Sm-Co-Cu alloys, high-coercivity state form. and cryst. struct. (*Russian*) 4-25593
 Sm-Co-Cu-Fe-Zr thin sheets, domain struct. during magnetisation reversal 4-56737
 Sm-Co-Fe-Cu-Zr sintered alloys, struct. and mag. props. (*Russian*) 4-35198
 Sm-Fe-Co-Ni-Al-Cu alloys, struct. and mag. props. 4-6322
 Sm₂(Co,Cu,Fe,Zr)₁₇ permanent magnets, coercivity, energy product improvement 4-7021
 Sm(Co,Cu,Fe,Mn)_{7.8} permanent magnet, coercivity rel. to Cu segregation and as cast struct. (*Chinese*) 4-56685
 Sm(Co,Cu,Fe,Zr)_{7.4} magnets, annealed and quenched cellular microstructure 4-6383
 Sm(Co,Cu,Fe,Zr)_{7.4}, coercivity, microstruct., ageing effects 4-7020
 Sm(Co,Cu,Fe,Zr)_{8.92} mag. alloys, heat treatment, metallographic studies 4-51826
 Sm₂(Co,Cu,Fe,Zr)₁₇ alloy, coercivity depend. on mag. processing 4-35738
 Sm₂(Co,Cu,Fe,Zr)₁₇-type permanent mag. alloys, hardness rel. to coercivity 4-30223
 Sm(Co,Fe,Cu,Zr)_{7.2} magnet, microstructure, mag. props., heat treatment effect 4-7018
 Sm(Co,Fe,Cu,Zr)_{7.5} magnets, coercivity enhancement by heat treatment 4-7015
 Sm(Co,Fe,Cu,Zr)₂ hard magnetic alloys, metallurgical behaviour 4-57358
 SmCo₅ hexapole and undulator permanent magnet devices for beam handling 4-48847
 SmCo₅, mag. anisotropy near point defects 4-6967
 SmCo₅ magnets, appl. in prosthetic dentistry, review 4-12729
 SmCo₅ magnets, mag. props., role of grain size 4-7032
 SmCo₅ magnets, sintered, heat treatments, mag. hysteresis, microstructure 4-7022
 SmCo₅, microstructural effects of casting conditions and melt additions 4-7397
 SmCo₅ permanent mag., mag. domains and reversal mechanisms 4-56707
 SmCo₅ permanent magnets, ageing, positron annihilation, electron microscopy, elec. resist., mag. meas. 4-7019
 SmCo₅ permanent magnets, mag. domain struct. (*Slovak*) 4-46062
 SmCo₅, phase homogeneity ranges, X-ray study 4-30686
 SmCo₅ resin-bonded magnets, ageing characts. 4-7030
 SmCo₅ sputtered films, square loop mag. hysteresis study 4-25609
 Sm_{1-x}Co_x amorphous films, domain walls and other mag. props. 4-25615
 Sm_{1-x}Co_x films, amorphous, hysteresis props., magnetisation reversal, applications 4-7043
 Sm₂Co₁₇ high-coercivity magnets, magnetisation characts. 4-7025
 Sm₂Co₁₇, mag. anisotropy near point defects 4-6967
 Sm₂Co₁₇-type resin-bonded magnets, ageing characts. 4-7030
 Sm(CoCu)₅ permanent magnets, mag. domain struct. (*Slovak*) 4-46062
 Sm(Co_{0.45}Cu_{0.05}Fe_{0.22}Zr_{0.03})₂ sintered magnets with coercive force up to 30 KOe 4-7033
 Sm(CoFeCuZr)_{7.4} sintered magnets, microstruct. and mag. props., annealing effects (*Russian*) 4-25592
 Sm(CoFeCuZr)_{7.4} magnets, phase composition and hysteresis props. (*Russian*) 4-51093
 Sm(Co_{0.725}Fe_{0.20}Cu_{0.055}Zr_{0.02})_{7.5} magnets, struct. and mag. props. 4-25042
 Sm(Co_{0.745-x}Fe_{0.2}Cu_{0.055}Zr_x)_{7.5} permanent mag., coercive force and microstruct. 4-56705
 Sm(Co_{0.90-y}Fe_{0.08}Zr_{0.02}Hf_{0.35})_{7.5}, mag. props. meas. 4-25596
 Sm₂(CoFeCuZr)₁₇, permanent magnets, mag. props., temp. characts. 4-11741
 Sm₂(CoFeMn)₁₇, site occupancy of Fe and Mn, electron channelling, blocking obs. 4-55789
 SmGa₃Co_{4-x} cryst. struct. and lattice const., X-ray diff. studies 4-34446
 SmPrCo₅ permanent magnets, mag. props., temp. characts. 4-11741
 Sm_{2-x}Pr_xCo_{16.4}Zr_{0.6}, crystallography and mag. props. 4-7024
 Tb-Fe-Co amorphous films for magneto-optical recording 4-30244
 TbFeCo magnetic films, amorphous, magnetic and magneto-optic props. 4-25606
 Tb_{1-x}Ho_xCo₂, struct. changes and spin-reorientation, X-ray diff. study (*Russian*) 4-3462
 Tb₂Y_{1-x}Co₂, magnetisation and AC susceptibility 4-25523
 ThCo₂, ⁹⁰Co, spin echo studies 4-16123
 TiC-Co, sintered, phase boundaries geometry 4-46482
 TiC-TiN-WC-TaC-Mo-Ni-Co, cermet, sintering and mech. props. 4-40733
 Ti_{0.8}Zr_{0.2}Mn_{0.8}Cr_{1.0}Co_{0.2} alloys, H storage (*Chinese*) 4-57798
 TiMoCo₂, antiferromag. ordering, mag. moments, neutron diff. study 4-2734
 U(Fe_{1-x}Co_x)₂, mag. props., press. effects 4-20817
 V₃(Co_{0.15}Ge_{0.85}), X-ray emission spectra and electronic struct. (*Russian*) 4-51411
 V₃(Co_{0.15}Si_{0.85}), X-ray emission spectra and electronic struct. (*Russian*) 4-51411
 V(FeCoNi)₃, HIXE satellite spectra 4-46373
 Wc-(TiC)-Co, form. of thick wear-resist. refractory metal carbide vapour deposited coating 4-3293
 Wc-Co, Co enrichment at WC grain boundaries, STEM study 4-16401
 Wc-Co, deformed at room temp., anal. of defects in carbide phase (*French*) 4-16458
 Wc-Co, high temp. deform. and fracture (*French*) 4-16504
 Wc-Co, ion plated with TiN, interfacial structure, transverse rupture strength (*Japanese*) 4-46599

cobalt alloys continued

- WC-Co, limiting strength, fracture stress rel. to defect size (*Japanese*) 4-26040
WC-Co, sintered, stress corrosion crack growth 4-35781
WC-Co alloys, microstruct., optical and electron microscopy study 4-7413
WC-Co composites, fracture stress, elastic limit, microstruct. 4-51732
WC-Co powder sprayed coatings, adhesion and workability 4-26105
WC-Co-BN composites, prod. methods 4-3103
WC-Co(Cu), sintered, phase boundaries geometry 4-46482
WC-TiC-Co hardmetal, short-time induction sintering process 4-30664
YCo₂, mag. props. 4-20788
YCo₂, nearly ferromag., nucl. mag. relax. study 4-46134
YCo₃, ordered and amorphous, local mag. moments and mag. instability 4-20804
YCo₅, ⁵⁹Co, spin echo studies 4-16123
Y₂Co₃, mag. supercond., NMR, NQR studies 4-2834
Y₂Co₃, mag. supercond., normal state ⁵⁹Co NMR, itinerant electron ferromagnetism study 4-2840
Y₂Co₃, mag. and supercond. props., high field, high press. meas. 4-56487
Y₂Co₃, magnetism and supercond., thermal expansion, sp. ht., forced magnetostriction meas. 4-46083
Y₂(Co_{1-x}Mn_x)₃, mag. anisotropy, spin echo ⁵⁹Co NMR spectra 4-6969
Y₂(Co_{0.9928}Mn_{0.0072})₃, mag. character, mag. susceptibility, magnetisation meas. 4-56566
Y₂(Co_{0.997}Ni_{0.003})₃, itinerant weak ferromagnetism, supercond., mag. susceptibility, magnetisation meas. 4-56566
Y(Fe_{1-x}Co_x)₂, hyperfine fields at ⁸⁹Y nucl., NMR study 4-30292
Y_{0.995}Gd_{0.005}Co₂, long-range ferromagnetic-like order, mag. susceptibility, magnetisation meas. 4-56566
Y(Mn_{1-x}Co_x)₂, cryst. struct., powder neutron diffr. study (*Chinese*) 4-55788
Y(Ni_{1-x}Co_x)₂, X-ray L_{II} absorpt., elec. resist., mag. susceptibility studies, spin fluctuations 4-57032
Zr-Co-Ga, cryst. struct. and mag. props. (*Russian*) 4-24764
Zr_{100-x}Co_x, struct. and crystallisation, Mossbauer study 4-55729
Zr(Co_{1-x}Ni_x)₂, Laves system, lattice spacing, mag. susceptibility, X-ray obs. 4-15425
Zr(Cr_{1-x}Co_x)₂ and hydrides, mag. props. study 4-6946

cobalt compounds

- see also cobalt alloys
acetate tetrahydrate, phase transitions from temp. depend. vibr. spectra 4-34628
cobalt(II) stearate, adsorbed on Cu, multi-built-up layers, low energy SIMS study 4-2454
oxalate hydrazinate, mixed, ferrite precursor, IR and Mossbauer spectra 4-35955
phthalocyanines, tetrasulphonated, reson. Raman spectra in aq. soln. 4-9777
rare earth compounds, percolation model for giant intrinsic mag. hardness, Curie temp. 4-51058
[Co(CN)₆]³⁻, elec. field gradient modulation and NMR relax. 4-49050
BaCo₂(AsO₄)₂ and BaCo₂(PO₄)₂, mag. props., susceptibility, sp. ht., and neutron scatt. studies 4-11699
Ba_{1-x}Co_xO_{3-y}, crystal struct., and polytypism (*German*) 4-45078
(Co, Cu)_xNi_{1-x}S₂, weak ferromag. moment, composition depend. 4-2737
Co (III) complex, Co(acetylacetonate)₃, 3p X-ray photoelectron spectra, multiplet splitting 4-19108
Co (III) complex pyridyl azo naphthol, trace determ. by laser photoacoustic spectrosc. 4-37209
Co (III) low-spin cpds., 3p X-ray photoelectron spectra, multiplet splitting 4-19108
Co (II) complexes, mag. moments, cryst. field splitting, IR spectra 4-46242
Co (II) tri-n-octylammonium chloro complex, benzene soln., IR spectrosc. and elec. cond. meas. 4-30452
Co complex, Co(N₂H₄)₂(NCS)₂, preparation, characterisation, and thermal props. 4-16654
Co complex, cobalt (II) 3-amino-5-methylisoxazole, mol. reorientation, assoc., ¹H NMR study 4-56793
Co complex, μ -oxo-di(bis-dimethylglyoximate)cobalt (III), cryst. and mol. structures, X-ray diff. study 4-34461
Co complex, solid, positron annihilation and Mossbauer effect studies 4-30363
Co complexes, Co(III)(NH₃)₆, surface enhanced Raman scatt. at outer Helmholtz plane, electrochem. interface enhancement 4-38189
Co complexes, Co(II) (dipyridine)ascorbate, IR, solid state reflectance spectra and mag. moments studies 4-16194
Co complexes, cobalt octoate solns., homogeneous Ziegler-type hydrogenation catalysts, EXAFS study 4-35870
Co complexes, dioxygen, ⁵⁹Co NMR chem. shifts and line widths, model calcs. 4-9794
Co complexes, mol. orbital interpretation of Co X-ray K edge 4-7273
Co complexes, specific gravity calc. from X-ray chem. shift 4-11963
Co complexes, spin-lattice and spin-spin relax. times meas., chemical shift, solvent effects 4-7087
Co II complexes, substituted 2,6-dichlorophenolates, covalent bonds, NQR study 4-30344
Co III complexes, quinoxaline-2-thione-4-ones, prep. and characterisation 4-16643
Co monoboride, band struct., densities of states, bonding, ESCA spectra 4-20563
Co-CoSi₂ interface, stability and reactions, Rutherford backscatt. study 4-50589
Co-Ni-O system, study by differential scanning coulometric titrimetry 4-21482
CoAg(PO₃)₃, cryst. chem. 4-6339
CoAl₂O₄, elec. cond. in S containing atmosphere 4-20656
CoAs, cryst. struct. determ. 4-39222
Co₃B₂O₇, weakly ferromagnetic ferroelectric, orientational magnetoelec. effect 4-30263
CoCO₃, elastic consts. determ., sound vel. anisotropy, Mandelstam-Brillouin light scatt. by phonons 4-35461
CoCO₃:Cd, thermal decomposition, elec. cond., thermogravimetry 4-3401
CoCO₃:Fe³⁺, hyperfine field features of impurity nucleus 4-20867
CoCO₃:Fe³⁺, low-freq. spin excitations of impurities 4-35168
Co₂(CO)₈, decomposition, ferrofluid prep. 4-3398
Co₂(CO)₈, decomposition, ferrofluid prep., nucleation and particle growth 4-3399

cobalt compounds continued

- Co₂(CO)₈, struct. and bonding, charge density study 4-2152
CoCl₂, intercalated with graphite, for Li batteries (*French*) 4-46865
CoCl₂ intercalation cpd. with graphite, mag. ordering study 4-40147
CoCl₂ intercalation cpd. with graphite, mag. props. studies 4-40157
CoCl₂ intercalation cpd. with graphite, mag. transitions, neutron study 4-40174
(CoCl₂)_{1-x}(AlCl₃)_xC mag. intercalation cpds., low temp. heat capacity 4-6993
Co(ClO₄)₂·6H₂O, vibr., phase transform., IR and Raman study 4-2324
Co₂Cr_{1-x}S_x, elec. and mag. props., anomalies 4-34976
CoF₂, noncollinear mag. structures in an external field 4-25495
CoF₂, optical and elastic props. 4-16206
CoF₂, rutile struct., elastic moduli, press. derivatives 4-45249
CoFe_{2-x}Al_xO₄, polar magneto-optical Kerr effect and dielec. tensor 4-46235
CoFe₂O₄ colloidal particles, magnetisation density distrib., neutron diffr. study 4-30236
CoFe₂O₄ spinel film, prep. by new plating method in aq. soln., structural, mag., magneto-optical props. 4-21170
Co₂Fe_{3-x}O₄, single cryst., Verwey transition, effect of Co²⁺ 4-15823
Co₂Fe₃Se₃O₁₄, hyperfine fields, Mossbauer spectra 4-35296
 β -CoGa₂S₄, unit cells and cryst. struct. 4-11089
Co(H₂PO₄)₂·2H₂O, cryst. struct. study 4-29413
Co(I) complex, cobalt o-quinonediimine, cryst. and mol. struct., X-ray diffr. study 4-2183
CoII complex, trans-bis(trichloroacetato) bis(N,N-dimethylethylenediamine) Co(II), cryst. struct., polarised spectra 4-11056
Co(III) complex, complex, 9,10-phenanthraquinone monothiosemicarbazone, synthesis, characterisation 4-14387
CoIn₂S₄ spinel struct., cryst. growth, struct. determ., X-ray diffr. study 4-11068
CoLiO₄, cryst. struct. refinement, powder neutron diffr. data 4-29398
Co₃Ma₂Mo_{22.33}O₇₂, cryst. struct., X-ray diffr. study (*French*) 4-20155
Co(NH₃)₆Br₂, Co²⁺ ion EPR study near struct. phase transition 4-46089
Co(NH₃)₂Cl₃, 3p X-ray photoelectron spectra, multiplet splitting 4-19108
Co(NH₃)₂Cl₃, H⁺ spin-lattice relax. from classical and tunneling motions of NH₃ groups 4-51152
Co(NH₃)₆Cl₂, Co²⁺ ion EPR study near struct. phase transition 4-46089
Co₂N₄(P₂O₇)₂, cryst. chem. 4-6339
Co_{2-x}Ni_xS₆ mixed cryst., IR spectra characterisation (*German*) 4-2911
Co₂Ni_{1-x}S₂, weak ferromag. moment, composition depend. 4-2737
CoNP₂·3H₂O, Cryst. struct., mag. susceptibility and Mossbauer resonance (*French*) 4-39225
CoO, antiferromagnet, mag. transitions, mag. susceptibility studies 4-20819
CoO, cohesive props., KKR band calcs. 4-6312
CoO films on flat glass, prep. from gels 4-57369
CoO, point defect and diffusion props., high temp. creep study 4-15580
CoO, solid, standard Gibbs energy of form., 1450-1600°C 4-3126
CoO surface, adsorption, gas chromatographic study 4-35933
Co_{1-x}O, Mossbauer emission spectra, semicond. prop. effects 4-46156
Co_{1-x}O:Li, doped and undoped, chem. diffusion coeff., elec. cond. meas. 4-15695
Co₃O₄ addition in ZnO ceramics, characterisation by depolarisation thermocurrents 4-20900
CoO(Cr), elec. props. and defect struct. 4-39901
CoP amorphous ferromag. broad hyperfine field distrib., NMR enhancement factor 4-56816
CoP(Co₂P), band struct., X-ray emission study 4-51412
CoPS₃, mag. props., neutron diffr., susceptibility, and ³¹P NMR studies 4-11673
Co₂Re₁₀As₂₄(P₂₄), prop. and cryst. struct. 4-11104
CoRh₂O₄, polycrystalline spinel, unit cell parameters, IR absorpt. obs. 4-50250
Co₂RhO₄, polycrystalline spinel, unit cell parameters, IR absorpt. obs. 4-50250
Co(Si_{1-x}Se_x)₂ spin glass, low field mag. props. and relax. effects 4-40179
CoSe, X-ray and UV photoelectron spectra 4-43919
CoSi layer growth on evaporated Si, elec. props. 4-35095
CoSi₂, growth of SiO₂ layer, VLSI apps. 4-35750
CoSi₂ layer growth on evaporated Si, elec. props. 4-35095
CoSi₂ layer growth on evaporated Si, elec. props. 4-35095
CoSiF₆·6H₂O polycryst., ¹H and ¹⁹F spin-lattice relax. 4-40258
 α -Co₂SiO₄, cryst. struct. and electron distrib., X-ray diffr. study 4-15434
CoTiO₃ vaporisation 4-55984
CoUF₆·3H₂O, Cryst. struct., mag. susceptibility and Mossbauer resonance (*French*) 4-39225
Co_{1-x}Zn_xF₂, mag. props. 4-16031
Co_{1-x}Zn_xFe₂O₄ ferrites, Young's modulus, mag. field depend. 4-34561
Co₂Zn_{1-x}Fe₂O₄, polycryst., temp. and mag. field depend. of internal friction 4-2801
Co₂Zn_{1-x}In_xS₄, Co distrib., X-ray diffr., EPR, diffuse reflectance spectra 4-1763
Cr_{1-x}Co_xCr₂S₄, phase relationships with Cr₂S₄ and spinel struct. 4-15616
CsCoBr₃, one-dimensional antiferromag., soliton response, neutron scatt. study 4-2731
CsCoCl₃, frustrated antiferromag., magnetoelectric effect 4-16080
CsCoCl₃·2H₂O, mag. solution study by nucl. mag. relax. 4-16116
CsMn_{1-x}Co_xCl₃·2H₂O, oblique antiferromag. phase, proton NMR study 4-46125
CsMn_{1-x}Co_xCl₃·2H₂O, random mixture, mag. ordering study 4-16011
Cu halide-acetonitrile complexes, electronic absorpt. and IR spectra, struct. 4-46267
Cu_{1-x}Co_xCr₂Se₄, solid soln., existence regions, X-ray diffr. 4-55796
(Fe,Co)AsS, crystal defects and group-subgroup relationships, TEM studies 4-11132
Fe_{1-x}Co_xBr₂ randomly mixed antiferromagnets, with competing Ising and XY anisotropies, AC susceptibility meas. 4-30170
(Fe³⁺)₄(Co²⁺)₂Fe²⁺Fe³⁺Fe³⁺Fe³⁺Fe³⁺, magnetite, IR study 4-25751
Fe_{2-x}Co_xO₃ acicular particles, mag. annealing, relax., and anisotropy 4-56709
Fe_{3-x}Co_xO₄, Mossbauer study 4-2849
Fe₃O₄-CoFe₂O₄ spinel type solid solns., thermodynamics, EMF obs. (*Japanese*) 4-7438
HCo(CO)₄ dissolved in Kr, EPR spectra of Co centred free radicals 4-30286

cobalt compounds continued

- $K_2Ni_{1-x}Co_xF_4$, two-dimensional antiferromag., birefringence meas. 4-25716
 $LaCoO_5Sn_2$, struct. and electronic stability criterion 4-11100
 $Li_{0.47}Cu_{0.030}Co_{0.004}Fe_{2.495}O_4$, ferrite, prep., physicochemical props. 4-57144
 $MgCoH_x$, H_2 description isotherms and thermodynamic props. 4-39665
 $MgO-CoO$ solid solns., electronic and vibr. spectra 4-30490
 $Ni_2Co_{1-x}Cl_2$, mag. heat capacity meas. 4-2773
 $NiO-CoO$ type II antiferromag. solid soln., high temp. susceptibility 4-30157
 $Rb_2Co_0.6Mg_{0.4}F_4$, disordering process obs. 4-2788
 $RbCoCl_3$, props. of mag. excitations, far IR spectra study 4-7180
 $RbCoCl_3$, Raman scatt. and antiferromagnetic props. 4-16199
 $Rb_2Co_{0.85}Mg_{0.15}F_4$, random-field-induced destruction of phase transition 4-11706
 $Rb_2Co_6Mg_{1-x}F_4$, spin dynamics near mag. percolation threshold 4-51066
 SiO_2-CoO coloured glasses, spectral absorption coeff. in near IR region 4-16174
 $Ti_2TiO_3Co_2O_4$ pyrolytic films, Auger and vibr. spectrosc., electrochem. and photoelectrochem. meas. 4-46382
 $Y_2Co_7H_6$, high-temp. metamagnetism 4-25559

cochlea see ear**coding see encoding****coefficient of thermal expansion see thermal expansion****coercive force***see also magnetic hysteresis*

- alloys, amorphous, magnetic props., flash annealing effects 4-56690
 alloys, rapidly quenched for permanent magnet materials 4-56700
 domain wall stabilisation in case of complicated mag. phase diagram 4-35194
 dynamic domain wall coercivity, model 4-56679
 exponential-periodic graded mesh for coercivity numerical calc. 4-30198
 ferrite-garnet epitaxial films, transition layer contrib. to coercivity 4-46076
 garnets, low magnetisation materials, coercivity model 4-25594
 hysteresis loops, harmonic anal. 4-30213
 industrial metal aerosols, mag. props. study 4-7038
 magnetic bubble lattices, internal force study 4-35211
 metallic glasses, magnetic props., device appls. 4-56697
 random inhomogeneities, domain wall pinning theory 4-25584
 rare earth alloys, rapidly quenched, mag. hysteresis 4-51099
 rare earth alloys, $RCo_{5-x}M_x$, $M=Ni, Cu, Al, Si$, mag. props. 4-7017
 rare earth compounds, percolation model for giant intrinsic mag. hardness, Curie temp. 4-51058
 rare earth metallic glasses, R-Al, thermal stability, mag. and elec. props. 4-45727
 rare earth permanent magnets, R_2Co_{17} , precip. hardened, microstructure, mag. domain struct., TEM study 4-7002
 rare earth permanent magnets, R-Co, domain wall pinning 4-7001
 rare earth-Co magnets, homogeneity rel. to coercivity characts. 4-7026
 rare earth-Co permanent magnet alloys, oxidation behaviour rel. to mag. props. 4-7034
 rare earth-transition metal alloys, mag. anisotropy and coercivity, symposium, Baden, Austria (Sept. 1982) 4-8651
 rare earth-transition metal alloys, $R(Co_{1-x}M_x)_5$, giant intrinsic mag. hardness 4-16068
 rare earth-transition metal alloys with $MgCu_2$, struct. 4-20788
 rare earth-transition metal amorphous films for magneto-optical recording 4-30244
 rare-earth ferrite garnet epitaxial films, magneto-optical apparatus for hysteresis loop recording 4-37121
 rare earth-Co permanent magnet alloys, development and prod. 4-7027
 single domain ferromag. particles, mag. props. 4-30232
 $Sm_{1-x}Er_x(Co, Fe, Cu, Zr)_7$, permanent magnets, B-H loop meas. meas. 4-56706
 spinel ferrite, low temp. mag. behaviour under laser irradi. (Rumanian) 4-40191
 static hysteresis curve of magnetic materials (German) 4-20838
 steel, constructional, harmonic anal. of B-H loops 4-30868
 steel, Cr-Mo low alloy, coercivity and microstruct., TEM studies 4-7492
 steel, Cr-Ni-Cu-(Mo), maraging, props. after ageing 4-21255
 steel, low C, NDT, correcting for chem. comp. 4-46681
 steel, Mn-Nb, dual phase, coercivity rel. to heat treatment (Chinese) 4-56686
 steel sheet, coercivity meas. 4-48161
 $BaFe_{12}O_{19}$, ferrite powder, low temp. prep., coercivity 4-25927
 $BaFe_2O_4$, press. sintered ferrite; static mag. props. 4-16066
 (Ce mischmetal, Sm)Co₅ magnets, coercivity improvement by additions of transition metal powders 4-7031
 Co film, recorded magnetisation patterns obs. by electron holography 4-25601
 Co-Cr films, RF sputtered, magneto-optic props. 4-25607
 Co-Cr films, targets-facing sputtering prep. mag. props. rel. to perpendicular recording appls. (Japanese) 4-30633
 Co-Pt alloy films, high coercivity, high-rate sputtering using Target-Facing type method 4-25883
 Co-Pt sputtered films, mag. props. study 4-30249
 Co-Pt sputtered thin films for high density recording 4-25602
 Co-Sm-Fe-Cu-Zr powdered materials, mag. struct. form., vibr. effect 4-2793
 Co-Ta-Zr amorphous sputtered film, zero-magnetostriction, mag. props. 4-30247
 $Co_{72.5}B_{15.5}Si_{12.5}$ metallic glass wire, mech. and mag. props. 4-56689
 CoCr sputtered films, mag. props. and microstruct., heat treatment effects 4-56721
 $Co_{100-x}Cr_x$ thin films, mag. props. study 4-35205
 $Co_{58}Fe_{28}Ni_{10}Si_{11}B_{16}$ metallic glasses toroids, mag. props. and winding methods 4-30207
 $Co_{58}Fe_{28}Ni_{10}Si_{11}B_{16}$, amorphous, mag. props., tensile stress effects 4-35167
 $Co_{58}Fe_{28}Ni_{10}Si_{11}B_{16}$ amorphous alloy annealed, mag. props., effect of tensile stresses 4-40215
 $Co_{58}Ni_{10}Fe_{28}Si_{11}B_{16}$ ribbons, amorphous, coercive field, surface roughness effect 4-7011
 Cu-Ni-Fe (20, 19.8 wt.%), mag. props., influence of elastic stress 4-57229
 CuMn spin glass, mag. viscosity as evidence of strong domain wall pinning 4-56638
 $ErCo_{5-x}Cu_x$ alloys, permanent mag. props. 4-35203

coercive force continued

- Fe, sintered, mag. props. rel. to porosity 4-11747
 Fe, sintered parts, mag. props. rel. to sintering atm. 4-11748
 Fe-B-Tb-La, prod. of hard mag. materials 4-56699
 Fe-based metallic glasses, mag. hysteresis, temp. depend. 4-16063
 Co-Cr, damping capacity, mag. props., pitting corrosion resist. (Japanese) 4-46549
 Fe-FeO₃ layer films, reactively sputtered, mag. props. 4-56730
 Fe-Nd rapidly quenched alloys, mag. hardening, magnetisation and thermomag. studies 4-56704
 Fe-Ni base metallic glasses, coercive force composition depend. 4-25595
 Fe-Ni-Au, microstruct. and mag. props. 4-25043
 Fe-P(Si) alloy powder, mag. props. depend. on interparticle spacing 4-51105
 Fe-Pr rapidly quenched alloys, mag. hardening, magnetisation and thermomag. studies 4-56704
 Fe-Pr-B-Si, rapidly quenched, mag. and struct. props., permanent magnet appls. 4-2790
 Fe-rare earth based Co-free permanent magnetic materials, mag. props., chem. comp. depend. 4-56701
 $Fe_{23}B_{15}Si_{10}$ metallic glass wire, mech. and mag. props. 4-56689
 $Fe_{81}B_{13}Si_{5}Si_{3}C_2$ metallic glasses toroids, mag. props. and winding methods 4-30207
 $Fe_{72-x}Co_8O_3$ acicular particles, mag. annealing, relax., and anisotropy 4-56709
 Fe_4N particles, reactive gas evaporation prep., mag. props., mag. recording appls. 4-25598
 $Fe_4N_{1-x}C_x$, prep., crystal morphology, coercive field and use as mag. recording materials (French) 4-51103
 γ - Fe_2O_3 thin film, preparation, struct. and mag. props. (Japanese) 4-16312
 Fe_2O_3 thin films, high rate sputter deposition and mag. props. 4-30629
 γ - Fe_2O_3 :Os sputtered thin film, microstruct. and high coercivity mag. props. 4-56722
 $Fe_{1-x}Tb_xGd_x$ amorphous sputtered films for perpendicular recording 4-25604
 GdTbFe amorphous films, composition and mag. props., depend. on Ar press. (Japanese) 4-2794
 $Ho_2Co_{17-x}M_x$, $M=Al, Y, Fe, Ni, Cu$, lattice const., Curie temp., coercive force, comp. depend. 4-6979
 La-Pr-Nd mischmetal magnets, mag. props. 4-25597
 La-Pr-Nd-Co-Cu-Fe-Mg, La-Pr-Nd-Co-Cu-Mg, synthetic mischmetal alloys, mag. props. 4-7013
 Mn-Al-C magnets, spark erosion and rapid solidification prep., mag. props. 4-56708
 Nd-Fe-B, amorphous permanent magnet, high-energy product 4-40196
 Nd-Fe-B high performance permanent magnets, mag. props., struct. 4-56702
 Ni-Co-P films used in rotating disc, elastic stress-induced coercive field changes 4-30243
 Ni-Fe bars, ferromagnetic memory effect 4-20837
 Ni-Fe evaporated films for bubble domain memory, mag. props. 4-51106
 $Ni_{63}Fe_{12}Co_{25}$ thin film, coercive force determ. (Russian) 4-51107
 $Pd_{77.5-x}Cu_{15}Si_{16.5}Fe_x$ amorphous alloys, mag. double transitions 4-30165
 Pr-Fe-B high performance permanent magnets, mag. props., struct. 4-56702
 Sm-Co amorphous films, elec. and mag. props., temp. depend. 4-30246
 Sm-Co magnets, sintered, coercivity mag. anisotropy 4-7016
 Sm-Co permanent magnets, precip. hardened, reversed domains, nucleation and propag. 4-7014
 Sm-Co-Cu alloys, high-coercivity state form. and cryst. struct. (Russian) 4-25593
 Sm-Co-Cu-Fe-Zr thin sheets, domain struct. during magnetisation reversal 4-56737
 Sm-Co(Fe) amorphous films, prep. by oblique incidence method, mag. props. 4-25605
 Sm-Fe metastable phase, selectively thermalised sputtering and mag. props. 4-56693
 Sm-Fe-Co-Ni-Al-Cu alloys, struct. and mag. props. 4-6322
 $Sm_2(Co, Cu, Fe, Zr)_{17}$ permanent magnets, coercivity, energy product improvement 4-7021
 $Sm(Co, Cu, Fe, Mn)_{7.8}$ permanent magnet, coercivity rel. to Cu segregation and as cast struct. (Chinese) 4-56685
 $Sm(Co, Cu, Fe, Zr)_{7.4}$, coercivity, microstruct., ageing effects 4-7020
 $Sm_2(Co, Cu, Fe, Zr)_{17}$ alloy, coercivity depend. on mag. processing 4-35738
 $Sm_2(Co, Cu, Fe, Zr)_{17}$ -type permanent mag. alloys, hardness rel. to coercivity 4-30223
 $Sm(Co, Fe, Cu, Zr)_{7.2}$ magnet, microstructure, mag. props., heat treatment effect 4-7018
 $Sm(Co, Fe, Cu, Zr)_{7.5}$ magnets, coercivity enhancement by heat treatment 4-7015
 SmCo₅ magnets, mag. props., role of grain size 4-7032
 SmCo₅ resin-bonded magnets, ageing characts. 4-7030
 $Sm_{1-x}Co_x$ amorphous films, domain walls and other mag. props. 4-25615
 Sm_2Co_{17} high-coercivity magnets, magnetisation characts. 4-7025
 Sm_2Co_{17} -type resin-bonded magnets, ageing characts. 4-7030
 $Sm_3Co_{11}B_4$ magnetisation process and reversal 4-30218
 $Sm(Co_{0.67}Cu_{0.08}Fe_{0.22}Zr_{0.03})_2$ sintered magnets with coercive force up to 30 KOe 4-7033
 $Sm(CoFeCuZr)_{7.4}$ sintered magnets, microstruct. and mag. props., annealing effects (Russian) 4-25592
 $Sm(CoFeCuZr)_{7.4}$ magnets, phase composition and hysteresis props. (Russian) 4-51093
 $Sm(Co_{0.725}Fe_{0.20}Cu_{0.055}Zr_{0.02})_{7.5}$ magnets, struct. and mag. props. 4-25042
 $Sm(Co_{0.745-x}Fe_{0.2}Cu_{0.055}Zr_x)_{7.5}$ permanent mag., coercive force and microstruct. 4-56705
 $Sm(Co_{90-x}Fe_xCu_{0.08}Zr_{0.02}B_{0.35})_{17}$, mag. props. meas. 4-25596
 $Sm_2(CoFeCuZr)_{17}$, permanent magnets, mag. props., temp. characts. 4-11741
 SmPrCo₅ permanent magnets, mag. props., temp. characts. 4-11741
 SrM₂Fe₁₆O₂₇ hexaferrites (M=Fe, Ni, Co, Zn), W and X types, mag. props. 4-56692

coercivity see coercive force**coexistent superconductors see magnetic superconductors****coherence***see also light coherence*

- acoustic coherent low-freq. scatter from rough surfaces, theory 4-33830
 acoustic scattering from wind-driven surface, spatial coherence 4-33853
 pulsed power technology, supercoherent phenomena 4-34368

coherence continued

ultrasound images, coherent speckle 4-12658
wave and particle beam coherent interaction mechanism 4-33604
K + Ar collisions, coherence in oriented K at. 4-38277

coherence distance *see coherence length***coherence length**

dirty superconductors, spin-orbit scatt. and spin contamination 4-30108
low freq. weak mag. field penetration and coherence length 4-15990
Mo₃Si amorphous films, collective flux pinning 4-11652
NbN films with differing granularities, crit. fields (*Russian*) 4-25491
Nb₃Si (Ge) amorphous films, collective flux pinning 4-11652

coherent accelerators *see collective accelerators***coherent antiStokes Raman scattering**

amino acid crystals, long-lived vibr. modes probed by ps CARS spectroscopy 4-29544
anthracene, crystal, charge transfer band, two-photon CARS and CSRS study 4-40432
anthracene-d₉(d₁₀), mol. crystals, vibron dynamics, linewidths temp. depend., CARS study 4-46243
benzene, liq., shock compressed, and deuterated mixtures, coherent Raman scatt. meas. of vibr. freq. shifts 4-19506
benzene cell, stimulated emission kinetics study using four-photon parametric interaction, CARS spectroscopy 4-28770
benzene monolayer on Ag particle, surface enhancement of CARS 4-51252

boxcar averaging advances using digital techniques 4-27599

combustion diagnosis by laser induced fluorescence, Raman scatt. and CARS 4-21501

diagnostics of flowfields using system utilising single Q-switched ruby laser 4-29223

flames, temperature meas. by laser Raman spectroscopy 4-27518

gases, mol. struct., CARS spectra 4-28445

hot atom + HBr(H₂) reactions, product internal energy distrib., CARS meas. 4-23703

hot atom + molecule reactions, product internal energy distrib., CARS meas. 4-23703

laser probe system for vel. and temp. meas. in fluids 4-10800

methane-air premixed flames, N₂ CARS thermometry of temp. profiles through flame fronts 4-35904

methane-N₂O flames, lean and stoichiometric, CARS spectra 4-21472

methane-N₂O flames, N₂ and CO vibr. CARS and H₂ rot. CARS spectroscopy 4-19060

molecular absorpt. band line shape anal. in coherent Raman scatt. 4-49037

naphthalene, disordered mixed crystal, vibr. energy transfer, localisation, CARS study 4-20964

naphthalene-d₈(d₉), mol. crystals, vibron dynamics, linewidths temp. depend., CARS study 4-46243

nitrobenzene vapour, CARS spectrum, freq. shift and spectral line breadth (*Chinese*) 4-54721

nonlinear $\chi^{(3)}$ susceptibility in CARS diagnostics meas., exact and approx. expressions 4-49435

pentacene, mol. mixed crystals, vibr. dephasing, CARS study 4-25745

plasma diagnostics, review (*Japanese*) 4-17957

polystyrene films, coherent Raman scatt. obs. in thin-film optical waveguides 4-44156

propane-air flame temp. and species concentration, CARS obs. 4-26208

propane-air turbulent-jet diffusion flame temp. and species concentration, CARS obs. 4-26209

RDX, decomposition by combustion, CARS investig. 4-30943

reactive gaseous media, CARS diagnostics 4-19067

remote CARS method, fast recording, 4-53771

resonance CARS spectra, mol. multimode model anal. 4-54727

spectroscopy methods, review (*German*) 4-4473

thermometry, high press. technique 4-32262

thin film diagnostics with surface coherent Raman scattering 4-19507

VUV anti-Stokes Raman lasers based on group VI elements 4-44093

Ba₂NaNb₂O₁₅, CARS and CSRS spectra, cascade effect caused by polaritons 4-38528

CO vibrational CARS spectroscopy of methane/N₂O flames 4-19060

CO₂, fundamental bands, CARS study 4-23705

CO₂, vibr. relax., two-photon Raman excitation, CARS study 4-33411

CS₂, liq. and crystal, time-resolved spectroscopy of vibrational overtones and two-phonon states 4-51275

Fe_{1-x}Mn_xF₂, nonlinear mixing spectroscopy studies 4-19510

Fe₂Zn_{1-x}F₂, nonlinear mixing spectroscopy studies 4-19510

H₂, CARS intensity meas. behind shock waves 4-33403

H₂, rotational CARS spectroscopy of methane/N₂O flames 4-19060

H₂, vibr. relax., two-photon Raman excitation, CARS study 4-33411

HD, prod. quantum state distrib. in H + D₂ reactions 4-21440

LiNbO₃, CARS and CSRS spectra, cascade effect caused by polaritons 4-38528

N₂ vibrational CARS spectroscopy of methane-N₂O flames 4-19060

OH(χ'') radical, detect. by CARS 4-33408

SF₆, vibr. relax., two-photon Raman excitation, CARS study 4-33411

Si films, CO₂ laser CVD of SiH₄, CARS study 4-16338

SiH₄ glow-discharge plasma, CARS study 4-49033

Sn, metastable population inversion, antiStokes Raman laser expts. 4-44145

Tl, metastable population inversion, antiStokes Raman laser expts. 4-44145

coherent optical transients *see optical coherent transients***coherent potential approximation** *see CPA calculations***cohesive energy** *see binding energy***coils**

see also inductors; solenoids; windings

continuous-coil Tokamak reactor magnetics, plasma elongation effects 4-14176

deflection coils, conical, mag. fields calc. 4-14623

eddy current single-turn coil, impedance change due to flaw in coaxial conducting cylinder 4-35833

Euratom LTC case and winding, stress anal. 4-48735

European LCT, design influence of mechanical stresses 4-48737

FED, ohmic heating solenoid design utilising forced cooled windings 4-14178

FED 50 kA equilibrium field coils, structural design considerations 4-9464

Heliotron G supercond. helical coil conceptual design 4-14175

INTOR-CH superconducting coil, force distrib., stress anal. 4-48736

coils continued

inverse Helmholtz pairs, gyromagnetic ratio expt. appl. 4-22811

JET and TFTR magnet coil systems construction and assembly 4-33161

large diameter superconducting solenoid, shrink fit assembly, feasibility test 4-54506

low-activation toroidal field coil concept for Tokamak reactors 4-9463

magnetic field anal., finite element and boundary elements methods combination 4-49216

magnetic field distrib. around a coil flux concentrator, nonexistence of flux concentrating effect (*Chinese*) 4-49225

magnetic limiter, ergodic behaviour 4-50085

magnets, high field, recent progress 4-48157

nonuniform field type EM-flowmeters, dimension estimation (*Chinese*) 4-29212

nuclear fusion equipment coil insulation systems, technology developments 4-9588

poloidal field supercond. ring coil case and support structure design 4-14179

poloidal magnetic coil, dumbbell shaped, for plasma current excitation, design and production 4-50038

RF helical coil applicators which prod. transversely uniform axially distrib. heating in phantoms 4-52440

ripple reduction coils for Tokamak reactors 4-9466

saddle-shaped, mag. field symm. around coil centre 4-33584

shielding three-dimensional system with single folded coil 4-22809

steel, JBK-75 alloy, sheath for internally cooled supercond., nondestructive testing 4-9469

superconducting poloidal coil development for Tokamaks, survey 4-43644

superconducting poloidal coils for reacting plasma project performance test of model coil 4-43645

superconducting pulsed conductors and coils for Fusion Experimental Reactor, overview 4-14177

Tokamak reactor, poloidal field coil locations determ., unified study 4-9465

Tokamak reactors with helical coils, phys. and engineering constraints 4-9458

Tokamak test reactors, toroidal field resistive magnet design 4-9462

Nb-Ti D-shape coil, Large Coil Task and high field cluster test program, Japanese progress 4-14173

Nb-Ti multifilamentary superconductors, with very fine filaments, behaviour under AC mag. fields 4-45983

Nb₃Sn circular coil, Large Coil Task and high field cluster test program, Japanese progress 4-14173

Japanese progress 4-14173

coincidence circuits

see also counters

pulse shaping for fast coincidence with NaI(Tl) detectors 4-23515

cold-cathode tubes

see also counting tubes; photomultipliers; phototubes

electron gun for CO₂ laser pre-excitation 4-33682

quiescent magnetised plasma column production, with low-pressure hollow-cathode discharge 4-34282

cold rolling

brass, cold rolled, annealed, fatigue rel. to subgrain structure and orientation 4-16479

metallic glasses, induced-magnetic anisotropy, annealing effects 4-56612

multilayer materials produced by metal powder rolling, frictional thermal resist. 4-51584

multilayer strip production by rolling solid metal with powder layer, reduction conditions 4-51579

periodic section rolling, graphical technique for determ. of contacting area (*Russian*) 4-57247

steel, austenitic stainless, strips, dislocation and phase struct. changes, caused by plastic deform. (*Polish*) 4-30752

steel, car axles, cold surface rolling, fatigue strength rel. to strain ageing (*Japanese*) 4-21307

steel, cold rolled surface treatment by phosphating 4-51880

steel, Cr type, high-strength, sintered, struct. and mech. props. after thermomech. treatment 4-51811

steel, Cr-Mo-V, cold-rolling work rolls bearing necks, hardening 4-40844

steel, eutectoid, subcritical thermomech. treatment, microhardness 4-12092

steel, ferritic stainless, cold-rolled, transition band struct., electron microscopy study 4-46527

steel, HSLA, cold-rolled, delamination behaviour (*Korean*) 4-40958

steel, low C, aluminide coated, deformation and diffusion bonding 4-46663

steel, low C, cold rolled, recrystallisation (*Russian*) 4-7477

steel, low C, cold-rolled, recovery, recrystn. and grain growth during annealing 4-16417

steel, low-alloy, cold-rolling rolls, heat treatment and props. 4-40843

steel, sheet type, plastic deform. influence on struct. and mech. props. 4-51693

steel, stainless, ferritic Cr-Mo, thermomechanical transform., stabilisation, formability 4-3154

steel, stainless, mixed struct. of age-hardened martensite and metastable austenite, transform, induced plasticity 4-40903

steel sheets, cold-rolled, rel. between mag. anisotropy and recrystn. texture 4-40814

Al-Mg (7 wt.%), dynamic recrystallisation after extrusion 4-12082

Al-Zn-Mg, polygonized struct. thermal stability, Mg effect 4-3149

Cu, annealed, decoration of etch figures 4-20196

Cu base alloys, stress relax. characts., 20-200°C, cold rolling effect 4-46555

Cu, cold worked, softening temp. and elec. resist., effect of additions of In, Pb, Sb or Sn 4-40815

Cu, rolled, texture, dislocation struct. 4-21234

Cu-Al₂O₃ single crystals, cold rolled, stored energy, recrystallisation kinetics, second phase particles effect 4-12081

Cu-Ge alloys, rolling and recrystn. texture 4-46529

Cu-(Al₂O₃) single crystals, cold rolled, deform. struct. rel. to second phase particles 4-12111

α -Fe, Armco, cold rolled, development of microstruct. and texture 4-16414

Fe, cold rolled, internal friction rel. to interstitial contents 4-51716

Fe-Co-V, cold rolling, mech. props. 4-7553

Fe-Co-V, ordered-disordered alloy, cold rolled, shear bands in BCC lattice 4-51745

Fe-Si (3 wt.%), C content effect on secondary recrystallisation 4-25970

Fe-Si (3 wt.%), Goss texture, contrib. of shear bonding 4-40818

Fe₂Ni₃C₁₄P₁₂B₆, amorphous ribbons, cold rolling (*German*) 4-25972

cold rolling continued

- Mo single cryst., dynamic recovery during rolling, hardness and yield stress studies (*Russian*) 4-35638
 Mu-Cu, high damping capacity alloys, internal friction rel. to comp. and annealing 4-40865
 Ni-Cr-Al high Cr alloy, complex recrystallisation and precipitation reactions (*Russian*) 4-51663
 Ni₇₅S₃B₁₄, amorphous ribbons, cold rolling (*German*) 4-25972
 Ti-Nb-Ta-Zr, supercond., flux pinning, role of α precipitates 4-45966

cold shortness see brittleness**cold working**

- see also bending; cold rolling; plastic deformation; slip; work hardening*
 BCC metals, cold worked, Snoek-Koster relax. 4-40851
 materials, irradi., mechanism of swelling suppression by cold work 4-29470
 mechanics of cold stamping processes, numerical analysis (*Russian*) 4-10560
 metals, liquid metal embrittlement, interatomic bond weakening 4-26018
 metals, point defects produced by cold working, Mossbauer spectroscopy and PAC study 4-35260
 polycarbonate specimen, cold worked holes, surface and internal strain fields, multiple embedded grid moire method 4-10621
 steel, alloy, damage resist. during creep, plastic deform. effects (*Russian*) 4-51736
 steel, alloy, structural transitions during tempering and cold plastic deformation (*Russian*) 4-51698
 steel, austenitic stainless, corrosion cracking susceptibility rel. to heat treatment 4-41053
 steel, austenitic stainless, fatigue of annealed and cold-worked samples 4-7563
 steel, austenitic stainless, LMFBR claddings, cold worked, ion irradi., void swelling, and dose depend. 4-39351
 steel, austenitic stainless, oxidation, influence of cold work 4-35760
 steel, austenitic stainless, cold drawing, deform. and transform. textures (*Japanese*) 4-35628
 steel, boiler type 15 YuA, mech. props. and struct. 4-51692
 steel, C, fatigue, changes in residual stress, domain size and microstrain 4-7558
 steel, cold formability, microstruct. effect (*French*) 4-46533
 steel, cold shearing, plastomechanical analysis 4-3148
 steel, Cr, bearing, martensitic transform., effect of prior cold work 4-40784
 steel, Cr-Co, embrittlement in various quenched structures 4-16488
 steel, mild, cold-worked, stress relax. expts. 4-16429
 steel, Ni-Cr-Mo, AISI 4340, H trapping 4-16499
 steel, notch effect zone determination, X-ray diffr. method 4-46679
 steel, stainless, corrosion in H₂SO₄ containing Cl⁻ and Cu⁺ (*German*) 4-35761
 steel, stainless, Cr-Ni-Ti, wire, electroplastic drawing, phase composition and struct. 4-12086
 steel, stainless, reinforcing filaments, cold drawn 4-3190
 steel, structural, fatigue strength improvement rel. to cold work induced residual stress (*German*) 4-40938
 steel, tool, cold work, interchangeability of hardness and strength values, tempering and quenching effect (*German*) 4-51799
 α -Ag-Cd-In alloys, microstruct., X-ray diffr. study 4-21235
 Al-Cu, low temp. internal friction peak mechanisms 4-50425
 Al-Cu-Mg, fatigue strength improvement rel. to cold work induced residual stress (*German*) 4-40938
 Al-Fe (0.6 wt.%), cold drawn wire, dynamic recrystallisation 4-12079
 Al-Mg (2 wt.%), cold-worked, internal friction peaks 4-35648
 Al-Mn-Mg (1,1 wt.%), Portevin-Le Chatelier effect, serration characts. 4-40907
 Al-Mn-Mg (1,1 wt.%), Portevin-Le Chatelier effect, yield transition and strain rate sensitivity meas. 4-40908
 Al-Zn, damping capacity, influence of cold-working 4-7498
 Al-Zn-Mg (6.0, 2.6 wt.%), cold working, ageing, ductility, 4.2-293K 4-51748
 Cu, cold worked, internal friction behaviour during steplike heating 4-40881
 Cu, pure, cold worked, elec. resist., softening temp. rel. to alloying additions (*Japanese*) 4-46524
 Cu-Ni-Si, thermomech. treatment, elec. resist. obs. (*Japanese*) 4-25982
 Cu-Ni-Sn alloy wire, ductile, high strength, cold working 4-25965
 Cu-Ni(10 wt.%), internal friction meas. in deformed structure (*French*) 4-40866
 Cu-Sn-Zn, cold worked, X-ray diffr. study of microstruct., role of Sn addition 4-16410
 Cu-Ti binary alloys, age-hardening, effect of rapid solidification 4-16408
 Fe, cold worked, dislocation struct. adjacent to fatigue crack tips 4-16496
 Fe-Co-Ta, Recalloy, mag. props., thermal expansion, elec. resist., hardness (*Japanese*) 4-46069
 Fe-Cr-Co-Ni, cold drawn, strain gauge factor, elec. props. (*Japanese*) 4-6763
 Fe-Mn, cold worked, martensitic transform., Mossbauer spectroscopy 4-16390
 Fe₃₀B₇₀, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
 Fe₄₀Ni₆₀P₁₄B₈, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
 Mg, electron irradi. and cold worked, internal friction and anelastic phenomena (*French*) 4-40880
 Mn-Cu-Ti(Zr), Elinvar characts., thermal expansion, Young's modulus, hardness, tensile strength rel. to heat treatment 4-21262
 Nb-Ti superconductors, instabilities anal. (*German*) 4-2710
 Nb-Ti-Hf multifilamentary superconductors, high-field props. 4-11654
 Nb-Ti-Ta cables, with different chemical compositions, supercond. props. 4-45981
 Nb-Ti-(Ta) multifilamentary superconductors, fabrication 4-45968
 Ni₂MnGa, Heusler alloy, plastic deform. occurring during cold work, PAC study 4-56827
 Pd₇₇Cu₆Si_{16.5} amorphous wire, struct. relax. and Young's modulus 4-44961
 PdMnSb, Heusler alloy, plastic deform. occurring during cold work, PAC study 4-56827
 Ti-V-Cr-Al-Sn cold-formable sheet alloy 4-40902
 Zr-Nb (2.5 wt.%), cold drawn tubes, deform. after 7 years in-reactor 4-15579

collagen see proteins**collections of physical data**

- A=128, nuclear data sheets, levels, J^π, transitions 4-31982
 A=137, nuclear data sheets, levels, J^π, transitions 4-31981
 A=238, nuclear data sheets, levels, J^π, transitions 4-31983
 A=95, nuclear data sheets, levels, J^π, transitions 4-31980
 ab initio calculations, bibliography, 1982, quantum chem. literature database 4-23580
 absorption factor tables for X-ray and neutron scatt. in cylindrical samples 4-47787
 anomalous scatt. factors calc. using Cromer-Lieberman's method 4-36813
 asteroids, orbital elements in 1984 ephemerides of minor planets 4-17652
 astronomy and astrophysics (book) 4-42611
 atomic and molecular database (Belfast/Daresbury) 4-17649
 atomic form factors, relativistic HFSS modified, small angle Rayleigh scatt. of photons 4-4164
 beta-ray spectra atlas for nuclides important in radiation protection and biomedicine 4-4169
 binary oxides with NaCl and wurtzite struct., thermal expansion data compilation 4-50550
 CEA library of radioactive data and PEPIN code (*French*) 4-36814
 chemical kinetic data sheets for high-temperature chemical reactions 4-4166
 chemical nucl. data libraries, evaluated nucl. decay data for reactor appl. 4-36817
 coal chemicals, vapour press. data 4-47779
 delayed neutron precursor data compilation 4-36815
 diatomic molecules, electronic transition moments, internuclear distance depend. 4-38256
 diatomic monoxides, heat of form. and dissoc. energies, Gibbs energy functions 4-47778
 ethylene, gaseous and liq., correl. of viscosity and thermal cond. data, critical point enhancement 4-47776
 fatigue crack growth data, segmented fitting 4-26027
 galaxies reddening estimates, values for UGC and RC2 galaxies 4-53282
 gamma rays, from radioactive decay, catalogue 4-8655
 heats of phase changes of pure components and mixtures, book 4-22529
 hot dense plasmas, atomic processes 4-13490
 inert gas atoms+H(H⁺)(H⁻), charge transfer cross section, expt. data compilation 4-42621
 JENDL-2, Japanese Evaluated Nuclear Data Library, present status and benchmark test 4-36821
 JNDC nucl. data library of fission products 4-47786
 light atoms and ions, electron impact ionisation cross section 4-47775
 liquid metal ion sources, mass spectra compilation 4-47780
 Los Alamos MATXS, VITAMIC-C, DLC-37 multigroup libraries for reference fusion hybrid blanket 4-36819
 mechanical properties of materials, input document for data bank 4-12077
 metals, electric field gradients, quadrupole interaction freq. data 4-39862
 molten salt systems, electrical cond., density, viscosity and surface tension data 4-4167
 neutron reson. parameters and thermal neutron cross sections evaluation for CENDL 4-36820
 nuclear data evaluation, derivation of variance-covariance information 4-42622
 nuclear decay schemes, computer interpretation, anal. and evaluation 4-36818
 radial velocities of 8250 galaxies, catalogue (book) 4-27254
 radioactive decay, gamma-rays 4-29
 rock, physical properties (book) 4-42613
 selective surfaces for solar appls. 4-41376
 steel, Cr-Mo, low-cycle fatigue data files 4-12187
 thermoneuclear reaction rates, revised and updated values 4-22318
 transactinoid isotope nucl. decay data meas. and evaluation, IAEA Coordinated Research Programme 4-36816
 tsunami in and near Japan, revised table (*Japanese*) 4-3721
 water, surface tension, international tables 4-4168
 water vapour, high temp. spectrum in 3000 to 4000 cm⁻¹ region 4-4163
 (K[±], X), cross sections compilation 4-31984
 (n,γ) on A=23-249, average total radiative widths for S and P-wave reson 4-36822
 (n,x), activation and transmutation cross sections of nuclides in FBR primary cooling cct. 4-36823
 π[±] induced reactions, integrated cross sections, data compilation 4-17653
 Al alloys, compilation of compositions, designations, trade names, book 4-47781
 Ba isoelectronic sequence, n=2 configurations, level values 4-5183
 C ions, electron impact excitation cross sections 4-13488
 Ce to Os region, alpha emitters, decay energies and half-lives 4-23085
 Co, dilute impurity hyperfine fields 4-39861
 D₂O, gaseous and liq., viscosity, thermal cond. and diffusion coeff. 4-47777
 D₂O, thermodynamic props. in critical region 4-4165
 Fe, dilute impurity hyperfine fields 4-39861
 Fe ions, X, XV-XXVI, electron impact excitation collision strengths, distorted-wave calcs. 4-36807
 Gd, dilute impurity hyperfine fields 4-39861
 H+heavy ions, electron capture processes, cross sections 4-13491
 H+multiply charged fully stripped ion, charge exchange, theoretical cross section data 4-47773
 H+multiply charged fully stripped ion, charge exchange, theoretical cross section data 4-47774
 H₂+heavy ions, electron-capture and -loss collisions 4-13489
 H₂¹⁶O, A=16, 17, 18), atlas of line positions and intensities between 0 and 4350 cm⁻¹, book 4-17650
 He-like ions, electron impact excitation collision strengths 4-36809
 Li-like ions, inner-shell excitation, collision strengths 4-36810
 Mn I-XXV, at. energy levels and Grotian diagrams 4-22530
 Ni, dilute impurity hyperfine fields 4-39861
 O ions, electron impact excitation cross sections 4-13488
 U, oscillator strengths in 335 to 361 nm wavelength interval 4-23658
²³⁵U(n, f), fission fragment ang. distrib. data 4-43540

collective accelerators

- autoaccelerator, radial electron beam, for ICF, theory 4-33164
 autoresonant accelerator with cylindrical electron beam, ion dynamics 4-28248
 closed drift circuit plasma accelerator, wall-conductivity effects 4-5061
 electrodynamic ring-shaped gas injector 4-37957
 exploded wire plasmas, pulsed EM acceleration, MHD code 4-20004

collective accelerators continued

- heavy-ion accelerator 4-28247
- ion acceleration from localised source downstream of relativistic electron beam diode 4-33249
- ion acceleration in a weakly magnetized electron beam 4-48809
- light and heavy ion collective excitation by relativistic electron beam in dense plasma 4-933
- Lorentz accelerator for DC operation at low press. and high plasma temp. 4-55650
- low-ripple pulse Marx generator for autoresonant collective ion accelerator 4-33218
- Proto-II, Ar gas puff implosion expts. 4-55611
- relativistic collective-effect circular accelerator to reach ultrahigh energies 4-33219
- relativistic electron beam autoaccelerator energy storage, compression and switching 4-33217
- relativistic electron beam dense filamentary propagation obs. 4-33611
- relativistic electron beam generators in collective ion accelerators 4-15314
- two stream instability, eigenmodes and particle acceleration 4-6043
- Ba ions in preformed anode plasma 4-5059

collective states, nuclear *see nuclear collective states and giant resonances***collimators (optical)** *see optical collimators***collision processes**

- see also atom-surface impact; atomic inelastic collisions; charge exchange; chemical reactions; elastic scattering of atoms and molecules; elastic scattering of electrons by atoms and molecules; electron attachment; electron impact; elementary particle interactions; intermolecular mechanics; ion-surface impact; molecular inelastic collisions; molecule-surface impact; negative ions; Penning ionisation; plasma collision processes; potential energy surfaces for collision processes; quantum field theory; quasimolecules; radiation quenching*
- charged particle flux, nonsteady interaction with solid 4-21073
- classical collisions, extension of Landau diagrams 4-4216
- comets collisions with Earth, freq. determ. from anal. of close encounters 4-53097
- dense gases, density fluctuations, binary collision effects 4-42846
- galaxies, multiple collisions model for large-scale radio struct. of Fornax A 4-13429
- galaxies, stellar vel. perturbations theory 4-58504
- galaxy collisions, shock wave model rel. to X-ray luminosities of ring galaxies 4-17584
- interstellar gas clouds, collisions rel. to ang. momentum transfer in galactic disc 4-17589
- ion-atom scattering expt., microprocessor-based pressure controller 4-33564
- low freq. laser-assisted pot. scatt. theory 4-53513
- molecular collisions in gases, simulation using stochastic laws from Kac's master eqn. 4-19905
- NGC 1275, collision between galaxy and accretion flow rel. to filaments 4-27175
- scaling coeffs. iterative improvement 4-1228
- stellar encounters in globular clusters, binary systems form. rel. to cluster evolution 4-22448
- surface, adhesion of particles on elastic-plastic impact 4-57524
- C content in thin films, $^{12}\text{C}(\alpha, \alpha')^{12}\text{C}$ resonance RBS anal. 4-46833

collision sequences, focused *see sputtering***colloid chemistry** *see colloids***colloids**

- see also Brownian motion; coagulation; electrophoresis; electroviscous effect; emulsions; gels; magnetic fluids; thixotropy*
- alkali metal halides, colloidal centre form. during radiolysis 4-21488
- aryldiazonium tetrafluoroborates, singlet photosensitisers quenching in anionic micelles 4-3410
- benzonitrile, in micellar systems, probe vibr. Raman spectra 4-54729
- bile, model solns., surfactant ion electrode investig. 4-30968
- block copolymer solns., crit. conc. for micelle formation 4-6239
- bone, cancerous human, osteoclastoma, small-angle X-ray scatt. obs. of macromolecular parameters 4-12529
- charged dispersions, struct. 4-16694
- conductivity meas. of electrolytic solutions and colloidal sols, using miniature-electrode probe 4-22796
- crystals in wedge, struct. transitions in high press. limit 4-39457
- diester-based mag. fluids, thixotropy in mag. field 4-30231
- diffusion-limited aggregation model of growth, spectral dimension 4-4339
- dilute colloidal suspensions, shear flow, Debye-Scherrer light scatt. patterns 4-34174
- flocculation by water soluble polymers, regularities, kinetics and mech. (Russian) 4-41266
- growth rates, diffusion controlled, Monte Carlo simulation 4-52060
- insulating liquids, conductive colloidal particles, induced dipole moment calc. 4-15670
- interparticle forces in colloid science, review 4-52062
- ionic crystals, irr., metal colloid form., review 4-20234
- ionic surfactant aggregation, ion binding and the hydrophobic effect 4-31032
- lyotropic nematic phases, anisotropic aggregates of amphiphilic mols. 4-10960
- magnetic fluids, high-gradient mag. separation 4-29198
- micellar system, lower critical consolute point, light scatt. study 4-46276
- micelle solns., kinetic studies of Ru(II) complexes quenching reactions 4-28499
- microparacrystals, X-ray diffraction line profile anal. 4-39045
- monodisperse colloid soln., coagulation kinetics, dynamic light scatt. 4-7757
- naphthols, in aq. surfactant soln., excited state processes 4-33449
- octadecyl rhodamine B clustered transport system in Triton-X-100 micelles, excitation transport, ps. fluoresc. study 4-40499
- paracrystalline lattice, fluctuation of lattice points 4-2077
- particle interaction covered by oriented polymeric monolayer, computer simulation (Russian) 4-31039
- PMMA colloids, sterically stabilised, fluoresc. energy transfer, microphase model 4-35946
- polycyclic aromatic hydrocarbons, luminesc. props. in colloidal or microcryst. suspensions 4-25805
- polydisperse colloid suspensions, laser-based particle sizer 4-48072
- polydispersity, photon correlation spectroscopy, subdistribution method 4-46275
- polymer colloids, sterically stabilised, fluoresc. energy transfer, microphase model 4-35946

colloids continued

- polystyrene latex solns., liq.-like struct., depend. on ionic strength of added NaCl 4-10955
- polystyrene-b-poly(ethylene/propylene) block copolymer in n-decane, thermodynamics of micellization 4-12389
- quartz, mechanically activated, electrokinetic props. 4-16659
- silk fibre, fine struct. characs. correl. with textile props., small-angle X-ray scatt. obs. 4-12391
- sodium octanoate micelle solns., light scatt. study 4-30482
- sodium p-octylbenzenesulfonate ionic micelles in water, solubilised electrolytes and counterion effect (French) 4-26229
- soft sphere system struct. under shear, computer simulations and colloidal suspensions comparison 4-10936
- sol-gel processing route to oxide ceramics using colloidal dispersions 4-57146
- solute particles in colloidal suspensions, generalised van der Waals model for solvation forces 4-12390
- spherical colloidal particles, electrophoretic mobility in dilute suspensions, elec. cond. calcs. 4-26215
- stability 4-7763
- surface-active dye, aq. methanol solns., reson. Raman spectra and micellisation 4-49034
- suspensions undergoing steady shear flow, fluctuations theory 4-55439
- tetradecyltrimethyl ammonium bromide, cationic micelle, polar head layer struct., neutron scatt. 4-49171
- thionine triplet+aniline, electron transfer reaction in reversed micelles, mag. field enhanced radical yield 4-30932
- tri-hydroxyfluorinate colloids, particles recording by laser beam diffr. 4-16692
- $\text{Al}_2\text{O}_3\text{-ZrO}_2$, aqueous composite, colloidal filtration, particle size distrib., rel. to pH 4-16364
- Co ferrofluid, struct., neutron scatt. studies 4-30238
- CoFe_2O_4 colloidal particles, magnetisation density distrib., neutron diffr. study 4-30236
- Cu colloids, aqueous, adsorpt. of pyridine, surface-enhanced Raman scatt. 4-38190
- Fe oxide particles from freshwater lake, colloid stability 4-52767
- $\beta\text{-FeOOH}$ colloidal particles deposition on stainless, steel 4-12239
- Li, ionic micelles in water, solubilised electrolytes and counterion effect (French) 4-26229
- NaCl, electron irr., colloid prod. 4-20256
- NaCl microcrystalline powders, colloid form. 4-46802
- O_2 , Δ_2 state, in micellar systems, distrib. equilibria between hydrophilic and hydrophobic components 4-28503
- SnO_2 colloidal particles, structural changes during SnCl_4 electrolysis 4-16689
- TiO_2 colloids, photosensitisation by Erythrosin B in acetonitrile 4-16667
- WO_3 colloidal, electrochromism, reversible display device appl. 4-40419
- ZnS , colloidal dispersion, photoluminesc. and photoinduced O_2 adsorpt. 4-31031

colorimeters*see also colorimetry*

- medical colorimeter, low-cost instrument 4-47056
- spectroradiometric instruments and applications 4-37188
- tristimulus colorimeter head quality influence on meas. accuracy 4-27566

colorimetry

- see also colorimeters; spectrochemical analysis; spectrophotometry*
- detector spectral responsivity correction to predetermined responsivity spectra using colour filters 4-27565
- discrimination ellipsoids, spatial and temporal, in colour space 4-12583
- fluorescent samples, errors in spectrophotometry and colorimetry caused by polarisation of meas. system 4-37142
- geochemical analytical methods (book) 4-8657
- glass filters for the calibration of spectrophotometers (Hungarian) 4-27559
- illumination colour-rendering capacity 4-22821
- photographic light measurement, used for optimal colour shade reproduction (Hungarian) 4-4449
- physical detectors of optical radiation, book 4-53383
- protein, colorimetric estimation by Lowry technique using liq. scintillation counter 4-21862
- self-luminous displays, CIE $L^*u^*v^*$ colour-difference eqns. 4-37144
- tristimulus calculations, analytical vs. numerical integration 4-37143
- whiteness evaluation method, CIE standards (Hungarian) 4-27558

colour*see also colour vision*

- architectural coating design principles rel. to window thermal performance and aesthetics 4-24109
- density pseudocolour encoding by holographic techniques with three primary colours 4-49302
- Fourier holography, colour recording and reconstruction, computer generated colour (Spanish) 4-5556
- illumination colour-rendering capacity 4-22821
- ordered latex lattice based colour pattern creation 4-49271
- polydiacetylene, planar-nonplanar conformational transform., colour change, ESR obs. 4-11769
- polyurethane pseudocapsulated cholesteric films, optical props. (Russian) 4-16264
- scanning using He-Cd⁺ hollow cathode discharge multicolour lasers 4-24011
- sensations from arrays of phys. stimuli, calc. 4-41518
- speckle carrier for colour storage and grey level pseudocolouring 4-38404
- theta-modulation technique for colour mixtures 4-19393
- trichromatic theories before Young 4-36878
- BeO single cryst., radiation-optical props., cryst. growth depend. 4-56975
- MgO single cryst., electrolytic coloration and elec. breakdown 4-40343
- $\text{Na}_2\text{Zr}_2(\text{Be}(\text{PO}_4)_4)_2$, gainesite, cryst. struct. and bond distances 4-20147
- PdH_2 , H diffusion, chemichromic effect studies 4-56064
- $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-K}_2\text{O-Na}_2\text{O-Fe}_2\text{O}_3$ porcelain bodies, Fe oxides colouring effects 4-40734
- $\text{SiO}_2\text{-Na}_2\text{O-ZnO-K}_2\text{O-B}_2\text{O}_3$ glass, colouring by Cd, Se and S compounds 4-40737
- V containing, ceramic pigments, V ion valence states and coloration, EPR, optical spectra obs. (Japanese) 4-51130

colour blindness *see colour vision; vision defects*

colour cameras, television *see colour television cameras*

colour centre lasers *see solid lasers*

colour centres

see also F-centres; OH⁻-centres; paramagnetic resonance of colour centres; U-centres; V-centres

diamond, colour centres, persistent spectral hole burning 4-56967

nonlinear saturating filters based on alkali-halide crystals containing color centers 4-5685

nonradiative transitions by path integrals with the use of semiclassical approximations 4-7238

quartz, natural, colour centres, EPR study 4-39292

quartz glass, O-vacancy defects, electronic struct. and optical studies 4-2966

quartz glasses, radiation paramag. colour centres, formation mech. 4-2091

rare earth orthoniobates, RnBO₄, photochromic characteristics, rare earth impurities effects 4-20927

Ag halide emulsions, ultrafine grain, spectroscopic and electron microscop. obs. of photochem. colouring centres 4-41235

Al₂O₃, electron irradi. damage in cation sublattice, HVEM and optical meas. 4-20255

CaCO₃, calcite, blue colour rel. to radiation damage 4-11143

CaF₂, γ -ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336

CaF₂:Cd(Mn)(Pb)(rare earth), X-ray irradi., optical detection of EPR using afterglow 4-25637

CaF₂:YF₃:NaF, optical absorpt., spectra 4-56969

CaO-B₂O₃-Al₂O₃-Cu, glass, γ -irradiation, formation and decay of colour centres 4-34487

CdSe single crystal films, slow recombination centres, photoelec. props. studies 4-11482

Gd₂Ga₂O₇:Ca²⁺ garnet, γ -ray irradi., thermoluminescent props. 4-35502

KBr crystal, spin temp. meas., Kerr cell for low-temp. optical spectroscopy 4-8956

KBr, electron irradi., nanosecond absorption spectra studies 4-25790

KBr:CrO₄²⁻, Ca²⁺, paramagnetic centres, form. and stability 4-56765

KBr:Li⁺-x mixed crystals, low temp. thermoluminesc. glow curves 4-51359

KCl microcryst. powders, thermal instability of colour centres 4-45132

KCl microcrystalline powders, colour centre stability, effect of dislocation thermal unpinning 4-2201

KCl, X-centres, quasi-metallic model, positron angular correlation study 4-58827

KCl:Ti⁰, colour centres, ODMR study 4-11805

KCl:Ti⁰, optical props. and cryst. field model 4-11909

KH₂PO₄-type ferroelectrics, growth and characts. of coloured monodomain crystals 4-30417

LiF, γ -ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336

LiF, single cryst., thermally stimulated exoemission at low temps. 4-21114

LiF:OH⁻, X-irrad., thermal destruction of centres due to H atoms, EPR study 4-11184

LiYF₄:Er(Ho)(Yb)(Tm), γ -irrad., colouring study 4-29477

MgO surface, UV excited, H₂ adsorpt., enhanced phosphoresc. 4-51324

NH₄H₂PO₄-type antiferroelectrics, growth and characts. of coloured monodomain crystals 4-30417

NaCl, gamma irradi., absorption spectra of colour centres 4-2945

NaCl:Ca, quenched, complex glow curves 4-51360

NaF:Mg, colour centres, optical studies 4-56990

Na₂O-BaO-B₂O₃-SiO₂-CeO₂ glass, radiation colouring, radio- and thermoluminescence 4-11190

PbO-SiO₂, colour centres form. and photoelasticity effect by laser radiation (Russian) 4-51413

n-Si, E-centre form. rate, donor impurity depend. 4-50284

n-Si, electron irradi., defect form. parameters 4-50361

SiO₂, kersil, radiation-optical props. 4-55873

SrTiO₃, grown by Czochralski method, optical props. 4-57091

WO₃, amorphous film, ESR of colour centres, paramagnetic and optical props. (Russian) 4-35229

YAG:Nd lasers, pulsed and continuous, admixtures effect obs. (Czech) 4-23998

colour display tubes, television *see colour television picture tubes*

colour filters *see optical filters*

colour model

4-13746

3+1 QCD vacuum, color flip solitons, gluodynamics nonperturbation confs. 4-48424

$\gamma\gamma$ -jets, photon-quark coupling, resonance production 4-9132

θ_{QCD} renormalisation in supersymmetric theories 4-32575

σ/σ^0 value predictions for charged-current neutrino interactions 4-48416

ϕ_s^k euclidean field theory, rigorous construction and Borel summability 4-53855

'tHooft's condition for SU(3)@SU(3) hypercolour group (Chinese) 4-434

Abelianised chromoelectric flux tube, quantum fluctuations, stability, effective Lagrangian 4-48426

affine algebras and strong interaction theories 4-53889

analytic regularization and renormalization of nonperturbation theories 4-53941

anomalous, long-lived multi-quark states 4-37343

anomalous supersymmetry transformation of some composite operators in SQCD 4-43314

axions, R symmetry, in supersymmetric Witten O-Raifeartaigh model 4-18162

bag fission by spontaneous quark-antiquark pair prod. in supercritical colour fields 4-18175

bag formation and qq potential, variational calc. in QCD 4-13887

bag model, cloudy, convergent self-energy 4-18188

bag model, spherical quark and gluon propagators (Russian) 4-22995

baryon magnetic moment in quark-diquark model 4-13876

baryon-meson interaction, string-breaking description in QCD 4-13911

baryons, QCD props., quark dynamics 4-37344

boundary conditions in gauge theories, physical effects 4-18058

charged baryon nonleptonic decay, MIT bag model and QCD-corrected Weinberg-Salam model calc. 4-13901

charmonium, power-law corrections to QCD sum rules 4-18180

charmonium, Shifman-Vainshtein-Zakharov moments and pot. model 4-53948

chiral bag model, spherical multi-quark states 4-32615

colour model continued

chiral preon model for quarks and leptons, generation and mass spectrum 4-13891

chiral quarks and non-relativistic quark model 4-48448

chromoelectric flux distribution in SU(2) lattice gauge theory 4-18064

classical chromodynamics of external charges and fields 4-18153

coherent soft gluon emission and QCD jets 4-32586

colour singlets, fractionally charged, spectrum and lightest mass 4-13874

colour-conductivity of nuclei, quark and gluon effects 4-22992

condensates in supersymmetric QCD 4-441

conference, electroweak interactions at high energies, Hamburg, Germany (Sept. 1982) 4-42600

conference, high energy physics, Brighton, England (July 1983) 4-31964

conference, lattice gauge theories, supersymmetry, unification, Bad Honnef, Germany (June 1983) 4-42598

conference, weak interactions and neutrinos, Javea, Spain (Sept. 1982) 4-27240

conference, high energy e⁺e⁻ interactions, Vanderbilt, TN, USA (May 1980) 4-8631

conference on fundamental interaction theory, Varenna, Italy (Jul. 1980) 4-8646

Conference on GUTs and the early Universe, Tsukuba, Japan (Jan. 1983) 4-4158

conference on high energy physics recent developments, Schlading, Austria (Mar. 1983) 4-4

conference on quark matter formation and heavy ion collisions, Bielefeld, Germany (May 1982) 4-42601

confined quark self-energy, numerical calc. 4-13883

confinement criteria, extended BRS algebra 4-53927

confining potentials, spontaneous breaking of chiral symmetry 4-48431

confining SU(2)_L × SU(2)_R gauge model of the weak interactions 4-32637

constrained quenched matter field for continuum QCD, lattice gauge theories, large-N quenching 4-18156

continuum QCD, dynamical masses 4-53940

continuum thermal Wilson loop with space-periodic boundary conditions 4-13779

covariant lattice global fields 4-18155

current algebra solitons, relation to QCD dynamic props. 4-32501

currents, quark and gluon, nonperturbative QCD effects in polarisation operator 4-18183

Dashen's formula generalisations in supersymmetric QCD 4-32572

deconfinement and virtual quark loops 4-22984

deconfinement phase transition, meson mass spectrum on 16⁴ lattice, quark effects 4-32473

deep inelastic leptonprod. struct. functions in quasielastic region, QCD double log. approx. 4-43366

deep inelastic processes, forward and backward multiplicities 4-13907

deep inelastic scatt., hadron and jet production, perturbative QCD 4-54016

deep inelastic scatt., scaling violation 4-53930

dielectric colour model for protons 4-48447

diquark explanation of gluon effects 4-22994

discrete QCD, Euclidean lattice gauge theory 4-32582

Drell-Yan cross sections, all-order factorisation in QCD 4-32595

Drell-Yan production of lepton pairs: 4-32607

duality and the phases of massive gauge-invariant QCD 4-48415

dyon spectrum in GUT without light fermions, chromodynamics 4-4589

effective Lagrangian for chromodynamics at large distances 4-18174

effective quark propagator and QQ states in QCD 4-53939

eikonal and exact identities in problem of IR divergence cancellation 4-4568

electromagnetic duality, Landau ghosts, superconductivity, QCD and all that 4-43309

electroproduction on nuclei, quark and gluon distrib., QCD estimates 4-32870

electroproduction with nucl. targets, perturbative QCD anal. 4-32597

electroweak theory, parity violating nonleptonic Hamiltonian 4-32542

Euclidean lattice field theory, random walk simulation, lattice QCD appl. 4-13748

Euclidean lattice gauge theory, link fermions, Wilson lattice fermion propagator 4-48330

excited quark configurations s⁶ and s⁴p², fractional parentage coeffs. calc. 4-448

exclusive hadron scatt. amplitudes in QCD, O(α^2) Feynman diagrams calc. 4-447

exponential moments and quark-antiquark potential 4-37334

extended technicolour mass scale, fermion masses 4-22987

fermion mass matrix, suggested struct., mixing angles and CP violation 4-4619

finite dimensional quark model using Hilbert space, colour and flavour observable definition 4-27698

finite-temperature QCD at large N 4-48429

fireballs, thermodynamic, multiple hadron production 4-18207

flavor diagonal neutral currents from extended hypercolor 4-18127

flavor thresholds and Λ in the modified minimal-subtraction scheme 4-37333

gap equation for confining pot., chiral non-invariant solns., vacuum energy density 4-32574

gauge fields in presence of dielectric medium, Feynman rules 4-4564

gauge invariant gluonium and hadron operators, short distance props., renormalisation 4-22988

gauge symm. breaking by large-N colour dynamics 4-18072

gauge theory, global symmetry breaking by QCD fermion condensates 4-9027

gauge theory and Poincare symmetry, internal symmetry, supersymmetry 4-32463

gauge theory in high energy phys., meeting, Les Houches, France (Aug.-Sept. 1981) 4-31951

gauge theory unification, electroweak theories, GUTs and SU(5) models 4-32534

gauge vector bosons, production and decay widths, QCD anal. 4-48299

generalized Higgs phys. and technicolour 4-32537

geometrical rishon model, colour structure of quark and lepton generations 4-18202

glueball 0⁺ mass in lattice gauge theory with mixed SU(2)-SO(3) action 4-22979

glueball masses on large lattices in SU(2) and SU(3) gauge theories 4-48439

glueball spectroscopy in strongly coupled lattice gauge theories 4-32589

glueball- $\eta(\eta')$ mixing in QCD, SU(3)_{flavour} breakings 4-13878

colour model continued

glueballs, couplings to quarks, gluons and hadrons, QCD sum rules 4-53952
 glueballs, harmonic confinement model 4-9076
 gluon condensation, QCD bag model, Wilson loop, hadron stringlike props. 4-43307
 gluon condensation in QCD and supersymmetric QCD 4-53942
 gluon distribution function, dynamical model 4-37328
 gluon ensemble, possible colour singlet at high temp. 4-53926
 gluon gas, lattice gauge theory, phase transitions at finite temp. 4-13759
 gluonic states, spectroscopy at LAMPF II 4-37337
 gluonium phenomenology in massive QCD 4-53935
 grand unified monopole instability in QCD vacuum 4-4593
 ground state meson and baryon mass inequalities in QCD 4-48438
 hadron mass spectra, quark-gluon coupling, QCD 4-53970
 hadron models 4-32634
 hadron production in deep inelastic lepton-nucleon scattering 4-32724
 hadron spectroscopy in a flux-tube quark model with colour-magnetic interactions 4-18209
 hadron spectrum calcs., finite size problems 4-438
 hadron structure functions, deep inelastic at $x \rightarrow 1$ 4-4681
 hadron valence quark distrib. function QCD calcs. 4-4630
 hadronic bag, quantum fluctuations, nucleon observables 4-18181
 hadronic inclusive interactions, QCD radiative corrections to helicity asymms. 4-53951
 hadronic mass spectrum, Monte Carlo evaluation on lattice 4-437
 hadronic production of glueballs 4-32611
 hadronic spectroscopy, QCD test ground, inter-quark forces, gluonic excitations 4-27719
 hadrons, bag models, interactions and bag states, glueballs, strings, review 4-32632
 hadrons, confinement from general relativity 4-43306
 heavy ion collisions, intermediate energies, quark-gluon plasma form., hydrodynamical description 4-43513
 heavy ion high energy collisions, Bevalac results, quark-gluon plasmas, anomalous 4-43519
 heavy meson gluonic decays, singlet evolution eqns. 4-48472
 heavy quark effects on QCD parameters defined by minimal subtraction 4-13870
 heavy quark spectroscopy, sum rule approach, review 4-32646
 heavy quark weak decays, gluon effects, charm appl. 4-48470
 heavy quarkonia interacting with QCD vacuum gluon condensate, elementary model 4-22975
 heavy quarkonium, 2P and 3P levels hyperfine splitting 4-4639
 heavy quarkonium states, decay modes, QCD radiative corrections 4-9103
 heavy quarks phys. based on QCD 4-43333
 hermitian relativity, chromodynamics and confinement (*German*) 4-22974
 Higgs(ino) colour triplet in SU(5) model 4-13835
 Higgs doublet with SU(2)*U(1) breaking prop., composite structure 4-43209
 Higgs fields effective pot., quark and gluon condensates contrib. 4-4626
 high energy collisions, hot hadronic matter, equilibrium formation, plasma deflagration, hydrodynamical approach 4-18184
 hot dense matter, mean-field QCD model 4-27820
 hot QCD plasma, $q\bar{q} \rightarrow e^+e^-$ as chiral symm. probe 4-43324
 hypercolour low energy implications with dynamical breaking of weak symmetries 4-9063
 hyperfine structure of quarkonium states 4-37332
 inclusive charm photoproduction, subtractive gluon exchange model, vector meson dominance violations 4-18271
 infrared asymptotic behaviour, obs. of relic free quarks 4-13859
 infrared behavior of QCD 4-53943
 infrared behavior of the gluon propagator in QCD 4-53944
 infrared properties of unusual initial state interactions 4-53945
 instanton-centred expansions and elimination of zero modes, Yang-Mills appl., gluon propagator 4-4521
 instantons, chiral symmetry breakdown, finite temp. and density QCD 4-32579
 jet calculus for colourless cluster computations, leading log parton propagators 4-18193
 jet fragmentation in e^+e^- and $p\bar{p}$ interactions, QCD predictions 4-32765
 jet model in QCD 4-9081
 jets, multiplicity and hadron distributions 4-18176
 kaon nonleptonic decays, $\Delta I = 1/2$ rule in chiral limit, nonperturbative QCD effects 4-27730
 KNO scaling consistency, QCD leading-log approx. connection 4-4535
 large p_T hadron collisions, quark and gluon fragmentation, model indep. anal. 4-22989
 large transverse momenta from small colour radiation length, colour confinement, gluon emission 4-13867
 large- p_T hadronic reactions, jet studies, QCD quark-gluon scatts., subprocesses 4-9131
 lattice, QCD thermodynamics, Monte Carlo simulations, temp. delimiting of hadronic mass spectrum 4-18208
 lattice gauge field theory, fast computer system 4-27641
 lattice gauge field thermodynamics, finite lattice corrections 4-22942
 lattice gauge theories, double valued representations in cubic 4-D 4-32407
 lattice gauge theories, strongly coupled, energy-momentum spectrum 4-22910
 lattice gauge theories, SU(2) and SU(3), Lorentz invariance restoration, glueballs 4-48312
 lattice gauge theories, Susskind fermions at strong coupling 4-376
 lattice gauge theories behaviour of order parameters with matter fields 4-32410
 lattice gauge theories with Kogut-Susskind fermions in the strong coupling region 4-32470
 lattice gauge theory, Hamiltonian, inhomogeneous coupling perturbations 4-13749
 lattice gauge theory, over-relaxation for Monte-Carlo simulations of multi-quadratic actions 4-27668
 lattice gauge theory from Lagrangian relativistic field theory 4-32478
 lattice QCD, axial vector current anomaly and meson decay constants 4-48315
 lattice QCD, chiral phase transition at strong coupling 4-22981
 lattice QCD, colour charge screening in numerical hopping-parameter expansion 4-22978
 lattice QCD, extended operators for mesons 4-13873
 lattice QCD, fermions, hadron spectrum, review 4-43318

colour model continued

lattice QCD, four-quark crypto-exotic nonet masses, Monte Carlo calc. 4-13875
 lattice QCD, glueball mass calc. from SU(3) gauge fields 4-48428
 lattice QCD, glueball spectrum 4-32583
 lattice QCD, n-flavour, mass inequalities determ., chiral symm. breaking 4-9073
 lattice QCD, numerical anal. 4-22977
 lattice QCD, qqg exotic fields 4-32578
 lattice QCD, simulations with quenched fermions 4-43219
 lattice QCD, strong-coupling expansions, chiral symm. breaking, pion mass and decay const. 4-32598
 lattice QCD, volume effects and numerical simulation 4-439
 lattice QCD and gauge theories, deep inelastic scatt. appl. 4-444
 lattice QCD with Wilson-fermions at finite temperature, Monte Carlo calcs., review 4-43319
 lattice SU(3) QCD, hadron spectrum calc., masses, quark paths 4-4633
 light Higgs scalar in SU(2)*U(1) models, b quark decay, supersymm. models appl. 4-43243
 light mesons, mass spectrum and radiative decays, nonrelativistic quark model anal., gluonium existence 4-48485
 linear σ model, chiral phase transition in chromodynamics 4-27701
 locally gauge-invariant formulation of parastatics 4-53888
 long range quantum Yang-Mills theory, classical equivalence in QCD vacuum, effective action 4-32404
 loop equations, 1/N expansion, strings, model appls., review 4-53931
 low-lying three-gluon glueballs, spectrum, prod. and decay props. 4-32602
 low-mass solitons from fractional charges in quantum chromodynamics 4-18167
 massive quark selfenergy in confined QCD loop calcs., MIT bag model 4-18185
 massive spin-1 particles Compton scatt. on massless fermions, helicity selection rules 4-37308
 meson and baryon masses, quenched QCD with light Kogut-Susskind quarks on large lattice 4-48440
 meson annihilation form factor and relativistic wave function for bound states 4-53993
 meson mass spectra, Dirac eqn. with power-law potential 4-13803
 meson spectra, Schrodinger fit of spectra using $V_0 + Ar^{0.1}$ potential 4-4637
 meson-meson interactions, Drell-Yan process, lepton pair prod., spectator interactions 4-27755
 mesons decay in non-relativistic quark model 4-454
 minimal QCD-electroweak theory based on SU(3)XSU(2)XU(1), Yukawa coupling of Higgs doublet 4-53823
 MIT bag model, multiquark colour-hyperfine spectra, P-matrix anal. 4-4646
 MIT chiral bag model, fermionic vacuum fluctuations, chiral symmetry breaking 4-27711
 multiplicity distribution in high-energy collisions 4-23035
 Nambu-Jona-Lasinio model, effective QCD Lagrangian at intermediate length scales 4-48422
 narrow neutral resonances as Higgs particles, decay of v , b-quark, Z^0 and $\xi(2.2)$ 4-32562
 neutron charge radius in relativistic potential model 4-4643
 neutron electric dipole moment in gauge theory 4-32707
 next-next-to-leading perturbative QCD corrections and light quark masses 4-43311
 nonperturbative field theory and QCD, conf., Trieste, Italy (Dec., 1982) 4-27
 nonperturbative QCD, workshop, Stillwater, OK, USA (March, 1983) 4-53353
 nonsinglet distrib. function in quark initiated jet, QCD calc. 4-32596
 nuclear moments, T- and P-nonconserving, from QCD Lagrangian interactions 4-13818
 nuclear physics research challenges from particle physics 4-37322
 nuclei, colour conductors, multiquark clusters 4-54047
 nucleon axial coupling const., QCD calcs. 4-37339
 nucleon internal spin struct., QCD, structure functions and polarisation, reviews 4-32708
 nucleon mag. moments, QCD sum rule approach 4-32590
 nucleon spin structure 4-482
 nucleon spin structure in quark-parton model 4-37342
 nucleon vertex functions, mesonic structure function and form factors, QCD calc. 4-18252
 nucleon-meson vertex interactions due to one-gluon exchange transition potential V_{q-qqq} (*Chinese*) 4-43325
 nucleon-nucleon interaction, QCD potential models 4-13939
 nucleons, soliton models and translational invariance 4-9085
 nucleons static props. in Skyrme model 4-22907
 O(N) σ -model, composite operators, IR renormalons and operator product expansion 4-48285
 O(N) nonlinear σ -model, effective pot. for Lagrangian operator 4-43202
 O(N) nonlinear σ -model, vacuum dynamical props. without supersymmetry 4-32406
 optimization and the ultimate convergence of QCD perturbation theory 4-32571
 $p\bar{p}$, weak boson transverse momentum distribs., multiple soft gluon emission effect 4-32753
 P-wave quarkonium decay to $p\bar{p}$, helicity characts. of massless QCD 4-43326
 particle mass distribution on chromatic tempered scale (*French*) 4-48435
 perturbation theory, renormalisation scheme invariant content, Brodsky-Lepage-Mackenzie criterium 4-43310
 perturbative QCD, jet struct. and IR sensitive quantities 4-32580
 perturbative QCD, renorm. and factorisation scheme depend., simultaneous anal. 4-13860
 perturbative QCD, soft gluons and eikonal approx. with massless quarks 4-22976
 perturbative QCD, spin averaged interquark potential, dynamics test 4-4620
 perturbative QCD, SPS jets, leptonproduction, hard scattering, photon structure function 4-32609
 perturbative QCD appl. to hard scatt. processes 4-32605
 perturbative QCD calcs., problems in renormalisation group approach, regularisation 4-48417
 perturbative-nonperturbative QCD, interface problems 4-53933
 photon, longit. structure function in supersymmetric QCD 4-32706
 photon structure functions, singularities in perturbative QCD treatment 4-481

colour model continued

- photon structure functs., QCD predictions, x-space anal. 4-48479
- photon-hadron fragmentation models 4-32718
- pion, quark and gluon distrib. in QCD 4-9079
- pion decay params., constituent-quark model and baryon-loop model anal. 4-48484
- pions, valence quark distrib. functions, QCD behaviour 4-4629
- polarizable media in classical gluodynamics and the SU_2 vacuum 4-53938
- polarized deep inelastic electroproduction 4-18166
- preon models, electroweak symmetry, dynamical breaking 4-43337
- preon models, quark-lepton masses and generation mixing 4-43338
- pseudoscalar mesons, moving frame wavefunctions, EM form factors, anisotropic chromodynamics 4-18154
- qq pair creation in chromoelectric flux tubes, colour confinement 4-18169
- QCD₂, baryon and baryonium 4-32591
- QCD₂ with massless quarks, vacuum polarisation, colour charge shielding 4-48414
- QCD, $\partial A_\mu = 0$ gauge in Minkowski space 4-13807
- QCD, anomalous Ward identities and (1440) glueball candidate with two-photon decay 4-53950
- QCD, asymptotic Q^2 for exclusive processes 4-53947
- QCD, baryon-meson mass inequality 4-13872
- QCD, chiral symmetry breakdown mechanism 4-48413
- QCD, chiral symmetry breaking in chromomagnetic supercond. 4-13862
- QCD, colour confinement and long-distance colour fields 4-32570
- QCD, colour confinement in presence of chromomagnetic monopoles 4-13863
- QCD, diagonal, gauge transformations and mass perturbations with massless quarks 4-18158
- QCD, exact running coupling consts. and approx. effective lagrangians 4-27699
- QCD, exclusive processes, anomalous dimension matrices of higher twist operators, diagonalisation 4-27703
- QCD, fermion condensate on 4-D sphere 4-18163
- QCD, gauge depend. propagators, UV asymptotics and renormalisation group eqn. soln. 4-43308
- QCD, gauge invariance and confinement 4-43185
- QCD, general discussion 4-430
- QCD, hadron mass inequalities 4-27704
- QCD, heavy quark decoupling 4-9067
- QCD, high-density limit 4-4624
- QCD, invariant integration in 2-3 processes 4-4641
- QCD, large N twisted reduced, quark fields 4-18056
- QCD, large-N, chiral symm. restoration at finite temp. 4-18171
- QCD, long-wave vacuum field, photon polarisation operator props. 4-53949
- QCD, many-gluon correl. and quark form factor 4-53946
- QCD, meson-baryon three-point function sum rules 4-32599
- QCD, minimally modified, with fractionally charged states 4-18170
- QCD, Monte Carlo calcs. with Symanzik's improved action 4-13861
- QCD, nonlocal light-cone expans. 4-435
- QCD, nucleon octet, axial and vector consts. 4-48443
- QCD, perturbative calculability and IR behaviour at high temps. 4-43317
- QCD, perturbative contributions to string tension 4-18161
- QCD, pion wave funct. evolution, two-loop contrib. 4-27706
- QCD, properties, analysis of applied tools 4-32588
- QCD, renormalisation group anal. of dynamical symmetry breaking 4-27700
- QCD, scalar meson spectrum from chiral symm. breakdown, linear sigma model realisation 4-436
- QCD, semihard processes, deep inelastic scatt., e^+e^- annihilation, large p_T interactions 4-27708
- QCD, single-point model, in topological limit, fermion dynamics 4-32604
- QCD, string variables in partition function, gluon field 4-9070
- QCD, $SU(2)$ and $SU(3)$ symmetry breaking generation, dynamical mechanism 4-37288
- QCD, three-meson vertex sum rules 4-43316
- QCD, topological validation of chiral symmetry 4-22985
- QCD, vanishing bare coupling surfaces, half-dualised action, lattice version 4-9069
- QCD, Weinberg renormalisation scheme, Abelian case 4-48337
- QCD and matrix models, $1/N$ expansion, recent developments 4-431
- QCD and QED unification with stable proton 4-37319
- QCD and the proton structure function 4-32585
- QCD approx., Schwinger-Dyson eqn. for quark propagator in IR region 4-53932
- QCD at finite temperature: infrared singularities in gluon propagators 4-4628
- QCD at high temp. with massive quarks and finite quark density, phase structure 4-22980
- QCD at short distance, operator product expansion 4-48412
- QCD at short distances, spin-averaged interquark pot. 4-13864
- QCD bag model, phase transition and density of states 4-18168
- QCD baryon dynamics, large-N reln. to static strong coupling theory bootstrap condition 4-27705
- QCD condensates correlations, asymptotic freedom linked to e^+e^- data 4-442
- QCD corrections to 0^{++} quarkonium decay 4-48436
- QCD implications of low and medium energy nuclear physics 4-445
- QCD in nuclear physics 4-36842
- QCD infrared problem at finite temp., nonperturbative approach 4-37330
- QCD modelling theory, eigenvalue problem 4-4640
- QCD perturbation series limit, scheme depend. 4-4623
- QCD perturbation theory, inclusive hadron production study, quark counting of anomalous dims. 4-502
- QCD perturbation theory, infrared problems in axial gauges 4-48418
- QCD phenomenology on small lattice 4-53925
- QCD predictions for weak boson production in pp collisions 4-43323
- QCD predictions in renormalisation scheme invariant perturbation theory 4-13866
- QCD realistic model, geometric lattice approx. 4-4618
- QCD Schwinger-Dyson eqn. soln. for quark propagator 4-48430
- QCD sum rules, hyperon mag. moment calcs. 4-23018
- QCD vacuum structure and quarkonium sum rules 4-48425
- quark anal. gluon jets, and using QCD and fire-ball models 4-37353
- quark anomalous magnetic moments and quark composite struct. constraints 4-18205

colour model continued

- quark behaviour and props. computer simulation on 4-dimens. space-time lattice 4-32638
- quark binding in QCD, effective action methods, leading log model 4-53937
- quark condensate in bag-like QCD vacuum, energy density minimum for (qqqq) 4-9068
- quark degrees of freedom in nucleus, Gamow-Teller resonances (French) 4-4627
- quark jet hadronisation, flavour identification 4-32774
- quark jets, thermodynamic model, baryon production 4-53929
- quark jets, thermodynamics, KNO scaling 4-53928
- quark mass difference, connection with K^0 decay form factor, QCD sum rule anal. 4-23020
- quark mass radiative shift in external chromomagnetic field 4-18173
- quark masses, QCD sum rule predictions, SVZ duality 4-18178
- quark matter form. in ultra-relativistic heavy ion collisions, QCD, hadronic fluid dynamics 4-43522
- quark self energy and quark-gluon vertex function 4-433
- quark-gluon formation signatures in nuclear collisions, review 4-43523
- quark-gluon jet formation (Russian) 4-22986
- quark-gluon matter formation in nucleus-nucleus collisions, parameters and signals, review 4-43514
- quark-gluon phase 4-17381
- quark-gluon plasma, high density hadronic matter in ultrarelativistic heavy ion collisions 4-4632
- quark-gluon plasma formation in nuclear collisions, trailing cascade and sequential decay models 4-43516
- quark-gluon plasma identification from strange particles abundance 4-27702
- quark-gluon plasma in heavy ion collisions, classical dynamical description 4-43524
- quark-hadron duality for orbital excitations 4-4638
- quark-hadron phase transitions in early Universe, perturbative QCD anal. 4-32603
- quark-hadron transition, cosmological aspects 4-42565
- quark-lepton mass hierarchies and $1/N_{\text{subcolour}}$ 4-53965
- quarkonium phys., hadron spectroscopy and heavy quark-antiquark bound states 4-37338
- quarks and leptons, composite models, fermion-boson mass inequalities 4-48456
- quarks in constant self-dual euclidean background field, influence on stability of background field 4-432
- quenched lattice QCD, mass difference, finite-size systematics 4-32584
- quenched QCD, lattice regularised, spontaneous chiral symmetry breaking 4-48423
- quest for quarks, quark-gluon picture of matter, book 4-53384
- R invariance and axion cosmology 4-4135
- real photons in hard scattering 4-32606
- reduced model with fermions, nonperturbative treatment 4-4566
- reggeisation in QCD, fixed branch point singularity in dims. regularisation 4-48421
- reggeon field theory, hard scattering effects inclusion from parton model and QCD 4-22954
- renormalised field theory, coupling constant transformation 4-27664
- scalars and pseudoscalars in non-linear chiral dynamics based on QCD 4-53936
- scaling violations of a thermodynamical valence quark distribution 4-43313
- Schwinger model, heavy flavour decoupling, chiral symmetry breaking 4-22983
- six-quark system, nonrelativistic quark model with chromodynamics study 4-48446
- SLAC lattice QCD, large distance dominated meson decay codes 4-452
- soft gluon emission, lowest nontrivial order QCD corrections 4-48419
- softly broken supersymmetric theories, CP and flavour nonconservation 4-43239
- soliton bag model, boundary-eigenvalue solns. 4-27709
- soliton bag model, nucleon struct. 4-37345
- soliton bag model of QCD, mathematical description 4-53955
- spheroidal bag, quark and gluon eigenmodes, qq interactions, baryons 4-18159
- spin in the quark-gluon picture of strong interactions. Secondary Regge trajectories 4-4661
- spin physics at short distances 4-27707
- static colour dielectric const., weak field limit calc. from gluon propagation 4-4616
- strange baryon mass differences in QCD sum rules 4-32701
- string tension in $SU(3)$ lattice gauge theory 4-32465
- strong, EM and weak coupling 4-18122
- strong interaction theory, numerical experiments, QCD, lattices and Monte Carlo form., review (Russian) 4-53969
- strongly coupled lattice gauge theory, chiral symmetry breaking 4-13781
- strongly interacting matter in ultra-relativistic heavy ion collisions, deconfined phases, QCD 4-43327
- structure functions, classical and exotic (g,q, γ), EMC effect, supersymmetry, review 4-27741
- $SU(2) \times U(1)$ breaking by vacuum misalignment in oblique hypercolour mechanism 4-43242
- $SU(2)$ gauge theory in nonabelian background field, ground state 4-9005
- $SU(2)$ gauge theory on body-centred hypercubic lattice, average plaquette 4-4562
- $SU(2)$ glueball states, Monte Carlo variational calc. with Manton's action 4-48411
- $SU(2)$ glueball states with Symanzik tree-level improved action, Monte Carlo calc. 4-22990
- $SU(2)$ lattice gauge theory, 2-D with quarks, Monte Carlo spectra 4-18036
- $SU(2)$ lattice gauge theory, 4-D, lower dimensional confinement mechanisms 4-48317
- $SU(2)$ lattice gauge theory, Monte Carlo calc. of glueball mass 4-27661
- $SU(2)$ lattice gauge theory, noncompact, quark confinement study 4-32451
- $SU(2)$ lattice gauge theory, scaling of qq potential 4-48321
- $SU(2)$ lattice QCD, light pseudoscalars and symmetry restoration 4-48322
- $SU(2)$ symmetry breaking from QCD sum rules 4-43312
- $SU(3) \times SU(3)$ chiral bag model, baryon-meson and axial vector coupling constants 4-18160
- $SU(3)$ coherent states, charged and hypercharged, colour quantum no. 4-43235

colour model continued

- SU(3) lattice gauge QCD, Monte Carlo algorithms 4-32414
 SU(3) lattice gauge theory, glueball mass spectrum calc. 4-4635
 SU(3) lattice gauge theory, heavy-quark pot. 4-48461
 SU(5) gauge theory in four dims., Monte Carlo studies of Wilson loops 4-4565
 SU(5) GUT, nucleon decay branching ratios 4-27691
 SU(5) supersymmetric model with diminished mass 4-27690
 SU(5) unextended technicolour model, proton lifetime and $\sin^2\theta_W$ 4-43296
 SU(8) GUT, extended technicolour model, quark-lepton mass spectrum 4-43297
 SU(9) GUT, fractionally charged colour singlet fermions, low mass monopoles 4-43279
 SU(N) lattice gauge theories, improved QCD scale param. and Monte Carlo calcs. 4-32450
 SU(N) lattice gauge theory, QCD twisted reduced model, Hamiltonian and Schwinger-Dyson eqns. 4-32458
 SU(N) theory, transverse plasmon effect in QCD thermodynamics 4-32576
 SU(N) Yang-Mills system, finite temp. lattice calcs., review 4-43232
 SU(N) Yang-Mills theory, grand canonical partition function, perturbation theory 4-53844
 supersymmetric confining model of weak interactions based on $SU(M)_{SC} \times SU(2)_L \times SU(3)_C \times U(1)$ 4-32563
 supersymmetric flavon-chromon model using R-breaking mechanism induced by $N=1$ supergravity 4-48453
 supersymmetric gauge theories, auxiliary field tadpole method of effective potential evaluation 4-18043
 supersymmetric Yang-Mills theory, chiral symmetry breaking, gluino condensate, toron contrib. 4-32422
 SVZ motivated heavy quark pots., validity, flavour depend. 4-22982
 symmetry restoration in lattice QCD with Susskind fermions 4-32469
 technicolour, theoretical introduction, composite Higgs scalars, technifermions 4-9071
 technicolour dynamics, weak isospin and W mass 4-32507
 technicolour models, extended, spontaneous CP violation, $U(2)_L \times U(2)_R$ symmetries 4-18157
 three nucleon force, nucleonic and nonnucleonic degrees of freedom, gluon-quark struct. 4-48527
 three-jet cross section, higher order QCD corrections 4-22998
 three-jet production at the proton-antiproton collider 4-18182
 thrust calcs., high multiplicity events, efficient algorithm 4-18293
 top decays, contamination by QCD jets, Monte-Carlo simulation 4-18177
 toy model based on SU(10) hypercolour, supersymmetric subconstituents and mass problem 4-22996
 triangle anomaly at nonzero temp. in QCD 4-37331
 twisted Eguchi-Kawai model, Langevin eqn. anal., eigenvalue distrib. in plaquette matrix 4-32577
 two particle weak ground state hadron matrix elements, asymptotic selection rules 4-37340
 two-dimensional σ model with fermions, axial current anomaly 4-53883
 two-dimensional twisted Eguchi-Kawai model and QCD, comparison of numerical results 4-13777
 two-parton correlations in QCD jets, leading log approx. 4-48420
 U(1) gap eqn., consistency condition in QCD 4-4625
 U(1) lattice gauge theory, 2-D with quarks, Monte Carlo spectra 4-18036
 unification constraints in composite models 4-4655
 unified gauge theories phenomenology 4-32536
 vacuum instability in external non-Abelian colour gauge field, quasiclassical descript. 4-32581
 van der Waals colour potential modified inverse power law in coupled channel formalism 4-13865
 virtual quark loops effect on meson masses in lattice QCD 4-18164
 wave-particle duality in a quark model based on finite dims. quantum mech. 4-32116
 weak interaction symmetry breaking by colour forces 4-18203
 weak nonleptonic amplitudes, gluonic corrections summation 4-18231
 Weyl-Levi-Civita, Hermitian generalisation of vacuum fields, colour force 4-53559
 Yang-Mills eqns., non-Abelian solns. in strong-coupling limit 4-4563
 Yang-Mills theory, SU(2) classical, radiation damping of colour 4-18094
 Yang-Mills theory, subsidiary condition, QED and QCD interactions generation 4-18093
 Yang-Mills Z 4-27665
 A_n , $n=2,3$, mass and coupling const. using QCD sum rules 4-4585
 $B \rightarrow J/\psi X$, colour suppression, renormalisation effects 4-43322
 b lifetime, improved bounds on weak amplitudes 4-22991
 b-flavoured baryons, ground state and P-wave with hyperfine interactions 4-4636
 b-quark, weak decays, QCD effects 4-43304
 D, weak decays of heavy quark systems and soft hadron interaction effects 4-48471
 $e^+e^- \rightarrow$ meson + 2 jets, meson wave functions in perturbative QCD 4-9122
 $e^+e^- \rightarrow$ 2 jets, ang. distrib., spin zero quarks energy-energy correlation, squarks 4-18277
 $e^+e^- \rightarrow$ 3 jets, 22-36.4 GeV, particle distrib., first order QCD calcs. 4-18276
 $e^+e^- \rightarrow$ 3 jets, ang. dist. in QCD 4-4713
 $e^+e^- \rightarrow$ 3 jets, QED-QCD validity, strong interaction coupling const. 4-9117
 $e^+e^- \rightarrow$ 3 jets (supersymmetric), gluon and gluino bremsstrahlung off quarks and squarks 4-488
 e^+e^- annihilation, energy-energy correlations to second order in quantum chromodynamics 4-32729
 e^+e^- annihilation, energy-energy correl., coloured Higgs bosons contrib. 4-32733
 e^+e^- annihilation, energy-energy correlations, perturbative QCD and leading log anal. 4-48441
 e^+e^- annihilation, quark confinement in chromoelectric flux tubes, gluon radiation 4-48437
 e^+e^- annihilation, two- and three-jet ang. distrib. in perturbative QCD (Chinese) 4-54005
 e^+e^- annihilation into quarks and gluons, double logarithmic asymptotic behaviour 4-9094
 $e^+e^- \rightarrow$ baryons, parton showers and colour singlet clusters production, effect near v 4-32731
 $e^+e^- \rightarrow$ charmed hadrons, energy distrib. in QCD cluster model 4-4687
 e^+e^- collisions, evidence for QCD gluons, gauge nature 4-9116

colour model continued

- $e^+e^- \rightarrow \gamma X$, inclusive production, scaling and cross-sections 4-4691
 $e^+e^- \rightarrow hX$, inclusive, perturbative QCD anal. 4-23024
 $e^+e^- \rightarrow$ hadrons, multiple hadron prod. in QCD parton jets 4-18275
 e^+e^- interactions, search for new lepton and quark flavours 4-43358
 e^+e^- interactions at PETRA electroweak meas., QCD anal. 4-32544
 $e^+e^- \rightarrow$ jets, QED tests 4-9118
 $e^+e^- \rightarrow$ jets, small p_T , perturbative QCD calcs., scalar reson. anal. 4-22993
 $e^+e^- \rightarrow K_S^0 X$, charge multiplicity and scaling, comparison with QCD 4-4690
 $e^+e^- \rightarrow \pi^0 X$, inclusive production, scaling and cross-sections 4-4691
 $e^+e^- \rightarrow qq$, props. and processes 4-4689
 $e^+e^- \rightarrow qq$, weak neutral current effects 4-43355
 $e^+e^- \rightarrow qq \rightarrow$ 2 jets, quark and gluon fragmentation, model indep. anal. 4-22989
 $e^+e^- \rightarrow$ quarks, search for (4/3)e charge particle 4-27758
 ey deep inelastic scatt., hadron prod., QCD assessment, γ struct. functions 4-32650
 en, deep inelastic scatt., evolution eqns. in QCD 4-13906
 $\eta \rightarrow \mu^+ \mu^- \gamma(\gamma\gamma)$, two-photon form factor, EM decay amplitudes in quark triangle model 4-18228
 $\eta_c \rightarrow 2\gamma$, power corrections from QCD sum rules 4-9111
 $\eta_c \rightarrow \gamma X$, inclusive γ spectrum meas. for gluonium-gluonball props. 4-4684
 f, mass and coupling const. using QCD sum rules 4-4585
 γ , glueball prod. cross section in perturbative QCD 4-32600
 $\gamma\gamma \rightarrow \mu^+ \mu^- e^+ e^- (e^+ e^- e^+ e^-)(\pi^+ \pi^- e^+ e^-)$, cross section and photon polarisation study 4-32698
 $\gamma\gamma$ scatt., extended vector dominance model 4-9134
 $\gamma h \rightarrow h X$, large transverse mom., second-order QCD calc. 4-32721
 γN , glueball prod. cross section in perturbative QCD 4-32600
 $\gamma p \rightarrow \psi(3097) X$, inelastic and elastic photoprod. at 105 GeV, cross sections, QCD anal. 4-48490
 $\gamma p \rightarrow \psi p$, subtractive gluon exchange model, vector meson dominance violations 4-18271
 H(AA), hadronic shift and production probability in SU(3) 4-4642
 hh elastic scatt., end-point contributions at large angles 4-18279
 hh high p_T exclusive interactions, quark scatt. amplitudes 4-37404
 hh $\rightarrow l^+ l^- X$, transverse mom. calc. using soft gluon summation and QCD coupling const. 4-23037
 hh $\rightarrow Q\bar{Q} X$, third-order QCD contrib. 4-449
 hh $\rightarrow X$, Monte Carlo simulation of QCD in hard collisions 4-18278
 $K^0 \rightarrow K^0$ mixing, matrix element from vacuum saturation, long range effects 4-48444
 $K_L - K_S$ mass difference and supersymmetric QCD 4-32699
 $K^0 N$ scatt. in nonrelativistic constituent quark model, S-wave phase shifts 4-48499
 $K^0 p \rightarrow (K^+ K^-) \Delta$, 4.2 GeV/c, P-wave/S-wave interference, perturbative QCD calcs., scalar reson. anal. 4-22993
 $l\gamma \rightarrow$ hadrons, time-reversal-odd asym., perturbative QCD anal. 4-48489
 lN, gluon linear polarisation and neutral currents effects 4-32722
 $\Lambda_b \rightarrow \Sigma^+ \gamma$, branching ratio calcs. in nonrelativistic quark model 4-9105
 μN deep inelastic scatt., 93, 215 GeV, nucleon structure funct. meas., QCD calcs. 4-9114
 μp , 120, 280 GeV deep inelastic scatt., hadronic azimuthal distrib. meas. 4-487
 $\bar{\mu} p$ deep inelastic scatt., QCD perturbative corrections to Bjorken sum rule 4-53977
 NN, short-range part of interaction, effects of changes in six-quark spatial symmetry 4-4765
 NN interaction, six-quark model with one-pion exchange 4-32814
 νN , deep-inelastic processes, QCD behaviour of struct. functions 4-4631
 νN , $\sin^2\theta_W$ determ. of neutral current coupling 4-18220
 νN interactions, final state study in deep inelastic scatt. 4-32659
 $\nu N \rightarrow \mu^+ c X$, charmed and strange hadron production, QCD anal., gluon distrib. funct. determ. 4-18227
 $\nu N \rightarrow \mu^+ c X$, charmed and strange hadron production, QCD anal., gluon distrib. funct. determ. 4-18227
 $\nu N \rightarrow$ quarks, fragmentation function, QCD anal. 4-32661
 Ω^- magnetic moment, relativistic corrections 4-18253
 p, sea quark components, QCD perturbation theory of confined quark and gluons (Chinese) 4-43315
 p decay, pole contribution, branching ratios 4-473
 p-n moment ratio in presence of pion cloud 4-13904
 $pN \rightarrow \mu^+ \mu^- X$, dimuons transverse momentum, energy depend. comparison with $\pi^+ N$ interaction in QCD 4-32756
 pp, 300 GeV, high transverse interactions study using streamer chamber 4-48504
 pp, 62 GeV, $\pi^+ \pi^-$ and $\pi^+ \pi^- \pi^0$ production, valon recombination and two-chain fragmentation model predictions 4-23036
 pp, associated prompt leptons prod. and jets 4-48506
 pp, hadronic matter from factors and valon model 4-32705
 pp, two-jet events, ang. distrib. and struct. functions 4-48511
 pp, W-jet events, parity-odd asymmetries 4-54011
 pp \rightarrow dileptons X, ang. distrib., test of electroweak gauge model 4-4717
 pp $\rightarrow \gamma X$, polarisation effects of supersymmetric QCD in large p_T photon production 4-54017
 pp \rightarrow hadron + Higgs + X, QCD-parton anal. 4-48512
 pp \rightarrow JJX, Drell-Yan type mechanism, gluon fusion via colour vector dominance model 4-37413
 pp \rightarrow jets, calorimetric study, total energy trigger at 150 GeV and 300 GeV 4-499
 pp \rightarrow jets, hard scatt. picture 4-4706
 pp \rightarrow jets, jet fragmentation function, scaling 4-18298
 pp \rightarrow jets, radiation zeros and electric charges of colored quarks 4-32754
 pp $\rightarrow \mu^+ \mu^- X$, factorization and the Drell-Yan process in QCD and parton model 4-32610
 pp(p), mean charge multiplicity 4-501
 pp \rightarrow pp, gluon, pomeron and reggeon-pomeron exchange anal. 4-23029
 pp $\rightarrow Z^0 X$, vector nature of gluon spin 4-27759
 ϕ' radially excited states, strong decays 4-4674
 π form factor and charge radius in QCD 4-9109
 π photoproduction in chiral bag models 4-54000
 $\pi(qq)$ and Goldstone π , mass chiral and strength function, spontaneous symmetry breaking 4-32592
 π wave function, covariant three-dims. eqn., asymptotic behaviour in QCD 4-450
 $\pi^0 \rightarrow e^+ e^- \gamma(\gamma\gamma)$, two-photon form factor, EM decay amplitudes in quark triangle model 4-18228

colour model continued

- $\pi^0 e^+ e^- \gamma$, form factor for decay into Dalitz pair, invariance mass squared depend. 4-18261
 $\pi^- N \rightarrow \mu^- \mu^+ X$, dimuons transverse momentum, energy depend. comparison with pN interaction in QCD 4-32756
 πp , hadronic matter from factors and valon model 4-32705
 $\pi p \rightarrow J/\psi$, Drell-Yan type mechanism, gluon fusion via colour vector dominance model 4-37413
 $\pi p \rightarrow \pi p$, parity violation with penguin operators 4-18284
 $\pi^- p$, 300 GeV, high transverse interactions study using streamer chamber 4-48504
 $\pi^- p$ -jets, calorimetric study, total energy trigger at 150 GeV and 300 GeV 4-499
 $\psi \rightarrow \gamma X$, $\psi(1440)$ obs., theoretical and expt. status 4-53996
 ψ hadroproduction in colour-singlet model, quark-antiquark contrib. 4-32601
 ψ prod. by γ , μ and ν , vector dominance and QCD models, diffraction mechanism 4-48467
qh scatt., cancellation of Sudakov effects in Drell-Yan process 4-18179
qq, relativistic model, mass level and lepton pair decay 4-13871
qq annihilation, cross-section in perturbative QCD, infrared finiteness 4-43320
qq composite system with chromodynamic interaction, vertex funct. and relativistic potential 4-451
qq $\rightarrow l^+ l^- X$, ang. distrib. of lepton pairs 4-4672
qq potential from Landau-Ginzburg superconducting model of flux confinement 4-4634
qq $\rightarrow qq + \gamma$, Zweig-forbidden in perturbative QCD 4-18232
QQ spectroscopy, recent developments 4-9072
qq states, $L=1$ mesons, approximation for bound states in QCD 4-9075
qq $\rightarrow W\gamma$, amplitude zero, QCD corrections 4-53934
qqG, $L=1$, mass estimated using WKB method 4-48442
 $\rho^- \rightarrow 4\pi$, radially excited states, strong decays 4-4674
 ρ^- EM form factor from QCD sum rules 4-13877
 S^* and related mesons, perturbative QCD calcs., scalar reson. anal. 4-22993
t-quark, mass from discrete symmetries 4-48369
 τ , semileptonic decay, duality in QCD 4-37378
 $T(1s) \rightarrow gg\gamma$, direct photon spectrum, gluon self-coupling effect 4-18262
 T family, estimate of gluon condensate using SVZ sum rules 4-22953
 $T \rightarrow hX$, gluon fragmentation functions 4-4673
 W^\pm , higher order QCD corrections to masses in standard model 4-43286
 $e^+ e^- \rightarrow 3$ jets, 29.5-36.4 GeV, parton and colour flux line fragmentation model tests 4-32730
 3H - 3He , quark structure 4-27802
 3He - 3He , quark structure 4-4772
 4He , quark structure 4-4772
 4He , quark structure 4-27802
 $^4He(\alpha, X)$, nuclear effects at large transverse momentum in a QCD parton model 4-18186
lp, deep inelastic scatt., transverse energy distrib. 4-53998
NN, non-relativistic description using Faddeev soln. for 3-q nucleon, dynamical effect 4-54043
 Ω nonleptonic decay, decay rate in standard model 4-18241
 αN structure funct., comparison with πN and pN form factors calc. 4-43369
pp $\rightarrow pp\pi\pi$, search for glueballs in final state interactions 4-37403
 π form factor calc. in perturbative QCD, renormalisation of pseudoscalar wave function 4-18254
qq bound states, relativistic two-body eqn. using QCD gluon exchange 4-32594
SU(3) colour confinement in MIT bag model, implications for supersymmetry 4-48427
 $T=2$ gluinos, branching ratio, b-quark superpartner mass splitting 4-32677
 Z^0 , higher order QCD corrections to masses in standard model 4-43286

colour perception *see colour vision*

colour photography

- 3M Color Slide 1000, sensitivity for astrophotography 4-27010
Agfa-Gevaert colour reversal print film, characteristics 4-32341
AgfaColor Paper Type 7, review 4-22858
architectural photogrammetry, UMK. 6.5/1318 universal measuring camera developments 4-37233
CHROMICRO processor, Z8 controlled 4-306
compensating filters for underwater filming (*Russian*) 4-8983
Eastman Colour Print film, development 4-32342
Eastman Kodak Co. tools for improved telecine quality 4-48231
film, future developments 4-8967
film and electronics interface 4-48220
Fujichrome 50D Professional colour reversal film, review 4-37224
grainy colour images production process 4-43074
granularity of colour materials, Monte Carlo calcs. 4-41232
image quality of colour-positive material, high temp. processing influence (*German*) 4-16671
Kodacolor VR100 colour negative film, review 4-8966
Kodacolor VR200 colour negative film, review 4-4487
Kodak films for audio-visual production 4-32339
Kodak Vericolor III 5026 Type S colour negative film, review 4-53780
light measurement, used for optimal colour shade reproduction (*Hungarian*) 4-4449
light metering circuit with time interval memory (*German*) 4-278
motion picture and photographic film materials, chemical-processing (*Russian*) 4-17977
motion picture films, improvement prospects and trends (*Russian*) 4-17974
motion picture films psychophysical relationship of image-quality 4-8976
photogrammetric rectification equipment, RECTIMAT-C system of VEB Carl Zeiss Jena 4-42224
Polachrome CS 35 mm autoprocess colour reversal film 4-43071
positive developers recovery using ion-exchange resins in experimental unit (*Russian*) 4-17979
printing paper, resin-coated, inter-image effects 4-308
processed negative material ageing (*Spanish*) 4-32347
pulsed lasers for colour holographic filming (*Russian*) 4-10328
remote sensing photographic equipment system developed by VEB Carl Zeiss Jena 4-42221
remote sensing photographic system, high-performance, MSK-4 multispectral camera 4-42222
remote sensing photographic system, LMK aerial camera system materialisation and functional principles 4-42223

colour photography continued

- remote sensing photographic system FEAG digital photowrite and photoscan system 4-42225
rock thermoluminescence of thin slices, colour photography obs. method (*Japanese*) 4-22131
spectral sensitivity optimisation 4-13691
SSTV test equipment, design 4-37231
subtractive-colour automatic photographic printer, exposure parameter calc. algorithm 4-4494
triacetate cellulose substrate based colour cinefilm, thermal- and photostability study using mass spectrometry (*Russian*) 4-16722
video exposure and colour balance meter 4-48177
white-light processing technique for colour photography with white black film and tricolour grating (*Chinese*) 4-8969
Ag halide monochrome photographic elements, dye-enhancement physical development processes 4-46779

colour picture tubes, television *see colour television picture tubes*

colour television

- high-definition systems for cinematography, parameter requirements (*Russian*) 4-43098

colour television cameras

- camera zoom lenses for electronic news gathering and field production (*Russian*) 4-17983
Venera 13 and 14, TV camera improvements for Venus 4-36600

colour television picture tubes

- type designation system for TV picture tubes and monitor tubes 4-32255

colour tv *see colour television*

colour vision

see also eye

- achromatic sensitivity rel. to short-wavelength cones 4-26420
adaptation and the blue-green side of the colour triangle 4-36112
analysis of reaction times to coloured stimuli 4-12584
anomalous trichromats, mixture and luminosity data 4-41516
asymmetry of simple-opponent receptive fields, G-cone centre predominance 4-12582
Bezold-Brücke phenomena at the two ends of the spectrum 4-36117
bipolar cells in monkey retina selective for the cones likely to be blue-sensitive 4-46993
children's colour vision, assessment using the Pickford-Nicolson anomaloscope 4-36113
cone oil droplets, light intensification, EM considerations 4-26388
contrast effects on visual performance 4-8018
Cornsweet effect 4-8011
critical flicker frequency, variation with colour 4-21661
defectives, performance rel. to restricted viewing time 4-36114
dichromats, mixture and luminosity data 4-41515
discrimination ellipsoids, spatial and temporal, in colour space 4-12583
display colour contrast quantification, standard feasibility exam. 4-17917
exposure time influence on visual sensitivity to colour differences 4-21657
fovea and periphery, colour-match changes 4-41517
frequency shift, interocular transfer 4-7995
ganglion cell responses, carp, deduction of colour fundamentals 4-52324
graphics displays, psychological and physiological factors 4-41524
heterochromatic brightness matching, subadditivity and superadditivity obs. 4-26443
heterochromatic stimuli, brightness matching 4-8000
holostean retina, cellular mechanisms for colour coding, rel. to colour vision evolution 4-7996
horizontal cell polarisation, anal. of neural mechanisms mediating effect 4-7985
human colour vision fundamentals 4-21658
illumination colour-rendering capacity, visual efficiency 4-22821
independent luminance channel evidence 4-3559
information derived from a single boundary 4-12585
information theoretic aspects 4-46997
lateral geniculate nucleus, rhesus monkey, responses of single cells to colour and luminance contrast 4-26408
longitudinal chromatic aberration of the vertebrate eye 4-26391
oil drops in cones of birds and reptiles, role in colour vision 4-26422
opponent channels, variable tuning, detect. and discrimination of small, brief lights 4-52336
Oscar colour vision test, theory and evaluation 4-26419
photoreceptors, fly, sensitising pigment, rel. to UV sensitivity 4-31218
primate r-g X-channel, spectral sensitivity rel. to spatial sensitivity 4-26421
primate retinal ganglion cells, responses to moving spectral contrast 4-7988
red and green counterphase flicker at high freqs., phase shift 4-12590
reduced viewing time, effect in normal and abnormal subjects 4-12588
retina, carp, horizontal cell response, information processing 4-12570
retina, Xenopus, blue-sensitive rod input to bipolar and ganglion cells 4-7980
retina, Xenopus, identified photoreceptors and horizontal cells, intracellular recordings 4-7979
retina, Xenopus, rod and cone inputs to bipolar and horizontal cells 4-12572
rod monochromat's pattern visual evoked cortical pot., rel. to spatial tuning of colour mechanisms and rods 4-57887
sensations from arrays of phys. stimuli, calc. 4-41518
spatial sensitivity of human visual system under selective chromatic adaptation, contrast sensitivity curve shape, foveal vs. peripheral vision 4-3560
striate cortex, macaque: pattern, movement and colour processing 4-36122
thresholds, rel. to underlying detect. mechanism 4-36115
tritan pedigree without optic-nerve atrophy 4-36111
far UV sensitivity of human eyes after removal of lenses 4-26801
UV visual pigment in a vertebrate: tetrachromatic cone system in dace 4-36116
visual display and hardcopy colouring, perceptual considerations 4-52344

columbium *see niobium*coma *see aberrations*combination scattering spectra *see Raman spectra*

combustion

see also explosions; flames; heat of combustion; reaction kinetics

- air pollutant form, in combustion processes, reduction methods 4-31138
atmospheric fluidised-bed combustion facility test results 4-12439

combustion continued

- basic combustion of methanol and methanol-gasoline blends in spark ignition engines 4-57628
- bluff objects, tumbling and burning effects on drag 4-10711
- boilers, fluidised-bed furnaces, pulsed air supply to aid combustion 4-7802
- boilers, pulverised fuel fired, oil combustion in tertiary air type burners 4-7801
- chemically reactive fluids, weakly nonlinear detonation waves 4-34121
- CO analysers, extractive and in-situ using non-dispersive infrared detection 4-26253
- coal, in fluidised bed furnaces, heat transfer on staggered tube bundles 4-19814
- coal combustion, convective transport in air fluidised bed 4-21476
- coal technology for advanced cycles, review 4-52083
- combustible solid, ignition by convection heating 4-35907
- combustion product plasma generator, fluctuating output characs., operating mode effects 4-10897
- cooking woodstove and heat transfer, modelling 4-52015
- curved flame front, break lines, detect. property 4-38911
- cylindrical combustion chamber, HF oscill. excitation 4-46765
- detachment of the flame of a burning liquid by an air flow 4-7722
- diagnosis by laser induced fluorescence, Raman scatt. and CARS 4-21501
- diagnostics, laser-induced fluoresc. spectroscopy 4-7776
- diagnostics, uncertainties propag., IR band models 4-38918
- diesel engine, combustion gas conc. distrib. correl. with combustion speed 4-12367
- diffusion combustion, turbulent mixing, rel., conc., probability distrib. 4-44761
- distorted flame front propagation in gas flow field 4-44763
- droplet decomposition in reactive atmosphere, large activation energy effects 4-21477
- exothermal mixtures, props., composition effects (Bulgarian) 4-35623
- flame propagation between flanged disks, quenching distance, flanged electrode method meas. 4-3408
- flames, premixed, laminar, extinction by stretch and radiative loss 4-41215
- flames intensity obs. using CCTV 4-264
- flow visualisation technique for combustion gas meas. 4-49890
- flow visualization in combustion gases using nitric oxide fluorescence 4-44759
- flows, optimisation, measurement techniques 4-49906
- fluidized-bed coal combustion: in-bed sorbent sulfation model 4-12368
- fuel, liquid, surface diffusion combustion of heterogeneous systems (Russian) 4-12372
- fuel, spherical particles, mixed convection combustion theory 4-21467
- fuel beds, pulsating air flow, mass transfer and combustion 4-41216
- gas flames, 2-D quasiharmonic dissipative structures and their stability 4-16657
- gas flames, stability of two-dimensional quasiharmonic dissipative structures 4-16658
- gas fluidized bed heat transfer 4-34179
- gas mixture, imploding detonation waves, electron temp. meas. 4-38850
- heat exchanger, natural gas supplied, for heating industrial baths (French) 4-53683
- heat transfer numerical props., conf., College Park, USA, Sept. 1981 4-31973
- hexane flame, struct., cyclohexyl nitrate effects 4-7724
- high-intensity combustion characs., heat flow relax. effect, integro-differential eqns. (Ukrainian) 4-41214
- high-level forest fires spreading, mathematical modelling 4-21478
- high-speed gas motion in porous medium 4-29176
- HTGR, air ingress accidents, graphite/O₂ reaction kinetics, A3-3 and A3-27 materials (German) 4-43641
- internal combustion engine, flow velocity meas., laser diagnostic methods 4-38922
- internal combustion engine cylinder turbulent air flow meas. by laser Doppler anemometer 4-19899
- laser diagnosis of combustion (Japanese) 4-12370
- laser spectroscopic techniques, industrial meas. and control appls. 4-19495
- liquid jet, wave injection into carrier gas flow 4-21480
- low-level radioactive waste incinerator system operating experience 4-33024
- luminous flames, flow meas. with photoelectron correl. laser Doppler method 4-30988
- meas. guidelines for steam generation unit furnace 4-46767
- metals, laser combustion self-oscillatory regimes 4-12371
- MHD open-cycle reactor, plasma characs. increase for combustion products (Ukrainian) 4-24633
- natural convection influence on fuel mixture ignition concentrational limits 4-44760
- natural gas-air, coaxial turbulent jets, mixing, combustion, heat and mass transfer 4-34063
- nonlinear $\chi^{(3)}$ susceptibility in CARs diagnostics meas., exact and approx. expressions 4-49435
- nonsteady mixing, optical methods of anal. 4-21479
- one-dimensional stability of combustion in a magnetic field 4-38902
- open fires for cooking, expts. and theory 4-52014
- plane steady compressible flow with combustion 4-29208
- PMMA, bottom stagnation region combustion under natural convection 4-21468
- PMMA-O₂, combustion processes (German) 4-35908
- polycyclic organic emissions from coal-fired utility boilers, meas. 4-3509
- propane-air flame, combustion in a turbulent mixing layer formed at a rearward-facing step 4-29109
- propellants, double-base, in strong turbulent shear flow, erosive burning model 4-21470
- ramjet engine development, optical meas. 4-49899
- RDX, decomposition by combustion, CARS investig. 4-30943
- refuse incineration, environmental and energy aspects (Italian) 4-41304
- standing sound wave effect on turbulent flame flow 4-44762
- stationary combustion modes in boundary layer with strong injections, nonuniqueness and instability 4-5971
- steels, high-alloy, cutting using combustion products from transonic jet of O₂-H₂ and O₂-propane generators 4-35851
- supersonic stream, thermal compression by combustion, numerical modelling 4-5911
- temperature and concentration obs., using CARS technique 4-4484

combustion continued

- theoretical and experimental studies on the combustion of synthetic fuels in spark ignition engines 4-57629
- thermal explosion and times-to-ignition in systems with distributed temps., influence of reactant consumption 4-41218
- thermal explosions with reactant consumption, criticality criterion 4-3409
- thermoelectric power stations coal combustion efficiency improvements by using oxygen enriched air 4-41310
- turbulent combustion instabilities leading to flashback, secondary effects 4-46764
- twisted annular flow, mixing and mass transfer 4-34185
- C, combustion rate 4-52046
- C, combustion rate in flowing gas streams 4-52011
- C particles, laser radiation initiated combustion 4-3419
- Ca-based sorbent for pressurized fluidized-bed systems 4-57561
- Fe-Mo-P alloy, combustion prep. 4-51576
- H₂-air-steam mixtures, combustion for various concentrations 4-57562
- H₂-O₂-N₂-CF₃Br systems, oxidation and combustion, 400-500°C (French) 4-30989
- H₂+O₂, reactive collisions, combustion, radiolysis, rate const. and cross sections 4-35903
- Hf-H₂, combustion mechanism, thermodynamic equilb. 4-7723
- Hg, combustion, press. effect 4-7727
- NO_x emission control technology for utility and other combustion plants 4-12507
- O₂ concentration measurement and control in combustion processes using ZrO electrolyte sensors (German) 4-48102
- O₂-H₂ flames, Na D line emission intensity, mag. field effect 4-52010
- OH concentrations in combustion environment, laser-induced fluoresc. meas., collisional effects, $v'=0$ excitation effects 4-52008
- SnO₂-based combustion monitor sensor 4-37086
- Zr-Ni-Hz system, intermetallic hydride cpd. form. under combustion conditions 4-57559

comets

- 1984b, not confirmed by photographic obs. (1984 January 27) 4-36637
- Austin (1982 VI), IUE obs. of UV coma evolution 4-53100
- Austin (1982 VI), OH coma, asymmetries and kinematics 4-42364
- axial symmetric gas flow from nuclear, solar radiation effects (Russian) 4-17467
- P/Biela and life of Wilhelm von Biela 4-42671
- Bradfield (1979 X), OH coma, asymmetries and kinematics 4-42364
- Bradfield (1984a), discovery and approximate positions (1984 January 7 and 8) 4-27046
- Bradfield (1984a), precise position (1984 January 9) 4-31792
- Bradfield (1984a), precise positions, parabolic orbital elements, and ephemeris 4-31793
- capture by Uranus 4-13260
- Cernis (1983l), ephemeris (1983 December 12 to 1984 February 10) 4-17465
- Cernis (1983l), ephemeris (1984 January 1 to 31) 4-13249
- Cernis (1983l), total visual magnitude estimates (1983 October 15 to November 5) 4-13259
- Cernis (1983l), total visual magnitude estimates (1983 September 13 to October 11) 4-8428
- chemical analysis technique for dust grains, secondary ion mass spectroscopy method 4-42314
- P/Chernykh (1978 IV), orbit perturbations due to Jupiter and Saturn (Russian) 4-13252
- P/Clark (1983w), recovery and precise position (1983 December 15) 4-22353
- Clark (1984b), discovery and approximate positions (1984 January 8 and 24) 4-36635
- close encounters with Earth AD 374 to 1983, implications for comet-Earth collisions 4-53097
- collisions with Earth, frequency and relation to mass extinctions 4-53097
- colour changes rel. to solar distance 4-58410
- coma dust opacity near nucleus from occultations of stars 4-27008
- cometary dust, IR photometry study 4-36638
- conference on comets and origin of life at College Park, USA (October 1980) 4-27242
- P/Crommelin (1983n), ephemeris (1983 Dec.-1984 Apr.) 4-42366
- P/Crommelin (1983n), precise position, orbital elements, and ephemeris 4-13254
- P/Crommelin (1983n), precise positions and nuclear magnitude (1984 January 1 and 3) 4-31794
- P/Crommelin (1983n), precise positions and visual magnitude estimates 4-36636
- P/Crommelin (1983n), secular accel. parameter A and visual magnitude estimates 4-42370
- dust terminal velocity calcs. using realistic dust size distrib. function 4-17468
- P/Encke, revised ephemeris (1984 January 21 to May 30) 4-13250
- formation by radiation press. in outer proto-Sun, depend. on radiation-grain coupling 4-3954
- formation by radiation pressure in outer proto-Sun, depend. on radiation field anisotropy 4-3955
- galactic perturbations on nearly-parabolic cometary orbits 4-31797
- Giotto mission to Halley's comet, dust anal. instruments, calibration/dev. 4-26974
- P/Grigg-Skjellerup (1982 IV), search for 10-micron silicate feature 4-53099
- P/Halley, Giotto mission overview 4-26975
- P/Halley, observational history, orbit and prospects for 1985/6 apparition 4-27047
- P/Halley (1982i), 1985-7 apparition, manual for observations (book) 4-42617
- P/Halley (1982i), prospects for 1985-6 apparition 4-42371
- P/Halley meteoroid stream, shell model 4-17466
- P/Harrington (1953 VI), secular decel. anal. and ephemerides (1987 to 1988) 4-42361
- Hartley-IRAS (1983v), discovery, positions, orbital elements, and ephemeris 4-17462
- P/Hartley-IRAS (1983v), ephemeris, (1983 December 27 to 1984 February 5) 4-22348
- Hartley-IRAS (1983v), ephemeris (1984 Jan.-Mar.) 4-42367
- P/Hartley-IRAS (1983v), ephemeris (1984 January 1 to June 9) 4-22354
- P/Hartley-IRAS (1983v), orbital elements and ephemeris (1984 February 10 to April 10) 4-42369

comets continued

- Hartley-IRAS (1983v), precise positions, elliptical orbital elements, and ephemeris 4-22349
 Hartley-IRAS (1983v), precise positions and total magnitude estimates 4-17464
 ice, cometary, vaporisation and fractionation 4-31795
 ice in nuclei, interaction in interplanetary medium 4-31796
 IR molecular emission detection possibilities 4-53096
 IR photometry of dust in comets, results for periodic and parabolic objects 4-53098
 P/IRAS (1983j), ephemeris (1984 January 1 to March 1) 4-22351
 P/IRAS (1983j), total visual magnitude estimates (1983 September 13 to October 30) 4-13256
 IRAS (1983o), ephemeris (1983 December 12 to 1984 April 30) 4-22352
 IRAS discoveries 4-42523
 IRAS-Araki-Alcock (1983d), discovery of S₂ in UV spectrum 4-13248
 P/Kopff (1982k), total visual magnitude estimate (1983 October 7) 4-17463
 P/Kowal-Vavrova (1983t), precise positions, 1983 September 28, and improved orbital elements 4-13255
 p/Kowal-Vavrova (1983t), precise positions, orbital elements and ephemeris 4-3956
 Lexell (1770 I), evolution and decay of assoc. meteor stream 4-13261
 magnitudes, coma dia., and tail obs. for 13 objects 4-42368
 Meier (1978 XXI), OH coma, asymmetries and kinematics 4-42364
 Meier (1978 XXI), precise positions (1979 April 22 to 30) 4-42362
 nucleus head, incident sunlight intensity and scatt. in comet atm. 4-8429
 Oort cloud, far-IR flux, constraints on Solar System/comet origin 4-8412
 orbit evolution, influence of Sun induced evaporation 4-22355
 orbital theory, effects of general relativity on eqns. of motion 4-8369
 orbits, dynamical evolution processes 4-31799
 Panther (1981 II), precise positions (1981 February 27 to 28) 4-8416
 planetary impact probability calc. for long-period comets 4-58409
 precise positions of six objects (October 1980 to September 1982) 4-8427
 precise positions on Minor Planet Circulars 8481-8578 for 16 objects 4-42356
 precise posns. on Minor Planet Circulars 8183-8214 for Minor Planet objects 4-22344
 precise posns. on Minor Planet Circulars 8215-8322 for 20 objects 4-27034
 precise posns. on Minor Planet Circulars 8323-8436 for 14 objects 4-27035
 precise posns. on Minor Planet Circulars 8437-8480 for 17 objects 4-31784
 P/Schwassmann-Wachmann 1, IR photometry rel. to diameter and albedo of nucleus 4-53101
 P/Schwassmann-Wachmann 3, 1930/1979 apparitions and orbit evaluation (1800 to 2000) (*Russian*) 4-13251
 Shoemaker (1983p), ephemeris (1983 December 12 to 1984 January 21) 4-22350
 Shoemaker (1983p), total visual magnitude estimates (1983 September 26 to October 29) 4-17461
 solar wind interaction and plasma tail 4-42365
 space missions, novel aspects of cometary research 4-31791
 space missions, optimal trajectories to short period comets (1981-90) (*Russian*) 4-13166
 spectra, CO and CS, expected and observed profiles 4-31798
 P/Taylor (1983u), recovery, precise positions, and ephemeris 4-13257
 P/Tempel 2 (1982d), total visual magnitude estimates (1983 September 30 and October 7) 4-13258
 Tunguska event, chondritic fireball versus small comet theories 4-42389
 Venus encounter with comet, Pioneer Venus obs. 4-3898
 C II spectra, UV lines excitation by photoionisation of C I 4-3919
 H₂O, fluoresce. mechanism and inner coma thermodynamics 4-42363
 OD radicals in comets, photodissociation lifetimes and spectra 4-13253
 OH radicals in comets, photodissociation lifetimes and spectra 4-13253

commensurate-incommensurate transformations

- adsorbate system, commensurate melting, domain walls, and dislocations 4-29788
 adsorbed films, commensurate-incommensurate transitions and defects 4-39737
 bis-tetramethylammonium tetrachlorocobaltate: Mn²⁺, ESR line shapes and rot. modes in incommensurate phase 4-30276
 chiral clock model, wavevector scaling and phase diagram 4-51063
 discrete Frenkel-Kontorova model, elastic consts. and critical behaviour 4-39437
 double sine-Gordon system, commensurate-incommensurate phase transition study 4-29572
 extended antiferroelec. interaction Ising model 4-6467
 ferroelectric A₂BX₄ type materials, structural phase transitions, light scatt. studies, seminar, Bentenjima, Japan (June 1983) 4-22509
 ferromagnetic 3-D Ising model, equilibrium cryst. shapes 4-29375
 floating devil's staircase and uniaxial transition in two dimensions 4-24961
 four-component order parameter systems, commensurate-incommensurate transition and mag. structs. (*Russian*) 4-24995
 graphite-Br intercalation cpd., intercalate struct., melting, and commensurate-incommensurate transition 4-20174
 harmonic system in random field 4-39433
 Hubbard model, magnetic phase diagram, incommensurate phases 4-2758
 impurity pinning and interface roughening of domain walls 4-2305
 insulators, incommensurate struct. origins 4-50233
 linear defects in incommensurate phases 4-24802
 methane adsorbed on graphite, NMR study 4-46142
 modified Ising model in random field, commensurate-incommensurate transition 4-8834
 polyphenyls, Brillouin scatt., through the incommensurate phases of biphenyl 4-35458
 quantum asymmetric clock model, finite size effects 4-53601
 quantum sine-Gordon system, one-dimens., commensurate-incommensurate cross-over 4-13597
 quartz, alpha-beta transition and incommensurate phase, Raman scatt. study 4-34631
 quartz, domain structs., and associated defects in incommensurate phase 4-20371
 quartz, incommensurate phase, elastic neutron scatt. study 4-39458
 quartz, incommensurate phase and α - β transition, Raman scatt. 4-46248

commensurate-incommensurate transformations continued

- quartz, incommensurate struct. form. near α - β transition, phenomenological theory 4-29598
 renormalisation group method in 2-D, phase boundary 4-20328
 tetramethylammonium tetrachlorozincate, elastic props. near commensurate-incommensurate transition, Brillouin scatt., US absorpt. meas. 4-40467
 tetramethylammonium tetrachlorozincate, US attenuation and order parameter relax. near incommensurate phase transition (*French*) 4-39408
 tetramethylammonium zinc tetrachloride, incommensurate phase, dielec. relax. 4-20923
 thiourea, ferroelec., commensurate-incommensurate transition and memory effect 4-35383
 thiourea, high elec. field ferroelectric transitions 4-30411
 thiourea, US attenuation and order parameter relax. near incommensurate phase transition (*French*) 4-39408
 thiourea-d₄, field-induced commensurate phase, birefr. meas. and Landau-Ginzburg theory 4-2886
 TMCM, phase transitions under hydrostatic press., dielec. study 4-50496
 transition metal dichalcogenides, Raman scatt. and IR spectra in CDW state, microscopic theory 4-46263
 two-dimensional commensurate soliton structures, phase diagram 4-6468
 X-ray dynamical diff. effects 4-20058
 A₂BX₄ type crystals, incommensurate-commensurate phase transitions, statics and dynamics 4-25004
 AlPO₄, berlinite, α - β transform., birefringence study 4-55992
 Ba₂NaNb₂O₇, acoustic phonon dispersion at incommensurate transition, Brillouin scatt. study 4-25770
 Cr-Ga (0.92 at.%), elec. resist. anomaly at incommensurate-commensurate SDW transition under hydrostatic press. 4-20624
 Er₂Fe₂Si₂, magnetically ordered, mag. and cryst. struct. 4-35147
 ErSi, magnetic interactions, modulated ordering using neutron diffraction 4-30150
 K₂SeO₄, ferroelectric, incommensurate phase, shear stress effects 4-35384
 K₂SeO₄, incommensurate, overdamped phason branch, neutron scatt. study 4-20313
 K₂SeO₄, incommensurate structural phase transitions, Raman scatt. study 4-25000
 K₂SeO₄, US attenuation and order parameter relax. near incommensurate phase transition (*French*) 4-39408
 K₂ZnCl₄, ferroelectric, incommensurate-commensurate transition, dielec. dispersion 4-51204
 K₂ZnCl₄, phase transitions, hydrostatic press. effects, DTA and permittivity meas. 4-51203
 (NH₄)₂BeF₄, ferroelectric, incommensurate phase, phase transitions 4-35385
 (NH₄)₂BeF₄, ferroelectric, γ -irrad., phase transitions, macroscopic quadrupole effects 4-46201
 (NH₄)₂BeF₄, incommensurate phase in applied mag. field 4-25011
 NH₄HSeO₄, incommensurate antiferroelec., dislocations and time-dependent dynamics 4-35382
 (NH₄)₂ZnBr₄, ferroelec., incommensurate phase transition, X-ray diff. study 4-2882
 NaNO₂, antiferromagnetic, elastic stiffness consts. at normal-to-incommensurate phase transition, US study 4-50497
 NaNO₂, incommensurate phase, press. and elec. field depend., neutron scatt. and dielectric meas. 4-25001
 Pd monolayer on Nb (110), first-order phase transition, rel. to electronic struct. 4-6657
 RbD₃(SeO₃)₂, γ -irrad. of incommensurate phase, ESR spectra 4-45319
 RbH₂(SeO₃)₂, γ -irrad. of incommensurate phase, ESR spectra 4-45319
 Rb₂ZnBr₄, heat capacity, 3 to 300K, thermodynamic props. of incommensurate transitions 4-6517
 Rb₂ZnCl₄, chaotic state and soliton density in incommensurate state 4-46206
 Rb₂ZnCl₄, incommensurate-commensurate phase transition, defect and thermal fluctuation effects 4-40372
 Rb₂ZnCl₄, optical and electro-optical study 4-2897
 SC(NH₄)₂, incommensurate structural phase transitions, Raman scatt. study 4-25000
 SbCl₃-graphite intercalation cpd., second stage, decommensuration struct. 4-15634
 SnSe₂, thin films, phase transformations, electron microscopy study 4-50658
 TaS₂ (1T), CDW struct., X-ray study 4-45320
 TaSe₂ (2H), CDW state, nucleation processes 4-15830
 TaSe₂ (2H), decommensuration arrays, dark field imaging and convergent beam electron diff. obs. 4-11310
 TbGe_{0.2}Si_{0.8}, magnetic interactions, modulated ordering using neutron diffraction 4-30150
 Ti_{58.7}Ni_{37.3}Al_{3.8}, diffuse electron scatt. from incommensurate phase 4-20369
 Ti₅₉Ni_{38.1}Al_{2.9}, phase transform. 4-21211
 Ti₅₉Ni₄₅Fe₅, phase transform. 4-21211
 Ti₅₉Ni₄₇Fe₃, phase changes on cooling to -196°C 4-25955

communication channels

- see also channel capacity
 millimeter wave propagation through precipitation, relationship of cross polarisation discrimination to attenuation 4-22065
 neuromuscular system, multiloop, signal convergence and divergence 4-41492
 two channel wavelength-division-multiplexed system, nonlinear crosstalk from stimulated Raman scatt. 4-55214

communication networks

- see also computer networks
 F-400M fiber optic transmission system 4-10436
 military applications of fibre optics 4-5713
 single-mode optical fiber cable, development for telecommunication networks 4-10438

communication systems see telecommunication systems

communication theory see information theory

communications applications of computers see communications computing

communications computer control

see also communications computing; electronic switching systems

- Fort Worth Museum of Science and History audio installation 4-19662
 high-voltage spark source, RF interference reduction by fibre optic signal transmission 4-34342
 offline stills programming 4-32340

communications computing

see also *communications computer control*

- HF ionospheric propag. limitations determination by real-time update of computer model from oblique sounder data 4-22263
Lidar, simplified data acquisition of aerosol concentration in atmosphere (German) 4-21224
picture segmentation using colour information and spatial neighborhoods 4-41530
radar image processing using VAX 11/780 and FPS-164 attached processor, oceanographic appl. 4-22172
rain cell size statistics as function of rain rate for attenuation modelling 4-8283

community planning see *town and country planning***commutation**

see also *commutators*

- vacuum arc, commutation, zero current passage 4-24662

commutators

see also *commutation*

- electronic Kalousek switch 4-3444
evaluation formula 4-8725

compacting see *densification***comparators (circuits)**

- currents in pA range comparison, using dual JFET convertor 4-42989
dimensional noncontacting comparator, using feedback capacitor gauge 4-48078

compasses

see also *navigation*

No entries

compensation

see also *error compensation*

- aberration compensation in holographic memory working with two-wavelength reading-recording (Russian) 4-10261
amplifier of bioelectric potentials with RC-circuit, recovery time reduction 4-16999
crystal growth from melt, pulling system for automatic control of crystal diameter (Czech) 4-25877
ferroelectric hysteresis loop tracer, with automatic sampling cct. 4-32273
fibre optic polarimetric sensor, differential polarisation-maintaining fibre config., design and compensation 4-27506
SAW voltage sensor response, temperature compensation 4-27501
SELFOC lens characs., elec. compensation 4-19536
strain gauge temp. effects obs. and compensation (German) 4-37092
temperature compensation of semiconductor sensors for mechanical variables meas. (Czech) 4-48103
temperature-compensating pulsed reference light source using a LED, scintillation detector appl. 4-23507
thermocouple with differential pickup 4-8896

compensation, charge see *charge compensation***complementarity**

No entries

complementary metal-oxide-semiconductor integrated circuits see *field effect integrated circuits***complete computer programs**

see also *subroutines*

- astronomical ephemerides, BASIC program for calculation (French) 4-31763
autoregressive spectrum analysis program in FORTRAN 4-13065
contour plotting subroutine for Earth gravity anomalies in Fortran 4-8173
Epson bit plot graphics, electron density maps program in Microsoft BASIC 4-18910
finite element analysis, brittle fracture in FORTRAN 4-19770
FORTRAN, MULTIVOL, an extension of BIVOL blowdown code 4-9253
gamma distribution generalisation, nomogram and program for parameters selection (Rumanian) 4-8861
geodesy, latit., longit. and ellipsoid height conversion from NAD-27 to predicted (NAD-83) 4-31401
geophysical prospecting methods, computer programs for hand-held calculator for Texas Instruments and Hewlett-Packard calculation 4-36529
intermolecular energy analysis program in FORTRAN 4-43936
least-squares cubic approximation, BASIC program for maxima of Cepheid variables 4-31840
magnetic resonance spectra simulation, programs in FORTRAN 4-46085
neuronal resonances inequality patterns, program for calculating n-gram coefficients in FORTRAN 4-41497
numerical anal. in BASIC language, book 4-47805
panel fundamental modal displacement response, evaluation of Jx^2 on MICRO-2200 desk calculation 4-19752
particle settling velocity calculation program for TI-59 programmable calculator 4-12388
PERFECT V FORTRAN program for 3H bound state calcs. 4-32775
PERFECT V-A FORTRAN programs for 3H wave function calcs. 4-32776
physicochemical parameter optimization by unidimensional search, calculator program 4-13626
porous materials extrusion, FORTRAN IV program for investigation (Russian) 4-25971
powder diffr. data, POWLS program for calc. and refinement, in FORTRAN 4-24691
Raman spectrometer-minicomputer software interface in FORTRAN 4-13683
rooms, optimal corrective absorpt., computer-aided procedure 4-1547
SCANN, PDS spectrum scanning program, description 4-3938
sequential X-ray spectrometer, versatile program for data capture in multielement anal., in BASIC 4-48274
spectroscopic dispersion/absorption line shapes, computerized data processing in PASCAL 4-13625
temperature coeff. of resistance, meas. using BBC microcomputer, in BASIC 4-48151
TRIOBE, Fortran program for triton bound state with vel.-depend. OBE potential 4-23059
two-dimensional Delaunay triangulations, implementation of Watson's algorithm 4-52559

complex angular momentum plane

see also *angular momentum theory; Pomeranchuk poles and trajectories; Regge poles and trajectories*

- complex effective potential, scatt. theory for nonrelativistic spinless particle 4-13526

compliance constants see *elastic constants***composite insulating materials**

- fibre reinforced plastic, mag. polarisation influence on electrophys. props. in wide temp. range 4-46174
glass ceramics, machinable, elastic moduli, second-order press. derivatives 4-51709
insulator wetted by liquid dielectric, surface resist. 4-11573
polypropylene, glass fibre reinforced composite, and drawn, elec. cond. 4-21192
pulse-mean ϕ -q distribution patterns change due to treeing propagation 4-24644
 $Al_2O_3:TiO_2$ composite dielec. thin film, dielec. props. 4-51190

composite materials

see also *cermets; composite insulating materials; composite superconductors; concrete; eutectic alloys; fibre reinforced composites; fibres; filled polymers; laminates*

- accelerated tensile and cyclic testing 4-51908
aerospace struct., computerised ultrasonic C-scan system 4-57520
aggregates, polycrystalline, thermal expansion, exact anal. 4-50547
aggregates, polycrystalline, thermal expansion, self consistent approx. 4-50548
beams, vibrations of damped composite systems, transient response anal. 4-1651
bimaterial composite, penny shaped crack interaction with torsional wave 4-38760
brittle matrix-ductile particle composites, fracture toughening 4-16500
carbonaceous microcomposite, low-temp. resistance thermometer, appl. 4-8906
cemented carbides, wear, effect of comp., struct., and service conditions 4-40998
ceramic-ceramic composites, mech. props. (French) 4-16502
chloroprene-PbTiO₃ piezoelectric ceramic composites, props. 4-35362
composite insulating materials, ageing characs. of impurities 4-35647
compression moulding, flow state, charge pattern effect (Japanese) 4-21279
continuum theory of composite materials having small-scale distortions in their structure 4-1594
crack dimensions and unloading regions evaluation, acoustic signal parameters appl. 4-51926
creep testing frame, for composite-wood material 4-35788
deformation problem approx. soln. for almost-cylindrical composites 4-55332
dental composites, light-cured, cure profiles by Raman spectroscopy 4-12426
diphase ceramic composites, sol-gel method prep. 4-57167
disordered structure composite materials, statistical theory 4-19722
disperse-reinforced, thermocyclic loading 4-46610
dispersely filled composite, influence of adhesion on elastic props. 4-44502
dissimilar materials, separation process, friction effect 4-10613
Ekonol-metal composite thin films, RF sputtering and elec. props. 4-21140
elastic, boundary-value problems soln., static and dynamic problems, thermal cond. 4-44386
elastic moduli, effective, improved rigorous bounds 4-28973
elastomers, perforated, dynamic props., matrix viscosity and cavity-size distribution effects 4-35651
elastoviscoplastic, deform. under complex stress 4-44414
electrical contact materials, W and precious metals reduction, review 4-3105
engineering sciences and mechanics, conf., Tainan, Taiwan (Dec. 1981) 4-13484
epoxy resin based optically sensitive material for stress investigation of models 4-3118
failure, stat. theory, topological aspects 4-44490
fatigue testing equipment, with symm. and asymm. loading 4-3323
film reinforced, elasticity and thermoelasticity relationships 4-49689
glass-textolite plate, thermal stresses with nonuniform heat exchange 4-49653
granular material in organic matrix, relax. peaks and shear modulus (French) 4-40877
graphite, microsphere filled TiB₂, high-porosity sintered, prod. 4-25924
graphite particle reinforced Al-Si composite, deform. of graphite during hot extrusion 4-40905
Green tensor of equilib. eqn., relations for operators 4-49692
impregnated materials, elasticity and damping 4-55904
industrial applications of present and future materials 4-41169
inelastic materials, delayed fracture, temp. effect 4-10608
interaction of electric arc discharge with surface of electrodes made from multiphase silver-based materials 4-39036
interface crack behaviour in dissimilar anisotropic composites under mixed-mode loading 4-1680
interface crack between dissimilar anisotropic composite materials 4-1679
internal friction and US attenuation in solids, conf., Villeurbanne, France (July 1983) 4-36782
laminated, steady-state point source excitation 4-1663
laminated beams curved, of bimodulus material, finite element anal. 4-33938
laminates, multilayer, anal. using three-dimens. super-elements 4-55323
layered, effective dispersion theory 4-1611
linear elastic behaviour of random media subjected to inhomogeneous mean fields 4-28972
magnetic tape, elastic hereditary props. effect on stress/strain state of loops 4-44418
matrix composites, mechanics, multipolar expansion method appl. 4-44389
metal matrix, fatigue failure model 4-44491
metal-insulator composites, divergent diamagnetism near percolation threshold 4-35117
multilayered composite, low press. plasma deposition, finite element modelling, stress analysis 4-3068
multiphase composites, elastic moduli, thermal cond., differential scheme 4-15571
NDT, quantitative, interferometric techniques using embedded optical fibres 4-35845
NDT, using computerised US scanning bridge 4-35846
nonlinear composite material, dielectric const. determ. 4-35332
orthotropic materials loaded in directions differing from symmetry axes, long-term strength 4-44420

composite materials continued

- piecewise-homogeneous media, nonclassical thermoelasticity eqns. 4-10545
- piezoceramic-metal thin composite circular plate, forced vibr. anal. (Chinese) 4-55267
- plasma polymerised matrices, Au clusters, crystallographic and elec. props. 4-35035
- plate, interaction with bonded stiffener 4-49771
- plate, thin-walled, with physicomech. peculiarities, vibr. and stability, investig. in oblique-angled coord. system 4-44462
- plates, anisotropic, boundary-value problems, finite element approx. 4-10546
- plates, composite, bifurcation and post-buckling anal., multiple-parameter reduced basis technique 4-33966
- plates, laminated, moderately thick, triangular shear-flexible finite element 4-14882
- plates, orthotropic composite, loaded in compression, postbuckling 4-49724
- plates, three-layer, design by iteration method 4-33957
- polycrystalline aggregates, triple lines as disclinations 4-39307
- polymer films, two-phase mixtures, mech. strength 4-40894
- polymeric, probability distrib. for mech. characts. 4-16507
- polymeric composites, heat transfer in dry sliding 4-12196
- polyphenylene fluoride-asbestos composite, hot alkali stable with low elec. resist. 4-7411
- polypropylene-paper composites, elec. cond. props. 4-34972
- polystyrene-glass bead composite, craze form., effect of interfacial adhesion 4-7549
- polyurethane-PMMA interpenetrating polymer networks, comp. parameters influence on synthesis, phys. props. 4-12055
- polyurethane-PMMA interpenetrating polymer networks, transition behaviour, phase separation 4-11014
- powder materials, consolidated, struct., elec. cond., percolation theory approach 4-51569
- probabilistic static failure of composite material 4-46584
- pseudoalloys, skeletal struct., elastic constants calc. 4-45250
- PTFE-metal composite thin films, RF sputtering and elec. props. 4-21140
- PVC blended with styrene maleic anhydride copolymers, heat resistant material developments 4-7412
- quasistatic elastoviscoplasticity, implicit-explicit time integration using finite and infinite elements 4-49704
- quasiuniform states in composites with small-scale curvature in struct. 4-44392
- radiation granulometry, time series statistical characts. 4-3356
- regular conducting channelling textures, effective cond. calcs. 4-29960
- reinforcing materials, wetting by Al, contact reactions 4-50614
- research developments and applics. trends 4-41170
- shell, cylindrical, rib-reinforced, intrinsic oscillations analysis 4-44471
- shell, cylindrical, rib-reinforced laminar, crit. dynamic stress of axial compression 4-44470
- shell of revolution, thin, method of removed elements applic. to residual stresses investig. 4-44510
- shells, anisotropic, reliability calc. random-field excursions appl. 4-10547
- shells, multilayer inclined, energy dissipation during oscils. 4-33997
- shells, ring-stiffened cylindrical deform. and strength under dynamic compressive loads 4-49719
- shells, three-layer cylindrical, with dissymmetry and nonrigid filler, stability under axial compression 4-49735
- small metal particles, nonlocal theory for far-IR absorpt. 4-51212
- small-scale structural flexure material mech. 4-44368
- spatially reinforced hybrid composite, deform. characts. (Russian) 4-7516
- statistical kinetic failure model, material under uniaxial tension 4-10609
- stiff bendable elastic rods in an elastic matrix, constitutive eqn. 4-10556
- structurally inhomogeneous media, viscoelasticity linear theory 4-44398
- supercomposites, thermal cycling crack characts., stress conc. factors 4-3210
- technology, developments, uses, standards need 4-41165
- TGS-polystyrene composites, dielec., pyroelec., and thermal props. 4-11823
- TGS-polystyrene composites, dielec. permittivity and pyroelec. props. 4-40361
- thermal conductivity, temp.-depend. variation, nonstationary exptl. determ. 4-20420
- thermal diffusivity, meas. by flash technique 4-34731
- thermoelasticity and plasticity, mean field theory 4-6422
- thermophysical properties, conf., Baden-Baden, Germany (Sept.-Oct. 1982) 4-13472
- two dims. composite slab, transient conduction, temp. mode development 4-1570
- two dims. composite slab, transient conduction, temp. mode interpretation 4-1571
- two-dimensional anisotropic system of conducting sticks, percolation threshold, computer study 4-2573
- two-layered low C steel-stainless steel fatigue crack propag. 4-12143
- two-phase composite material elastoplastic behaviour, engineering mechanics 4-24355
- two-phase system, AC elec. transport props., complex dielec. const., loss angle, percolation 4-16138
- US power composite transducer, piezoceramic position influence (Chinese) 4-55300
- US testing, wideband spectral anal. 4-51950
- vibration theory, geometrically linear formulation 4-44367
- vibrothermographic nondestructive evaluation 4-35799
- water/composite interfaces, acoustic wave reflection 4-33837
- wear-resistant customized coatings, fabrication technique 4-12215
- winding, continuous model for force analysis 4-44365
- Ag contact composites, erosion depend. on second phase particle melting pts. 4-7595
- Ag contact composites, TEM obs. WRT optimum antifriction and elec. erosion characts. 4-7596
- Ag-glass bonded thick films, sintering and microstruct. development 4-51587
- Ag-Ni₃Ti composites, erosion and contact resist. 4-26068
- Al reinforced with B fibre, internal friction study 4-39395
- Al-Si-graphite particle composite, deform. of graphite during hot extrusion 4-40905
- Al₂O₃ particle reinforced Na₂O-B₂O₃-SiO₂ glass, density, AC cond., thermal expansion, transform. range 4-39565
- Al₂O₃, ZrO₂-toughened, change of tetragonal ZrO₂ by hot isostatic pressing 4-57168

composite materials continued

- Al₂O₃-SiO₂, mullite/ZrO₂ composites, sintering and mech. props., zirconia addition effect 4-3114
- Al₂O₃-ZrO₂, aqueous composite, colloidal filtration, particle size distrib., rel. to pH 4-16364
- C black-epoxy resin composites, microwave prop. 4-46376
- Co₃O₄-Fe₄Si₁₀B₁₃ composite, high freq. mag. props. 4-46068
- Cr-C-Fe composite magnetoabrasive powders, synthesis 4-3106
- CsCl structure composites, effective transport coeffs. calc. 4-50780
- Cu composite powder deposition by displacement under bubbling conditions, characterisation 4-40707
- Cu-Nb, in situ composites, thermal diffusivity meas. 4-29946
- Cu-Ru mechanically alloyed composite, elec. contact resist. and phys. metallurgy 4-40713
- LiI-SiO₂ composite, enhanced ionic cond. 4-34703
- MoS₂-based composite lubricant films, moisture resistance and adhesion 4-7621
- Nb-Ta laminated composites, intrinsic diffusion parameters 4-56095
- Ni-NiO two phase mixtures, elec. cond. at Ni-NiO phase boundary 4-15928
- Ni₇₂Si₁₀B₁₂ amorphous composite, particle-dispersion hardening 4-46518
- PZT/polymer 1-3 and 1-3-0 piezoelec. composites, hydrophone appl. 4-40352
- PZT/polymer composite sandwich transducer, hydrophone and NDT appls. 4-38682
- PZT/polymer composites, piezoelec. props. 4-40350
- PZT/polymer perforated composites, piezoelec. props., hydrophone appls. 4-40351
- PZT/silicone rubber composite, piezoelec. props. 4-40353
- Si₃N₄-C, amorphous composites, CVD, etching in HF soln. 4-7617
- Si₃N₄-C composites, CVD amorphous, ESCA study 4-20104
- Si₃N₄-TiN composites, prep. by CVD, thermal cond. 4-6571
- Si₃N₄-ZrO₂-MgO composites, hot-pressed, oxidation behaviour 4-57383
- Sn-Bi alloy aggregates, elastic moduli, temp. variation up to eutectic temp., US study 4-35650
- TeO₂, optical storage layers, effective medium anal. 4-19531
- TiC-Fe composite magnetoabrasive powders, synthesis 4-3106
- TiC-NiTi sintered composites, struct., phase comp. and fracture 4-46619
- VC-Fe composite magnetoabrasive powders, synthesis 4-3106
- WC-Co-BN composites, prod. methods 4-3103

composite models of elementary particles

- see also composite models of hadrons
- algebraic unification, fermion substructure of space-time, particle spectrum and weak mixing 4-48397
- baryon-meson mass inequality, implications for QCD and composite models 4-13872
- chiral preon model for quarks and leptons, generation and mass spectrum 4-13891
- composite quark structure, confinement 4-461
- composite quarks in Bethe-Salpeter model, quark mixing angles 4-53967
- conference, electroweak interactions at high energies, Hamburg, Germany (Sept. 1982) 4-42600
- conference on high energy physics, Tokyo, Japan (Sept. 1982) 4-13481
- confining SU(2)_L×SU(2)_R gauge model of the weak interactions 4-32637
- electroweak interactions for quarks and leptons 4-43300
- fractionally and integrally charged quark transformation induced by rishons 4-462
- fundamental theory for composite particles and fields 4-18204
- geometrical rishon model, colour structure of quark and lepton generations 4-18202
- grand unification of preon models, low energy parity restoration 4-18137
- hierarchical mass ratio and gauge boson coupling constants, dynamical implementation 4-48408
- intermediate boson, radiative decay, composite model 4-32621
- leptons mass as EM self energies in composite models 4-32639
- light composite fermions in dynamical subquark model of pre-gauge interactions 4-48454
- mixing matrix of quarks in a composite model 4-32640
- multifermion processes of baryon-number nonconservation at accelerator energies 4-9051
- muon resonant-cavity model, mass determ. 4-4653
- noncompact sigma models, dynamical composite gauge bosons 4-32428
- nonrenormalisable field theories at temp. 4-43214
- potential problems for quarks, leptons and vector bosons 4-43299
- preon model, electroweak interactions 4-43298
- preon model, fermion-boson symmetric, composite fermion masses 4-37351
- preon models, electroweak symmetry, dynamical breaking 4-43337
- preon models, grand unification, symmetry breaking 4-9028
- preon models, quark-lepton masses and generation mixing 4-43338
- preon theory 4-32641
- preons, spinor field decomposition, field theory 4-27647
- pure fermionic model, number of families, SU(16) as smallest gauge group 4-4613
- quark anomalous magnetic moments and quark composite struct. constraints 4-18205
- quark-lepton mass hierarchies and 1/N_{subcolor} 4-53965
- quarks, mass as EM self energies in composite models 4-32639
- quarks and leptons, composite models, fermion-boson mass inequalities 4-48456
- quasi Nambu-Goldstone fermions in supersymmetric preon theory 4-4652
- Rishon model, chiral symmetry breaking and condensates, 't Hooft's constraints 4-43340
- Rishon model, hypercolour gauge of discrete symmetry, mass matrix struct. 4-43341
- rishon model of particle disintegration (French) 4-464
- rishon subquark model for straton and leptons, proton decay modes (Chinese) 4-43339
- rishon supersymmetric model, SU(6)_L×SU(6)_R flavour breaking 4-48457
- SU(2)_L×SU(2)_R gauge of weak interactions for composite model 4-43336
- SU(4)_C×SU(2)_L×SU(4)_F×SU(2)_R model, number of generations of quarks and leptons from flavour-colour symmetry 4-4654
- subconstituent picture of weak interactions, dynamical picture 4-53966
- subquark grand unification in SU(7)×SU(7) (Chinese) 4-48400
- supergrand unification in subquark physics and pregeometry 4-13854
- supersymmetric flavon-chromon model using R-breaking mechanism induced by N=1 supergravity 4-48453

composite models of elementary particles continued

- supersymmetric preon models, composite models of quarks and leptons 4-48452
- technifermions, family mass hierarchy and composite gauge bosons 4-48455
- toy model based on SU(10) hypercolour, supersymmetric subconstituents and mass problem 4-22996
- unification constraints in composite models 4-4655
- unstable baryons in rishon model, responsible gauge boson, SU(2)_L⊗U(1) model 4-9107
- weak interaction symmetry breaking by colour forces 4-18203
- weak interactions, supersymmetric left-right confining model 4-48407
- weak interactions of quasi Nambu-Goldstone fermions 4-32505
- weak and Higgs boson masses from composite model 4-27712
- $e^+e^- \rightarrow e^+\gamma e^-$, 34.5 GeV, electroweak coupling meas. 4-43354
- $e^+e^- \rightarrow \mu^+\mu^-$, 34.5 GeV, electroweak coupling meas. 4-43354
- $e^+e^- \rightarrow \mu^+\mu^-$, composite models and finite width effects 4-53973
- e^+e^- , polarised scatt., lepton and quark substructure probing 4-48488
- γW^0 transitional, composite vector bosons and weak mixing angle 4-22973
- W props. in electroweak interaction models 4-18149
- Z⁰ radiative decays, branching ratio, composite scenario 4-48483

composite models of hadrons

- see also parton model; quark models
- Chou-Yang model, diffractive excitation, number of constituents in proton 4-43328
- coherent tube model and composite hadrons, multiparticle prod. on nuclei 4-18196
- nontopological solitons from functional integrals 4-4554
- twistor theory method for hadron magnetic moments 4-43371
- pp, 10-30 MeV, diff. cross section in mag. monopole model of hadrons 4-491

composite particles

- see also alpha-particles; deuterons; nuclei with mass number 1 to 5; tritons
- No entries

composite superconductors

- bobbins-less superconducting solenoid magnet construction and testing for VENUS detector 4-48881
- cabled conductors cooled by He I and He II, stability studies 4-50985
- coaxial superconductor filled with stagnant He, free convective heat transfer 4-35131
- divergent diamagnetism near percolation threshold 4-35117
- fusion reactor, composite superconductor, cryostability, neutron irradiation effects 4-45969
- granular superconductor, superfluid density, penetration depth, and integrated fluctuation cond. 4-11637
- in situ superconducting wires, transverse field hysteresis, twist effects 4-16004
- interface flux pinning and critical currents 4-16002
- multifilament superconductor hysteresis losses in superimposed DC and AC mag. fields, scaling law 4-45951
- multifilamentary superconducting wire, AC losses, numerical model 4-45948
- multifilamentary superconducting wires, non-uniform current distrib. 4-51010
- multifilamentary superconductors, mixed matrix, AC coupling losses 4-11629
- multifilamentary superconductors with high contact resist., I-V characteristics 4-30109
- multifilamentary wire, transport current distrib. 4-2681
- normal zone boundary, sound reflection studies 4-56493
- normal zone nonuniform distrib. 4-25477
- normal zone propagation, theory 4-50986
- review 4-35130
- saturated multifilament conductor with exponential I-V charact., energy dissipation 4-50978
- stabilised, minimum propagating currents calc. 4-11632
- transposed multistrand flat, longitudinal and transverse thermal cond. calc. 4-15991
- ultrafine filament metallic matrix composites, prep. and props., book contrib. 4-7401
- Cu-Nb multifilamentary superconductors, powder metallurgy processed, cold hydrostatic extrusion 4-21185
- In-In₂O₃ thin film composites, supercond. phase transitions 4-11617
- Nb-Al multifilamentary superconductors, powder metallurgy processed, cold hydrostatic extrusion 4-21185
- Nb-Ti multifilamentary superconductors, with very fine filaments, behaviour under AC mag. fields 4-45983
- Nb-Ti superconducting composite wire, props. 4-45982
- Nb-Ti-Hf multifilamentary superconductors, high-field props. 4-11654
- Nb-Ti-Ta superconducting wires in non-stationary conditions 4-51009
- Nb-Ti-(Ta) multifilamentary superconductors, fabrication 4-45968
- Nb₃Ge multilayer superconducting tapes, AC losses 4-45928
- Nb₃Sn based multifilamentary supercond. in situ wire, for practical use 4-45984
- Nb₃Sn, bronze-processed, chem. comps. near grain boundaries, AES study 4-2212
- Nb₃Sn, bronze-processed multifilamentary wire, critical current study 4-30131
- Nb₃Sn CVD superconducting composite tapes, stability and plastic yielding 4-50987
- Nb₃Sn composite processes superconductor, effect of Ti addition to Nb core on initial props. (Japanese) 4-25492
- Nb₃Sn flexible superconducting braids and cables, development 4-45978
- Nb₃Sn internally cooled cabled supercond. technology, use of Inconel 617 sheathing 4-45975
- Nb₃Sn internally cooled cabled superconductor, fabrication 4-51011
- Nb₃Sn internally strengthened prereacted superconductors, development 4-45947
- Nb₃Sn multifilament superconductors, AC loss depend. on struct. props. 4-45952
- Nb₃Sn multifilamentary superconductors, high-field crit. currents improvement by Ti addition 4-30128
- Nb₃Sn multifilamentary superconductor, made by ECN method, J_c(B,T) charact. 4-45973
- Nb₃Sn multifilamentary superconductors, composition, struct. and current carrying capacity 4-45976
- Nb₃Sn multilayer superconducting tapes, AC losses 4-45928

composite superconductors continued

- Nb₃Sn superconducting multifilamentary wires prepared by bronze route, crit. currents, anomalous increases 4-45974
- Nb₃Sn superconducting wires, crystallographic changes caused by appl. stresses 4-45972
- Nb₃Sn superconductors, temp. depend. AC losses, 4.2-1.8K 4-45949
- Nb₃Sn tapes, superconducting, microstruct. and neutron radiation damage 4-45193
- NbTa-Sn multifilamentary composite wire by solid-liq. reaction, supercond. props., appl. above 20 T 4-16003
- NbTi composite multifilamentary supercond., stability under influence of pulsed mag. field, expt. study 4-45953
- NbTi composite superconductors, elec.-field transport current characteristics 4-51005
- NbTi multifilamentary superconductors, mag.-instabilities in time-varying mag. field 4-50988
- NbTi superconductors, temp. depend. AC losses, 4.2-1.8K 4-45949
- NbTi/Al thin superconducting solenoid for particle spectrometer, design study 4-48863
- NbTi/Cu superconducting solenoid for Fermilab Collider Detector Facility 4-48878
- NbTi/Cu/Al thin supercond. solenoid, internal winding, for colliding beam detectors 4-48879
- NbTi-Cu multifilamentary wires, diffusion barrier study (Chinese) 4-2383
- NbTi-Cu multifilamentary superconductor, explosive welding 4-51012
- NbTi-Cu twisted multifilamentary composite wires, alternating losses (Chinese) 4-2689
- V₃Ga multifilamentary supercond., crit. current enhancement by In addition 4-45979

composite systems see large-scale systems**composition measurement** see chemical analysis**compressibility**

- see also compressibility of gases; compressibility of liquids; compressive strength
- alkaline earth fluorite: rare earth, MF₂ (M=Ca, Sr, Ba), lattice distortion and local compressibility induced by trivalent impurities 4-6385
- alkanes, light-heavy mixture, vap. liq. phase equilib. calc. using a new cubic eqn. of state 4-24984
- arterial wall, compressibility and constitutive eqn. in radial compression expts. 4-47024
- block compression, three dims. finite element anal. 4-49711
- complex BCC metals, seven param. shell model 4-15423
- crystal with crack, healing study 4-2265
- crystal-fluid interface, free energy, triple point, compressibilities and Gruneisen parameters 4-15620
- delta wing flow field, compressibility effects, laser velocimetry investig. 4-1857
- diamond crystallisation under shock compression, optical props. 4-21118
- fibre reinforced materials, compressive strength determ. 4-7502
- folded-plate structures in combined shear and compression, buckling and vibration anal. 4-38743
- ionic crystals, thermoelastic params. 4-56052
- magnetostatic equilibrium, compressibility effect on instability growth rates 4-14951
- membrane suspensions, US studies 4-52290
- metals, semi-empirical eqn. of state (Russian) 4-50455
- plates, orthotropic composite, loaded in compression, postbuckling 4-49724
- polymers, branched, collapse, transfer matrix calc. 4-14617
- polystyrene, atactic, Rayleigh-Brillouin light scatt. studies through densification cycle 4-2933
- porcelain extrusion body, yield strength and struct., effect of compressive loading 4-51770
- porosimetry, mercury intrusion, apparatus improvements and applics. to mag. tape 4-41158
- porous foam type material, viscoelastic, nonlinear compressive deform. 4-24356
- powder rolling, stressed state in lag zone 4-25912
- powdered system, compactability and compressibility problem 4-51565
- quasi-one-dimensional compression, ultrahigh, attainability 4-8745
- rare earth metals, thermal and elastic props., review 4-56044
- rigid-plastic ideal layer, Prandtl soln. generalisation in spherical coordinates 4-5806
- rubber, bonded blocks, boundary integral evaluation of compression moduli 4-2253
- shell, cylindrical, infinitely long, interacting with viscous fluid, free vibrs., effect of compressibility 4-55364
- shell, linear cylindrical, stochastic stability and instability 4-38739
- shell, thin elastic cylindrical, local buckling under axial compression (Russian) 4-44435
- shells, ring-stiffened cylindrical deform. and strength under dynamic compressive loads 4-49719
- shells, three-layer cylindrical, with dissymmetry and nonrigid filler, stability under axial compression 4-49735
- solid solns., stability under press. (Russian) 4-25027
- sp bonded elements, trends in cohesive props. 4-15421
- steel, Cr and Mn, powders, prod. by diffusional impregnation, struct. and props. 4-3098
- steel, low C, deform. mechanism close to inclusions under compression 4-40917
- steel, stainless, powder, compressibility, N content effect 4-25918
- Al, stress and strain distrib. during high axial compression, quantitative determ. using ruby particles 4-7686
- BaBiO₃, compression curve, X-ray diff. study 4-34581
- Be, isothermal compression and phase transition to 28.3 GPa, X-ray diff. study 4-29602
- C fibre reinforced plastic ring with nonlinear section, compressive behaviour 4-49782
- CO₂-N₂(methane), liq. vap. equilib. study 4-24983
- CdF₂: rare earth, lattice distortion and local compressibility induced by trivalent impurities 4-6385
- Co, anisothermal transform, plasticity, geophysical implications 4-25995
- Cs-halides, bond bending forces in cryst. dynamics 4-55783
- Cu powder, mixture prep. from optimised and electrolytic powders, charact. 4-7395
- D₂, solid, lattice const. and thermal expansion (Russian) 4-45443
- D₂, solid, thermodynamic props. in premelting region (Russian) 4-45444
- EuB₆, compressibility, high press. X-ray diff. studies 4-11218
- H₂S-methane, liq. vap. equilib. study 4-24983

compressibility continued

- K, compression, equations of state, and thermal expansion 4-20325
 LaB_6 , compressibility, high press. X-ray diff. studies 4-11218
 $\text{Mn}_3\text{SnN(C)}$, mag. transitions and cell parameters, X-ray diff. studies 4-11098
 MoC , high-temp. shock compression, carbide formation 4-21181
 N_2 , intermolecular pair pot. energy function 4-49120
 N_2 solid, compression at 296 K from 5 to 10 GPa 4-39368
 $\text{NH}_4\text{B}_2\text{O}_3 \cdot 4\text{H}_2\text{O}$, elastic consts., shear and compressional wave vel. meas. 4-2250
 Na , compression, equations of state, and thermal expansion 4-20325
 $\text{Na}_2\text{O-SiO}_2$ glass, rheological props. and fracture, mol. dynamic simulation 4-40947
 $\text{Na}_2\text{ZnCl}_4 \cdot 3\text{H}_2\text{O} \cdot \text{Mn}^{2+}$, ESR spectra, uniaxial compression effects 4-11764
 PbF_2 , rare earth, lattice distortion and local compressibility induced by trivalent impurities 4-6385
 Rb , compression, equations of state, and thermal expansion 4-20325
 Si , internal stresses from ion-implanted amorphous regions 4-11161
 TiBr_3 , electronic struct. and static struct. props., ab initio calc. 4-50747
 TiCl_3 , electronic struct. and static struct. props., ab initio calc. 4-50747

compressibility of gases

- see also high pressure phenomena and effects*
 bielliptic bodies, three dims. turbulent boundary layers in compressible gas stream 4-44552
 Burnett method, use in determ. compressibility and virial coeff. 4-34216
 cryogenic mixtures, phase equilibria calcs. at very high press. 4-24950
 humid saturated gas, compression process (*Russian*) 4-10804
 laminar flow calc. in presence of heat transfer in two dims. channels 4-44521
 shear discontinuity instability of vel. in compressible gases 4-44620
 SF_6/N_2 gaseous mixtures, thermal props., expt. investigation 4-1864

compressibility of liquids

- adiabatic compressibility meas. apparatus for low freqs. 4-20279
 alkali metals and alloys, liq., thermodynamic props., variational cal. 4-2062
 benzene ($-d_6$), isentropic compressibility meas. 4-55897
 n-butanol, aq. solns., isothermal compressibilities and internal pressures 4-15564
 n-decane, density calcs. using Lee-Kesler correlation 4-24888
 di-n-butylamine-n-alcohol binary mixtures, isentropic compressibilities, US investg. 4-20289
 ethyl acetate binary liq. mixtures, excess thermodynamics props., US study 4-39400
 2-ethylbutan-1-ol-hexane isomer mixtures, ultrasonic vel. and isentropic compressibility meas. 4-55924
 glycerine-water mixtures with paramagnetic ions, mol. association 4-2271
 n-heptane-benzene mixture, sound vel., densities and isentropic compressibilities meas. 4-55922
 inert gas liqs., vacancy form. energy, direct correl. function at melting temp. 4-50171
 2-methylpentan-1-ol+hexane isomers, ultrasonic speeds and isentropic compressibility, 298.15K 4-24909
 molecular dynamics digital simulation at const. press. and temp. 4-24700
 OBBA, polymesomorphic, phase transitions, US vel. studies 4-25021
 n-octane, density calcs. using Lee-Kesler correlation 4-24888
 organic aqueous non-electrolyte liquid mixtures, adiabatic compressibility, US vel. study 4-24887
 organic compounds, compressibility, critical volume, pressure, computer model (*Chinese*) 4-29503
 polystyrene sphere, aq. suspensions, compressibility, ultrasonic vel. meas. 4-29529
 rigid disks and spheres, virial coeffs., press. consistent BGY eqns. 4-39071
 tetrahydrofuran, binary liquid mixtures, US studies 4-50435
 transition metals, liq., thermodynamic props., one-component plasma model 4-34397
 water, computer simulation methods for phys. props., review 4-50156
 water, superheated, base to define normal components of expansivity and compressibility of stable water 4-39432
 water hammer calc., incompressible liquid model appl. 4-24890
 n-alkane-branched-chain alkane, isentropic compressibilities, density and ultrasonic rel. meas. 4-55923
 Ga_2Te_3 , liq., nonmetal-metal transition under press. 4-2512
 ^3He , superfluid, excitation kinetics probe using vibrating wire viscometer 4-6589
 ^4He , liq., spatial correlation and isothermal compressibility in interacting bosons at low temp. 4-11363
 Se , electronic and thermodynamic props. 4-45791
 Se-Te , electronic and thermodynamic props. 4-45791

compressible flow

- see also compressibility*
 bielliptic bodies, three dims. turbulent boundary layers in compressible gas stream 4-44552
 buoyancy reversal in compressible convection 4-10695
 centrifugal compressor with inducer, flow anal. in the impeller 4-14995
 combustion MHD generator anal. using coupled core-boundary layer model 4-57735
 compressible fluid in rotating cylinder with sloping bottom 4-19843
 cylinder vibrations in flow field of a compressible viscous fluid 4-19765
 disk entry into compressible fluid at an angle to the free surface 4-44619
 dynamic interaction of liquid filled reservoirs with an elastic half-space (*Russian*) 4-10690
 flow around 3D turret, soln. of compressible Navier-Stokes eqns. in mass averaged variables 4-29108
 fluid and fluid-structure systems, freq. calc., displacement-based finite elements study 4-29112
 gases, compressible, laminar flow calc. in presence of heat transfer in two dims. channels 4-44521
 heat exchanger, flow reversible, temp.-entropy bond graphs 4-27529
 hydrodynamics of small tubular pumps 4-49874
 internal combustion engine gasdynamic investigations, finite-amplitude solitary-wave generator design and operation (*Russian*) 4-55463
 inviscid fluids, smooth one-dims. pressure wakes, shock generation, theoretical analysis 4-19841
 laminar premixed supersonic free shear, with chem. reactions, stability 4-44638
 Laval nozzle flow oscills. with condensation 4-15013
 Navier-Stokes eqns., compressible, soln. boundary conditions from implicit factored method 4-5863

compressible flow continued

- Navier-Stokes eqns., difference scheme for numerical soln. (*Russian*) 4-10632
 nebulisers, flow processes of compressible and incompressible media, review 4-1774
 plane steady compressible flow with combustion 4-29208
 pressure drop in right-angled T's in concentric ducting system 4-10785
 rotating compressible flow, between nontorsionally oscillating disks 4-10700
 shear discontinuity instability of vel. in compressible gases 4-44620
 shock waves, weak, N-wave transitions in air with vibrational excitation 4-24449
 shocks and phase transitions, viscosity-capillarity criterion 4-5905
 subsonic flow, laminar flow calcs., composite velocity procedure for the compressible Navier-Stokes equations 4-29115
 subsonic turbulent flow over swept rearward facing step, independence principle appl. 4-29117
 transonic separation flow of water past a circular cone 4-44625
 turn function and vorticity method, numerical calcs. 4-55410
 two-dimensional vortex stability under three-dimensional perturbation 4-49827
 viscoelastic material, oscillatory behaviour under const. load, compressible flow between parallel discs 4-34120
 viscous and inviscid stability of flat-plate compressible boundary layers 4-44543
 viscous compressible heat conductive liqs., bubble oscillations, acoustic wave emission 4-1773
 viscous flow, semi-infinite method for press. linked eqns. 4-1775
 viscous fluid, temp. estimate 4-1772
 vortex-sheet type flows, stability characts. 4-29093
 Xe, ionisation relax. behind shock waves in shock tube, non-Maxwell electrons and wall boundary layers effect 4-15001

compression, bandwidth *see bandwidth compression***compressive strength**

- see also compressibility*
 brittle fracture mixed mode, based on preinstability stress-strain field 4-45257
 brittle materials, mechanical props. and single fracture under load 4-40987
 cancellous bone, mech. characts. at upper femoral region 4-31253
 cancellous bone strength at the proximal human tibia 4-52374
 ceramic-ceramic composites, mech. props. (*French*) 4-16502
 corundum refractories, lightweight, prod. by semidry pressing 4-51598
 epoxide matrices, deform.-strength characts., loading conditions effect (*Russian*) 4-7505
 fibre reinforced composite tubular rod, thin-walled, load-bearing capacity, optimum strut design 4-44417
 fibre reinforced materials, compressive strength determ. 4-7502
 fibre reinforced metal layer composites, thermoelasticity, thermal cond. and strength 4-45367
 filament-wound composite, strength testing methods 4-46699
 foamed rigid material, high energy absorpt. mechanism 4-51786
 glass ceramic S0115M, and joints based on optical contact, strength 4-30814
 graphite, microsphere filled TiB_2 , high-porosity sintered, prod. 4-25924
 graphite, nuclear-grade isotropic, tensile deform. behaviour after hydrostatic loading 4-16440
 graphite, synthetic, loading rate effect on strength and strain characts. 4-41138
 graphite fibre reinforced epoxy, accelerated environmental testing 4-26125
 graphite material, radiation creep measurement, in WWR-SM reactor (*Russian*) 4-50412
 ice compression strength expts. using model ice containing urea 4-21969
 ice compressive strength, effects on grain and sample size 4-22015
 saline ice yield functions 4-21956
 Kevlar 49 fibre, compressive and torsional behaviour 4-26002
 knee, total replacement, mech. strength of tibial resection surface 4-16901
 naphthalene-benzil, solidification mode, tensile and compressive strengths 4-2257
 polymer, three-dims. stressed state, strength testing apparatus 4-46700
 power transformer windings insulating materials maximum pressure withstand ability determ. 4-51938
 rocks under triaxial compression 4-42207
 thin-walled structures neutral and unstable buckling, expt. techniques review 4-10618
 Ag-Sn-Zn, dental amalgam, structure and mech. props. rel. to Zn content (*Korean*) 4-3226
 Al, mechanical stability in presence of tensile and compressive stresses, ideal strength 4-6725
 Al-Cu powders, compaction, die wall an internal lubrication rel. to mech. strength 4-30665
 $\text{AlN-Y}_2\text{O}_3$ sintered compacts, thermophys. props., high temp., elec. resist., strength props., oxidation resist. 4-50541
 Al_2O_3 , compatibility with liquid Na, mech. and thermal props. 4-30841
 Al_2O_3 , compressive failure modes in air and physiological media, prosthetic appl. 4-21303
 Al_2O_3 refractory blocks, nondestructive testing 4-12299
 B plastic reinforced D16T alloy rod elements, short-term strength under room and low temp. conditions 4-12180
 C fibre reinforced epoxy resin, notch, compressive strength, effect of environment 4-51831
 C fibre reinforced plastic ring with nonlinear section, compressive behaviour 4-49782
 Cu-Sn-Ni, self-lubricating sintered, bronze bearings, crushing strength, porosity, Ni addition effect 4-12198
 $\text{MgO-(Cr}_2\text{O}_3\text{)-Fe}_2\text{O}_3\text{-SiO}_2\text{-Al}_2\text{O}_3\text{-CaO}$ refractories, thermomech. and deform. props. 4-12121
 Mo alloy, TSM-6, He^+ radiation blistering, effects of external stresses (*Russian*) 4-50375
 $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-CaO-MgO}$, vitreous-crystalline material, elasticity, strength props. 4-57276
 UO_2 , Triso coated fuel particles, irradi., crushing strength 4-27969

compressors

- axial flow, for closed-cycle gas transport laser systems 4-5602
 velocity profile meas., laser anemometry appls., jet dissipation, turbomachine flow 4-55465

Compton effect

- anti-Compton γ -ray spectrometer, sensitivity (*Czech*) 4-43755

Compton effect continued

- atomic closed shells in bare Coulomb field exact Thomas-Fermi model for kinetic energy and Compton profile 4-1091
- correlation energy from Compton scattering and positron annihilation data 4-6722
- defects in spectra, classical interpretation (*French*) 4-2986
- differential cross section, t-channel helicity amplitudes and dispersion inequalities 4-18268
- dispersion inequality optimality for nucleon 4-9113
- electron density distrib. meas. 4-30559
- free electron laser, colliding γ -photon beam generation using Compton scatt. 4-1402
- graphite, Compton X-ray profiles and electron momentum density 4-40567
- graphite, ground state wavefunction from Compton profile meas. 4-23831
- graphite, pyrolytic, neutron Compton spectroscopy 4-39345
- graphite-Li intercalation cpd., LiC₆, Compton X-ray profiles and electron momentum density 4-40567
- II-VI semiconductors, X-ray form factors, Compton profiles and structure amplitudes, ionisation effects 4-6348
- interstellar stimulated Compton scatt. of Alfvén waves, cosmic ray propag. appl. 4-53033
- inverse Compton reflection from plasma, polarisation and beam pattern, astrophysical appl. 4-13187
- BL Lacertae objects, X-ray studies rel. to synchrotron self-Compton predictions 4-31902
- massive spin-1 particles Compton scatt. on massless fermions, helicity selection rules 4-37308
- methods of constructing Compton profiles 4-48985
- modified scatt. geometry for advanced undergraduate lab. 4-53431
- nitrobenzene-n-heptane binary mixture crit. Compton scatt. at demixing temp. 4-40558
- O-type stars, Compton redshift in circumstellar matter rel. to radial vels. 4-3984
- photon-Maxwellian electron cross-sections, fast scheme 4-43266
- profiles, electron inelastic scatt. investig. 4-19275
- pulsars, magnetospheres, EM radiation Compton scattering 4-22413
- radiation induced current in Compton detector, residual charge effect 4-33259
- radiative scatt. of hadrons by nuclei and Compton effect on hadrons 4-4821
- relativistic plasma, Compton scatt. effect on e^+e^- annihilation and bremsstrahlung spectra 4-55616
- student laboratory demonstrations 4-42667
- synchro-Compton radiation, freq. distrib. and total cross-section 4-53030
- tissue characterisation via coherent-to-Compton scattering ratio, sensitivity considerations 4-8086
- X-ray burst sources, Compton effect rel. to burst spectra and estimation of source parameters 4-8519
- X-ray imaging with Compton-scatter radiation, COMSCAN system 4-18024
- γ e, inverse Compton effect, circularly polarised wave 4-32655
- γ e scatt., ang. dist. and polarisation effects 4-4666
- π N, Compton effect, EM corrections 4-9112
- Al, locally averaged Compton profile 4-11959
- Be, use of energy constraint for refinement of electron momentum distributions 4-38080
- Ca-Al amorphous alloys, total Compton intensity 4-46362
- Cd, Rayleigh and Compton scatt. differential cross sections 4-30555
- Cr, isotropic difference Compton profile, exptl. study 4-35509
- Cu, Compton profile anisotropy, density-functional theory 4-25824
- Cu, Rayleigh and Compton scatt. differential cross sections 4-30555
- Fe_{0.5}Ti_{0.5}, isotropic difference Compton profile, exptl. study 4-35509
- H₂O, Compton lineshape determ. 4-33458
- Li, molten, struct. and form factors, X-ray and neutron diffr. study 4-29302
- LiF, thermoluminesc. dosimetry, γ -ray Compton interactions, modified cavity theory 4-48752
- Li₃N, electron density distrib., Compton scatt. meas. 4-39771
- MgO, Compton scatt., APW band struct. calc. 4-25826
- Mn, momentum density, band struct. calc. 4-34870
- N₂, Compton lineshape determ. 4-33458
- NbH_{1.2}, Compton line profile study 4-51403
- Ne, inelastic X-ray scatt. cross sections 4-1092
- Ni, ferromag., spin polarised Compton profile 4-16268
- Pb, Rayleigh and Compton scatt. differential cross sections 4-30555

Compton profile *see* **Compton effect**

Compton scattering *see* **Compton effect**

computation *see* **calculation**

computational complexity

- stationary discrete processes, spectral anal. at finite intervals (*Russian*) 4-10212

computer-aided analysis

- see also analogue simulation; CAD; circuit analysis computing; digital simulation; electric machine analysis computing; power system analysis computing*
- atomic absorption spectrometry, graphite furnace, atomisation processes computer modelling 4-12431
- blood pressure, arterial and pulmonary, computerised anal. of radiotelemetrically transmitted data (*German*) 4-47087
- Chiles-T program, fracture mechanics anal. 4-19769
- coronary obstructions, computer-aided anal. from monoplane cineangiograms, 3D reconstruction of arterial segment 4-12702
- DNA sequences, computer analysis and manipulation 4-46932
- dynamic simulation and parametric sensitivity studies on a central solar domestic hot water system 4-52098
- EM field, interactive post-processing techniques 4-28599
- gyro force measuring transducer, dynamics and performance anal. using computer model 4-52520
- heat transfer in internally cooled superconducting cables 4-33905
- human motion, computer simulation of 3-D motions in loading operations 4-47029
- intermolecular energy analysis program 4-43936
- kidney, dynamic ^{99m}Tc scintigraphy, combined computer and nomographic anal. 4-21775
- magnetic recording materials, surface topography meas., computer analysed microscopic interferometry 4-22750
- panel fundamental modal displacement response, evaluation of Jx² on MICRO-2200 desk calculation 4-19752

computer-aided analysis continued

- probability of failure modes in finite element analysis of brittle materials 4-19770
- reactor pressure vessel, radiation embrittlement, physically based surveillance programs 4-51819
- shells—governing equation, computerised analysis 4-19727
- solar pond performance improvement using heat pumps and district heating, computer analysis 4-52194
- solar power, double-shell solar house, thermal model 4-7820
- steam turbines, spontaneous condensation interaction with fluid dynamic shock 4-24990
- steel, stainless, computer aided X-ray fluorescence spectroscopy 4-35962
- temperature measurement, transient behaviour computer aided evaluation for reducing time taken (*German*) 4-48129
- temporal patterns, neuronal impulses, distribution of inequality patterns 4-41497
- voice fundamental frequency and intensity, computer system for automatic anal. 4-12711
- computer-aided circuit analysis** *see* **circuit analysis computing**
- computer-aided circuit design** *see* **circuit CAD**
- computer-aided design** *see* **CAD**
- computer-aided instruction**
 - see also education*
 - microcomputers, developments in educational appls. 4-36876
 - science software, review 4-47819
 - SIMSEM, simulated SEM for students 4-42670
 - videodisc technology appl. in education and training 4-8698
- computer architecture**
 - 8-bit expandable bipolar bit-slice processor 4-10241
 - central processing unit, construction 4-32004
 - microaddress sequencer for 8-bit expandable bipolar bit-slice processor 4-10242
 - MIDAS multiprocessor architecture 4-28336
 - optical data processing system, architectural development 4-54960
- computer debugging**
 - MBDDDT, interactive debugging tool for VAX-MBD CAMAC system 4-23556
 - MIDAS multiprocessor, operator system: considerations 4-23558
- computer-generated holography**
 - cell-oriented non-axis computer-generated holograms for use in Fresnel diffr. mode 4-38421
 - coherent optical correlation with liquid crystal light valve and hologram matched filters (*French*) 4-38569
 - colour recording and reconstruction by Fourier holography, computer generated colour (*Spanish*) 4-5556
 - compensation system design for interferometric testing of aspherical surfaces (*German*) 4-53742
 - electron beam generated holographic masks for optical vector-matrix multiplication 4-49301
 - filters for reshaping collimated laser beams with Gaussian profile to uniform profiles 4-19398
 - Fourier hologram synthesis and study for permanent holographic memory appls. 4-14660
 - Fourier holograms, computer-generated circular carrier 4-19407
 - Fourier type synthetic amplitude holograms, numerical reconstruction props. 4-54991
 - holographic lens CAD 4-10267
 - multiplex hologram distortion compensation 4-23923
 - optical processor, holographic methods of visualizing mathematically specified 3-D objects 4-54987
 - pulse-density coding of computer generated holograms 4-49299
 - reflection holographic lens having nonspherical wavefront designed by a microcomputer 4-5557
 - reflection volume holographic scanners with field-curvature corrections 4-14654
 - synthetic aperture receiver with holographic recording 4-33633
- computer graphic equipment**
 - see also interactive terminals; plotters*
 - digital plotting table DZT 90×120, graphic online data output (*German*) 4-17281
 - three-dimensional images, computer reconstruction of serial sections 4-21855
- computer graphics**
 - see also curve fitting; interactive systems*
 - BETAPLOT user's manual, black oil reservoir simulator, output processing 4-16732
 - enzyme-inhibitor modelling at Merk macromolecular graphics facility 4-44009
 - Epson bit plot graphics, electron density maps 4-18910
 - JBL's central array design program 4-19676
 - magnetic anomalies, uniform grids from raster data [magnetic anomalies], software package 4-31659
 - McIDAS III, interactive meteorological data access and anal. system 4-3827
 - mineral exploration computer graphics (*Hungarian*) 4-42205
 - molecular modelling, energy optimization with computer animation 4-14599
 - molecules modelling, Van der Waals surfaces, real-time computer graphics 4-43945
 - motion, representation and perception, conf., Toronto, Canada (April 1983) 4-47739
 - motion from continuous or discontinuous arrangements 4-52342
 - motion research, image intensity changes to semantic abstractions 4-52341
 - optical flow 4-52343
 - remote sensing data image processing techniques 4-36508
 - RIP interactive program for colour graphic terminals 4-28337
 - seismic refl. profiling data, movie film computer graphics methods 4-52925
 - ¹³C Fourier transform NMR spectral peak overlap deconvolution software 4-27549
- computer industry** *see* **DP industry**
- computer interfaces**
 - see also CAMAC; computer peripheral equipment; data communication equipment*
 - astronomy, GALAXY photographic plate measuring machine 4-8398
 - automated weighing, easy-to-use interface SOFTWEIGH 4-8874
 - Brookhaven FASTBUS/UNIBUS interface 4-23552
 - Brookhaven segment interconnect 4-23553

computer interfaces continued

- CERN's approach to FASTBUS software 4-23555
- electro-mechanical train speed device and computer-supported safety system, design 4-48100
- EPR spectrometer microcomputer data accumulation and reduction system 4-27547
- FASTBUS device emulation 4-23564
- FASTBUS Diagnostic Language for multimaster multisegment FASTBUS system testing 4-23565
- FASTBUS implementation review 4-28322
- FASTBUS Software Resource Guide 4-23560
- FASTBUS software review 4-23554
- FASTBUS to UNIBUS processor interface, data collection system 4-23563
- five segment Brookhaven FASTBUS system 4-28324
- high bandwidth FASTBUS based data acquisition system for imaging coronary arteries 4-31391
- ionospheric sounding apparatus, microprocessor-controlled system 4-8319
- laboratory instruments interfacing with microcomputers 4-53433
- microcomputer controlled X-ray diffractometer for investigations in transmission technique (*German*) 4-33808
- microcomputer data acquisition, using Apple II computer, and ISAAC interface 4-8883
- microcomputer interface for spectra registration and storage, by photon counting 4-53664
- MIDAS multiprocessor, operator system considerations 4-23558
- MLLE microprocessor based large logging expt. system 4-28333
- multichannel analyser, interface to mainframe computer 4-1008
- multichannel analyser-microcomputer interface 4-8692
- multipurpose computer interface for scanning optical spectrometer 4-27496
- Nuclear Structure Research Lab., VAX based data acquisition system 4-28331
- photoelectron and electron energy loss spectrometers automation, using microcomputer 4-13628
- programmable decade resistor, low-temp. calorimeter appl. 4-17885
- proportional coordinate detectors, controller for data reading and encoding 4-23502
- real time computer appl. in nuclear and particle physics, conf., Berkeley, CA, USA (May, 1983) 4-27231
- scanning electron microscope, model for microcomputer control 4-18014
- spectroscopic signal averaging interface between Apple II microcomputer and transient recorder 4-27598
- TGA/FTIR interface to computer 4-17883
- two-wire interface bus for automation of experiments 4-27498

computer internal arrangement *see computer architecture***computer networks**

- see also distributed processing*
- distributed laboratory data collection and management 4-8882
- meteorological local area network configuration and application 4-26783
- MIDAS multiprocessor system, appl. programming 4-23537
- networked VAX/LSI/CAMAC data acquisition system development 4-28334
- nuclear safeguards, minicomputer network for real-time accounting 4-28341

computer operator training *see training***computer peripheral equipment**

- see also computer graphic equipment; data communication equipment; interactive terminals; printers*
- speech synthesis, single-chip devices, encoding techniques and system interfacing aspects 4-5767

computer peripherals *see computer peripheral equipment***computer printers** *see printers***computer programs, complete** *see complete computer programs***computer programs (listings)** *see complete computer programs***computer science education**

- central processing unit, construction 4-32004
- DALECKS laboratory kit for logic and computer studies 4-17668

computer software

- not used for applications software for which see specific applications*
- see also software engineering; systems software*
- No entries

computer storage devices *see digital storage***computer subroutines** *see subroutines***computer testing**

- benchmark calculations for small- and medium-scale computers 4-33281
- FASTBUS Diagnostic Language for multimaster multisegment FASTBUS system testing 4-23565
- quantum chemical calcs. using Floating Point Systems Inc. model 164 attached processor 4-38029

computerised communications control *see communications computer control***computerised control**

- see also chemical engineering computing; communications computer control; computerised materials handling; control engineering computing; electrical engineering computing; industrial computer control; mechanical engineering computing; nuclear engineering computing*
- APD3600 computerised X-ray powder diffractometer 4-50131
- astronomical spectrophotometer using acoustooptic filter under microcomputer programmable control 4-42311
- astronomical telescope pointing and tracking, Forth appl. 4-31760
- automated dye laser calibration using microprocessor control and optogalvanic detection 4-24016
- blood perfusion automatic control, for infant extracorporeal circulation 4-3647
- COMEDY: a microcomputer based system for controlling pulsed dye-laser experiments 4-28720
- computation centre for controlling film printing and processing equipment (*Russian*) 4-17980
- concentrator arrays, solar tracking by peak power positioning 4-31101
- cryogenic installations, control systems 4-48140
- Darrieus wind turbine, feedback control and produced energy optimisation 4-57781
- Delfin Nd laser facility, controlling computer assembly and automation subsystems 4-28726
- effusion cell for accurate control of material evaporation under vacuum conditions 4-51500
- EPR spectrometer control by microprocessor and digital hardware 4-27548

computerised control continued

- fatigue testing system for polymers 4-57510
- free electron laser LEILA expt., remote control system 4-10313
- furnace for physics expts., microcomputer controlled 4-262
- galvanometer scanner, precision post-objective two-axis system 4-24128
- laser system, multichannel, optics alignment process control 4-19497
- LMFBR components testing under thermal transients, data acquisition and control 4-18731
- luminescence spectrometer, study of time resolved emission of $\text{Eu}^{3+}:\text{Y}_2\text{O}_3$ 4-51323
- mass spectrometer automated control by distributed microprocessors 4-27623
- microcomputer-based temp. control system, high accuracy, calorimeter appl. (*Chinese*) 4-42944
- microcomputer-controlled devices for human implantation 4-17016
- microprocessor-based pressure controller, ion-atom scattering expt. appl. 4-33564
- microprocessor-controlled nonlinear heating system for thermoluminescence studies 4-22771
- microprocessor-controlled steerable array for metre-wave radio astronomy 4-8394
- multiple pulse generator, software-controlled, application to drift tube gating system 4-13712
- NMR spectrometer computer requirements and overall design 4-27546
- NMR spectrometers, multipurpose, control, data acquisition and online processing 4-48165
- optical quartz fibre fabrication, microprocessor control of drawing machine (*Czech*) 4-55240
- OSS-3/7 telescopes, image motion compensation 4-17394
- photon-counting photometer, on-line control (*German*) 4-53049
- photovoltaic power systems, appls. and microprocessor control 4-31100
- psychoacoustical experiments appl. 4-24310
- pulsed NMR, millidegree temperature control 4-4389
- reflectance microscope, automated, for mapping of polished coal surfaces 4-42227
- scanning electron microscope, model for microcomputer control 4-18014
- SEM, computer controlled, digital image processing use 4-4504
- SEM-minicomputer system to study p-n junctions under EBIC and EBIV 4-6886
- semiconductor lasers, frequency control by computer system (*Japanese*) 4-19482
- spectroelectrode, microprocessor controlled, for electrochem. system study 4-43018
- spectrometer control and data acquisition using Rockwell AIM-65 4-48210
- sugar crystallisation control system (*Japanese*) 4-30618
- transducer interfaces and computerised measurement 4-48115
- Tritium Systems Test Assembly, control system software design 4-9487
- ULTRAMAT 21 and 22 microprocessor-based gas analysers for standard applications 4-35967
- ultrasonic pipe weld inspection, remotely controlled system for nuclear power plant piping 4-51942
- US projector, radiated pressure, computer control 4-49643
- US scanning bridge, computerised, for defect imaging of composites 4-35846
- X-ray equipment intelligent control by microprocessor system 4-21793
- SiO₂ film, avalanche electron injection system with microprocessor-control (*Japanese*) 4-50968

computerised industrial control *see industrial computer control***computerised instrumentation**

- see also astronomy computing; astrophysics computing; automatic test equipment; biology computing; chemical engineering computing; chemistry computing; computerised monitoring; computerised spectroscopy; computerised tomography; electrical engineering computing; electronic engineering computing; geophysics computing; nuclear engineering computing; physics computing*
- acoustic logging instrumentation, data digital recording and processing (*Russian*) 4-13079
- aerial reconnaissance lens computerised evaluation by automated lens testing system 4-49482
- amputee gait, microcomputer-based system for temporal asymmetry meas. 4-31359
- analytical instruments, cost-effective data system 4-17884
- angle meas. system, Soviet primary standard 4-48080
- angular measurement using multipolar resolvers, computerised system, config. and operation (*French*) 4-8867
- Antares CO₂ laser beam alignment system performance 4-14707
- APD3600 computerised X-ray powder diffractometer 4-50131
- Applikon ASA 2020 Titro-Analyzer (*Dutch*) 4-46807
- artificial heart, digital system for P-wave detection and synchronisation 4-21849
- aspherical optical element grinding on modernised computer-controlled 'start-500' lathe 4-44256
- astronomy, GALAXY photographic plate measuring machine 4-8398
- AURAS system for computer-aided autoradiogram evaluation 4-8996
- autoanalyser system for data collection using S-100: CP/M microcomputer 4-37075
- automated weighing, easy-to-use interface SOFTWEIGH 4-8874
- automatic developing machine for large photographic plates 4-22328
- automatic internal friction meas. system, signal anal. appl. 4-38774
- automatic photographic plate measuring machine for astronomical meas. 4-53050
- automatic radiation thermometer calibration facility, -50 to 3000°C 4-2576
- automatic TLD reader for personnel monitoring 4-54431
- automation of chem. anal. laboratories and chem. data bases 4-33082
- azimuthal data, errors in acoustic meas. system on oscillating base (*Russian*) 4-14859
- balances, developments 4-53657
- BBC microcomputer, TCR meas. 4-36875
- beam energy homogeniser and automatic meas. of excitation functions 4-943
- biological, respiring cells and vesicles characts. determ. 4-26562
- biomedical radiometric systems, computerised, for diagnostic appls. 4-57981
- camera control system (*Dutch*) 4-47539
- capacitance-voltage characts. obs. of MIS structures, at IR freq. automated system 4-42981
- cardiac transmembrane action pots., dual microcomputer anal. system 4-41659

computerised instrumentation continued

CCD camera at Kitt Peak National Observatory, computer control system 4-36587
chest radiography, scanning system with regional exposure control, theoretical considerations 4-8089
chromatography automation system 4-3432
chromatography system automation 4-21499
composite aerospace struct., computerised ultrasonic C-scan system 4-57520
constructive elements, mech. strength, measuring system (*Russian*) 4-35800
corrosion testing, current distribution, microcomputer controlled meas. system (*Japanese*) 4-46689
CRO, data display option for laboratory microcomputers 4-17882
de Haas-van Alphen spectrometer, 40 T pulsed field, for Fermi surface studies 4-34860
Del'fin Nd laser facility, controlling computer assembly and automation subsystems 4-28726
density of liquids meas. using tuning-fork transducer 4-27488
differential scanning calorimeter, microprocessor controlled, Perkin-Elmer model DSC-4 appls. 4-4408
digital multimeters, Fluke Series 70 range, microprocessor control, display technique using ADC (*French*) 4-22774
digital wave-front measuring interferometry, systematic error sources 4-8947
dilatometer, computer controlled, appl. to ceramic sintering (*French*) 4-53678
disciplined quartz frequency standard, microprocessor controlled 4-53660
Doppler radar for medical science (*Dutch*) 4-36245
dose verification techniques used with the NRPB automated thermoluminescence system 4-54433
dosimeter for diagnostic X-ray examinations (*Dutch*) 4-58009
electrical quadrupole, Z-parameters long-term stability meas., intrum. (*Russian*) 4-13031
electron microscopy, image analysis by non-dedicated microcomputer 4-42938
EM dosimetry, computer-based scanning system 4-52549
EM dosimetry using computer-based scanning systems 4-21820
eye saccade, microcomputer-based instrument for predicting final eye position halfway through 4-41658
fast automated, TLD calibration system using pneumatic rabbit system 4-54432
final product weighing system, automated nucl. material accountability meas. 4-33060
flow analysis, segmented peak amplitudes meas., efficient algorithm 4-55464
freeze-fractured membrane area stereometric estimation 4-52538
gas chromatograph with integrated microcomputer for high resolution detection (*German*) 4-21509
gas chromatography, computerised system (*Chinese*) 4-16725
general-purpose laboratory workstations, productivity and data quality improvements, appls. 4-8881
geophysical small-scale surveying, using microcomputer data gathering system 4-52893
gyroscope, direct rotation-rate detection, digital DP system 4-17881
high temperature meas., US thermometer, pulse echo technique, PLL appl. 4-48137
high-speed process chromatography for the Claus process 4-35968
histological lung sections, inhaled particles spatial distrib. quantification, microcomputer based system 4-31389
HPLC automation 4-31040
image-analytic cytometry slide analyser design 4-26548
INFRA-EYE 160/560 thermography system (*Japanese*) 4-53680
interferometers, cryogenically cooled, automatic alignment technique 4-4453
interferometers for optical testing (*German*) 4-27574
International Solar Polar Mission, mag. field instrumentation and data streams processing 4-31731
inverted torsion pendulum automation using microcomputer (*French*) 4-37077
ionospheric sounder, flexible waveform generator, radiowave propagation anal. 4-47472
ionospheric sounding using microprocessor-controlled system 4-8319
IR Fourier spectroscopy in low-temp. pyrometry, microcomputer-aided instrumentation (*German*) 4-27605
laboratory data handling using Apple II computer 4-27492
laboratory instruments interfacing with microcomputers 4-53433
laser Doppler anemometer, with automatic traversing system, wind tunnels and jets appl. 4-24503
laser multichannel system, adjustment control facilities 4-10324
LEITZ MPV3 microscope photometer system of modular design 4-277
LEITZ MPV-CD microscope photometer, struct. width meas. instrument, uses 4-276
LEITZ MPV-CD microscope photometer, structure width meas. instrument, tech. realisation 4-275
LEP magnetic lenses, automated meas. system 4-48856
lifetime meas. in spectroscopy, microcomputer system 4-32325
lock-in analyser operating at very low frequencies, using personal computer 4-22800
loop tracer with waveform storage for ferroelectric hysteresis obs. 4-17900
magnetic characteristics of electric machine, automatic meas. system using microcomputer (*Japanese*) 4-48162
maintenance and calibration of instruments, conf., Zagreb, Yugoslavia, Sept. (1983) 4-47758
metallography using computer controlled SEM, inclusion size and shape 4-51929
meteor camera control system (*Dutch*) 4-47539
microanalytical balances, microprocessor based 4-7766
microcomputer controlled X-ray diffractometer for investigations in transmission technique (*German*) 4-53808
microcomputer data acquisition, using Apple II computer and ISAAC interface 4-8883
microcomputer-controlled apparatus for simultaneous measurement of exoelectron emission and thermoluminescence 4-295
microcomputer-controlled data logger for engineering geophysics 4-31707
microcomputer-controlled gravimetric absorption apparatus 4-18029
MICRODARE/LABNET software for instrumentation, control, and simulation 4-27493
microprocessor application in nuclear instrumentation 4-48694

computerised instrumentation continued

microprocessor-aided Technicon autoanalyser, for wet chemistry analysis 4-27495
microprocessor-based thermometers, sensor developments 4-4406
microprocessor-controlled steerable array for metre-wave radio astronomy 4-8394
microprocessor-controlled total organic C analyser, water pollution control appl. 4-12518
microwave cavities meas., field distribution determ. 4-27538
micrometer, fully automatic, microcomputer-based approach to automation of flow rate meas. 4-12716
mirror fatigue control, edge actuated 4-1513
multi-instrument network for organic research laboratory with Apple II microcomputer 4-8879
multichannel analyser system, ND62 design and appl. 4-28308
multichannel data acquisition system for pulsed laser appl. 4-44135
multichannel system for precision energy measurement for pulsed lasers 4-44122
multiple mirror telescope servo control system 4-31761
NEXRAD-A Doppler radar system for weather recognition and forecasting, algorithms implementation 4-17312
nuclear plant data measurement using microcomputers 4-14102
oleum solution on-line analysis using electrodeless conductivity 4-12422
optical alignment equipment for laser system 4-28707
optical microscopy, image analysis by non-dedicated microcomputer 4-42938
optical testing, computer aided 4-49582
optical tooling, high-precision, developments in automation and accuracy (*German*) 4-44255
photogrammetric rectification equipment, RECTIMAT-C system of VEB Carl Zeiss Jena 4-42224
photometer-polarimeter, laser-based automatic type (*Russian*) 4-43008
polarography, microprocessor controlled instrument, with simultaneous square-wave, AC, DC, and pulse polarograms 4-12397
polygon mirror automatic calibration system (*Japanese*) 4-19537
portable digitized multi-channel data recording system for deep seismic sounding (*Chinese*) 4-17272
powder diffraction pattern peak identification, second derivative algorithm 4-50133
powder diffractometer, qualitative phase anal., search/match/identify program 4-50140
probability-based scoring technique for phase identification in X-ray powder diffraction 4-50141
programmable decade resistor, low-temp. calorimeter appl. 4-17885
programmable device for rapid preselection of events 4-23503
proportional coordinate detectors, controller for data reading and encoding 4-23502
radioactive data spectrometer recording with a microprocessor-oriented device, automation 4-52534
rainfall, automated meas. system (*Polish*) 4-47459
rainfall instrumentation package with improved sampling 4-31693
reflectance microscope, automated, for mapping of polished coal surfaces 4-42227
remote real time oscilloscope displays for diagnostics on tandem Van de Graaff accelerator 4-54482
remote sensing photographic equipment system developed by VEB Carl Zeiss Jena 4-42221
remote sensing photographic system FEAG digital photowrite and photoscan system 4-42225
rotating mechanical systems, inertia, damping and load measuring device 4-42953
Royo 218 portable particle counter automation implemented by a microprocessor system 4-27638
scanning electron microscope, model for microcomputer control 4-18014
seawater parameters meas. using computerized suite of optical instruments 4-26718
self-compensating spectral-scanning ellipsometer 4-53730
SEM cathodoluminescence mode detection system, computer controlled, appl. to semicond. study 4-34380
SINDUR detector, FAST-BUS trigger processor for $e^+e^-e^+$ events 4-23514
sonic elastic moduli and internal friction meas., microcomputer-controlled device 4-19779
sound absorption in gases meas., using Apple II microcomputer 4-33881
spike processing at low cost, microcomputer based system 4-3661
stereoscopic digitising plotting system for cartography 4-31700
stress meas. system, for thin-walled framed structures (*German*) 4-5849
subnanosecond waveform analysis in the presence of fading by means of a random sampling technique [biomolecule application] 4-53666
subpicosecond pulses monitoring, real-time instrument with autocorrelator 4-44131
surveying instrument, portable, microprocessor-controlled, design and operation 4-47473
texture goniometer, computer controlled, appls. (*French*) 4-50130
texture goniometer, computer-operated 4-46719
TGA/FTIR interface to computer 4-17883
thermonuclear fusion expts., automatic diagnostic system for strong shock waves 4-39004
TLD readers electronic design 4-37940
torsion pendulum, internal friction meas. using microcomputer (*French*) 4-37078
transducer interfaces and computerised measurement 4-48115
Transducer Tempcon, conf., London, England (June-July 1982) 4-53350
turbine blade analysis using moire system for producing profile numerical data using a computer and video store 4-53736
two-wire interface bus for automation of experiments 4-27498
ULTRAMAT 21 and 22 microprocessor-based gas analysers for standard applications 4-35967
ultrasonic imaging system, mechanically scanned, Forth based software for real time control 4-28947
voice I/O for scientific instruments 4-35956
X-ray powder diffractometry, computer aided search/match system 4-50132
X-ray stress/strain distribution meter, two dimensional, computer controlled 4-18022
Pt resistance thermometry, microcomputer-based instrument 4-259

computerised manufacturing control see manufacturing computer control

computerised materials handling

U, low-enriched scrap assay using end-crop box counter 4-33057

computerised monitoring

- advanced foetal monitoring system, report 4-12718
- Arrhythmia arrhythmia monitor, appl. (*Dutch*) 4-16998
- arrhythmia monitor, portable, microcomputer-based: design, implementation and evaluation 4-47093
- borehole portable level and temp. monitor with data compression and error correction 4-26872
- breath-to-breath occlusion pressure and ventilatory parameters, automatic monitoring system 4-31355
- BWR core performance monitoring and predicting systems 4-33087
- cardiovascular monitoring, US sonomicrometry, microprocessor-controlled system 4-52416
- epidural intracranial press. monitoring system 4-3638
- eye movement monitoring, image processing algorithms 4-21854
- newborn intensive care monitoring system 4-31363
- nuclear power station, distributed monitoring and control system 4-54345
- pollution control, low-cost environment monitor, 16 remote stations (*Spanish*) 4-52246
- radiation monitoring, digital system using a personal computer (*Japanese*) 4-47082
- temperature measurement means, automatic measurement and checking 4-4403

computerised navigation

- astronomical navigation principles and BASIC program for position finding (*French*) 4-47416
- azimuthal data, errors in acoustic meas. system on oscillating base (*Russian*) 4-14859
- Loran-C navigation as an aid to aerial photographic operations 4-31701

computerised numerical control

- optical structural component automated machining on numerically controlled multipotential machines, instrum. assembly line prod. appls. 4-55242

computerised pattern recognition

- aerial photographs, structured approach to segmentation 4-36499
- automated spectral classification in astronomy 4-8403
- automatic pattern extraction and collection applied to radar derived rain maps 4-52912
- automatic spectral classification as pattern recognition problem (*French*) 4-8406
- chemical compounds, structure-property relationships, pattern recognition 4-14357
- colour recognition, linear discriminant direct optical computation 4-49289
- feature based US inspection system, reflector classification analysis, pattern recognition 4-51916
- galaxies morphological type determ., automatic structural pattern recognition method (*French*) 4-53055
- map-guided image anal., aerial features recognition 4-36497
- natural terrain scenes, image registration using perspective invariant graphs 4-36501
- optical information processing, conf. Cuernavaca City, Mexico (Jan. 1982) 4-53340
- petrography, image analysis 4-22133
- powder diffraction pattern peak identification, second derivative algorithm 4-50133
- powder diffractometer, qualitative phase anal., search/match/identify program 4-50140
- probability-based scoring technique for phase identification in X-ray powder diffraction 4-50141
- pulmonary nodule evaluation system, design, function and performance evaluation 4-21806
- satellite images, rain cell classification for rainfall estimation 4-17295
- sintered carbide inserts visual inspection, electro-optical computerised system 4-35787
- speckle photography fringes, new developments in its digital processing 4-28626
- tomography, translation-invariant transformation for reproducible 2D patterns recognition 4-41625
- underwater acoustics, pattern recognition processing appl. 4-28909
- X-ray powder diffractometry, computer aided search/match system 4-50132
- Al alloy plate, fretting acoustic emission, source identification by pattern recognition 4-26169

computerised picture processing

- see also computer-generated holography
- 8-bit expandable bipolar bit-slice processor 4-10241
- acoustical holograms, image reconstruction using microprocessors 4-28934
- aerial photographs, structured approach to segmentation 4-36499
- aerodynamic research, IR thermal images processing appl. 4-29213
- agriculture appl., multi-temporal segmentation and analysis in remote sensing 4-36498
- algorithms for data smoothing, edge and line detection and vectorization 4-17310
- angiography, theory and practice of image anal., cardiac appl. 4-12700
- astronomical, rank-type spike detector (*Russian*) 4-13203
- astronomical image, background restitution using histogram of local contrast 4-31764
- astronomical spectra, automatic classification as pattern recognition problem (*French*) 4-8406
- astronomy, GALAXY photographic plate measuring machine 4-8398
- automated spectral classification in astronomy 4-8403
- automated topography measurement system 4-22752
- automatic classification of Haute Provence Observatory objective prism spectra (*French*) 4-8405
- automatic picture transmission data from satellites, evaluation of remotely sensed data 4-31648
- band-limited image restoration by iterative regularised pseudoinverse method 4-49276
- binned photometry at Geneva Observatory, use in spectral classification 4-8404
- biomedical X-ray images, software system AISC-RV3 for automated screening of chest photofluorograms (*Japanese*) 4-41624
- blood flow determination using recursive processing, digital radiographic method 4-8105
- bone mineral, quantitative in vivo determ. using computerised roentgenographic densitometry 4-21771
- celestial surfaces, dual image processing for stereoscopic display 4-36364
- cerebral blood vessels, reconstruction from lateral and frontal angiogram 4-21803

computerised picture processing continued

- coronary cineangiograms, motion anal. of coronary arteries (*Japanese*) 4-8082
- coronary obstructions, computer-aided anal. from monoplane cineangiograms, 3D reconstruction of arterial segment 4-12702
- CT imaging, improving limited data reconstructions using temporal signal processing 4-16978
- digital angiography, data compression using the Fourier transform 4-26517
- digital intravenous angiography system 4-36219
- digital picture processing for evaluating tests on reactor safety (*German*) 4-9384
- digital scanned projection radiography, image characteristics optimisation 4-8106
- discrete multivariate anal. statistical techniques for Landsat classification accuracy assessment 4-42237
- dual channel projector for flight simulation, multidisciplinary design demands 4-38545
- dynamic hepatic scintiangiographic imaging, mathematical and statistical models in nuclear medicine 4-3616
- Earth remote sensing, interactive digital image processing program system 4-3829
- echocardiograms, use of computer anal. for left ventricular function assessment 4-21751
- electron micrographs, high resolution, simulation by high-speed computation techniques 4-4499
- electron microscopy, image analysis by non-dedicated microcomputer 4-42938
- eye movement monitoring, image processing algorithms 4-21854
- feature selection with limited training samples in remote sensing 4-26697
- Fourier transform profilometry for automatic meas. of 3D object shapes 4-22746
- gamma-ray attenuation correction method for single photon emission CT (*Japanese*) 4-41623
- gel electrophoresis, image processing system 4-58032
- geometric correction process for Landsat 4 Thematic Mapper data 4-17305
- graphite fibre reinforced epoxy composites, NDE, computer analysis of X-ray and acoustic images 4-30896
- height measurement from MLA digital image data, geometry effects 4-21929
- high density facial measurement, automated approach, image capturing and processing hardware 4-21858
- high resolution electron microscopy in association with interactive computing 4-37257
- holographic interferograms of displacement field, computer-based evaluation 4-38426
- holographic interferograms of pure translations, automated digital analysis 4-38427
- hybrid optical-digital image processing method for surface inspection 4-42917
- ice floes, semiautomatic tracking using NOAA imagery 4-8338
- ICF research, digital image processing 4-37849
- image parametric/non-parametric local adaptive enhancement 4-17308
- image-analytic cytometry slide analyser design 4-26548
- imaging techniques advancements, medical and industrial appl. 4-21807
- interferometric evaluation, automated, of optical components at European Southern Observatory 4-38641
- International Geoscience and Remote Sensing Symposium at San Francisco, USA (August-September 1983) 4-13479
- ionograms, automatic scaling using method of structural description 4-22125
- IR biomedical diagnostic system, image processing and analysis 4-47059
- IR linescan technique, 1960s to 1980s development review 4-253
- Karhunen-Loeve expansion as feature ordering technique for limited training sample size 4-26849
- LANDSAT imagery, relative elevation determ. 4-31706
- Landsat MSS imagery, digital geometric distortion correction (*Chinese*) 4-21927
- Landsat-4 images, information extraction and image enhancement, appl. to San Francisco area 4-17160
- left ventricular angiograms, automated quantification 4-12701
- map-guided image anal., aerial features recognition 4-36497
- Mediagnostic image processor operated with CT equipment 4-21794
- medical appls. of advanced imaging modalities 4-26485
- medical image storage, encoding/compression techniques and statistical props. 4-57966
- medical imaging, comparison of NMR and tomographic techniques 4-57980
- medical US images, digital processing for diagnostic purposes 4-12665
- metal shadowing replicas, granular structures, textural image processing 4-52547
- metallography, standardisation and comparison of methods, report 4-12306
- meteorological Czechoslovak experiences with MDA reception equipment (*Czech*) 4-47526
- meteorological radar and satellite data compositing with computer graphics system 4-3830
- Meteosat-2 images, rectification method for satellite attitude/position var. 4-17265
- microaddress sequencer for 8-bit expandable bipolar bit-slice processor 4-10242
- microdisplacement measurements by holographic digital image processing 4-42912
- microscopes, quantitative, calibration using digital image processing techniques 4-27581
- moire fringe information processing, displacement and strain meas. appl. 4-17886
- moire pattern of vortices behind cylinders in steady flow, computer aided image processing (*Japanese*) 4-29220
- moire technique with digital image processing, object contouring and deform. meas. ZZ 4-13616
- mol. images, automatic selection from electron micrographs, appl. to lipoyl transuccinylase 4-52278
- motion, representation and perception, conf., Toronto, Canada (April 1983) 4-47739
- motion research, image intensity changes to semantic abstractions 4-52341
- multispectral image restoration, optimal method for fast approximate procedure 4-27609
- muscle biopsy, spatial pattern assessment method 4-26546

computerised picture processing continued

- musculoskeletal anatomy, complex, anal. using 3D surface reconstruction 4-36226
- natural terrain scenes, image registration using perspective invariant graphs 4-36501
- nuclear cardiac images, edge detect. and wall motion, algorithms inter-comparison 4-12698
- nuclear plant data measurement using microcomputers 4-14102
- nuclear reactor component gamma radiography, automated systems (*German*) 4-12313
- oceanic dynamic particles, holographic image analysis 4-42183
- optical and digital processing, recent developments 4-54962
- optical information processing, conf. Cuernavaca City, Mexico (Jan. 1982) 4-53340
- optical microscopy, computer-enhanced image anal. 4-43049
- optical microscopy, image analysis by non-dedicated microcomputer 4-42938
- PHOIBOS, a microscope scanner designed for microfluorometric applications, using laser induced fluorescence 4-7793
- planetary surface ruggedness estimation method 4-8409
- quantitative image measurement using a microcomputer system 4-43129
- radar image processing using VAX 11/780 and FPS-164 attached processor, oceanographic appl. 4-22172
- radiographic image enhancement by precision laser scanning and computer processing 4-52470
- radiographic image subtraction on gas ionography 4-37266
- radiographic patterns, low-contrast, simulated, effect of digital image processing on detectability 4-52474
- radiology, conf., Chicago, USA (Nov.-Dec., 1982) 4-47749
- real-time neutron radiography, on-line video image processing system 4-742
- remotely sensed data, segmentation using parallel region growing 4-17311
- remotely sensed phenomena of Earth 4-36500
- rigid body mechanics, digital image correlation 4-24392
- SAR image registration to Thematic Mapper imagery 4-17304
- SAR imagery enhancement, adaptive filtering use 4-17307
- SAR images, interpretation improvement, signal processing 4-26877
- scintigraphic images normalisation, automated method 4-16973
- seismic horizon extraction by heuristic methods 4-13089
- SEM, computer controlled, digital image processing use 4-4504
- SEM-minicomputer system to study p-n junctions under EBIC and EBIV 4-6886
- sintered carbide inserts visual inspection, electro-optical computerised system 4-35787
- SLKAAR digital data, algorithm for geometric and radiometric corrections 4-17306
- spaceborne imagery with very few ground control points, multiple scene precision rectification 4-42236
- spaceborne SAR data for mapping, image processing and algorithms 4-52941
- speckle photography fringes, new developments in its digital processing 4-28626
- surface restitution from electron micrographs of extended surface replicas in situ 4-30866
- synthetic aperture radar, data anal. for sea ice props. determ. 4-52886
- TEM, conventional and scanning, Bayesian restoration of partially coherent imagery 4-37259
- thematic map data for digital image processing 4-8337
- Thematic Mapper data, edge discrimination, digital enhancement technique 4-17309
- three-dimensional images, computer reconstruction of serial sections 4-21855
- tomography, translation-invariant transformation for reproducible 2D patterns recognition 4-41625
- ultrasonic imaging system, mechanically scanned, Forth based software for real time control 4-28947
- US soft tissue 3D display system, computerised equipment using overlaid intensity-graded sectional images (*Japanese*) 4-36193
- Venus surface TV panorama processing 4-36602
- videodensitometry, digital film anal. system, quantitative autoradiography with radiopharmaceuticals 4-16969
- white blood cells motion characterisation and pseudopod kinetics, dynamics scene anal. appl. 4-7958

computerised power station control *see power station computer control***computerised process control** *see process computer control***computerised signal processing**

- see also biology computing; computerised pattern recognition; computerised picture processing; medical diagnostic computing*
- acoustic signals, machine analysis 4-28932
- advanced foetal monitoring system, report 4-12718
- audiometry system appl. 4-41640
- auditory evoked response, digital processing (*Japanese*) 4-8059
- cardiac arrhythmia, real time mapping method using microprocessor-based systems 4-47094
- digital signal processing system for EEG frequency analysis 4-26554
- Doppler US blood flow signals, spectral anal. by personal computer 4-26487
- dynamic imaging freq. anal. in clinical EEG 4-58024
- ECG, Holter tapes, automated high-speed anal. with microcomputers 4-21831
- geophysical signal analysis 4-41779
- International Solar Polar Mission, mag. field instrumentation and data streams processing 4-31731
- optical/digital signal processing, apparatus and applications 4-49273
- pattern recognition in oil and gas seismic exploration 4-26641
- remote sensing photographic system, high-performance, MSK-4 multispectral camera 4-42222
- remote sensing photographic system FEAG digital photowrite and photoscan system 4-42225
- seismic prospecting, by downhole-crosshole reflection profiling method 4-52976
- shear wave transducer array for real-time digital synthetic aperture imaging system 4-35841
- sound signals, 16 bit adaptive transform coder for real time processing 4-33865
- spectroscopic signal averaging interface between Apple II microcomputer and transient recorder 4-27598
- speech processing, microprocessor controlled system for near-optimum intelligibility (*Spanish*) 4-14849

computerised signal processing continued

- speech synthesis and audibility meas. using digital signal processing (*Hungarian*) 4-55277
- spike processing at low cost, microcomputer based system 4-3661
- studiotronics digital signal processing (*Hungarian*) 4-55278
- underwater acoustics, pattern recognition processing appl. 4-28909
- US data, defect imaging and characterisation with digital signal processing 4-46727
- US imaging system, real-time signal processing 4-35840
- US signal processing methods for multilayered NDT 4-35843
- weak earthquakes, automatic online detection at Graefenberg Array 4-41780
- word synthesis, techniques, systems, encoding and vocoders (*French*) 4-28936

computerised spectroscopy*see also spectroscopy computing*

- aqueous sample metal pollutants, automatic anal. by energy dispersive X-ray spectrometry 4-12517
- archaeological neutron activation γ -spectrum processing by Hewlett-Packard minicomputer 4-31043
- atomic absorption spectrophotometer, AAS-3, of VEB Carl Zeiss Jena 4-26246
- cellulose, phys. struct., programmed mol. spectrosc. obs. 4-38365
- chemical composition analyser, automated (*Russian*) 4-35965
- COMEDY: a microcomputer based system for controlling pulsed dye-laser experiments 4-28720
- data-acquisition system for photoelectron and electron energy loss spectrometers 4-13628
- deconvolution, derivation and smoothing using Fourier transforms 4-48093
- diphatic compounds, chemical shift estimation 4-49052
- dispersion/absorption line shapes, computerized data processing in PASCAL 4-13625
- electron energy loss spectrometer at intermediate energy 4-13737
- ellipsometer, fast self-nulling spectroscopic, instrumentation and appl. 4-43019
- energy-dispersive X-ray fluoresc. spectroscopy, novel method for non-linear least-squares anal. 4-48092
- EPR spectrometer control by microprocessor and digital hardware 4-27548
- EPR spectrometer microcomputer data accumulation and reduction system 4-27547
- EXAFS 100 μ s-resolved technique for studying protein dynamics 4-17039
- Fourier transform spectrometer with a self-scanning photodiode array 4-37186
- fragmentation spectra meas., of relativistic deuterons and α particles 4-28280
- general-purpose laboratory workstations, productivity and data quality improvements, appls. 4-8881
- high performance liquid chromatography, 436 multiwavelength simultaneous detection system (*Japanese*) 4-26233
- hollow cathode discharge tube, time-resolved spectral measurement by photon counting method 4-37190
- inductively coupled plasma spectrometer, Leeman Labs. Plasma-Spec, features 4-12415
- laboratory instruments interfacing with microcomputers 4-53433
- liquid mesophases, slow-motion EPR spectra in terms of generalised Langevin eqn., fast computational approach 4-2823
- low-energy electron energy loss spectroscopy of high sensitivity 4-18020
- low-temperature meas. in 0.8 to 45, range, using Elektronika 1001 computer 4-32324
- mass spectrometer, automated complex MI-1201-PRM-2 (*Russian*) 4-27627
- mass spectrometer automated control by distributed microprocessors 4-27623
- microprocessor-controlled nonlinear heating system for thermoluminescence studies 4-22771
- molecular spectroscopy, conference, Sofia, Bulgaria (Sept. 1983) 4-53345
- MOS structures, DLTS automatic meas. of interface-state densities (*Japanese*) 4-40062
- multichannel detector photoelectron spectrometer for ground state study of dichloromethyl (-d₁) cations 4-9830
- multielement analysis, sequential, by automated atomic absorption 4-12409
- multipurpose computer interface for scanning optical spectrometer 4-27496
- NMR spectrometer computer requirements and overall design 4-27546
- on-line event selection with FAMP microprocessor system in NA11 spectrometer 4-23454
- optical multichannel analyser meas. of fast changes in absorption and fluorescence spectra 4-27597
- organic compound structure elucidation system CHEMICS, developments 4-28572
- PMR by Fourier transformation, chem. shift and spin coupling separation, dispersion signal elimination 4-37136
- pulsed spectrometer, computer controlled, using digital pulse programmer magnetic resonance spectrometers EPR ZZ 4-53722
- Raman spectrometer minicomputer data acquisition and anal. system 4-53762
- Raman spectrometer-minicomputer software interface in FORTRAN 4-13683
- real-time interactive spectroscopy 4-27602
- sequential inductively coupled plasma spectrometer, Atom Scan 2000, design considerations 4-12407
- signal averaging interface between Apple II microcomputer and transient recorder 4-27598
- spectral transmission data anal. using microprocessor controlled digitiser, camouflage appls. 4-1355
- spectrochronograph with better than 10 ps time resolution 4-298
- spectrofluorometers, building-block approach to design 4-12411
- spectrophotometer, computer integrated, for film thickness monitoring 4-42923
- spectrophotometer, stray radiation testing and reduction 4-53728
- spectrophotometric high-speed detector, photodiode array technology appl. to HPLC 4-12414
- steel, stainless, computer aided X-ray fluorescence spectroscopy 4-35962
- thermal desorption spectra, meas. using quadrupole mass analyser with personal computer (*Japanese*) 4-37242

computerised spectroscopy continued

- time-of-flight mass spectrometer, automatic control and timing unit 4-22869
- time-resolved EXAFS technique, microcomputer-controlled system 4-22896
- transition metal complex electronic absorption spectral curve resolution by least-squares methods 4-31044
- triplet state EPR spectra and spin Hamiltonians 4-51120
- two-dimensional data array processing by computers 4-27497
- X-ray chemical analysis of oceanic and geologic samples using process control spectrometer 4-58305
- X-ray fluorescence sequence spectrometer, VRA-30, of VEB Carl Zeiss Jena 4-26245
- X-ray fluorescence spectrometer-computer system interfacing procedure, data management simplification 4-12413
- X-ray fluorescence spectrometric multichannel analyser using Apple II plus microcomputer 4-31045
- X-ray microanalysis, automatic speech recognition appl. 4-12416
- XPS, data reduction using microcomputer (*Japanese*) 4-40602
- ¹³C Fourier transform NMR spectral peak overlap deconvolution software 4-27549

computerised test equipment *see automatic test equipment***computerised tomography**

- 3D display method for tomographic images, emission CT appl. 4-8099
- aerosols distribution images reconstruction 4-41276
- BBC radiotherapy systems: modular, system-oriented, comprehensive, including diagnostic system 4-36215
- biomedical appls. of nuclear techniques and equipment (*Italian*) 4-12682
- BWR core, void fraction meas., X-ray CT scanner appl. 4-4992
- cardiac emission tomography, mathematical description 4-47061
- cerebral blood vessels, reconstruction from lateral and frontal angiogram 4-21803
- cerebral muscarinic acetylcholine receptors, external imaging 4-47068
- coded aperture technique for radioactivity distribution determ. in organs (*French*) 4-57996
- conference on phys. in medicine and biology, Trieste, Italy (Mar.-April, 1982) 4-53355
- conference on radiology, Bordeaux, France (Sept. 1983) 4-8645
- craniofacial surgical planning and evaluation, 3D CT reconstruction images 4-36227
- cross-sectional geometry and mass density distrib. of humans and lab. animals, evaluation using CT 4-12610
- detectability of low-contrast features 4-31329
- detector channel design 4-26506
- differential diagnostics of benign and malignant tumours, dispersion analysis of densitometric data (*Russian*) 4-16952
- diffraction tomography as applied to EM and acoustical imaging, review 4-21765
- divergent beam X-ray transform, sums of homogeneous functions 4-8096
- dopamine receptors in human brain, imaging by positron tomography 4-8108
- dose reduction through variable dose CT scanning 4-31338
- dual-energy scanning, practical aspects 4-52460
- echography, acoustic impedance tomography, image quantisation (*French*) 4-57970
- EM power deposition pattern in human body, two-dimensional technique 4-41561
- emission computed axial tomography, recording system positional inaccuracy problem anal. 4-21797
- emission CT, single photon and positron, review (*Japanese*) 4-36225
- emission CT using a rotating slant-hole collimator and a portable camera, performance obs. (*Japanese*) 4-41622
- forearm density evaluation with axial tomography 4-21786
- gamma-ray attenuation correction method for single photon emission CT (*Japanese*) 4-41623
- generalised Radon transform inversion 4-21777
- geometric deconvolution, meta-algorithm for limited view CT 4-41615
- heart structure and function quantification, imaging requirements 4-12703
- history and some recent developments 4-58003
- image and original object resemblance, relationship to image reconstruction filter function, case without noise interf. 4-21796
- image data communication system for medical information system (*Japanese*) 4-36251
- image processing with special reference to emission CT 4-58004
- image reconstruction from incomplete projection data: iterative reconstruction-reprojection techniques 4-41616
- image reconstruction methods from transaxial samples, algorithms (*Spanish*) 4-26520
- imaging spatial distributions of resistivity using applied potential tomography 4-8135
- integrator-charge storage cct., tomographs appl. 4-26505
- interactive stereotactic system for CT-aided neurosurgery 4-3646
- internal temp. mapping with US computed tomography 4-53688
- inverse optics, conf., Arlington, VA, USA (Apr. 1983) 4-17625
- iterative convolution backprojection algorithms for image reconstruction from limited data 4-12688
- limited-angle reconstruction, Bayesian approach 4-12689
- lung, radiotherapy-induced change, CT findings 4-36180
- mechanical components, investig. using tomographic techniques 4-8997
- Mediagnostic image processor operated with CT equipment 4-21794
- medical applications of optical processing 4-57976
- medical appls. of advanced imaging modalities 4-26485
- medical imaging, comparison of NMR and tomographic techniques 4-57980
- Medicor CT 0100/0150 parameters 4-21795
- microplasma tomographic X-ray imaging, off-axis multi-slit coding 4-44861
- microwave diffraction tomography system for biomedical applications 4-26498
- microwave thermography, used for tumour diagnosis (*German*) 4-12674
- MTF of CT scanner from cyclic bar image variance 4-49291
- multiplane tomographic imager, phys. props. assessment 4-8101
- musculoskeletal anatomy, complex, anal. using 3D surface reconstruction 4-36226
- Myocardial perfusion, regional changes meas. using dynamic CT and contrast medium, dog expts. 4-12683
- myocardial tomography, 7-pinhole, inability to obtain accurate ²⁰¹Tl kinetic data 4-21781

computerised tomography continued

- myocardium, ²⁰¹Tl single photon emission transaxial tomography, 2 years' experience 4-3614
- patient beam positioning system for treatment planning using CT images (*Japanese*) 4-8067
- PC-384 positron camera system for emission tomography of the brain, performance study 4-36213
- pelvimetry, low-dose CT 4-52476
- phantom designs for radiation dosimetry, CT appls. 4-26531
- positron camera design with dense drift space MWPCs 4-18858
- positron emission tomography for metabolic and pathophysiological mechanism studies 4-16951
- positron tomograph designed for brain imaging, performance evaluation 4-16970
- prospectively gated cardiac CT, dog expts. 4-26512
- pulmonary nodules, standard phantom for quantitative CT anal. 4-31332
- Radon-space detection and estimation 4-21778
- reconstruction method for attenuation coeff. in 2D cross section of 3D object 4-36252
- reconstruction techniques from projection data, new representations 4-21776
- reconstructions with limited data, improving resolution using temporal signal processing 4-16978
- reflectivity tomography in attenuating media 4-57971
- review of CT scanning: current status, recent developments, and future projections 4-31328
- scanner, spatial resolution evaluation by direct anal. of edge response function 4-8084
- scattered radiation in diagnostic radiology: magnitudes, effects and methods of reduction 4-31325
- seven pinhole tomography, mathematical description 4-47061
- signal processing techniques appl. 4-41644
- single photon emission CT of liver and spleen, 180° rel. to 360° data reconstruction 4-21772
- single photon emission imaging, Super-Jumbo Digital Gammacamera, features 4-36234
- single photon emission tomography in cardiology, review 4-12695
- single-photon emission CT, nonuniformity induced artifacts 4-31320
- single-photon-emission CT, attenuated Radon and Abel transforms 4-12690
- spatial resolution of a rotating gamma camera tomographic facility 4-21773
- spine CT, curved coronal reformations from serial images 4-36228
- stochastic modelling of physiologic processes with radiotracers and positron emission tomography 4-57820
- subtraction gated CT with dynamic spatial reconstructor, cardiac evaluation, dog expts. 4-36212
- teleradiology, CT from ordinary radiographs 4-8094
- three-dimensional images, computer reconstruction of serial sections 4-21855
- time-coded emission tomography, 3-dimens. resolution investig. 4-47060
- translation-invariant transformation for reproducible 2D patterns recognition 4-41625
- transverse sections imaging using an X-ray image intensifier and a TV camera 4-52458
- ultrasound and optical tomography, perturbation correction for refr. 4-21766
- US attenuation imaging, aperture diff. theory, computerised tomography 4-8058
- ventilation perfusion ratios of the normal supine lung using emission tomography 4-36141

computerised traffic control *see traffic computer control*

- computing applications to aerospace engineering *see aerospace computing*
- computing applications to architectural design *see architectural CAD*
- computing applications to art *see art*
- computing applications to astronomy *see astronomy computing*
- computing applications to astrophysics *see astrophysics computing*
- computing applications to biology *see biology computing*
- computing applications to biomedical engineering *see medical computing*
- computing applications to chemical engineering *see chemical engineering computing*
- computing applications to chemistry *see chemistry computing*
- computing applications to circuit analysis *see circuit analysis computing*
- computing applications to circuit design *see circuit CAD*
- computing applications to civil engineering *see civil engineering computing*
- computing applications to communications engineering *see communications computing*
- computing applications to control engineering *see control engineering computing*
- computing applications to education *see educational computing*
- computing applications to electric machine analysis *see electric machine analysis computing*
- computing applications to electrical engineering *see electrical engineering computing*
- computing applications to electronic engineering *see electronic engineering computing*
- computing applications to engineering *see engineering computing*
- computing applications to finance *see financial data processing*
- computing applications to geophysics *see geophysics computing*
- computing applications to history *see history*
- computing applications to information science *see information science computing*
- computing applications to legal research *see social and behavioural sciences computing*
- computing applications to linguistics *see linguistics*
- computing applications to literature *see literature*
- computing applications to mathematics *see numerical analysis*
- computing applications to mechanical engineering *see mechanical engineering computing*
- computing applications to medical administration *see medical administrative data processing*
- computing applications to medical diagnostics *see medical diagnostic computing*
- computing applications to medicine *see medical computing*
- computing applications to music *see music*
- computing applications to natural sciences *see natural sciences computing*

computing applications to nuclear engineering *see nuclear engineering computing*
 computing applications to physics *see physics computing*
 computing applications to power system analysis *see power system analysis computing*
 computing applications to power system design *see power system CAD*
 computing applications to psychology *see psychology*
 computing applications to social and behavioural sciences *see social and behavioural sciences computing*
 computing applications to town and country planning *see town and country planning*
 concentration measurement *see chemical analysis; chemical variables measurement*
 concrete
 asphalt concrete, Marshall test, nonlinear plane stress finite element analysis 4-12292
 bending rupture strength of nonlinear materials, prediction 4-12108
 boration effect on induced activity by proton bombardment 4-7788
 cast concrete structures, internal strain meas. using micro-embedment strain gauges 4-35789
 creep and thermal shrinkage at high temp., math. model 4-27970
 dams, rock foundations reliability 4-52712
 elastic scattering of 14 MeV neutrons in large samples 4-37546
 French and Yugoslav radwaste forms, comparative study for LLW and ILW 4-23255
 HTR-1160 PCRV top cap, behaviour under extremely high core temp. loading 4-791
 long term strain meas. computer interface for acoustic strain gauges 4-3333
 molten reactor core/concrete interaction, concrete ablation and decomposition, transient model 4-9364
 multiaxial behaviour when exposed to high temps., fracture, stress-strain 4-3236
 NDT, embedded reinforcement detection by EM device 4-7657
 NDT quality meas. by US pulse velocity 4-26116
 neutron induced activity anal. for fission reactors 4-4962
 prestressed, use in US nuclear power plants, problems and inspection, overview 4-733
 radioactive concrete and steel structures, thermal and mechanical dismantling processes (German) 4-48805
 reactor core concrete, enthalpy of melting, appl. to meltdown accident (German) 4-28152
 reactor molten core penetration into concrete foundations, computer simulations (German) 4-5022
 reactor safety, Na-concrete reaction, Na fire effect on concrete failure (German) 4-5012
 reactor structures, modelling and code development, overview 4-794
 reinforced, Meppen slab tests interpretation, aircraft impact load treatment 4-790
 reinforced concrete constructions, laser-speckle photography for ultimate load determ. 4-49784
 shear test specimen, compact 4-12276
 steel enforced damping factors, suitability tests for reactor structures (German) 4-18672
 steel reinforced, cathodic protection of embedded strands 4-41040
 steel reinforced concrete, corrosion test by radiography 4-41154
 strength inspection impact amplitude-time method 4-3354
 structural material for fusion reactor, 14 MeV neutron inelastic scatt., γ -ray prod. cross section meas. 4-37598
 concurrency (computers) *see multiprocessing systems*
 condensation
 see also clouds; drops; fog
 aerosol droplets, diffusion interaction, EM control 4-24464
 alkali metal heat pipe, high-temp. heat transfer, flow study 4-19809
 alminar film condensation in tube with upward vapour flow 4-5871
 binary vapour condensation, inert gas effects, simulation 4-38809
 binary vapours, droplet form. and growth 4-44693
 branched polymer, dilution and polydispersity, comparison with polycondensation 4-44706
 cloud droplet growth by condensation in cumulus (Chinese) 4-58246
 cold traps, snowing criteria 4-10764
 condensate film flow, heat transfer investig. 4-14973
 cooling towers rectification, partial counter-current investigations (German) 4-55987
 drops in forced flow, laminar condensation, numerical solns. 4-49872
 drops in forced flow, laminar condensation, singular perturbation technique 4-49871
 dropwise condensation, heat transfer, microscopic study 4-44690
 film condensation in porous medium, lateral mass flux effect 4-5947
 film condensation of stationary vapour on vertical surface, heat exchange anal. 4-33922
 film condensation on vertical wall, convective instability, phase transition, reaction force effect 4-10664
 filmlwise condensation in horizontal tube flow, forced convection 4-55400
 flows inside tubes under Earth gravity and space environments, heat transfer 4-14961
 forced convection film condensation on horizontal tube, press. gradient effect 4-24419
 heat and mass transfer, conf., Minsk, USSR, Sept. 1980 4-17627
 heat transfer in evaporation and condensation zones in heat pipes with intensively heated ends 4-34079
 heat transfer in vaporization and condensation in an electric field 4-34195
 heterogeneous systems with spherical interfaces, free energy 4-29731
 injector, condensing with supply of cold liq. through centre nozzle 4-1798
 isotope separation, gas dynamic technique, IR laser assisted, using condensation 4-44000
 Laval nozzle flow oscills. with condensation 4-15013
 LWR LOCA, turbulent condensation on cold wall in noncondensable gas, containment 4-54360
 microclusters, condensation, magic nos. and Coulomb explosion, review 4-23852
 multijet injector at different velocity ratios and diameters of mixing chamber exit 4-1803
 narrow capillaries, condensation, density functional theory 4-45457
 phase interface, evaporation and condensation, mass exchange and parameter nonuniformity 4-2412

condensation continued
 phenol+acetaldehyde catalytic reaction, solvent effect on catalytic stage of condensation (Russian) 4-30974
 polycondensation processes, asymptotic behaviour 4-20343
 reflux condensation and transition to natural circulation in a vertical U-tube 4-38705
 Refrigerant-12 stationary vapour, heat transfer with condensation on horizontal tube banks with different diameters 4-14974
 steam, condensation in tubes with finned surfaces, heat transfer, press. drop 4-19806
 steam, condensation on bed of solid dispersed materials 4-19833
 steam, pure and gas mixtures, condensation, heat transfer shell-side coeff. 4-19804
 steam condensation in capillaries 4-10526
 steam turbines, interaction with fluid dynamic shock, laval nozzle surface boundary layers 4-24990
 steam-water flows, countercurrent, stratified, condensation, heat transfer coeff. 4-38862
 steam-water mixtures, critical flow, separated flow model 4-1810
 stearic acid, supersaturated vapour, condensation and homogeneous nucleation in cloud chamber 4-29586
 supersaturation effects on homogeneous condensation kinetics, theory 4-39449
 theory developments 4-34161
 two-fluid theory of the condensation and evaporation effects in fluid flow 4-1782
 two-phase flow, direct contact condensation anal. of flowing steam onto injected water 4-48699
 vapor condensation inside horizontal pipes 4-33927
 vapour condensation on turbulent jets of liq., heat transfer 4-34082
 vapour-gas mixture, heat exchange during condensation, electrohydrodynamic action (Russian) 4-19793
 vapour-gas mixture, tube flow, bulk condensation study 4-34622
 vapour-noncondensable gas mixt., condensation within horizontal air-cooled tube 4-50478
 vertical tube, heat and mass transfer coeffs. during condensation, 2D model (Russian) 4-15626
 water drop condensation and evaporation in air, particle flow rate determ. (Russian) 4-50477
 water spray in a condensable environment (steam), laminar flow 4-44692
 water vapour, condensation and cyclical defrosting in freeze dryers 4-19869
 $\text{Al}_2\text{O}_3\text{-SO}_2\text{-H}_2\text{O}$ glass formation and condensation (Bulgarian) 4-44967
 Ar condensation in cryogenic shock tubes 4-29587
 C amorphous with Cu island films, surface and volume diffusion during condensation 4-2474
 K_2 molecule resonant laser excitation, for ultrafine particle formation 4-44012
 condensers (electric) *see capacitors*
 condensers (steam plant)
 EPRI condenser related research projects for fossil-fired and nuclear power plants 4-33100
 vertical flat plate condenser, heat transfer coeff. for film condensation (Japanese) 4-5781
 condensing *see condensation*
 conductance, electric *see electric admittance*
 conductance, electric, measurement *see electric admittance measurement*
 conductance measurement, electric *see electrical conductivity measurement*
 conducting materials
 see also bimetals; electrolytes; metals; semiconductor materials; superconducting materials
 No entries
 conduction, heat *see heat conduction*
 conduction bands
 see also Fermi level; semiconductor materials
 degenerate semiconductor, long-range interaction of mag. impurity states (Russian) 4-56275
 diamond, electronic excitations, self-consistent-field calc. 4-45615
 ferromagnetic semiconductor, magnetically dead surface layers, cond. band spin struct. calc. 4-2717
 $\text{Ga}_{1-x}\text{Al}_x\text{As}$, elec. resist. var., deep levels, band struct. 4-34974
 graphite, angle resolved photoemission, secondary electron emission and band dispersion 4-12011
 graphite single crystal, valence and conduction band dispersions 4-45581
 graphite-Ba intercalation cpd., C_6Ba , electronic struct., XPS and UPS studies 4-39755
 graphite-K intercalation cpd., C_8K , density of unoccupied states, bremsstrahlung studies 4-39748
 graphite-Li intercalation cpd., C_6Li , density of unoccupied states, bremsstrahlung studies 4-39748
 ice: $\text{HF}(\text{NH}_3)(\text{NH}_4\text{F})$, electron as probe for defects 4-29983
 ice, proton mobility and trapping 4-29982
 III-V semiconductors, tight binding view of electronic scatt. rate 4-39893
 injection semicond. lasers, multireg. emission, impurity effects 4-28696
 ionic crystal, electron jump between impurity centres (Russian) 4-50765
 isovalent-impurity clusters in Koster-Slater approximation 4-2543
 mixed valence Hamiltonian, Green function method 4-56293
 periodic Anderson model, one dimensional exact soln., electron correl., singlet ground state energy 4-25274
 polyacene, band struct., one-dimensional conductivity 4-29866
 polyacetylene, soliton states calcs. 4-45603
 polyacetylene with soliton, Green's function theory 4-39839
 semiconductor surface space charge layer, band degeneracy and nonparabolicity effects 4-15933
 semiconductors, collective excitations, excitons and plasmons 4-25272
 semiconductors, compensated, capacitance and relax. times at carrier exclusion 4-45807
 semiconductors, degenerate, differential eqns. for excitons 4-45643
 semiconductors, narrow gap, band mixing calcs. 4-50717
 semiconductors, resonant emission of slow electrons from materials with a negative electron affinity 4-16290
 semiconductors, Tamm state ionisation by space charge field (Russian) 4-25418
 semimagnetic semicond., threshold scatt. and thermogalvanomag. effects 4-11549
 $(\text{TMTSeF})_2\text{ReO}_4$, X-ray absorpt. near edge spectra, Se K edge polarisation depend. 4-2993
 $(\text{TMTTF})_2\text{ReO}_4$, X-ray absorpt. near edge spectra, Se K edge polarisation depend. 4-2993

conduction bands continued

- V₂Zr_{0.95}Nb_{0.05} superconductors, phonon freqs. and transition temps. (Chinese) 4-56469
 Ag halide microcrystals, electron trapping process statistics 4-41231
 Ba₂NaNb₂O₇, optical props. in fundamental absorpt. band, cond. and valence band 4-51224
 BaPb_{1-x}Bi_xO₃, plasma energies and electronic struct. 4-25217
 BaSr_{1-x}Nb_xO₃, optical props. in fundamental absorpt. band, cond. and valence band 4-51224
 BaTiO₃, electronic struct. calcs. 4-11435
 BaZrO₃, electronic struct. calcs. 4-11435
 Bi₂Te₃ and analogs, energy band struct., spectrum nonparabolicity 4-20561
 Ca, L_{2,3} emission and absorpt. spectra 4-25829
 Cd₃As₂, topological transition and singularity in density of states of cond. band 4-25220
 CdIn₂S₄, single cryst., magnetoresist., cond. band minimum 4-29990
 Cd_{1-x}Mn_xSe, magnetorefractance at band edge 4-25730
 CeSb_{1-x}Te_x solid soln., mag. props. and cryst. field splitting energy 4-56600
 Co, conduction band distrib., X-ray absorpt. and APS study 4-57043
 Cu, conduction band distrib., X-ray absorpt. and APS study 4-57043
 CuIn₂S₂, single cryst., elec. and optical props. 4-29989
 Cu-Si-CdS photovoltaic cells formed by dry barrier process, interface effects 4-25396
 EuO, insulator-metal transition and valence instability near 130 kbar, optical refl. spectra 4-45639
 Fe, conduction band distrib., X-ray absorpt. and APS study 4-57043
 Ga_{1-x}Al_xAs alloys, deep energy levels, photocond., cond. band struct. effects 4-30015
 Ga_{1-x}Al_xAs, Hall mobility, electron conc. and resistivity meas. at 300K 4-11544
 GaAs, band struct., Auger recombination 4-39772
 GaAs, charge density and energy gap calcs. 4-39774
 GaAs, conduction band, dispersion, nonparabolicity and warping 4-45626
 GaAs/Ga_{1-x}Al_xAs quantum-well struct., hydrogenic donor energy levels, nonparabolicity effects 4-50916
 p-GaAs(Sb), spin relax. of cond. electrons and exchange interactions 4-25311
 n-GaAs, conduction band parameters, Hall effect and magnetoresist. 4-56370
 Ge, carrier drag by photons in far IR and sub-MM spectral ranges 4-6832
 Ge, effective masses for impurity states 4-45670
 Ge films, microcrystalline, RF glow discharge deposited, electronic transport props. 4-6911
 n-Ge, magnetoresist. and band struct. (Chinese) 4-39936
 a-Ge:H, doped and undoped, defect correl. energy, IR absorpt. 4-40483
 H₂O and D₂O ice, cond. band electrons, mobility and trapping 4-29966
 HfH₂, electronic energy bands calc., APW method, optical props. 4-45619
 Hg_{0.8}Cd_{0.2}Te, electron localisation, magnetoresist., Hall effect meas. 4-35016
 Hg_{1-x}Mn_xTe, tunnelling to reson. states, Hall effect meas. 4-50930
 InGaAsP, absorpt. coeff., band struct., IR spectra 4-35403
 In_{0.75}Ga_{0.25}As_{0.58}P_{0.42}, LPE grown, electron traps, MOS-DLTS method (Chinese) 4-50752
 InP, band struct., Auger recombination 4-39772
 n-InP semiconductor-liquid junction with dil. HNO₃ injection electrochromism. 4-30510
 InP:Co, deep levels, space charge spectra, photoluminescence and EPR studies 4-39814
 InP-SiO₂ MIS capacitors, interface states 4-50944
 InSb, hysteretic cyclotron resonance excitation 4-40234
 K, energy spectrum of incommensurate CDW, energy gaps 4-56200
 KCl, piezoelectricity at about 12 eV 4-25718
 KCl, surface, local density of electronic states 4-40012
 KNbO₃ doped ferroelec. semicond., phase transitions and props. 4-46205
 KNbO₃, electronic struct. calcs. 4-11435
 LiAl-Ga(In), doping effect on elec. transport props. 4-45742
 LiC₆ intercalation cpd., valence and core electronic excitations, EELS studies 4-25275
 Li₂O-Bi₂O₃-P₂O₅, glass, electrochromism 4-51241
 Mg, density of states, cond. band spectra, XPS, UPS studies 4-35547
 Na, energy spectrum of incommensurate CDW, energy gaps 4-56200
 Na₂WO₃ bronze, electronic struct., UPS and EELS studies 4-11433
 NbSe₃, polarised reflectance spectra and band struct. 4-40477
 NbTe₄, p-d band overlap and electronic struct. 4-39750
 Ni, conduction band distrib., X-ray absorpt. and APS study 4-57043
 Ni(II) complex, porphyrinato nickel (II), band struct. calcs. 4-29865
 Ni(II) complex, tetrazaporphin nickel (II), band struct. calcs. 4-29865
 Pb_{1-x}Sn_xTe, indirect optical transitions (Russian) 4-56946
 PbTe:In, photoelectric effects study 4-56392
 PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
 Sb, X-ray L absorption spectra and electronic band struct. 4-2992
 SbSI, X-ray L absorption spectra and electronic band struct. 4-2992
 Se, L_{2,3} emission and absorpt. spectra 4-25829
 Si (111) surface Fermi level pinning position determ. 4-25417
 Si bilayers, randomly stacked, localised electron states, LCAO calc. 4-45693
 Si, effective masses for impurity states 4-45670
 Si, higher cond. bands, crit. point study by angle-resolved photoemission 4-7316
 Si, oxidised, MOS struct., paramag. defects and electronic deep levels, EPR 4-46107
 Si, partial dislocations, 90°, core struct. and electronic bands. 4-45134
 a-Si:H, band edges, Fermi level position, surface H conc. 4-39763
 a-Si:H, deep level distrib., transient voltage spectroscopy 4-40046
 a-Si:H, density of states distrib. determ., capacitance-voltage method 4-39760
 Si:P, H microcrystalline films, ESR and elec. cond. 4-16095
 a-Si+H films, evaporated, gap states distrib. determ. before and after hydrogenation, SCL current meas. 4-39761
 SiO₂, high field current-induced positive charge transients 4-6801
 Sn_{1-x}Sb_xO₂, surface comp., electronic struct., XPS, UPS, EELS obs. 4-57066
 SrTiO₃, IR absorpt. by mixed polarons 4-39792
 Te, drift mobility, elec. cond. temp. depend. calcs. 4-39917
 TiO₂ (110) and (001), electronic density of states, scatt. theoretic method 4-29861

conduction bands continued

- TmZn ferromag. tetragonal phase, mag. props., neutron diff. studies 4-30219
 V_{0.95}Zr_{0.05}Nb_{0.2} superconductors, phonon freqs. and transition temps. (Chinese) 4-56469
 V₂O₃, surface electronic struct. and H₂O and O₂ chemisorption, UPS and XPS studies 4-25415
 WO_{2.72}:V(Ni)(Nb), pure and doped, XPS studies, comp. depend. 4-7310
 WO_{2.90}:V(Ni)(Nb), pure and doped, XPS studies, comp. depend. 4-7310
 ZnSe:In, impurity states and carrier mobility 4-25283
 ZrH₂, electronic energy bands calc., APW method, optical props. 4-45619
 conduction electron spin resonance *see CESR*
 conduction in solids, ionic *see ionic conduction in solids*
 conductivity, electrical *see electrical conductivity*
 conductivity, thermal *see thermal conductivity*
 conductors (electric)
 see also bimetallics; wires (electric)
 current-carrying, three-dimens. skin effect problems 4-28600
 curved conductors, mag. field routines, search for faster packages 4-49213
 flat conductors, current redistribution using magnetic bars 4-44015
 heat transfer coefficient analysis for bare conductors (Polish) 4-55310
 pulse generator conductor, 304 stainless steel construction, failure analysis 4-12315
 conduits, electric *see electric conduits*
 configuration interactions (atoms) *see atomic electron correlations*
 configuration interactions (molecules) *see molecular electron correlations*
 confinement, plasma *see plasma confinement*
 connecting *see joining processes*
 connectors (electric) *see electric connectors*
 conservation laws
 see also C invariance; CP invariance; CPT invariance; elementary particle symmetry; P invariance; T invariance
 anisotropy, inhomogeneity, and conservation laws 4-51
 B-L, neutrino mass matrices in gauge theories, props. 4-37324
 B-L symmetry breaking, SO(10)×U(1)_{PQ} supersymmetric, geometric gauge hierarchy 4-9048
 B-L violating SU(5) invariant six fermion operators 4-32509
 B-L violation, electroweak interactions, supersymmetric models 4-43293
 B-L violation, nucleon decay in GUTs 4-43289
 baryon and lepton number, finite particle number approach to physics 4-32118
 baryon and lepton number nonconservation, implications from unification and experiments 4-390
 baryon and lepton number violation, electroweak model, neutral currents in left-right symmetric models 4-43284
 baryon number, proton production calculations for (p,X) reactions 4-9205
 baryon number conservation, expt. developments 4-27674
 baryon number violation in early Universe (Polish) 4-53326
 baryon number violation in SU(5) 4-9049
 big bang baryosynthesis 4-36767
 closed relativistic string, conserved quantities from collective words 4-465
 conference on high energy physics recent developments, Schlading, Austria (Mar. 1983) 4-4
 continuous symmetries in field theory 4-13752
 cyclotron radiation, conflict of conservation laws 4-10217
 cyclotron radiation including relativistic electron effects, basic conservation laws 4-27309
 energy-momentum conservation at distances <10⁻¹³ m, replicas formalism in quantum field theory 4-48316
 fermion number conservation in soln. to Dirac eqn. 4-4543
 field theory conservation laws from action integral 4-32490
 general relativity, tensorial conservation law 4-36976
 general statistics, second quantization and quarks 4-36953
 grand unification testing through baryon and lepton number nonconservation 4-417
 Klein-Gordon scalar quantum field in Minkowski space-time, Rindler particle detection 4-48335
 Lagrangian and use of higher order derivatives, implications and extension to field theory (Rumanian) 4-36894
 lepton number conservation, current expt. status 4-27688
 lepton number conservation in double β decay, nuclear matrix elements of ⁴⁸Ca and ⁵⁸Ni 4-9176
 lepton number violation, composite neutrinos, mass 4-32495
 lepton violation in gauge theories 4-370
 matter nonconservation in unified theory expts., conf., Frascati, Italy, (January, 1983) 4-16
 monopole background, flavour conservation breakdown 4-18134
 monopole-fermion system, baryon number violation, charge conservation 4-37316
 monopoles, baryon decay and charge conservation 4-13851
 Nambu's generalised mechanics, classical and quantum, symmetries and conserved quantities 4-43352
 neutron-antineutron oscillations, expt. search 4-32548
 non-Abelian gauge theories, monopole-induced proton disintegration 4-48344
 nonlocal field theories, constants of motion, canonical approach 4-48276
 R symmetry, in supersymmetric Witten O-Raifeartaigh model 4-18162
 Racah tensor operators, P,T,C, Hermitian conjugations 4-48354
 Rubakov-Callan effects, monopole induced B-nonconservation, SU(2) gauge theory 4-4577
 shocks and phase transitions, viscosity-capillarity criterion 4-5905
 space dimensionality, bound states, baryon and lepton conservation, in general relativity 4-27371
 symmetry restoration by time-depend. mean field quantisation 4-27804
 vector-like gauge theories, restrictions on symmetry breaking 4-48284
 μ-e conversion in neutrinoless processes 4-402
 N decay experiments review, NN oscillations, baryon number nonconservation 4-27736
 n-ñ oscillations, matrix elements model depend., ΔB=2 six quark operators 4-18128
 n-ñ oscillations in gauge models, cosmological baryon asymm. 4-32530
 ν decay, massive, from spontaneous global lepton symm. violation 4-13822
 SL_{2,C} gauge theory of gravitation, conservation laws, general relativity relation 4-32142

constant current modulation *see amplitude modulation*

constant voltage diodes *see avalanche diodes; Zener diodes*

constants

see also elastic constants; gravitational constant; lattice constants; optical constants

cosmological constant 4-22492

cosmological constant of zero value? 4-36761

dimensionality influence on phys. and mathematics 4-17762

early Universe, phase transition and their consequences 4-22491

fundamental constants, impact of atomic physics 4-17874

fundamental constants, large numbers and ratios 4-22493

fundamental constants, overview of theoretical prospects for understanding constant values 4-17872

fundamental phys. constant evaluation 4-17871

Kaluza-Klein theories, time variation of fundamental const. 4-42798

macrophysical phenomena depend. on fundamental constants 4-17873

magnetic flux quantum, absolute determination using supercond. levitation system 4-22744

measurement of fundamental constants 4-17870

quaser spectroscopy, implications for constancy of constants 4-22480

unification and supersymmetry 4-18123

constituent interchange model *see quark models*

constitution diagrams *see phase diagrams*

construction *see building*

constructional engineering *see civil engineering*

contact (mechanical) *see mechanical contact*

contact angle

see also capillarity; surface tension; wetting

aqueous-organic-graphite systems, contact angles meas. by interference microscopy 4-11385

capillary systems, friction and contact angle anal. 4-15747

dynamic contact angle in liq.-gas systems 4-2410

dynamic contact angle problem 4-20433

dynamic contact angles on smooth and rough surfaces 4-2409

film wetting balance, accuracy, cross-sectional geometry effect 4-320

glass, contact angle, dependence on pH 4-34750

hysteresis, rel. to boiling incipience, dynamic effects 4-38690

hysteresis in liq. bridges between rough plates 4-45451

liquid menisci, mechanical stability, zero gravity effect 4-29728

nematic-isotropic transition, phase formation, boundary dependence 4-6505

organosilicon plasma deposited films, IR spectra, ESCA and contact angle characterisation 4-7264

polyoxymethylene-polyethylene interface, contact angles and wettability, emulsion formation 4-39631

quartz, contact angle, dependence on pH 4-34750

sessile drops, small, profile and contact angle, general approx. 4-56123

water, contact angles and wetting on freshly drawn glass surface 4-39630

Al-Ca liquid alloy, wetting of graphite, Al_2O_3 and SiO_2 substrates (Japanese) 4-25120

$Na_2O \cdot K_2O \cdot Al_2O_3 \cdot ZrO_2 \cdot SiO_2$, molten alkali feldspar, contact angle on aluminosilicate substrate, ZrO_2 content effect 4-25119

Ti, contact reactions with Pb, Sn, Bi, and Cd 4-2414

contact e.m.f. *see contact potential*

contact lenses

aquatic animal refraction, development of contact lens 4-12734

new materials for contact lenses, prep. from Si- and Ti-alkoxide by sol-gel process 4-57126

polymer materials for contact lenses, wettability 4-3652

review of development in period 1930 to 1950 4-13467

rigid gas permeable contact lenses, effect of centre thickness variations on performance 4-41648

sensor (Dutch) 4-12723

toric, design calc. and manufacture 4-58039

toric soft contact lenses, reliability of power meas. 4-8141

contact potential

see also contact resistance

ice, polycrystal, rimed, contact pot., rel. to thunderstorm electrification 4-31615

MIS structure, charge changes due to change in mag. flux under quantum Hall effect conditions 4-20735

Cu crystals, tensile deformation-induced work funct. change expts. 4-56411

GaAs cleaved surface, O_2 and temp. induced modification (French) 4-56126

Pt (111), (110), work function meas., in presence of S and H_2 4-20705

contact resistance

see also contact potential

composite superconductor, normal zone nonuniform distrib. 4-25477

electrical contacts, solder- and tin-coated, fretting corrosion 4-46667

multifilamentary superconductors with high contact resist., I-V characteristics 4-30109

probe method, nonsteady-state, thermal meas. of granular materials 4-48124

probe method, nonsteady-state, thermal meas. of granular materials 4-48125

semiconductor structure, short, low field mobility, size effects 4-20721

sliding contacts, static contact resist. of solid lubricant composite 4-25422

superconducting-normal point contact, nonlinear I-V characts. (Russian) 4-2701

Ag-Ni₃Ti composites, erosion and contact resist. 4-26068

Ag-plated Al alloy, anal. 4-56416

AgPd alloy layers, influence of aggressive atmospheres on the change of contact resistance (Polish) 4-40022

Au/Ni/Au-Ge alloyed ohmic contact to GaAs, interface structure and contact noise 4-29827

Bi₂Te₃-Bi₂Se₃ thermocouples, contact resist., effect of impurity addition to solder 4-50900

Bi₂Te₃-Sb₂Te₃ thermoelements, contact resistance rel. to comp. of contact material 4-56429

Bi₂Te₃-Sb₂Te₃ thermocouples, contact resist., effect of impurity addition to solder 4-50900

Cd_{0.7}Hg_{0.3}Te, ohmic contact techniques 4-25441

p-CdTe, ohmic contact techniques 4-25441

CdTe:Li-Au low resistance contacts 4-30049

Cu plated Al alloy, elec. contact resist. rel. to surface roughness 4-56416

Cu-Ru mechanically alloyed composite, elec. contact resist. and phys. metallurgy 4-40713

contact resistance continued

p⁺-GaAs layers, Zn-implanted, contact resistance of nonalloyed ohmic contacts 4-2651

K_{0.3}MoO₃, transient elec. response 4-25421

Nb superconducting point contacts, dirty, phonon spectroscopy, nonlinear I-V curves (Russian) 4-30113

Ni:¹⁴N implanted contact on n⁺-Si, thermal stability and elec. resistivity 4-2655

Ni-Si contacts, chemically deposited, struct. and elec. meas. 4-35064

Ni-Au-Ge ohmic contacts to GaAs, metallurgical props., Auger depth profiling, contact resist. meas. 4-30050

Pd connector contacts and inlay coupons, HCl and Cl₂ effects 4-30048

Pd, electroplated layers, wear, corrosion and contact resistance comparison to roll milled Pd and Pd alloys 4-46666

Ru contacts, resistance to chem. attack and contact resist. 4-56415

Si⁺-Bi/Al Ohmic contacts on ion implanted shallow Si layers, formation by halogen lamp annealing 4-15960

Si-TiN contacts, finite metal-sheet-resistance in contact resistivity meas. 4-11591

contacts, electrical *see electrical contacts*

continuous creation hypothesis *see cosmology*

continuum hypothesis *see set theory*

continuum mechanics *see classical mechanics of continuous media*

contours, surface *see surface contours*

contracts

European Community geothermal energy R&D programme (1979-83) 4-46857

contrast transfer function *see optical transfer function*

control engineering applications of computers *see control engineering computing*

control engineering computing

see also computerised control

synchrotrons, computer control system for closed orbit meas. and correction (Bulgarian) 4-5062

control gear, electric *see electric control equipment*

control system analysis

see also Bode diagrams; correlation methods; frequency response; linearisation techniques; perturbation techniques; poles and zeros; sensitivity analysis; stability; state-space methods; step response; transfer functions

dry-tuned accelerometer/gyro instrument 4-48119

shape memory alloy actuator for position control (Japanese) 4-46507

control system synthesis

see also Bode diagrams; correlation methods; frequency response; linearisation techniques; perturbation techniques; poles and zeros; sensitivity analysis; stability; state-space methods; step response; transfer functions

dry-tuned accelerometer/gyro instrument 4-48119

forced harmonic vibrations, active control 4-19761

shape memory alloy actuator for position control (Japanese) 4-46507

solar central receiver, temperature regulator design 4-31075

control systems

see also adaptive systems; closed loop systems; distributed parameter systems; multivariable control systems; nonlinear control systems; optimal control; physical instrumentation control; time-varying systems

fusion reactors, T level control systems, cost optimisation 4-9430

nuclear reactor, digital controller appl. 4-33104

Tokamak impurity control systems in accident sequences 4-9432

controllers

see also cryostats; instruments; servomechanisms; thermostats

air pressure regulator, for 1 to 50 cm water range 4-22772

digital temp. regulator with object identifier 4-37089

digital temperature controller for surface studies 4-53676

digital temperature stabilizer, NMR spectrometer appl. 4-42948

EBT-P fusion device, monitoring and control, use of programmable logic controllers 4-9488

EM field stabiliser for RF spectrometer, using DC-fed Hall transducer 4-37126

feedback controller for electro-mechanical stimulation devices, neuroscience appl. 4-41679

microprocessor-based pressure controller, ion-atom scattering expt. appl. 4-33564

nuclear reactor, digital controller appl. 4-33104

proportional thyristor temperature regulator with a thyatron triggering pulse generator 4-42947

Reticon controller for VUV/visible spectroscopy 4-50080

semimicrobalance, self-compensating electronic anal. (German) 4-22761

solar power control systems 4-31104

temperature, with 100 μ K temp. stability, using IC sensor 4-4391

transportable thermostat for standards of the electricity measuring techniques (German) 4-37087

vapor-pressure regulator for cryogenic liquids 4-37090

convection

see also convection in liquids

alloy, solidification, convection in two phase zone 4-57212

annular channel, convective heat exchange (Russian) 4-14963

annular porous layer with internal heat generation, natural convection 4-44571

atmosphere, three-component Lorenz model of shallow convection, predictability 4-58210

atmospheric convective eddy, basic and meridional motion, lab. model 4-47385

atomiser, half-dosed, for atomic absorpt. spectrometry, form. of absorbing layer of atoms 4-12428

bare electric conductors, heat transfer coefficient analysis (Polish) 4-55310

bilayer thermoconvection observations in arbitrary shaped containers 4-1724

binary gas mixture, flow in vertical plane-parallel differential-temp. channel 4-19887

binary mixtures, reactive, amplitude eqns. of onset of convection in porous medium 4-29085

body surface heat loss of guinea pigs, comparison of convection and radiation 4-31176

boundary layer on plate in inhomogeneous chem. props., stationary convective diffusion 4-5886

building heat transmission losses reduction, theory and measures (German) 4-19701

convection continued

buoyancy reversal in compressible convection 4-10695
 cavity, porous, horizontally heated, vertical boundary-layer eqn. numerical soln. 4-19829
 channel, circular, with eccentricity, numerical modelling of gasdynamics (*Russian*) 4-10778
 chaos onset, two mechanisms in finite-dimens. convection models 4-17837
 chaotic regime of convective systems, strange attractors 4-10670
 chemically active medium, steady plane-parallel convective motion, stability 4-44766
 closed flow of convection, velocity profiles meas. by laser Doppler velocimetry (*Spanish*) 4-5980
 coal combustion, convective transport in air fluidised bed 4-21476
 coaxial superconductor filled with stagnant He, free convective heat transfer 4-35131
 combined convection and radiation in rectangular ducts 4-38813
 combined convection in wavy channels, const. fluid props. calcs. 4-38886
 combined free and forced convection in channel, solute dispersion coeff., Grashof number 4-38817
 combined natural and forced convection between parallel walls, flow development 4-55405
 concentric annular gap, convective boiling heat transfer 4-1723
 convected two dims. vortex, induced boundary layer flow 4-49826
 convection-diffusion eqn., finite difference scheme 4-34092
 correlation of heat transfer data, property evaluation methods 4-49814
 creeping flow, mass transfer from solid sphere to power law fluids 4-29133
 cryogenic liquids, under natural convection conditions, heat exchange in film boiling 4-14966
 Czochralski growth, spoke patterns on melt surface, theoretical model 4-3054
 differentially heated cavity, high Rayleigh number free convection, grid distrib. 4-34096
 differentially heated vertical cavity, transition to time-depend. natural convection flow (*French*) 4-44560
 diffusion of solute in MHD radiating convective flow in vertical channel 4-19823
 diffusion-convection one-dimensional eqn. soln. by Galerkin-Petrov finite element method (*German*) 4-48049
 dislocations in convection and the onset of chaos 4-5896
 double diffusive convection, finite element model 4-53492
 double layer electrical field influence on convection (*Russian*) 4-38890
 double-diffusive convection, Engineering Foundation conf. report, Santa Barbara (1983) 4-36780
 double-diffusive convection problems, bounds for growth of perturbation 4-5895
 doubly diffusive systems under parametric modulation, dynamic stability 4-24434
 droplet population above quench front during reflood, heat transfer 4-55403
 drops, assemblage in elec. field, fluid motion and transport 4-1845
 ducts, rectangular, internally finned, laminar convective flow 4-10780
 electronic components block-like arrays, convective heat transfer response to height differences 4-44341
 ellipsoidal cavity with air, periodic and irregular convective self-oscill. 4-19836
 fibre drawing flow field, upper jet region, finite element anal. 4-24460
 film condensation on vertical wall, convective instability, phase transition, reaction force effect 4-10664
 filmwise condensation in horizontal tube flow, forced convection 4-55400
 finite amplitude convection states in boxes of porous media, pattern selection 4-29175
 flow past accelerated vertical plate with const. heat flux, mass transfer effects 4-36572
 flow pattern and heat transfer characts. past circular cylindrical cavity 4-29080
 flow stability, Rayleigh var. principle study 4-44537
 fluctuations near convective instability, kinetic theory 4-38821
 fluid filled enclosure, free convection simulation 4-34097
 fluid layer, thermal convection onset, time depend. temp. distrib. 4-44572
 fluidised bed, air, heat transfer, flow visualisation on flat surface 4-38830
 fluidised bed-immersed wall, heat transfer 4-19811
 forced convection and mass transfer between heated channel and upper mixing chamber 4-34080
 forced convection film condensation on horizontal tube, press. gradient effect 4-24419
 forced convection in fluid-flow in heat exchangers corrugated wall channels 4-1712
 forced-convection problems, soln. of Fredholm integral eqn. of the first kind 4-33943
 forcing due to time-depend.: heating near threshold 4-29086
 free and forced convection effect on flow in axisymmetric tube 4-5962
 free convection, influence of heat radiation, thermal regularity theory appl. 4-1728
 free convection and heat exchange of vertical heated wall of transformers (*Russian*) 4-38818
 free convection boundary layers over humps and indentations 4-34087
 free convection effect on turbulent flow in semiinfinite gas jet 4-34084
 free convection effects on turbulent transport of liq. flowing in horizontal channel 4-38810
 free convection heat and mass transfer rates from inclined plate interfacial vel. effects 4-38807
 free convection in a dead-end channel (*Russian*) 4-1834
 free convection in channels of structural members, heat transfer (*Russian*) 4-1714
 free convective flow through porous medium, effects of magnetic field 4-15024
 free convective gas flow in horizontal cylinder 4-55404
 free convective turbulent flow on vertical permeable surface 4-34081
 free transient convective heat transfer between cable and its surrounding pipe or duct wall 4-55311
 Freon 22, forced convection boiling in tube, subcritical press., crit. heat flux (*Japanese*) 4-34192
 fuel, spherical particles, mixed convection combustion theory 4-21467
 glass fibre drawing process, finite element method simulation 4-30675
 glass-textolite plate, thermal stresses with nonuniform heat exchange 4-49653
 granular materials in packed bed, convective drying, heat and mass transfer 4-34074

convection continued

granular solids, pseudoturbulent bed, convective heat transfer, differential eqns. 4-34072
 Hall effects on MHD free convection in rot. system 4-24416
 heat diffusion with time-depend. convective boundary conditions, geothermal appls. 4-34076
 heat flux transfer determ. during natural convection (*Polish*) 4-44586
 heat transfer during melting on horizontal tube with convective boundary 4-44349
 heat transfer numerical props., conf., College Park, USA, Sept. 1981 4-31973
 heated horizontal circular disc, free convection boundary layer flow 4-10675
 n-heptane at supercritical press., free-convective heat transfer, N₂ dissolution effect 4-24427
 horizontal fluid layer with internal heat generation, convective instability, neutral state 4-19827
 horizontal fluid layer with internal heat generation, rot. effect on convective instability 4-19828
 horizontal layer of fluid, 2D flow, stability, temp. field, spatial modulation influence 4-44530
 incompressible rarefied visco-elastic fluid convective flow in mag. field, heat/mass transfer 4-10661
 incompressible viscous fluid free convective flow and mass transfer through porous medium 4-19881
 instabilities, strange attractor dimensions in chaotic regimes (*French*) 4-14948
 instability, roll and hexagon formation, transient solns. calc. 4-24433
 intermittencies, type III, Pomeau-Manneville, assoc. with subharmonic bifurcation 4-182
 ionic melts, convection buildup, thermo-EMF electric field effect 4-38903
 IR radiators, radiation and optical effects of combined irradiation and convection (*German*) 4-44343
 iteration free design of heat exchangers with free convection currents on one side (*German*) 4-17890
 Joule heating of conducting medium, steady-state temp. soln. 4-8689
 laminar convection to rot. disks in non-Newtonian power-law fluids 4-5888
 laminar free convection around horizontal circular cylinders 4-1718
 laminar free convection over horizontal circular cylinder with blowing and suction (*Chinese*) 4-38822
 Lipowitz metal in rectangular cavity, melting, solidification, natural convection 4-24425
 liquid evaporation from thin-walled capillary-porous bodies, nonstationary convective heat transfer 4-24429
 liquid sphere, freely floating, surface oscill. due to Marangoni-effect 4-5893
 magnetoconvection, bifurcations from solitary solutions 4-24481
 magnetosphere, convective instability of obliquely propagating EM modes 4-13143
 Marangoni convection, effect of surface tension min. depend. temp. 4-49812
 Marangoni convection in rot. fluid layer with nonuniform temp. gradient 4-44595
 mass and heat transfer of reacting particles with flow, nonlinear boundary-value problems 4-38913
 mass transfer at rigid and mobile interfaces in laminar flow (*German*) 4-19837
 mean flows, generation by thermal convection 4-24411
 measurement of heat flux, using Gardon-type sensor 4-252
 melt-solid phase boundary, buoyancy-driven convection, finite element calcs. 4-33914
 metal plate plane vertical surface cooling by jets of water, convective heat transfer 4-14976
 MHD convection and mass transfer through horizontal porous channel 4-1823
 MHD convective flow of rarefied gas along vertical porous plate, thermal and mass diffusion 4-53025
 MHD free-convection flow in Stokes problem for vertical porous plate in rot. system 4-10786
 MHD unsteady free convective flow through a porous medium 4-19882
 mixed convection heat transfer from a vertical heated cylinder in a cross-flow 4-19825
 mixed convection heat transfer in a horizontal open-channel flow with uniform bottom heat flux 4-38831
 mixed convection in an axisymmetric buoyant plume 4-34086
 mixed convection in channel heated on one side 4-38811
 modified Gardon heat flux probe for radiative plus convective flux meas. 4-27516
 molecular diffusivity, scalar diffusion in stimulated helical turbulence 4-38819
 moving boundary phase change problems, boundary integral eqn. soln. 4-32203
 natural convection, laminar regime, vel. profiles along heated wall of rectangular enclosure 4-38826
 natural convection experiments in a liquid-saturated porous medium bounded by vertical coaxial cylinders 4-38828
 natural convection in a partially divided enclosure 4-19822
 natural convection in a rectangular porous cavity with one permeable endwall 4-38829
 natural convection in a vertical porous annulus 4-38812
 natural convection in enclosures with off-center innerbodies 4-24420
 natural convection in enclosures with partitions, flow visualisation 4-55402
 natural convection in layers and enclosures, multiPrandtl number correl. eqns. 4-44576
 natural convection in vertically and horizontally layered porous media heated from the side 4-19818
 natural convection influence on fuel mixture ignition concentrational limits 4-44760
 natural convection of horizontally vibrating cylinder 4-1713
 natural convection with coupled mass transfer in porous media 4-38806
 natural convective heat transfer on an unheated vertical plate attached to an upstream isothermal plate 4-38688
 nonequilibrium model for two-phase critical flow 4-44696
 nonlinear convection-diffusion eqns., topological derivation using network theory 4-19835
 nonlinear convective diffusion eqn., asymptotic soln., porous medium flow appl. 4-29169
 nonlinear convective system with oscillatory behaviour for certain parameter regimes 4-49817

convection continued

nonlinear overstable convection rolls in a rotating system 4-44602
 n-octadecane, solid liquid, interface morphology, convection during melting 4-50468
 open fires for cooking, expts. and theory 4-52014
 oscillations in heat and mass transfer problems with fronts 4-34118
 oscillatory convection in vertical slots 4-49818
 oscillatory flow past infinite vertical plate with suction, mass transfer effects on free convection currents 4-44561
 oscillatory MHD flow in Stokes problem past infinite vertical porous plate, Hall effects 4-44710
 parallel and contra flow, laminar combined convection from horizontal cylinder 4-24418
 parallel plate duct flow, forced convection heat transfer 4-24423
 parallel Rayleigh-Bénard rolls, optimal merging near plane boundary 4-24435
 penetrative convection in two-layer model at large horizontal scale 4-36576
 permeable capillaries, labelled species unsteady transport characterisation, role of convective dispersion 4-7955
 phase-change material, semi-transparent vertical slab, solar radiation induced melting 4-57786
 plane turbulent jet, coherent struct. 4-5879
 platform of convection with strongly temperature-dependent viscosity 4-24417
 PMMA, bottom stagnation region combustion under natural convection 4-21468
 Poiseuille flow, diffusion and convection calc. using Monte Carlo technique 4-5961
 polymer network strands, convection, diffusion, constitutive eqns. 4-24432
 porous layer convection, Prandtl number effect 4-24415
 porous media, coupled convective transport processes, finite element upwinding methods 4-5898
 porous medium, nonlinear thermal convection, stability 4-5887
 radwaste, horizontal interm storage, free convection cooling, math. model (German) 4-54245
 Rayleigh convection problem, symm. breaking bifurcations, numerical approx. 4-10672
 Rayleigh-Bénard convection, transition from roll to square-cell solns. 4-49820
 recirculating flows, finite difference method accuracy 4-44584
 refrigerant 12-13 mixtures, forced convection boiling, press. drop calcs. 4-38808
 rotating curvilinear channel, convective heat transfer calcs. 4-19702
 rotating fluid systems, geostrophic turbulence, stable baroclinic eddies and self-exciting dynamos 4-31624
 rotating spherical shell, convection-driven dynamos 4-27051
 Saturn entry probe, convective and radiative heating 4-42282
 sea ice, flow regimes for water layer adjacent to melting ice surfaces 4-52724
 semi-infinite phase change medium, convective cooling, freezing analytical soln. 4-1580
 shell, semiinfinite cylindrical, locally heated by convection, thermal stresses 4-33946
 shell, spherical, with confined flow, bifurcation coeffs. for convection onset (French) 4-38805
 shrouded fin array, vertical flow, heat transfer, buoyancy effect 4-24426
 simulation in three dims., modified finite element method 4-34095
 solar absorber house heating systems, heatpump evaporator with forced air convection, reference (German) 4-26326
 solar air heaters natural convection loop 4-57760
 solar pond design and instrumentation 4-57771
 solar ponds, potential applications, methods of improving performance 4-57772
 solar water heater heat absorber efficiency, effect of thermal resistance of screen/heat-removing channel system 4-31115
 solute dispersion in MHD channel flow, radiation effect 4-44746
 spent fuel transport casks, circumferentially finned, natural convection heat dissipation 4-37823
 spherical particle motion in viscous nonisothermal fluid 4-5891
 stability in vertical layer in presence of longitudinal vibrs. 4-44564
 stability of finite-amplitude convection 4-5897
 star, convective radiating incompressible atm., props. where absorpt. coeff. depends on temp. 4-53149
 stationary instability in axisymm. flow excited by rot. HF mag. field 4-38901
 steady turbulent flow in tube, effect of external convection on freezing 4-10669
 steady two dims. flow, vorticity, convection, finite difference method 4-34093
 steam-water two-phase flow, heat transfer calc., bubble dynamics 4-34101
 thermal blooming, time depend., in axial pipe flow 4-10382
 thermal boundary layers, laminar convective heat transfer 4-1722
 thermal contact problems, fictitious finite element layer method 4-44351
 thermal convection between horizontal plates 4-38827
 thermal plasma flow, behaviour of small particles 4-15086
 thermocapillary convection in thin horizontal layer of liq. with deformable surface 4-44563
 thermocapillary flow in two dims. slot, surface contamination effect 4-49819
 thermosyphon, closed toroidal fluid loop 4-24473
 thermosyphon, vertical asymmetric heating, laminar mixed convection (French) 4-1716
 thermosyphon with cavity heat sources, free convective heat transfer 4-19838
 three stream crossflow heat exchangers, thermal anal. 4-1573
 three stream crossflow heat exchangers, thermal anal. 4-1574
 toroidal natural circulation loop, convection, press. distrib. 4-55406
 transient conduction forced convection anal., mixed time integration scheme 4-33899
 transient convective diffusion problems, accurate Petrov-Galerkin methods 4-5894
 transient forced convective heat transfer anal. by boundary layer approx. 4-33099
 transient free convection about a vertical flat plate embedded in a porous medium 4-38873
 transient natural convection flow, surface thermal capacity effects, perturbation anal. 4-44573
 transient natural convection in annulus between concentric horizontal cylinders 4-24424

convection continued

transient natural convection past doubly infinite plate, radiation effects 4-19840
 transport problems, Taylor-Galerkin method 4-34077
 tropical atmosphere, large-scale response to transient convection 4-47383
 turbines, high-temperature gas, convective heat transfer calc. 4-34070
 turbulence, suppression, generation, amplification by optical and IR radiation propag. 4-34059
 turbulence structure in thermal convection and shear-free boundary layers 4-38820
 turbulent duct flow, heat and mass transfer with mist form., saturation model applic. (Japanese) 4-38867
 two-layer systems, convective regimes, Rayleigh-Taylor instability 4-44529
 unsteady free convection from heated sphere at high Grashof number 4-19830
 unsteady incompressible viscous flow in enclosures, numerical soln., Mehrstellen techniques 4-34049
 unsteady natural conc. convection in closed region, inertial conditions influence 4-44562
 upper mantle convection and convective cell broadening 4-17109
 upstream collocation 4-34075
 vertical natural convection flow in porous media 4-24467
 vertical plate fin, conjugate natural convection, similarity soln. 4-1721
 viscous incompressible shear flow, Navier-Stokes, eqn. axisymmetric vortex soln. 4-49825
 viscous liquid flowing film, convective heat transfer calc. 4-24430
 viscous thermocapillary convection at high Marangoni number 4-14964
 vortex instability of horizontal and inclined natural convection flows from simultaneous thermal and mass diffusion 4-38841
 wall plume fed by vertical channel discharge 4-44585
 water, unsteady three-dimensional mixed convection flow with temperature dependent viscosity 4-38816
 weak turbulence close to convection threshold in large aspect ratio systems 4-10671
 Cd-Zn eutectic alloy, directional solidification, forced convection flow effects 4-21201
 Fe-Si (3wt.%) crystals, float zone melt grown, induction heating, electrodynamic force driven convection 4-3064
 H, electrolytic gas generation, heat transfer enhancement mechanism, photographic study 4-44340
 Pb-Sn eutectic alloy, directional solidification, forced convection flow effects 4-21201

convection in liquids
 acoustic arrays, convective flow noise, elastic cylinders model 4-33855
 asymmetric convective flows in the high speed rotating frame 4-1830
 Bénard-Marangoni convection, surface relief on liq. layer (French) 4-49815
 Bridgeman growth, vertical, radial segregation induced by natural convection and melt/solid interface shape 4-20132
 buoyancy driven flow in rectangular cavity, external mag. field effect, Czochralski growth appl. 4-44747
 combined natural and forced convection, semidirect method 4-34094
 crystal growth from high temp. solns., temp. fluctuations at cryst.-liq. interface 4-2124
 developing flow and transport above a suddenly heated horizontal surface in water 4-38815
 ferrofluid layers, mag. Bénard convection determ. 4-29191
 flat fluid layer rotating about horizontal axis, convection study 4-14985
 high temperature solutions for cryst. growth, convection flow rates 4-38823
 horizontal convection in two-layered shear flow, intermediate layer form. 4-29148
 liquid layers heated underneath, thermal and thermohaline instability 4-34078
 liquid metals, natural convection heat transfer from downward facing horizontal surfaces 4-44574
 liquid surface oscillations induced by temperature fluctuation (German) 4-1729
 nematic layers, edge dislocations in roll hydrodynamic instability, static limit 4-15377
 nematic tilted sample, homogeneous instability under free convection 4-10645
 one-dimensional nonlinear diffusion convection eqn. 4-6537
 organic alcohols, heat transfer, from 30°C to boiling point 4-50595
 organic compounds, thermal properties, 20-100°C, hot-wire technique 4-50594
 Rayleigh-Bénard convection and maximum entropy production 4-5873
 reservoir upper layer, convective mixing, temp. distrib., dissolved O₂ conc. 4-44581
 solidification of melt, natural convection, two-phase Rayleigh-Bénard problem 4-34618
 steel, liquid, solidification, thermogravitational convection, mathematical simulation 4-16382
 Stokes system, exact soln. for free boundary problem 4-44587
 thermal storage tank, transient mixed convection flows, num. study 4-21589
 thermococoncentration convection effect on cryst. front shape 4-34434
 tokamak fusion reactor, liquid metal in mag. field, convection, boiling heat transfer (Japanese) 4-14220
 transport across dynamically stabilised diffuse boundary, hydrodynamic theory 4-34088
 turbulent falling liquid films, evaporation, heat exchange on thermal initial section 4-19832
 vertical rod partially submerged in liq., coarse discretisation finite element algorithm 4-34091
 water, polymeric additive effect on turbulence damping and convection 4-19797
 water horizontally confined layer, density extremum and boundary condition effect on stability 4-55399
 CaCl₂ desiccant soln. regeneration, solar regenerator theory and expt. 4-26273
³He-⁴He, Rayleigh-Bénard convection onset 4-15739
³He-⁴He mixture, superfluid solution, convection 4-11374
³He-superfluid ⁴He convecting dil. soln., transition to chaos 4-11373
 Hg, liquid, Rayleigh-Bénard oscillatory instability in horizontal mag. field 4-34197
 LiBr desiccant soln. regeneration, solar regenerator theory and expt. 4-26273
 Si floating zones, electrodynamic convection 4-51482

convergence

see also *convergence of numerical methods*
fractal dimens. and convergence exponents 4-53621

convergence of numerical methods

diffusion-convection one-dimensional eqn. soln. by Galerkin-Petrov finite element method (*German*) 4-48049
elastic stages of body, convergence of finite element methods (*German*) 4-36907
electromagnetics, boundary-element method 4-27311
elliptic plane problems, equilibrium finite element method appl. 4-28965
Kepler's equation in celestial mechanics, convergence of methods of iteration 4-42292
least-squares fitting procedure convergence 4-42701
Lorenz attractor, fractal dimension 4-22684
neutron diffusion, FINELM possible future developments 4-54214
parabolic boundary value problems, convergence rate of finite difference approx. for generalized solns. (*German*) 4-48059
random processes, interpolation, rate of convergence (*Ukrainian*) 4-37012
semiconductor steady-state problems, iteration convergence speeding-up 4-39890
stratified fluid with approx. density distrib., convergence of approx. solns. for waves 4-24444

conversion electron spectra

depth selective conversion electron Mossbauer spectroscopy by use of a proportional counter 4-40306
garnet bubble films, H^+ implanted, depth selective conversion electron Mossbauer spectroscopy 4-35210
internal conversion coeff. depend. on state of atom 4-574
internal conversion-electron spectroscopy, review, book contrib. 4-18381
Mossbauer spectroscopy, appl. of position sensitive single-wire proportional counter 4-38004
⁷⁶As excited states, J^{π} , γ -transitions IC electrons from ⁷⁶Ge(p,n γ) 4-533
²⁰⁵At—²⁰⁵Po, decay scheme, X-ray and conversion electron spectra, $\epsilon\gamma$, $\gamma\gamma$ coincidences 4-18384
²⁰⁵At—²⁰⁵Po, γ -rays, conversion electron spectra, $\epsilon\gamma$ coincidences 4-18383
Au very thin films, conversion electron Mossbauer spectra 4-40307
¹⁹⁷Au, conversion electron Mossbauer spectroscopy 4-7097
¹⁵³Dy, γ -ray, internal conversion and $\epsilon\gamma$ coincidence spectra 4-553
⁴Er, A=161.3.5, excited states, γ -ray transitions, internal conversion spectra 4-559
¹⁵²Eu, internal conversion spectrum, K-conversion coeffs. 4-54079
¹⁵³Eu (n,e $^{-}$), 40-250 keV, γ -transitions (*Russian*) 4-32874
¹⁵³Eu (n,n' γ), 40-250 keV, γ -transitions (*Russian*) 4-32874
Fe very thin films, conversion electron Mossbauer spectroscopy, ultra-high vac. equipment and preliminary meas. 4-40305
Fe-Al, magnetic hyperfine splitting induced by ion implantation, Mossbauer study (*French*) 4-29937
Fe₄₀Ni₄₀P₁₄B₆, amorphous, ion irradiat., crystn., conversion electron Mossbauer spectra 4-34550
⁵⁷Fe-implanted rare earth elements, isomer shifts of conversion electron Mossbauer spectra 4-30366
²⁰¹Hg, low lying excited states study using γ and conversion electron spectroscopic method 4-4800
Li:Fe, ion implanted, thermal annealing effects, conversion electron Mossbauer spectra 4-34646
¹⁸³Re, internal conversion electron spectrum 4-573
¹¹⁹Sn in host matrices, isomer shift calibration from internal conversion meas. 4-40285
¹⁵³Tb, excited states, γ -ray, internal conversion and $\epsilon\gamma$ coincidence spectra 4-557
¹⁵⁵Tb, γ -ray internal conversion and $\epsilon\gamma$ coincidence spectra in decay 4-554
⁴Tm, A=161.2.5, internal conversion and γ -ray spectra in decay 4-558
¹⁶³Tm—¹⁶³Er, KX $_{\gamma}$, γ -ray, conversion electron spectra 4-18386
²³⁶U, octupole excitation, conversion electron decay 4-4808
YIG:H $^{+}$ (Ne $^{+}$), ion implanted, Mossbauer study 4-56831

convertors

see also *analogue-digital conversion; digital-analogue conversion; direct energy conversion; image convertors; magnetohydrodynamic convertors; power convertors; solar absorber-convertors*
analog integrator for tomographs 4-26505
camera, light metering, automatic offset correction for a logarithmic current-voltage converter (*German*) 4-22862
dual JFET convertor, pA currents comparison appl. 4-42989
pulse-flux convertors, for radioactive radiation recording 4-23518
time to amplitude convertor, design for short time interval meas. system 4-13622

conveyors

CVD thin film growth in conveyor furnaces 4-35577
gamma therapy apparatus, multipurpose intracavity, transporter choice 4-57993

cooling

see also *Joule-Thomson effect; low-temperature production; magnetic cooling; quenching (thermal); refrigeration; supercooling*
air conditioning, cool storage for energy saving and management in Kuwait 4-36034
atoms, neutral, stable optical trap proposals 4-5518
bench cooler for spot-cooling IR detectors of the Thematic Mapper instrum. 4-4411
British Telecom's cooling unit for System X exchange 4-48138
desiccant film flowing over roof, heat flux red. 4-21586
diffusion and convective, CO₂ lasers appl. as thermal source (*Czech*) 4-38496
dual-bed open-cycle solar cooling system feasibility and performance 4-12455
dynamic analysis of X-ray heating and cooling (*Croatian*) 4-48272
electronic components block-like arrays, convective heat transfer response to height differences 4-44341
fibre reinforced polymer cylinder, thermal stresses during heating and cooling 4-44416
fluid layer, thermal convection onset, time depend. temp. distrib. 4-44572
gamma-ray spectrometer, space-borne, Philips refrigeration life test performance 4-4413
glass fibre drawing process, finite element method simulation 4-30675
heat carrier of variable props., heat transfer and resistance with turbulent flow 4-14972
heat conduction, nonlinear optimal control 4-33909
heat pump systems, solar assisted, performance in residential applications 4-41363

cooling continued

heat pump systems for residential/commercial space and water heating 4-7891
HLW packages storage facility, cooling characts, evaluation 4-18572
ions, trapped, laser cooling, final stage dynamics 4-48983
IR detectors, using miniature glass cryostats (*German*) 4-27585
Joule's expt., Newton's law of cooling modification 4-53415
laser cooled and trapped atoms, conf., Gaithersburg, MD, USA (April 1983) 4-21
laser mirror, porous substrate, cooling and heat transfer 4-10524
liquid film, falling, for cooling overheated surfaces 4-14877
liquid moving in underground channel, cooling problems soln. 4-34184
magnetic trap, neutral atom coding for precision spectroscopy 4-1294
medical RF hyperthermia, power loss in skin cooling pillows 4-47053
metal plate plane vertical surface cooling by jets of water, convective heat transfer 4-14976
optical/electronic converter with Peltier cooling (*German*) 4-33801
particle target coding, simulator for electrostatic accelerators 4-13719
passive cooling measurements for a concentrating photovoltaic array 4-46879
photoelectric power plants solar energy concentration optimisation 4-31069
radiative cooling with MgO and/or LiF layers 4-38540
radiative cryogenic cooler for Thematic Mapper IR detectors designed to operate in polar sun-synchronous low-Earth orbit 4-4410
rotating disk, jet cooling optimisation 4-33925
semi-infinite phase change medium, convective cooling, freezing analytical soln. 4-1580
shape of porous region to control cooling along curved exit boundary 4-38701
small integrated solar energy systems for developing countries 4-7904
solar absorption system for air conditioning 4-57765
solar technologies and potential, applications 4-7824
solar vapour absorption cooling system, choice of thermal energy system 4-41371
solar-assisted comfort conditioning, research and development 4-52101
split-Stirling cryogenic refrigerators for detector cooling 4-4412
steel, Cr, high-C, hardened rolls, depth of strengthening study by grinding away layers 4-41092
steel, Cr-Mn, austenite transform. and props. in uninterrupted cooling 4-21248
steel, Cr-Mo, rotor, carbide-form. processes 4-40842
steel, critical cooling rate, anal. rel. to hardening (*Russian*) 4-30725
steel, W-Mo, high-speed, cooling rate in liq. N₂, effect on retained austenite transform. 4-40837
superconducting cable-in-conduit cooled by pressurized He II, normal zone propag. 4-50984
superconducting cables, internally cooled, heat transfer 4-33905
thermal energy storage, phase change shell and tube heat exchanger design 4-57792
thermoelectric cooler thermoelectric props. measurement 4-21562
turbines, high-temp. gas, cooling system convective heat transfer calc. 4-34070
Al-(Mg)-(Cu)-(Zn)-Ti, dendrite liquation of Ti 4-57209
Al-Mg-Li-Zr, struct. and props., effect of cooling rate during crystn. 4-57299
CaCl₂·6H₂O-SrCl₂·6H₂O latent heat stores reversibility problems 4-52209
Fe-Cr-Ni, ferritic-austenitic, continuous δ - γ transform during cooling 4-3134
HgCdTe CCD sensors technology developments and performance (*Czech*) 4-48205
K₂O-SiO₂, glass form., crit. cooling rates 4-2087
Na₂O-SiO₂, glass form., crit. cooling rates 4-2087

cooling, splat see *splat cooling***cooling towers**

see also *water supply*
draft towers, natural and mechanical, thermal performance, mathematical model appl. 4-38693
rectification, partial counter-current direct condensation investigations (*German*) 4-55987
wet, thermal performance, mathematical and physical models 4-38692

Cooper Hewitt lamps see *mercury vapour lamps***Cooper pairing** see *Cooper pairs***Cooper pairs**

see also *BCS theory; Josephson effect*
amorphous superconductors, atomic motion, Kondo-like effect and pair-breaking 4-50979
chaotic states in driven ferromagnets 4-11686
dirty superconductors, spin-orbit scatt. and spin contamination 4-30108
semimetals, superconducting, ferromagnetism theory (*Russian*) 4-6942
superconductors, nonequilibrium phonon effect on energy gap (*Russian*) 4-56484
Al/oxide/Al supercond. tunnel junctions, tunnelling in pair-breaking microwave field 4-45940
CeCu₂Si₂ single cryst., superconductivity and Fermi surface 4-35110
Cu, magnetic phase transition in nuclear spin system 4-11697
Cu/InAs/Cu, InAs surface inversion layer conductance, Cooper pair penetration 4-30085
In microbridges, volt. response to light pulses, time delays 4-15992
In/InAs/In, InAs surface inversion layer conductance, Cooper pair penetration 4-30085
In-Ge, percolating superconductor, pair breaking crit. current 4-51006

coordination complexes

inorganic complexes are indexed under the appropriate metal compound headings
vibrational spectra, depend. on electronic excitation energy 4-48927

copolymerisation see *polymerisation***copolymers** see *polymers***copper**

see also *nuclei with*
3d, 4d and sp impurities, electronic struct., self consistent cluster calc. 4-34910
3d impurities, self-consistency iterations in electronic-structure calculations 4-20538
(011) surface state photoemission study 4-11568
{100}, with Ni monolayer, magnetism and surface states calcs. 4-45497
acoustoelasticity, texture effect 4-34562
adhesion of polymeric coatings 4-35756

copper continued

adsorbed cobalt(II) stearate, multi-built-up layers, low energy SIMS study 4-2454
 adsorbed layer on Ni (100), electronic struct. and magnetism, self consistent calc. 4-56407
 adsorbed layer on ZnS, coverage, photothermal deflection spectroscopy studies 4-39667
 adsorbed O₂, H₂ interaction kinetics, ellipsometry 4-41261
 adsorbed submonolayer on rough Ag surface, EM field investigation by differential reflectometry 4-51396
 adsorption and decomp. of formic acid on (110) surface, IR reflection-absorption spectroscopy study 4-20494
 adsorption of chloride ion on (100) face, quasimol. model for compact part of elec. double layer 4-57572
 adsorption of Cl₂, electronic excitations, angle-resolved LEED study 4-2460
 adsorption of CO on oxidised (111) and (110) surfaces, IR spectra, LEED, and surface pot. meas. 4-29794
 adsorption of haloacetic acids, anodic polarisation obs. 4-51863
 adsorption of O₂, electrochem. determ. and AES study 4-34798
 adsorption of O₂ on (110) surface, surface reconstruction, high energy ion scatt. study 4-20490
 adsorption of Pb on (111) and (100) surfaces, secondary electron emission changes 4-57049
 adsorption of Pb-Sn double monolayers on Cu, AES, secondary electron emission obs. 4-39697
 adsorption of phenol, high resolution EELS, angle-resolved photoemission studies 4-30579
 adsorption of water, EELS spectra at low temp. 4-50626
 adsorption of water with Br on (110) and (111) surfaces, UPS, LEED, TDS, work function studies 4-30603
 alkali halide:Cu⁰, ligand relax. and g-shift of s¹ ions 4-20614
 annealed, decoration of etch figures 4-20196
 atom, electron affinity calcs. relativistic effect 4-28355
 atom, gaussian 4f functions, SCF and GTO calcs. 4-48950
 atom, M_{2,3} shell Auger and autoionisation spectra 4-48996
 atom, photoluminesc. spectra in Xe cryomatrix (*Russian*) 4-28397
 atom, UV-visible absorpt. and fluoresc. excitation spectra in solid Xe 4-28585
 atoms, inner-shell excitations, density-effect 4-9982
 atoms, photoexcited, dioxygen activation 4-14349
 atoms isolated in inert gas matrices, MCD spectra, excited state spin-orbit coupling const. 4-54637
 Auger backscattering factor, effects of electron energy and angle of incidence 4-35528
 Auger vacancy satellite spectra, LMM, metallic renormalisation 4-3001
 band struct., nonlocal density approx. 4-39768
 band structure, effect of Langreth-Mehl gradient correction 4-6694
 band structure, linear augmented-Slater-type orbital method 4-56187
 band structure Lambda line, direct transitions, ARUPS studies 4-45612
 Bethe-Bloch stopping power parameters for Al, Cu, and Ag extracted from recent accurate measurements 4-39357
 borate glass:Cu²⁺, EPR spectra and two phase struct. 4-20852
 bulk metal/thin metal film interface, room temp. compound form. 4-25166
 calibration spheres, acoustic props. 4-44315
 cascade region, length of replacement sequences (*Russian*) 4-50344
 cathode, macroparticle dynamics obs. in vacuum arc, using laser Doppler anemometry 4-24667
 cathode, with various thicknesses of oxide film, electron field emission meas. 4-48258
 chemisorption of Cl on (001) surface, MO cluster model 4-56145
 chemisorption of CO on surface vicinal to (110), IR spectrum, effect of defect sites 4-56945
 chemisorption of H on (111), photoemission, thermal desorption spectra 4-2451
 coadsorption of CO and K on {100} surface, valence band photoemission study 4-57076
 coated graphite powder, quality control using anodic voltamperometry 4-26147
 coated Ni spheres, transient liq. phase sintering 4-16353
 coating, electrodeposited on polycryst. W filaments, effect on deform. characts. 4-57391
 cold worked, internal friction behaviour during steplike heating 4-40881
 cold worked, softening temp. and elec. resist., effect of additions of In, Pb, Sb or Sn 4-40815
 collision cascade, energy distrib. calc. (*Russian*) 4-50365
 colloids, aqueous, adsorpt. of pyridine, surface-enhanced Raman scatt. 4-38190
 composite powder deposition by displacement under bubbling conditions, characterisation 4-40707
 Compton profile anisotropy, density-functional theory 4-25824
 concentration measurement in cyanide plating solns. by differential pulse polarography 4-3434
 conduction band distrib., X-ray absorpt. and APS study 4-57043
 conductor, elec. heating 4-45734
 corrosion, flow-dependent, current understanding of mechanisms 4-3280
 corrosion, intercrystalline, factors controlled increase near grain boundaries 4-57400
 corrosion by atmospheric sulphurous gases 4-12241
 corrosion in neutral and acidic Cl⁻ solns., dissolved O effect 4-51858
 corrosion in sea water, zinc gluconate inhibitor efficiency 4-12233
 corrosion inhibition in marine environment, using 3-methyl-4-amino-5-mercapto-1,2,4-triazole 4-3300
 creep-fatigue interaction 4-3240
 critical point energies, soft X-ray APS study 4-7283
 crystal dynamics 4-45284
 crystals, deformation-induced work funct. changes, models comparison 4-56412
 crystals, tensile deformation-induced work funct. change expts. 4-56411
 cyclic stress-strain response and dislocation struct. in polycrysts. 4-57290
 d-bands, local density approx., screened self-interaction correction 4-56201
 defect formation, by recoil nuclei of electron positron pairs generation by γ -irradiation (*Russian*) 4-50352
 defect induced elec. field gradients, geometrical significance of orientation 4-34930
 deformation structure, and nucleation of dynamic recrystn. in single crystals. 4-12101
 deformed, mosaic structure effects on strain ratio instability in single cryst. 4-30749

copper continued

diffusion of Cr and Mn, and Mn isotope effect 4-2381
 diffusion of implanted ⁵⁷Fe, depth-selection conversion electron Mossbauer spectroscopy study 4-35262
 direct extrusion, surface cracks and defect form. 4-12089
 discontinuous film, transmittance meas., sensitive method for studying oxidation process 4-46350
 dislocation cell structure in deformed [001]-oriented single crystals, X-ray line broadening study 4-50290
 dislocation etch pits, dissoln. on (111) surface under potentiostatic electrolysis 4-24821
 dislocation scatt., de Haas-van Alphen meas. 4-6769
 dispersion hardened, friction and wear, transfer layer microstruct. and hardness 4-30831
 dynamic recrystallisation, effect of trace elements (*Japanese*) 4-21236
 electrical resistivity, low temp., and electron-electron scatt. 4-34947
 electrode with adsorbed pyridine, surface-enhanced Raman scatt., evidence for active site low density 4-51271
 electrodes, adsorpt. of Fe phthalocyanine, laser Raman spectra 4-2434
 electrolytic powder compacts, sintering, shrinkage by particle sliding 4-40708
 electrolytic refining using solar photovoltaic conversion 4-57681
 electron beam weldment in moisture monitor, failure anal. 4-12192
 electron bombardment, neutron yields, E \leq 100 GeV 4-6406
 electron irradi., internal friction flux depend. 4-29525
 electron spin susceptibility, CESR meas. 4-30282
 electron stopping power, 1 to 10 keV 4-11206
 electroplated mirrors, dimens. instability 4-10391
 energy band struct. calc. 4-15813
 epitaxial films on W, quantum size effect, very low energy electron refl. study 4-21084
 evaporation field, effect of adsorbed H₂ 4-30611
 fatigue cracks, threshold stress intensity and dislocation struct. 4-40961
 fatigue dislocation structures at elevated temperatures 4-12173
 fatigued, secondary cyclic hardening in monocrysts. and polycrysts. 4-57248
 fatigued single crystals oriented for double-slip, dislocation structures, TEM obs. 4-15485
 FCC, defect trapping by ¹⁰⁰Pd, PAC meas. 4-34526
 FCC, electronic energies, densities of state, X-ray scatt., total energy, calcs. using Gaussian basis sets contraction 4-34440
 FCC, lattice dynamics using ionic Morse pot. in sea of free-electron gas 4-55945
 film, adsorption of CO, dielec. const., ellipsometry and resist. meas. 4-56848
 film, thermal effects, optical study 4-51231
 film on Ru (0001), electronic states, geometric struct. 4-25179
 film-like photographic layers containing PbI₂, Cu phys. development (*Russian*) 4-17985
 films, discontinuous, oxidation effect on optical props. 4-2976
 films, grain-boundary scatt. and surface plasmon attenuation 4-40082
 films, Ti implanted, thermal oxidation inhibition, Rutherford backscatt. study 4-30862
 films and particles, electrodeposition by reducing redox polymer 4-25902
 finely divided, prep. by thermal decomp. of Cu formate-monoethanolamine complexes 4-25920
 floating target surface pot. meas. with parallel beam technique 4-39066
 foil, deep etching procedures in the electronic technology (*German*) 4-51869
 foil, Fe ions collisions, charge state distrib., microscopic anal. 4-19194
 foil, He ions implantation effects 4-45168
 foil, proton stopping cross section meas., Rutherford backscattering spectra, foil thickness determ. 4-50383
 fracture behaviour under conditions of prevented macroscopic deform. 4-35701
 gamma irradi., anomalous modulus defect due to dislocation pinning, damping meas. 4-50302
 grain boundaries, Stoneley waves 4-50306
 grain boundary splitting and grain boundary dislocation motion (*Russian*) 4-34501
 granular overcoated films, struct. and optical behaviour 4-51399
 hardening due to radiation damage 4-33167
 heat exchangers, for cooling liq. He samples 4-8902
 heat release relax. of thermoelastic stresses 4-45263
 hologram writing by photochemical etching 4-49307
 hydrostatic extrusion, struct. and strength of polycryst. specimens 4-30766
 implanted low energy N₂⁺, depth profiles 4-11172
 impurity diffusion in Ni, 1080-1613K, atomic absorpt. analysis (*Japanese*) 4-34714
 impurity-vacancy complex formation, Mossbauer study 4-35261
 intercalated in 2H-NbS₂, band struct., photoacoustic and reflectivity spectra 4-40475
 intercalation cpd. with TiS₂ and NbS₂, solid-state cells 4-52121
 ion bombardment, structural changes in volume (*Russian*) 4-50373
 ion-bombardment induced photon emission, angle of incidence depend. 4-35495
 irradiation creep due to elastodiffusion 4-55863
 island films on C, surface and volume diffusion during condensation 4-2474
 isoelectronic sequence from Ru¹⁵⁺ to Sn²¹⁺, spectra and energy levels of ions 4-23647
 isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 Kapitza cond. study between 0.3 and 1.3K 4-2690
 L-LM Coster-Kronig and LM-MMM satellite energies, solid state, theoretical studies 4-57046
 laser media, gain depend., appl. to design of image brightness enhancers 4-28668
 laser microprobe plume, at. fluoresc., spatial and temp. characts., atm. effects 4-35953
 laser prod. plasmas, ion expansion vel., recombination effect 4-38983
 lead tartrate:Cu²⁺, anhydrous, EPR studies 4-56766
 liquid, electronic density of states, muffin tin model calc. 4-45571
 liquid, struct. and thermodynamics from generalised OPW and reson. model approaches 4-15371
 magnetic phase transition in nuclear spin system 4-11697
 magnetoresistivity, Boltzmann eqn. calc. 4-20631
 metal recovery systems using radiation grafted structures 4-46762
 microporosity evaluation by MHz US attenuation meas. 4-39403

copper continued

mirror, air breakdown plasma form. threshold, depend. on surface absorpt. coeff. 4-28808
 mirror, intensity-depend. absorpt., role of temp. and surface roughness 4-24131
 mirrors, tarnishing protection study using oxide and fluoride protecting reflecting layers 4-5681
 molecule, photoluminesc. spectra in Xe cryomatrix (*Russian*) 4-28397
 monocrystals, dislocation damping with limited phonon-electron interaction at He temps. 4-2209
 Mossbauer study, electron density and electric field gradient 4-35298
 multielectron excitations and electronic struct., XPS studies 4-46423
 muon diffusion below 2K, μ SR study 4-7110
 neutron irradi., defects, X-ray diff. studies (*Russian*) 4-50372
 nonequilibrium electron heating obs., thermomodulation spectroscopy 4-16187
 nuclear cooperative phenomena at nanokelvin temps. 4-11696
 optical properties, LMTO calc. 4-25129
 ore deposits in Noril'sk trough region of USSR 4-52640
 overlayers of Co, mag. props. calcs. 4-11740
 oxidation during CW CO₂ laser irradi. 4-41035
 oxidised and reduced, electron irradi., dislocation pinning effects 4-39305
 photographic development in Cu physical developers, Cu(BH₄)₂ developer stabilisation props. (*Russian*) 4-17991
 pipes, pitting corrosion in potable tap water (*German*) 4-16543
 plasma deposition process, low pressure, finite element modelling, temp. analysis 4-3067
 plated Al alloy, elec. contact resist. rel. to surface roughness 4-56416
 plates, corrosion resistance, triazine thiol polymerisation effects 4-35897
 point defects produced by cold working, Mossbauer spectroscopy and PAC study 4-35260
 polycrystal, Ar ion double scatt. effect, computer calc. 4-12001
 polycrystalline, acoustic emission in deform. 4-51765
 polycrystalline, fatigue life, plastic deform., 12-293K 4-3220
 polycrystalline, secondary ion yields rel. depend. 4-46391
 polycrystalline targets, elastically reflected electrons, spatial distrib. 4-25838
 polycrystals, indentation damages, work hardening, residual stress, elastic-plastic analysis 4-16450
 porous fibre material, contact phenomena 4-25923
 porous fibre materials, free and contact surface determs. 4-26104
 positron annihilation, many-body enhancement, choice of electron density parameter 4-57026
 potassium hydrogen maleate:Cu²⁺ crystals, transport props. and thermal studies 4-39567
 powder, mixture prep. from optimised and electrolytic powders, characts. 4-7395
 powders, atomised, control of props. 4-25919
 precipitated H₂ bubbles, ortho-para conversion and time depend. heat leaks 4-13646
 precipitation kinetics from a physical developer, surface-active substance influence (*Russian*) 4-35925
 pure, cold worked, elec. resist., softening temp. rel. to alloying additions (*Japanese*) 4-46524
 pure, ribbon, melt spinning, multilayer deposition 4-51575
 quenched, photostimulated exoelectron emission 4-7324
 quenched-in resist., effects of O impurity 4-20626
 Rayleigh and Compton scatt. differential cross sections 4-30555
 reactor fuel cladding burst strength during postulated accident 4-33117
 recovery and recrystallisation, after hot deform. 4-16415
 recrystallisation, dynamic, effect of initial grain size 4-30713
 recrystallisation, effect of elec. current pulses 4-21237
 recrystallisation during elec. current passage, orienting effect 4-57259
 reduced and oxidised, internal friction and Bordoni peaks, electron irradi. effects 4-40879
 ring fragmentation by EM loading 4-35791
 river sediments in British Columbia, Canada, Cu, Zn, Ni content 4-31548
 rolled, texture, dislocation struct. 4-21234
 rolled plate, acousto-elastic effect (*Japanese*) 4-25990
 rolled sheet, anisotropic, Young's modulus, rigidity modulus and Poisson's ratio 4-7500
 rubidium oxalate monohydrate:Cu²⁺, X-ray induced centres, EPR 4-46093
 secondary ion mass and energy spectra sputtered by Br⁸⁺ MeV bombard. 4-46388
 self-consistent relativistic band struct. calc. 4-29875
 shape memory alloy, deform. in nonsteady cyclic loading 4-12128
 shock-compressed, highly porous, isentrope determ. 4-45266
 single crystal., plastic anisotropy coeff. changes during elongation (*Russian*) 4-35660
 single crystal, cold rolled, dislocation struct. 4-12111
 single crystal, multiple slip oriented, persistent slip band structure 4-55841
 single crystals, cold rolled, stored energy, recrystallisation kinetics, second phase particles effect 4-12081
 single crystals, directional solidification, γ -ray diff. obs. 4-3045
 single crystals, dynamic recrystallisation during tensile deform. in creep 4-12112
 sintered, H sickness 4-25921
 sliding contacts, static contact resist. of solid lubricant composite 4-25422
 sliding on Cu, interaction between wearing surfaces 4-51825
 sliding on Cu-Be, interaction between wearing surfaces 4-51825
 soft X-ray spectra, quasiatomic vacancy satellites 4-46374
 soil pollution near Zn smelters 4-3502
 solid state effects on thermal neutron cross-sections 4-39057
 solubility of H under high press., thermodynamics 4-20367
 spalling failure character., -196 to 800°C 4-30816
 sphere, kinetics of electropolishing in H₃PO₄ 4-3297
 sputtered particles, thermalisation process, Monte Carlo simulation 4-30586
 sputtering with Ar⁺ and Cu⁺ ions 4-7305
 stacking fault energy and deform. twinning 4-15496
 strain hardening curve and ultimate uniform strain (*Chinese*) 4-16409
 stress relaxation in single crystals 4-40882
 substrate for Ag overlayers, overlayer electronic struct. study 4-20481
 substrate for amino acid overlayers, secondary ion emission and AES study 4-46413
 surface, (001)c(2 \times 2)-Cl, fine struct. in secondary electron emission 4-40585

copper continued

surface, (100), quasi-one-dimensional TI overlayers, CDW study 4-56246
 surface, (100), with oriented phthalocyanine film, angle resolved photoemission obs., interpretation 4-16292
 surface, (100) and (110), angle resolved bremsstrahlung isochromat spectroscopy studies 4-57022
 surface, (111), one-phonon atom-surface scattering, pot. cutoff calc. 4-30584
 surface, (111) oriented single cryst., Ne, Ar, Kr, Xe, N, Cu ion beams effects on morphological structure 4-45218
 surface, adsorption of ethyl xanthate, XPS study 4-35545
 surface, cetyltrimethylammonium bromide adsorption, surface enhanced Raman scatt. study 4-30475
 surface, dissociative chemisorption of H₂, role of d orbitals 4-29792
 surface, formic acid vap. multiple adsorbates, IR spectra study 4-2430
 surface, high temp. selective, lower emissivity limits 4-3477
 surface, imadazole treated, epoxy resin coating, Fourier transform IR spectra 4-51879
 surface, O₂ adsorption sites; LEED study 4-2445
 surface, roughened, with adsorbed molcs., surface enhanced Raman scatt. theory 4-51266
 surface, thermally stimulated exoelectron emission centre chemical nature 4-7332
 surface (001), clean and with adsorbed O, surface struct. determ. using LEED I-V curves, appl. of averaged Patterson function 4-15750
 surface (100), CO laser induced thermal desorption 4-20470
 surface (100), mol. N₂ ion reflection, directional effects 4-11999
 surface (100), Na-covered, adsorbed CO reduced stretch vibr. freq., EELS study 4-29766
 surface (110), clean and O-covered, H₂O adsorption, UPS, desorption, work function and LEED studies 4-45509
 surface (110), clean and O-covered, H₂S adsorption kinetics, AES studies 4-29806
 surface (110), NH₃ and ND₃ adsorption, high resolution EELS study 4-45530
 surface (111), adsorbed Cs struct., LEED studies 4-25132
 surface (111), photoemission spectra, intrinsic linewidths, nonlifetime effects 4-7313
 surface (111), submonolayer Pb deposits, oxidation, XPS and work function study 4-51889
 surface (111), subthreshold effect, inner potentials and surface relax., LEED study 4-34763
 surface (111), Young's soln., etching, dissolution rate at dislocation sites (*Japanese*) 4-6374
 surface condition influence on air plasma form. due to microsec. CO₂-TEA laser pulse irradi. 4-49921
 surface energy calc. using Baskes and Melius interatomic pot. 4-45482
 surface exoactive, thermally stimulated exoelectron emission mechanism 4-7333
 surface oxidation under CO₂ CW laser irradi. 4-50347
 surface restitution from electron micrographs of extended surface replicas in situ 4-30866
 surface roughness, transverse electron focusing study 4-6632
 surface siliconised coating for high temp. oxidation protection 4-12270
 target, external bremsstrahlung from ⁹⁰Sr-⁹⁰Y β particles, Z depend. 4-11957
 temp. depend. of Hall coeff. 4-50521
 tensile testing, heat treatment and prestrain effects, ductility indices 4-25991
 thick layers, electron transmission, EELS 4-51423
 thick-film laser targets, density meas. 4-4497
 thin film, chemically deposited, struct. studies 4-29844
 thin film, internal stresses, microstruct. model anal. 4-45565
 thin films, local electronic density of states, photoemission and self-consistent calcs. (*German*) 4-35091
 transport through liquid membrane by thioether mediation and redox reaction 4-7748
 ultrafine powders, sintering, mass transport 4-46473
 ultrasonic attenuation, electron-electron and electron-phonon interaction contrbs. 4-29535
 US fatigue of single crystals 4-46616
 vacancies and self-interstitials, form. and migration energies 4-20185
 vacancy system, electric quadrupole interaction and electric field gradients 4-29936
 vacuum arc, macroparticle velocities determ. 4-24657
 vacuum arcs, high current, erosion products, time-resolved characterisation 4-24655
 vapour hollow cathode laser, CW, in 260 nm region 4-5612
 vapour laser, 10 W, sealed-off design and performance 4-33687
 vapour laser, nonaxial beam radiation divergence dynamics and loss calcs. 4-28674
 vapour laser, pulsed, spontaneous emission and gas temp. 4-14676
 vapour laser, role of pulse repetition freq. 4-24057
 vapour laser excited by pulse trains, relax. processes 4-28670
 vapour laser lower active level lifetime meas. 4-23965
 vapour laser pumped by fast transverse elec. discharge 4-14715
 vapour laser with long service life and improved excitation pulse parameters 4-55081
 vapour laser with self-recording nonlinear mirror (*Russian*) 4-5577
 vapour laser with self-stirred LiNbO₃ nonlinear mirror 4-44113
 vapour laser with stabilising output parameters 4-14720
 vitrification kinetics, glassy layer thickness 4-39156
 wear surface profile, β -particle backscattering technique 4-42926
 wire, material ratchetting rates in Bree beam element 4-21274
 Ag-Cu multilayer thin film structures, sputter profiling, depth resolution improvement by cooling 4-21090
 AgBr:Cu⁺, Cu⁺ localised level self-consistent calc. 4-25284
 AgCl:Cu⁺, Cu⁺ localised level self-consistent calc. 4-25284
 Al, metal-jets produced by conical free surface collapse by plane shock wave 4-2269
 Al/Cu conductors for ICs, electromigration induced extrusion, acoustic emission study 4-50593
 Al/W and Al/Ti thin film reactions, Cu impurity effects, glancing-angle X-ray diff. and Rutherford backscatt. study 4-20414
 Al-Al₂O₃-Cu struct., influence of electrode metal on negative differential resistance (*French*) 4-35088
 AlGaAs:Cu(Fe), deep acceptor levels, comp. dependence and random alloy effects 4-25280
 Al_{0.7}Ga_{0.3}As:Sn(Ge)(Te)(Cu) epitaxial films, impurity photolumin. 4-16263
 As₂Se₃:Cu(Ag), photoelectron and Auger lines, chem. shifts 4-25849

copper continued

- As₂Se₃:Cu amorphous film, elec. props., impurity effects 4-45783
 Au/Cu bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
 Au-Cu-Ag matrix, PIXE evaluation of major components, matrix effects 4-3431
 BaS:Cu,Bi, new X-ray TLD phosphors 4-21051
 BaS:Cu,Bi phosphors, gamma-ray induced thermally stimulated luminesc. study 4-16259
 Bi-Sb, dislocations revealed by Cu impurity diffusion and chem. etching 4-11147
 Bi₂Se₃(Te₂):Cu, Cu electromigration, carrier conc. and effective ion charge 4-34727
 C II UV enhanced fluoresc. due to combined effects of selective optical pumping and collisional transfer 4-48986
 CaO-B₂O₃-Al₂O₃:Cu, glass, γ -irradiation, formation and decay of colour centres 4-34487
 β -Ca₃(PO₄)₂:Cu²⁺, ESR study 4-11762
 CaS:Cu,Ce phosphors, phosphorescence decay and thermoluminesc. 4-25795
 Cd(COO)₂·3H₂O:Cu²⁺, ESR and nuclear quadrupole interactions 4-51126
 Cd(S₂Se):Cu/Michler's ketone double layer system, optoelectronic props., Xerographic appls. 4-4488
 Cds:Cu, Cl thin films, photocond. props. ageing process influence 4-35027
 Cr/Cu microlaminate composites, struct.-prop. relationships 4-50650
 Cr/Cu/Cr cermet film, in-situ annealing of resistors 4-7357
 Cr-Cu dispersion strengthened condensates, struct., microhardness and mech. props. 4-40991
 CsI, Cu⁺ doping and diffusion, NMR study (*German*) 4-25094
 Cu foil+³He ions, total K-shell vacancy prod. cross sections for 200 to 1600 keV/amu ³He 4-9985
 Cu I, at. lifetimes determ. using laser-induced fluoresc. 4-5178
 Cu, thermally charged, H-dislocation studies by positrons 4-21290
 Cu⁺ pulsed hollow cathode laser, ignition method influence on output power 4-55022
 Cu²⁺ concentration measurement on basis of chemiluminesc. kinetic curves from luminol reaction in aqueous soln. with H₂O₂ 4-35964
 Cu²⁺ ions, adsorpt. on Al₂O₃, EPR spectra, ionic bond form. 4-30268
 Cu²⁺, spin exchange with 2,2',6,6'-tetramethylpiperidone-N-oxyl, EPR obs. 4-49065
 Cu-H, depth dist. in metals by p-p scatt. 4-4963
 Cu/Al and Pt/Cu/Al thin films, interfacial reactions, O₂ effects 4-39611
 Cu/Al thin film bilayers, interdiffusion and sequential cpd. form. 4-29707
 Cu/Al thin film bilayers, W interdiffusion marker during sequential cpd. form. 4-29708
 Cu/InAs/Cu, InAs surface inversion layer conductance, Cooper pair penetration 4-30085
 Cu/Pb-Bi, resist. of supercond.-normal metal interfaces at 0K 4-40120
 Cu/Sn binary diffusion couples, nonparabolic growth of intermediate phases 4-34726
 Cu/Zn couple, corrosion testing, current distribution, microcomputer controlled meas. system (*Japanese*) 4-46689
 Cu/ZnO, chemisorbed CO, IR transmission spectroscopic study 4-56143
 Cu-Al₂O₃, manufacture and props. (*Polish*) 4-3115
 Cu-Cr polycr structures, electrophysical props., low temp. diffusion effects 4-2662
 Cu-Cs plasma, recombining, population inversion, visible region transitions 4-10827
 Cu-electrolyte interface, electroreflectance spectroscopic study 4-46232
 Cu-He, gas evolution, under alpha-particle irradiation (*Russian*) 4-39595
 Cu-In, dil., vacancy clustering detection, PAC and lattice location meas. 4-34522
 Cu-PTFE interface, friction at cryogenic temps. 4-30827
 Cu-Pb proximity Josephson junction, resistive transition 4-45944
 Cu-Pd diffusion couples, diffusion-induced grain boundary migration, TEM, AES studies 4-20415
 Cu+H₂, dissoci., ab initio effective pot. CI calcs. 4-46757
 Cu+H⁺, K-shell ionisation at large scatt. angles 4-9992
 Cu+H⁺, L-shell ionisation 4-14518
 Cu+Sn⁴⁺, K-shell excitation, rot. coupling, vacancy prod. probabilities 4-19176
 Cu₂, atomic cluster calc., augmented Gaussian-orbital basis 4-19315
 Cu₂, matrix isolated optical spectrum 4-33413
 Cu₂, new electronic state, fluoresc. and UV spectra in solid Ne 4-28501
 Cu₂, novel at. pairs in Xe, UV-visible and fluoresc. spectra 4-28449
 Cu₂, jet cooled supersonic beam, resonant two-photon ionisation spectra 4-19071
 CuI, electron elastic scatt. and excitation, ang. distrib. 4-10136
 Cu(II) dimeric species, adsorpt. on SiO₂ surface, EPR spectra 4-25628
 Cu_x(X=2 to 5), UV-visible absorpt. and fluoresc. excitation spectra in solid Xe 4-28585
 GaP:Cu, Zero field optically detected mag. reson. study 4-56820
 GaSe:Cu, doped and undoped, radiative recomb. kinetics, spontaneous photoluminesc. spectra 4-7242
 Ge:Cu, plasma hydrogenation, deep levels and Cu solubility 4-29923
 Ge:Cu single cryst., negative photocond. and hole mobility (*Russian*) 4-35023
 GeSe₂:Cu(Ag), photoelectron and Auger lines, chem. shifts 4-25849
 HgS-Cd(S₂Se):Cu mixed system optoelectronic props. for electrophotographic appls. 4-53790
 KCl:Cu, UV irradi. induced aggregation and thermoluminescence spectra 4-11950
 KCl:Cu⁺, luminescent lifetime, effect of mag. field 4-30519
 Li₂B₂O₅:Cu, effects of ion implantation on TSEE and TL glow curves 4-48770
 Li₂B₂O₅:Cu, thermoluminescence. phosphor, nonlinear response mechanism, trap distrib. model 4-51366
 LiBbO₃:Fe(Cu), shift holograms, model using photovoltaic and photoref. effects (*Russian*) 4-19397
 LiCl:Cu⁺, luminescent lifetime, effect of mag. field 4-30519
 LiF:(Mg,Cu,P), dosimeter material, characteristics 4-51375
 LiI:Cu, fast interstitial diffusion processes 4-15707
 LiKSO₄:Cu²⁺, ESR and optical absorption spectra 4-56763
 Li₃N:Cu, ionic cond. and defect migration 4-25085
 LiNbO₃:Cu, X-ray irradi. and thermal reduction-induced defects 4-39286
 (NH₄)₂ZnF₄·2H₂O:Cu, EPR spectra, hyperfine interaction 4-11759
 NaBr(F)(Cl):Cu⁺, luminescent lifetime, effect of mag. field 4-30519

copper continued

- NaCl surface, Cu coated, electron channelling, average penetration depth 4-50390
 NaCl:Ca,Cu, single cryst., thermolum. and thermally stimulated exoelectron emission 4-51378
 NaCl:Ca²⁺, Cu⁺, X-irrad., recombination luminesc., photoacoustic emission 4-51315
 Nb/Cu composite supercond., interface flux pinning and critical currents 4-16002
 Nb/Cu superconducting superlattices, anisotropic crit. fields 4-11650
 Nb/Cu superlattices, supercond. transition temp. and critical fields 4-45911
 Nb-Cu multilayer film semicond., critical temp. calc. 4-40102
 NbTi/Cu superconducting solenoid for Fermilab Collider Detector Facility 4-48878
 NbTi/Cu/Al thin supercond. solenoid, internal winding, for colliding beam detectors 4-48879
 NbTi-Cu multifilamentary wires, diffusion barrier study (*Chinese*) 4-2383
 NbTi-Cu twisted multifilamentary composite wires, alternating losses (*Chinese*) 4-2689
 Ne-Cu hollow cathode discharge, Cu Penning ionisation, optogalvanic spectra 4-24676
 Ni/Cu interface, mag. moments, ab initio calcs. 4-16012
 O diffusion and solubility, using potentiostat. and potentiometric techniques 4-34717
 O diffusion induced dislocation glide 4-11152
 Pt (111)/Cu system, growth and alloy form., LEED, AES and desorption studies 4-29808
 Si wafers, long-time processed, Cu precip., cryst. defects, TEM, DLTS studies 4-2192
 Si-Cu, symmetric lattice distortions around deep level impurities 4-6736
 Si-Cu, vibronic coupling and photolum. spectrum 4-51338
 Si-Cu single cryst., impurity gettering by porous Si during annealing 4-2382
 Si-Cu(Al), laser implantation of impurities 4-15505
 Si(111)-Cu-Pd system, PES study of reacted interface 4-12012
 Ta-Cu-Ta SNS junction, thermoelectric AC Josephson effect 4-40119
 Ta-Cu-Ta superconductor-normal-superconductor sandwiches, excess resist., effect of mag. field (*Russian*) 4-2699
 V/Cu composite supercond., interface flux pinning and critical currents 4-16002
 W fibre reinforced Cu, helical fibres, fracture toughness 4-40953
 W-Cu multi-point contact MIM diode (*Chinese*) 4-50951
 ZnS:Cu, middle IR absorpt. and EPR of Cu associates 4-2944
 ZnS:Cu,Mn,Cl, electroluminescence in Cu_xS-ZnS:Cu, Mn, Cl-Al structures 4-16254
 ZnS:Cu electroluminescence, ageing and restoration processes, moisture effects 4-51350
 ZnSe:Cu, Cl, impurity centres, IR quenching of photocurrent study 4-25281
 ZnSe:Cu, diffused Cu impurities, EXAFS studies 4-11342
 ZnSe:Cu, impurity centres, IR quenching of photocurrent study 4-25281
 ZnTiF₆·6H₂O:Cu²⁺, EPR study of Jahn-Teller effect 4-30278
 Zn(pyridine-N-oxide)₂(NO₃)₂:Cu, EPR spectra, Jahn-Teller effect, exchange interaction 4-56761
- copper alloys**
see also brass; copper compounds
 artifacts, Cu based, analysis by prompt gamma-ray neutron activation analysis 4-46809
 binary alloys, metastable states by super-rapid quenching 4-46537
 C18200/C19000 high strength, high conductivity copper alloy flat spring materials for fuses and electronic connectors at elevated temperatures 4-46556
 corrosion in hypersaline geothermal brine 4-7655
 corrosion prevention in condenser tubes 4-23193
 dilute, γ -irrad. and deformed, dislocations, annealing, US absorpt. meas. 4-50303
 dilute, Dingle temp., Fermi surface area, de Haas-van Alphen effect 4-2504
 dilute alloys, residual resistivity, charge transfer and band effects 4-2586
 direct extrusion, surface cracks and defect form. 4-12089
 fatigue crack growth, near-threshold 4-12140
 fusion reactor first wall for FED-A Tokamak 4-9425
 galvanic corrosion, Cu alloys coupling with Ti in desalination plants (*Japanese*) 4-16544
 Heusler L₂ alloys X₂MnZ, (X=Ni, Cu, Rh, Pd and Z=Ga, Ge, In, Sn Pb), hyperfine mag. field 4-35279
 internally oxidised, shock loading microstresses 4-45261
 massive transformation, growth kinetics and mechanism 4-57221
 rare earth alloys, R₃Cu₂Sn₄(Ge₄), cryst. struct., single cryst. X-ray diffr. anal. 4-39211
 rare earth alloys, RCo_{5-x}M_x, M=Ni, Cu, Al, Si, mag. props. 4-7017
 Sm_{1-x}Er_x(Co,Fe,Cu,Zr)₇, 3 permanent magnets, B-H loop meas. meas 4-56706
 stainless alloy, austenitic containing Cu-Mo, passivation in hot H₂SO₄, crit. conditions 4-57473
 tribological coatings, ion plating process 4-46454
 wear of sliding pair with steel, cardan joint use 4-46631
 Ag-Cu, ion beam mixing (*German*) 4-45212
 Ag-Cu, metastable phase equilib., calc. of T₀ curves in connection with rapid solidification 4-57206
 Ag-Cu (1-28.1 wt.%), rapid solidification vel., effect on microstruct. 4-40766
 Ag-Cu system, stable and metastable equilib. diagrams, calc. 4-40750
 Ag-Cu-In (35, 5 wt.%), hot extrusion, structural superplasticity, strain rate and temp. depend. 4-3186
 Ag-Cu-Mg metallic glasses, electron transport and density of states 4-45724
 (Ag_{0.5}Cu_{0.5})_{100-y}Ge_y, mag. susceptibility meas. in amorphous and liq. states 4-20785
 Al bronze, commercial, superplastic behaviour (*Japanese*) 4-35666
 Al(Mg)-Cu-(Zn)-Ti, dendrite liquation of Ti 4-57209
 Al-Al₃Cu lamellar composites, deformation mechanism, plastic anisotropy (*French*) 4-40924
 Al-Al₃Cu strips of regular eutectic comps., growth and microstruct. 4-25950
 Al-Cu, 2011, microstruct. charact. using DSC 4-30870
 Al-Cu, 2219, rel. between microstruct., hardness and elec. cond. 4-7550
 Al-Cu, 2219, thermal history, hardness, NDE by elec. cond. 4-30916

copper alloys continued

- Al-Cu, ageing, effect on struct. and props. 4-57266
 Al-Cu, dil., defect electronic structure, extension of muffin-tin Greens-function theory 4-45674
 Al-Cu, dil., rapid solidification, STEM study of featureless zone 4-40765
 Al-Cu, fatigue crack growth, micromechanisms 4-30790
 Al-Cu, fatigue resist. during HF programmed and random loading 4-7578
 Al-Cu, high strength, creep crack growth, study using computerised testing system 4-40964
 Al-Cu, hypoeutectic alloys, directional solidification, dendrite morphology 4-51648
 Al-Cu, ledge struct. and θ' precipitate growth 4-40801
 Al-Cu, low temp. internal friction peak mechanisms 4-50425
 Al-Cu, metastable, soft X-ray emission spectra, effect of heat treatment 4-7282
 Al-Cu, Mg, 2024, residually stressed, fatigue strength rel. to preload 4-35676
 Al-Cu, N-heterocyclic cpds. as corrosion inhibitors in HCl 4-21357
 Al-Cu, partly coherent precipitate growth, departure from coherence effects (*Russian*) 4-50516
 Al-Cu, precip. hardening process, study using sound wave vel. rel. and US attenuation 4-21230
 Al-Cu, single crystals, containing θ' precip., cyclic deform., orientation and history depend. 4-12102
 Al-Cu, solidification zero gravity, Cu distrib. in grains 4-57204
 Al-Cu, stress-strain behaviour, micromechanical theory prediction 4-30762
 Al-Cu, θ' phase formation, DSC obs. quench sensitivity 4-40799
 Al-Cu, θ' precip. mechanism on climbing dislocations 4-12074
 Al-Cu, unidirectional solidification, solid-liq. interfacial stability, influence centrifugal forces 4-16383
 Al-Cu, unidirectionally solidified ingots, inverse segregation 4-51653
 Al-Cu (1.7 at.%), single crystal, room temp. ageing, GP zone struct. 4-3146
 Al-Cu (1.7 at.%), solid soln., local atomic arrangements 4-21217
 Al-Cu (3 wt.%), elastic interaction of growth ledges on plate shaped precipitates 4-16404
 Al-Cu (3.3 wt.%), containing shearable precipitates, cyclic behaviour, effect of test interruption 4-57326
 Al-Cu (4 wt.%), cathodic protection in acid media, inhibitor effects 4-51859
 Al-Cu (4 wt.%), θ' plates, heights of ledges, determ. by electron diffraction and lattice plane imaging 4-57228
 Al-Cu (4.4 wt.%), powder composite, sintered, aged, soln. treated, microstructure, TEM obs., 4-25984
 Al-Cu (4.5 wt.%), powder, prodn. by rotating-water-atomisation process 4-16352
 Al-Cu alloy, directional solidification, effect of melt superheat (*Chinese*) 4-7442
 Al-Cu alloys, melting and solidification, BEALUCA space expt. (*German*) 4-57525
 Al-Cu alloys, US hardening 4-21231
 Al-Cu metallisation sputtered films, electromigration of films, multilayers and alloys 4-2385
 Al-Cu powders, compaction, die wall an internal lubrication rel. to mech. strength 4-30665
 Al-Cu semiproducts, hardening 4-57267
 Al-Cu sputtered thin films, electromigration, metallisation lifetime monitoring technique 4-11351
 Al-Cu system, dissoln. of θ -CuAl₂, shape changes 4-57234
 Al-Cu system, rapidly quenched, phase comp. and struct. (*German, English*) 4-7427
 Al-Cu thin film conductors, grain growth as result of rapid annealing, semicond. technological appls. 4-40821
 Al-Cu thin films, W marker motion during sequential cpd. form., Rutherford backscattering spectra 4-15714
 Al-Cu-Ag system, phase diagram, thermal analysis of liquidus (*Chinese*) 4-3122
 Al-Cu-Li, nonlinear fatigue crack growth, deflection model 4-16494
 Al-Cu-Li, recrystallised 2020, fracture rel. to intermetallic particles 4-21315
 Al-Cu-Mg, 2024, cumulative fatigue damage and fatigue life 4-46620
 Al-Cu-Mg, 2024, elasto-plastic work hardening 4-30764
 Al-Cu-Mg, ageing mechanism, TEM, electron microdiffraction obs. (*Russian*) 4-25977
 Al-Cu-Mg, Al-Zn-Mg-Cu, dynamic fracture toughness by split Hopkinson bar technique (*Japanese*) 4-26135
 Al-Cu-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
 Al-Cu-Mg, chem. comp. optimisation 4-57239
 Al-Cu-Mg, D16T, block cyclic loading influence on deform. and strength character, plane stressed conditions 4-12125
 Al-Cu-Mg, fatigue crack initiation under programmed block loading 4-40941
 Al-Cu-Mg, fatigue crack propag. acoustic emission 4-21309
 Al-Cu-Mg, fatigue life, programmed loading, stresses beyond endurance limit 4-7583
 Al-Cu-Mg, fatigue strength improvement rel. to cold work induced residual stress (*German*) 4-40938
 Al-Cu-Mg, fracture, endurance prediction 4-51815
 Al-Cu-Mg, fracture toughness and strength, grain size influence 4-57330
 Al-Cu-Mg, heat-resistance, electroslag refined, hot workability and hot deform. 4-7494
 Al-Cu-Mg, hot rolling, secondary phase particles investigation (*Rumanian*) 4-30723
 Al-Cu-Mg, mech. props., effect of grain boundaries, new model (*Slovak*) 4-46568
 Al-Cu-Mg, partly coherent precipitate growth, departure from coherence effects (*Russian*) 4-50516
 Al-Cu-Mg, SCC vel. meas. under const. load and const. displacement 4-41043
 Al-Cu-Mg, spalling failure, -196-600°C 4-12181
 Al-Cu-Mg-Fe-Ni, elevated temp. mech. props. 4-57300
 Al-Cu-Mg-Mn, failure temperature conditions, effect on struct. and props. 4-40979
 Al-Cu-Mg-Mn-Zr, plates, mech. props., Zr effect 4-21285
 Al-Cu-Mg-Mu-Si-Fe, corrosion fatigue strength in various media 4-21396
 Al-Cu-Mg-Mu-Si-Fe, yielding and strength limiting states, block cycling effect 4-30772

copper alloys continued

- Al-Cu-Mg-Si forgings, struct. and props., Mg and Fe contents influence 4-57331
 Al-Cu-Mn, chill cast, overageing, heat resist., hardness, precipitation struct. (*Japanese*) 4-7487
 Al-Cu-Ni system, microstructure of Al-rich corner, phase diagram contours 4-16374
 Al-Cu-Si, flow stress rel. to deform. time (*Japanese*) 4-26006
 Al-Cu-Ti, SCC, strain rate sensitivity, effect of Ti additions 4-41037
 Al-Cu-WC, sintered, precip. and particle-hardening, combined effect 4-21186
 Al-CuAl₂, directionally solidified eutectic, effect of fluid flow 4-40767
 Al-CuAl₂, single eutectic grains, hot deform. in tension, role of phase boundaries 4-21263
 Al-Cu-(Fe), phase equilib. between solid Al and liq. 4-30682
 Al-Fe(cu), impurity mobility of Fe and Cu, RBS study 4-45381
 Al-Mg-Zn-Cu, 7075-T651, SCC in various electrolytes, statistical treatment of data 4-16531
 Al-Si-Cu thin film conductors, grain growth as result of rapid annealing, semicond. technological appls. 4-40821
 Al-Si-Cu-Fe, heat treatment, mech. props. rel. to Fe content 4-3187
 Al-Si-Cu-Mg hypoeutectic cast alloy, Sr modification (*Chinese*) 4-7441
 Al-Si-Cu-Mg-Ni, hypereutectic, wear resist. 4-40993
 Al-Zn-Mg-Cu, 7075, fatigue crack propag. in vacuum, effect of age-hardening 4-26024
 Al-Zn-Mg-Cu, 7075-T6, fatigue failure, prediction, crack initiation and propag. model 4-3259
 Al-Zn-Mg-Cu, anodic coating behaviour of X7091, SEM obs. 4-7639
 Al-Zn-Mg-Cu, dynamic fracture toughness by instrumented charpy test 4-7671
 Al-Zn-Mg-Cu, fatigue crack growth, micromechanisms 4-30790
 Al-Zn-Mg-Cu, H embrittlement, effect of microstruct. and Cu content 4-26054
 Al-Zn-Mg-Cu, high strength, unworked fracture behaviour 4-30803
 Al-Zn-Mg-Cu, powder metallurgy alloy, constant amplitude fatigue life 4-12164
 Al-Zn-Mg-Cu, powder metallurgy alloy, fatigue crack tip mechanics in vacuum and humid air 4-40942
 Al-Zn-Mg-Cu, SCC susceptibility, influence of Zn, Mg and Cu conc. (*German*) 4-26110
 Al-Zn-Mg-Cu, US transmission, fatigue crack closure effect 4-26166
 Al-Zn-Mg-Cu based high-strength wrought alloys 4-57296
 Al-Zn-Mg-Cu plates, ingot struct. and props. influence on quality 4-57297
 Au-Cu⁹⁷, liquid alloys, enthalpies of mixing, 1379K 4-39516
 Au-Cu alloy, track-plated, electrodeposition, analytical electron microscopy study 4-12039
 Au-Cu alloys, order-disorder transform., EXAFS study 4-45327
 Au-Cu-Ag, industrial, 18 carat, struct. and props. 4-7480
 Au_{0.1}Cu_{0.9}, FCC, surface segregation, low energy ion scatt. 4-39648
 (Au_{100-y}Cu_y)₇₇Si₂₃Ge₄, amorphous alloys, cryst. nucleation 4-6274
 Au_{0.23}Cu_{0.30}Zn_{0.47}, premartensitic phase, struct., EXAFS study 4-21067
 Au₂₃Cu₃₀Zn₄₇, lattice dynamics above martensitic transformation, neutron scatt. study 4-50449
 B plastic reinforced D16T alloy rod elements, short-term strength under room and low temp. conditions 4-12180
 Be-Cu, thermal expansion measurement of bulk sample using microwave method 4-22753
 Be-Cu C17510 alloy strip, mechanical, thermal and electrical props. for electrical and electronic applications 4-46516
 Be-Cu substrate, Ni-plated, Au deposition, high speed maskless patterning by laser-enhanced jet plating 4-12033
 C fibre reinforced Al-Cu, dry wear characts. (*Japanese*) 4-46625
 C fibre reinforced Sn-Sb-Cu composite, squeeze casting, tensile strength, SEM obs. 4-51585
 CdCu₂, valence state of Ce (*Russian*) 4-6745
 CeCu₃, cryst. struct. determ. 4-45052
 CeCu₂Si₂, elec. resist., thermopower, and thermal cond., 60 mK to 300K 4-20629
 CeCu₂Si₂, Kondo lattice, superconductivity, Anderson model anal. 4-50980
 CeCu₂Si₂, magnetism and supercond. 4-56543
 CeCu₂Si₂ single cryst. growth, Bridgman method 4-21127
 CeCu₂Si₂ single cryst., superconductivity and Fermi surface 4-35110
 CeCu₂Si₂, valence fluctuation cpd., far IR absorption 4-35445
 Ce_{0.9}Nd_{0.1}Ni₂Cu₂ and CeNi_{1-x-y}Cu_xAl_y, hydrogenation characteristics, H₂ storage appl. 4-41253
 CeNi_{1-x}Cu_x, mag. characts. 4-56539
 CeNi_{1-x}Cu_xY_y, mag. characts. 4-56539
 Co-Sm-Fe-Cu-Zr powdered materials, mag. struct. form., vibr. effect 4-2793
 Cr₃C₂-Cu, sintered, phase boundaries geometry 4-46482
 Cu base⁹ bearing alloys, heavy load support appl., wear props. 4-35734
 Cu base alloys, stress relax. characts., 20-200°C, cold rolling effect 4-46555
 Cu sliding on Cu-Be 4-51825
 Cu-Ag, dil., electron-electron scatt. resist., strain depend. 4-20623
 Cu-Ag, dil., strained, high precision resist. meas. below 1K 4-20627
 Cu-Ag, lattice stability parameters, phase equilib. (*Chinese*) 4-7422
 Cu-Ag-Ge, liq. alloys, enthalpy of form., dissoln. of Ge (*French*) 4-35611
 Cu-Ag-P brazing alloy, use in metallographic fracture studies 4-35817
 Cu-Ag-Si, liq. alloys, enthalpy of form., dissoln. of Si (*French*) 4-35611
 Cu-Ag(Mg)(Sb)(In)(Cd)(Sn), diffusion induced grain boundary migration and discontinuous precip. 4-40803
 Cu-Al, Hume-Rothery alloys, composition depend. of optical gaps 4-20936
 Cu-Al, internal friction meas. (*French*) 4-51718
 Cu-Al, sliding wear, stacking fault energy, induced residual stresses 4-21334
 Cu-Al, two phase, quenched, early stages of deform. microhardness obs. 4-16449
 Cu-Al, wear, stacking fault energy effect, X-ray diffraction study 4-41007
 Cu-Al (12 wt.%), friction and wear rel. to heat treatment and electron beam surface melting 4-57354
 Cu-Al (12 wt.%), strained, formation of stable 15R-martensite phase 4-11044
 Cu-Al (16 wt.%), double ribbons-inclined dislocation interactions 4-34530
 Cu-Al (>16 at.%), short range order, DTA, elec. resist., selected area diffraction 4-34441

copper alloys continued

- Cu-Al alloys, γ_2 and δ phases, electronic sp. ht. and electronic struct. 4-56046
- Cu-Al particles, growth by gas-evaporation, comp., cryst. struct. and habit 4-40614
- Cu-Al single crystals, Al_2O_3 particles disposed in peripheral layer, plastic deform. rel. to layer thickness 4-35671
- Cu- Al_2O_3 single crystals, cold rolled, stored energy, recrystallisation kinetics, second phase particles effect 4-12081
- Cu-Al-Co (15, 2 at.%), FCC heterophase single crystals, twinning and brittle fracture 4-12174
- Cu-Al-Co (7, 1 wt.%) bronzes, stress corrosion resist. rel. to ageing and Co content 4-12230
- Cu-Al-Ni, β Hume-Rothery alloys, modulated microstruct. 4-40742
- Cu-Al-Ni (14.3 wt.%), single crystals, elastic consts., shear deform. for martensitic transform. 4-3167
- Cu-Al-Ni (28.2, 3.9 at.%), decomp. of β_1 phase 4-21195
- Cu-Al-Ni shape memory alloys, 4-7588
- Cu-Al-Ni single crystals, stress induced martensite, stacking modulation 4-11157
- Cu-Al-Ni-Ti (Zr), shape memory alloy ribbons, melt spun, improvement of ductility by Ti or Zr addition 4-21271
- Cu-Al-Si-Co (2.8, 1.8, 0.4 wt.%), superplastic Coronze 638, deform., strain hardening effect 4-51726
- Cu-Al-Si-Co (2.8, 1.8, 0.4 wt.%), Coronze 638, superplastic, cavitation damage, fracture 4-51771
- Cu-Al-Ti (10, 2.5 wt.%), struct., mech. props., Ti addition effect 4-26001
- Cu-Al-Ti (1.2, 2.7 wt.%), FCC heterophase single crystals, twinning and brittle fracture 4-12174
- Cu-Al-Zn-Mn-Ni, martensite morphology and shape memory effect (Chinese) 4-16388
- Cu-Al-Zn-Mn(Ni), quenched martensitic state, mech. props. and struct. rel. to Mn and Ni content 4-7586
- Cu-Al-(Ni), shape memory alloys, rapidly solidified, transform behaviour, effect of heat treatment 4-57208
- Cu-Al (15 wt.%), short-range order during annealing (Russian) 4-6320
- Cu-As, diffusion induced grain boundary migration, colour metallography 4-21409
- Cu-Au, ordering in elastic stress field 4-21204
- Cu-Au, spherical crystals, melt growth, surface melting and segregation 4-15643
- Cu-Au, spherical crystals, melt growth, surface topography and dendrites 4-15796
- Cu-based alloys, internal friction assoc. with precip. and recrystallisation 4-40848
- Cu-based binary liquid alloys, free energy and entropy of mixing 4-45355
- Cu-based dilute alloys, lattice sp. ht. at low temp., Green's function theory 4-6519
- Cu-Be, thermal expansion coeff. (Russian) 4-6530
- Cu-Be (13 at.%), elec. props., influence of initial stages of precip. 4-12067
- Cu-Be (1.8 wt.%), friction and wear, transfer layer microstruct. and hardness 4-30831
- Cu-Be (2.0 wt.%), grain boundary reaction, effect of additional elements 4-7474
- Cu-Bi, corrosion, intercrystalline, factors controlled increase near grain boundaries 4-57400
- Cu-Bi, equilib. segregation of Bi, analytical electron microscopy study 4-40797
- Cu-Bi melts, containing O, quasichem. lattice models 4-7429
- Cu-Cd (2 wt.%) thin layers, internal friction and shear modulus studies 4-40872
- Cu-Co, averaged, void form. during ductile fracture 4-21300
- Cu-Co, tensile deform., precipitating stages, acoustic emission obs. (Japanese) 4-26005
- Cu-Co-Si, textured wire, yield function for simultaneous torsion and extension 4-40901
- Cu-Cu₂Zr, directionally solidified eutectic, texture and meas. props. 4-3151
- Cu-Fe, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
- Cu-Fe alloys, charge density distrib. around Fe-Fe dimer, χ_α cluster calc. 4-2541
- Cu-Fe thermocouple electrode, thermal EMF props. determ., for low-temp. thermocouples appl. 4-8908
- Cu-Fe-Li thermocouple electrode thermal EMF props. determ., for low-temp. thermocouples appl. 4-8908
- Cu-Ga (1.5 at.%), differential reflectograms, line shape anal. 4-46285
- Cu-Ge, Hume-Rothery alloys, composition depend. of optical gaps 4-20936
- Cu-Ge alloys, rolling and recrystn. texture 4-46529
- Cu-In, dil., vacancy clustering detection, PAC and lattice location meas. 4-34522
- Cu-In, melts, thermodynamic activity of O, meas. by coulometric titration method 4-25061
- Cu-In dilute, lattice defect probing by radioactive atoms 4-45155
- Cu-In-He, nucleation of He clusters at ^{111}In sites, PAC obs. 4-35271
- Cu-MgO dispersion hardened alloys, optimisation of prep. conditions 4-7399
- Cu-Mn, appl. of cluster approach to mag. impurities 4-25515
- Cu-Mn, deform. under transform. plasticity development conditions 4-57303
- Cu-Mn, dil., nucl. spin lattice relax. of impurity nucl. 4-40264
- Cu-Mn, surface segregation and oxidation, XPS and AES study 4-15751
- Cu-Mn (1.05-3.3 at.%), single crystals, dislocation arrays at end of yield region 4-20193
- Cu-Mn alloys, triad anisotropy of spin glasses and torque expts. 4-56632
- Cu-Mn film, inelastic scatt. and spin scatt. times, magnetocond. anal. 4-25458
- Cu-Mn spin glass, anisotropy dynamics, torque meas. 4-2767
- Cu-Mn spin glass, int. exponent, US study 4-6981
- Cu-Mn spin glass, remanent magnetisation time decay 4-51101
- Cu-Mn spin glasses, spin struct., neutron polarisation anal. study 4-46049
- Cu-Nb, in situ composites, thermal diffusivity meas. 4-29946
- Cu-Nb multifilamentary superconductors, powder metallurgy processed, cold hydrostatic extrusion 4-21185
- Cu-Nb-Al/Nb-Ti alloy superconducting cables, props. (Italian) 4-35197

copper alloys continued

- Cu-Ni, coarsening of dendrite struct. during isothermal holding (Japanese) 4-7444
- Cu-Ni, dilute, electron impurity scatt. rates, surface state reson. study 4-6771
- Cu-Ni, electric quadrupole interaction and electric field gradients 4-29936
- Cu-Ni, Fermi surface changes of (111) surface states, UPS study 4-29872
- Cu-Ni, O adsorption effect during irradi., SIMS, SIPS and ISS study 4-46394
- Cu-Ni, surface segregation, effect of phonons 4-56128
- Cu-Ni, transport props. at high temp. 4-20628
- Cu-Ni, ultrasonic attenuation and thermoelastic relax. 4-20292
- Cu-Ni alloy, active anodic dissolution in NaCl solution (French) 4-3276
- Cu-Ni alloys, (111) surface states and Fermi surface neck radii 4-45850
- Cu-Ni solid solutions, quenched from 1323K, enthalpy of formation, dissolution calorimetry (French) 4-40763
- Cu-Ni surface alloys, prep. by $\text{Ni}(\text{CO})_4$ decomp., ellipsometry, AES, LEED, ion depth profiling 4-41259
- Cu-Ni ultrafine powders, sintering, mass transport 4-46473
- Cu-Ni-Al, ageing and deform. behaviour (Japanese) 4-3185
- Cu-Ni-Fe, marine corrosion resist. rel. to $\text{Na}_2\text{Cr}_2\text{O}_7$ pretreatment 4-12254
- Cu-Ni-Fe, precipitate comp., microanal. invest. using STEM/EDX (German) 4-57237
- Cu-Ni-Fe, spinodal decomp. mechanism 4-30679
- Cu-Ni-Fe (20, 19.8 wt.%), mag. props., influence of elastic stress 4-57229
- Cu-Ni-Fe superparamagnets, magnetocaloric effects (Russian) 4-51059
- Cu-Ni-Mn-Fe alloys, elec. resist. and Kondo effect at Fe impurities (Russian) 4-25329
- Cu-Ni-Si, thermomech. treatment, elec. resist. obs. (Japanese) 4-25982
- Cu-Ni-Sn, cellular precip., effect of B and P additions 4-16400
- Cu-Ni-Sn, liq., thermodynamic state functions, aggregation model 4-34670
- Cu-Ni-Sn alloy, Pfnodal C72900, for burn-in test sockets 4-46557
- Cu-Ni-Sn alloy wire, ductile, high strength, cold working 4-25965
- Cu-Ni-Sn ternary system, phase diagram and mag. props. (German) 4-35614
- Cu-Ni-Te, structural investigations, ternary isotherm, X-ray diffr. study 4-11046
- Cu-Ni-Zn, ternary alloys, interdiffusion coeffs. 4-15723
- Cu-Ni (10 wt.%), internal friction meas. in deformed structure (French) 4-40866
- Cu-Ni (111) surface states, angle-resolved emitted photocurrent calc. 4-45849
- Cu-P-Zn brazing alloy, local corrosion in H_2S atmosphere, protection rel. to Zn content (Japanese) 4-7633
- Cu-Pb alloy films electrodeposited on single-cryst. Cu (111), structure 4-25183
- Cu-Pd, phase transitions, field ion microscopy study (Russian) 4-25951
- Cu-Pd alloys, electronic struct., density of states and photoemission spectra 4-45610
- Cu-Pd disordered alloy, struct. study 4-39146
- Cu-Ru mechanically alloyed composite, elec. contact resist. and phys. metallurgy 4-40713
- Cu-Sb, creep cavity surfaces and grain boundaries, chem. comp. study 4-24829
- Cu-Sb alloy, rel. between creep cavitation and grain boundary orientation 4-45144
- Cu-Si (6.5 at.%), with low stacking fault energy, in situ deform., HVEM (French) 4-12100
- Cu-SiO₂, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
- Cu-Sn, liq., thermodynamic state functions, aggregation model 4-34670
- Cu-Sn, liq. alloys, surface tension meas. (Chinese) 4-6622
- Cu-Sn, thermal cycling effect on intracryst. heterogeneity and struct. 4-21247
- Cu-Sn alloys, surface comp. and segregation, ESCA studies 4-6637
- Cu-Sn melts, thermodynamic activity of O, meas. by coulometric titration method 4-25061
- Cu-Sn-Au bulk alloys and thin films, microstruct. and elec. props. 4-34821
- Cu-Sn-Ni, self-lubricating sintered, bronze bearings, crushing strength, porosity, Ni addition effect 4-12198
- Cu-Sn-Ti adhesion-active solder, solid electrolyte components, soldering technology 4-42941
- Cu-Sn-Zn, cold worked, X-ray diffr. study of microstruct., role of Sn addition 4-16410
- Cu-Su-Pb-Zn, bronze, surface layer form. and struct. in aq. solns. 4-46655
- Cu-Te, liq., electronic props., cond. and susceptibility meas. 4-6758
- Cu-Te alloys, $\beta' \rightarrow \alpha$ transition, isothermal products, TEM studies (Russian) 4-34633
- Cu-Ti, amorphous and microcryst., corrosion behaviour, electrochem. characteristics. 4-46650
- Cu-Ti, glassy, struct. relax., microcalorimetric study 4-45000
- Cu-Ti amorphous alloys, crystallisation behaviour 4-44960
- Cu-Ti binary alloys, age-hardening, effect of rapid solidification 4-16408
- Cu-Ti explosive welded zone, intermetallic growth on heating 4-21373
- Cu-Ti with disperse oxides, ageing and hardening (Russian) 4-51678
- Cu-Ti (Hf) amorphous alloys, Hall coeffs. 4-45739
- Cu-Ti alloys, rapidly quenched phases, solid solubility and lattice consts. 4-24970
- Cu-transition metal liquid alloys, free energy and entropy of mixing 4-45355
- Cu-Zn, β Hume-Rothery alloys, modulated microstruct. 4-40742
- Cu-Zn, diffusion induced grain boundary migration, colour metallography 4-21409
- Cu-Zn, Hume-Rothery alloys, composition. depend. of optical gaps 4-20936
- Cu-Zn, surface relief produced by diffusion-induced grain boundary migration 4-56091
- Cu-Zn, vacancy winds in cyclic deformation 4-20282
- Cu-Zn (48.2at.%), depth of profile, Ar^+ bombardment; Auger spectra 4-35355
- Cu-Zn alloys, elec. resist. at low temps. (Japanese) 4-34946
- Cu-Zn-Al, acoustic emission during partial martensitic transform. (French) 4-40782

copper alloys continued

- Cu-Zn-Al, internal friction at thermoelastic martensitic transform. (French) 4-40861
 Cu-Zn-Al, martensitic, internal friction behaviour 4-40858
 Cu-Zn-Al, rapidly solidified, microstruct. of β -phase 4-16384
 Cu-Zn-Al, shape memory effect, degradation, grain size refinement, internal stresses, reflectivity obs. (Japanese) 4-46505
 Cu-Zn-Al, stress-induced martensitic transform. cycling and two-way shape memory training 4-40785
 Cu-Zn-Al (14.5, 8.5 wt.%), reverse martensitic transform., internal friction study 4-40781
 Cu-Zn-Ni-(Mn), superplastic deform., cavity coalescence 4-21267
 β -Cu-Zn-(Al), surface martensite transform. and microstruct. 4-7449
 Cu-Zn-(Au), solute redistrib. assoc. with nucleation and growth of α_1 plates 4-30704
 Cu-Zn(Sn)(Al), corrosion in trichloroethylene and tetrachloroethylene, influence of chloroacetyl chlorides and chloroacetyl acid (German) 4-51867
 Cu-Zr, amorphous alloy, thermal aged, struct. changes, calorimetric evidence 4-45010
 Cu-Zr, amorphous and microcryst., corrosion behaviour, electrochem. characts. 4-46650
 Cu-Zr, crystalline and amorphous, specific heat meas. 4-25051
 Cu-Zr, glassy and cryst., oxidation, XPS, AES studies 4-35772
 Cu-Zr alloy foil produced by melt spinning, US material characterisation 4-55908
 Cu-Zr amorphous alloys, crystallisation behaviour 4-44960
 Cu-Zr amorphous foils, DC sputtering using high-rate triode deposition system 4-57099
 Cu-Zr based glasses, thermal props., stability, struct. factor, density 4-6290
 Cu-Zr liquid and glassy alloys, elec. resist., conc. depend. 4-45726
 Cu-Zr phases formed by laser surface treatment, microstruct., anal. 4-46378
 Cu-Zr-P amorphous alloys, corrosion resist., P addition effect 4-57446
 Cu-ZrO₂, martensitic nucleation in ZrO₂ particles 4-3136
 Cu-(Al₂O₃) single crystals, cold rolled, deform. struct. rel. to second phase particles 4-12111
 CuAg amorphous thin films, atomic diffusion and structural relax. 4-45385
 CuAl, deformed solid soln., internal friction 4-50422
 CuAl thin film and bulk alloy, heavy ion-induced γ to α transition 4-29603
 CuAl₂ film, structural changes during leaching 4-25181
 θ -CuAl₂ precipitates in Al-Cu alloys, shape changes during dissoln. 4-57234
 Cu₃Au (100), O₂ adsorption, Auger electron spectra studies 4-45506
 Cu₃Au foil, electron microdiffraction pattern anal., pattern recognition techniques 4-24696
 CuAu_{1-x}Ag_y, L1₀ ordered alloy, axial ratio, effect of additions of Ag 4-15426
 Cu₃Au(Mn) spin glasses, mean-free-path effects 4-56636
 CuAu_{1-x}Ni_y, L1₀ ordered alloy, axial ratio, effect of additions of Ni 4-15426
 CuAu_{1-x}Pt_y, quasi-binary system, phase relations 4-34442
 CuBe₂, Hall coeff., influence of phase boundary scatt. 4-2588
 Cu_{1-x}Ge_x, single cryst., electronic struct., KKRCPA calc. and ARPES studies 4-29877
 Cu₂Mg, thermodynamic and diffusion props., kinetic electrochem. determ. 4-2353
 CuMn RKKY spin glasses, magnetisation and energy flow 4-46056
 CuMn, remanent magnetisation 4-1746
 CuMn spin glass, evidence for field depend. anisotropy energy, hysteresis study 4-30185
 CuMn spin glass, logarithmic dynamic scaling and spin freezing 4-56651
 CuMn spin glass, mag. viscosity as evidence of strong domain wall pinning 4-56638
 CuMn spin glass, magnetisation meas., using ESR 4-4444
 CuMn spin glass, susceptibility, hysteresis and magnetisation states 4-7009
 CuMn, spin-glass, at low concs., ESR and magnetisation 4-46050
 Cu_{0.85}Mn_{0.15}-Au metallic spin glass, torque and hysteresis 4-6989
 CuMnFe spin glass, NMR mean ferromagnetic enhancement factor 4-35177
 CuNi, interaction of O₂ with (110) surface, AES, XPS, work function meas. 4-40582
 Cu₂Si, thermal oxidation resist. and hardness 4-3277
 Cu₄₀Ti₆₀ metallic glasses, density of empty electronic states, appearance pot. spectra studies 4-57030
 Cu₅₀Ti₅₀ amorphous alloys, thermopower, temp. coeff. 4-20633
 Cu₅₀Ti₅₀, elec. resist., cond., incipient localisation and electron-electron correl. effects 4-45729
 Cu₆₀Xr₄₀ glass ribbons, rapid surface melting by proton beam, struct., recrystallisation 4-34409
 Cu₉V, amorphous, struct. study using EXAFS 4-55728
 CuZn, B2-ordered, electronic struct. and positron annihilation 4-25207
 CuZn, dislocations, Burgers vector determ., HVEM 4-45138
 Cu₇₆Zn₁₇Al₇, β_1' martensite, polycryst., thermal memory effects obs. in acoustic emission 4-21207
 CuZr amorphous alloys, anomalous magnetoresist., weak localisation 4-50794
 Cu₃₃Zr₆₆, metallic glass, EXAFS spectra 4-57034
 Cu₄₀Zr₆₀ amorphous alloys, thermopower, temp. coeff. 4-20633
 Cu₆₀Zr₄₀ metallic glasses, density of empty electronic states, appearance pot. spectra studies 4-57030
 Cu₅₀Zr₅₀, amorphous, heavy ion irradi. induced growth 4-45214
 Cu₅₀Zr₅₀ metallic glasses, phase separation kinetics, elec. resist. study 4-45013
 Cu₅₇Zr₄₃, amorphous, magnetoresist. meas., weak localisation 4-56319
 Cu₅₇Zr₄₃ amorphous alloy, struct. relax., mol. dynamics method anal. 4-29323
 Cu₅₇Zr₄₃ metallic glass, neutron diff. study on struct. 4-15385
 Cu₆₀Zr₄₀, amorphous-crystalline transition, DC elec. resist. study 4-44963
 Cu₈₈Zr₁₂, amorphous alloy, prep. by magnetron sputter deposition, crystn. 4-55744
 Cu₂Zr_{1-x} amorphous sputtered films, X-ray reflectometry, AES and ESCA studies 4-45555
 Cu₂Zr_{1-x} glasses, electronic struct., first-principles CLCAO calc. 4-45597
 ErCo_{5-x}Cu_x alloys, permanent mag. props. 4-35203

copper alloys continued

- ErCu₂, antiferromag. struct., neutron diff. study 4-56555
 EuCu₂, final state effects and surface valence, XPS study 4-7314
 EuCu₂Si₂ mixed valence cpd., field induced valence shifts, Mossbauer study 4-56294
 Fe-Cu, fibrous composite wires, age hardening 4-46521
 Fe-Cu, liq. phase sintering, particle growth by coalescence 4-21182
 Fe-Cu, liquid phase sintered, austenite grain boundaries, etching obs. (German, English) 4-7683
 Fe-Cu (30 wt.%), liquid phase sintered, large pore elimination, grinding, metallographic analysis (German, English) 4-51927
 Fe-Cu high conc. alloys, sputtering prep., mag. and Mossbauer studies 4-57101
 Fe-Cu-(Co)-C melts, thermodynamic props., C solubility and Fe/Cu activity coeffs. (Chinese) 4-7421
 Gd-Cu binary system, phase diagram, X-ray diff. and thermal anal. studies (Chinese) 4-50462
 Ge-Si-Cu, solid soln., electron irradi. effect on electrophys. props., radiation defect form. control by alloying 4-56363
 Hf-Cu-Ga, cryst. struct. and mag. props. (Russian) 4-24764
 La-Pr-Nd-Co-Cu-Fe-Mg, La-Pr-Nd-Co-Cu-Mg, synthetic mischmetal alloys, mag. props. 4-7013
 LaCuSi, cryst. struct., neutron diff. study 4-45059
 LiNi_{2-x}Cu_x, enthalpies of formation 4-41244
 Mg-Cu-Pb, liquidus surface model synthesis 4-7423
 MgCu₂, cryst. struct., charge density, X-ray diff. study 4-29385
 Mg(Cu₁₀Zn₉₀)₂, defects, high resolution electron microscopy obs. 4-29448
 Mn-Co-Cu metastable γ -phase alloys, lattice parameters, transform. below Neel temp. 4-24760
 γ -Mn-Cu, internal friction during heating (French) 4-40862
 γ -Mn-Cu alloys, elastic moduli 4-45240
 Mn-Cu metastable γ -phase alloys, lattice parameters, transform. below Neel temp. 4-24760
 Mn-Cu-Ti(Zr), Elinvar characts., thermal expansion, Young's modulus, hardness, tensile strength rel. to heat treatment 4-21262
 Mn-Cu-Zn, damping capacity, effect of static tensile stresses, allowance for temp. 4-12098
 Mn-Fe-Cu (26, 4 at.%), pseudoelasticity and stress-strain curves (Russian) 4-25988
 Mn-Fe-Cu metastable γ -phase alloys, lattice parameters, transform. below Neel temp. 4-24760
 Mo-Cu, sinterability, charge prep. influence 4-3102
 Mu-Cu, high damping capacity alloys, internal friction rel. to comp. and annealing 4-40865
 Mu₂MnAl alloy, decomposition kinetics, elec. resist. studies 4-45343
 Nb₃Sn-Cu superconducting wire, prep. in situ, effect of Ta additions 4-40128
 NbTi-Cu multifilamentary superconductor, explosive welding 4-51012
 Nd-Cu binary system, phase diagram, X-ray diff., DTA and metallography studies (Chinese) 4-50463
 Ni-Al bronzes, complex, microstruct. development during continuous cooling 4-7424
 Ni-Cu, binary alloy films, HVEM irradi., nonequilib. segregation 4-15646
 Ni-Cu, block, sliding wear, transfer layer, debris particles 4-30830
 Ni-Cu, diffusion coeff. for H, temp. depend., 260-1000K (Japanese) 4-25093
 Ni-Cu, radiation-induced segregation, Auger electron spectra studies 4-25037
 Ni-Cu, transient liq. phase sintering 4-16353
 Ni-Cu and Ni-Cu-Zn(Al)(Si) alloys, micromagnetism, s-d exchange and spin fluctuations anal. (Rumanian) 4-16042
 Ni-Cu binary alloys, composition changes due to sputtering, computer simulation 4-3007
 Ni-Cu powder mixture, homogenisation, X-ray diff. determ. 4-30717
 Ni-Cu-Fe, corrosion in trichloroethylene and tetrachloroethylene, influence of chloroacetyl chlorides and chloroacetyl acid (German) 4-51867
 Ni-P-Cu, electroless surface coatings, passivation and pitting 4-3296
 Ni-Zn-Cu ternary alloys, martensitic transform. 4-57225
 Ni₆Cu₂Sn₂, massive and martensitic transform. structures 4-21214
 Pd-Cr-Os/Cu-Fe thermocouple, thermoelectric props. at low temp., technology and appl. 4-8907
 Pd-Cu, dental casting alloys, tarnish and corrosion resist. in artificial saliva 4-46658
 Pd-Cu, mechanical and struct. props. (Russian) 4-6426
 Pd-Cu thin films, surface composition, work function, AES and broken bond calc. studies 4-25137
 Pd-Cu-Ag, precipitation hardening study (Russian) 4-7476
 Pd-Cu-H solid solns., superconductivity and atomic ordering 4-56478
 Pd-Cu-P(As), metallic glass forming ability by splat cooling (German) 4-39157
 Pd-Cu-Si alloy foil produced by melt spinning, US material characterisation 4-55908
 Pd_{1-x}Cu_x-Fe, high press. elec. cond. study 4-39877
 Pd_{77.5}Cu_{22.5}Si_{16.5}, amorphous and crystallised, internal friction peaks, H-related 4-21257
 Pd_{77.5}Cu_{22.5}Si_{16.5} amorphous wire, struct. relax. and Young's modulus 4-44961
 Pd_{77.5-x}Cu_{22.5+x}Fe_{0.5} amorphous alloys, mag. double transitions 4-30165
 PdSiCu, glassy, low-temperature thermal expansion of disordered solids 4-39547
 PrCu₂, mag. phase transition below 58 mK, neutron diff. obs. 4-56628
 PrCu₂, metallic, high sp. ht., superconductor stabilisation appl. 4-50537
 PrCu₂, superconductor stabilisation, sp. ht. and thermal cond. meas. 4-11631
 PrCu₂(Cu₆), elec. resist., crystalline elec. field effects 4-50792
 Pt-Cu alloys, ethene chemisorption and surface segregation, AES studies 4-29803
 PtCu (111), CO chemisorption, thermal desorption and PES meas. 4-25157
 Pt_{0.99}Cu_{0.02} (110), CO chemisorption on (1×3) surface thermal desorption and PES meas. 4-25155
 Pt_{0.99}Cu_{0.02} (110), CO chemisorption on (1×3) surface, (1×1) surface formation 4-25156
 Pt₅₀Ni_{50-x}Cu_x, ordering during annealing, X-ray diff., elec. resist. meas. (Russian) 4-25968
 SbCu₂, cryst. struct. anal. 4-45056
 (Se_{0.5}Te_{0.5})_{1-x}Cu_x liquid semicond., electronic behaviour 4-25345
 Sm-Alnico V alloys, mag. anisotropy props. 4-51043
 Sm-Co-Cu alloys, high-coercivity state form. and cryst. struct. (Russian) 4-25593

copper alloys continued

- Sm-Co-Cu-Fe-Zr thin sheets, domain struct. during magnetisation reversal 4-56737
 Sm-Co-Fe-Cu-Zr sintered alloys, struct. and mag. props. (*Russian*) 4-35198
 Sm-Fe-Co-Ni-Al-Cu alloys, struct. and mag. props. 4-6322
 Sm₂(Co,Cu,Fe,Zr)₇ permanent magnets, coercivity, energy product improvement 4-7021
 Sm(Co,Cu,Fe,Mn)_{7.8} permanent magnet, coercivity rel. to Cu segregation and as cast struct. (*Chinese*) 4-56685
 Sm(Co,Cu,Fe,Zr)_{7.4} magnets, annealed and quenched cellular microstructure 4-6383
 Sm(Co,Cu,Fe,Zr)_{7.4} coercivity, microstruct., ageing effects 4-7020
 Sm(Co,Cu,Fe,Zr)_{9.92} mag. alloys, heat treatment, metallographic studies 4-51826
 Sm₂(Co,Cu,Fe,Zr)₁₇ alloy, coercivity depend. on mag. processing 4-35738
 Sm₂(Co,Cu,Fe,Zr)₁₇-type permanent mag. alloys, hardness rel. to coercivity 4-30223
 Sm(Co,Fe,Cu,Zr)_{7.2} magnet, microstructure, mag. props., heat treatment effect 4-7018
 Sm(Co,Fe,Cu,Zr)_{7.5} magnets, coercivity enhancement by heat treatment 4-7015
 Sm(Co,Fe,Cu,Zr)₂ hard magnetic alloys, metallurgical behaviour 4-57358
 Sm(CoCu)₅ permanent magnets, mag. domain struct. (*Slovak*) 4-46062
 Sm(Co_{0.67}Cu_{0.08}Fe_{0.22}Zr_{0.03})₂ sintered magnets with coercive force up to 30 KOe 4-7033
 Sm(CoFeCuZr)_{7.4} sintered magnets, microstruct. and mag. props., annealing effects (*Russian*) 4-25592
 Sm(CoFeCuZr)_{7.4} magnets, phase composition and hysteresis props. (*Russian*) 4-51093
 Sm(Co_{0.725}Fe_{0.20}Cu_{0.055}Zr_{0.02})_{7.5} magnets, struct. and mag. props. 4-25042
 Sm(Co_{0.745-x}Fe_{0.2}Cu_{0.055}Zr_x)_{7.5} permanent mag., coercive force and microstruct. 4-56705
 Sm(Co_{0.90-x}Fe_xCu_{0.08}Zr_{0.02})_{8.35} mag. props. meas. 4-25596
 Sm₂(CoFeCuZr)₁₇ permanent magnets, mag. props., temp. characts. 4-11741
 TbAuCu₄ mag. struct., mag. susceptibility and moments, neutron diff. obs. 4-56549
 Tb(Cu,Ni)₂ alloys, mag. struct., Ni conc. effects, neutron diff. study 4-46003
 Ti-Cu, amorphous, thermal stability, effect of short-range ordering 4-2090
 Ti-Cu, electrochem. behaviour in HCl, influence of alloying elements 4-51847
 Ti-Ni-Cu, deform. under transform. plasticity development conditions 4-57303
 Ti-Ni-Cu, reactive stresses 4-30774
 TmCu, mag. excitations, inelastic neutron scatt. 4-51041
 TmCu, quadrupole splitting above ordering temp., Mossbauer spectroscopy 4-35288
 TmCu single cryst. isotropic magnetoelastic props. 4-46084
 U-Cu-Ni ternary system, subsolidus equilibria 4-50466
 V-Ge-Cu, phase comp., struct. and supercond. 4-30690
 WC-Cu, sintered, phase boundaries geometry 4-46482
 Yb-Cu-Al, magnetic isotherm, Coghlin-Schrieffer model, high and low temp. results 4-30148
 Yb₈₀Cu₂₀, amorphous, atomic struct, Mossbauer study 4-55727
 Yb₈₀Cu₂₀, amorphous, short range order, dense random packing, quadrupole splitting, Mossbauer study 4-35293
 YbCuAl valence fluctuation cpd., far IR absorption 4-35445
 YbCuSi₂ valence fluctuation cpd., far IR absorption 4-35445
 Zn-Cu-Mn (0.92, 0.60 wt.%), superplastic deform. mechanisms, metallography 4-12113
 Zr-Cu amorphous alloy, electronic density of states calc. 4-2498
 Zr-Cu-Ga, cryst. struct. and mag. props. (*Russian*) 4-24764
 Zr_{100-x}Cu_x alloys, amorphous, elec. and mag. props. 4-25316
 Zr₇₀Cu₃₀, amorphous supercond., surface normal regions induced by thermal relax. 4-20771
 Zr₇₆Cu₂₄, amorphous, sputtered, thermal, supercond. and structural props., heat treatment effect 4-35121
 Zr₇₆Cu₂₄(Ni₁₂)₂, sputtered amorphous alloys, supercond. crit. fields, struct. relaxation effects 4-45957

copper compounds

- see also copper alloys
 acetylacetonate, appl. to trace solutes determ. using laser thermal lens effect 4-38538
 bimetallic Lewis acid complexes, prep., struct. studies 4-51998
 complexes, EXAFS and chemical shift studies 4-7275
 film, elec. and galvanomagnetic props. 4-56454
 formate, mag. field induced antiferromag. order above Neel temp. 4-11714
 formate-monoethanolamine complexes, thermal decomp., finely divided Cu prep. 4-25920
 halides, relativistic band structure calculations 4-34856
 intercalated in C fibres, elec. resist. and Shubnikov-de Haas oscillations 4-40003
 phthalocyanine, high resolution electron microscopy, image simulation 4-10932
 phthalocyanine electrets, TSC studies 4-25676
 phthalocyanine in polyvinyl cinnamate binder, electrophotographic characts. 4-48222
 phthalocyanine layer on ZnO (1100), photocond. meas. and ellipsometric spectroscopy 4-25393
 phthalocyanine-binder photoconductor sensitized with poly-N-vinylcarbazole 4-20688
 tetraaquois(pyridine)-tetra(p-nitrobenzoato)dycopper(II), mol. and cryst. struct., X-ray study 4-14605
 valence and anomalous mag. props. 4-11498
 Cu²⁺ complexes with dopamine in aq. soln., NMR, EPR and INDO studies 4-5253
 B₂O₃-Li₂O-TiO₂-BaO-CuO vitroceraamics, struct. and partial crystallisation, EPR study 4-46098
 Ba₂Cu₃Sb₄ cryst. struct. 4-11106
 Ba₂O₃-CuCl₂ glass, thermoluminescence following X-ray irradiation 4-51372
 Ca(Cu_{1-x}Mn_x)₂Mn₂O₇, lattice constant, specific saturation magnetisation, Curie temp. 4-50254

copper compounds continued

- Cd_{1-x}Cu_xCr₂S₄(Se₄), phase diagrams and solid solubility, X-ray diff. studies 4-39441
 Cd₂Cu_{1-x}Fe_xO₄, ferrite, canted spin struct., Yafet-Kittel mag. ordering 4-51097
 CdS/Cu₂S solar cells fabricated on single-crystal CdS substrates, scanning light spot and electron beam-induced current scans 4-21557
 CdS-Cu₂S solar cells phase conversion of electrophoretically deposited cubic CdS layers 4-29853
 CeCu₂Si₂, cryst. struct., band struct., and Fermi surface props. 4-6690
 (Co, Cu)_x Ni_{1-x}S₂, weak ferromag. moment, composition depend. 4-2737
 Co-Cu₂O, diffusion couple, displacement reaction, kinetics and morphology, impurity effects 4-41099
 α(Cs_{0.55}Rb_{0.45})Cu₄Cl₃(I_{1.9}Cl_{0.1}), cryst. struct. determ. 4-24786
 (Cu,Ag)(Zn,Cd)₂(In,Ga)Te₄ diamondlike semiconductors, synthesis and props. 4-24769
 Cu (II) complex, resacetophenone phenylhydrazine, struct. investig. 4-1148
 Cu (II) complexes, dichlorotri- and dichlorodibenzoxazole copper (II), mol. motion, EPR and PMR study 4-46091
 Cu (II) tri-n-octylammonium chloro complex, benzene soln., IR spectrosc. and elec. cond. meas. 4-30452
 Cu clusters, Huckel method appl. 4-23577
 Cu complex, annelide-type, three-stage melting 4-39455
 Cu complex, bis(1,3-diphenyl-1,3-propanedione) Cu(II), ESCA investig. 4-5285
 Cu complex, bis(3-phenyl-2,4-pentanedione) Cu(II), ESCA investig. 4-5285
 Cu complex, copper (II) 3-amino-5-methylisoxazole, mol. reorientation, assoc., ¹H NMR study 4-56793
 Cu complex, CuCl with allyl alcohol, cryst. struct., H bonds, X-ray diff. study 4-34460
 Cu complex, Cu(benzoxazole)₂Br₂·2H₂O, ¹H NMR and EPR spectra, mol. orientation 4-30273
 Cu complex, Cu(pyrazole)₂Br₂·H₂O, ¹H NMR and EPR spectra, mol. orientation 4-30273
 Cu complex, Cu(terpyridine)₂(PF₆)₂, cryst. struct. and EPR spectra 4-11097
 Cu complex, dimeric copper-adenine complex, EPR study 4-30275
 Cu complex, μ₄-oxo-hexa-μ-chlorotetrakis (triphenylphosphineoxide) Cu(II), struct. study 4-34464
 Cu complex, trisethylenediamine cadmium chloride Cu(II), EPR studies 4-2810
 Cu complex [Cu(C₁₅H₁₁N₃)(NO₂)(H₂O)]NO₃·H₂O, crystal struct. and bonds (*French*) 4-50246
 Cu complexes, 2-diethylaminoethanol-Cu(II) alkoxo-bridged polynuclear compds., struct. studies 4-15428
 Cu complexes, bis(N,N'-dimethyl)dithioformamidinium dihalides-Cu(II), IR spectroscopy 4-23696
 Cu complexes, bis(ethylene)dithioformamidinium dihalides-Cu(I), preparation and IR spectra 4-51283
 Cu complexes, magnetic layer compounds, Heisenberg antiferromag., sp. heat meas. 4-56671
 Cu complexes, N,N'-ethylenebis(salicylidene)-minato)copper(II), IR vibr. assignments and reson. Raman spectra 4-51282
 Cu complexes, nuclear Zeeman correlated ENDOR 4-7094
 Cu complexes, polymeric alkaline o-phthalatocuprates(II), negative photoconductivity effect 4-25394
 Cu complexes, Schiff bases with ONO donor tridentate dibasic ligands (I), IR spectra, mag. meas. 4-46014
 Cu complexes, specific gravity calc. from X-ray chem. shift 4-11963
 Cu complexes, tetrameric triethylarsine Cu(I) halides, ⁶³Cu and ⁷⁵As quadrupole reson., phase transformation (*French*) 4-30340
 Cu halide complexes with dithioformamidinium halides, struct., IR spectra, conductivity meas. 4-7204
 Cu II complexes, copper(II)bis-acetylacetonate, g-tensor, struct. distortions, adduct form., INDO calcs. 4-33322
 Cu II complexes, quinoxaline-2-thione-4-ones, prep. and characterisation 4-16643
 Cu II complexes, struct. and mag. phase transitions, NQR 4-30346
 Cu II complexes, with aminocarboxylic acids, mag. and electronic characterisation 4-30284
 Cu II complexes +SO₂, EPR spectra 4-57553
 Cu II dimeric complexes, two-bridge exchange mechanism, EPR study 4-2809
 Cu II dimers with aromatic N-oxides, exchange interaction, INDO calc., bridge angle effect 4-23605
 Cu malonitriledithiolate complex, triplet-triplet interactions between dimers, EPR spectra 4-40221
 Cu phthalocyanine, chlorinated, X-ray and electron diff. interpretation using laser optical diff. techniques (*Japanese*) 4-55690
 Cu²⁺ cpds., isotropic hyperfine interaction, two-centre metal-ligand contr. 4-15864
 Cu-Li-Fe-O ferrites, mag. permeability dispersion mechanisms 4-51095
 Cu-Pd-S system, phase diagram invest. 4-51646
 Cu-V-S system, phase diagram anal. 4-7433
 Cu₂, mixed cond. solids, chem. diffusion coeffs. 4-29710
 Cu₂Ag_{1-x}Cd_xInTe₄, photocond. meas. 4-30009
 (Cu_{1-x}Ag_x)(Ga_{1-x}In_x)(Se_{1-x}Te_x)₂, lattice parameter and optical-energy gap values 4-29392
 (Cu_{1-x}Ag_x)(Ga_{1-x}In_x)(Se_{1-x}Te_x)₂, solid soln., lattice const. and electronegativity 4-39513
 CuAlO₂, charge density distrib. and d-s hybridization 4-2158
 CuAlO₂, photoelectric props. and band struct. 4-45827
 CuAlS₂, as-grown, photolum. study 4-30499
 CuAlS₂, ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuAlS₂, ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 Cu₂(As_{0.5}Se_{0.5})_{100-x} system glasses, elec. and optical props. for x=5 to 30 4-45788
 Cu(BH₄)₂ photographic developer stabilisation props. (*Russian*) 4-17991
 CuBiS₃, X-ray spectra and chemical shift 4-46361
 CuBiSe₂, X-ray spectra and chemical shift 4-46361
 CuBiTe₂, X-ray spectra and chemical shift 4-46361
 CuBr lasers operating in double-pulse excitation regime, afterglow electron density time depend. 4-19431
 CuBr, plasmon and X-ray chem. shifts 4-57038
 CuBr, zero phonon-exciton band spectral characts. (*Russian*) 4-25239

copper compounds continued

- [Cu(CN)₃]²⁻ aq. solns., EXAFS study with position-sensitive photodiode array 4-2991
 [Cu(CN)₄]³⁻ aq. solns., EXAFS study with position-sensitive photodiode array 4-2991
 Cu₂Cd_{1-x}Fe₂O₄ ferrosinels, thermopower and resist., B site mag. ordering correlation 4-56354
 CuCd₂GaSe₄, mag. susceptibility 4-35141
 CuCd₂GaTe₄, mag. susceptibility 4-35141
 CuCd₂InTe₄, mag. susceptibility 4-35141
 CuCl, biexciton resonance, collision broadening model 4-45641
 CuCl, biexcitons, nonlinear optical props., single beam propag. 4-5647
 CuCl, dynamics of exciton screening on subpicosecond time scale 4-45642
 CuCl excitonic mol., optical phase conjugation based on giant two-photon reson. 4-28775
 CuCl, excitonic molecules relaxation under giant two-photon absorption 4-50728
 CuCl, excitonic molecules relaxation under giant two-photon absorption 4-50729
 CuCl, excitonic mol., luminesc., Bose-Einstein condensation 4-25244
 CuCl, excitonic polaritons, wave vector depend. of third-order nonlinearity 4-20577
 CuCl films, biexciton optical bistability and optical limiting 4-5643
 CuCl, IR spectra, rot. struct. anal. 4-23689
 CuCl, optical bistability due to biexcitons 4-5648
 CuCl, plasmon and X-ray chem. shifts 4-57038
 CuCl, polariton dispersion, renormalisation effects 4-11455
 CuCl, polariton dispersion, renormalisation effects, hyper-Raman scatt. 4-20967
 CuCl powder, photostimulated flash luminesc. studies (*Russian*) 4-16249
 CuCl, soft X-ray absorpt. and emission, energy bands 4-46366
 CuCl, two-photon magnetoabsorpt. of exciton polariton 4-2907
 CuCl-RbCl, phase diagram, thermal anal., X-ray diffr., ion cond. 4-29692
 CuCl-type pulsed laser radiation, computed spectral-linewidth minima 4-23954
 CuCl+inert gas atoms, dissociation, excitation, rate consts., emission obs. 4-41178
 CuCl₂, ground and excited states, ab initio CI calcs. 4-43819
 CuCl₂, intercalated with graphite, X-ray diffr. and high resolution electron microscopy (*French*) 4-45100
 CuCl₂, intercalated with graphite, for Li batteries (*French*) 4-46865
 Cu₂Cl₂(PH₃)₃ complex, electronic struct., CNDO calcs. 4-1021
 CuCl₂·2H₂O, antiferromagnetic resonance exchange mode obs. 4-35230
 CuCl₂·2H₂O, resonance spectrum study (*Russian*) 4-7052
 Cu_{1-x}Co_xCr₂Se₄, solid soln., existence regions, X-ray diffr. 4-55796
 CuCr₂O₄, X-ray absorpt. fine struct. 4-30562
 CuCr₂S₄, film, elec. and galvanomagnetic props. 4-56454
 Cu₂Cr₂Se₄·Br₂, ferromag. spinel single cryst., transport phenomena and mag. ion exchange 4-29988
 Cu₂Cr₂Se₄·Br₂, prep. and charact. 4-29964
 (CuCr₂Se₄)₂(Cu_{0.5}Me_{0.5}Cr₂Se₄)_{1-x}(Me=In,Ga) spin glass state suppression by indirect exchange 4-35182
 Cu₂Cr₂Sn_{2-y}S₄, spin glass behaviour, Mossbauer and susceptibility studies 4-11728
 CuF, true potential energy curves, r-centroids and Franck-Condon factors calc. 4-38273
 CuF₂, ground and excited states, ab initio CI calcs. 4-43819
 CuF₂, intercalation cpd. with graphite, elec. cond. and chem. bond 4-6757
 Cu₂Fe₄ surface oxidation, anal. using linear potential sweep voltammetry and X-ray photoelectron spectroscopy 4-52072
 CuFe₂(1-x)Al₂O₃, solid solns. with spinel structure, elec. cond. and cation ordering 4-2618
 Cu₃(Fe(CN)₆)₂, electrode-supported films, FT external refl. and photoacoustic spectrosc. 4-57008
 Cu₃Fe₇Cr₂S₄, film, elec. and galvanomagnetic props. 4-56454
 CuFe₂O₄ ferrite, Jahn-Teller effect and mag. props. (*Russian*) 4-50774
 CuFe₂O₄-Cu_{0.5}Fe_{2.5}O₄-Fe₂O₃, ferrites, effect of composition on nature of carriers and elec. cond. mechanism 4-56399
 CuFeS₂, X-ray spectrometry study 4-51455
 CuGaGeS₄, energy band spectra, pseudopot. calc. 4-50723
 CuGaS₂, photolum. and heterostruct. formation with sputtered ZnS 4-30498
 CuGaS₂, ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuGaS₂-xSe_x, Raman spectra obs. 4-30455
 CuGaSe₂, optical props. study 4-34088
 CuGaSe₂, ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuGaSn□Se₄, chalcopyrite semicond., high temp. lattice parameters 4-24770
 (CuGaTe)_{1-x}(2ZnTe) system, phase diagram, pseudopot. anal. 4-25944
 CuGeP₃, ternary semicond., elastic behaviour, US pulse echo study 4-45242
 CuH, bond lengths, dissociation and ionisation energies, pseudopot. results 4-23589
 CuH(D), electronic states, r-centroids, Franck-Condon factors, RKR pot. energy curves 4-5290
 Cu₂(HN₃SO₃)₂·NH₃·H₂O, IR, Raman and diffuse reflectance spectra, vibr. assignments 4-56930
 CuH₂PO₂, topochem. decomposition, reactivity near reagent/product interface 4-41195
 CuI lasers operating in double-pulse excitation regime, afterglow electron density time depend. 4-19431
 CuI, plasmon and X-ray chem. shifts 4-57038
 CuI single crystals, low-temp. violet luminesc. 4-7229
 CuI, stress effects on excitons bound to neutral acceptors, photoluminesc. spectra 4-39784
 CuI thermally deformed films, quantum dimensional effect, exciton spectra meas. 4-35507
 CuI, Zeeman effect of principle emission line 4-46237
 CuI-CdI₂ system, Cu⁺ superionic solids 4-29683
 CuI+inert gas atoms, dissociation, excitation, rate consts., emission obs. 4-41178
 Cu(II) amino acid salts, mag. props. 4-56532
 Cu(II) aqua complexes with heterogeneous coordination sphere, thermal decomposition 4-16651
 Cu(II) complex, 9,10-phenanthraquinone monothiosemicarbazone, synthesis, characterisation 4-14387

copper compounds continued

- Cu(II) complex, isatin Manich base thiosemicarbazone, ESR obs. 4-14454
 Cu(II) complexes, mixed ligand, stabilities, ESR investig. 4-49063
 Cu(II) complexes with 4-chloro, 3,5-dimethylisoxazole, IR, electronic and EPR spectra, molar cond. meas. 4-2921
 Cu(II) complexes with vanadate, tungstate and molybdate anions, EPR, IR and optical reson. studies 4-7056
 Cu(II) complexes with thiocarboxylates, bonding, IR, XPS and UV-visible spectra 4-7202
 Cu(II) complexes with bis(organodithiocarbonato), in soln. and Ni(II) host lattice, EPR spectra 4-54802
 Cu(IO₃)₂, ¹²⁸I recoil, pre-heat treatment study 4-55883
 CuIn_{1-x}Fe_xTe₂, crystal growth and elec. and mag. props. 4-25875
 CuInS₂, direct phonon-assisted transitions near fundamental absorption edge 4-30454
 CuInS₂, epitaxial growth by CVD, numerical simulation 4-25891
 CuInS₂, lattice vibr., IR study 4-30449
 CuInS₂, mag. susceptibility, temp. depend. 4-30141
 CuInS₂, modulated refl. spectra, energy gap determ. 4-25780
 CuInS₂, optical props. study 4-30488
 n-CuInS₂, photoelectrode for wet solar cell 4-31092
 p-CuInS₂, RF sputtered thin films, elec. props. study 4-30089
 CuInS₂, single cryst. growth by travelling-heater method, design 4-29366
 CuInS₂, ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuInS₂ thin film solar cells, review 4-31091
 CuInS₂, single cryst., elec. and optical props. 4-29989
 Cu₂In₂S₃, single cryst., trapping levels, TSC and space-charge-limited current studies 4-34912
 CuInSe₃, chalcopyrite, prep. by spray pyrolysis, effect of pH 4-11412
 CuInSe₃, crystal growth from melt, Cu-In-Se phase relations, Hall meas. 4-50842
 CuInSe₃, elec. props., intrinsic defect influence 4-45806
 CuInSe₃ films, low resist. n- and p-type, grown by flash evaporation 4-7361
 CuInSe₃ films, solution growth and electroplating 4-12037
 CuInSe₃, impurity states, photoluminesc. study 4-16231
 CuInSe₃, low-temp. thermal expansion 4-39546
 CuInSe₃, mag. susceptibility, temp. depend. 4-30141
 CuInSe₃, optical props. study 4-30488
 n-CuInSe₃, photoelectrode for wet solar cell 4-31092
 CuInSe₃ polycryst. thin-film photovoltaic device research, deposition techniques 4-21544
 CuInSe₃, refl. and absorpt. spectra near band gap 4-20972
 CuInSe₃, ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
 CuInSe₃ thin film solar cells, review 4-31091
 CuInSe₃, X-ray spectra and chemical shift 4-46361
 CuInSe₃/Cd_{1-x}Zn_xS solar cells, current voltage transients 4-12470
 CuInSe₃/Cd_{1-x}Zn_xS, solar cells, voltage-dependent light-generated current 4-41336
 n-CuInSe₃/I₁-I⁺-Cu⁺-HI/C, efficient stable solar cell prod. by interfacial film form. 4-3463
 CuInSe₃-CdS, thin film solar cells, overview 4-16771
 CuInSe₃-CdS heterojunction, growth, structural charact., photovoltaic props. 4-30055
 CuInSe₃-CdS thin film solar cells, interface activity 4-36013
 CuInTe₂, 4-31091
 CuInTe₂, optical props. study 4-30488
 CuInTe₂ thin films, growth and elec. transport props. 4-50689
 CuInTe₂, X-ray spectra and chemical shift 4-46361
 Cu_{0.28}LaTe₂, cryst. struct., disordered tunnel struct. 4-11087
 Cu_{1.8}Mo_{0.8}S₈, neutron irradi., superconductivity and elec. resist. (*Russian*) 4-25469
 Cu₂Mo₆S₈ films, supercond. tunnelling 4-40117
 Cu₂Mo₆S₈ sputtered films, superconducting, elec. resist. and microstruct. 4-30111
 Cu₂Mo₆S_{8-y} (0≤y≤0.4), electrochemical investig. influence of S deficit (*Japanese*) 4-26213
 Cu₂Mo₆S_{8-y}, Cu content and struct. changes, coulometric titration studies 4-45110
 Cu₂Mo₆S_{8-y}, supercond. critical temp. and stability range 4-15982
 Cu₂Mo₆S_{8-y}Se_y, y=0-8, Chevrel-phase supercond., normal state elec. resist. meas. 4-45702
 Cu₂Mo₆S_{8-y}Te_y (Se_y) supercond., thermoelec. power in normal state 4-50852
 Cu(NO₃)₂·2.5H₂O, quantum stationary mag. states (*Russian*) 4-6936
 CuNa₂P₃O₁₀·12H₂O, chem. preparation and cryst. data (*French*) 4-39217
 Cu₂Ni_{1-x}Fe_xO₄ ferrosinels, thermopower and resist., B site mag. ordering correlation 4-56354
 Cu₂Ni_{1-x}S₂, weak ferromag. moment, composition depend. 4-2737
 CuO, A²⁺ state, nucl. hyperfine struct., visible spectra 4-19073
 CuO, energy band struct. calc. 4-15813
 CuO on stainless steel, solar selective absorpt. 4-26311
 CuO, true potential energy curves, r-centroids and Franck-Condon factors calc. 4-38273
 CuO-ZnO-Cr₂O₃ (Al₂O₃), phase-structural characteristics, catalytic precipitation (*Russian*) 4-35625
 Cu₂O, birefringence dispersion, validation of Kramers Kronig relation 4-11863
 Cu₂O, dissociation, press. meas. using O₂ pump of stabilised ZrO₂ 4-37079
 Cu₂O, exciton-exciton inelastic collision processes 4-50731
 Cu₂O, free excitons, Bose-Einstein statistics 4-25244
 Cu₂O, heat treatment effects, photoluminescence and optical absorpt. studies 4-11914
 Cu₂O, highly mobile paraexcitons, luminescence study 4-50732
 Cu₂O, method for creating high density of Γ₃⁺ excitons 4-25238
 Cu₂O on stainless steel, solar selective absorpt. 4-26311
 Cu₂O, photoconductivity and birefringence, dislocations 4-15912
 Cu₂O, point defect and diffusion props., high temp. creep study 4-15580
 Cu₂O, prep. of bulk single crystals, by plastic flow method, elec. props. 4-51484
 Cu₂O, self-diffusion and point defects 4-50576
 p-Cu₂O single cryst., resist. depend. of minority carrier diffusion length, Schottky solar cells 4-11588
 Cu₂O type film, exciton energy calcs. (*Russian*) 4-56233
 Cu₂O:Ag, diffusion and point defects 4-50585
 Cu(O₂)₂(ND₄)₂(SO₄)₂, struct., phase transition, H bonding, neutron powder diffr., temp. depend. 4-55777
 Cu(OH)₂, gel membranes, recrystallisation study 4-12387

copper compounds continued

- $\text{Cu}_2\text{O}\cdot\text{X}_2\text{L}_4$, tetranuclear complexes, mag. behaviour, isotropic exchange model 4-11691
 Cu_2P_7 , prep. and cryst. struct. 4-11108
 Cu_2P , P LVV Auger and electron energy loss spectra 4-21076
 $\text{Cu}_2\text{PS}_3\text{I}$, Raman spectra, hydrostatic press. effect 4-30476
 CuS amorphous thin films, preparation and optical props. 4-11420
 CuS , films, holographic recording (*Russian*) 4-10269
 CuS thin films, growth, struct. and elec. props. 4-50677
 CuS_x , oxidation levels, paste-electrode voltammetric study 4-52071
 $\text{Cu}_{1.8}\text{S}/\text{CdTe}$ heterojunctions, reverse currents 4-30066
 $\text{Cu}_{1.8}\text{S-InP}$ heterojunctions, elec. and photoelec. props. (*Russian*) 4-40029
 Cu_2S films, reactive RF sputtering, characterisation and solar cell appl. 4-51492
 Cu_2S formation by ion exchange for $\text{CdS-Cu}_2\text{S}$ sprayed solar cells 4-21551
 Cu_2S , phase transformation, TDPAC, elec. quadrupole interaction study 4-40296
 Cu_2S , plasmon and X-ray chem. shifts 4-57038
 $\text{Cu}_2\text{S}/\text{CdS}$ Schottky solar cells, parameters determining efficiency 4-57721
 $\text{Cu}_2\text{S-CdS}$, thin film solar cells, overview 4-16771
 $\text{Cu}_2\text{S-CdS}$ heterojunction solar cell, barrier model from spectral sensitivity 4-46869
 $\text{Cu}_2\text{S-CdS}$ photovoltaic cells formed by dry barrier process, interface effects 4-25396
 $\text{Cu}_2\text{S-CdS}$ solar cell, mag. field assisted bonding of prefabricated grid 4-57720
 $\text{Cu}_2\text{S-CdS}$ solar cell, piezoelectrically coupled stress effect on junction characts. 4-31095
 $\text{Cu}_2\text{S-CdS}$ solar cells, thin film, front grid contact fabrication laboratory method 4-36011
 $\text{Cu}_2\text{S-CdS}$ thin film solar cells, stability study 4-26287
 $\text{Cu}_2\text{S-GeS}_2$ (SnS_2), intermolecular interaction, phase equilib. 4-55961
 $\text{Cu}_2\text{S-Zn}_2\text{Cd}_{1-x}\text{S}$ thin film heterojunctions, base In conc. effects on electrical and photoelectrical props. 4-20709
 Cu_2S , vacuum evaporated thin films, phase transitions, electron diff. 4-25176
 $\text{Cu}_2\text{S}/\text{CdS}$ solar cell, degradation in hot moist air and recovery in H_2 and air 4-16781
 $\text{Cu}_2\text{S-Cd}_x\text{Zn}_{1-x}\text{S}$ ultra-thin polycrystalline solar cells 4-26288
 $\text{Cu}_2\text{S-CdS}$ all-electroplated solar cell technology, structure and performance 4-21550
 $\text{Cu}(\text{SCN})_{1/3}$, synthetic metal, elec. and mag. props. 4-56329
 CuSO_4 conductivity in aq. and aq. sucrose solns. 4-2359
 CuSO_4 , ionic mass transfer rate in electrodialysis 4-12330
 $\text{CuSO}_4\cdot\text{H}_2\text{O}$, chalcantite, cryst. growth under microgravity, cryst. struct. 4-34459
 $\text{Cu}_2\text{Sb}_2\text{O}_6\text{-MgSb}_2\text{O}_6$ solid soln., mag. susceptibility investig. (*Russian*) 4-40158
 CuSbS_3 , X-ray spectra and chemical shift 4-46361
 CuSbSe_2 , X-ray spectra and chemical shift 4-46361
 CuSbTe_2 , X-ray spectra and chemical shift 4-46361
 CuSe , plasmon and X-ray chem. shifts 4-57038
 CuSe , true potential energy curves, r -centroids and Franck-Condon factors calc. 4-38273
 $\text{Cu}_2\text{Se-GeSe}_2$ (SnSe_2), intermolecular interaction, phase equilib. 4-55961
 $\text{Cu}_2\text{-SeSe}$, Cu distrib. in a thermal field, electrochemical cell method 4-12423
 $\text{Cu}_2\text{-SeSe}$, electronic and lattice thermal cond. meas. 4-6570
 $\text{Cu}_2\text{-SeSe}$, thermal and elec. field effects on Cu redistribution 4-50592
 $\text{Cu}_2\text{-SeSe}$, true carrier concentration 4-56366
 $\text{Cu}_2\text{Si}_2\text{S}_7$, single cryst., elec. props. study (*French*) 4-34969
 $\text{Cu}_2\text{Si}_2\text{S}_7$, single crystal, elec. resist., Hall const., 77-400K (*French*) 4-34969
 CuTe , true potential energy curves, r -centroids and Franck-Condon factors calc. 4-38273
 Cu_2Te , plasmon and X-ray chem. shifts 4-57038
 Cu_2Te , thermoelec. material, mech. props., effect of thermal cycling 4-55909
 $\text{Cu}_{2+x}\text{Te}_{0.68}\text{S}_{0.32}$, stoichiometry, rel. to elec. props. and equilib. transformations 4-50252
 CuTiS_2 , X-ray spectra and chemical shift 4-46361
 CuTiSe_2 , X-ray spectra and chemical shift 4-46361
 CuTiTe_2 , X-ray spectra and chemical shift 4-46361
 $\text{Cu}_4(\text{UO}_2)_2(\text{SeO}_3)_2(\text{OH})_6$, derriksite, cryst. struct., X-ray diff. study (*French*) 4-20156
 $\text{Cu}_2\text{U}_6\text{S}_{13}$, cryst. struct. 4-11086
 $\text{Cu}_{0.75}\text{VS}_2$, phase transition with temp. hysteresis, long period superstructures, electron diff., microscopy studies 4-6489
 CuWO_4 , single cryst., AC and DC cond., 300 to 1000K, cond. mechanism, band gap 4-2608
 $\text{Cu}_{0.25}\text{Zn}_{0.75}\text{Cr}_2\text{O}_4$, X-ray absorpt. fine struct. 4-30562
 $\text{Cu}_2\text{Zn}_{1-x}\text{Cr}_2\text{Se}_4$, transition from helimag. to ferromag., mag. props. study 4-25557
 $\text{Cu}_2\text{Zn}_{1-x}\text{Cr}_2\text{Se}_4$, mag. props., double exchange effects 4-20812
 $\text{Cu}_2\text{Zn}_2\text{GaSe}_4$, mag. susceptibility 4-35141
 $\text{Cu}_2\text{Zn}_2\text{GaTe}_4$, mag. susceptibility 4-35141
 $\text{Cu}_2\text{Zn}_2\text{InSe}_4$, mag. susceptibility 4-35141
 $\text{Cu}_2\text{Zn}_2\text{InTe}_4$, mag. susceptibility 4-35141
 $\text{Cu}_{0.96}\text{Zn}_{0.04}\text{SiF}_6\cdot\text{H}_2\text{O}$, phase transition, structural and thermodynamic aspects, X-ray diff. study 4-25019
 $\text{Cu}_3(\text{ZrF}_6)_2\cdot 16\text{H}_2\text{O}$, proton location, H bonds, cryst. struct., neutron diff. study 4-34439
 $\text{Fe}_{1-x}\text{Cu}_x\text{Cr}_2\text{S}_4$, valence state of ions 4-56559
 $\text{Fe}_{1-x}\text{Cu}_x\text{Cr}_2\text{Se}_4$, mag. moment studies (*Korean*) 4-16017
 $\text{Ge-Cu}_{1-x}\text{Fe}_x\text{O}_4$ spinel, mag. props., Mossbauer spectra studies 4-30369
 Hg_2CuGe_4 , cryst. struct., X-ray diff. studies (*French*) 4-20164
 $\text{HgS-Cu}_2\text{S}$ system, phase diagram, X-ray diff. and DTA study (*French*) 4-40753
 KCl-CsCl-CuCl , phase diagram, thermodynamic calcs. (*Russian*) 4-39543
 $\text{K}_2\text{CuCl}_4\cdot 2\text{H}_2\text{O}$, ^1H NMR study, temp. depend. of spin transfer to H 4-16108
 $\text{K}_2\text{Cu}_2\text{Mn}_{1-x}\text{F}_4$, temp. depend. of EPR fields 4-20853
 KCuO single crystals, synthesis and struct. (*German*) 4-39255
 LaCu_2Si_2 , cryst. struct., band struct., and Fermi surface props. 4-6690
 $\text{LaCu}_{10}\text{Sn}_2$, struct. and electronic stability criterion 4-11100
 $\text{Li}_{0.470}\text{Cu}_{0.030}\text{Co}_{0.004}\text{Fe}_{2.495}\text{O}_4$, ferrite, prep., physicochemical props. 4-57144

copper compounds continued

- $\text{Li}_2\text{O-B}_2\text{O}_3\text{-CuO}$ glass, EPR line width and X-band spectra, freq. depend. 4-46099
 $\text{Mn}_{1-x}\text{Cu}_x\text{Cr}_2\text{S}_4(\text{Se}_4)$, phase diagrams and solid solubility, X-ray diff. studies 4-39441
 $\text{Mn}_{1-x}\text{Cu}_x\text{PS}_3$, structural vibr. and cond. study 4-50273
 $\text{Na}(\text{Cu}_{1-x}\text{Mn}_x)_3\text{Mn}_2\text{O}_{12}$, lattice constant, specific saturation magnetisation, Curie temp. 4-50254
 $\text{Na}_2\text{O-Al}_2\text{O}_3\text{-CuO-SiO}_2$ glass, struct., EPR and optical props. 4-10996
 $\text{Ni-Cu}_2\text{O}$, diffusion couple, displacement reaction, kinetics and morphology, impurity effects 4-41099
 $\text{Ni}_{1-x}\text{Cu}_x\text{Cr}_2\text{O}_4$, synthesis, mag. susceptibility, ferrimag. Curie temp. and magneton no. meas. 4-40149
 $\text{PbO-SiO}_2\text{-CuO}$ glass, EPR line width and X-band spectra, freq. depend. 4-46099
 $\text{PdTe-Cu}_2\text{Se}(\text{Ag}_2\text{Se})$, phase diagrams and liq. solubility 4-7435
 $\text{PrCu}_2\text{Si}_2(\text{Ge}_2)$, antiferromag. ordering, neutron diff. study 4-20797
 $\text{Rb}_2\text{CuBr}_2\cdot 2\text{H}_2\text{O}$, ^1H NMR study 4-16108
 $\alpha\text{-RbCuCl}_2\text{I}_2$, solid electrolyte cell, stability 4-31081
 $\text{Rb}_2\text{CuCl}_4\cdot 2\text{H}_2\text{O}$, ^1H NMR study 4-16108
 $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-CaO-K}_2\text{O-Cu}_2\text{O}$ glass, phase transforms, Cu_2O effect 4-10993
 $\text{SnO}_2\text{-ZnS-Cu}_2\text{S-ZnS:Mn-Al}$ thin film structures, electrolum., short pulse excitation 4-30551
 $\text{TeO}_2\text{-PbO-CuO-ZnF}_2$ glasses, optical absorpt. and site symmetry of Cu(II) 4-30485
 Ti-Cu-P system phases, cryst. chem. 4-11103
 Ti-CuTiTe_2 molten system, electron transport props. and mag. susceptibility 4-25342
 $\text{Y}(\text{Cu}_{1-x}\text{Mn}_x)_3\text{Mn}_2\text{O}_{12}$, lattice constant, specific saturation magnetisation, Curie temp. 4-50254
 Zr_2CuGe_4 , cryst. structure refinement, Cu intercalation model (*French*) 4-39226
 $\text{Zr}_2\text{CuSi}_{12}$, cryst. struct., X-ray diff. studies (*French*) 4-20164
 $\text{ZrCuD}_{4.0}$, neutron diff. study of struct. (*Russian*) 4-29409

copper zinc alloys see brass

copying see reproduction (copying)

Corbino effect

see also Hall effect

- Ge, photomagnetolectric effect in the Corbino config. 4-56393
 $n\text{-InSb}$, Corbino disc, multitransit generation of acoustic fluctuations 4-25377

core levels see localised electron states

Coriolis force

see also rotation

- acetonitrile, liq., mol. motion, IR, Raman and NMR meas., spin-lattice relax., correl. times 4-46260
allene- d_4 , vibr. l type reson., Coriolis interactions, IR spectra 4-33399
benzene, sub-Doppler spectrosc. in channel-three regime 4-38155
diatomic molecule, semiclassical theory of predissoc. induced by rot. coupling 4-9851
equatorial atmosphere, nonlinear dynamics, zonal model (*Russian*) 4-8251
floppy mol., ro-vibr. calcs. 4-14382
formaldehyde, excited singlet state energy redistrib., rot.-vibr. interaction effects 4-38297
formaldehyde, rotationally resolved fluorescence emission from Coriolis-coupled vibrational levels with zero-order components 4-5263
in supersonic free jets, electron impact, B^2A_2 to X^2E transition 4-38243
inertial and EM forces 4-32010
metal-halohalo species, IR and laser Raman solid state spectra, vibr., rot. and Coriolis const. 4-56907
methyl iodide, rot. const., diagonal Coriolis coupling 4-5137
methyl nitrite ($-\text{CO}_2$), ^1H NMR spectra, conformational exchange, intramol. vibr. redistrib. 4-43902
nuclear giant resonances, Coriolis coupling effects on rotating nuclei 4-13974
planetary atmospheres, flow stability of homogeneous atmosphere of finite thickness 4-52865
rotating classical mols., resonant interactions of normal modes 4-54845
sea and land breezes, role of Coriolis force, historical note 4-47320
1,3,5-trifluorobenzene cations, in supersonic free jets, electron impact, B^2A_2 to X^2E transition 4-38243
vibrational density of states, Coriolis and anharmonic effects, statistical formula 4-28419
 $^7\text{GeH}_3\text{F}$, IR spectra, ν_3/ν_6 and ν_2/ν_5 Coriolis-coupled band pairs 4-43882
 H_2GeBr , isotope effects, force consts. vibr., rot., IR spectra 4-33398
 H_2SnCl_4 , isotopic and rot. line struct., high resolution IR spectra 4-43872
 SO_3 , ν_3 band, Fourier transform. IR spectrum, Coriolis interaction, mol. consts. 4-14404

cornea see eye

coronas

see also electric breakdown; flashover; solar corona

- air mass flowmeter for test cell instrumentation 4-49909
biological effects, insects behaviour in electrostatic fields obs. 4-3545
calculation of the corona discharge field for axially symmetric electrode systems (*Russian*) 4-20047
cylindrical probe measurements in a corona discharge 4-55673
discharge in moving medium 4-44873
Gerdien ion counter characts. 4-24672
glow discharge positive column, coronal and collisional-radiative model of H plasma 4-20045
half-integer harmonic radiation study, Z-depend. of laser plasma corona temp. 4-24541
ion generator, high current density, ionographic printer appls. 4-15324
laser irradi. pellet, corona flux saturation effect and ion charge number 4-15203
negative discharge onset in nonuniform field, sheath form. 4-44882
PET treated by corona discharge struct. and dielec. props. 4-11017
phthalocyanine-polymer photoconductor, metal-free electron acceptor doping, corona charging characts. (*Japanese*) 4-39952
plasma, laser heated, electron energy distrib. using time-resolved free-bound spectra 4-49949
plasma corona dynamics of laser-irrad. spherical targets, electron density and temp. 4-29255
plasma-corona filamentation during shell target heating and compression in DEL-FIN-1 4-29274
point-plane steady corona discharge, fundamental math. model 4-34348
polyethylene, space charge effects 4-11834

corona continued

- polyethylene terephthalate surface, activation by corona discharge 4-16520
- polyvinylidene fluoride, corona poling, piezoelec. and pyroelec. props. 4-35369
- polyvinylidene fluoride films, stretched and corona poled, piezoelec. props. 4-35368
- positive impulse corona in air, behaviour of space charge 4-20055
- rod-plane gap, switching impulse voltage in atmospheric air, positive corona charge and elec. field 4-44879
- spherical laser target corona, steady-state model allowing for fast electron energy transfer 4-10865
- transmission lines, distortion of pulse voltage waveform due to corona discharge 4-34351
- UV radiation-triggered rail-gap switches 4-34356
- vapour-gas mixture, heat exchange during condensation, electrohydrodynamic action (*Russian*) 4-19793
- CO₂ compact sealed TEA lasers with corona-discharge preionisation 4-23952
- CO₂ lasers, optimisation of corona discharge photoionisation sources 4-5567
- D₃+D₂⇌D₃⁺ equilibria in corona discharge, exptl. determ. 4-23851
- D₃⁺+D₂⇌D₃⁺ 4-23851
- H₃⁺+H₂⇌H₃⁺ equilibria in corona discharge, exptl. determ. 4-23851
- H₃⁺+H₂⇌H₃⁺ equilibria in corona discharge, exptl. determ. 4-23851
- SF₆-air (CO₂) mixtures, DV voltage breakdown in rod-plane gaps 4-24646
- SF₆-N₂ mixtures, crit. press. for positive point plane systems with impulse voltages 4-50112
- SF₆-N₂ mixtures, positive point plane discharge development, photomultiplier and field probe stresses 4-50113
- XeCl compact laser with corona preionisation 4-5570

coronagraphs

- see also solar corona
- Pinhole/Occluder Facility, hard X-ray imaging and optical coronagraph 4-23232

corpuscular streams see cosmic rays; solar wind**correlation methods**

- see also correlators
- cross-correlation meas. of double synchronously pumped mode-locked dye laser system 4-55104
- EEG analysis methods, comparison (*Russian*) 4-36250
- fatigue crack growth data, segmented fitting 4-26027
- femtosecond laser imaging for metrology and quality control, partially transparent medium testing 4-24273
- galaxies clustering, higher order correl. functions in Zwicky catalogue 4-42532
- galaxy clustering scales, two-point correl. function for complete redshift survey 4-13441
- interferometry, correlation, of scattered laser radiation 4-17930
- ionospheric probing, multiple-position radar systems, incoherent scatt. signals, correl. function evaluation (*Russian*) 4-13081
- optical time-domain reflectometry attenuation meas., high spatial resolution, by correlation technique 4-17921
- quasi-interferometry, colour coded, dispersive and colour correlation filtering 4-281
- quasi-interferometry, optical correlation, spatial freq. filtering 4-282
- radio astronomy and related fields, correlation systems 4-42310
- rigid body mechanics, digital image correlation 4-24392
- surface roughness meas., autocorrel. function, reflectometer determ. 4-13619
- GaAs Fabry-Perot resonator, instability of ultrashort light pulse amplitude and polarisation 4-28757

correlation theory

- see also correlators; information theory
- acoustic wave propagation in random media calc. using quantum field theory 4-5744
- laser radiation, fourth-order time correlation functions 4-55103
- linkage optimum synthesis with autocorrelation concept, modified least squares technique 4-5789
- medical image storage, encoding/compression techniques and statistical props. 4-57966
- remote sensing, correlation functions for random granular media in strong fluctuation theory [remote sensing] 4-52715
- template matching analysis in image registration 4-54972

correlators

- see also correlation methods; correlation theory; information theory
- autocorrelator for measuring CW ultrashort optical pulses having freq. vars. 4-19494
- burst correlation laser Doppler velocimetry results 4-24507
- coherent compact real-time optical correlators 4-48174
- coherent optical correlation with liquid crystal light valve and hologram matched filters (*French*) 4-38569
- coherent optical correlator for diffuse scattering objects using a spatial light modulator 4-44196
- holographic correlator, signal value, effect of image scale and rot. change and filter shift 4-54989
- incoherent electro-optic image correlator 4-48175
- integrated acousto-optical correlator with time integration 4-5739
- microprocessor-based digital correlator, photon correlation spectroscopy appl. 4-4385
- optical, output signal rel. to radiation coherence (*Russian*) 4-19544
- Bi₂SiO₂₀ optical image correlator, degenerate four-wave mixing technique, OCR appl. 4-28629
- LiNbO₃:Ti hemispherical waveguide spatial-integrating acoustooptic correlator 4-33813

correspondence principle

- No entries

corrosion

- see also corrosion protection; corrosion testing; electrochemistry; stress corrosion cracking; surface chemistry
- alkali aluminosilicate glasses, chemical durability, radwaste appl. 4-14072
- alloys, amorphous, corrosion resistance, passivation and catalysis 4-57410
- basalt radwaste repository, evaluation of HLW package materials 4-18601
- bitumen wasteforms containing various soluble salts, hydration and leaching 4-32988
- bituminised decontamination waste products, long-term stability, leaching, nordic project 4-23253

corrosion continued

- bituminised waste form leaching as radwaste volume reduction illustration 4-23224
- borosilicate glass, leaching in confined systems, radwaste form appl. 4-32989
- brass, 63/37, corrosion and dezincification in NH₃ soln., effect of thioureas 4-12227
- brass, Al, initial corrosion product in natural seawater, microstruct. and comp. 4-12243
- brass, corrosion and dezincification in 1% H₂SO₄ soln., effect of mixed inhibitors 4-51849
- brass, corrosion and dezincification in NH₃OH, inhibitive action of azoles 4-21360
- BWR, corrosion/erosion countermeasures 4-23170
- BWR, radionuclide transport, deposition, decontamination 4-23180
- BWR primary system, corrosion product characterisation 4-23168
- CANDU water circuit chemistry, effect on corrosion 4-23177
- cement, prosthetic biocompatibility with tissue 4-41025
- cemented carbide tools, wear in presence of dil. organic acids 4-57356
- cemented carbides, wear, effect of comp., struct., and service conditions 4-40998
- ceramic materials, corrosion resistance to HCl 4-12216
- corrosion and polarization characteristics of zinc in concentrated alkaline solution and the effect of amalgamation 4-7656
- corrosion of ferritic steels in gas cooled nuclear reactors 4-14125
- DIDO water loop corrosion product transport studies 4-23304
- Dresden-1 primary system decontamination test programs, corrosion by NS-1 solvent 4-18738
- filiform, anal. of mass transfer 4-26086
- fission reactor corrosion product disposal composition suspended in coolant (*Russian*) 4-43572
- flow-dependent, current understanding of mechanisms 4-3280
- fluoride glasses, corrosion by water, TGA study 4-7618
- Fusion Materials Irradiation Test Facility components, corrosion in liquid Li environment 4-9586
- galvanostatic polarisation resistance measurements, advantages 4-26123
- glass fibre reinforced epoxy composite, hygrothermal ageing and fracture 4-7552
- glass fibres, acidic and alkaline treatment, morphology and comp. 4-41026
- glass-ceramic material based bioactive implants (*German*) 4-8155
- high temperature influence on high temp. mech. strength (*German*) 4-35763
- high-level nuclear waste form performance evaluation 4-27961
- III-V semiconductors, electrochemical selective etching and photoelectrochem. behaviour in H₂O₂ redox system 4-40040
- Incoloy 800 tubes in KWU steam generators, operating experience (*German*) 4-9316
- Inconel 600-steel systems, crevice corrosion in seawater 4-12249
- LWR, corrosion particle dispersion in nuclear reactor primary cycle water, experimental (*Polish*) 4-9318
- LWR, water chemistry and corrosion 4-23183
- materials, surface properties in molten salt nuclear reactor environment (*French*) 4-27966
- metallic glasses, corrosion resist. and catalytic behaviour 4-46637
- metallic glasses, stressed, failure modes in aq. acidic media 4-21304
- metals, computer program giving electrode potential of compounds as function of pH, project overview 4-3302
- metals, corrosion in hypersaline geothermal brine 4-7655
- metals, depassivation and repassivation in localized corrosion 4-57436
- metals, passivation kinetics, phase transition model 4-41065
- metals, passive, pitting corrosion and repassivation, kinetic theory 4-57439
- metals, passivity, localised breakdown, mass transport eqns. 4-57440
- metals, passivity, mech. and chem. breakdown, stochastic aspects 4-57441
- metals, tarnish, analysis and assessment methods 4-41038
- micrometry, evaluated using statistical anal. (*Czech*) 4-41148
- Nimonic 86, Ni-base superalloy, corrosion in nuclear He, study by X-ray diffr. and electron probe microanal. 4-51865
- Nimonic alloys, Na₂SO₄-induced corrosion, 650-1000°C 4-26111
- nuclear power plants, trends in chem. anal. procedures 4-33131
- nuclear reactor, corrosion product formation and deposition mechanism (*Russian*) 4-23182
- nuclear steam generators, Canadian experience, corrosion, denting and other damage (*Spanish*) 4-28088
- nuclear waste glass, leach model 4-4948
- nuclear waste glass, simulated, leaching, influence of gamma irradi. 4-45186
- nuclear wasteform durability in geological repositories, leach testing, flow model anal. 4-712
- nuclear wasteforms, leach testing study 4-716
- passivating film stability on Fe alloys, chem. heterogeneity effect within metal phase 4-57464
- passivity and anodic behaviour in sulphate solns. 4-16540
- passivity of metals and semiconductors, conf., Bombannes, France (May 1983) 4-53390
- PHWR, radionuclide transport, deposition, decontamination 4-23180
- pores, cylindrical, dislocation generation obs. 4-50294
- PWR, corrosion products as source of radiation field buildup 4-23191
- PWR, water chemistry tests, corrosion product monitoring (*French*) 4-23173
- PWR steam generator, corrosive faults at baffleplate 4-9331
- reactor component corrosion into coolant in LWR, ⁶⁰Co buildup 4-4949
- reactor water chemistry and corrosion, conf., Vienna, Austria (Nov. 1982) 4-22517
- salt radwaste repository, evaluation of HLW package materials 4-18603
- SEM experience in corrosion research 4-57502
- semiconductor electrodes, photocorrosion and electrochem. props., Mirage effect studies 4-41225
- semiconductor passivation and protection in solar cells 4-57377
- stainless alloy, austenitic containing Cu-Mo, passivation in hot H₂SO₄, crit. conditions 4-57473
- stainless steel, type 304, corrosion, investigation of oxides in high temp. water 4-54267
- static leach test method for radioactive waste characterisation, long-term use 4-714
- steam generator tube performance for water cooled reactors during 1981 4-28141
- steel, austenitic stainless, 304, C movement by liquid Na (*Spanish*) 4-28150

corrosion continued

steel, austenitic stainless, Co release rate in neutral water, temp. depend. 4-48658
 steel, austenitic stainless, dissolution and passivation kinetics in organic media, H₂O effect 4-57465
 steel, austenitic stainless, erosion-corrosion resistance of pump materials in static and flowing H₂SO₄ (German) 4-16541
 steel, austenitic stainless, hot corrosion-oxidation behaviour in Na₂SO₄ and transition metal salts 4-57409
 steel, austenitic stainless, intergranular attack, continuous cooling sensitisation, C content effect 4-51853
 steel, austenitic stainless, intergranular corrosion, Cr depletion, electrochemical obs. 4-12245
 steel, austenitic stainless, oxidation and decontamination mechanisms in LWRs 4-26114
 steel, austenitic stainless, passive, film breakdown initial stages in 3% NaCl 4-57452
 steel, austenitic stainless, passive behaviour in H₂SO₄ by corrosion under friction 4-57454
 steel, austenitic stainless, passive-transpassive transition, study of film 4-57474
 steel, austenitic stainless, passivity breakdown inhibition by Mo addition in chloride sols. up to 250°C 4-57457
 steel, austenitic stainless, pitting corrosion above breakdown pot. 4-21356
 steel, austenitic stainless, pitting resistance after passivation in dil. HNO₃ 4-21355
 steel, austenitic stainless, repassivation pot. of corrosion pits 4-57453
 steel, austenitic stainless, sensitisation, effects of C content and grain size 4-51848
 steel, austenitic stainless, thermodynamics of formation of NaCrO₂ corrosion product 4-30851
 steel, austenitic stainless, welded, corrosion in marine atmosphere 4-12240
 steel, buried pipes, underground corrosion rates from polarisation resist. 4-41047
 steel, by liq. Li, AES study, chemical effects 4-21507
 steel, C, passivity, study using impedance technique 4-57481
 steel, C, weldments, pitting corrosion in permafrost 4-35782
 steel, carbon, use for radwaste containment canisters, corrosion 4-18598
 steel, constructional, corrosion damaged, treatment of fatigue test results 4-51930
 steel, corrosion in sulphate sols., organic acid inhibition 4-46657
 steel, corrosion-resistant, pitting susceptibility, invest. by potentiokinetic-static method (Czech) 4-41080
 steel, Cr, sintered, hot-forged parts, corrosion, heat treatment influence 4-3295
 steel, Cr-Ni-Cu-(Mo), maraging, props. after ageing 4-21255
 steel, ferritic stainless, localised corrosion resistance in Cl⁻ sols., alloying effect of Mo 4-57459
 steel, galvanised, corrosion behaviour in warm water (German) 4-35764
 steel, galvanised, corrosion rate in Ca(OH)₂ soln. 4-12224
 steel, H uptake in H₂S environment, metallurgical influences 4-26084
 steel, low alloy, abrasion corrosion in aq. NaCl soln. 4-51854
 steel, low alloy, marine corrosion resist., alloying elements and microstruct. influence (French) 4-7654
 steel, low alloy, pitting and crevice corrosion, sea exposure simulation by laboratory trials 4-7653
 steel, low C, corrosion in pickling sols., inhibitor additions 4-16565
 steel, low C, high temp. corrosion in an electrolytic plasma (Russian) 4-21363
 steel, low C, unkilld, high temp. creep 4-26015
 steel, low carbon, high level radwaste containers for basalt and salt, general and pitting corrosion 4-18599
 steel, martensitic stainless, pitting and crevice corrosion at 80°C, environmental conditions 4-41049
 steel, mild, corrosion by sulphate reducing bacteria in oil storage conditions 4-46644
 steel, mild, corrosion in NaCl sols., inhibition by Al salt-thiourea mixtures 4-12234
 steel, mild, corrosion in permafrost 4-12248
 steel, mild, localised corrosion and passivation in sols. 4-57456
 steel, mild, welded, corrosion in marine atmosphere 4-12240
 steel, pickling in non-inhibited and inhibited acids, scale breaking effect (German) 4-3274
 steel, rolled wire, torn during drawing, fractographic analysis 4-51802
 steel, stainless, 304L, for tuff radwaste repository, evaluation of HLW package materials 4-18602
 steel, stainless, amorphous, ion implanted, electrochem. corrosion 4-57443
 steel, stainless, anodic polarisation of 440C, heat treatment effect 4-41052
 steel, stainless, corrosion, pit initiation, statistical study 4-57433
 steel, stainless, corrosion in H₂SO₄ containing Cl⁻ and Cu⁺ (German) 4-35761
 steel, stainless, corrosion in molten basaltic lava and simulated magmatic gas 4-41100
 steel, stainless, corrosion potential oscillations, in aq. Cl⁻ sols. 4-57475
 steel, stainless, corrosion resistance rel. to Cr substitution 4-7640
 steel, stainless, crevice corrosion resist. in chloride sols. 4-57450
 steel, stainless, fungal solubilisation of Fe 4-41106
 steel, stainless, intergranular attack during crevice corrosion 4-57388
 steel, stainless, localised corrosion initiation, passive film composition and non-metallic inclusions effect 4-57458
 steel, stainless, passivation and localised corrosion 4-57463
 steel, stainless, pitting and crevice corrosion, role of sulphide inclusions, review 4-21364
 steel, stainless, pitting corrosion in water-organic solvent mixtures, inhibition by organic component 4-16563
 steel, stainless, radioactive corrosion product deposition in BWRs 4-21385
 steel, stainless, refractory, corrosion behaviour (French) 4-21379
 steel, stainless, Tafel consts. and changes in H₂ coverage 4-35768
 steel, stainless corrosion, pit and crevice growth meas. 4-57478
 steel, stainless deposition of Fe-FeOOH particles 4-12239
 steel, type 52100 and stainless type 303, electrical arc-induced wear, surface anal. study 4-7601
 steel, type 09Cr, corrosion and microstructure after tempering in range 100-700°C 4-21359
 steel decarburisation in liquid Na in LMFBR nuclear reactor 4-43619
 steel plates, corroded, influence of H₂PO₄, Mossbauer study 4-21361
 steel tubes, tuberculation in synthetic cooling water (Japanese) 4-21370
 superalloys, high temp. corrosion rel. to rare earth or refractory additions, review 4-16539

corrosion continued

superalloys, hot corrosion, fluxing model for protective oxide scale dissolution 4-16545
 surface, high purity, ion beam nitriding study 4-51902
 SYNROC hollandite leaching behaviour, Cs immobilisation 4-720
 SYNROC-B, sintered, leaching behaviour, temp. effects 4-9270
 thermal storage media durability for compressed-air energy storage systems 4-12492
 transition metal silicide, thermal oxidation resist. and hardness 4-3277
 US corrosion monitor for in situ film thickness measurements 4-51834
 WWER-440, corrosion product behaviour, modified shutdown procedure effects 4-23174
 XPS and AES, metallurgy, catalysis and semicond. technology appls. 4-51420
 Zircaloy, nodular corrosion mechanism 4-30849
 Zircaloy, sputter coated, out of reactor nodular corrosion in steam 4-30848
 Ag-Au, corrosion and selective dissolution in HNO₃ 4-7652
 Ag-Pd alloy layers, influence of aggressive atmospheres on the change of contact resistance (Polish) 4-40022
 Al adhesive joints, protected with hydration inhibitors, environmental durability 4-30919
 Al alloys, corrosion in Ca(OH)₂ solution (Japanese) 4-41074
 Al, anodised, atmospheric corrosion over 12 year period, New Zealand main centres 4-41115
 Al brass, beta and martensitic, corrosion behaviour, Al effect 4-57460
 Al brasses, β - and martensitic, corrosion behaviour 4-35767
 Al, electrochemical tunnel etching 4-41064
 Al electrodes, corrosion rate determ. using Faradaic rectification and AC impedance meas. 4-52019
 Al, passivity breakdown and localised corrosion, electrochem. noise meas. 4-57434
 Al, pitting corrosion mechanism (German) 4-41057
 Al-Mg-Li, struct. and props., ageing effect 4-57298
 Al-Zn-Mg-Cu based high-strength wrought alloys 4-57296
 Al₂C₃ sintered body prep., mech. props., thermal expansion and corrosion resist. 4-12146
 Al₂O₃-MgO spinel ceramic, corrosion-resist. 4-40718
 β -Al₂O₃-Na₂O, inhibition of degradation by ionic exchange (French) 4-51843
 Au-Ag, dental casting alloys, tarnish and corrosion resist. in artificial saliva 4-46658
 Au-Pd, dental casting alloys, tarnish and corrosion resist. in artificial saliva 4-46658
 Bi₂Sb₂-S₂ solid sols. use as photoelectrodes (French) 4-30018
 Co, mixed oxidation-chlorination, mass transfer at 1000K 4-41086
 Co-base alloys, corrosion, chloride-induced high temp. SEM and energy dispersive X-ray anal. (German) 4-57390
 Co-Cr film, corrosion behaviour in Cl and S containing atms., rel. to mag. recording chars. 4-26088
 Co-Cr-Al cast alloys, hot corrosion attack, ion implantation effects 4-7650
 Co-Cr-Mo-Zr, amorphous ribbons, corrosion resistance in 1N HCl 4-16559
 Co-Pt sputtered thin films for high density recording 4-25602
 Cr (100), Br₂ chemisorption, cpd. form. and corrosion 4-29804
 Cr containing alloys, oxide film development for PWR primary circuits 4-23192
 Cr, corrosion in O₂-S-C gases at 800°C 4-41098
 Cr corrosion in SO₂ from 850 to 1050°C (French) 4-35755
 Cr plating, hard, under reduced press. (Finnish) 4-12269
 Cr surface, struct. and kinetic studies of halogen interactions, chemisorption and epitaxial growth 4-29817
 Cr-C(N) cathodic sputtered coatings, hardness, wear and fatigue 4-7359
 Cr₂C₃ and Cr₂N₃C₆, high-density specimens prep., corrosion and electrochem. props. 4-7407
 Cu alloy condenser tubes, corrosion prevention 4-23193
 Cu alloys coupling with Ti in desalination plants, galvanic corrosion (Japanese) 4-16544
 Cu, corrosion by atmospheric sulphurous gases 4-12241
 Cu, corrosion in neutral and acidic Cl⁻ sols., dissolved O effect 4-51858
 Cu, corrosion in sea water, zinc gluconate inhibitor efficiency 4-12233
 Cu pipes, pitting corrosion in potable tap water (German) 4-16543
 Cu-Ni alloy, active anodic dissolution in NaCl solution (French) 4-3276
 Cu-Su-Pb-Zn, bronze, surface layer form. and struct. in aq. sols. 4-46655
 Cu-Zn(Sn)(Al), corrosion in trichloroethylene and tetrachloroethylene, influence of chloroacetyl chlorides and chloroacetyl acid (German) 4-51867
 Cu-Zr-xP amorphous alloys, corrosion resist., P addition effect 4-57446
 Cu-Zr(Ti), amorphous and microcryst., corrosion behaviour, electrochem. chars. 4-46650
 Cu-(Bi), corrosion, intercrystalline, factors controlled increase near grain boundaries 4-57400
 Fe and Fe alloys, corrosion, FeS₂ formation, H₂ permeability meas. 4-12258
 Fe and Fe alloys, passive films, structure simulation by RDF method 4-57426
 Fe, corrosion products in selenious acid soln. (Japanese) 4-26096
 Fe electrode, impedance in aq. perchlorate sols. 4-16564
 Fe high level radwaste containers for basalt and salt, general and pitting corrosion 4-18599
 Fe, high purity, passivation kinetics, mech. machining effect on reaction layer formation (German) 4-41059
 Fe, high purity, pitting corrosion mechanism in NaCl soln. 4-41045
 Fe, localised corrosion, laser beam depassivation 4-12242
 Fe, pitting resistance, repair mechanism in sols. 4-51852
 Fe, pure, atmospheric corrosion (German) 4-41058
 Fe, pure, corrosion, inhibition or catalysis by guanidine derivatives 4-12235
 Fe-Al-(Ti), high temp. alloys, radiotracer studies of C permeation through oxide scales 4-35759
 Fe-base alloys, corrosion, chloride-induced high temp. SEM and energy dispersive X-ray anal. (German) 4-57390
 Fe-base austenitic stainless alloys containing Cu-Mo, passivation in hot H₂SO₄ crit. conditions 4-57473
 Fe-Co-Cr, damping capacity, mag. props., pitting corrosion resist. (Japanese) 4-46549
 Fe-Co-Cr sputtered films, mag. and corrosion props., magneto-optical meas. 4-56719

corrosion continued

- Fe-Cr, high purity, corrosion in molten basaltic lava and simulated magmatic gas 4-41100
 Fe-Cr, hot corrosion in HCl gas and O₂, protective scale form. 4-51903
 Fe-Cr alloys, passive state, quantitative ESCA anal. 4-57466
 Fe-Cr-Al-Ce, high temp. corrosion in Na₂SO₄-NaCl molten salt, Ce addition effect 4-7637
 Fe-Cr-Mo alloys, passive state, quantitative ESCA anal. 4-57466
 Fe-Cr-Ni alloys, dissolution and passivation kinetics during localised corrosion 4-57437
 Fe-Cr-Ni-Mo (14.5, 14.5, 2.5 wt.%), single cryst., electrochem. meas. on low index planes 4-57483
 Fe-Cr(Ni)(Mo), passivity in organic solns. of H₂SO₄, effect of alloying additions 4-57482
 Fe-Mo-C, amorphous, surface film form. in HCl, ion beam analysis 4-12246
 Fe-Mo-C (70, 12, 18 wt.%) amorphous, anal. of H in corrosion product films using ERD 4-45465
 Fe-Ni (3 wt.%), anodic behaviour in multi-steady-states region in H₂SO₄ 4-57477
 Fe-Ni (36 wt.%), electrochemical behaviour in acid and neutral media (French) 4-41054
 Fe-Ni-B-P-xCr amorphous alloy passivation, Cr addition and heat treatment effect 4-57445
 Fe-Ni-Cr and Fe-Cr, passivity breakdown and localised corrosion, electrochem. noise meas. 4-57434
 Fe-Ni-Cr-W, amorphous and crystallised, corrosion resist. behaviour 4-46649
 Fe₇₅B_{25-x}Si_x, amorphous alloys, corrosion electrochem. invest. 4-3279
 Fe₈₀P₂₀ amorphous alloy, electrochem. props. and passivation 4-57444
 GaAs, passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380
 GaAsAl, passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380
 GaAsP passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380
 Li-SOCl₂ batteries, galvanic corrosion and capacity loss 4-7839
 Mn corrosion in SO₂ from 700 to 900°C (French) 4-35755
 Na_{1+x}Zr_{1-x}Si₂P_{3-x}O₁₂, Nasicon, phase changes and stability 4-15617
 Ni 4-51881
 Ni alloys, passivity breakdown inhibition by Mo addition in chloride solns. up to 250°C 4-57457
 Ni base alloys, refractory properties, N-H atm. effect 4-35778
 Ni, corrosion, reaction with SO₂+O₂ 4-21358
 Ni, corrosion behaviour in NaOH solns. under heat transfer conditions 4-16534
 Ni, corrosion in Ar-O₂-SO₂ atmos., 823-1223K (Japanese) 4-35771
 Ni, corrosion in S- and Cl-containing environments, grain boundary penetration and embrittlement 4-21380
 Ni, passivation-depassivation in H₂SO₄, grain size effect 4-57448
 Ni, pitting corrosion, initiation and inhibition 4-57451
 Ni, pitting susceptibility, electrode pretreatment effects 4-57438
 Ni, plated, in formamide-water mixtures, corrosion behaviour 4-3301
 Ni-Al alloy, internal sulphidation, cooperative precipitation of sulphides 4-34650
 Ni-B, electroless surface coatings, passivation and pitting 4-3296
 Ni-base alloys, corrosion, chloride-induced high temp. SEM and energy dispersive X-ray anal. (German) 4-57390
 Ni-base austenitic stainless alloys containing Cu-Mo, passivation in hot H₂SO₄, crit. conditions 4-57473
 Ni-base superalloy, corrosion in S- and Cl-containing environments, grain boundary penetration and embrittlement 4-21380
 Ni-base superalloys, corrosion by SO₂, resist. of protective coatings 4-12265
 Ni-base superalloys, gas corrosion 4-51884
 Ni-Cr, corrosion in O₂-S-C gases at 800°C 4-41098
 Ni-Cr, solidification process, mech. strength, corrosion resist. 4-25949
 Ni-Cr base alloys, intergranular corrosion in electrochemical machining 4-51861
 Ni-Cr-Al-Zr, surface comp., quantitative Auger microprobe study 4-35527
 Ni-Cr-Fe (16, 7 at.%), previously covered with external Cr₂O₃ layer corrosion in H₂-H₂S mixtures 4-51872
 Ni-Cr-W-Mo, superalloy, GH37, creep strength rel. to hot corrosion by Na₂SO₄-NaCl coating 4-30853
 Ni-Cu-Fe, corrosion in trichloroethylene and tetrachloroethylene, influence of chloroacetyl chlorides and chloroacetyl acid (German) 4-51867
 Ni-Fe film, corrosion behaviour in Cl and S containing atms., rel. to mag. recording characts. 4-26088
 Ni-P-Cu, electroless surface coatings, passivation and pitting 4-3296
 Ni₈₀Co₂₀Cr₁₂Mo₆Fe₆B₁₆, amorphous alloy, corrosion in deaerated H₂SO₄ 4-51856
 Pb electrode, potentiodynamic and cyclic voltammetrics in H₂SO₄ solns. 4-46656
 Pb-acid accumulators, thermopassivated dry-charge positive electrodes, depassivation, expt. 4-7849
 Pd, electroplated layers, wear, corrosion and contact resistance comparison to roll milled Pd and Pd alloys 4-46666
 Pd-Cu, dental casting alloys, tarnish and corrosion resist. in artificial saliva 4-46658
 Pd-Ni electrodeposits on electric connectors, properties, comparison with AuCo and Pd+AuCo-flash 4-46665
 SiO₂, vitreous, dissolution in molten NaCO₃, corrosion rate, solid reaction products form. 4-41023
 steel, stainless, intergranular corrosion in electrochemical machining 4-51861
 Ta-base alloys, corrosion resist., elimination of H embrittlement by substitutional alloying 4-57389
 Ti alloys, high level radwaste canister/overpack materials for salt formations 4-9275
 Ti, anodic oxide film formation and dissolution in HClO₄ 4-12236
 Ti in molten Pb, cavitation erosion, ultrasonic field effects 4-41042
 Ti/Pt ohmic contacts to GaAs/AlGaAs lasers, blistering phenomena 4-26107
 Ti-Al-V, electrochem. behaviour in HCl, influence of alloying elements 4-51847
 Ti-Al-Zr-W(Mo)-(B), struct. and corrosion props., effect of quenching from liq. state 4-30857
 Ti-Cu, electrochem. behaviour in HCl, influence of alloying elements 4-51847

corrosion continued

- Ti-Pd-Ag solar cell contacts degradation mechanism determ. by accelerated electrochemical technique 4-52168
 Ti-TiPd-Ni system, phase equilib. and props. at 400°C 4-51626
 TiAl base alloys, suitable for steam-turbine blades, corrosion props. 4-12263
 TiC-TiN-WC-Ta-C-Mo-Ni-Co, cermet, sintering and mech. props. 4-40733
 V surface, struct. and kinetic studies of halogen interactions, chemisorption and epitaxial growth 4-29817
 W electrodes in molten nitrates, formed film charact. by XPS and electrochemical studies 4-26091
 WO₃ corrosion layer on W, electronic props. and cryst. structs., anodisation conditions 4-56181
 YCrO₃, sintered refractory, heat treatment, physical props., MHD electrode appl. 4-3112
 Zn, corrosion in trichloroethylene and tetrachloroethylene, influence of chloroacetyl chlorides and chloroacetyl acid (German) 4-51867
 Zn-Ni electrodeposited alloy coatings, review 4-51558
 Zn-Sn, Zircaloy 4, pitting corrosion, induction times, statistical anal. 4-57442
 Zr alloy, corrosion in superheated steam in power reaction 4-12261
 Zr and alloys, pitting corrosion, review 4-51846
 ZrC-ZrB₂ eutectic, high-temp. oxidation 4-3294
 ZrO₂ refractories, evaluation for continuous casting of steel 4-7539
 Zu, corrosion in sea water, zinc gluconate inhibitor efficiency 4-12233
- corrosion control** *see* corrosion protection
- corrosion fatigue** *see* stress corrosion cracking
- corrosion fatigue testing** *see* corrosion testing
- corrosion prevention** *see* corrosion protection
- corrosion protection**
see also anodisation; corrosion; corrosion protective coatings; packaging; pH control
 brass, 63/37, corrosion and dezincification in NH₃ soln., effect of thioureas 4-12227
 α-brass, corrosion inhibition in marine environment, using 3-methyl-4-amino-5-mercapto-1,2,4-triazole 4-3300
 BWR, H₂ in coolant to suppress intergranular stress corrosion cracking, supply and safety 4-33145
 cathodic protection, review of technical progress (Japanese) 4-51875
 Hastelloy XR, corrosion resistant, evaluation of weldability (Japanese) 4-57397
 inhibitor treatment, thin layer activation anal. 4-12217
 mechanism of passivating action of inhibitive anions 4-46642
 metals, anodising in molten salts, review 4-7647
 mild steel, corrosion inhibition in marine environment, using 3-methyl-4-amino-5-mercapto-1,2,4-triazole 4-3300
 PWR steam generator and tube degradation countermeasures 4-4986
 steel, austenitic stainless, passive, film breakdown initial stages in 3% NaCl 4-57452
 steel, C, corrosion in chemical cleaning solns., inhibition by magnetite addition 4-41051
 steel, C, etched in HCl soln. with and without inhibitor 4-51866
 steel, carbon, type KL-1, corrosion inhibition by amine base polycondensation product in acid solns. 4-41034
 steel, coated pipelines, cathodic protection under disbonded coatings 4-12253
 steel, corrosion fatigue protection methods 4-21400
 steel, Cr-Mo, low alloy, surface oxide layers grown in natural conditions 4-41046
 steel, KhOD-1 inhibitor of acid corrosion and corrosion-mech. failure 4-51896
 steel, low C, corrosion in pickling solns., inhibitor additions 4-16565
 steel, mild, corrosion in HCl, inhibition by amidopolyamines 4-41039
 steel, mild, corrosion in NaCl solns., inhibition by Al salt-thiourea mixtures 4-12234
 steel, passivation in borate buffer for improvement of corrosion resist. 4-57472
 steel, pickling, PGU-2 inhibitor of H absorpt. and use in galvanising 4-51897
 steel, protection by inhibitors in H₂S medium 4-57405
 steel, stainless, corrosion, localised, electrochem. prevention 4-57476
 steel, stainless, pitting corrosion in water-organic solvent mixtures, inhibition by organic component 4-16563
 steel, with Zn₂SiO₄ coatings at pot. of uncharged surface, corrosion resist. improvement 4-51892
 steel sheet, phosphatability, influence of annealing 4-35766
 steel St.3, ductility and H absorpt., cyclic amine condensation products influence 4-57406
 steel strands embedded in concrete, cathodic protection in Cl⁻ environment 4-41040
 superalloys, high temp. corrosion rel. to rare earth or refractory additions, review 4-16539
 Wuergrass Nuclear Power Plant condensation chamber recoating with anticorrosive material (German) 4-32986
 Al, corrosion in HNO₃, new class of inhibitors, 1-aryl substituted-3-formamidino thiocarbamides 4-12229
 Al, corrosion inhibition in marine environment, using 3-methyl-4-amino-5-mercapto-1,2,4-triazole 4-3300
 Al-Cu, N-heterocyclic cpds. as corrosion inhibitors in HCl 4-21357
 Al-Cu (4 wt.%), cathodic protection in acid media, inhibitor effects 4-51859
 Al-Fe-Mn, dissolution in HNO₃, inhibitive efficiency of benzoic acid 4-41048
 Al-Mn (1.3 wt.%), cathodic protection in acid media, inhibitor effects 4-51859
 Al-Zn-Mg-Cu, anodic coating behaviour of X7091, SEM obs. 4-7639
 Cu, adsorption of haloacetic acids, anodic polarisation obs. 4-51863
 Cu alloys coupling with Ti in desalination plants, galvanic corrosion (Japanese) 4-16544
 Cu, corrosion in sea water, zinc gluconate inhibitor efficiency 4-12233
 Cu, corrosion inhibition in marine environment, using 3-methyl-4-amino-5-mercapto-1,2,4-triazole 4-3300
 Cu films, Ti implanted, thermal oxidation inhibition, Rutherford backscatt. study 4-30862
 Cu plates, corrosion resistance, triazine thiol polymerisation effects 4-35897
 Cu-Ni-Fe, marine corrosion resist. rel. to Na₂Cr₂O₇ pretreatment 4-12254

corrosion protection continued

- Cu-P-Zn brazing alloy, local corrosion in H_2S atmosphere, protection rel. to Zn content (*Japanese*) 4-7633
 Fe, corrosion inhibition, neutral aq. soln. of amines and fatty acids 4-21353
 Fe, corrosion inhibition in acid medium by phosphonium salts 4-35765
 Fe, pure, corrosion, inhibition or catalysis by guanidine derivatives 4-12235
 Fe surface, corrosion inhibitors, IR and Raman spectra 4-12250
 Fe-Cr-Ni-Mo alloys, active dissolution inhibition by Mo surface enrichment 4-46646
 Sn, anodic treatment, passivation studies using group VIA anions 4-12225
 Sn, cathodic treatment, passivation studies using group VIA anions 4-12226
 W-V, kinetics and mechanism of oxidation, gas corrosion rel. to V content 4-51886
 Zn, corrosion inhibitors, use of phenothiazines in NH_4Cl soln. 4-12228
 Zu, corrosion in sea water, zinc gluconate inhibitor efficiency 4-12233

corrosion protective coatings

- adherence under impact load, influence of substrate (*German*) 4-35762
 Al coating on Ni-base superalloys, thermal fatigue strength and heat resist. 4-12264
 cathodic disbondment of protective organic coatings, aq. displacement at elevated pH 4-51830
 electrical contacts, solder- and tin-coated, fretting corrosion 4-46667
 epoxide-phenol polymer based composite anticorrosion materials, strength and deform. props. 4-46640
 epoxy resin coating on imidazole treated Cu surface, Fourier transform IR spectra 4-51879
 galvanised steel, corrosion behaviour in warm water (*German*) 4-35764
 HTGR fuel particles, SiC coating interaction with fission products 4-54247
 mechanical aspects of high temp. coatings 4-16566
 metals, high temp. oxidation protection by superficial siliconisation 4-12270
 nuclear facilities, safety-related coating work for LWR plants 4-37836
 organic coatings, qualitative ellipsometric technique for corrosion processes study 4-48181
 oxide layers, protective, coating composition and formation at high temps. 4-16567
 passivating film thickness on Fe in sulphuric acid soln. 4-57408
 phosphate coatings on electrotechnical Fe sheets, comp. and struct. anal. using IR spectroscopy 4-57396
 phosphating process, electrochem. acceleration 4-7644
 polymer coatings in steel, inhibitor-containing, protective props. depend. on coating thickness (*Russian*) 4-30847
 self-sealing ceramic coatings, high temp. protective props. 4-21349
 steel, alloy, SCC in high temp. water, effect of fluid flow 4-51850
 steel, chromising, substrate design with small alloying additions 4-12238
 steel, electropainted, corrosion resist. rel. to $Zn_3(PO_4)_2$ morphology 4-46662
 steel, galvanised, corrosion rate in $Ca(OH)_2$ soln. 4-12224
 steel, galvanised, corrosion resist., surface passivation (*German*) 4-51862
 steel, low carbon, plasma surfacing of corrosion and wear-resistant materials 4-35779
 steel, mild, welded, corrosion in marine atmosphere, magnetite coating effect 4-12240
 steel, stainless, solar selective surface, physico-chem. props., optical props., XPS, SIMS anal. (*French*) 4-2483
 steel sheet, hot dip galvanising, quality rel. to bath parameters 4-41103
 stellite, plasma sprayed coating, laser processing, microstructure, wear, corrosion resist. 4-30854
 superalloys, hot corrosion, fluxing model for protective oxide scale dissolution 4-16545
 Wuegassen Nuclear Power Plant condensation chamber recoating with anticorrosive material (*German*) 4-32986
 Zircaloy, sputter coated, out of reactor nodular corrosion in steam 4-30848
 Ag-Pd cyclic multilayered alloy coatings, electroplating 4-12036
 Al coatings on Ni alloy blades, thermal shock resistance 4-12262
 Al, produced by hydraulic-pulse densification of powder, anticorrosion props. 4-7642
 C films, diamond-like, obtained by ionised deposition of acetylene (*Japanese*) 4-2471
 Co-Cr-Al-Y coating formed by ion implantation, hot corrosion attacks 4-7650
 Co-Cr-Al-Y coating on Ni-base superalloys, thermal fatigue strength and heat resist. 4-12264
 Cr coatings, CVD and electroplated, endurance evaluation in hot gas erosion atmosphere 4-16569
 Cr plating, hard, under reduced press. (*Finnish*) 4-12269
 Cr-B amorphous films, high corrosion resistance props. 4-7631
 Cr_2C_3 coatings for use in high temp. nucl. reactors, development 4-16568
 Fe-Cr-Mn-Ni, scaling resist. rel. to Ni content, subscale layer form. 4-51885
 n-GaAs photoanodes, protection by photoelectrochem. grafting of polymer films 4-46880
 MoS_2 -based composite lubricant films, moisture resistance and adhesion 4-7621
 Ni electroless coatings, struct., corrosion resist., stripping rate rel. to heat treatment 4-46660
 Ni-B, electroless surface coatings, passivation and pitting 4-3296
 Ni-base superalloys, corrosion by SO_2 , resist. of protective coatings 4-12265
 Ni-P-Cu, electroless surface coatings, passivation and pitting 4-3296
 NiAl coatings for use in high temp. nucl. reactors, development 4-16568
 Ni₃B coatings, wear and corrosion props. 4-21386
 Sn-plate, passivation layers, comp., struct. and props. 4-57484
 SnO_2 coatings, doped, stability in air and molten glass 4-57381
 Ti-C-Ni-B, slurry coatings applic. using conc. solar energy 4-7643
 WC-Ni-B, slurry coatings applic. using conc. solar energy 4-7643
 Zn, deposited by vapour-gas jet, struct., adhesion and corrosion protective props. 4-57392
 Zn_2SiO_4 coatings on steel at pot. of uncharged surface, corrosion resist. improvement 4-51892
 ZrO_2 , thermal barrier coatings, plasma sprayed, oxidation and corrosion resistance 4-41096
 $ZrSiO_4$ powder, plasma sprayed coating, thermal cond. (*Slovak*) 4-46639

corrosion testing

- alloy castings, stress corrosion resist. to H_2S , bent beam technique 4-12317
 brass heat exchanger tubes, arsenic content in standards rel. to intergranular corrosion and stress corrosion susceptibility 4-41117
 current distribution, microcomputer controlled meas. system (*Japanese*) 4-46689
 ellipsometric qualitative technique, study of corrosion processes under organic coatings 4-48181
 ethylene based plastics, environmental stress crack resist. test method 4-3332
 galvanostatic polarisation resistance measurements, advantages 4-26123
 impedance measurements, rapid automatic anal., improved approach 4-26124
 metal specimens, freshly formed surface prod. by failure at stress conc. in electrolyte 4-46682
 metals, tarnish testing methods, review 4-41114
 SCC, crack growth rate measurement, test system, design and operation 4-12318
 SCC, screen tests for hydrogen embrittlement 4-7689
 steel, austenitic stainless, 304, pulse generator conductor, failure analysis 4-12315
 steel, austenitic stainless, corrosion fatigue, electrochem. aspects 4-21392
 steel, austenitic stainless, crevice corrosion resist. meas. by potentiodynamic method 4-41116
 steel, austenitic stainless, stable passivity limits testing of 304L in H_2SO_4 4-12275
 steel, C, and metal coated, corrosion fatigue, electrochem. aspects 4-21392
 steel, constructional, corrosion damaged, treatment of fatigue test results 4-51930
 steel, ferritic stainless, corrosion test standard modifications 4-41123
 steel, stainless, atmospheric corrosion 4-57522
 steel, stainless, austenitic, type 316L, real surface stresses development during stress corrosion tests (*French*) 4-41093
 steel, structural, corrosion fatigue, seawater effects 4-21395
 steel reinforced concrete, corrosion test by radiography 4-41154
 structural material in corrosive medium, cyclical crack resistance determ. 4-16561
 wear apparatus for synergistic obs. 4-12278
 wear testing rig adaptation for use under fretting corrosion conditions 4-41141
 Al, anodised, atmospheric corrosion over 12 year period, New Zealand main centres 4-41115
 Fe, Armo, corrosion fatigue, electrochem. aspects 4-21392

corundum

- see also *ruby; sapphire*
 ceramics, sintering temp. reduction 4-12047
 creep, in vitrocrySTALLINE specimens, rel. to amorphous phase and crystal size 4-51742
 crystal struct. refinement by profile fitting and least-squares anal. of powder diff. data 4-15348
 monocrystals, grown from melt, structural defects genesis 4-50223
 mullite-corundum refractories, fixed mullite based, thermomech. props. 4-46578
 pellets, additives influence on prep., granulation and props. 4-46479
 refractories, lightweight, prod. by semidry pressing 4-51598
 refractories containing glass phase, creep 4-46577
 single cryst. growth using graphite-based equipment 4-57084
 structure, inner-strain tensor 4-2103
 synthetic, exoelectron emission rel. to prep. conditions 4-3030
 $Al_2O_3:Cr^{3+}$ activated crystals, laser generation with electron beam pumping 4-51303
 $\alpha-Al_2O_3:Ga^{3+}$ crystals, cathodoluminesc. and thermoluminesc. spectra 4-25815
 $\alpha-Al_2O_3:Mn$, Mn valency states stability conditions 4-56264

cosmic background radiation

- see also *radiofrequency cosmic radiation*
 50 eV photons and galactic halo Si^{3+} and C^{3+} photoproduction 4-53236
 anisotropy and perturbation spectrum of nonsingular cosmological model with initial de Sitter stage (*Russian*) 4-17621
 anisotropy generated by pregalactic radiation sources 4-8604
 blackbody photon gas, attenuation of high-energy gamma-rays from (Cygnus X-3) 4-8527
 dynamical friction of dusty cosmological background, mechanisms for primordial vel. fluctuations deceleration 4-31938
 formation and super-weakly interacting particles temperature fluctuations, rel. to super-weakly interacting particles and form. of galaxies and clusters 4-58509
 Friedmann model, spherically symmetric perturbations, cosmic background radiation propag. 4-53328
 galactic γ -ray background, pulsars contrib. 4-22415
 galactic diffuse gamma-ray emission, rel. to positron component of cosmic rays 4-17362
 galactic diffuse gamma-ray emission rel. to cosmic rays accel. and transport 4-3886
 gravitational wave background, contrib. of population of binary black holes 4-58466
 IR background, possible generation by pregalactic stars or black holes 4-22486
 far-IR background, search for extragalactic contrib. 4-27210
 IR background due to Oort cloud emission 4-8412
 neutrino background expt. study in underground nucleon decay expts. 4-48890
 radiation in the Einstein universe and the cosmic background 4-17773
 relic neutrino background effect on neutron star cooling 4-4025
 spectral shape, implications of photon oscills. 4-26990
 UV background, dust and gas at high galactic latitude 4-22485
 UV background and high galactic latitude dust and gas 4-58498
 X-ray background, discovery and origin, quasars contrib. 4-4122
 X-ray background, emission from second generation pancakes (phantom clusters) (*Russian*) 4-13435
 soft X-ray background, spectral obs. and evidence for line emissions 4-42563
 X-ray background prod. by young quasars, QSO optical characts. 4-53301

cosmic dust

- see also *meteoroids*
 Bok globules, forces on dust 4-27157
 3C 273, IR spectra and dust characts. 4-47702

cosmic dust continued

- chemical analysis technique for dust grains, secondary ion mass spectroscopy method 4-42314
 circumstellar shells, grain form. in expanding gas flow around cool luminous stars 4-53147
 circumstellar shells, IR silicate features as measure of grain size 4-27063
 coliform bacteria, UV absorbance spectrum rel. to interstellar extinction curve 4-4066
 P/Comet Grigg-Skjellerup (1982 IV), search for 10-micron silicate feature 4-53099
 cometary dust, IR photometry study 4-36638
 comets, coma dust opacity determ. near nucleus from occultation of stars 4-27008
 comets, IR photometry of dust 4-53098
 cool giant stars, IR emission rel. to dust and gas shells 4-53160
 R Coronae Borealis, temp. of circumstellar shell (*Russian*) 4-42463
 R Coronae Borealis stars, graphite grains form. models, mass loss rate effects 4-13321
 diffuse interstellar matter, radiation field and dust temp. 4-22457
 dynamical friction of dusty cosmological background, mechanism for primordial vel. fluctuations deceleration 4-31938
 electric charge on circumstellar dust, theory for R Coronae Borealis stars (*Russian*) 4-42431
 extreme C stars, SiC abundances in circumstellar shells 4-22402
 in galaxies, observable characts. 4-22476
 galaxies with giant H II region nuclei, extinction, dust emission and IR spectra 4-47701
 giant molecular clouds, radiation field and dust temp. 4-22457
 Giotto mission to Halley's comet, dust anal. instruments, calibration/dev. 4-26974
 IC 4320, dusty elliptical galaxy, reddening and grains nature, visible obs. 4-8579
 International Solar Polar Mission, dust expt. 4-31740
 interplanetary dust, $\epsilon\text{-Fe}_3\text{-Ni}_2\text{C}$ as a low temp. component 4-47571
 interplanetary dust, C, compounds form. by heterogeneous catalysis 4-47577
 interplanetary dust grain spatial distrib., modification by Lorentz forces 4-53095
 interplanetary dust spherules in marine sediments 4-3957
 interstellar contracting cloud, local dust clumps development 4-13408
 interstellar dust, evidence for X-ray scatt. 4-31881
 interstellar dust, implications of amorphous C 3.4 micron absorpt. band 4-8555
 interstellar dust and gas at high galactic latitude rel. to UV background 4-22485
 interstellar dust at high galactic latitude and UV background radiation 4-58498
 interstellar extinction, distrib. of absorbing matter in Galaxy (*Russian*) 4-42518
 interstellar extinction curve, fit using grain mixture without graphite 4-4064
 interstellar grains, comp. and struct. 4-4063
 interstellar grains, shock processing by supernova blast waves 4-31882
 interstellar grains, vibronic transitions rel. to diffuse band spectrum 4-4065
 interstellar grains evolutionary cycle 4-27168
 interstellar grains heated by supernovae IR emission 4-22455
 interstellar grains sedimentation, effect on stellar evolution 4-53150
 interstellar irregular oxide grains, chem. effects 4-22454
 in interstellar molecular clouds, dust and gas temps. 4-42509
 interstellar nonspherical grains, light scatt. and phase retardation 4-4073
 interstellar obscuration at high galactic latit., search for assoc. ^{12}CO emission 4-31885
 ion-grain collisions as a source for interstellar molecules 4-27166
 IRAS results for comets, asteroids, stellar system, stars and galactic dust 4-42523
 IRC+10216, shell composition and mass 4-30468
 light scattering by interstellar dust, silicate core-ice mantle cylinders (*Russian*) 4-47690
 M20, emission nebula, scatt. by dust grains rel. to optical polarisation 4-17574
 M8, M20, W28 region, dust clouds and filamentary nebulosity anal. 4-27141
 Magellanic Clouds supergiant Be stars with dust shells, discovery and photometry 4-42459
 Mars, 1971 dust storms and clouds, polarimetric anal. 4-42349
 molecular cloud IR sources, absorpt. of dust grain origin 4-17581
 molecular clouds H_2O heating, line transfer and thermal balance in warm dusty medium 4-13395
 NGC 205, dwarf elliptical galaxy, photoelectric UVB photometry of absorpt. regions 4-31909
 in NGC 253, spiral galaxy, interstellar extinction and star form. in galactic nucleus 4-58505
 in NGC 2768, early-type galaxy, evidence for dust ring from BVRI photometry 4-31914
 NGC 3314, NGC 1275, backlit galaxies, dust distrib. in foreground systems 4-17583
 NGC 4051, type 1 Seyfert galaxy, obs. for far-IR emission from warm dust 4-13415
 NGC 7027, planetary nebula, detect. of Ni II and additional dust features from 5.2 to 7.5 μm obs. 4-13389
 NGC 7635 (Bubble Nebula), dusty blister model from spectroscopic obs. 4-13387
 nonspherical grains, radiation pressure Planck mean cross sections 4-42299
 Nova Aquilae 1982, IR photometry, model in terms of pre-existing dust shell 4-47630
 Nova Vulpeculae 1976, IR devel., circumstellar dust shell models anal. 4-17523
 OH-IR star, radiation pressure-driven model for stellar winds 4-8477
 Orion molecular cloud, evidence for large grains from IR polarisation and flux data 4-58491
 α Orionis, dust shell struct. at 10 microns 4-47608
 Parsamian 13, cometary nebula with T Tau star, grain nature, IR/visible obs. 4-4060
 plane-parallel clouds with embedded sources, radiation field 4-17380
 in S201, star formation region, grain size from far-IR obs. 4-58495
 S235 molecular cloud, dust luminosity and temps. from large-scale far-IR mapping 4-53246
 Saturn, primordial magnetosphere dust-ring current effects and modern ring struct. 4-8425

cosmic dust continued

- Saturn, ring particles characts., Voyager 1 radio occultation expt. 4-17460
 Saturn rings, forward phase functions from radio occultation obs. 4-27042
 α Scorpii, dust shell struct. at 10 microns 4-47608
 Seyfert galaxies, nuclei IR spectra and dust characts. 4-47702
 SN 1980k in NGC 6946, IR emission evolution and dust form. model 4-8502
 solar nebula, radiation field anisotropy rel. to comets formation by radiation pressure in outer proto-Sun 4-3955
 solar nebula, radiation-grain coupling rel. to comets formation by radiation press. in outer proto-Sun 4-3954
 symbiotic stars, dust envelopes characts. and IR excesses, KLN obs. (*Russian*) 4-17531
 temperature distrib. in externally heated clouds, models 4-27156
 terminal velocity calcs. using realistic dust size distrib. function 4-17468
 TMC-1, dust cloud, butadiynyl SHF obs. 4-8549
 Type II supernovae with circumstellar dust shells, model appl. to SN 1979e/SN1980k 4-8503
 C grains, crystalline and amorphous form. in astrophysical environment 4-53032
 OH maser sources, IR obs. rel. to OH excitation by dust grains radiative pumping 4-58526
 SiC submicron particles, absorpt. props. between 2.5 and 40 μm , cosmic source simulations 4-40431
- cosmic radiation** *see cosmic background radiation*
cosmic radiations, radiofrequency *see radiofrequency cosmic radiation*
cosmic radio waves *see radiofrequency cosmic radiation*
cosmic ray absorption *see cosmic ray propagation*
cosmic ray alpha-particles and helium nuclei
 lunar surface effects, integral excitation functions 4-42275
cosmic ray apparatus
see also particle detectors
 acoustic calorimeter for electron-photon and hadron cascades 4-22290
 deep-sea Cherenkov detector for cosmic-ray muons 4-27004
 high-energy ($>10^{12}$ eV) electrons, detection based on synchrotron radiation in geomag. field 4-13202
 International Solar Polar Mission, Cosmic Ray and Solar Particle Investigation 4-31737
 International Solar Polar Mission, Energetic Particle Composition Expt. 4-31734
 Konus instruments on Venera 13 and 14, characts. 4-47521
 liquid scintillator cosmic ray active shield for neutrino oscill. expt. 4-3934
 MWPC for EAS expts. 4-22329
 neutrino observation programme at Moscow State Univ., 4-36550
 scintillation counter hodoscopes for cosmic ray muon zenith angle distrib. 4-42276
 SNEG-2M3 instrument on Venera 13 and 14 for cosmic γ -ray bursts 4-47522
 superconductive detector, three-loop, cosmic ray mag. monopole flux upper limit determ. 4-17364
- cosmic ray composition**
see also cosmic ray alpha-particles and helium nuclei; cosmic ray deuterons; cosmic ray electrons; cosmic ray mesons; cosmic ray muons; cosmic ray neutrinos; cosmic ray nuclei; cosmic ray photons
 annual review of nuclear and particle science, book 4-31979
 anomalous He component, solar modulation during 1965 and 1972 to 1977 solar minima 4-13159
 EAS, delayed events time and energy study 4-26959
 EAS, long-lived heavy particle with primary $E > 10^{15}$ eV 4-13160
 electron-positron component, charge comp. determ. via. diffuse galactic gamma radiation 4-17362
 energy spectrum knee, rel. to shower development and anisotropy, proton and Fe fluxes explanation 4-47514
 free quark flux in high energy cosmic radiation 4-3892
 galactic cosmic rays, elemental and isotopic composition, propag. and source abundances, review 4-36543
 galactic Fe group cosmic rays, source abundances and propag. 4-26954
 gamma-rays ($>10^{15}$ eV) from discrete sources, spectral index and photon/particle ratio 4-3893
 hadrons and leptons, energy spectra in atmos. 4-22286
 heavy element composition and origin for $Z \geq 3$ 4-52999
 hot nuclear matter, quantum statistical cluster abundances, appl. to cosmic ray sources comp. 4-13156
 magnetic monopole flux, upper limit using three-loop superconductive detector 4-17364
 mass composition of high-energy cosmic rays and scaling violation in their interactions 4-17363
 primary cosmic ray composition at 10^{15} eV from EAS muons data 4-53000
 relative abundances of Ne to Fe nuclei over Fort Churchill 4-36547
 sea-level energy spectrum of cosmic-ray muons up to 20 TeV at 89° zenith angle 4-36548
 solar heavy ions, abundance enhancements rel. to energy spectra and nucl. charge 4-36545
 H, D, ^3He and ^4He balloon-borne and Voyager meas. 4-17361
 Li isotopes evolution in Galaxy 4-8564
- cosmic ray deuterons**
 No entries
- cosmic ray effects and interactions**
see also high-energy cosmic ray interactions
 air nuclei interactions in geomagnetic field 4-47513
 Comet IRAS-Araki-Alcock (1983d), S prod. by cosmic ray irradiation 4-13248
 galactic cosmic rays ionisation atm., EAS model 4-13157
 giant molecular clouds, cosmic ray interactions 4-26956
 interstellar clouds, mol. obs. rel. to cloud masses and ionisation rates 4-4076
 interstellar matter interactions, gamma ray emission and galactic spiral struct. 4-36740
 interstellar medium, cosmic rays accel. and transport rel. to diffuse gamma-ray emission 4-3886
 Isna meteorite, unusual Cs(O) carbonaceous chondrite, cosmic ray exposure age 4-8430
 lunar surface effects from solar protons and α -particles, integral excitation functions 4-42275
 Moon, light element chemistry and spallogenesi 4-13215

cosmic ray effects and interactions continued

- radiation transport calc. of cosmic ray nuclei 4-53001
- satellite-borne microelectronic devices, single event upset rates in natural environment 4-53006
- Saturn, inner magnetosphere energetic proton flux and sources 4-17449
- Solar System matter, cosmic ray records for solar and galactic particles 4-36552
- spacecraft RAM, proton-induced single event upset rates in orbit 4-53007
- spherules in marine sediments, solar-flare track damage study 4-3957
- stony meteorites, ^{21}Ne prod. rate and cosmic ray interactions 4-31801
- pp, average hadron multiplicities estimation, extrapolation to very low energies 4-4718
- Al-Si large-area diodes with n^+ or p^+ diffusion, charge collection meas. for heavy ion incidence 4-50376

cosmic ray electrons

- albedo electron fluxes in geomagnetic field 4-47513
- EM cascades, distrib. functions of cascade electrons 4-22282
- galactic, spatial distribution from nonthermal radioemission 4-4097
- galactic cosmic rays, modulation of proton/He/electron spectra (1965-1979), quantitative test 4-17355
- galactic electrons energy spectra and galactic diffuse γ -ray emission 4-3890
- photon-electron cascades in matter 4-22289
- positrons, energy spectrum determ. via diffuse galactic gamma radiation 4-17362
- pulsar magnetospheres, energies of radiating electrons and angles between rot. axis and mag. dipole 4-17539
- radial distrib. in EM cascade in atmos. 4-22288
- solar flare electrons, energy spectra rel. to hard X-ray emission 4-47584
- spatial distrib. function of electrons in showers in isothermal atmos. 4-22287
- in supernova remnants, first and second order Fermi accel. 4-3888
- synchrotron X-rays and γ -rays produced in geomag. field 4-13202
- zitterbewegung in stochastic electrodynamics, implications on zero-point field acceleration 4-17356

cosmic ray energy spectra

- anomalous He component, energy spectra rel. to modulation during 1965 and 1972 to 1977 solar minima 4-13159
- black-body cut-off in high-energy cosmic ray spectrum (Russian) 4-17365
- EAS, delayed events time and energy study 4-26959
- EAS subcores, large- P_T spectrum obs. by spark chamber array 4-26960
- electron-positron component, energy spectrum determ. via diffuse galactic gamma radiation 4-17362
- galactic cosmic rays, modulation of monoenergetic spectrum 4-22283
- galactic cosmic rays, modulation of proton/He/electron spectra (1965-1979), quantitative test 4-17355
- galactic electrons energy spectra and galactic diffuse γ -ray emission 4-3890
- gamma-rays ($>10^{15}$ eV) from discrete sources, spectral index and photon/particle ratio 4-3893
- hadrons and leptons, energy spectra in atmos. 4-22286
- integrated primary spectrum knee, monopole-antimonopole annihilation scenario 4-8360
- knee of energy spectrum, rel. to shower development and anisotropy 4-47514
- muon absolute vertical intensity and momentum spectrum at sea level, Beijing district, 0.2-1.3 GeV (Chinese) 4-3896
- muons, absolute intensity at sea level and in absorbers 4-17367
- muons, energy spectrum investigation, 3-30 TeV 4-22292
- muons, groups, inelastic hadron generation on Pb nuclei 4-22294
- muons, multiple, characteristics of energies above 35 and 85 GeV 4-22293
- neutrino energy spectrum, and flux from primary proton obs. 4-17368
- primary cosmic ray composition at 10^{15} eV from EAS muons data 4-53000
- primary cosmic rays, EAS Cherenkov light refl. off mountain snow, anal. 4-8362
- sea-level energy spectrum of cosmic-ray muons up to 20 TeV at 89° zenith angle 4-36548
- secondary showers at small depths underground 4-22285
- solar flare electrons, energy spectra rel. to hard X-ray emission 4-47584
- solar flare protons, flux rises, Venera 13 and 14 obs. 4-47510
- solar gamma ray bursts, Venera 13 and 14 obs. 4-47521
- solar heavy ions, abundance enhancements rel. to energy spectra and nucl. charge 4-36545
- H, D, ^3He and ^4He balloon-borne and Voyager meas. 4-17361

cosmic ray geophysical effects *see geophysical aspects of cosmic rays***cosmic ray jets** *see cosmic ray showers and bursts***cosmic ray mesons**

No entries

cosmic ray muons

- absolute intensity at sea level and in absorbers 4-17367
- absolute vertical intensity and momentum spectrum at sea level, Beijing district, 0.2-1.3 GeV (Chinese) 4-3896
- deep-sea Cherenkov detector for cosmic-ray muons 4-27004
- energy spectrum investigation, 3-30 TeV 4-22292
- groups, inelastic hadron generation on Pb nuclei 4-22294
- multiple, characteristics of energies above 35 and 85 GeV 4-22293
- penetrating cosmic ray muons and atm. neutrino interactions characts. 4-18240
- primary cosmic ray composition at 10^{15} eV from EAS muons data 4-53000
- sea-level energy spectrum of cosmic-ray muons up to 20 TeV at 89° zenith angle 4-36548
- zenith angle distrib. meas. with scintillation counter hodoscopes and online microcomputer 4-42276
- Fe(μ ,X), investigation of interaction processes underground 4-22291

cosmic ray neutrinos

- atmospheric, nucleon stability and mag. monopoles at Mont Blanc 4-23014
- atmospheric neutrino background expt. study in underground nucleon decay expts. 4-48890
- energy spectrum, and flux from primary proton obs. 4-17368
- galactic neutrino clustering, coherent detectors 4-36551
- galaxies active nuclei, neutrinos and gamma-ray fluxes 4-4120
- observation programme at Moscow State Univ., 4-36550
- penetrating cosmic ray muons and atm. neutrino interactions characts. 4-18240

cosmic ray neutrinos continued

- solar neutrino detection using $^{71}\text{Ga}(\text{p}, \text{n})^{71}\text{Ge}$ reaction 4-655
- solar neutrino flux, measure of monopole catalysed proton decay 4-26962
- solar neutrino flux, role of axial photons in attenuation 4-22363
- solar neutrino problem, general review 4-27266
- solar neutrinos, time vars. of ^{37}Ar production rate in Davis expt. (Russian) 4-53124
- ν oscillations search by interactions meas. 4-48396

cosmic ray neutrons

- solar flare neutrons and decay proton fluxes 4-13158

cosmic ray nuclei

- see also cosmic ray alpha-particles and helium nuclei; cosmic ray neutrons; cosmic ray protons*
- galactic cosmic rays, elemental and isotopic composition, propag. and source abundances, review 4-36543
- galactic cosmic rays, modulation of proton/He/electron spectra (1965-1979), quantitative test 4-17355
- heavy element composition and origin for $Z \geq 3$ 4-52999
- heavy nucleus, flux short-term increases, Prognoz spacecraft meas. 4-47515
- heavy nucleus reactions, 4-1000 GeV/N, multiple particle prod., collective mech. 4-36549
- nucleus-nucleus collisions, average P_T depend. on multiplicities, cosmic ray events 4-32918
- propagation of $>10^{18}$ eV particles, effects of geomag. field 4-26955
- relative abundances of Ne to Fe nuclei over Fort Churchill 4-36547
- transport in atmosphere, dose and LET distrib. in materials 4-52996

cosmic ray-nucleus reactions

- for inelastic cosmic ray-nucleus scattering, see "cosmic ray-nucleus scattering"*
- heavy nucleus reactions, 4-1000 GeV/N, multiple particle prod., collective mech. 4-36549
- quark-gluon-plasma evolution in scaling hydrodynamics 4-37528
- $^{10}\text{B}(\text{n}, \text{Li})$, cosmic ray induced soft errors in integrated circuits 4-24874
- $^{10}\text{B}(\text{n}, \alpha)$, cosmic ray induced soft errors in integrated circuits 4-24874
- Fe(μ ,X), investigation of interaction processes underground 4-22291

cosmic ray-nucleus scattering

No entries

cosmic ray origin*see also cosmology; element origin*

- acceleration and transport processes, verification and obs. 4-3887
- antiprotons, possible primary extragalactic origin 4-22281
- Centaurus A, excess cosmic ray showers obs. 4-47507
- Cygnus X-3, PeV gamma-ray obs., spectral studies 4-8535
- galactic cosmic rays, accel. and transport rel. to diffuse gamma-ray emission 4-3886
- galactic cosmic rays, evidence for second-order Fermi accel. from mol. obs. 4-4076
- galaxies active nuclei, neutrinos and gamma-ray fluxes 4-4120
- heavy element composition and origin for $Z \geq 3$ 4-52999
- integrated primary spectrum knee, monopole-antimonopole annihilation scenario 4-8360
- muons, energy spectrum investigation, 3-30 TeV 4-22292
- particle accel. in supernova remnants, theory 4-3888
- shock acceleration of cosmic rays, two-fluid models 4-58349
- shock wave acceleration, time asymptotic struct. of oblique MHD shocks 4-8379
- shock wave acceleration efficiencies, hydrodynamic estimates 4-42274
- supernovae, obs. correl. with cosmic rays origin 4-4018

cosmic ray photons*see also cosmic ray X-rays; solar cosmic ray photons*

- blackbody photon gas, attenuation of high-energy gamma-rays from (Cygnus X-3) 4-8527
- Cygnus X-3, PeV gamma-ray obs., spectral studies 4-8535
- electron-photon cascades in matter 4-22289
- electron-photon showers, spatial distrib. function of electrons in isothermal atmos. 4-22287
- EM cascades, distrib. functions of cascade electrons 4-22282
- galactic diffuse gamma-ray emission, rel. to positron component of cosmic rays 4-17362
- gamma ray burst sources, Venera 13 and 14 obs. 4-47521
- gamma ray bursts, Venera 13 and 14 obs. 4-47522
- gamma rays, galactic emission rel. to cosmic rays accel. and transport 4-3886
- gamma-ray diffuse component ≥ 5 MeV, high altitude balloon obs. (Russian) 4-52997
- gamma-ray fluxes from active galactic nuclei, comparison with neutrino fluxes 4-4120
- gamma-rays ($>10^{15}$ eV) from discrete sources, spectral index and photon/particle ratio 4-3893
- gamma-rays from interstellar gas in first galactic quadrant 4-8545
- sea level latitudinal effects on cosmic rays and X-rays (Russian) 4-47511
- transient gamma-ray bursts, review 4-47725

cosmic ray propagation

- acceleration and transport processes, verification and obs. 4-3887
- acceleration by collisionless shocks, two-fluid models 4-58349
- acceleration due to massive star wind, interactions and γ -ray emission 4-4115
- anomalous He component in heliosphere, obs. for 1965 and 1972 to 1977 solar minima 4-13159
- antiprotons in Galaxy, propag. and external origin 4-22281
- elementary particle theory, zitterbewegung in stochastic electrodynamics 4-17356
- galactic, significance of $\alpha\alpha$ reactions at 218 MeV 4-43493
- galactic cosmic rays, accel. and transport rel. to diffuse gamma-ray emission 4-3886
- galactic cosmic rays, elemental and isotopic composition, propag. and source abundances, review 4-36543
- galactic cosmic rays, role of MHD waves stimulated Compton scatt. 4-53033
- galactic Fe group cosmic rays, source abundances and propag. 4-26954
- galactic propagation rel. to H, D, ^3He and ^4He balloon-borne and Voyager meas. 4-17361
- gamma-rays, high-energy, from Cygnus X-3, galactic absorpt. 4-8527
- geomagnetic field effect on $>10^{18}$ eV particles 4-26955
- International Solar Polar Mission, Cosmic Ray and Solar Particle Investigation 4-31737
- interplanetary propagation, modulation due to flare-generated shock waves 4-17360

cosmic ray propagation continued

interplanetary propagation between 2 and 5 AU, latitudinal and field-aligned gradients 4-26957
 interplanetary propagation causing diurnal variation harmonics 4-3891
 MHD turbulence, shock waves and particle accel. 4-22452
 muons, absolute intensity at sea level and in absorbers 4-17367
 protons, solar and interplanetary, Venera 13 and 14 obs. anal. 4-47509
 shock-accelerated particle energies, upper limits 4-47508
 solar flare particles propag. in corona and interplanetary medium, shock wave effects 4-47583
 Sun, flare ions acceleration to >30 MeV/nucleon, γ -ray emission anal. 4-36664
 transport in atmosphere, dose and LET distrib. in materials 4-52996

cosmic ray protons

antiprotons, possible primary extragalactic origin 4-22281
 energy spectrum knee, rel. to shower development and anisotropy, proton and Fe fluxes explanation 4-47514
 galactic cosmic rays, modulation of proton/He/electron spectra (1965-1979), quantitative test 4-17355
 lunar surface effects, integral excitation functions 4-42275
 neutrino energy spectrum, and flux from primary proton obs. 4-17368
 propagation of $>10^{18}$ eV particles, effects of geomag. field 4-26955
 solar flare neutrons and decay proton fluxes 4-13158
 solar flare of 1979 August 21, ground level proton event 4-36546
 solar flare protons, flux rises, Venera 13 and 14 obs. 4-47510
 Venera 13 and 14 obs. anal. 4-47509

cosmic ray showers and bursts

see also *cosmic ray electrons*; *cosmic ray X-rays*
 cascade detection acoustic calorimeter 4-22290
 Centaurus A, excess cosmic ray showers obs. 4-47507
 delayed particles with $E=10^{15}$ - 10^{18} eV, heavy lepton model 4-3894
 EAS, delayed events time and energy study 4-26959
 EAS, long-lived heavy particle with primary $E>10^{15}$ eV 4-13160
 EAS at sea level, Cherenkov light lateral distrib., rel. to max. development distance 4-8361
 EAS Cherenkov light refl. from mountain snow, detect. 4-8362
 EAS ionisation parameters, implication for solar modulation of galactic cosmic rays ionisation 4-13157
 EAS subcores, large- P_T spectrum obs. by spark chamber array 4-26960
 electron radial distrib. in EM cascade in atmos. 4-22288
 electron-photon cascades in matter 4-22289
 electron-photon showers, spatial distrib. function of electrons in isothermal atmos. 4-22287
 EM cascades, distrib. functions of cascade electrons 4-22282
 EM showers in crystals, cascade theory 4-3895
 energy spectrum knee, rel. to shower development and anisotropy, proton and Fe fluxes explanation 4-47514
 free quark flux in high energy cosmic radiation 4-3892
 gamma ray burst causing 70 TeV shower 4-26961
 heavy leptons with long life in cosmic ray EAS above 10^{15} eV, models 4-47516
 lateral density distrib. meas. implications for primary cosmic rays 4-17366
 MWPC for EAS expts. 4-22329
 primary cosmic ray composition at 10^{15} eV from EAS muons data 4-53000
 radiopulses, 9 MHz, from large extensive air showers, field strengths 4-26958
 secondary showers at small depths underground 4-22285

cosmic ray solar modulation

1978 February 15 event, correl. with solar wind shock 4-36544
 anomalous He component, solar modulation during 1965 and 1972 to 1977 solar minima 4-13159
 galactic cosmic rays, 11-year period modulation 4-17359
 galactic cosmic rays, anal. of transport processes in solar wind 4-3887
 galactic cosmic rays, atm. absorpt. correl. with solar wind mag. field 4-22284
 galactic cosmic rays, elemental and isotopic composition, propag. and source abundances, review 4-36543
 galactic cosmic rays, equatorial anisotropy in solar wind streams ejected by coronal holes 4-8359
 galactic cosmic rays, modulation of monoenergetic spectrum 4-22283
 galactic cosmic rays, modulation of proton/He/electron spectra (1965-1979), quantitative test 4-17355
 galactic cosmic rays, seasonal var. of sidereal daily var. 4-17357
 galactic cosmic rays, sidereal diurnal var. 4-17358
 galactic cosmic rays ionisation 4-13157
 model for modulation of galactic cosmic rays 4-17360
 protons, galactic, Venera 13 and 14 obs. anal. 4-47509
 solar activity cycle and modulation role of magnetic fields (French) 4-42392
 solar minimum (1977) H; D, ^3He and ^4He balloon-borne and Voyager meas. 4-17361

cosmic ray variations

see also *geomagnetism*
 1978 February 15 event, correl. with solar wind shock 4-36544
 anisotropy, amplitude and phase rel. to gamma-rays and particles above 10^{15} eV 4-3893
 anisotropy due to 1973 May 5-13 fast solar wind stream 4-47512
 diurnal variation harmonics due to interplanetary propagation effects 4-3891
 galactic, intensity var. from gamma ray emission of interstellar-clouds 4-3889
 galactic cosmic rays, equatorial anisotropy in solar wind streams ejected by coronal holes 4-8359
 galactic cosmic rays, intensity vars. during past 30000 years (Russian) 4-52998
 galactic cosmic rays, modulation in heliomagnetosphere, seasonal var. of sidereal daily var. 4-17357
 galactic cosmic rays, sidereal diurnal var. 4-17358
 protons intensity var., Venera 13 and 14 obs. anal. 4-47509
 sea level latitudinal effects on cosmic rays and X-rays (Russian) 4-47511
 solar flare protons, flux rises, Venera 13 and 14 obs. 4-47510
 solar modulation of galactic cosmic rays, model 4-17360

cosmic ray X-rays

No entries

cosmic rays

see also *cosmic ray apparatus*; *cosmic ray composition*; *cosmic ray effects and interactions*; *cosmic ray energy spectra*; *cosmic ray origin*; *cosmic ray propagation*; *cosmic ray showers and bursts*; *cosmic ray*

cosmic rays continued

solar modulation; *cosmic ray variations*; *galactic cosmic rays*; *geophysical aspects of cosmic rays*; *high-energy cosmic ray interactions*; *primary cosmic rays*; *solar cosmic ray particles*
 elementary particle theory, zitterbewegung in stochastic electrodynamics 4-17356
 proton decay expts. and instrumentation affected by cosmic ray background noise 4-13899
 visual sensation produced by single electrons and muons 4-52317

cosmic X-rays see *cosmic ray X-rays***cosmogony** see *cosmology***cosmology**

see also *black holes*; *element origin*; *general relativity*; *red shift*
 $\lambda\phi^4$ model, massless, conformally coupled, spontaneous symm. breaking mechanism in cosmological spacetimes 4-13821
 adiabatic fluctuations, evolution through recomb. era and galaxies form. 4-17617
 anisotropic Bianchi type I model with viscous fluid 4-13461
 anisotropic Bianchi types VIII and IX locally rotationally symmetric cosmologies 4-8618
 annual review of nuclear and particle science, book 4-31979
 anthropic principle in cosmology 4-27276
 apparent cosmological constant of zero value? 4-36761
 asymmetric universe, GUTs and baryon asymmetry origin, review 4-36766
 asymptotically free SU(5) theory, τ -leptons, ν mass, leptoquark bosons, cosmology 4-37317
 baryonic matter, cosmological origin (Polish) 4-53326
 baryosynthesis in big bang cosmologies 4-36767
 baryosynthesis in primordial inflation 4-22315
 Bianchi cosmological models, Gibbs-entropy production 4-22644
 Bianchi cosmologies, quantum stationary geometries and avoidance of singularities 4-47969
 Bianchi type I, entropy and anisotropy in early Universe 4-8610
 Bianchi type I vacuum field in Brans-Dicke theory 4-4126
 Bianchi type IX models, dynamical effects of EM fields 4-31947
 Bianchi type VI spatially homogeneous cosmology, regularised field eqns. 4-42569
 Bianchi type-V tilted spatially self-similar models, Einstein field eqns. 4-27215
 Bianchi type-I cosmologies and nonminimal coupling 4-8617
 Bianchi type-V vacuum model, exact, eqns. of motion soln. 4-31942
 big bang, duration of quark-hadron transition, scale factor behaviour 4-22495
 big bang in Tolman models, initial singularity type, shell crossing points 4-53331
 big bang theory as it stands today (French) 4-36764
 big-bang cosmology and grand unification, baryosynthesis, monopoles, galaxy form. 4-42567
 Brans-Dicke, horizon problem 4-17785
 Brans-Dicke cosmology, general vacuum solns. 4-27216
 Brans-Dicke inflationary universe, theoretical estimation of grav. const. 4-53319
 Brans-Dicke theory, anisotropy cosmological model 4-22488
 bubble universes, formation constraints 4-47733
 chaotic inflating universe 4-36757
 cluster of galaxies, dynamical evolution 4-58521
 clusters of galaxies, large-scale distrib., redshift anal. 4-13443
 Coma Supercluster, galaxy clusters distrib. and large scale environment 4-36742
 compactified supergravity, light-like singularities 4-22662
 conference, modified theory of relativity, Patna, India (June 1983) 4-31974
 conference on fundamental interaction theory, Varenna, Italy (Jul. 1980) 4-8646
 Conference on GUTs and the early Universe, Tsukuba, Japan (Jan. 1983) 4-4158
 conference on high energy physics recent developments, Schladming, Austria (Mar. 1983) 4-4
 conformal anomaly in Weyl theory and anomaly free superconformal theories 4-32146
 conformally connected universes from general relativistic Hamiltonian constraint singularity 4-31943
 constant, cancellation of one-loop contributions in quantum gravity 4-22657
 constraint by physical consts. 4-36756
 cosmic ray antiprotons, extragalactic primary origin, cosmological implications 4-22281
 coupled Einstein-Weyl field eqns. with cosmological constant, gauge model coupled to Higgs field 4-32132
 dark matter, nonbaryonic, cosmological constraints on neutrino and ino masses 4-53318
 de Sitter space, phase transitions, Coleman-Weinberg symmetry breaking in massless electrodynamics 4-4588
 deceleration parameter, posterior probabilities from quasars with luminosity indicator 4-4128
 density fluctuations and radiation anisotropy generated by pregalactic radiation sources 4-8604
 density fluctuations in expanding Universe, collisionless damping 4-13457
 dimensionality influence on phys. and mathematics 4-17762
 distance scale revisions 4-27189
 dust Universe model, expansion of thin shell around void 4-47732
 dynamical evolution of locally open region in closed Universe 4-53322
 early expanding Universe, mag. monopoles from vacuum phase transition 4-8623
 early Universe, baryon asymmetry from Higgs boson decay, finite temp. effect 4-53330
 early Universe, cosmological constraints on unstable heavy neutrino population 4-36760
 early Universe, cosmological perturbations 4-8615
 early Universe, first million years, neutrino rest mass 4-31950
 early Universe, free energy from SU(5), heavy boson effects after symm. breaking 4-31937
 early Universe, gravitational effects in bubble collisions 4-8619
 early Universe, ground-state vacuum bubbles collapse in S-matrix formulation 4-48338
 early Universe, large scale inhomogeneities generation by transition phenomena, density fluctuations 4-8627
 early Universe, large-amplitude spherically symm. perturbations, initial data sets 4-13459

cosmology continued

- early Universe, metastable state decay, gravitation effects 4-4133
 early Universe, nonvanishing neutrino rest mass 4-47734
 early Universe, phase transition and their consequences 4-22491
 early Universe, quark-hadron phase transitions, perturbative QCD anal. 4-32603
 early Universe, singularities and particle horizons, quantum field effects 4-53329
 early Universe, standard cosmological model and observations 4-4130
 early Universe, temp. delimiting of hadronic mass spectrum 4-18208
 early Universe density perturbations and quasars redshift distribution periodicity (*Chinese*) 4-58533
 early universe dimensional reduction, massive particles, loss 4-36997
 early Universe in Einstein-Cartan theory, earliest evolutionary stages, space-time torsion 4-13463
 early Universe structure evolution in inflationary cosmology 4-36768
 effective cosmological constant 4-22492
 Einstein field eqns., curvature coordinates 4-31948
 Einstein universe, arbitrary spin theory 4-17769
 Einstein universe, $SU_{2,2}/Z_2$ group, evolution of inertial frame 4-58539
 Einstein Universe, symmetry behaviour, space-time curvature effect and arbitrary field coupling 4-4134
 Einstein-Maxwell eqns. of cosmological interest, solns. 4-27218
 Einstein-Maxwell solns. 4-42771
 Einstein-Straus Universe, particle capture, Newtonian approach 4-53321
 electroweak interactions based on $SU(2)_L \times SU(2)_R \times U(1)_{B-L}$, low-mass right-handed neutrinos 4-53910
 elementary particle physics and cosmology 4-36758
 ellipsoidal voids in expanding Universe, dynamics 4-13462
 end of Universe, effect of superheavy mag. monopoles 4-8612
 exact Bianchi type-VI. Vacuum cosmological model in Brans-Dicke theory 4-36752
 exact Brans-Dicke-Friedmann-Robertson-Walker-Bianchi-Kantowski-Sachs vacuum solutions 4-53026
 expanding Newtonian Universe, gravitational instability in magnetic field 4-4123
 expanding universe, cosmic density fluctuation, galaxies origin 4-8622
 expanding universe, primordial nonlinear density fluctuations, review 4-8625
 expanding Universe and large-scale geometry of spacetime 4-53323
 expansion of thin shell around void in expanding universe 4-27221
 extragalactic astronomy (book) 4-53334
 extragalactic distance scales determ. (*French*) 4-4129
 extragalactic radioresource counts and microwave background anisotropy as observer vel. effect 4-31933
 extragalactic radiosources, evolution from spectral index distrib. anal. 4-42556
 finite particle number approach to physics 4-32118
 finite temperature spinor pregeometry 4-157
 finite-temperature induced gravity, behaviour in 4-17387
 first pregalactic objects, size 4-31945
 first-order cosmological phase transitions MHD effect 4-8613
 flat radio spectrum quasars, complete samples, spectrophotometry and cosmological implications 4-53299
 flat spectrum quasars, cosmological evolution 4-42559
 Friedmann Cosmologies, density and vel. inhomogeneities evolution 4-8609
 Friedmann cosmologies, open and closed, kinetics of small gravitational perturbations 4-58541
 Friedmann model, spherically symmetric perturbations, cosmic background radiation propag. 4-53328
 Friedmann universe, quantum stationary geometries and avoidance of singularities 4-47969
 Friedmann-Robertson-Walker cosmologies, material distrib. interpretation 4-31941
 FRW dust models, Einstein field eqns. for viscous fluid, exact solns. 4-53325
 fundamental constants, large numbers and ratios 4-22493
 galaxies, spectral evolution rel. to Space Telescope FOC predictions 4-27183
 galaxies and clusters formation, role of super-weakly interacting particles 4-58509
 galaxies clustering, higher order correl. functions in Zwicky catalogue 4-42532
 galaxies covariance function at large separation 4-17594
 galaxies formation, role of spherical shocks, gravit./dynamic instabilities 4-8372
 galaxies formation (review) 4-22467
 galaxy, formation, clustering vels. with adiabatic perturbations 4-8575
 galaxy cluster formation, collapse dynamics rel. to evolution of luminosity distrib. 4-47713
 galaxy cluster formation, implications of galaxies alignment in Coma cluster 4-8586
 galaxy clustering and thermodynamics, nonlinear theory of high order correls. 4-47712
 galaxy clustering in neutrino-dominated Universe, nonlinear theory 4-8585
 galaxy clustering scales, two-point correl. function for complete redshift survey 4-13441
 galaxy clusters evolution, tidal stripping rel. to mergers as function of richness 4-53291
 galaxy formation, implications of geometrical anal. of clusters of galaxies 4-17401
 galaxy formation, obs. limits on adiabatic theories from microwave background data 4-4091
 galaxy formation, pancake model calcs, in neutrino-dominated universe 4-31900
 galaxy formation and classification (*Japanese*) 4-31920
 galaxy formation and density fluctuations from string 4-8614
 galaxy formation models, role of cloud-cloud collisional dissipation 4-42537
 galaxy superclusters, form. from primaeval density fluctuations 4-22477
 galaxy superclusters, growth of asphericity in cosmology 4-4100
 gamma-ray astronomy, review 4-4137
 gauge hierarchy models with quantum mech. resuscitation, finite temp. behaviour 4-22961
 gauge theories, cosmological constraints 4-32464
 gauge theory in high energy phys., meeting, Les Houches, France (Aug.-Sept. 1981) 4-31951
 general dust solutions in Brans-Dicke theory 4-53315

cosmology continued

- general relativistic theory of continuous media, thermodynamic fluctuations 4-36972
 generalised Einstein Universe, linear perturbation problem 4-4138
 globally supersymmetric GUTs, appl. to cosmology, review 4-4608
 globular clusters, ages from main-sequence photometry 4-47664
 gravitation, scale-invariant scalar-tensor theory, cosmological eqn. solns. 4-13561
 gravitational constant as mass scale of Universe struct. 4-47991
 gravitational effect on effective potential, symmetry breaking in curved space-times 4-18132
 gravitational lenses, light travel time differences between images, theory 4-22314
 gravitational Poincare gauge theory and Higgs mechanism 4-37282
 gravitational solns. propagating on expanding universe, exact Einstein eqn. solns. 4-142
 gravitational wave background, contrib. of population of binary black holes 4-58466
 gravitational waves, cosmological, soliton solns. to Einstein eqns. 4-17768
 gravitino mass, constraints from big bang theory 4-8607
 gravity, scalar-tensor theory spontaneous symmetry breaking without potential 4-32140
 gravity quadratic theory with torsion, cosmological solns. 4-36759
 gravity-scalar coupling, improvement vs. stability 4-32148
 GUT constraints in inflationary universe, supersymm. models effects 4-13388
 GUTs, cosmological implications for very early Universe, baryon generation and monopoles 4-13466
 GUTs, phase transitions, and the early Universe 4-4131
 heavy Majorana right-handed neutrinos, constraints on masses and couplings 4-48386
 homogeneous cosmological models in presence of positive cosmological constant, asymptotic behaviour 4-8620
 homogeneous cosmology, microwave background radiation, large scale anisotropies and polarisation 4-53312
 homogeneous isotropic Newtonian cosmology, Clebsch generalised potentials 4-4132
 homogeneous isotropic universe, quantum particle prod. from density matrix states 4-58540
 homogeneous models, classical matter fields 4-53317
 Hoyle-Narlikar cosmology, cosmic microwave background spectrum 4-22487
 Hubble constant, determ. from brightest stars in nearby galaxy (M101) 4-17582
 Hubble constant, determ. of global value 4-31901
 Hubble constant, galaxies 21 cm linewidths anal. 4-42572
 Hubble flow, evidence for local anisotropy 4-22475
 hydrodynamic self-similar models 4-8608
 inflating universe, homogeneous field transitions in de Sitter space 4-17619
 inflationary cosmology, baryon number, Hawking radiation, big-bang, horizon and flatness 4-8621
 inflationary model of Universe with large initial anisotropy 4-27217
 inflationary phase transitions in locally supersymm. theories 4-18111
 inflationary Universe, gauge-invariant scalar perturbations 4-17618
 inflationary universe, gravitational instability grav. wave perturbations, symmetry breaking 4-8626
 inflationary universe, new scenario, perturbation generation and growth 4-8628
 inflationary Universe, quantum fluctuations 4-8606
 inflationary universe, supergravitation theory 4-42570
 inflationary Universe, wave function 4-53332
 inflationary Universe model, primordial gravit. waves and grand unification scale 4-13465
 inflationary Universe models and unified field theories 4-22490
 inflationary universe scenario from phase transitions in supersymmetric unified models 4-36754
 inhomogeneous cosmological models; quantum effects; trace anomaly modification 4-53320
 inhomogeneous mixmaster universes, Einstein-Klein-Gordon field eqns., exact solns. 4-17615
 inhomogeneous universes, gravitational lens images, wavefront method study 4-22313
 interacting scalar fields in de Sitter space, phase transitions study 4-8605
 intergalactic voids, relativistic theory of form. 4-4125
 invisible axion, cosmological implications of light exotics, structs., in Universe 4-8629
 far-IR background radiation, dipole anisotropy rel. to limits on extragalactic contrib. 4-27210
 Kaluza-Klein cosmology, Einstein solutions, horizon problem at dimensional reduction 4-53327
 Kaluza-Klein cosmology 4-36998
 Kaluza-Klein supergravity, cosmological and coupling consts. 4-4314
 Kasner Universe, rotationally symm., EM, neutrino and gravit. fields from Hertz-Debye superpotential 4-42568
 large-scale homogeneity of Universe, props. of local models with radial inhomogeneities 4-47728
 large-scale inhomogeneities and galaxy statistics 4-42533
 large-scale structure of neutrino-dominated Universe 4-22501
 local physics using at. and gravit. clocks, testing for cosmological influence 4-8616
 Local Supercluster structure 4-36741
 lopsided galaxies, formation mechanism and existence 4-13424
 LRS Bianchi type V vacuum cosmological soln., in Brans-Dicke theory 4-53314
 LRS Bianchi type-V universes filled with matter and radiation 4-27213
 Mach principle (book) 4-8664
 magnetic monopoles in early Universe, annihilation and gravitational clumping 4-31946
 magnetic monopoles with Zn charges 4-53908
 massive galactic halo formation with neutrinos 4-17599
 microwave background, small-scale anisotropy in Universe with massive neutrinos (*Russian*) 4-31935
 microwave background anisotropy in inflationary universe 4-36751
 microwave background radiation spectrum, review 4-31934
 minimal $SU(5)$ Coleman-Weinberg theory, phase structure 4-22960
 minimum Euclidean action in gravitation, zero cosmological const. and symm. breaking 4-17783
 missing mass problem, mysterious mass in Local Group galaxies 4-31924
 models and compatibility with galaxy number counts 4-42548
 modern cosmology, review (*Russian*) 4-4136

cosmology continued

modified Brans-Dicke cosmologies 4-36753
 multidimensional unified theories, effects 4-32136
 $N=1$ supergravity, naturally vanishing cosmological constant 4-17803
 $N=1$ supergravity, no-scale supersymmetric standard model 4-32156
 $N=1$ supergravity, super-Higgs effect with local R symmetry and vanishing cosmological constant 4-53565
 $N=8$ supersymmetry spontaneous breaking via $d=11$ supergravity compactification 4-47976
 neutrino-dominated universe, neutrino-baryon pancakes rel. to galaxies form. 4-31900
 neutrinos, massive, astrophysical and cosmological implications 4-17616
 neutron physics and big bang cosmology, rel. to initial He abundance 4-58371
 Newtonian gravitation, cosmological principle from Galilei manifolds 4-27383
 non-equilibrium relativistic cosmology 4-36755
 nonequilibrium statistical field theory, GUT cosmology appl., galaxy formation, $\lambda\phi^4$ theory 4-8624
 nonlinear cosmological clumping, appl. of (*Russian*) 4-13464
 nonsingular cosmology and the gravitational Lagrangians in the gauge theory of gravity 4-53316
 nonsingular model with initial de Sitter stage, perturbations spectrum and background radiation anisotropy (*Russian*) 4-17621
 nonthermal radiations near horizons in stationary Riemann space-time (*Chinese*) 4-47947
 open Friedmann Universe, functional determ. of spontaneous symm. breaking 4-32143
 origin of the Universe 4-13460
 percolation analyses of observed and simulated galaxy clustering 4-8587
 phantom galaxy clusters, second-generation neutrino-gaseous pancakes (*Russian*) 4-13435
 phase transitions at finite chemical potential in grand unified theories 4-43268
 photino mass, constraints from big bang theory 4-8607
 physical and philosophical aspects (book) 4-8668
 planar models, differential eqns., numerical methods 4-4124
 Population III, possible existence in distant globular clusters 4-47663
 Population III stars, form, and pregalactic evolution 4-17564
 Population III stars and primordial clouds collapse 4-8536
 pregalactic clouds collapse, rel. to form, of voids and filaments 4-22469
 pregalactic objects and galaxies generation 4-42571
 pregalactic stars and black holes, possible sources of IR background 4-22486
 primeval departures from homogeneity and cosmogony sequence 4-8603
 primordial black holes of planetary mass, effect on form, of Population III stars and galaxies 4-31936
 primordial element production in universes with large lepton-baryon ratio 4-8611
 primordial fluctuations, dark matter and photon oscill. 4-36762
 primordial inflation model from locally supersymm. potential, finite temp. effects 4-17620
 primordial inflation without primordial monopoles 4-17801
 primordial nucleosynthesis with adiabatic fluctuations, light element abundances 4-42566
 primordial plasma irregularities and microwave background temperature var. correl. props. 4-36765
 primordial velocity fluctuations, deceleration mechanism 4-31938
 protogalactic vorticity and origin rel. to galaxies ang. momentum 4-22489
 proton decay at early times, Golden Rule 4-27220
 QSO creation rate rel. to distrib. of gaps in emission line redshifts 4-4107
 QSOs identified with strong 5 GHz radio sources, large scale distrib. 4-27200
 quadratic Poincare gauge field eqns., NUT-like soln. 4-42780
 quantum, path integral approach 4-31949
 quantum and cosmological mass relations 4-53418
 quantum cosmological singularities 4-22497
 quantum cosmology, singularity, particle horizon and flatness problems 4-17614
 quantum effects of scalar and vector particles 4-22500
 quantum gravity, one-loop effective pot. with or without cosmological constant 4-53563
 quark-gluon phase 4-17381
 quark-hadron transition, cosmological aspects 4-42565
 quasar remnants, local space density as cosmological test 4-4127
 quasar spectroscopy, implications for constancy of constants 4-22480
 quest for quarks, quark-gluon picture of matter, book 4-53384
 R invariance and axion cosmology 4-4135
 radial photon paths in cosmic model 4-22548
 radiation-filled Friedmann world models, phase transitions 4-47729
 radio sources of Zelenchuk survey, number-flux density relation at 3900 MHz (*Russian*) 4-13446
 red shift quantisation and cosmological uncertainty principle 4-27212
 relativistic cosmological phase transitions, bubble nucleation, effects on nucleosynthesis and large inhomogeneity 4-22496
 relativistic cosmology (book) 4-36838
 relativistic models near singularity, stochastic props. 4-31944
 relativistic plasma, electrical conductivity of Early Universe plasma 4-55615
 relic neutrino background effect on neutron star cooling 4-4025
 relic neutrinos, fate in big bang cosmology 4-4139
 renormalisation group and inflationary potentials 4-32519
 rich galaxy clusters, microwave background gravit. temp. decrease 4-42564
 Robertson-Walker cosmology, primordial tachyons, probability density, energy dissipation 4-48516
 Robertson-Walker Universe, curved space vacua deduced from energy-momentum tensor 4-47730
 Robertson-Walker Universe, spectrum of created particles 4-31940
 $S_2^*S_2$ soln. of vacuum Einstein eqns., stability 4-32124
 Schwarzschild mass in zero-curvature universe 4-31750
 selector, cosmological consequences of low mass 4-48371
 self-consistent cosmologies, scalar trace anomaly and anti-gravitational interaction in perturbative approach 4-36763
 spatially homogeneous cosmological model with plane-wave singularity 4-27219
 statistical asymmetry of Universe, appl. of indirectional anal. 4-58391
 steady-state cosmology particle decay and microwave background origin 4-22484

cosmology continued

stochastic model of universe, Fokker-Planck solution 4-27375
 string cosmologies 4-22498
 Strong Equivalence Principle, testing by radio ranging of planets 4-47727
 SU (5) GUT, extension to satisfy inflation 4-42573
 supergrand unification in subquark physics and pregeometry 4-13854
 supergravity, cosmological constant tuning with R symmetry 4-4315
 supergravity, $N=1$, cosmological A-term 4-27395
 supergravity with Polonyi potential cosmological implications for early universe 4-13567
 superheavy monopoles, acoustic detection in gravitational antennas 4-165
 supersymmetric scalar neutrinos, cosmological bands 4-48370
 supersymmetry models, explicit R-parity breaking 4-27678
 Swedenborg, Emanuel, rationalist cosmology 4-69
 thermodynamics and the end of a closed Universe 4-58538
 tilted Bianchi type-II space-time Einstein-Maxwell eqns. 4-27214
 Universe, plane symmetric, Einstein-Yang-Mills field eqns. 4-47731
 Universe, unity of forces, book 4-42625
 Universe, wave funct. description of quantum state 4-17794
 Universe creation and evolution (book) 4-47782
 Universe early evolution, implications of globular cluster parameters 4-13383
 Universe expansion (*Russian*) 4-53333
 Universe exponential expansion and symmetry breaking in SUSY GUT 4-13830
 Universe neutrino horizon 4-27223
 Universe rotation and universal angular momentum-mass relationship 4-27211
 Universe structure, geometrical optics appl. 4-19370
 Universe structure and expansion, historical aspects 4-47599
 universe with negative quantum pressure, chaotic flows 4-22499
 Universes, isotropic matter, dynamics and thermodynamics (*German*) 4-8602
 universal mean mass density and peculiar vels. of galaxy pairs 4-8574
 V/V_0 test in Hoyle-Narlikar conformal gravity, appl. to quasars space distrib. 4-13458
 vacuum Bianchi type I solution, axially symmetric, in Brans-Dicke theory 4-53313
 very early Universe, before primordial inflation 4-27222
 very early Universe, phase transition, vacuum decay rate in field-theoretical model 4-48339
 very early Universe, spin and torsion 4-22494
 Weyl neutrino fields on curved space-time, variable separation, quantum numbers 4-4286
 Yang-Mills, cosmological unification in 10-D 4-32137
 Zwicky clusters, galaxy prob. distrib. 4-17602
 $n\bar{n}$ oscillations in gauge models, cosmological baryon asym. 4-32530
 $^4\text{He}(p,x)$, low-energy annihilation and problems of modern cosmology, GUT and SUSY models 4-53324
 Li isotopes evolution in Galaxy 4-8564
 ^{187}Re mass constraints in $\text{SU}(2)_L \times \text{SU}(2)_R \times \text{U}(1)$ 4-406
 ^{187}Re , half-life, geologic and cosmologic ages 4-43432

cosmotrons

No entries

Costa Ribeiro effect *see dielectric phenomena; phase transformations*

Cotton-Mouton effect *see birefringence; magneto-optical effects*

Cottrell atmospheres

solute drag by dislocations, differential eqn., asymptotic solns. 4-34491
 Cu alloys, dil., γ -irrad. and deformed, dislocations, annealing, US absorpt. meas. 4-50303
 Nb, strain aging under stress, model appl. 4-3153
 Si:P, implanted, impurity drag on climbing misfit dislocations 4-34498

Cottrell locking *see Cottrell atmospheres*

Couette flow

see also jets

axisymmetric Taylor-Couette flow problem, Lorenz-type eqns. 4-44605
 Brownian particle suspension, diffusion in laminar flow, correl. functions and effective transport coeff., shear rate depend. 4-38787
 linear Couette flow with beta effect, study of barotropic and baroclinic instabilities 4-36468
 dense Lennard-Jones fluid, stationary nonequilib. states, mol. dynamics calcs. 4-44916
 ferrofluid, hydrodynamics and thermal props. in magnetofluid seals 4-38906
 ferrosuspensions, Couette and Poiseuille flows in mag. field, couple stresses contrib. 4-38881
 hydromagnetic plane Couette flow, time depend., wave struct. 4-5970
 incompressible liq., forced couette turbulent flow in annular gap (*Russian*) 4-29070
 low-dimensional strange attractors and chaos 4-181
 micropolar fluid Couette flow between two coaxial cylinders, viscous energy dissipation (*Russian*) 4-15006
 molecular liquid, orienting field effect on viscosity 4-39555
 Navier-Stokes eqn., wall compatibility condition 4-44522
 nematic liquid crystals, Benard-Couette instabilities, theory 4-55713
 red blood cell in plane Couette flow of plasma, 2D approach 4-47020
 solute dispersion from time-depend. releases in parallel flow 4-29185
 steady Couette flow in a strong external field 4-34035
 subsonic Couette uniform plasma flow, overheating instability 4-44813
 suspension of neutrally floating particles, vorticity, Couette and Poiseuille flows 4-24465
 suspensions, two-dimensional, viscosity, cluster statistics, percolation theory 4-29164
 Taylor vortex fronts propag. into unstable circular Couette flow 4-38840
 Taylor-Couette flow, wavy vortex state, optical meas. 4-1734
 two dims. fluid, Couette flow, nonequilibrium mol. dynamics simulation 4-5875
 two-phase flow between two plates examined using eqns. of laminar boundary layers 4-10729
 viscoelastic fluid flow through an abrupt contraction, numerical simulation 4-34145
 wave-number selection by soft boundaries near threshold 4-24400
 He, superfluid, between coaxially rotating cylinders, hydrodynamic stability 4-44604

counter accessories

see also counting circuits

No entries

counters

- see also *Cherenkov counters; counting tubes; fission counters; Geiger counters; proportional counters; scintillation counters; semiconductor counters; spark counters*
 ARGUS electron-photon calorimeter, props. of light collection system 4-5086
 Gerdien ion counter characts. 4-24672
 nuclear diagnostics, two-channel energy selective counter (*Hungarian*) 4-47064
 projection lens for high-resolution optic counter (*German*) 4-55162
 review of necessity of counters (*German*) 4-246

counters (circuits) see *counting circuits*

counting circuits

- see also *coincidence circuits; pulse height analysers*
 automatic dead time loss correction system for particle counting processes induced by ion beams 4-43770
 dead times, effects of two nonextended, relative losses 4-14284
 digital delay CAMAC module with 550 MHz preset counter for TRIS-TAN accelerator 4-9648
 ion cyclotron resonance bridge detector for frequency sweep 4-13717
 multiple hit time-to-digital converter for drift chamber (*Chinese*) 4-48888
 particle detectors, counting system, low-level radioactivity using 8-bit microprocessor 4-5110
 pulse-flux converters, for radioactive radiation recording 4-23518
 synchronous ECL divider for reduced jitter in laser pulse studies 4-24054
 time-resolved photon counting cct. 4-22840

counting tubes

- see also *dekatrons*
 No entries

country planning see *town and country planning*

county planning see *town and country planning*

coupled circuits

- EM wave coupling of cables (*French*) 4-49246

coupled networks see *coupled circuits*

coupled superconductor devices see *superconducting junction devices*

couplers (electric connectors) see *electric connectors*

coupling (process) see *joining processes*

coupling circuits see *coupled circuits*

CP invariance

- asymmetric universe, GUTs and baryon asymmetry origin, review 4-36766
 axions, R symmetry, in supersymmetric Witten O-Raifeartaigh model 4-18162
 B⁰-B⁰ mixing and violations of C P symmetry 4-53902
 baryon asymmetry, GUT, CP nonconservation, K-meson decays 4-37320
 big bang baryosynthesis 4-36767
 C P violation with Majorana neutrinos 4-18125
 cosmology, CP violation in early Universe (*Polish*) 4-53326
 electroweak interactions, supersymmetric models 4-43293
 electroweak model, CP violation and potential problems 4-43285
 elementary particle physics and cosmology 4-36758
 fermion mass matrix, suggested struct., mixing angles and CP violation 4-4619
 global family symmetry and CP violation 4-18116
 horizontal interactions as source of CP violation 4-53916
 hyperon decays, CP nonconservation due to particle/antiparticle rate asymm. 4-9104
 hyperon hadronic decay, partial rate differences from CP violation 4-13902
 invisible axion, expt. tests 4-3923
 Kaluza-Klein theory, Rarita-Schwinger 3/2 spinor field 4-149
 Kobayashi-Maskawa angles and phases from B meson lifetime and CP violation params. 4-43331
 Kobayashi-Maskawa quark mixing matrix, parametrisation, CP-nonconservation effects 4-13882
 left-right symmetric theory, CP violation 4-43274
 leptonic CP violation and left-right symmetry 4-32494
 magnetic monopoles, fractionally charged, in SU(5) GUT and SU(2), gauge confinement 4-13787
 Majorana neutrinos, CP props. of electroweak leptonic sector 4-18120
 Majorana neutrinos, CPT and CP props. and consequences 4-4583
 neutron, electric dipole moment, Higgs boson-exchange model, CP nonconservation 4-18255
 neutron dipole moment, short distance effects relics 4-4682
 neutron electric dipole moment in gauge theory 4-32707
 neutrons electric dipole moment, relevance to CP-violation models 4-32496
 real quark mass matrix in theory with spontaneously broken CP 4-48358
 softly broken supersymmetric theories, CP and flavour nonconservation 4-43239
 strong CP problem, soln. by soft breaking Peccei-Quinn symmetry 4-13852
 SU_C(4)×SU_L(2)×U_R(1) leptoquark unification and invisible axion 4-32527
 SU(2)×U(1), quark mixing matrix, Kobayashi-Maskawa implications 4-27692
 SU(2) lattice gauge theory, θ vacua by Monte Carlo simulations 4-53825
 SU(3)_C×SU(2)_L×U(1)_V, supersymmetric contributions to ϵ' and ϵ 4-13845
 SU(5) GUT, CP violation from spontaneous symmetry breaking 4-48391
 supersymmetric confining model of weak interactions based on SU(M)_{SC}×SU(2)_L×SU(3)_C×U(1) 4-32563
 technicolour models, extended, spontaneous CP violation, U(2)_L×U(2)_R symmetries 4-18157
 unified gauge theories phenomenology 4-32536
 violation of CP invariance 4-13824
 weak interactions, supersymmetric left-right confining model 4-48407
 weak models with Higgs multiplets and supersymmetry, strong CP-problem 4-48379
 B-K_S, CP violating rate asymmetry in Kobayashi-Maskawa model 4-48367
 K⁰, R⁰ transition, Higgs-boson-exchange model of CP violation 4-9065
 K⁰, R⁰ transition amplitude, bounds on hadronic matrix element 4-43335
 A decay, study of polarised semileptonic decays at LAMPF II 4-37375
 $\pi q \rightarrow q\mu^+\mu^-$, C- and P-odd effects, neutral currents (*Ukrainian*) 4-22972

CPA calculations

- alloys, binary, with random transfer, local spin fluctuations 4-25568
 alloys, crystalline and amorphous, modified CPA theory anal. 4-45577

CPA calculations continued

- alloys, disordered ferromagnetic, elec. cond. with s-f exchange interaction (*Russian*) 4-34944
 alloys, substitutional, supercond. transition temp., CPA calc. (*Russian*) 4-25468
 β -brass, photoemission spectra calcs. from (011) surface, order-disorder transition effects 4-30604
 electron propagation in Markovian time-fluctuating medium, CPA calc. 4-34849
 intermediate valence ion fluctuations between two mag. configurations 4-29933
 lattice diffusion with traps, self-consistent calcs. 4-32202
 metal particles, randomly distrib., optical props. 4-7214
 molecular crystals, exciton-phonon interactions, dynamical CPA, cluster generalisation 4-56229
 narrow-band conc. alloys, superconducting phase transition theory 4-25474
 polarons, single electron Green function, coherent potential method 4-39790
 random binary alloys, phonon freq. spectrum 4-45283
 random narrow-band alloys, T_c formula for strong-coupling superconductivity 4-25471
 random-bond disordered systems, coherent pot. approx. generalisation 4-20539
 rare earth binary alloys, R₁-xR₂/Al₂, high temp. spin disorder resist., CPA calc. 4-29947
 rare earth compounds, nonmetal-metal transition, electronic density of states 4-20565
 Se, electron struct., cluster approx. 4-15812
 semiconductor, dilute reson. scatterers in parabolic band, density of states as function of scatt. strength 4-6774
 semiconductor alloys, ternary, phonon spectra, embedded cluster calc. 4-6456
 semiconductors, heavily doped, impurity excited states effects 4-39817
 small particle system lateral interactions 4-50634
 spatially disordered systems, electron localisation, short range order effects 4-45691
 substitutional alloys, transport coeffs. in multiorbital models 4-20617
 transition metal alloys, disordered, electronic struct. and props. 4-20552
 transition metal monoxides, superexchange, itinerant versus localised picture 4-56603
 two dimensional electronic transport in strong mag. fields, CPA calc. 4-29992
 Ag₈Pd_{1-x}, valence band XPS spectra, multiple scatt. theory anal. 4-51450
 Al_{1-x-y}Ga_xIn_yAs, band struct. calcs. 4-20559
 Al_{1-x-y}Ga_xIn_yAs, multinary alloys, energy gaps, CPA calc. 4-25214
 CoNi, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
 Cu-Ni(111) surface states, angle-resolved emitted photocurrent calc. 4-45849
 Cu-Pd alloys, electronic struct., density of states and photoemission spectra 4-45610
 Cu-Zn(Al)(Ge), Hume-Rothery alloys, composition depend. of optical gaps 4-20936
 Cu_{1-x}Ge_x, single cryst., electronic struct., KKRCPA calc. and ARPES studies 4-29877
 Fe-Co, phonon generation by nonequilibrium electrons, optimum temp. determ. (*Russian*) 4-24935
 Fe-Ni, electron struct. changes in FCC \rightleftharpoons BCC transitions, XPS study (*Russian*) 4-50488
 Fe-Ni, phonon generation by nonequilibrium electrons, optimum temp. determ. (*Russian*) 4-24935
 FeCo, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
 FeNi, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
 Fe₂Pt, ground state mag. props. of ordered and disordered alloys 4-20801
 Ga_{1-x}Al_xAs, disordered, IR dielectric props. and vibr. states 4-40457
 GaAs/GaAlAs large period superlattices, folded acoustical phonon dispersion 4-2290
 GaAs_{1-x}P_x, energy band struct. calcs. 4-29884
 Ga_{1-x}In_xP, energy band struct. calcs. 4-29884
 GaSb_{1-x}As_x, lattice vibrs., CPA calc. 4-55944
 Gd_{1-x}Dy_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Er_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Ho_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 In_{1-x}Ga_xP, lattice vibrs., CPA calc. 4-55944
 In_{1-x}Ga_xSb, lattice vibrs., CPA calc. 4-55944
 Ni-Cu and Ni-Cu-Zn(Al)(Si) alloys, micromagnetism, s-d exchange and spin fluctuations anal. (*Rumanian*) 4-16042
 Pd_{1-x}Ag_xD_x, phonon density of states, CPA study 4-2281
 Pt_{1-x}(Mn_{0.5}Cr_{0.5})_{1-x}, spin wave stiffness constant, magnetisation meas. 4-16022
 Si, electronic struct., cluster approach (*Russian*) 4-34868
 a-Si:H, optical energy gap, H content depend. 4-40392
 a-Si:H, vibr. density of states, bond CPA calc. 4-39425
 YC₆₀, band struct., CPA, LCAO and APW calcs. 4-56212

CPT invariance

- conference on wave-particle duality, Perugia, Italy (Apr. 1982) 4-31971
 Kaluza-Klein theories, discrete symmetries, CPT theorem 4-47956
 Majorana neutrinos, CPT and CP props. and consequences 4-4583
 manifestly covariant presentation, Dirac eqn., screwing fermions 4-32497
 q-state model, s-matrix solution 4-22946

crack detection

- see also *cracks*
 acoustic emission linear pulse holography for non-destructive evaluation 4-49625
 acoustic flaw detection, spherical inhomogeneity in half-space, refl. of longit. elastic waves 4-16604
 acoustic microscopy of solid using aperture lenses 4-46729
 AE signal evaluation, rise time effect of dynamic source 4-41152
 aircraft components, acoustic emissions rel. to aircraft manoeuvre 4-30890
 alloys, photoacoustic microscopy fatigue crack detection 4-35822
 automated X-ray inspection of castings, local feature method for flaw detection 4-7685
 conducting half space, flawed, eddy current coil impedance 4-21403
 conductive materials, crack detection measuring equipment employing electromagnetic ultrasonic waves 4-55289

crack detection continued

data processing techniques evaluation 4-16609
 defect detection by transient thermography, computer code prediction 4-26120
 defect detection trials, UKAEA test pieces 3 and 4 4-4959
 defect signal separation using eddy current inspection unit 4-46711
 developing flaw coordinates, AE detection, use of amplitude gating 4-16606
 digital US instrument 4-44322
 eddy current data inversion and flaw reconstruction, development of system 4-46726
 eddy current imaging for defect characterisation 4-46724
 eddy current measurement system for flaw detection, anal. and design 4-26160
 eddy current probe design 4-26158
 eddy current probe design and matched filtering, for optimum flow detection 4-26159
 eddy current signals, inversion in nonuniform probe field 4-46723
 eddy current single-turn coil, impedance change due to flaw in coaxial conducting cylinder 4-35833
 eddy current system, multifreq., defect characterisation 4-46725
 eddy current tape-head probes, for crack detection at holes 4-35831
 eddy current testing, cross correlation analysis (*German*) 4-51922
 elastic wave diffraction, appl. to TOF inspection 4-3364
 electrolytic tank simulation of the potential drop technique for crack length determinations 4-26131
 EM flaw detector for inspecting long cylindrical products 4-16597
 energy release rates for various defects 4-29028
 epoxy, moving cracks, cyclic modulation by US shear waves 4-41143
 epoxy adhesive bond fracture in insulated heat sink, acoustic emission characts. 4-3343
 evaluation and reliability, PISC I results 4-7682
 FBTR fuel pin end plug welds, radiographic evaluation, defect standard, microdensitometry 4-12285
 feature based US inspection system, reflector classification analysis, pattern recognition 4-51916
 fibre optic gauge appl. 4-4398
 fission reactors, nondestructive evaluation, validation of procedures and techniques 4-4960
 flaw depth profiles, determ. using acoustic images 4-46728
 flaw detection, effectiveness of pulse X-ray apparatus 4-46714
 flaws near surfaces, elastic wave scattering, Fourier elastodynamics, US inspection appl. 4-30903
 fluorescent penetrant, process automation using industrial robots 4-46698
 geometrical welded structures, US flaw classification 4-41150
 halfpenny cracks, elec. current perturbation calcs. 4-35834
 holographic NDT, real time, fringe control method 4-46701
 IN600, steam generator tubing, eddy current probe detection of defects, temp. effects 4-16584
 inductive method for automatic crack length recording 4-35783
 inductive transducers appl., half-bridge configuration 4-773
 inverse Born approximation, finite aperture effects 4-35828
 linear synthetic aperture focusing using ultrasonic contact transducers 4-3313
 magnetic fields of flaws on inner surfaces with combined magnetization of products 4-16596
 mapping by ray methods 4-35825
 matrix methods for elastic wave scatt., flaw detection appl. 4-24395
 metal, thin rolled sheet, surface fracture depth meas. using US shear models 4-16603
 metal surface, crack depth estimation using wideband laser generated SAW 4-57516
 metals, electromagnetic fields around surface cracks, math. anal. 4-35835
 multifrequency flaw detection, using multiresonant controllable piezoelectric transducers, construction method 4-14869
 NDE, conf., San Diego CA, USA (Aug. 1982) 4-22525
 NDE, maximum entropy formulation inverse problems 4-28949
 NDE reliability, evaluating probability of detection/confidence limits 4-26153
 near surface flaws, US scattering obs. 4-30905
 nondestructive evaluation instrument surveillance test on 26-inch pipe 4-57513
 paintings, ancient, microcrack detect. using real-time holography 4-5561
 particle size distribution, estimation when detection probability depends on particle size 4-3334
 phase, diffraction of horizontally polarized shear waves by normal edge cracks 4-24393
 plane elastic medium, crack tip location by pseudocoustic method 4-5848
 PMMA, moving cracks, cyclic modulation by US shear waves 4-41143
 polymeric materials, crack propagation, SEM technique 4-30865
 probability of detection, computer simulation 4-26157
 pulse echo flow detector, automatic time control of sensitivity 4-3353
 pulsed eddy current probes, optimisation 4-35829
 radiographic inspection, defect dimension calc. 4-16598
 Rayleigh waves, plane and cylindrical, transverse stresses, crack detection appl. 4-55244
 reactor pressure vessel, flaw detection, acoustic holographic imaging system 4-41164
 refractory, thermal shock fracture, peak amplitude distrib. of acoustic emission events 4-3308
 remote field eddy current inspection technique 4-51918
 short elastic pulse excitation by capacitative method 4-3355
 simulated PWR press. vessel sections, defect detection trials, automated US system 4-57515
 solid layer, elastic wave excitation and reception by piston type transducer 4-3352
 standard for visual acuity of inspecting personnel (*German*) 4-7675
 steam turbine shafts use of polyvinylidene fluoride transducer, polarised, dynamically focused 4-14867
 steel, austenitic, components, corrosion defect detection by pulsed eddy currents (*German*) 4-30873
 steel, austenitic stainless, US inspection of corrosion fatigue cracks in welds 4-26117
 steel, austenitic stainless, welded joints in thick plates, US flaw detectability 4-7659
 steel, austenitic stainless, weldments, US inspection, false defect indications 4-12287
 steel, BWR riser piping, intergranular SCC, radiographic inspection system 4-41163
 steel, Cr-Mo-Ni-V, creep crack initiation and growth, AC potential drop obs. (*German*) 4-30872

crack detection continued

steel, defect detection trial plate, near surface defects, US inspection 4-41122
 steel, defect detection trials, NDT of test pieces 4-41121
 steel, defect detection trials, US inspection 4-41120
 steel, defect detection trials plate, simulated PWR nozzle, US time of flight technique 4-41119
 steel, defect detection trials plate, US inspection of clad inlet nozzle 4-41118
 steel, defect localisation and grading in welded structures, AE obs. (*Italian*) 4-12308
 steel, fatigue crack propag., acoustic emission signal rel. to load 4-16605
 steel, heat treated, fatigue damage, positron annihilation detection (*German*) 4-16586
 steel, pressure vessel nozzle plate, defect electron trials, US flaw detection 4-46720
 steel, stainless, pipes, extruded, flaw detection errors in US examination 4-3365
 steel, US flaw inspection, defect detection trial plate 4-26118
 steel, US inspection of continuously cast slabs using EM acoustic transducer (*French*) 4-46722
 steel, US inspection of defect detection trial plates 4-7660
 steel spheres in contact, crack closure simulation, acoustic signal transmission, stress distrib. 4-26167
 surface breaking and sub-surface cracks, elastic wave scattering, wavefront fields 4-24394
 surface breaking crack, interaction with surface elastic wave, expt. study 4-33972
 surface defect characterisation using pulsed acoustic laser probe 4-51905
 thermal NDT, defect detectability 4-26119
 thermal NDT, theoretical evaluation of threshold of sensitivity 4-51936
 thermal wave imaging of closed cracks in opaque solids 4-16580
 thermal-wave microscopy, surface and subsurface features imaging 4-3369
 turbine disk rims, US NDE technique 4-26137
 US crack depth determ. method (*German*) 4-7674
 US data, defect imaging and characterisation with digital signal processing 4-46727
 US flaw detection, wave scattering by obstacles in joined fluid-solid half spaces 4-30904
 US flaw detection and sizing using freq.-domain Neumann-Born approx., quantitative nondestructive evaluation appls. 4-19677
 US flaw detectors, general purpose; apparatus for meas. parameters of electronic section 4-49632
 US flaw sizing, automation of Born inversion 4-30911
 US measurements for detection of flaws below curved surface 4-26155
 US phase echo method for defect discrimination 4-51948
 US pulse type flaw detector, object side surface effect on acoustic channel 4-3351
 US scattering by flaws in a slab or a half-space 4-30906
 US system, design, computational tool 4-44321
 US testers, calibration, reference reflector quality (*German*) 4-7673
 welded piping systems, acoustic emission method for diagnosing defects 4-12272
 welded pressure vessels subjected to external press. cycling, nondestructive fatigue crack detection 4-26165
 Al, closed internal fatigue cracks, US detection 4-26168
 Al-Zn-Mg-Cu, US transmission, fatigue crack closure effect 4-26166
 Al₂O₃ fibre reinforced Mg alloy, nondestructive evaluation by US scanning and X-ray radiography 4-30901
 Fe ware, transverse crack, mag. leakage field determ. 4-12296
 Ti complex geometry parts, fatigue crack detection, elec. current perturbation method appl. 4-35832

crack-edge stress field analysis

see also penny-shaped cracks
 angled crack initiation under biaxial loading 4-38762
 angled slit and elliptical cracks under uniaxial tensile loading, mixed mode fracture criteria 4-24376
 annular crack, flat, at interface of two bonded dissimilar elastic solids 4-29015
 antiplane shear interactions between a circular boundary and a radial crack 4-10598
 axisymmetric variable rate crack growth problem in elastic medium 4-55376
 bar, circular, subjected to bending, strain energy release rates for straight-fronted edge crack 4-29011
 bend specimen, three-point, stress intensity factor and J integral numerical evaluation 4-34004
 Bilby-Cottrell crack initiation mechanism theory in metals 4-55375
 bimaterial composite, penny shaped crack interaction with torsional wave 4-38760
 bonded anisotropic materials, stress singularities 4-34003
 bounding functions for stress intensity factors 4-44477
 brittle material, crack propag., direct obs. method using SEM 4-3309
 brittle material, crack trajectory in orthogonal cutting, photoelastic obs. (*Japanese*) 4-24391
 brittle material, interaction of fracture and stress-waves, verification of cleaving waves 4-44482
 brittle materials, compressive surface strengthening, by residual stress distrib. 4-24381
 brittle materials, fracture toughness, effect of material inhomogeneity 4-34000
 C-shaped and ring specimens, cracked, stress intensity factors 4-1676
 cavity nucleation at particles on sliding grain boundaries, shear crack model in creeping polycrystals. 4-50305
 ceramics, strength and toughness, fracture mechanics 4-12168
 ceramics, surface flaws produced by Knoop indentation, crack opening behaviour 4-40951
 Chiles-T program, fracture mechanics anal. 4-19769
 circular crack problem 4-5835
 compact specimen, elasto-plastic stress analysis 4-3256
 compact tension specimen, ASTM standard, stress intensity factors, crack front curvature effect 4-26129
 composite, crack arrest by fibre reinforcement, yielded zones 4-10605
 composites, fibre-reinforced, idealised, dynamic fracture 4-14921
 compounded stress intensity factors for cracks at fastener holes 4-10599
 contact fatigue crack initiation under repeated oblique force 4-30834
 crystalline materials, crack propag. vel. rel. struct. and internal stress field 4-24905

crack-edge stress field analysis continued

cylinder, infinitely long, bonded to infinite medium, diffraction of torsional waves by penny-shaped crack 4-10592
 cylinders, cracked, dimensionless stress intensity factors under polynomial crack face loadings 4-10595
 deformation and thermodynamic response for crack dislocation model of brittle fracture 4-29516
 diffusional crack growth, energy release rate 4-5839
 disk inclusions, stress intensity factors (*Chinese*) 4-55368
 dislocation motion at crack tips, K_{IIc} of small scale yielding materials (*Chinese*) 4-6434
 dislocation pile-ups and stress intensity factors 4-45136
 dispersive dielectric, EM field near propagating crack tip 4-29006
 dissimilar materials, separation process, friction effect 4-10613
 double slip plane model, crack growth, R-curve 4-55366
 double slip plane model, fatigue crack growth 4-55367
 double-torsion specimen, line-spring anal. 4-29013
 double-torsion specimen, photoelastic invest. 4-10619
 ductile material, crack growth resist. using DCB specimen 4-44508
 dynamic punch problems, closed form solutions 4-49768
 elastic medium, edge of cut moving at transonic speed, dynamic problem soln. 4-49762
 elastic plane, strongly anisotropic, with parabolic notch, stress distrib. 4-24351
 elastic wave radiation from cleavage crack extension 4-1670
 elastic-electrostatic analogy, implications on certain path-independ. integrals 4-4229
 elastic-plastic fracture mechanics, J-integral, definition and props. (*Japanese*) 4-49760
 elasticity, classical and moment theory, relationship between intensity coeffs. 4-53488
 elastostatic interaction of multiple arbitrarily shaped cracks in plane inhomogeneous regions 4-29019
 elliptical crack fronts, pure opening mode stress-intensity factor computation 4-44476
 energy release rates for various defects 4-29028
 environmentally assisted fracture, atomistic crack tip model, catastrophe theory formalism 4-50418
 external crack opened by Shear or normal tractions, transient stress and displacement fields, transfer techniques 4-1685
 fatigue analysis of edge crack specimen, hysteresis strain energy density 4-29008
 fatigue crack closure, model 4-10594
 fatigue crack growth rate, stage I, dislocation model 4-44485
 fatigue crack growth rate test method 4-29034
 fatigue crack opening load, calc. using model 4-38759
 fatigue crack propagation under corrosion and creep, freq. effect mechanism 4-40930
 fatigue cracks, short evaluation of recent models (*German*) 4-45256
 fatigue cracks small, initiated from notch-root 4-10593
 fatigue life estimation by local stress-strain methods 4-16490
 fibre reinforced composites, flat inclusion, partially debonded surface, crack initiation 4-34568
 finite element modelling 4-24372
 fracture behaviour and stress fields of cracked bend specimens subjected to 4-29007
 fracture mechanics, appl. to elec. analogue techniques 4-44481
 fracture mechanics parameters, calc. for general corner 4-44478
 fracture process zone, interaction with surrounding plastic region during crack growth 4-44484
 glass fibre reinforced epoxy, short fibre, J-integral as fracture criterion, expt. approach 4-30787
 glass fibre reinforced polyester laminate, multiparametric characterisation of cracking 4-26033
 Griffith crack in granular solid, rigid inclusions 4-10602
 Griffith criterion for crack propagation 4-29022
 growth of short and long cracks, crack closure 4-45258
 half planes, bonded or in contact, containing cracks or holes, stress-field anal. using integral-eqn. soln. 4-5836
 half-plane, elastic, under dynamic load, stress intensity factors calc. for crack (*Russian*) 4-44494
 holographic interferometry method for stress intensity factors determ. 4-49789
 Homalite, polycarbonate, fracture, energy loss mechanisms 4-12158
 infinitely long elastic layer under shear, closed form soln. for external cracks 4-10606
 interface crack behaviour in dissimilar anisotropic composites under mixed-mode loading 4-1680
 interface crack between dissimilar anisotropic composite materials 4-1679
 interlayers in joints of different moduli under static tensile loading, crack resist. 4-34007
 internal stresses in nonlinear fracture mechanics 4-1672
 internally radially cracked ring segment, mode I stress intensity coeff. 4-14923
 Irwin criterion for longit. shear cracks, conditions of correctness of use 4-49766
 isophthalic polyester resin, environmental sensitive cracking 4-7591
 lamellar composites, arbitrarily oriented cracks, stress intensity factors 4-1674
 linear fracture mechanics, principal parameters (*Japanese*) 4-29025
 local energy release rates calculated by the virtual crack extension method 4-5840
 metals, ductile, flow instabilities at crack tips 4-12172
 metals, liquid metal embrittlement, interatomic bond weakening 4-26018
 mild, fatigue crack arrest under const. amplitude loading 4-40944
 mixed boundary condition crack problems, generalised weight function method 4-14920
 mixed mode bi-material fracture mechanics, finite element analysis 4-49755
 mixed-mode fatigue crack growth under biaxial loading 4-55372
 mode I equivalent state stress intensity factor of defects in multiaxial stress fields 4-44486
 mode I stress intensity factors, isochromatic fringe patterns, multiparameter multipoint method (*German*) 4-34021
 mode II dynamic fields near crack tip growing in elastic-perfectly-plastic solid 4-29024
 mode III and mixed mode I-II crack kinking under stress-wave loading 4-49757
 near tip field of plane stress steady state growing cracks, statically determined soln. 4-1673

crack-edge stress field analysis continued

nodal weight functions with singularity element, determ. using stiffness derivative finite element technique 4-29010
 nonlinearly elastic body, longit. shear crack 4-34008
 parallel cracks, interference 4-29021
 photoelastic analysis of practical mode I fracture test specimens 4-29031
 plane elastic medium, crack tip location by pseudocoustic method 4-5848
 plane elastic problem with arbitrary shape boundary crack (*Chinese*) 4-10591
 plane-plastic deform. in small neighbourhood at crack end 4-49722
 plane-strain evaluation of COD and core region, method of caustics 4-10620
 plastic zone, defect distribution, positron annihilation obs. (*Chinese*) 4-3208
 plastic zones at crack tip 4-29023
 plasticity and fracture toughness, effect of specimen size 4-29020
 plate, anisotropic, with sharp-ended anisotropic inclusion, plane problem 4-49765
 plate, centre-cracked, elastic-plastic anal. on stable crack growth, benchmark study 4-29014
 plate, crack extension force distrib., three dimens. elastic-plastic analysis 4-5837
 plate, finite, with blunt crack, stress-strain field anal. 4-29018
 plate, infinite, with cracks and holes, two-dimensional theory of elasticity 4-49767
 plate, stress intensity factors for coalescing and single corner flaws along hole bore 4-29009
 plate pierced with hole under compression, crack propag. energy 4-55373
 plate under stress gradients, stress intensity factors for semi-elliptical surface cracks 4-5838
 plates, biaxiality factor eval. by reflected caustics method 4-55386
 plates, thick and thin, half-elliptical surface cracks, welding residual stress intensity factors 4-29017
 plates, thin cracked, bending analysis by hybrid displacement finite element model 4-44409
 plates with surface cracks, effect of welding residual stress on brittle fracture 4-30788
 polybutyleneterephthalate, fatigue crack advance mechanisms 4-35682
 polycrystals, damage model of creep crack growth 4-2262
 polyethylene, low density, environmental stress cracking, effects of uniaxial orientation (*Japanese*) 4-3271
 polyethylene, low density, environmental stress cracking, thermal history effect (*Japanese*) 4-26079
 polymeric materials, crack propagation, SEM technique 4-30865
 porcelain electrical insulators, strength and reliability 4-35697
 reinforced cracked sheet, stress intensity factor, biaxial stress effects 4-38763
 Reissner's plate bending fracture problem, anal. (*Chinese*) 4-1664
 rigid curved tunnel-type insert in elastic half-space, longit. shear wave diff. 4-34006
 rotating disc with corner crack, boundary integral eqn. stress anal. 4-1677
 SCC, threshold stress intensity rel. to loading modes 4-12220
 semi-infinite stationary crack dynamic stress intensity factor due to arbitrary rectilinear screw dislocation motion 4-14922
 shear crack extension theory, effect at edges 4-1684
 sheet, rectangular, under anti-plane shear, central crack at interface between different media 4-29012
 sheets, centre-cracked, fracture load, influence of load biaxiality 4-44480
 shell, cylindrical, circumferentially cracked, Sanders' energy-release rate integral evaluation 4-1681
 short cracks initiated by stress raisers, stress intensity factors determ. 4-24384
 silicone rubber, crack tip opening displacement meas. by sampling technique (*Chinese*) 4-55369
 single edge notch specimen, fast crack growth, elastodynamic anal. 4-55371
 slip planes under antiplane conditions, extension of crack yielding (*Japanese*) 4-2264
 stationary semi-infinite crack dynamic stress intensity factor due to arbitrary screw dislocation motion 4-1682
 statistical fracture theory under biaxial stress state using Weibull's three parameter function 4-14917
 steel, austenitic stainless, creep crack growth in type 316 4-26029
 steel, C, fatigue crack propag. rel. to initial residual stress (*Japanese*) 4-26047
 steel, C, quenched and tempered, small semi-elliptical cracks, threshold stress amplitude 4-3209
 steel, Cr bearing, fracture toughness using chevron notch three point bend specimen, stress intensity factor formulae 4-12280
 steel, Cr-Mo-V, thick cylinders, crack propag. during thermal shock 4-40936
 steel, Cr-Ni, low C, rel. between fatigue limit, threshold and microstruct. 4-57313
 steel, crack arrest in thick section plate, combined ligament rupture-cleavage model 4-57317
 steel, dual phase, nonlinear fatigue crack growth, deflection model 4-16494
 steel, heat treated, fatigue damage, positron annihilation detection (*German*) 4-16586
 steel, high speed, M2, carbide cracking, fracture mechanism 4-21325
 steel, high strength, corrosion fatigue crack propag. rate, mech. and environmental effects (*Chinese*) 4-7624
 steel, HSLA, fatigue crack thresholds, internal H effect 4-3239
 steel, HSLA, fracture toughness of blunt-notched CT specimens, X-ray diff. of fracture surfaces (*Japanese*) 4-3230
 steel, HSLA, SCC, H induced cracking, prior treatment and microstruct., effect 4-16549
 steel, J-integral and load line displacement estimation 4-7546
 steel, low alloy, slightly predeformed, dislocation model for crack tip blunting 4-30801
 steel, low alloy bainitic, fatigue crack threshold meas. 4-3347
 steel, low strength, fracture toughness determ. using stretch zone width meas. 4-30786
 steel, mild, critical stress intensity factor rel. to precracked load 4-16513
 steel, Mn, numerical simulation of fatigue crack growth 4-3218
 steel, Ni-Cr-Mo, near threshold mixed mode fatigue crack propag., parallel superposition model 4-35694
 steel, Ni-Cr-Mo, nucleation mechanism of stress corrosion cracking from notches 4-12255

crack-edge stress field analysis continued

- steel, Ni-Cr-Mo, quenched and tempered, micromechanics of fracture 4-12157
 steel, prestressed sheet, brittle fracture initiation 4-7568
 steel, rotor, mode III fatigue crack growth modelling 4-7545
 steel, Si, cleavage fracture toughness, temp. depend. (*Chinese*) 4-16469
 steel, stainless, crack growth near-tip field strain distrib. in SUS 430 4-46588
 steel, structural, fracture toughness, appl. of fracture mechanics concepts (*French*) 4-46623
 steel, structural, fracture toughness under cyclic loading 4-51813
 steel, surface fatigue crack initiation and propag. on smooth cylindrical specimens (*Japanese*) 4-51790
 steel, ultrahigh strength, fatigue crack closure, effect of H induced surface asperities 4-3238
 steel, welded joint, fatigue, effect of section thickness 4-46622
 steel martensitic stainless, HT-9, fracture toughness, influence of specimen size and microstruct. 4-12150
 strain localisation below root of yielding notch 4-28985
 strain-rate sensitive material, crack propag., temp. fields simulation 4-55370
 stress corrosion crack growth rate at high stress levels, loading pattern effect 4-29026
 stress corrosion crack growth rate prediction 4-7615
 stress intensity factors, evaluation by R-functions method 4-42722
 stress intensity factors for edge cracks in rotating discs 4-24379
 stress intensity factors for hole edge cracks 4-5842
 stress intensity factors for radically cracked point loaded ring specimens 4-10600
 stress intensity factors for single and interacting cracks, photoelastic determ., two dimensional case 4-38776
 stress intensity factors for single and interacting cracks, photoelastic determ., three dimensional case 4-38777
 strip, orthotropic, crack and wedging problem 4-1668
 strip under plane extension, two coplanar uniformly propagating finite cracks 4-10597
 supercomposites, thermal cycling crack characts., stress conc. factors 4-3210
 surface crack, half-elliptical, subjected to complex crack face, stress intensity factors 4-29016
 surface crack propagation in elastic-plastic region (*Czech*) 4-38764
 temperature rise at crack tip, influence on crack bifurcation 4-44483
 thermodynamic forces, virtual, on defects and cracks 4-50415
 thermoelastic problem of uniform heat flow disturbed by penny-shaped crack 4-49761
 three dimensional cracked body, stress intensity distrib., photoelasticity and moire analysis 4-34016
 three-point bend specimen, crack tip opening displacement at initiation of crack growth 4-12293
 three-point bend specimens, crack length calc. formula 4-44509
 trapezoidal specimen, edge cracked, mixed mode stress intensity factor correction factors 4-10596
 unified fracture kinetics representation of the three regions of stress corrosion cracking 4-26090
 virtual crack extension method, Cholesky, substructuring 4-19768
 virtual crack extension method, substructuring appl. 4-14918
 weight functions and stress intensity magnification factors for elliptical and semi-elliptical cracks 4-44475
 Al alloy, residual stress intensity factor, aging temp. depend. (*Chinese*) 4-57310
 Al alloy plates containing defects, elastic-plastic stress-strain field meas. (*Chinese*) 4-49785
 Al-Cu-Li, nonlinear fatigue crack growth, deflection model 4-16494
 Al-Cu-Mg, SCC vel. meas. under const. load and const. displacement 4-41043
 Al-Mg-Si, 6061 plate, fatigue crack propag. near thickness interface 4-12160
 Al-Mg-Si, peak aged, fatigue crack propag., dispersoid particles effect 4-21324
 Al-Zn-Mg-Cu, 7075-T6, fatigue failure, prediction, crack initiation and propag. model 4-3259
 Al-Zn-Mg-Cu, powder metallurgy alloy, fatigue crack tip mechanics in vacuum and humid air 4-40942
 Al₂O₃ ceramic, crack resistance 4-16486
 α -Al₂O₃, sintered, Hertzian indentation, fracture behaviour 4-30795
 Cu, polycryst., fatigue cracks, threshold stress intensity and dislocation struct. 4-40961
 Fe, fatigue crack propag. rel. to intermittent oversteering 4-21326
 Fe, fracture, computer simulation using long-range pair potentials 4-50416
 Fe-Si, fatigue crack growth in air and vacuum 4-7580
 Fe-Si (3 wt.%), fatigue crack propag. and plastic zone size 4-40992
 Fe-Y₂O₃ dispersion strengthened, fatigue crack growth rate 4-35693
 FeSi, single crystals, gaseous H₂ embrittlement 4-7537
 Ge crystal, cyclic bending failure, fracture surface structure 4-20287
 Ni, single crystals, gaseous H₂ embrittlement 4-7537
 Si₃N₄, hot pressed, statistical strength evaluation 4-21297
 Ti-Al-V (6, 4 wt.%), fatigue crack growth, threshold range, opening stress intensity factor 4-3217

crack inspection see *crack detection***crack-tip stress field analysis** see *crack-edge stress field analysis***cracking** see *cracks; fracture***cracking, stress corrosion** see *stress corrosion cracking***cracking, thermal stress** see *thermal stress cracking***cracks**

see also *crack detection; crack-edge stress field analysis; crazing; fatigue cracks; penny-shaped cracks; stress corrosion cracking; thermal stress cracking*

- acoustic signal parameters, appl. to crack dimensions and unloading regions evaluation 4-51926
 associated path independent J-integrals for separating mixed modes 4-14919
 beam, cracked, with circular cross-section, stiffness loss and fracture resist. 4-1678
 beams with abrupt changes in cross section, free vibr., comments and reply 4-49750
 bielastic medium, cracks, elasticity theory anal. (*Russian*) 4-44488
 Bilby-Cottrell crack initiation mechanism theory in metals 4-55375
 bone fracture mechanics, longit. fracture: effects of density, specimen thickness and crack vel. 4-47023

cracks continued

- bone medium, exterior star-shaped crack 4-12604
 borosilicate glasses, highly active fission waste products solidification, thin soluble layers anal. and fracture behaviour (*German*) 4-9298
 brittle solids, anisotropic, crit. grain size/preexisting flaw size relations 4-15581
 cavity growth modelling using envelopes of crack like surfaces 4-39377
 cellulose fibre cements, bleached fibre content, slow crack growth 4-35675
 cellulose fibre reinforced cement, slow crack growth 4-35687
 ceramics, fracture mechanics, pore-flaw model 4-51787
 ceramics, fracture mechanics methods appl. (*Czech*) 4-24385
 ceramics, industrial, crack behaviour rel. to microstruct. (*French*) 4-16501
 ceramics, microcrack trajectory in orthogonal cutting by finite element method (*Japanese*) 4-55915
 collinear cracks, fracture characteristics, influence of load biaxiality 4-44479
 composite, crack arrest by fibre reinforcement, yielded zones 4-10605
 composite laminates, notched, failure strength 4-35634
 conference on structural mechanics in reactor technology, Chicago, USA (Aug. 1983) 4-11
 crack-defect demonstrator, paper devices for classroom demonstration 4-8697
 creep, crack growth (*Russian*) 4-1667
 creep crack growth parameter calc. 4-5843
 critical crack-flow model for pipes in nuclear power stations 4-41323
 crystal with crack, healing study 4-2265
 cylinder, explosive loaded at hemispherical end, crack patterns 4-24375
 damaging materials, constitutive eqns. 4-100
 differential out-of-plane surface movement inspection over small areas using electronic speckle pattern interferometry 4-17927
 dimensional colmatage process in fissures 4-1665
 double cantilever beam specimen, crack extension, prediction of initial direction 4-1671
 dynamic crack branching, isochromatic patterns 4-34018
 dynamic properties of moving cracks 4-6433
 effective anisotropic elastic constants for wave propagation through cracked solids 4-26632
 elastic material interface, tear-shear crack dynamics 4-49694
 elastic waves scattering from rough surfaces and cracks 4-29005
 epoxy resin, glass-particle-filled, crack propag., effect of particle vol. fraction and size 4-35685
 epoxy resin, glass-particle-filled, crack propag., effect of particle-matrix adhesion 4-35686
 epoxy resin layer, optically active, crack retardation study 4-57332
 eutectic binary alloys, cohesion, phase boundary effects (*Russian*) 4-57190
 Fe, grey cast, tensile behaviour, role of matrix-graphite interaction 4-12106
 ferroelectrics, fracture micromechanisms, dislocation models 4-6436
 ferromagnetic solid, elastic wave scatt. by two coplanar Griffith cracks 4-33971
 fibre reinforced composites, flat inclusion, partially debonded surface, crack initiation 4-34568
 finite element modelling 4-24372
 float glass, thermally polished, defectiveness and strength 4-12107
 fracture mechanics, caustics equations, closed form solution 4-24380
 fracture mechanics introduction, rel. to crack strength of materials and structs. (*Japanese*) 4-34005
 granite cores from Illinois deep borehole UPH-3, microcrack anal. 4-41900
 graphite, crack resistance determination from crack arrest 4-46675
 half-space, stress wave interaction with periodic system of shear cracks 4-19772
 ice, brittle-ductile transition and cracks 4-55998
 infinitely long elastic layer under shear, closed form soln. for external cracks 4-10606
 inhomogeneous solid medium, strain wave diff. by line crack 4-19634
 Lamb wave scattering in elastic plate waveguide, finite element anal. 4-49597
 line crack-screw dislocation interaction, displacement and stress fields 4-29463
 medium C steel, annealed, fatigue damage under fully reversed tension-compression cycling (*Japanese*) 4-35809
 metals, crack healing, by crossed elec. and mag. fields 4-35777
 metals, dynamic fracture, spalling, review 4-12170
 metals, fracture toughness and microcrack growth (*Chinese*) 4-51774
 metals, rolling process, rel. to development of internal cracks 4-30768
 metals, thermal wave imaging of cracks 4-46697
 microcrack formation under conditions of developed plastic strain 4-11224
 microcracks in granodiorite and quartzite, vel. anisotropy 4-26630
 micropolar elasticity, boundary integral eqn. method 4-32044
 mixed-mode loading crack forces, acoustoelastic determ. 4-1690
 mode-I crack growth under plane stress conditions in elastic perfectly-plastic material 4-49758
 nonferromagnetic conducting material, effect on EM parameters of superposed transducer (*Russian*) 4-42950
 nuclear power plant piping, assessment by experimentation and tearing instability fracture mechanics anal. 4-4997
 pipe, stability of circumferential growth of through-wall crack, effect of nonuniform bending 4-10601
 plate, circular cracked, Fredholm integral equation 4-5841
 plate, elastic, containing circular hole, stresses due to hydrostatic compression under various support conditions in plane stress and strain 4-19726
 plate weakened by two circular holes and a crack, stressed state anal. 4-55324
 PMMA, molecular mechanisms of crack formation and healing 4-16475
 PMMA, ultrasonic velocity softening due to uniaxial tensile stress 4-24911
 PMMA rod, explosive loaded at hemispherical end, crack patterns 4-24375
 polyethylene, high density, J-integral studies of crack initiation 4-3214
 polymer solid, rupture, pseudo cross-link theory 4-3237
 PVC, development of microcracks 4-11222
 PWR primary loop cold leg with circumferential crack, dynamic elastic-plastic behaviour anal. 4-28183
 reactor components, mech. failure concepts using elasto-plastic finite element anal. (*German*) 4-9286

cracks continued

- rock, cracks and joints, elastic props., moduli and wave vel. (*German*) 4-41895
- rock brittle, microcrack model for deformation and failure 4-41897
- rock under pressure, crack density var. 4-26690
- rocks, subcritical crack growth as earthquake precursor driving mechanism 4-26633
- rod shaped samples, inverse problem in acoustic emission signals 4-49599
- rods, elastic, torsion and weakening by radial cracks 4-49764
- rotating shafts, cracked, vibration in bending 4-28998
- shear band computation using new variational approach, crack problem, use of weight functions 4-55345
- shear cracks at edge of a flat punch 4-55379
- sheet metal, failure region stress-strain state during steady motion of a crack (*Russian*) 4-5807
- sheets, infinite, with straight cracks, crack extension due to conc. loading near faces, comparison with mixed mode brittle fracture criteria 4-10603
- Space Shuttle thermal protection system, LI-900 reusable insulation tiles, fracture behaviour 4-3223
- stable crack extension measurement, using elec. pot. method 4-49778
- statistical model of crack formation in welds 4-12159
- steel, austenitic stainless, martensitic transitions, H charging effect 4-40777
- steel, austenitic stainless 304, pressurised pipe under bending, J determ. by VCE method, PWR appl. 4-30823
- steel, C, quenched and tempered, small semi-elliptical cracks, threshold stress amplitude 4-3209
- steel, Cr-V, crack formation and propag. rel. to high temp. thermomechanical treatment (*German*) 4-40939
- steel, crack resistance evaluation from strain diagrams 4-7582
- steel, ferrite-pearlite, microinhomogeneous deformation, hydrogenation effects (*Russian*) 4-51738
- steel, ferritic, incremental step creep test, determ. of creep damage coeff. 4-46669
- steel, ferritic, oxidised fracture surfaces, SEM study 4-51818
- steel, ferritic, plane strain crack propag., and arrest, effect of restraining ligaments 4-30785
- steel, ferritic-pearlitic, failure surface struct. in ductile-brittle transition zone 4-30817
- steel, HSLA, cold-rolled, delamination behaviour (*Korean*) 4-40958
- steel, medium strength, implant cold cracking test (*French*) 4-26149
- steel, Ni-Cr-Mo, crack propag., load response in delayed failure, H diffusion (*Japanese*) 4-46595
- steel, Ni-Cr-Mo, crack propag. in H embrittlement under repeating stress (*Japanese*) 4-46596
- steel, pressure vessels, thick walled, surface cracks, lifetime evaluation, ASME codes thick walled, surface cracks, lifetime evaluation, ASME codes (*German*) 4-7559
- steel, structural, cooling conditions after solidification influence of S and Mn (*German*) 4-16465
- steel, to low alloy, fracture toughness specimen, US detection of onset of crack extension 4-30881
- steel, type 304KHSN2A with brittle inclusions, fracture characts. (*Russian*) 4-51783
- steel, welded plate, transverse restraint testing machine, vel. and displacement meas. 4-46721
- steel samples under fatigue, scale factor and surface quality anal. (*Russian*) 4-1666
- steels, rail or wheel, safety inspection vs. pop-in events (*Chinese*) 4-7540
- strain displacement meas. with laser speckle method (*Chinese*) 4-49780
- styrene acrylonitrile, molecular mechanisms of crack formation and healing 4-16475
- surface breaking crack, incident Rayleigh waves 4-44451
- surface flaws, failure mechanisms in mixed mode loading 4-55914
- target penetration described by Mohr-Coulomb, failure criterion with tension cutoff 4-86
- tension members, plane strain cracked, J integral determ. using finite element creep solutions 4-24374
- tip, forward thrust calc., unilateral contact (*French*) 4-38757
- transversely isotropic medium, infinite, interaction of SH waves by Griffiths crack 4-1669
- two dimensional triangular lattice, crack initiation, atomistic model of slip formation 4-29447
- unloading compliance method, crack length meas. 4-29033
- US transducers, piezoelectric ceramics, cyclic strength 4-49647
- viscoelastic media, crack growth, effect of stress distrib. nonuniformity in fairly large end zone 4-44492
- wear resistant coatings, brittle, fracture under bending deformation, theory 4-41003
- wear resistant coatings, selection requirements for max. resistance 4-7620
- Al-Mg-Si, 6061, creep crack growth 4-40990
- Al-Si(0.5 wt%), with brittle inclusions, fracture characts. (*Russian*) 4-51783
- Al-Zn-Mg, prespalling stage of fracture, crack form. correl. with macroscopic props. 4-51817
- Al₂O₃, delayed fracture, crack coalescence and microscopic crack growth 4-16485
- Al₂O₃, hardness testing, in air and simulated body environment 4-21314
- α-Al₂O₃ single crystals, TSEE rel. to mech. surface treatment 4-3033
- Al₂O₃-Ag₂O, β and β' phases, struct. and props., high resolution electron microscopy study 4-34477
- Al₂O₃-Cr₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
- Al₂O₃-Na₂O, β and β' phases, cracks and other defects, acoustic, optical and electron microscopy studies 4-34575
- β-Al₂O₃-Na₂O, inhibition of degradation by ionic exchange (*French*) 4-51843
- Al₂O₃-SiO₂, mullite, mech. props. 4-16483
- BaMoO₄, flux-grown single crystals, Vickers micromech. indentation 4-29519
- BaTiO₃ ceramic, fracture studies 4-39372
- C fibre reinforced epoxy laminates, failure, edge stresses effect 4-26037
- C thin films, diamond-like, under internal compressive stress, stress relief forms 4-50696
- Cr-Al-Y-Fe (Co) coatings on stainless steel, laser surface fusion and oxidation 4-7649
- Cu, alloyed and unalloyed, direct extrusion, surface cracks and defect form. 4-12089
- Cu-He, gas evolution, under alpha-particle irradiation (*Russian*) 4-39595
- Fe, Armo, crack healing, by crossed elec. and mag. fields 4-35777

cracks continued

- Fe, cast, crack nucleation and propagation during tensile test (*Chinese*) 4-57323
- Fe, ductile cast, fracture toughness of blunt-notched CT specimens (*Japanese*) 4-57501
- Fe, H enhanced crack propag., in situ HVEM obs. 4-57336
- Fe, intergranular subcritical crack growth, S in grain boundaries 4-40989
- Fe-Si-Al ferromagnetic alloy, mech. strength in mag. fields (*Russian*) 4-35677
- Fe₂Co₇₀Si₁₅B₁₀ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
- Fe₄₀Ni₄₀P₁₄B₆ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
- Ge, brittle, coated with hard C, indentation and liq. impact studies 4-15792
- KClO₄, deform., microhardness studies 4-2256
- LiF, healed crack, forms of dislocations 4-24820
- Li₂O-Al₂O₃-SiO₂ glass containing Zr and Ti, phase separation and crystallisation (*Russian*) 4-6292
- MgO-Al₂O₃-SiO₂, cordierite glass-ceramic, hot-pressed, thermal expansion 4-45364
- Mo, cracking of single crystals, stable extension of crack under unidirectional loading 4-35680
- Mo, ductile fracture and dislocation glide, HVEM study 4-30810
- NaCl, hydrostatically compressed, fracture study 4-6437
- Ni, intergranular subcritical crack growth, S in grain boundaries 4-40989
- Ni₂Si₃B₇ metallic glass ribbons, plastic deform., slip bands, mech. tests, SEM obs. 4-16455
- (Pb_{0.8}Ba_{0.4})_{0.97}La_{0.02}Nb₂O₆ piezoelectric ceramic, mechanical props. 4-40940
- PbTiO₃:La ceramic, internal stress anisotropy 4-39373
- PbZrO₃:PbTiO₃:Nb₂O₅ ceramic, FE₁-FE₂ phase transition, doping effects 4-40368
- Si₃N₄, hot pressed, damage penetrations at elongated machining grooves 4-57319
- SrBi₂Nb₂O₉ piezoelectric ceramic, mechanical props. 4-40940
- α+β-Ti alloys, fracture toughness and subcritical crack development, H influence 4-51807
- TiB₂, irradiation and post-irradiation annealing behaviour 4-11193
- UO₂, neutron irradiated, microhardness meas. 4-48657
- W-Ni-Fe, heavy alloys, liq. phase sintered, fracture behaviour 4-40972
- WC-Co composites, fracture stress, elastic limit, microstruct. 4-51732
- ZrO₂, tetragonal, Y₂O₃-(Al₂O₃)-stabilised, stress-induced crack zone size meas. by Raman microprobe 4-3368
- ZrO₂-Y₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
- ZrO₂-Y₂O₃ thermal barrier coatings, failure during thermal cycling 4-21167
- cranes**
drop test requirement, reactor building crane 4-37898
- cranking model** see nuclear cranking model
- crazing**
see also stress corrosion cracking
crosslinked polybutadiene rubber, fracture toughness at -180°C 4-16480
- PMMA, fatigue loaded, crack propag., optical interference meas. 4-35712
- PMMA rod, explosive loaded at hemispherical end, crack patterns 4-24375
- polycarbonate, fatigue behaviour 4-35719
- polycarbonate, positional small-angle X-ray scattering from Crazes 4-12213
- polymer solid, rupture, pseudo cross-link theory 4-3237
- polymers, fatigue damage monitoring 4-35718
- polymers, fatigue loaded, crack propag., optical interference meas. 4-35712
- polymers, glassy, fatigue crack propag. 4-35713
- polymers, glassy, stress and displacement fields at tip of crazes 4-40984
- polypropylene, fatigue crack layer, kinematic and statistical anal. 4-35710
- polypropylene, fatigue crack propag., damage dissemination effect 4-3221
- polystyrene, coated spheres filled, crazing modes under impact, matrix-filler adhesion effect 4-12149
- polystyrene, crazes, small angle X-ray scatt., reflective component analysis 4-12212
- polystyrene, crazing propag. 4-3266
- polystyrene-glass bead composite, craze form., effect of interfacial adhesion 4-7549
- PVC, fatigue loaded, crack propag., optical interference meas. 4-35712
- polystyrene, isotactic films, cold drawing, craze, fibrils, TEM obs. 4-30782
- creation hypothesis, continuous** see cosmology
- creation of electron pairs** see electron pair production
- creep**
see also creep fracture; creep testing; diffusion creep; elastic aftereffect; irradiation induced creep; recovery-creep; stress relaxation
activation energy determination procedure (*Czech*) 4-6432
- alloys, precipitation hardened, creep rel. to overaging (*French*) 4-51761
- amorphous polymers, quenched, isothermal ageing, sequential relax. mechanism 4-40825
- amorphous polymers, viscoelastic behaviour in glass-rubber transition region, birefringence obs. 4-30742
- amylose, solid, thermally stimulated current and creep 4-50838
- anelastic and viscoelastic materials, creep and stress relax. functions, convexity 4-5812
- cavitation and failure criterion 4-44425
- cavity growth mechanisms, review (*German*) 4-57307
- cavity nucleation at particles on sliding grain boundaries, shear crack model in creeping polycrystals 4-50305
- ceramic bending beam, constant load creep, non-stationary stress distrib. 4-24353
- ceramics, plasticity and deformation (*Japanese*) 4-21276
- coatings, high temp., mech. aspects 4-16566
- components subjected to creep and ratcheting, finite element anal. 4-57309
- concrete, creep and thermal shrinkage at high temp., math. model 4-27970
- corundum, vitreocrystalline, high temp. creep rel. to amorphous phase and crystal size 4-51742

creep continued

crack growth during creep (*Russian*) 4-1667
 crack growth rate prediction, under combined fatigue and creep 4-46674
 cyclic creep strength theory under multicyclic high-temp. loading conditions 4-55354
 deformation in components, estimation from short term proof test data 4-3201
 dislocation glide, multiaxial creep laws 4-55839
 dislocation-inclusion repulsion, diffusional relax. 4-15516
 edge dislocation-circular inclusion interactions, at elevated temps. 4-20190
 epoxy resins ED200 and PN609, creep props. 4-16460
 fatigue life prediction, under action of mean stresses, new approach 4-40962
 finite element creep rupture analysis of structures 4-46590
 glass fibre reinforced epoxy, mech. props. at cryogenic and elevated temp. 4-51772
 grain boundaries, growth of sub-critical bubbles 4-55844
 granite, creep properties influence by α - β quartz transition 4-47252
 graphite and Kevlar 49 fibre reinforced epoxy, biaxial stress behaviour, creep and recovery tests 4-46585
 hardening material creep theory 4-49721
 Hastelloy X, creep constitutive eqn., sensitivity anal. 4-46561
 hot isostatic pressing, mechanisms 4-7380
 ice, creep of columnar-grained ice at low stress 4-22010
 ice, microplasticity, very low freq. internal friction meas. 4-50434
 ice, polycrystalline, creep, rate-controlling processes, plasticity 4-29514
 ice polycrystalline, creep as function of hydrostatic press. 4-29513
 IN738LC, cast superalloy, creep and fracture, 750-950°C 4-16493
 In-100, Ni-base superalloy 4-12154
 IN-738, -939, Ni-base superalloys, creep crack growth 4-7557
 Incoloy 800, Ni-base superalloy, sulphidation attack at intermediate temps. 4-41081
 Inconel 625, cyclic stress-strain relationships, creep, fatigue, TREAT Upgrade cladding 4-21294
 inelastic constitutive equations for plasticity creep interaction and fatigue life assessment (*Japanese*) 4-33955
 internal damaging in uniaxial tension and creep, mech. models and constitutive eqns. (*German*) 4-14892
 intersecting equal diameter cylindrical shells under internal pressure, creep 4-28993
 intervertebral discs, human, compressive creep behaviour anal. using Kelvin-solid models 4-57929
 intervertebral joints, Rhesus monkey, compressive creep behavior anal. using Kelvin-solid models 4-57930
 inverse problem in viscosity 4-29515
 laminar composite, two-phase, creep effect on elastic deform. 4-44415
 long-term loading failure time under plane stressed state conditions rel. to min. rate of creep deform. 4-12126
 material ratcheting rates in Bree beam element 4-21274
 mechanical properties at elevated temperatures, A8 and A85 4-3192
 metallic glasses, internal friction and other rheological functions in glass transition region (*French*) 4-39379
 metallic materials, back stress in dislocation creep (*Czech*) 4-7512
 metallic materials, dispersion strengthened, back stress in dislocation creep (*Czech*) 4-7513
 metals, damage and failure at elevated temperature 4-35704
 metals, FCC and BCC, radiation-induced creep, Weertman dislocation multiplication, diffusion-dislocation approach 4-6398
 metals, residual life estimation from the kinetic models of damage in creep conditions 4-7581
 metals and alloys, anomalies in mech. response at low temps. 4-20285
 mullite-corundum refractories, fixed mullite based, thermomech. props. 4-46578
 negative, specimen length contraction under tensile creep conditions (*German*) 4-57306
 Nimonic 80A, creep deform. and fracture, role of cavity nucleation 4-12138
 Oldroyd fluids, extensional flows 4-34142
 one-dimensional materials with internal variables, discontinuous external force induced stationary singular points 4-5810
 oxidation-creep interaction, review 4-41062
 oxide glasses, internal friction and other rheological functions in glass transition region (*French*) 4-39379
 phenomenological description of work hardening and creep based on one-parameter models 4-20284
 polar ice, anisotropic power-law viscosity (*French*) 4-44400
 polyacetylene films, anelastic props., oxidation depend., thermostimulated creep study (*French*) 4-39385
 polyacrylates, creep in alcohols (*Russian*) 4-30748
 polycapraamide fibres, creep deform. in liquid media (*Russian*) 4-30747
 polycrystals, face-centred cubic, creep under low stresses 4-45255
 polyethylene, lamellar, surface mech. props., chlorosulphonation influence 4-26080
 polyethylene, ultra high modulus, oriented linear, creep and stress relax. 4-40900
 polyethylene, ultra-high mol. weight, creep and recovery behaviour in uniaxial deformation region 4-40922
 polyimide films, mechanical serviceability in creep conditions (*Russian*) 4-15586
 polymer composite, binder long-term deformability estimation during development stage 4-46488
 polymers, stress relaxation crazing, energy criterion prediction 4-30809
 polyurethane, network topology effect on time-crosslink density reduction, creep expts. 4-16439
 polyurethanes, photochem. reversible crosslinking 4-35923
 predictor-corrector and finite element models (*German*) 4-5816
 propylene ethylene block copolymers, anelastic props., thermostimulated creep study (*French*) 4-39386
 PTFE fibres, creep deform. in liquid media (*Russian*) 4-30747
 quartzite, creep properties influence by α - β quartz transition 4-47252
 retardation spectrum and dynamic viscoelastic function creep response inversion 4-1629
 rheological model of nonlinear viscoplastic solids 4-14898
 sintering, pressure, anal. by computer simulation 4-51564
 solid solution alloys, creep behaviour, incorporate of Suzuki and Fisher interactions 4-7519
 solid-liquid interface, dynamical eqns. derivation 4-6624
 steady frictional slipping stability 4-1627
 steady rate constitutive laws, formulation optimisation 4-1616

creep continued

steady state internal stress, estimation from creep strain-time plot 4-39371
 steam turbine rotors, reliability and failure 4-41313
 steel, alloy, damage resist. during creep, plastic deform. effects (*Russian*) 4-51736
 steel, austenitic stainless, 800 H, creep rel. to struct., 900-1000°C 4-21287
 steel, austenitic stainless, const. load tensile creep at 550°C 4-40898
 steel, austenitic stainless, Cr-Ni-Mo, transient creep, subboundary struct., TEM obs. 4-30761
 steel, austenitic stainless, Cr-Ni-Mo, transient creep kinetics 4-30760
 steel, austenitic stainless, creep, effect of grain size (*Korean*) 4-16443
 steel, austenitic stainless, creep deform. and damage, under fatigue loading (*Japanese*) 4-26051
 steel, austenitic stainless, heat-resisting, creep rupture strength (*Japanese*) 4-3227
 steel, austenitic stainless, isochronous stress creep strain behaviour 4-40892
 steel, austenitic stainless, low cycle fatigue, creep sensitive temp. range 4-30796
 steel, austenitic stainless, microstructure, phase transform. in Duplex 316L 4-7447
 steel, austenitic stainless, Sb-doped 25 Cr-20 Ni, creep behaviour 4-30755
 steel, austenitic stainless, simple two-bar structure, creep props., theoretical and expt. investigation 4-51739
 steel, austenitic stainless, type X6CrNi 1811, creep curve eval. technique (*German*) 4-12135
 steel, austenitic stainless, type X6CrNi 1811, irradiated and non-irradiated samples, fatigue suppression for LMFBR materials (*German*) 4-12189
 steel, austenitic stainless, X6CrNi 7811, creep resistance and time depend. of LMFBR structural elements (*German*) 4-12134
 steel, C, methane bubble growth 4-57328
 steel, Cr-Mo, creep cavitation in neighbourhood of stress concentrations 4-3194
 steel, Cr-Mo-V, heat treatment, creep rel. to P addition 4-12110
 steel, Cr-Mo-V, low alloy, heat resist., creep life and fracture strain prediction (*Czech*) 4-7555
 steel, Cr-Mo-V, turbine rotor, creep embrittlement 4-35707
 steel, Cr-Mo-V pipe grade, limiting deform. under various creep conditions 4-12177
 steel, Cr-Ni, dislocation creep, glide mechanism (*Czech*) 4-7514
 steel, ferritic, Mo-V, long term creep, precipitation struct. (*German*) 4-3171
 steel, high-strength, short-term rupture strength, rapid heating effect 4-16506
 steel, low alloy, isochronous stress creep strain behaviour 4-40892
 steel, Ni-Cr-Mo-V, heat resistant, for turbine rotors, working props. improvement (*Italian*) 4-7536
 steel, stainless, damage and fracture criteria during creep 4-30811
 steel, stainless, grain-size-dependent creep 4-21282
 steel, stainless, type 304, creep cavitation in neighbourhood of stress concentrations 4-3194
 steel, stainless, type 316, plastic and viscoplastic constitutive eqns. 4-3200
 steel, structural, primary creep, stepwise temp. change effect 4-40897
 steel-column, creep buckling at high temps. 4-40896
 steel-polyamide contact forces of external friction and creep during tangential loading (*Russian*) 4-57353
 structural elements, calc. of stress-strain state and time to start of failure 4-12127
 structural model allowing for loading history 4-51766
 trusses, two-bar, optimisation under creep conditions using method of contours of complete nonuniqueness 4-24348
 tube of oval cross-section, characteristic point use for creep calc. 4-10568
 Udimet 500, γ precip. strengthened Ni-base superalloy, effect of Co on high temp. strength (*Chinese*) 4-16433
 US cyclic loading, stress and creep relaxation 4-51769
 velocity, appl. of multiple exposure speckle interferometry (*Chinese*) 4-3306
 vibrocreep, theories, derivation method 4-3178
 Volterra problem anal. for steady state creep material using complex stress and pseudo-stress functions 4-5805
 work-hardening, recovery and creep deform., Bailey-Orowan model 4-33949
 Zircaloy LWR fuel rod cladding tubes, creep anisotropy effect on ballooning 4-33000
 Zircaloy-4, creep, cell diameter to dislocation spacing ratio 4-16454
 Zircaloy-4, stress-relieved, creep at 673K 4-16441
 Zircaloy-4, stress-relieved, creep controlled by jog-drag and cell-form., apparent activation energy 4-30756
 Zircaloy-4 fuel sheathings, failure model for LOCA, steam or inert atm., 900-1600K 4-54248
 Ag-Al(10 at.%), μ -phase precip. vacancy enhancement 4-30701
 Al alloy, transient creep, uniaxial and biaxial, constitutive eqns. 4-16463
 Al alloys, crack growth rate prediction, under combined fatigue and creep 4-46674
 Al bicrystals, creep deform., grain boundary sliding, dislocation absorpt. 4-12122
 Al, diffusion creep speed, effect of transitions (*Russian*) 4-50414
 Al, fracture as a result of stretching (*Russian*) 4-6435
 Al, internal friction, dynamic modulus meas., dislocation segment distrib. effects 4-50304
 Al, plastic deform. under active load (*Russian*) 4-24903
 Al, pure, cyclic creep accel., temp. and stress depend. 4-3184
 Al-Al₂O₃ oxide dispersion strengthened, high temp. strength 4-40889
 Al-Cu, high strength, creep crack growth, study using computerised testing system 4-40964
 Al-Cu-Mg, heat-resistance, electroslog refined, hot workability and hot deform. 4-7494
 Al-Cu-Mg-Fe-Ni, elevated temp. mech. props. 4-57300
 Al-CuAl₂, single eutectic grains, hot deform. in tension, role of phase boundaries 4-21263
 Al-Mg (5.7 at.%), high temp. deform., internal stress, rel. to dislocation density (*Japanese*) 4-35665
 Al-Mg (8 wt.%), deform. influence on precipitation kinetics (*Russian*) 4-57236
 Al-Si-Ti metallisation, sputtered, for VLSI circuits, characterisation and props. 4-40925

creep continued

- Al-Zn (11 wt.%), creep at intermediate temp., evolution of internal stresses and substruct. 4-57279
 Al-Zn (5 wt.%), stress exponent and subgrain size, effect stress reductions 4-16446
 Al-Zn binary alloys, creep and self-diffusion 4-21281
 α -Al₂O₃ refractories containing glass phase, creep 4-46577
 B plastic reinforced D16T alloy rod elements, short-term strength under room and low temp. conditions 4-12180
 Co, transient creep near transform. temp. 4-34567
 Co₆₆Fe₄Mo₁₂Si₁₆B₁₂ metallic glass, creep-induced and field-induced anisotropy 4-56607
 CoO, point defect and diffusion props., high temp. creep study 4-15580
 Cu single crystals, dynamic recrystallisation during tensile deform. in creep 4-12112
 Cu wire, material ratcheting rates in Bree beam element 4-21274
 Cu-Sb, creep cavity surfaces and grain boundaries, chem. comp. study 4-24829
 Cu-Sb alloy, rel. between creep cavitation and grain boundary orientation 4-45144
 Cu₂O, point defect and diffusion props., high temp. creep study 4-15580
 Fe, cast, high Cr, wear technological parameters 4-35733
 Fe, high purity, transient creep at low stresses and homologous temps. 4-3169
 Fe, internal friction, creep, dislocations (*French*) 4-51715
 Fe-al (39.8 at.%), Bailey-Orowan creep model 4-35662
 Fe-Ni-Cr, model alloy, stress-rupture in sulphidising and oxidising environments 4-7636
 Fe₈₂-B₁₈M_x, M=Si, Ni, V or Mo, amorphous alloys, flow and relax. kinetics 4-39394
 FeMnAl steel, creep eqn. formulation in complex stress states 4-3177
 Fe₃₃Ni₃₂Cr₁₄P₁₂B₆, metallic glass, influence of superimposed tensile stress 4-15392
 Fe₄₀Ni₄₀P₁₄B₆, metallic glass, influence of superimposed tensile stress 4-15392
 Fe_{1-x}O, Wustite, creep, 100°C, O autodiffusion, deform. mechanism (*French*) 4-21289
 K, deformation mechanism maps 4-46580
 MgO-(Cr₂O₃)-Fe₂O₃-SiO₂-Al₂O₃-CaO refractories, thermomech. and deform. props. 4-12121
 Mo-Ti-Zr alloy Tsm2A, struct. and creep after internal nitriding 4-3147
 Mo-V-C alloy, polycryst., deform. and fracture governing relationships in high-temp. cyclic creep 4-12178
 Mo-V-C alloy, polycryst., deform. and fracture governing relationships in high-temp. cyclic creep, struct. changes 4-12179
 Mo-W (5 wt.%), creep ductility, effect of thermomech. processing 4-40909
 NaCl, microstructure obs. during high temp. creep using X-ray refl. topography 4-24904
 Nb, high temperature creep in vacuum 4-7532
 Ni alloy EI-607A, instantly-plastic deform. influence on creep (*Russian*) 4-30753
 Ni alloys, high-alloy, notch sensitivity 4-21284
 Ni, dislocation density variation under creep (*Russian*) 4-50298
 Ni, pure, secondary creep parameters analysis 4-7530
 Ni, pure, vacancies role in cyclic creep 4-12104
 Ni-base superalloy, NASAIR 100 creep, γ plate development 4-3198
 Ni-base superalloy single crystals, γ precip. directional coarsening 4-12073
 Ni-base superalloys, particle strengthened, anelastic relaxation, cyclic creep and stress rupture (*Chinese*) 4-16428
 Ni-Co-Cr superalloy, creep rel. to Mg additions (*Chinese*) 4-57280
 Ni-Cr-W superalloy, CMSX-2, improvement of creep strength by heat treatment 4-7489
 Ni-Cr-W superalloy, dispersion hardened, steady-state creep, phys. parameters 4-51762
 Ni-Cr-W-Mo, superalloy, GH37, creep strength rel. to hot corrosion by Na₂SO₄-NaCl coating 4-30853
 Ni-Mo-Al, γ/γ' - α , Bailey-Orowan creep model 4-35662
 Ni-ThO₂, dispersion hardened, steady-state creep, phys. parameters 4-51762
 NiO, point defect and diffusion props., high temp. creep study 4-15580
 Pb-Sb-As, model alloy, creep and ratcheting study 4-12131
 Pb-Sb-As alloy tubes, thick flanged, subjected to steady axial mech. loading and transient thermal loading, ratchetting and creep 4-26000
 Sb, amplitude depend. internal friction anomalies at low temp. 4-50423
 SiC, static fatigue limit at elevated temps. 4-26038
 Si₃N₄, liq. phase sintered, high temp. failure initiation 4-12136
 Sn, pure, struct. relax. by interphase boundary migration, internal friction, elastic modulus and creep 4-12094
 Ti-Al-Mn, damage and fracture criteria during creep 4-30811
 Ti-Al-W, creep deform. modes, phase morphology 4-7523
 UO₂ tensile specimens, fabrication, creep testing 4-30871
 V₂Si, creep rate, direct current and temp. gradient effects 4-35670
 WC powder, die compaction, creep effect 4-25908
 Zn single cryst., creep, current pulse effects 4-7525
 Zn single cryst., creep, current pulse effects (*Russian*) 4-25999
 Zn single crystal, low temp. creep, forest dislocation effects (*Russian*) 4-25998
 Zr, dislocation struct. and strain hardening during creep at 77K (*Russian*) 4-24817
 ZrC-NbC(TaC)(WC) solid solution, creep rate study 4-57285

creep fracture

- constant load creep tests, fracture life, relationship with fracture mechanisms 4-41157
 crack growth parameter calc. 4-5843
 creep rupture analysis of structures 4-46590
 fatigue crack propagation under corrosion and creep, freq. effect mechanism 4-40930
 IN738LC, cast superalloy, creep and fracture, 750-950°C 4-16493
 IN-100, Ni-base superalloy 4-12154
 IN-738, -939, Ni-base superalloys, creep crack growth 4-7557
 Incoloy 800 tubes, estimated life sensitivity to material props. variation, solar panel appl. 4-35705
 Inconel 625, fatigue cycling, fatigue strength, creep damage, TREAT Upgrade cladding 4-21327
 Inconel 718, oxidation influence on crack propag. at high temp. (*French*) 4-46653
 metals, residual life estimation from the kinetic models of damage in creep conditions 4-7581

creep fracture continued

- Nimonic 80A, creep deform. and fracture, role of cavity nucleation 4-12138
 oxidation-creep interaction, review 4-41062
 planar random composites, hygrothermomech. behaviour, composite mechanics 4-16511
 polycrystals, damage model of creep crack growth 4-2262
 Rene 95, creep crack growth rates, environmental sensitivity 4-40974
 shell, circular cylindrical, weakened by a hole, creep fracture anal. 4-55378
 steel, austenitic stainless, 800 H, creep rel. to struct., 900-1000°C 4-21287
 steel, austenitic stainless, crack distribution under creep 4-35698
 steel, austenitic stainless, creep crack growth in type 316 4-26029
 steel, austenitic stainless, creep deform. and damage, under fatigue loading (*Japanese*) 4-26051
 steel, austenitic stainless, fracture along grain boundaries, cavity growth control mechanisms 4-16509
 steel, austenitic stainless, heat-resisting, creep rupture strength (*Japanese*) 4-3227
 steel, Cr type, stress-rupture strength after long service in tube furnaces of oil-refining equipment 4-57342
 steel, Cr-Mo-Ni-V, creep crack initiation and growth, AC potential drop obs. (*German*) 4-30872
 steel, Cr-Mo-V, low alloy, heat resist., creep life and fracture strain prediction (*Czech*) 4-7555
 steel, Cr-Mo-V pipe grade, limiting deform. under various creep conditions 4-12177
 steel, ferritic, incremental step creep test, determ. of creep damage coeff. 4-46669
 steel, Ni-Cr-Mo-V, heat resistant, for turbine rotors, working props. improvement (*Italian*) 4-7536
 steel, stainless, notched type 304, creep-fatigue fracture, FBR appl. (*Japanese*) 4-26016
 steel, stainless, residual safe life under creep conditions 4-7577
 steel, stainless, structural, irradiation, in-pile nucleation and growth of gas bubbles on grain boundaries 4-15544
 steel Cr-Mo-V, low alloy heat resistant, creep fracture mechanisms 4-30799
 Ag-Al (10 at.%), μ phase precip., vacancy enhancement 4-57233
 Ag-Al(10 at.%), μ -phase precip. vacancy enhancement 4-30701
 Al-Cu, high strength, creep crack growth, study using computerised testing system 4-40964
 Al-Mg-Si, 6061, creep crack growth 4-40990
 C fibre reinforced plastic, temp. and moisture effects on failure, damage accumulation eqn. 4-46604
 Cu, OFHC, creep-fatigue interaction 4-3240
 Mo-V-C alloy, polycryst., deform. and fracture governing relationships in high-temp. cyclic creep 4-12178
 Mo-V-C alloy, polycryst., deform. and fracture governing relationships in high-temp. cyclic creep, struct. changes 4-12179
 Ni, pure, vacancies role in cyclic creep 4-12104
 Ni-Co-Cr superalloy, creep rel. to Mg additions (*Chinese*) 4-57280
 Ni-Cr-Co, Udimet 520 superalloy, γ strengthened, mech. props. rel. to protective coatings 4-40971
 Ni-Cr-W-Mo, superalloy, GH37, creep strength rel. to hot corrosion by Na₂SO₄-NaCl coating 4-30853
 SiC whisker reinforced Al composite, creep rupture, microstruct. 4-40966
 Si₃N₄, liq. phase sintered, high temp. failure initiation 4-12136

creep-recovery see recovery-creep**creep testing**

- biaxial tension-torsion creep machine with const. stresses (*French*) 4-3342
 fracture life for const. load creep tests, relationship with fracture mechanisms 4-41157
 incremental step creep test, determ. of creep damage coeff. 4-46669
 linear displacement transducer appl., developed for AGR environments 4-771
 non-ceramic insulators for H₂V transmission lines, AE 4-57517
 steel, austenitic stainless, shakedown tests at elevated temp. 4-46703
 steel, Cr type, stress-rupture strength after long service in tube furnaces of oil-refining equipment 4-57342
 steel, stainless, notched type 304, creep-fatigue fracture, FBR appl. (*Japanese*) 4-26016
 structural materials, apparatus for testing in varying neutron flux 4-57511
 test frame for uniaxial creep, for composite-wood material testing 4-35788
 Fe, pure, incremental step creep test, apparent activation area 4-3307
 UO₂ tensile specimens, fabrication, creep testing 4-30871
 Zr-Nb (2.5 wt.%) press. tubes, high temp. transverse creep model verification tests 4-54276

crestatrons see travelling-wave-tubes**crimping**

No entries

critical constants, thermal see critical points**critical current density (superconductivity)**

- bridge, wide, crit. currents 4-25483
 hard superconductor losses with local imperfections 4-2708
 in situ superconducting wires, transverse field hysteresis, twist effects 4-16004
 in situ superconductors, macroscopic and microscopic models 4-6926
 short Josephson tunnel junction, critical currents, focused laser beam effects 4-56507
 type II superconductors, hysteresis losses, field independent surface barriers effects 4-45970
 Cu-Nb multifilamentary superconductors, powder metallurgy processed, cold hydrostatic extrusion 4-21185
 Nb-Al multifilamentary superconductors, powder metallurgy processed, cold hydrostatic extrusion 4-21185
 Nb-Al superconducting wires, powder metallurgy processed, high field performance 4-45967
 Nb-Au-Nb Josephson SNS junction, mag. field depend. study 4-30117
 Nb-Ta superconducting alloy, surface pinning 4-16001
 Nb-Ti multifilamentary superconductors, with very fine filaments, behaviour under AC mag. fields 4-45983
 Nb-Ti superconducting composite wire, props. 4-45982
 Nb-Ti-Ta cables, with different chemical compositions, supercond. props. 4-45981
 Nb₃Ge tape supercond., CVD prep., props. 4-45980

critical current density (superconductivity) continued

- NbN, critical current density and mech. reinforcement for magnets 4-51007
 NbN/Ge/Nb Josephson tunnel junctions, characts. 4-50992
 Nb₃Sn CVD superconducting composite tapes, stability and plastic yielding 4-50987
 Nb₃Sn, critical current, standardisation of meas. 4-51008
 Nb₃Sn, critical current density and mech. reinforcement for magnets 4-51007
 Nb₃Sn internally cooled cabled supercond. technology, use of Inconel 617 sheathing 4-45975
 Nb₃Sn multifilamentary superconductors, effect of hot isostatic pressing on stress effect 4-40701
 Nb₃Sn multifilamentary superconductor, made by ECN method, $J_c(B,T)$ charact. 4-45973
 Nb₃Sn multifilamentary superconductors, composition, struct. and current carrying capacity 4-45976
 Nb₃Sn superconducting multifilamentary wires prepared by bronze route, crit. currents, anomalous increases 4-45974
 NbTa-Sn multifilamentary composite wire by solid-liq. reaction, supercond. props., appl. above 20 T 4-16003
 NbTi supercond. with anisotropic defects, volume pinning forces 4-45965
 NbTi(65 wt.%), critical current density, influence of precipitation and alloying 4-30130
 PbMo₆S₈, crit. current density, magnetisation meas., grain size, neutron irradi. and doping effects 4-35128
 PbMo₆S₈, critical current density and mech. reinforcement for magnets 4-51007
 SnMo₆S₈, crit. current density, magnetisation meas., grain size, neutron irradi. and doping effects 4-35128
 Ta₇₀Nb₃₀, superconducting props. meas. (*Russian*) 4-56511
 TaSe₃, supercond. transition, giant resist. anomaly 4-45907
 Ti-Nb-Ta-Zr, supercond., flux pinning, role of α precipitates 4-45966
 V₃Ga multifilamentary supercond., crit. current enhancement by In addition 4-45979

critical currents

- see also critical current density (superconductivity); flux creep; flux flow; flux pinning*
 composite superconductors, normal zone propagation, theory 4-50986
 DC SQUID, low damped, crit. current 4-20774
 fusion reactor, composite superconductor, cryostability, neutron irradi. effects 4-45969
 high-temperature electrodynamic process optimisation 4-26224
 in situ superconductors, elec. behaviour for large filament separation 4-6927
 interface flux pinning and critical currents 4-16002
 Josephson junction arrays, in transverse mag. field 4-15998
 multifilamentary superconducting wires, non-uniform current distrib. 4-51010
 short Josephson tunnel junction, critical currents, focused laser beam effects 4-56507
 tunnel functions with mag. impurities, critical Josephson currents 4-56506
 type II superconductors characts. recording, using semiautomated system 4-8919
 upper critical field and critical currents near tricritical Lifshitz point 4-45958
 Al film, energy gap and crit. current, phonon-induced enhancement 4-20765
 Al strips, phase slip centres, energy gap and electrochem. pot. study 4-15989
 Al superconducting strips, microwave-enhanced critical currents 4-45971
 In microbridges, one-dimens., phase-slip centre development, time domain obs. 4-11646
 In microbridges, volt. response to light pulses, time delays 4-15992
 In-Ge, percolating superconductor, pair breaking crit. current 4-51006
 Nb bicrystals, vortices interaction with grain boundaries, crit. current meas. 4-2711
 Nb film, crit. current in weak mag. field (*Russian*) 4-30129
 Nb microbridges, pulse treatment method (*Chinese*) 4-2698
 Nb thin films, vortex motion and critical currents 4-35129
 Nb-Al-oxide-Nb Josephson junctions, critical current uniformity and stability 4-56503
 Nb-Ti superconductors, instabilities anal. (*German*) 4-2710
 Nb-Ti-Hf multifilamentary superconductors, high-field props. 4-11654
 Nb-Ti-Ta superconducting wires in non-stationary conditions 4-51009
 Nb-Ti-(Ta) multifilamentary superconductors, fabrication 4-45968
 Nb₃Ge tape supercond., CVD prep., props. 4-45980
 NbN film, crit. current in weak mag. field (*Russian*) 4-30129
 NbN/Ge/Nb Josephson tunnel junctions, characts. 4-50992
 NbN-Pb Josephson junctions, ion bombardment effects 4-30116
 Nb₃Sn, bronze-processed multifilamentary wire, critical current study 4-30131
 Nb₃Sn flexible superconducting braids and cables, development 4-45978
 Nb₃Sn internally cooled cabled superconductor, fabrication 4-51011
 Nb₃Sn multifilamentary superconductor, struct. and props. (*Chinese*) 4-2679
 Nb₃Sn multifilamentary superconductors, high-field crit. currents improvement by Ti addition 4-30128
 Nb₃Sn superconducting multifilamentary wires prepared by bronze route, crit. currents, anomalous increases 4-45974
 Nb₃Sn superconducting wires, crystallographic changes caused by appl. stresses 4-45972
 Nb₃Sn tape superconductor, props., influence of Nb₂O suboxides in substrate 4-45977
 Nb₃Sn-Cu superconducting wire, prep. in situ, effect of Ta additions 4-40128
 NbTi-Cu multifilamentary superconductor, explosive welding 4-51012

critical field, superconducting *see superconducting critical field*

critical fluctuations

- see also fluctuations in superconductors*
 commensurate phase melting and new universality classes 4-11252
 DC SQUID, low damped, crit. current 4-20774
 fluctuating valence solid, polaronic effects, renormalization group study 4-2527
 isotropic Heisenberg ferromagnetic chain, energy fluctuations 4-2783
 paraterphenyl, critical phenomena, quasielastic incoherent neutron spectra studies 4-39462
 phase transition kinetics and dynamics of kinks, interfaces and vortices 4-8857

critical fluctuations continued

- polymer mixtures, collective diffusion, nucleation, spinodal decomposition 4-29630
 smectic liquid crystals, Ginsburg-Landau-de Gennes gradient term 4-10980
 spin glasses, lack of self-averaging 4-46036
 trimolecular reaction model, critical behaviour of fluctuation (*Chinese*) 4-3376
 valence fluctuation in periodic Anderson Hamiltonian, single-site picture 4-25543
 He-Ne three mode 3.39 μ m laser, mode locking chaos, secondary beat freq. 4-10280
³He, superfluid, thermodynamic potentials in region of strong critical fluctuations 4-37471
 In_{0.83}Te_{0.17}, liq., with segregation tendency, nucl. spin relax., TDPAD study 4-40287
- critical mixtures**
 benzene-coconut oil mixture, US studies near critical region 4-15593
 binary liquid mixtures, equilibrium critical phenomena, review 4-20332
 carbon tetrachloride-coconut oil mixture US propagation 4-15594
 cyclohexane-acetonitrile binary liquid mixture, coexistence curve, critical point wetting 4-24993
 ethylene-vinyl acetate copolymer blends with PCV and chlorinated polyethylene, FTIR obs. of phase behaviour 4-11894
 fluid mixtures, crit. points calc., effect of improved pure component crit. point representation 4-20319
 heptyloxy-p'-pentylphenylthiobenzoate/octyloxy-p'-pentylphenylthiobenzoate mixtures, high press. studies 4-11279
 homogeneous nucleation near crit. soln. temp., meas. 4-55959
 liquid-liquid coexistence curves critical behaviour 4-11266
 2,6-lutidine-water, thin critical fluid films, Rayleigh linewidth meas. 4-25126
 methanol-cyclohexane, coexistence curves, meas., acetone impurity effects 4-34625
 methanol-cyclohexane critical liq. mixture, elec. resist. and dielectric constant anomaly 4-2320
 3-methylpentane-nitroethane, spinodal decomposition, turbulent suppression, light scat. 4-25033
 nitrobenzene-n-hexane mixture at critical composition, periodic spinodal decomposition 4-25031
 phase separation, computations with nonhomogeneous time dependent cluster variation method 4-25032
 polymer mixtures, collective diffusion, nucleation, spinodal decomposition 4-29630
 polystyrene solutions in mixed solvents of acetone with n-alkanes, demixing behaviour, classic cosolvency 4-11302
 polystyrene solutions in mixed solvents of acetone with n-alkanes, free vol. theory appl., cosolvency 4-11303
 polystyrene solutions in n-alkanes, upper and lower crit. soln. temps., demixing behaviour 4-11301
 reentrant nematic mixtures, dielec. props., effect of smectic ordering 4-10967
- critical opalescence**
 S, fluid, optical consts. up to supercritical conditions 4-51220
- critical phenomena**
see also critical fluctuations; critical mixtures; magnetic transitions; phase equilibrium; phase transformations; renormalisation
 ϕ^4 model, Ising-like system, nonasymptotic crit. behaviour, nonlinear renormalisation group 4-32181
 antiferromagnetic classical planar X-Y model, 2-D, critical phenomena and discrete symmetry breaking 4-35184
 Baxter model with impurity lattice bonds, specific heat critical behaviour 4-53614
 bond-diluted Glauber Ising chain, bicritical dynamic scaling and dynamic crossover 4-37038
 branching media, bootstrap percolation, critical behaviour 4-8835
 bromo-benzene-n-pentane binary soln., gravitational field effect on critical parameters (*Russian*) 4-25123
 bromo-ethyl-n-pentane binary soln., gravitational field effect on critical parameters (*Russian*) 4-25123
 cluster-hierarchical models, mag. susceptibility and criticality 4-42881
 condensate dynamics near transition temp., microscopic approach 4-4327
 critical nuclei in the Van der Waals model 4-15609
 critical wetting transition in multilayer adsorption, universality classes 4-11405
 dilute Heisenberg chain, dynamic scaling near percolation threshold 4-16057
 discrete Frenkel-Kontorova model, elastic consts. and critical behaviour 4-39437
 disordered transverse Ising model, mean field renormalisation group, critical exponents 4-53611
 Dzyaloshinskii-Moriya random anisotropic spin-glass model, renormalisation study 4-40175
 eight-vertex model, dynamical critical exponent, Monte Carlo renormalisation group 4-40182
 exothermic reaction mass, surface temp. gradients and internal heat evolution at criticality 4-24338
 ferrofluid mag. drops, bistability under mag. field 4-29190
 ferromagnetic glass, extremely disordered, inhomogeneous transitions 4-11723
 fluids, near-critical pair correlation functions, differential eqns., nonlinearities 4-34610
 fluids and fluid mixtures, crit. behaviour 4-20327
 formation, gravitational equilib. of multi-body fluid system 4-58426
 fractal dimension and self-similarity of the devil's staircase, Josephson junction simulation 4-34611
 fractal lattices, scaling and density of states rel. to complex generating function 4-194
 freon-113-n-pentane binary soln., gravitational field effect on critical parameters (*Russian*) 4-25123
 hierarchical lattices and renormalisation group transformations, critical exponents 4-42882
 infinitely coordinated systems, large-size crit. behaviour 4-203
 interacting Bose model, critical behaviour, random field effects 4-17822
 intermittent chaos, symbolic dynamics approach 4-42858
 Ising and σ models, near-critical props. from potential shift 4-13750
 Ising model, anisotropic D+1 dimensional, competing multispin interactions 4-48036
 Ising model, critical temperatures, confluent scaling corrections effects 4-189

critical phenomena continued

- Ising model, diluted transverse, with anisotropic coupling consts., thermodynamical props. 4-11736
- Ising model, four dimensions, critical behaviour in ferromagnetic systems 4-9012
- Ising model, random-field, lower crit. dimension, Monte Carlo study 4-30196
- Ising model, site diluted, simulation through infinite random field 4-56670
- Ising model, topological nature of phase transitions, Maslov-Arnol'd index 4-221
- Ising models, critical parameters, ϵ -convergence method 4-216
- Ising spin glass, critical dynamics study 4-51080
- Ising systems, cluster variation method, general algorithm 4-20331
- kinetic gelation model, phase diagrams, critical props. and dims. effects 4-22705
- Lennard-Jones fluid, crit. phenomena on basis of perturbation theories 4-2303
- long-range correlated percolation, renormalisation-group study 4-27443
- long-range correlations, dimensionality 4-215
- magnetic pendulum apparatus for analog demonstration of first-order and second-order phase transitions and tricritical points 4-36854
- magnets, amorphous, renormalised field theory 4-56676
- many-cluster growth model, coalescence critical point 4-4344
- metal-ammonia solutions, metal-nonmetal transitions and critical phenomena, quantum percolation calc. 4-45634
- metal-insulator phase transition, mean field theory, critical behaviour 4-22741
- metal-molten salt solutions, metal-nonmetal transitions and critical phenomena, quantum percolation calc. 4-45634
- methane adsorbed layer on graphite, mol. mobility and 2-D transitions 4-29825
- n-vector model, validity of long-range expansion 4-17867
- n-vector model in semi-infinite space, $1/n$ expansion 4-43200
- nematic to smectic A transition, critical and tricritical behaviour 4-29612
- nonequilibrium phase transitions, charact. crit. quantity 4-8855
- nonequilibrium phase transitions, characteristic crit. quantity based on bit-number variance 4-13604
- nonlinear σ model, long-range correlated random mag. fields, critical phenomena 4-27474
- nonthermal one-dimensional lattice model, kinetic critical phenomenon 4-37030
- nucleation barriers, spinodals and Ginzburg criterion 4-24960
- one-dimensional site and bond percolation, real space renormalisation group study (Chinese) 4-48013
- percolation, quantum, $1/\sigma$ expansion and Cayley trees 4-48037
- percolation clusters, dead end distrib., scaling theory, critical behavior 4-53608
- phase transitions, critical exponents, ϵ -expansion, $O(\epsilon^2)$ approx. 4-53642
- planar random surface model, critical props. 4-53854
- plane interface between condensed material, sublimation, supercritical struct. form. by laser, heat conduction 4-24991
- polystyrene, cyclohexane solns., shear viscosity scaling in critical regime 4-45378
- Potts ferromagnet, critical point in triangular and honeycomb lattices 4-2764
- Potts model, Q-state, Wilson's exact renormalisation-group eqn. anal. 4-27441
- Potts model, three-state, crit. behaviour, Monte Carlo renormalisation group 4-202
- PVC melts, rheological meas., critical temp. 4-29036
- q-state Potts model, 2-dimens., chiral and cubic crossover exponents, extended scaling relations 4-53613
- quantum spin problem with three-spin coupling, critical behaviour 4-13591
- quantum systems, correlation-length amplitudes and critical exponents 4-53624
- quasi-1D system, scaling theory of localisation 4-11486
- quenched random fields and supersymmetry 4-43199
- random breeding centres, crit. phenomena 4-32215
- random itinerant-electron spin model, critical behaviour, Hubbard model anal. 4-56527
- random mag. alloys with competing spin anisotropies, renormalised field theory 4-56669
- random supercond. network, screening of deeply invaginated clusters and critical behaviour 4-53623
- scalar O^4 model, renormalisation group at finite temp. 4-48336
- scaling corrections and finite size effects 4-42877
- semi-infinite system, local susceptibility crossover function near special transition 4-2308
- semi-infinite systems with first-order bulk transitions 4-224
- site-bond correlated percolation, hyperscaling reln. 4-22715
- spin glasses, logarithmic dynamic scaling and spin freezing 4-56651
- spin systems with quenched random transverse fields, crit. behaviour 4-25564
- square lattice gas model, phase diagram and critical exponents 4-45305
- surface scatt. of X-rays and neutrons at grazing angles 4-6223
- thermal explosion, criticality, transition, variable heat transfer coeff. calcs. 4-10527
- thermal explosion, criticality, transition, variable thermal cond. calcs. 4-10528
- three-dimensional thermodynamic system, critical dynamics 4-22742
- three-state chiral clock model, melting and wetting transitions 4-17847
- triethylamine-water, density, heat capacity and refractive index, critical behaviour 4-2347
- two dimensional, continuous spin Ising model, critical exponent universality limits 4-53610
- two-dimensional Potts model with ferromagnetic and antiferromag. interactions, critical behaviour 4-40181
- two-dimensional sticks system, critical behaviour 4-4349
- universality class spectrum in period doubling and tripling 4-180
- water, volumetric props. in critical region 4-34607
- X-Y model, ground state excitations in transverse field in one dimension 4-20330
- Dy, planar helical-paramagnetic transition, critical behaviour, neutron scatt. study 4-30164
- Gd, polycrystalline, high temp. AC critical mag. susceptibility 4-46013
- He, supercritical, ascending flow in heated tube, heat transfer 4-10665
- ^3He - ^4He , liquid, critical behaviour, effective Hamiltonian and instability 4-50606

critical phenomena continued

- $\text{KH}_2(\text{SeO}_3)_2$, normal and deuterated, US attenuation and critical relax. rates 4-29537
- γ -MnNi antiferromag. mag. moment distrib., mag. environment model anal. 4-30154
- $\text{Mn}_{0.45}\text{Zn}_{0.55}\text{F}_2$, random field effects, magnetisation and sp. ht. studies 4-51064
- $\text{Pb}_3(\text{P}_{1-x}\text{As}_x\text{O}_4)_2$, ferroelastic phase transition, critical exponents, sp. ht. meas. 4-20349
- $\text{Pb}_3(\text{PO}_4)_2$, ferroelastic phase transition, critical exponents, sp. ht. meas. 4-20349
- SF_6 , capillary rise, wetting layers, and critical phenomena in confined geometry 4-34752
- Tb, planar helical-paramagnetic transition, critical behaviour, neutron scatt. study 4-30164
- U_3P_4 , critical mag. behaviour, susceptibility and spontaneous magnetisation 4-25561

critical phenomena, magnetic *see magnetic transitions***critical points***see also boiling point; melting point*

- alkanes, light-heavy mixture, vap. liq. phase equilib. calc. using a new cubic eqn. of state 4-24984
- alkylnonaphenyl, nematic-smectic A tricritical point, scanning calorimetry study 4-29611
- alkylpyridines aq. solns., substituent effect on intermol. H bonding from lattice gas theory for lower crit. points 4-11250
- anharmonic oscillator, nonautonomous, transitions in stochastic behaviour 4-27292
- aniline-cyclohexane, binary mixtures under shear flow near crit. points 4-2319
- antiferromagnet, magnetic phase transition, Morin point as degenerate critical point 4-56624
- antiferromagnetic classical X-Y model, mean field anal. 4-51069
- Baxter's hard square lattice gas, multicritical scaling 4-22709
- binary alloys, cellular interface morphologies during directional solidification, one-sided model 4-45310
- binary liq. cryst. mixtures, biaxial nematic phase, critical point, reentry transition 4-50507
- classical Ising model using correl. inequalities, upper bounds on T_c 4-40183
- clock model, universal dynamic scaling 4-8844
- coexistence curves for pure materials, asymptotic behaviour 4-11249
- crystal-fluid interface, free energy, triple point, compressibilities and Gruneisen parameters 4-15620
- cyclohexane-acetonitrile binary liq. mixture, coexistence curve, critical point wetting 4-24993
- d-dimensional hypercubic lattices, self-avoiding loops, numerical study 4-13592
- dilute solns., chem. equilb. anomalies near crit. points 4-3424
- dipolar isotropic ferromagnet, recursion relations near dipolar critical point 4-25560
- ethanedio-nitroethane-cyclohexane-methanol soln., tricritical point 4-24972
- ethylene, gaseous and liq., correl. of viscosity and thermal cond. data, critical point enhancement 4-47776
- fluid mixtures, crit. points calc., effect of improved pure component crit. point representation 4-20319
- free energy gravitational effect near critical point 4-20379
- free energy singularities near critical point, Ising model appl. 4-17861
- hard spheres, random close packing, freezing transition, and spinodal decomp. 4-20069
- n-heptane, vapour-liq. coexistence region, vapour press., critical assessment 4-55980
- heptyloxy-p'-pentylphenylthiobenzoate/octyloxy-p'-pentylphenylthiobenzoate mixtures, high press. studies 4-11279
- hydrocarbons critical temps. prediction using mol. weights 4-14598
- Ising model, exact transition temp. and critical exponents 4-48035
- Ising model, two-dimensional, numerical calc. by modified Kadanoff's renormalisation group 4-11729
- Ising model with modified surface exchange, magnetisation profile and multicritical point 4-35183
- isobutyric acid-water, binary mixtures under shear flow near crit. points 4-2319
- lattice gas models, gas-solid coexistence curve, low temp. expansions. 4-11264
- liquid crystals, fields below critical dimensions 4-24720
- liquid-liquid coexistence curves critical behaviour 4-11266
- metal-insulator transition, phonon model and static cond. (Russian) 4-34877
- metamagnetic Ising model, finite size scaling approach in two dims. 4-40171
- metastability and critical points, Landau pot. anal. 4-11253
- methane- d_4 liquid, electron transport, unbalancing effect by deuteration 4-35036
- methanol-cyclohexane critical liq. mixture, elec. resist. and dielectric constant anomaly 4-2320
- methanol/ CS_2 system, coexistence curve in vicinity of crit. point 4-2317
- micellar system, lower critical consolute point, light scatt. study 4-46276
- multicomponent mixtures, crit. points and phase boundaries calc. 4-55956
- nematic liq. crystals, director anchoring energy crit. behaviour at free surface 4-44943
- nematic-smectic A-smectic C multicritical point, dislocation loop theory 4-29610
- nitrobenzene-n-hexane, binary mixtures under shear flow near crit. points 4-2319
- nonconducting liquids, pulse method for determ. critical parameters 4-39440
- nonequilibrium fluids, generalised van der Waals equation, critical point, shear stress effect 4-223
- nucleation, time dependent effects near crit. point 4-57596
- nucleation, time lag, anomalous increase near critical point 4-55957
- organic compounds, compressibility, critical volume, pressure, computer model (Chinese) 4-29503
- orthoferrites, high freq. mag. susceptibility near tricritical point 4-35149
- polymer chains, branching and vulcanisation 4-10193
- polystyrene, in methylcyclohexane, coexistence curve meas. near plant point 4-34613
- Potts model, effective-field theory 4-48040
- Potts model, exact transition temp. and critical exponents 4-48035

critical points continued

- Potts model, scale-invariant quenched disorder and stability criterion at random critical points 4-48038
 Potts model, three- and four-state, crossover to continuous transitions 4-17866
 q-state Potts model, critical props., mean-field theory with symmetry breaking 4-53615
 quaternary fluid mixture, tricritical point 4-50460
 random-field distributions and tricritical points, mean field theory anal. 4-8859
 semi-infinite system, local susceptibility crossover function near special transition 4-2308
 semi-infinite systems, special transition, $1/n$ expansion 4-22722
 simple fluids, critical behaviour 4-2051
 solid solutions, X-ray dynamic diffuse scatt. near critical points (*Russian*) 4-51409
 solid-liquid phase boundary, mol. theory, elementary kinetic processes 4-2447
 square-lattice Potts model, renormalisation study 4-48039
 square-well fluids in $d=2,3$, perturbation theory, critical temp. 4-44915
 strained and photoexcited, Mott and liquid-gas transitions, luminesc. and energy spectra studies 4-56220
 superconductor, phase struct., lattice Ginzburg-Landau model 4-11626
 surface tension amplitude near crit. point 4-34756
 tetrachloromethane + tetradecafluoromethyl-cyclohexane, crit. solution point, sound vel. study 4-6442
 weakly anisotropic systems, critical domain wall props. 4-51091
 wetting transitions near bulk triple points 4-6627
 zero temperature second order struct. phase transition, critical region 4-15613
 Ar, vapour-liq. coexistence region, vapour press., critical assessment 4-55980
 Ar-Kr mixtures, multiple nucleation pathways near triple points 4-50458
 CO₂, LF viscosity meas. near crit. point 4-11330
 CO₂-N₂(methane), liq. vap. equil. study 4-24983
 Cd, liquid-vapour interface, density profile study 4-45313
 Cr-Mn dilute alloy, elec. resist. and mag. phase transitions 4-51055
 D₂O, gaseous and liq., viscosity, thermal cond. and diffusion coeff. 4-47777
 D₂O, thermodynamic props. in critical region 4-4165
 Fe_{1-x}Mn_xCl₂·2H₂O, spin glass behaviour, tetracritical point, mag. phase diagrams 4-51049
 (Fe,Ni)_{1-x}Sp₂₀ metallic glass, spin wave stiffness, percolation-like behaviour 4-56583
 H₂S-methane, liq. vap. equil. study 4-24983
 Hg, liquid-vapour interface, density profile study 4-45313
 K,Cs, critical point near freezing temp. 4-6481
 KH₂PO₄, birefringence study of tricritical point 4-46229
 KH₂PO₄, ferroelec. phase transition, Slater theory anal. and extension 4-46203
 N₂ adsorbed on graphite, incipient triple point, AC heat capacity and thermodynamic anal. 4-6650
 N₂ monolayer on graphite, vapour press. isotherm study near tricrit. point 4-6652
 γ -O₂ phase diagram 4-29574
 PbTiO₃, zone centre phonons and ferroelec. transition, high press. Raman study 4-29554
 SF₆, eqn. of state in range of temps. 222 to 500K up to 5 MPa 4-15610
 W, density near critical point, P-V state diagram meas. 4-2247
 Xe, fluid-gas transition, coexistence curve, correction to scaling amplitudes 4-20342

critical temperature, superconducting *see superconducting transition temperature*

CRO *see cathode-ray oscilloscopes*

crocidolite *see asbestos*

crops *see farming*

cross-sections (nuclear) *see nuclear reactions and scattering*

crossed-field tubes *see microwave tubes*

crosstalk

- Bragg switch/single sideband modulator with integrated optic single-mode waveguides 4-33750
 fibre optic WDM systems, interf. filter operational characs. 4-10462
 optical demultiplexers, production problems of interference filters 4-38633
 optical directional coupler cross-talk problems 4-38573
 optical fibres, polarisation-maintaining fibres fabrication with stress-induced birefringence (*Japanese*) 4-49589
 optical low losses 3-channel multiplexer (*French*) 4-38632
 optical monomode fibre transmission systems, stimulated Raman crosstalk, group velocity dispersion 4-49536
 optical waveguide theory, book 4-33760
 optical WDM, two-channel, using 1260 and 1330 nm lasers 4-10455
 PWR fuel rod absolute pressure measurements in a thermal transient environment 4-14124
 two channel wavelength-division-multiplexed system, nonlinear crosstalk from stimulated Raman scatt. 4-55214
 Si isolated deep U-groove photodiode linear array, crosstalk meas. 4-4467

crowdions

- metals, FCC, interstitial-twin boundary interaction, computer simulation 4-6396
 radiation defects in crystals containing dislocations, mathematical simulation (*Russian*) 4-24851

CRT *see cathode-ray tubes*

crushing

- filter material prep. from metal powder milled and mixed with pore-forming agent 4-7394
 powder mechanics in tribology 4-49777

crushing strength *see compressive strength*

cryobiology *see biothermics*

cryogenic cables *see superconducting cables*

cryogenic pumps *see cryopumping*

cryogenics

- see also cryopumping; cryoscopy; cryostats; cryotrons; Joule-Thomson effect; low-temperature production; low-temperature techniques; magnetic cooling; refrigeration*
 bench cooler for spot-cooling IR detectors of the Thematic Mapper instrum. 4-4411

cryogenics continued

- cryogenic installations, control systems 4-48140
 fibre optic cable for use at cryogenic temps. 4-28868
 frozen-section cutting technique for microscope specimen prep. 4-3666
 gases, adsorption on CaET-4B mol. sieve 4-16684
 heat transfer in centrifugal force field 4-34071
 heterodyne receiver with multiple mixer and cryogenic cooling, radioastronomy appl. 4-8397
 Hitachi helium liquefier-and-refrigerator, features and development progress 4-8905
 hybrid Joule-Thomson cryogenic cooler 4-4409
 interferometers, cryogenically cooled, automatic alignment technique 4-4453
 liquids, conditions for start of boiling 4-42970
 liquids, under natural convection conditions, heat exchange in film boiling 4-14966
 microwave airborne imaging system using cryogenic receiver modules at 90 and 140 GHz 4-26889
 millimeter-wave radiometers, airborne appl. (*German*) 4-8932
 MM-wave cryogenic receivers for airborne radiometry, all solid-state design 4-52932
 modular thermostatic vapour cooled current leads for cryogenic surface 4-37111
 PMMA, low temp. thermal relax. obs. 4-29655
 prediction of ice/frost growth on insulated cryogenic tanks, using computer model 4-265
 pressure transducers for cryogenic wind tunnel, characterisation 4-48141
 radiative cooler for Thematic Mapper IR detectors designed to operate in polar sun-synchronous low-Earth orbit 4-4410
 radiotelescope, Effelsberg, 100 m, cooled mixer receiver, 40-50 GHz 4-27001
 radiotelescope, Metsahovi, 13.7 m, cryogenic 3-mm receiver performance 4-27002
 red blood cells, cryoprotection, glass-forming tendency and amorphous state stability 4-31191
 rhombic-drive Philips refrigerator with bellows seals, life test performance 4-4413
 sensors and Fourier transform spectrometers, conf., San Diego, CA, USA (Aug. 1982) 4-4142
 solid H₂ cooler for cryogenic limb array etalon spectrometer instrum. 4-4472
 split-Stirling refrigerators for detector cooling 4-4412
 steel, austenitic, Fe-Mn-Al, cryogenic structural materials appl. 4-51720
 technological progress, hydrodynamic techniques 4-32268
 TEM, cryo-transfer system for EM400 electron microscopes 4-58061
 temperature scales, review (*Japanese*) 4-37110
 turbine flowmeters working with cryogenic liquids, conversion charact. eval. 4-5979
 vapor-pressure regulator for cryogenic liquids 4-37090
 Al alloy, cryogenic tensile properties 4-30751
 Ar condensation in cryogenic shock tubes 4-29587
 Cu-PTFE interface, friction at cryogenic temps. 4-30827
³He, liq. target system for electron scatt. expts. 4-48841
 Ti alloys, cryogenic tensile properties 4-30751

cryopumping

- dilution refrigerator, cryopump for exchange gas removal 4-8904
 Gifford-McMahon refrigerator modification, cryo-UHV sample holder design 4-22784
 speed meas. with AVS/ASTM and ISO test domes 4-48145
 TEM examination of Si surfaces, cryopump and sample holder designs 4-18010
 UHV cryopumped system, baking, thermal baffle design 4-13652
 vibration isolated cryopumps, use in electron beam instruments 4-48146

cryoscopes *see cryoscopy*

cryoscopy

- natural rubber vulcanisates, network struct., cryoscopic investig. 4-55973

cryosorption *see sorption*

cryostats

- bath-type, for thin film electron transport props. 4-27532
 DC motor cryostat excitation winding eddy currents and heat production calculation (*Russian*) 4-48139
 field emission electron microscope, liquid He cryostat for supercond. objective and cold stage 4-22885
 finger type, temp. control system (*German*) 4-17887
 flow cryostat for optical absorpt. and luminesc. meas. 4-48097
 liquid He cryostats, temp. control below 4.2K 4-22785
 miniature cryostat with a controlled adsorption pump 4-42949
 miniature glass cryostats, for IR detectors cooling (*German*) 4-27585
 semiautomatic meas. of heat capacity and elastic moduli, between 1.6 and 400K 4-17893
 He liquid cryostat design, mechanical noise, gravitation wave expts. 4-42838

cryotrons

- No entries

crystal atomic structure

- see also crystal atomic structure of alloys; crystal atomic structure of elements; crystal atomic structure of inorganic compounds; crystal atomic structure of organic compounds; electron diffraction crystallography; lattice constants; neutron diffraction crystallography; space groups; superlattices; X-ray crystallography*
 FCC hard-sphere crystals, systematic study of symm. tilt boundaries 4-20208
 ferroelectric, displacive type, composition, struct. and props. 4-40367
 information and complementarity 4-55762
 mixed valence cpds, intersite correls. and cryst. struct., role in valence determ. 4-56297
 molecular crystal, equil. struct. convergence and packing optimisation, RMS program 4-34373
 narrow band gap semicond., bonding and cryst. struct., review 4-55779
 noncentrosymmetric structures, derivation of peaks in γ' synthesis 4-55761
 perfect crystals, stress effect on phase transition temps., symm. aspects 4-34637
 periodic arrays of identical ions packed with 10, 11, and 12 nearest neighbors 4-24752
 polytype structure determ., review 4-39050
 structure determ. from powder data 4-24743
 supercrystallographic P-symmetry 4-24753

crystal atomic structure continued

three-periodic nets, nomenclature and generation 4-39187
variant unitary cryst. struct. types. ordinal registry nos and stereograms 4-39191

crystal atomic structure of alloys

electron microdiffraction pattern anal. 4-24696
Eu-Rh system, phase diagram, X-ray and DTA study 4-40752
eutectic alloy, directional, model of subgrain boundary form. 4-51629
intermetallic compounds of rare earth and transition metals, struct. classification 4-55790
rare earth alloy thin films, crystallisation under electron beam annealing 4-34826
rare earth alloys, $R_3Cu_2Sn_4(Ge_4)$, cryst. struct., single cryst. X-ray diffr. anal. 4-39211
rare earth alloys, RCO_2B_2 , crystal structs. anal. 4-45055
rare earth alloys, RCO_3 , R_3Co_{17} , cryst. struct., polystyrene latexes simulation, metallography 4-50242
rare earth alloys, $RCoGa$, $R=Y$, Ce , Pr , Nd , Sm , mag. and crystallographic props. (Russian) 4-6957
rare earth alloys, RM_2Si_2 ($M=Ru$, Rh , Pd , Pt , Au), crystal structs. anal. 4-45055
rare earth alloys, RM_2X_2 ($M=Mn$, Fe , Co , Ni , Cu ; $X=Si$, Ge), cryst. structs. anal. 4-45054
rare earth alloys, Rp_2Si , $R=Ce-Nd$, Sm , $Gd-Tm$, cryst. struct. 4-11049
rare earth alloys, Rp_2Si , $R=Gd-Tm$, Lu , Y , cryst. struct. 4-11049
rare earth alloys ($R=Gd$, Tb , Dy , Ho , Er , Tm), intermetallic cpds., metamagnetism and cryst. struct. 4-35175
rare earth trialuminides, polytypism identification by electron microscopy 4-39214
steel, amorphous surface form. by H plasma bombardment 4-6638
steel, type 70Kh2MFB and 90Kh2MF, supercooled austenite, pearlite precipitation (Russian) 4-51666
steel, type 80N23, crystal struct. determ. and precipitation 4-45062
super alloy, GH302, fault structure of simple hexagonal lattice (Chinese) 4-55847
transition metal alloy formation, model predictions for vol. contractions, implications for Laves phase form. 4-56033
transition metal alloy formation, occurrence of topologically close-packed phases 4-56032
transition metal alloys, $MM'Ge$, $M,M'=d$ transition metals, cryst. and mag. structures, X-ray diffr., neutron diffr., mag. meas. 4-11674
transition metal alloys, tetrahedrally close-packed, coord. number distrib. 4-11052
transition metal ternary κ phases, cryst. chem. features 4-11050
 $AgAuTe_4$, cryst. struct. and antiphase boundaries 4-29389
 $Al-Cu$ (4 wt.%), θ' plates, heights of ledges, determ. by electron diffr. and lattice plane imaging 4-57228
 Al_3Ni-Al fibre matrix eutectic alloy, interphase boundary struct. 4-6667
 $Au-Co$ metastable solid solns., electrodeposition and growth from melt 4-40689
 $AuSn_4$, crystal structure refinement 4-45057
 $AuTe_2$, cryst. struct. determ. 4-29388
 $BaAl_4$ -type ternary structs., seven possible types 4-2140
 $CaCoAl_8$, cryst. struct., X-ray diff. study (German) 4-24761
 $CaNi_2H$, cryst. struct., X-ray diff. and in situ hydriding studies 4-39212
 $CaNiCo$, cryst. struct. determ. 4-24763
 $Ce(Co_{1-x}Ni_x)_2$, Laves system, valency compensation effect, mag. susceptibility, X-ray obs. 4-15425
 $Ce_2Co_3Si_5$, crystal structure 4-45058
 $CeCu_3$, cryst. struct. determ. 4-45052
 $CeGaCo$, cryst. struct. determ. 4-24763
 $CeGa_{10}Ni$, cryst. struct. and lattice consts., X-ray diffr. studies 4-34448
 $CeNi_{5-x}Cu_x$, mag. characts. 4-56539
 $CeNi_{5-x}Cu_xH_x$, mag. characts. 4-56539
 $CeNi_3Si_5$, crystal structure 4-45058
 $Co-P$, rapidly cooled alloys, metastable states, composition and struct. 4-55964
 $Co-Sm-B$ system, phase diagram and cryst. structs. 4-40748
 Co_2ReAs_{12} , preparation, cryst. struct., elec. and mag. props. 4-29387
 Co_2ReP_{12} , preparation, cryst. struct., elec. and mag. props. 4-29387
 $Cu-Al$ (12 wt.%), strained, formation of stable 15R-martensite phase 4-11044
 $Cu-Al$ (>16 at.%), short range order, DTA, elec. resist., selected area diffr. 4-34441
 $Cu-Al$ particles, growth by gas-evaporation, comp., cryst. struct. and habit 4-40614
 $Cu-Al-Ni$ single crystals, stress induced martensite, stacking modulation 4-11157
 $Cu-Ni-Te$, structural investigations, ternary isotherm, X-ray diffr. study 4-11046
 $Cu-Zr$, crystalline and amorphous, specific heat meas. 4-25051
 $CuAu_{1-x}Ag_x$, $L1_0$ ordered alloy, axial ratio, effect of additions of Ag 4-15426
 $CuAu_{1-x}Ni_x$, $L1_0$ ordered alloy, axial ratio, effect of additions of Ni 4-15426
 $CuAu_{1-x}Pt_x$, quasi-binary system, phase relations 4-34442
 $Dy_2Co_3Si_5$, crystal structure 4-45058
 $(Er(1)_{1-x}Sn(1)_x)Er(2)_4Rh_6Sn(2)_4Sn(3)_{12}Sn(4)_2$, cryst. struct. determ. 4-39206
 $EuGa_2$, crystal struct., X-ray anal. 4-45060
 $Fe-Al-C$, phase composition and ordered phase formation (Russian) 4-7446
 $Fe-B(P)$, grain boundary segregation, atomic struct. and stress distrib. 4-20356
 $Fe-B(P)$, grain boundary segregation, electronic struct. and intergranular embrittlement 4-20357
 $Fe-B(P)$, grain boundary segregation, vibr. states of atoms at grain boundaries 4-20358
 Fe -based material, amorphous surface form. by H plasma bombardment 4-6638
 $Fe-Co-Cr$ containing various admixtures, struct., NMR, nucl. gamma reson. (Russian) 4-25961
 $Fe-Co-V$, ordered-disordered alloy, cold rolled, shear bands in BCC lattice 4-51745
 $Fe-Ni-Si-B$ alloy and sputtered film, chem. composition, XPS studies (Russian) 4-25172
 $Fe_{100-x}C_x$, amorphous, sputter deposited, crystn., carbide form., struct. 4-11423
 $FeCoV(G)(Mn)(Ni)$, at. ordering characts., calorimetry, neutron diffr., TEM studies (Russian) 4-24965

crystal atomic structure of alloys continued

FeN , ion implanted, cryst. struct. and compound formation 4-39324
 $(Fe_{0.25}Ni_{0.75})_{75}B_{25}$ metallic glass and cryst., local struct., Mossbauer study 4-51167
 $Fe_2Re_3As_{12}$, preparation, cryst. struct., elec. and mag. props. 4-29387
 $FeSn_2$ formation during Sn^{+} ion implantation of Fe 4-45161
 $FeTi$, H storage, thermodynamics, cryst. struct. (Japanese) 4-52220
 $FeTi-H$ system, geometric model 4-29386
 $Gd-In$, phase equilibria and cryst. struct., DTA, X-ray diffr. and metallography study 4-7430
 $Gd-Ti$ 4-7430
 $Ge-Sb$ alloys, high press. η phase, cryst. struct. 4-11045
 $Ge_3Na_2P_8$, cryst. struct. containing stellae quadrangulae 4-2150
 $Hf-Co(Ni)(Co)_6$, Co_6 , cryst. struct. and mag. props. (Russian) 4-24764
 $Ho_2Co_{17-x}M_x$ ($M=Ni, Fe, Mn, Cr, V, Ti, Cu, Al$), cryst. struct. and mag. props. 4-40169
 $Ho_2Fe_3D_{12}$, D site occupation and magnetisation, neutron scatt. study 4-2143
 KGa_3 , cryst. struct. and exact composition, X-ray diffr. study 4-34449
 La_4Au , high press. synthesis and supercond. props. (Chinese) 4-57134
 $LaCuSi$, cryst. struct., neutron diffr. study 4-45059
 $LaNi_5$, cryst. struct., neutron diffr. studies 4-11053
 $LaNi_5$, H storage, thermodynamics, cryst. struct. (Japanese) 4-52220
 $LaNi_3D_2$, one and two-phase states, struct., neutron scatt. study (Russian) 4-39215
 $Mg-Zn-Y$, phase equilib. and struct. 4-30692
 $MgCu_2$, cryst. struct., charge density, X-ray diffr. study 4-29385
 $MgZn_2$, cryst. struct., charge density, X-ray diffr. study 4-29385
 Mn -based metastable γ -phase alloys, lattice parameters, transform. below Neel temp. 4-24760
 $Mn-Ge$, antiferromag. Invar type alloy, thermal expansion, mech. props. rel. to Fe, Co or Ni additions 4-20847
 $Mn-Si-Al$, phase equilib. and struct. 4-30691
 $MnAlC$ hard mag. alloy, cryst. and mag. struct., neutron diffr. study (Chinese) 4-51025
 $MnAlC$, hard mag. alloy, mag. and cryst. struct., neutron diffr. study 4-56553
 $MnAs$, mag. transition kinetics (Russian) 4-6976
 Mn_2Th_6 , successive hydridation steps and mag. props. 4-11054
 $MoGa_3$ supercond. phase, new struct. forms, X-ray study 4-11055
 MoR , crystal binding 4-45050
 $NaPb$, cryst. struct. containing stellae quadrangulae 4-2150
 Nb binary alloys with IIIB and IVB elements, coordination polyhedra and struct. 4-2141
 $Nb-Ge$, struct. and phase composition, metallographic study (Russian) 4-51649
 $Nb-Ge-Si$, struct. and phase composition, metallographic study (Russian) 4-51649
 $Nb-V-Ga$ system, A15 and σ phase alloys, struct. and props. 4-50239
 $Nb_3Al_{1-x}B_x(C_x)$, A15 phase, ion implanted, cryst. struct. and supercond. transition temp. 4-34444
 $Nb_2Fe_3Si_8$, struct. determ., allotropic transform. 4-11048
 Nb_3Sn , crystallisation from soln. in Nb tube 4-46430
 Nb_3Sn superconducting wires, crystallographic changes caused by appl. stresses 4-45972
 $NdGa_2Co_{4-x}$, cryst. struct. and lattice consts., X-ray diffr. studies 4-34446
 $Nd_3Ga_{10}Ni$, cryst. struct. and lattice consts., X-ray diffr. studies 4-34448
 $Ni-Al$ (36.9 at.%), single crystal, struct. of stress induced and thermal martensites 4-11042
 $Ni-Cr$, nickel rich alloy, H ion bombard. effect on struct. and composition 4-11200
 $Ni-Cr-S$, solubility of Cr_2S_8 phase, X-ray analysis 4-51670
 $Ni-Mn-Sn$ alloys solid and liq. mag. props. and struct. 4-16016
 $Ni-Zn-Cu$ ternary alloys, martensitic transform. 4-57225
 $Ni-Zr$ crystallised glasses, local order, EXAFS studies 4-50240
 $Ni_3_{1-x}Mn_xSn$ Heusler alloy, mag., magneto-optical and crystallographic props. 4-51037
 $Ni_2Re_3As_{12}$, preparation, cryst. struct., elec. and mag. props. 4-29387
 Ni_2Zr , thermal expansion coeffs., X-ray determ. 4-15666
 $Pd-Cu$, mechanical and struct. props. (Russian) 4-6426
 $PdSn_4$, crystal structure refinement 4-45057
 $Pr(CO_{1-x}M_x)_2$ ($M=Zn, Fe, Mn, Cr, V, Ti$), magnetic props. and cryst. struct. 4-46066
 $PrCo_{17-x}T_x$, $T=Al, Cr-Fe, Cu$, mag. and structural props. 4-51042
 $PrGa_{10}Ni$, cryst. struct. and lattice consts., X-ray diffr. studies 4-34448
 $PrNi_4D_2$, one and two-phase states, struct., neutron scatt. study (Russian) 4-39215
 $Pt_{60}Ni_{40-x}Cu_x$, ordering during annealing, X-ray diffr., elec. resist. meas. (Russian) 4-25968
 PtV system, ordered phase, electron microscopy and diffr. studies 4-15427
 $RaGp$, lattice parameters, X-ray diffr. study 4-2144
 $SbCu_2$, cryst. struct. anal. 4-45056
 $ScFeSi$, $Sc_2Fe_2Si_3$ and Sc_2FeSi_2 , crystal structures 4-39210
 Sc_2FeSi_2 , cryst. struct., X-ray diffr. study 4-34447
 Sc_3NiSi_3 , cryst. struct., X-ray diffr. study 4-24762
 $Sc_3Ni_{11}Si_4$, cryst. struct., X-ray diffr. study 4-34445
 $Sc_3R_2Ge_6$ ($R=Rh, Ir, Os, Ru$) and $Sc_4Ir_7Si_6$, cubic $U_4Re_7Si_6$ -type structures, cryst. struct. anal. 4-39209
 $Sm-Co-Cu$ alloys, high-coercivity state form. and cryst. struct. (Russian) 4-25593
 $Sm-Fe-Fe$ Laves phase alloys, struct. and magnetostriction 4-35215
 $Sm-Fe-Co-Ni-Al-Cu$ alloys, struct. and mag. props. 4-6322
 $Sm_2(CoFeMn)_{17}$, site occupancy of Fe and Mn, electron channelling, blocking obs. 4-55789
 $SmGa_2Co_{4-x}$, cryst. struct. and lattice consts., X-ray diffr. studies 4-34446
 $Sm_{1-x}Pr_xCo_{16.4}Zr_{0.6}$, crystallography and mag. props. 4-7024
 $Sn-Fe-Rb$ system, cryst. struct. and reentrant superconductivity 4-11051
 Ta binary alloys with IIIB and IVB elements, coordination polyhedra and struct. 4-2141
 $Tb_{1-x}Ho_xCo_2$, struct. changes and spin-reorientation, X-ray diffr. study (Russian) 4-34632
 $Th-In$ phase diagram, DTA and X-ray studies 4-46492
 $ThCd$, cryst. struct. determ. 4-50241
 $ThIn$, cryst. struct. determ. 4-50241
 $ThMn_{12}$ type structures, unit cell dimensions anal. 4-39207
 $ThMn_{12}$ type structures, unit cell dimensions anal. 4-39208
 $Ti-Mo-Zr-Sn-O_2$ alloys, ω -phase morphology, neutron scatt. and TEM studies 4-6513

crystal atomic structure of alloys continued

- Ti-V (23 at.%), incommensurate struct. and resist., ageing effects (*Russian*) 4-50790
 Ti-V single cryst., struct. in region of BCC- ω transition (*Russian*) 4-50238
 Ti-V(Mo) alloys, struct. and elec. resist. props. 4-29948
 TiAl nonstoichiometric alloys, ordered superstructures and phase diagrams (*French*) 4-2139
 TiC_x X-ray diffr. study of charge distrib. 4-39213
 TiFeSi₂, structural relationships, X-ray diffr. anal. 4-11047
 TiMn_{1.5}, H storage, thermodynamics, cryst. struct. (*Japanese*) 4-52220
 TiMnSi₂, cryst. struct. and tetrahedrally close packed pentagon sigma struct. 4-2142
 TiMnSi₂, structural relationships, X-ray diffr. anal. 4-11047
 TiNi, cryst. struct. instability, elec. resist. and mag. susceptibility studies (*Russian*) 4-34443
 UFe₄Al₈, cryst. struct. and mag. props. 4-40151
 V-H system, phase diagrams, structures, and isotope effects 4-11256
 W thin film, crystal struct. and characterisation, XPS and X-ray reflection studies 4-6678
 Y(Mn_{1-x}Co_x)₁₂, cryst. struct., powder neutron diffr. study (*Chinese*) 4-55788
 Y₂Ni₂Si₃, crystal structure 4-45058
 Y₂Pd₂Si₃, cryst. struct. 4-11049
 Y₂Rh₂Si₃, cryst. struct. 4-11049
 Zr-based Laves phases, AB₂ type, H storage capacity, cryst. struct., electron-to-atom ratio 4-16804
 Zr-Co(Cu)(Ni)-Ga, cryst. struct. and mag. props. (*Russian*) 4-24764
 Zr_{1-x}M_xMo₂ (Mz, Ge, Si, Al), crystal struct., X-ray diffr. study 4-45053
 ZrMnSi₂, structural relationships, X-ray diffr. anal. 4-11047

crystal atomic structure of elements

- anomalous scatt. factors calc. using Cromer-Lieberman's method 4-36813
 coincidence lattices in quadratic system 4-2138
 diamond, intercalation potential by Heitler-London method (*Japanese*) 4-39200
 graphite fibre, intercalated and ion implanted, struct. and elec. cond. 4-24759
 needles, cathodic growth, struct., mag. field effect 4-3039
 pseudopotential theories of cohesion and struct. 4-20141
 semimetals, group V, cubic phase instability, unified universal parameter treatment 4-34896
 Au, fivefold symmetry particles, microdiffraction and lattice resolution studies 4-50237
 Be, structure factor, γ -ray meas. and band struct. calcs. 4-39205
 C black, Graphon, Graphon, C black, Raman spectra 4-35424
 C, carbyne rhombohedral form, cryst. struct. 4-11040
 C, unified structural approach to linear polytypes (carbynes) 4-6317
 Ce, mixed valence system, intersite correls. and cryst. struct., role in valence determ. 4-56297
 Co, microparticles, morphology and cryst. struct., electron microscopy study (*French*) 4-20142
 Cs, structural energetics, pseudopotential theory 4-55787
 Cu, FCC, electronic energies, densities of state, X-ray scatt., total energy, calcs. using Gaussian basis sets contraction 4-34440
 Cu, finely divided, prep. by thermal decomp. of Cu formate-monoethanolamine complexes 4-25920
 Dy, magnetic props. and cryst. struct. (*Russian*) 4-51094
 Er, antiferromagnetic, elec. resist. anomalies at mag. transition points 4-11513
 para-H₂, crystal struct. determ. using neutron diffr. 4-15424
 K, phase transitions under high press., cryst. struct., energy dispersive X-ray diffr. 4-25008
 K, structural energetics, pseudopotential theory 4-55787
 N₂, crystal packing and struct. parameters calc. using ab initio intermol. SCF calc. 4-34450
 Nb, polycrystalline, D ion bombard. effect on struct. 4-11041
 α - and β -O₂, energy struct. and mag. props., phonon dispersion curves 4-34598
 P, polymerisation of white and red, X-ray diffraction study 4-55786
 Rb, phase transitions under high press., cryst. struct., energy dispersive X-ray diffr. 4-25008
 Rb, structural energetics, pseudopotential theory 4-55787
 Si, cryst. struct. refinement by profile fitting and least-squares anal. of powder diffr. data 4-15348
 Si, thermal processing, effect on thermophysical props. and structural perfection 4-50836
 β -Sn, coincidence lattices in quadratic system 4-2138
 V, structure factor anisotropy, temp. depend., γ -ray diffr. studies 4-45051
 Zn crystals, atomic scatt. factors from X-ray Pendellosung intensity beats meas. 4-39203
 Zr single crystals 4-57506

crystal atomic structure of inorganic compounds

- actinide borides, cryst. struct., phase equilibria, structural chem. 4-2174
 actinide chalcogenides, struct., electronic struct. and mag. props. 4-11072
 actinide silicides, cryst. struct., phase equilibria, structural chem. 4-2174
 actinide trichloride hexahydrates, cation site approx. D_{4d} symm. 4-50771
 alkali borate crystals, arrangement and fractions of BO₃ and RBO₄ units (*Japanese*) 4-6351
 alkali metal intercalation in transition metal ternary and multinary cpds., struct. characs. 4-29394
 alkali metal rare earth halides, MRX₃, M=alkali metal, synthesis, cryst. structures 4-2121
 alkali metal ternary arsenates, ABR(AsO₄)₂ (A=K, Rb, Cs; B=Ca, Sr; R=rare earth) isolation and structure determ. (*French*) 4-45066
 alkaline earth cpds. MPd₂P₂, cryst. struct., Guinier powder diffr. studies 4-24776
 BaFe₂Ti₂O₁₁, R-type hexagonal ferrite, cryst. struct. and cationic distrib. 4-39239
 borate polyhedra, distortions and polymerisation, ab initio SCF calc. 4-20138
 brockite-like struct., X-ray diffr. anal., solid state reactions with Na₂CO₃ 4-2171
 chlorite compounds, polytypism, order-disorder struct. anal. 4-2154
 chlorite compounds, trioctahedral polytypes, classification and X-ray identification 4-2155
 corundum, cryst. struct. refinement by profile fitting and least-squares anal. of powder diffr. data 4-15348
 disorder, at high temps., neutron scattering investigation 4-50251

crystal atomic structure of inorganic compounds continued

- exfoliation, X-ray diffr. study 4-46463
 ferrites, perovskites, nonstoichiometric, Fe mixed valences stabilisation by microdomain formation (*French*) 4-39260
 ferroelastics, inorganic pure, cryst. chemistry anal. 4-29390
 fluorides, ionic cond., NMR and neutron diffr. 4-45399
 gehlenite, cryst. struct. containing stellae quadrangulae 4-2150
 graphite, intercalated with Br₂, two-dimensional structure, X-ray diffr. study 4-6343
 graphite intercalated with K and Hg (or TI), existence of nonisolated ternary phases (*French*) 4-39265
 graphite intercalated with K and NH₃, X-ray diffr. studies of struct. 4-45096
 graphite intercalated with Rb and Hg (or TI), existence of nonisolated ternary phases (*French*) 4-39265
 graphite intercalation compounds, conf., Pont-a-Mousson, France (May 1983) 4-42591
 graphite intercalation compounds with AlCl₃, synthesis and struct. 4-50257
 graphite-AlBr₃, prep. of laminar compounds in presence of Br₂ 4-55766
 graphite-alkali metal intercalation cpds., correlation between intercalate-substrate orientation and substrate hexagonal site occupation probability (*French*) 4-45102
 graphite-Br₂ intercalation cpd., linearly polarised X-ray absorption spectra 4-57041
 graphite-Br₂ intercalation cpd., struct. and phase transitions 4-45097
 graphite-Br intercalation cpd., intercalate struct., melting, and commensurate-incommensurate transition 4-20174
 graphite-Br intercalation cpd., single cryst. X-ray study 4-45099
 graphite-Br intercalation cpd., two-dimensional struct., effect of intercalate desorption 4-45098
 graphite-CoCl₂ intercalation cpd., mag. props. studies 4-40157
 graphite-H₂SO₄ intercalation cpd., 1st and 2nd stage cpds., struct. modifications (*French*) 4-45101
 graphite-HNO₃ intercalation cpd., struct. determ. by X-ray and electron diffr. (*French*) 4-45104
 graphite-ICI intercalation cpd., single cryst. X-ray study 4-45099
 graphite-K-Cs intercalation cpd., KCsC₁₆, heterostruct., X-ray diffr. studies 4-39264
 graphite-K-Rb intercalation cpd., heterostruct., X-ray diffr. studies 4-39264
 graphite-KHg, intercalation cpd., struct. and phase transitions 4-45097
 graphite-metal chloride intercalation cpd., X-ray diffr. and high resolution electron microscopy (*French*) 4-45100
 graphite-MnCl₂-AlCl₃, kinetics, struct. and mechanism of formation 4-34452
 graphite-SbCl₅ intercalation cpd., struct. and cond., TEM obs. (*Chinese*) 4-50248
 graphite-SbF₆ intercalation cpd., electronic and struct. props., Mossbauer study 4-39268
 graphite-XeOF₄ intercalation cpd., struct., basal plane cond. 4-50270
 hinganite-(Yb), cryst. struct., X-ray diffr. study 4-24790
 ice Ih, bulk model, struct., central force pot. model calcs. 4-29405
 ice Ih, struct., neutron diffr. investig. 4-29406
 II-VI semiconductors, X-ray form factors, Compton profiles and structure amplitudes, ionisation effects 4-6348
 III-VI layer compounds, polytypism, review 4-39245
 ionic conductors, neutron powder diffr. technique studies, review 4-34377
 IV-VI crystals, cubic to rhombohedral phase transform. 4-55995
 IV-VI semiconductors, covalent bonding props., LCAO method 4-24755
 IV-VI semiconductors, cubic phase instability, unified universal parameter treatment 4-34896
 K-hollandite, Frenkel-Kontorova system, static structure factor 4-20162
 lamprophyllite, cryst. struct. determ. 4-15447
 lanthanide compounds, isolated and condensed metal clusters, struct. and bonding 4-11075
 lanthanum p-hydroxybenzoate SO₄.3H₂O, mol. and cryst. struct., thermal behaviour 4-14604
 1M-lepidolite, cryst. struct. refinement 4-2149
 metaphosphate anion, struct., computer anal. of cryst. struct., phys. and chem. props. data 4-11234
 mica thin film, white, struct. and chem. composition, TEM and SEM studies (*Chinese*) 4-56160
 multilic substrates, obtained by dry-processing, struct. and morphological characterisation 4-51618
 olivines, composition, order-disorder, lattice parameters 4-45063
 orthoclase feldspar, Al-Si ordering, electron-induced X-ray emission study 4-20144
 oxides with tetragonal potassium-tungsten bronze structure, crystal chem. existence conditions 4-55799
 [PdCl₂(ECI₂)₂] (E=Se, S), coordination cpds., cryst. struct. and props. 4-39261
 piezoelectric ceramics, cryst. struct., transducer appl. (*French*) 4-20918
 prep. elec. and mag. props. 4-30144
 pyrochlore, relation with Ce₂Co₁₁ and Ru₂B₃ structures 4-6380
 quartz, cryst. struct. refinement by profile fitting and least-squares anal. of powder diffr. data 4-15348
 quartz, intermediate phase, satellite reflection obs. 4-20161
 quartz, X-ray study of α - β transition 4-20347
 rare earth A₂B₂O₇ oxides, force field comparison, IR and Raman study 4-30463
 rare earth borides, (R_{1-x}Rh_x)Rh₃B₂, phase diagrams and itinerant mag. props. 4-6472
 rare earth borides, cryst. struct., phase equilibria, structural chem. 4-2174
 rare earth borides, RFe₂B₂ (R=Ce,Pr,Nd,Sm,Gd,Tb), cryst. struct. and ferromag. props. 4-11099
 rare earth compounds, (RO)₂Ga₂S₅, R=La, Ce, Pr, Nd, Sm, cryst. struct. determ. 4-50266
 rare earth compounds, (RO)₄Ge₂S₅, R=La, Ce, Pr, Nd, cryst. struct. determ. 4-50266
 rare earth compounds, (RO)₄Sn₂O₆, R=La, Ce, Pr, Nd, cryst. struct. determ. 4-50266
 rare earth cpds., RPd₂P₂, cryst. struct., Guinier powder diffr. studies 4-24776
 rare earth hydrides, RH(D)₂₃₃, cryst. struct., X-ray and neutron diffr. studies 4-24777
 rare earth mineral, R₃(Fe³⁺,Mg)(SiO₄)₆(SiO₃OH)(OH)₃, (R=Ce,La,Nd,Ca), cerite, cryst. struct. 4-20145
 rare earth pentaphosphates, synthesis, struct., sp. ht., ferroelastic phase transition temp. 4-2118

crystal atomic structure of inorganic compounds continued

- rare earth rhodium silicides, R_2RhSi_3 , cryst. struct., elec. and mag. props. 4-50272
 rare earth silicides, $(R,Th,U)Os_2Si_2$, mag. props. and cryst. struct. 4-2725
 rare earth silicides, cryst. struct., phase equilibria, structural chem. 4-2174
 rare earth tantalates, struct. and luminescent props. 4-34454
 rare earth trichloride hexahydrates, cation site approx. D_{4d} symm. 4-50771
 rare earth-transition metal alloys, $R_2Co_{1-x}T_x$, $R=Ce, Pr, Sm, Er, Yb, Ti-Fe, Cu, Zr, Hf$, anisotropy fields 4-6966
 rare-earth chalcogenide materials for IR optical appls., fabrication 4-28790
 semiconducting compounds, polarity reversal and symm. in sphalerite and wurtzite structs. 4-34455
 semiconductors, multinary, cryst. chem. and classification 4-24766
 semiconductors, ternary and multinary, struct. and bonding parameters, pseudopot. anal. 4-24767
 silicates, high resolution ^{29}Si NMR studies 4-47251
 sillenite struct. cpds., $Bi_2E^+PVO_6$ and $Bi_3E^{2+}P_2V_2O_{60}$, prep., melting, densities, struct., IR spectra 4-50224
 sodalite-group minerals, cryst. struct. theory 4-39221
 spinels, anion-substituted, unit-cell parameters 4-50255
 structural energetics using pseudopot. theory 4-45576
 ternary rare earth-transition metal silicides, cryst. chemical studies 4-11073
 ternary rare earth-transition metal silicides, germanides and gallides, struct. props. 4-2161
 tetraaquobis(pyridine)-tetra(p-nitrobenzoato)dycopper(II), mol. and cryst. struct., X-ray study 4-14605
 $Ti_{1-x}S_x$ polytypes, review 4-39246
 transition element cpds., physical properties, conf., Grenoble, France (June 1982) 4-8648
 transition metal, dioxides, rutile-like, intermetallic bonding represent. 4-2135
 transition metal arsenides and phosphides, $MM'As$ and $MM'P$ ($M=3d$ element, $M'=4d$ element), cryst. struct. 4-11102
 transition metal compounds, isolated and condensed metal clusters, struct. and bonding 4-11075
 transition metal dichalcogenides, intercalated, struct. elec. and mag. interactions 4-11070
 transition metal hydrides, cryst. struct. determ. by electron diff. 4-39060
 transition metal polyphosphides, prep., cryst. struct. and props. 4-11074
 transition metal ternary phosphides and arsenides, electronegative effects and metallic interactions 4-11077
 transition metal trichalcogenides, struct., low dimensional appls. 4-11071
 transition metal-rich compounds with p-elements, cryst. chemical features 4-11076
 US_2 , α - and β -phases, vacancies and nonstoichiometry under S press. (French) 4-15430
 water solid clusters, struct. formed in free jet expansion 4-29403
 zeolite NaX , Zn^{2+} , Cd^{2+} and Hg^{2+} ion exchange effects, cryst. struct., thermal props. 4-30928
 zeolites, Y struct., Al content determ. from lattice consts. 4-50247
 zirconolite, $CaZrTi_2O_7$, alpha recoil damage 4-29488
 $[PtCl_4(EO)_2]$ ($E=Se, S$) and $[PtCl_4(EO)_2]$ ($E=Se, Te$), coordination cpds., cryst. struct. and props. 4-39261
 Ag halide complexes with dithioformamidinium halides, struct., IR spectra, conductivity meas. 4-7204
 AgF_3 , synthesis and cryst. struct. (French) 4-2148
 $Ag_4H_4As_4O_{14}$, cryst. struct., Patterson method anal. (French) 4-39230
 Ag(I) complexes of S-containing pyridines, struct., IR spectrophotometric study 4-7203
 AgI-based ternary superionic conductors, structural aspects, review 4-25078
 $AgInSe_8$, cryst. struct., X-ray diff. study (French) 4-2177
 Ag_3MoSe_{11} , cryst. struct., isolated Mo_9 clusters in Mo_9Se_{11} units 4-11081
 Ag_3MoSe_{11} , cryst. struct. determ. and elec. cond. (French) 4-50265
 Ag_3P_{11} , prep. and cryst. struct. 4-11108
 $Ag_4P_2S_6$, cryst. struct. determ. (French) 4-6326
 $Ag_4V_2O_7$, chem. prep., cryst. struct., X-ray diff. study 4-20157
 Al_2O_3 based ternary superionic conductors, structural aspects, review 4-25078
 $\beta''-Al_2O_3$, cryst. struct. and ionic cond. 4-39580
 $\beta''-Al_2O_3$, fast ion conductor, local order in Bragg diff. data 4-39569
 $\beta-Al_2O_3$, struct., props. and production, review 4-51596
 $Al_2O_3:Cr^{3+}$ ruby, crystal structure, hydrostatic press. effects, theory 4-15436
 $\beta''-Al_2O_3:Gd_2O_3$, ionic distribution, X-ray study 4-39270
 $\beta''-Al_2O_3:Na_2O$, Na^+ ion distribution, neutron diff. study 4-39271
 $\beta\beta''-Al_2O_3:Na_2O$, structure and Na^+ dynamics, ^{23}Na NMR study 4-39583
 $\beta-Al_2O_3:Na_2O-Li_2O$, phase diagram and cryst. struct. 4-40758
 $\beta-Al_2O_3:Na_2O-M_2O_3$ ($M=La, Nd$), cryst. struct., ionic cond. and EPR studies (French) 4-39582
 $\beta\beta''-Al_2O_3:Na_2O-MgO$, ionic cond. and cryst. struct., thermal behaviour 4-39581
 $\beta\beta''-Al_2O_3:Na_2O-MgO$, stoichiometry fluctuations 4-39272
 $\beta-Al_2O_3:Na_2O(Ti_2O_3)$, nonstoichiometric, structure, normal coord. anal. 4-39269
 $\beta''-Al_2O_3-NiO$, synthesis and visible absorpt. spectra 4-39575
 $Al_2O_3-SiO_2$, mullite, O ion conductivities and defects 4-45407
 $Al_2O_3-SiO_2-Na_2O(CaO)$, dehydrated zeolite 5A, struct., neutron profile refinement study 4-39231
 $\alpha-AlPO_4$, cryst. struct., refinement from Laue photographs 4-2153
 $Al_{4+x}Si_{2-2x}O_{10-x}$ mullite, superstructures, high resolution electron microscopy and diffraction study 4-39247
 $Al_2Si_2O_5(OH)_4$, kaolinite, heat decomposition, spinel phase form., struct., lattice energy 4-3142
 $Am_{10}(SiO_4)_6O_2$, solid-state reaction formation temp. and cryst. struct. 4-39248
 $AsSe_3$, Te_3 , cryst. and amorphous struct., X-ray diff. study 4-2168
 Au halide complexes with dithioformamidinium halides, struct., IR spectra, conductivity meas. 4-7204
 BN, cubic, high press. synthesis from amorphous state 4-7353
 $BaAl_2O_4-Al_2O_3$ system, \circ cryst. struct. determ. and phase transitions 4-39223
 $Ba_2As_2S_5$, prep., cryst. struct. (German) 4-45090
 $Ba_3(BCO(H_2O)W_{11}O_{39}) \cdot 26H_2O$, cryst. struct., X-ray diff. study 4-29400

crystal atomic structure of inorganic compounds continued

- $Ba_3O_4-Li_2B_2O_4$ system, phase equilibrium and cryst. structs., thermal and X-ray diff. anal. (Chinese) 4-55960
 $Ba_3O_4-Li_2O$ system, phase equilibrium and cryst. structs., thermal and X-ray diff. anal. (Chinese) 4-55960
 $Ba_2Cd_3Bi_4$, cryst. struct. 4-11106
 $Ba(Cr,S)O_4$, hashemite, lattice parameters, refractive index, from Jordan 4-47256
 $Ba_2Cu_3Sb_4$, cryst. struct. 4-11106
 $BaIr_{1-x}Co_xO_{3-y}$, crystal struct., and polytypism (German) 4-45078
 $BaO-Al_2O_3-TiO_2$ system, lattice parameters of $BaAl_2Ti_2O_{14}$ phase, X-ray indexing 4-16378
 $BaO-Nb_2O_5$, phase diagram 4-51644
 $2BaO \cdot 2SiO_2 \cdot 3BaCl_2$, cryst. struct. with cyclic silicate anions 4-39262
 $BaPbO_3(I)-BaBiO_3(II)$ solid solns., dielec. props. and superconductivity 4-25473
 $BaRu_{1-x}Co_xO_{3-y}$ polytypes, cryst. struct. and phase relations (German) 4-39224
 $BaSi_2N_2$, unit cell parameters, X-ray powder diff. 4-34451
 $Ba_3Te_2O_6Cl_2$, cryst. struct., X-ray diff. study 4-20154
 $Ba_2Ti_3Nb_4O_{18}$, cryst. struct., X-ray diff. (French) 4-29397
 $\alpha''-Ba_2TiO_4$, cryst. struct. determ. 4-45068
 $Ba_3Yb_4O_8$, cryst. struct., X-ray study (German) 4-39249
 Be-based intermetallic cpd. hydrides, stoichiometry and site occupation, geometric rationale 4-15445
 $Bi_{2-x}M_xWO_6$ ($M=Cr, Fe$), crystal structures and struct. transitions 4-39481
 Bi_2S_3 thin films, flash evaporation growth, struct. and elec. props. 4-56162
 Bi_2TeO_3 piezoceramic, struct. characters. and densification (French) 4-39220
 $BiVO_4$, cryst. struct. and optical obs. (Chinese) 4-2147
 $Bi_9O_5Y_{0.05}OF_6$, stabilised high temp. form, struct. and elec. props. 4-6349
 Br_2 , molecular cryst., stability and lattice dynamics 4-55935
 C black, minority elements spatial distrib., X-ray photoemission study 4-56131
 CO_2 , crystal packing and struct. parameters calc. using ab initio intermol. SCF calc. 4-34450
 CS_2 , intermol. force models and cryst. struct. 4-29391
 $Ca_3Al_2(OD)_{12}$, cryst. struct. determ. 4-51957
 $Ca_8(Al_2O_4)(WO_4)_2$, cryst. struct. determ. 4-45073
 Ca_9CdBi_9 , cryst. struct. 4-11106
 $Ca(Cu_{1-x}Mn_x)_3Mn_2O_{12}$, lattice constant, specific saturation magnetisation, Curie temp. 4-50254
 $CaF_2:Gd^{3+}, Ag^+$, second nearest neighbour F^- ions position determ. by ENDOR technique 4-56817
 $CaFCl-BaFCl$, ion size effect on cryst. struct. 4-24781
 $Ca_3Ga_2Ge_2O_{12}$ garnet, growth macrodefects 4-39285
 $CaGeO_3$, perovskite, crystal struct., X-ray diffraction study 4-45064
 $Ca_2Mn_2Bi_9$, cryst. struct. 4-11106
 $CaO-SiO_2-H_2O$, structural relations 4-39273
 $Ca(OD)_2$, dehydration studies 4-26198
 $Ca_{10}(PO_4)_6(OH)_2$, hydroxyapatite, lattice thermal expansion 4-2356
 $Ca_{10-x}Pb_x(PO_4)_6(OH)_2$, apatites, struct., X-ray diff. and IR absorpt. spectra 4-24788
 $Ca_3Rh_{3n}B_{2n}$ crystal structure, X-ray anal. (German) 4-45077
 $CaSnF_6$, cryst. struct., binding and phase transition studies (German) 4-24783
 $CaTiO_3$, perovskite, cryst. struct., powder neutron diff. study 4-2165
 $Ca_2V_2O_7$, cryst. struct. determ. 4-45092
 $Ca_9Zn_4Bi_9(Sb_9)$, cryst. struct. 4-11106
 $CaZrO_3$, perovskite, cryst. struct., powder neutron diff. study 4-2165
 $Cd_2B_2O_3-PbO$ system, synthesis, X-ray diff. and IR spectra studies 4-55802
 $CdBr_2$, polytypism and cryst. struct. 4-34456
 $CdGeAs_2$, chem. bonding, charge distrib. and electronic props., pseudopot. calc. 4-29410
 $CdGeP_2$, chem. bonding, charge distrib. and electronic props., pseudopot. calc. 4-29410
 CDI_2 , polytypism and cryst. struct. 4-34456
 $CdIn_2Ga_2(1-x)S_4$ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
 $CdIn_2S_4$ spinel cpd., struct. stability, expt. and theoretical studies 4-24771
 $Cd(NH_3)_2Ni(CN)_4$, Hofmann-type host lattice, modification leading to isomeric selectivity 4-6337
 $Cd_{0.75}PSi_3M_{0.25}$ ($M=Na, K, Rb, Cs$) lamellar intercalation cpd., Raman spectra 4-46273
 Ce_2Co_{11} , relation with Ru_2B_6 and pyrochlore structures 4-6380
 $CeCu_2Si_2$, cryst. struct., band struct., and Fermi surface props. 4-6690
 $CeNH_4P_2O_{12}$, cryst. struct. refinement, X-ray diff. study (French) 4-20158
 $CeNi_2P_2$, cryst. struct. determ. 4-50260
 CeO_2-x system, ordered intermediate phases, high resolution electron microscopy study 4-2311
 $Ce_2Pd_4P_{17}$, cryst. struct., Guinier powder diff. studies 4-24776
 $CeRu_2D_{12}$, struct. investigations and mag. props. 4-11111
 $Cm_{10}(SiO_4)_6O_2$, solid-state reaction formation temp. and cryst. struct. 4-39248
 Co complex, μ -oxo-di(bis(dimethylglyoximate)cobalt (III)), cryst. and mol. structures, X-ray diff. study 4-34461
 CoAs, cryst. struct. determ. 4-39222
 $Co_2(CO)_8$, struct. and bonding, charge density study 4-2152
 $\beta-CoGa_2S_4$, unit cells and cryst. struct. 4-11089
 $Co(H_2PO_4)_2 \cdot 2H_2O$, cryst. struct. study 4-29413
 CoII complex, trans-bis(trichloroacetato) bis(N,N-dimethylethylenediamine) Co(II), cryst. struct., polarised spectra 4-11056
 $CoIn_2S_4$ spinel struct., cryst. growth, struct. determ., X-ray diff. study 4-11068
 $CoLiO_3$, cryst. struct. refinement, powder neutron diff. data 4-29398
 $Co_2Ma_2Mo_{2-3}O_{12}$, cryst. struct., X-ray diff. study (French) 4-20155
 $CoNpF_3 \cdot 3H_2O$, Cryst. struct., mag. susceptibility and Mossbauer resonance (French) 4-39225
 $CoRh_2O_4$, polycrystalline spinel, unit cell parameters, IR absorpt. obs. 4-50250
 Co_2RhO_4 , polycrystalline spinel, unit cell parameters, IR absorpt. obs. 4-50250
 $\alpha-Co_2SiO_4$, cryst. struct. and electron distrib., X-ray diff. study 4-15434
 $CoF_4 \cdot 3H_2O$, Cryst. struct., mag. susceptibility and Mossbauer resonance (French) 4-39225

crystal atomic structure of inorganic compounds continued

- CrMnAs, cryst. struct. and mag. props. 4-11675
 (Cr(NH₃)₄HP₂O₇)₂H₂O, cryst. struct. determ. 4-45072
 CrNiAs, cryst. struct. and mag. props. 4-11675
 Cr_{1-x}Ti_xAs, mag. and crystallographic props. 4-56620
 CrZrF₆, cryst. struct., binding and phase transition studies (*German*) 4-24783
 Cs, structural energetics using pseudopot. theory 4-45576
 Cs₃BeSi₃O₁₂, synthesis and cryst. struct., X-ray diff. study 4-39233
 Cs₃CoCl₄, EPR parameters and mag. susceptibility of CoCl₄²⁻ ion 4-30274
 Cs₄CoCr₂F₈, cryst. struct. determ. 4-6340
 Cs₂Cr₂F_{18+x}, cryst. struct. determ. 4-6340
 CsEuF₃, prep., cryst. struct., mag. props., Madelung lattice energy determ. 4-2120
 Cs₂Fe₂Te₈, cryst. struct., X-ray diff. study 4-11079
 Cs₂Ga₂H₂(SeO₃)₂·2H₂O, cryst. struct. determ. 4-45091
 Cs₂K(Cr(CN)₆), cryst. struct. at 295K, X-ray diff. study 4-20149
 Cs₂Li₃, synthesis and cryst. struct., X-ray diff. study 4-15442
 Cs₂Mg(CrO₄)₂·6H₂O, cryst. struct., X-ray diff. study 4-29399
 Cs_{0.6}Mo_{0.4}S₇ supercond. cpd., cryst. struct. and synthesis (*French*) 4-15431
 CsNO₃, cryst. struct., neutron diff. study 4-20151
 CsNO₃, electron and X-ray irradiat., struct. changes, X-ray diff. study 4-50354
 Cs_{0.84}Na_{2.16}Al₃Si₃O₁₂·0.32H₂O, nepheline hydrate I, cryst. struct. determ. 4-29416
 CsO₂OsN, struct. relations, X-ray single cryst. diff. study 4-11112
 α(Cs_{0.55}Rb_{0.45})Cu₂Cl₂(I₁₉Cl₁₉), cryst. struct. determ. 4-24786
 CsRbSeO₄, ferroelectric and thermal props. 4-25693
 CsTa(PO₄)₂, crystal structures 4-55801
 Cs_{0.7}(Ti_{0.3}Mg_{0.3})O₄, ion exchange, chem. and struct. anal. 4-7711
 Cs₂TiNbO₇, ionic cond., cryst. struct., IR spectra, TGA studies 4-56073
 CsYbF₃, prep., cryst. struct., mag. props., Madelung lattice energy determ. 4-2120
 (Cu,Ag)(Zn,Cd)(In,Ga)Te₄ diamondlike semiconductors, synthesis and props. 4-24769
 Cu complex, CuCl with allyl alcohol, cryst. struct., H bonds, X-ray diff. study 4-34460
 Cu complex, Cu(terpyridine)₂(PF₆)₂, cryst. struct. and EPR spectra 4-11097
 Cu complex, μ₄-oxo-hexa-μ-chlorotetrakis (triphenylphosphineoxide) Cu(II), struct. study 4-34464
 Cu complex [Cu(C₁₅H₁₁N₃)(NO₂)(H₂O)]NO₃, H₂O, crystal struct. and bonds (*French*) 4-50246
 Cu complexes, 2-diethylaminoethanol-Cu(II) alkoxo-bridged polynuclear compds., struct. studies 4-15428
 Cu halide complexes with dithioformamidinium halides, struct., IR spectra, conductometry meas. 4-7204
 CuAlO₂, charge density distrib. and d-s hybridization 4-2158
 (CuGaTe₂)_{1-x}(ZnTe) system, phase diagram, pseudopot. anal. 4-25944
 CuIn_{1-x}Fe_xTe₂, crystal growth and elec. and mag. props. 4-25875
 Cu_{0.23}LaTe₂, cryst. struct., disordered tunnel struct. 4-11087
 Cu₂MoS_{8-y}, Cu content and struct. changes, coulometric titration studies 4-45110
 Cu(OD)₂(ND₄)₂(SO₄)₂, struct., phase transition, H bonding, neutron powder diff., temp. depend. 4-55777
 Cu₂P₇, prep. and cryst. struct. 4-11108
 CuSO₄·5H₂O, chalcantite, cryst. growth under microgravity, cryst. struct. 4-34459
 Cu_{2-x}Te_{0.68}S_{0.32}, stoichiometry, rel. to elec. props. and equil. formations 4-50252
 Cu₄(UO₂)(SeO₃)₂(OH)₆, derriksite, cryst. struct., X-ray diff. study (*French*) 4-20156
 Cu₂U₆Si₃, cryst. struct. 4-11086
 Cu_{0.75}Te₂, phase transition with temp. hysteresis, long period superstructures, electron diff., microscopy studies 4-6489
 Cu_{0.96}Zn_{0.04}SiF₆·6H₂O, phase transition, structural and thermodynamic aspects, X-ray diff. study 4-25019
 Cu₃(ZrF₇)₂·16H₂O, proton location, H bonds, cryst. struct., neutron diff. study 4-34439
 Er₂Fe₂Si₅, magnetically ordered, mag. and cryst. struct. 4-35147
 ErRh₃B, perovskite struct., cryst. structures, X-ray anal. 4-45076
 EuCl₂Br₂, preparatory and X-ray powder diff. study 4-6341
 EuP, stability during heating in vacuum, thermodynamic props. 4-57593
 Eu₂Re₂Si₁₁, synthesis, cryst. struct. and mag. props. (*German*) 4-24774
 Eu_{3-x}Ca_xFe₂O₁₂ garnet, Mossbauer study of cation distrib. 4-45081
 (Fe,V)₂Si₂, metal ordering, powder X-ray diff. studies 4-2151
 Fe complex, cis-bis(bipyridyl)dichloroiron (III) tetrachloroferrate (III), struct. 4-15435
 FeAlO₃, Mossbauer spectrum and struct. 4-46148
 FeAs, cryst. struct. determ. 4-39222
 Fe₂As₂, cryst. chem. and cryst. struct. 4-11101
 FeBMO₄ (M=Mg, Cu, Ni, Co), boroferrites, synthesis and mag. props. (*Russian*) 4-6956
 Fe₂C₃ single crystals, formation and structure 4-2170
 Fe_{2-x}Cr_xCaO₄ system, mag. props. 4-30149
 Fe_{1-x}Cu_xCr₂S₄, valence state of ions 4-56559
 Fe₂Cu_{1-x}Cr₂S₄, mag. moment studies (*Korean*) 4-16017
 β-FeGa₂S₄, unit cells and cryst. struct. 4-11089
 FeMoO₄Cl, two-dimensional antiferromagnet with superexchange pathways, synthesis, cryst. struct., mag. props. 4-56604
 FeO-Ce₂O₃, ferrous cerite, synthesis and props. 4-57131
 Fe₂O₃, vacancy ordering and covalence effects, powder neutron diff. study 4-6338
 Fe₂O₃-GeO₂, cryst. phases, growth by chem. vapour transport, cryst. struct., X-ray diff., EPMA, neutron activation anal. 4-45084
 Fe₃O₄-Fe₂TiO₄, thermoelec. determ. of cation distrib. 4-39942
 Fe₂P_{1-x}Si_x, cryst. struct. and mag. props. 4-11109
 Fe₂P_{1-x}Si_x, Mossbauer study, rel. to cryst. struct. 4-11819
 Fe₂Si₃, intraatomic-exchange splitting and cryst. field splitting 4-11504
 Fe₂(SO₄)₃, electron density distrib., X-ray diff. determ. 4-39274
 Fe₂SiO₄ (fayalite), martensitic olivine-spinel transition at Earth interior conditions 4-52700
 FeZrF₆, cryst. struct., binding and phase transition studies (*German*) 4-24783
 Ga chalcogenide layer compounds, growth and characterisation 4-7344
 Ga₂Al₂Si₂, PIXE analysis of compound materials 4-45067
 GaAs, PIXE analysis of compound materials 4-45067
 GaCl₃, intercalated with graphite, chemical and struct. charact. (*French*) 4-39267
 GaLa₂OS₅, cryst. struct., X-ray diff. study (*French*) 4-20152

crystal atomic structure of inorganic compounds continued

- GaMo₂S₃ (Se₃), cryst. struct. determ. (*French*) 4-50264
 GaMo₂Se₂Te₄, cryst. struct. determ. (*French*) 4-50264
 Gd₂CCl₃, cryst. struct. and metallic conductivity (*German*) 4-39251
 GdP₂O₄, prep., cryst. struct., X-ray powder diff., IR spectra anal. 4-2172
 GdRh₃B, perovskite struct., cryst. structures, X-ray anal. 4-45076
 GeTe-AgSbTe₂, electrophysical props. of solid solutions 4-56374
 HCl, dimer, liq. and ordered solid, struct. calc. using intermol. pot. model 4-38054
 H₂N.BH₃, mol. dynamics and cryst. struct., X-ray diff. study 4-11064
 (H₂O)₂⁺(Mn(H₂O)₂(SO₄)₂)⁻, cryst. struct. determ. 4-6331
 HTi₂NbO₇·2H₂O, ionic cond., cryst. struct., IR spectra, TGA studies 4-56073
 Hf₂CuGe₄, cryst. struct., X-ray diff. studies (*French*) 4-20164
 HfS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
 Hf(SO₄)₂·2(NH₄)₂SO₄·4H₂O, cryst. struct., X-ray study 4-15440
 Hg_{0.8}Cd_{0.2}Te, PIXE analysis of compound materials 4-45067
 Hg_{1-x}Cd_xTe crystals, low temp. synthesis 4-7354
 Hg₂O(NO₃)₂, cryst. struct. determ. 4-2163
 HgS-Cu₂S system, phase diagram, X-ray diff. and DTA study (*French*) 4-40753
 Ho₂Co_{17-x}M_x, M=Al, Y, Fe, Ni, Cu, lattice consts., Curie temp., coercive force, comp. depend. 4-6979
 In chalcogenide layer compounds, growth and characterisation 4-7344
 InSb, thin films, elec. props. and crystallisation behaviour 4-56461
 InSb-based MBE grown systems, struct. and elec. props. 4-15791
 InSe high quality single crystals, growth and characterisation 4-7345
 In₂Te₃-HgTe, phase diagram and struct., IR and X-ray studies 4-7436
 Ir complex, Ir tri(d-isopropyl dithiophosphate), cryst. and mol. struct. 4-11067
 K-hollandite, sine-Gordon system, sp. ht., struct. factor, high temp. expansion 4-2345
 KAgO(CuO)(Ge₂O₃) single crystals, synthesis and struct. (*German*) 4-39255
 K₂Ba(NO₃)₂, cryst. struct., phase transitions 4-6336
 K_{0.4}(Bi_{0.69}Bi_{1.74}⁵⁺O_{5.45}(H₂O)_{1.63})⁺, K⁺ ion exchange by proton, struct. effects (*French*) 4-16653
 KBF₄, low-temp. cryst. struct. and ionic cond. 4-20167
 K₂Fe(CN)₆·3H₂O, OH(OD) stretching vibr. correl. and H bond struct. characts. 4-24923
 KFeF₃, electron density distrib., X-ray diff. study 4-2157
 K₂(Ga₂Ge_{1-x})O₂, cryst. chem. and fast ionic cond. 4-34698
 KGeON, prep., cryst. struct., neutron diff., profile anal. (*French*) 4-45088
 KH₂, insertion into graphite, struct. study (*French*) 4-39266
 KIO₃Te(OH)₆, piezoelec., cryst. struct., X-ray powder diff. study 4-6342
 K₂Li₂Ga₂₈Si₃, cryst. struct. determ. 4-24784
 KLiSO₄, cryst. struct., position of Li atom (*Chinese*) 4-50243
 KLn(WO₄)₂, where Ln=Y, Ce to Lu, Raman and IR spectra, mol. and cryst. struct. 4-56927
 K₂MCl₄ (M=Ba, Sr, Pb), cryst. struct. and thermodynamic props. (*German*) 4-39252
 K_{0.17}Mg₂Al_{1.17}Si_{4.83}O₁₈, K-substituted synthetic cordierite, cryst. struct. 4-45083
 KMnF₃, electron density distrib. and anharmonic vibr., X-ray diff. study 4-2156
 K(NaCa)Mg₂Si₈O₂₂F₂, richterites, high temp. cryst. chemistry 4-20143
 K₂NaPdF₆, cryst. struct., mag. meas., EPR (*French*) 4-45089
 K₂Na₂(PtW₆O₂₁)₂·12H₂O, cryst. struct., X-ray diff. study 4-29395
 KNiF₃, electron density distrib. and anharmonic vibr., X-ray diff. study 4-2156
 K₂Ni₂(MoO₄)₃, cryst. struct., X-ray diff. study 4-15441
 K₂O.V₂O₅·2TeO₂·V₂O₅ quasi-binary system, phase equil. and new comp. characteris. 4-2309
 K₂OsBr₆Os⁴⁺ crystals, intraconfigurational absorpt. spectroscopy 4-30459
 K₂OsCl₆Os⁴⁺ crystals, intraconfigurational absorpt. spectroscopy 4-30459
 KOsO₃N, struct. relations, X-ray single cryst. diff. study 4-11112
 KPO₃-LaP₃O₇ system, compound formation, DTA, X-ray and IR absorpt. obs. (*French*) 4-50249
 KP₈W₄₀O₁₃₆ bronze, cryst. struct. determ. 4-24779
 K₁₄P₄W₄₀O₁₃₆ bronze, cryst. struct. determ. 4-24780
 K₂SiF₆(NO₃)₂·KNO₃, cryst. struct., IR and Raman spectra (*French*) 4-20169
 K₂SnCl₆Os⁴⁺ crystals, intraconfigurational absorpt. spectroscopy 4-30459
 KSnF₅, struct., ionic cond. and conduction path 4-45109
 KTa(PO₃)₂P₂O₇, crystal chem. investigations 4-50253
 K₂Te₂O₃·3H₂O, cryst. struct. determ. (*Chinese*) 4-2146
 K₂(Zn₂Ge_{1-x})O₂, cryst. chem. and fast ionic cond. 4-34698
 K₂[Mg(NH₂)₄], synthesis and cryst. struct. (*German*) 4-45074
 La₂B₂C₆, cryst. struct. and supercond. transition 4-24773
 La_{1-x}Ba_xMnO₃ system, mag. and crystallographic props. 4-30142
 LaCo_{0.5}Sn₂, struct. and electronic stability criterion 4-11100
 LaCu₂Si₂, cryst. struct., band struct., and Fermi surface props. 4-6690
 LaCu_{0.56}Sn₂, struct. and electronic stability criterion 4-11100
 LaF₃, struct. and space group, single cryst. neutron diff. study 4-15433
 LaFe₃Sn₂, struct. and electronic stability criterion 4-11100
 LaR₂Si₂, cryst. struct., X-ray diff. studies 4-24775
 LaR₂Si₂, cryst. struct. and supercond. transition temp., rel. with LaRh₂Si₂ and La₂Rh₂Si₄ 4-39243
 La_{1-x}Nd_xTiO₃ system, synthesis and crystal struct. 4-20148
 LaNi₂D₆, cryst. struct., neutron diff. studies 4-11053
 La₂NiO₄, cryst. struct. and semiconductor-metal transition 4-50268
 LaNi₂P₃, cryst. struct. determ. 4-50260
 LaNi_{0.74}Sn₂, struct. and electronic stability criterion 4-11100
 La₂O₃-WO₃, refinement of phase equilibria, X-ray phase anal. 4-51637
 LaP₂F₇, cryst. struct., Guinier powder diff. studies 4-24776
 LaRhSi₂, cryst. struct. and supercond. transition temp., rel. with LaRh₂Si₂ and La₂Rh₂Si₄ 4-39243
 La₂S₃-Nd₂S₃, phase equilib., ingot growth from melt, vacancy diffusion mechanism 4-3130
 La₂WO₆Cl₃, cryst. struct. refinement, neutron powder diff. data 4-2166
 LiAl₂Fe₂Cl₄, ionic cond., phys. props. 4-34700
 LiBa₂(Si₁₀O₂₃)Cl₂(CO₃), cryst. struct. determ. 4-15448
 Li₈₋₂Ca₂Co₆, ionic cond. and cryst. struct. 4-29685
 LiCe(MoO₄)₂, cryst. struct., thermal parameters, thermal vibr. ellipsoids, X-ray diff. study 4-11059
 Li₂Ce₂(MoO₄)₇, ferroelec. solid soln., cryst. struct., neutron diff. study 4-11060

crystal atomic structure of inorganic compounds continued

- LiCl-MCl₂ (M=Mg, V, Mn), solid soln., struct., ion motion and cond. 4-34705
 LiErP₂O₇, cryst. struct. determ. (*Chinese*) 4-2145
 LiErP₂O₇, crystal structure study with X-ray diffraction 4-39218
 LiFeP₂O₇, ordered and disordered, cryst. struct. refinement, X-ray diff. study (*French*) 4-20160
 LiFeP₂O₇, cryst. struct. determ. 4-45093
 Li₃Fe₂(PO₄)₃, high ionic cond. and at. struct. 4-56071
 Li₃FePS₃, intercalates, IR and struct. studies 4-25767
 Li_{1+x}Ge_{2-x}N_{3-3x}O_{3x}, cryst. struct. determ. (*French*) 4-50262
 LiGeTe₂, chain compound, crystal struct. (*German*) 4-6344
 α-LiIO₃, integral neutron intensities, ω-method corrections 4-34376
 Li₂IrO₃, cryst. struct., neutron and X-ray powder diff. study 4-39234
 LiK(PO₃)₂, cryst. struct., X-ray diff. study (*French*) 4-20153
 Li_{1+x}(Li_{2-x}Fe_{1-x}Sn_{1+x/3})O₄, cryst. struct. determ. 4-24782
 Li_{1-x}MnO₂, Li insertion and rutile-spinel transformation 4-39464
 Li₂MnO₂, intercalation cpd., cryst. struct. 4-39257
 Li₂MnO₂, Li intercalated, struct., X-ray and electron diff. studies (*French*) 4-15444
 Li_{0.02}N_{0.98}NbO₃, cryst. struct. determ. (*French*) 4-50261
 Li₂NiPS₃, intercalates, IR and struct. studies 4-25767
 LiPO₃-KPO₃ system, equilb. diagram, preparation, struct., space groups (*French*) 4-34616
 Li_{0.9}ReO₃, cryst. struct. determ. 4-20171
 Li₂RuO₂, cryst. struct., neutron and X-ray powder diff. study 4-39234
 Li₂SbS₃ solid solutions, cryst. struct. and phys. props. (*French*) 4-34704
 LiScO₃, cryst. struct. study, α-LiFeO₃ type struct. 4-29418
 Li₃Se₂(PO₄)₃, high ionic cond. and at. struct. 4-56071
 Li₂Si₂O₇, cryst. struct. containing stellae quadrangulae 4-2150
 LiTaO₃, Zr substitution effects on cryst. and dielec. props. 4-39229
 LiTaO₃ (H), cryst. struct., electron and neutron diff. obs. 4-55803
 LiTaO₃ (H), Li ordering, electron and neutron diff. study 4-34465
 Li₂Ti₂Si₂ intercalate, struct. and dislocations 4-20168
 Li_{0.36}WO₃, cryst. struct. determ. 4-20171
 LiW_{0.3}O₆F, cryst. struct. determ. 4-50263
 LuFeGe₆, cryst. struct., X-ray diff. anal. 4-2175
 LuMnGe₂, cryst. struct., single cryst. X-ray diff. study (*French*) 4-39238
 MgAl₂S₄, orthorhombic struct., space group and lattice consts. (*German*) 4-39242
 Mg_{5-2x}Al_{2-4x}Zr_{1.7+0.25x}O₁₂, 0.4≤x≤0.4, cryst. struct., refr. indices, birefr. 4-15438
 Mg(B₂O(OH)₄), pinnoite, struct. refinement, H atom location and H-bonds 4-34463
 MgGeO₃, polymorphs, flux growth, phase relations, crystal struct. 4-45065
 Mg_{0.30}In_{1.10}S₄, spinel struct., space group and lattice consts. (*German*) 4-39242
 Mg₂NiD₄, crystal structure 4-45075
 MgSiO₃-CaMgGe₂O₆, phase diagram, X-ray diff. study 4-51643
 Mn-Zn ferrite, quenched from various temp., crystal defect struct., physical props. 4-55817
 Mn_{1-x}Ag_xPS₃, structural vibr. and cond. study 4-50273
 MnAl₂S₄(Se₄)(Te₄), cryst. struct. and mag. props. 4-11090
 Mn_{1-x}Cu_xPS₃, structural vibr. and cond. study 4-50273
 MnF₂, magnetostriuctive at. shifts obs., gamma-ray diff. study 4-11069
 Mn_{1-x}Ga_xS₄, cryst. struct. and mag. props. 4-11090
 β-MnGa₂S₄(Se₄), unit cells and cryst. struct. 4-11089
 Mn₃N₂, η-phase, high press. synthesis from Mn+NH₃ (*German*) 4-40615
 MnS₂, electron density distrib., X-ray and neutron diff. study 4-11095
 Mn₂SiO₄-Mn(OH)₂, leucophaenite, cryst. struct., TEM, X-ray diff. and electron probe anal. 4-20146
 Mn₂Si₂Te₆, cryst. struct., elec. and mag. props. 4-11091
 Mo chalcogenides, cryst. struct. and bonding, octahedral Mo₆ clusters 4-11082
 MoFe₂C, molybdenum cementite, cryst. struct. 4-39254
 Mo_{1-x}Nb_xS₂, intermediate phases, cryst. struct., X-ray diff. study 4-34462
 α-MoO₃, acidic centres density from methanol catalytic oxidation anal. (*French*) 4-52043
 Mo₂S₃(Br₂), upper critical field and elec. cond. temp. depend. 4-20772
 Mo₂Se₃(Br₂), upper critical field and elec. cond. temp. depend. 4-20772
 NH₃, quasi-Wannier functions determ. from ab initio calcs. of (NH₃)₃ 4-24772
 (NH₄)₂Ce(PO₃)₃, cryst. struct. determ. 4-24785
 (NH₄)₂Ce(PO₃)₃, prep., cryst. struct. and morphology 4-6305
 NH₄IO₃·Te(OH)₆, piezoelec., cryst. struct., X-ray powder diff. study 4-6342
 NH₄MnFeF₆, cryst. struct. refinement 4-55805
 NH₄NO₃, cryst. struct. and low temp. vibr. modes, neutron diff. study 4-15432
 (NH₄)₂O·Ce₂O₃·4P₂O₅, prep., cryst. struct. and morphology 4-6305
 NH₄Zr₂(PO₄)₃, hydrothermal growth, cryst. struct., decomp. 4-45041
 Na₂Al₂Si₂O₁₀·2H₂O, natural natrolite, cryst. struct., neutron diff. refinement 4-29412
 Na₁₃Al₂Si₃P₁₁O₄₆·16H₂O, cryst. struct. determ. 4-45069
 NaBaNd(Si₂O₇), cryst. struct. X-ray phase anal. 4-55807
 NaCaPO₄, cryst. struct. study 4-6325
 NaCoS₂, synthesis and cryst. struct., X-ray diff. study (*German*) 4-50258
 Na(Cu_{1-x}Mn_x)₂Mn₂O₁₂, lattice constant, specific saturation magnetisation, Curie temp. 4-50254
 Na₂Eu(PO₃)₂·NaMPO₄, M=Ca, Sr, Eu³⁺ as structural probe, emission line broadening 4-2957
 NaFeS₂, topotactic form., cryst. struct., and mag. props. 4-11078
 Na₂(Ga₂Ge₂)₂O₇, cryst. chem. and fast ionic cond. 4-34698
 Na₂H₃(PO₄)(P₂O₇), cryst. struct., X-ray diff. study 4-20159
 Na₂₄K₄(H₃O⁺)₃·16FeS₂·20H₂O, cryst. struct. and twinning 4-6328
 Na₂Mn₂S₃, synthesis and cryst. struct. 4-11092
 Na₂Mn₂Ti₂Si₂O₁₅(OH,F)₃, janhaugite, lamellar aggregates, Norway 4-47255
 NaN₃, trigonal-monoclinic transition 4-20348
 NaNO₃, electron and X-ray irradi., struct. changes, X-ray diff. study 4-50354
 Na(NaCa)Mg₂Si₂O₇F₂, richterites, high temp. cryst. chemistry 4-20143
 NaNb_{1-x}W_xO₆, high press. synthesis and struct. evolution 4-39235
 NaNdO₂, cryst. struct. study, α-LiFeO₃ type struct. 4-29418
 Na₂S₄, cryst. struct. containing stellae quadrangulae 4-2150
 Na₃Sb₂F₁₀, cryst. struct., X-ray diff. (*French*) 4-45087

crystal atomic structure of inorganic compounds continued

- Na₂Si₂Al₂O₂₄(OH)₂·2H₂O, hydrosodalite, struct., X-ray diff. study 4-24791
 Na₂Sn₂(GeO₄)(Ge₂O₇)₂O₂(OH)₂, cryst. struct. study 4-2181
 Na₂Sn₂S₄, cryst. struct. containing stellae quadrangulae 4-2150
 Na₂Sn₂(Si₂O₇)₂·H₂O, cryst. struct. determ. 4-20176
 NaTeF₆, synthesis and orthorhombic struct. characterisation (*French*) 4-39240
 Na₂Ti₂Si₂ intercalate, struct. and dislocations 4-20168
 Na₂(V₂O₇), cryst. struct. determ. 4-6324
 Na_{0.5-x}V_{0.5+x}F_{2+2x}, F atom local arrangement, neutron diffuse scatt. studies 4-45108
 Na₂(Zn_{1/2}Ge_{1-x/2})₂O₂, cryst. chem. and fast ionic cond. 4-34698
 Na₂ZnS₂ and Na₂ZnS₄, thiozincates, cryst. struct. (*German*) 4-39258
 Na₂Zr₂(Be(PO₄)₄), gainesite, cryst. struct. and bond distances 4-20147
 Na₂Zr(PO₄)₃, cryst. struct. determ. 4-20170
 Na₂ZrP₂O₇, synthesis and unit cell data 4-12022
 Na_{1+x}Zr₂Si₂P_{3-x}O₁₂, NASICON, comp., cond. mechanism, X-ray diff. study 4-2178
 Na₂Zr₂Si₂PO₁₂, alkaline earth doped and Zr-deficient, sintering behaviour and struct. characts. 4-7408
 Na₂Zr₂Si₂PO₁₂, NASICON formation by chem. polymerisation 4-6548
 NbH, electronic charge distrib. of absorbed H 4-2180
 NbN supercond. films, prep. and transition temp. 4-15778
 NbN_{0.66}, ordering study by neutron scatt. (*Russian*) 4-50492
 NbNiP₂, cryst. struct. determ. 4-24793
 Nb₂O₅ based insertion compounds with Li, Wadsley-Roth phases, cryst. chemical data 4-34453
 NbS₂, single molecular layer suspensions, H₂(H₂O) intercalated, X-ray and electron microscopy studies 4-55808
 (NbS₂)₄(Br), cryst. struct. and elec. cond. 4-50259
 (NbSe₂)₄(Br)(I), cryst. struct. and elec. cond. 4-50259
 Nb₂Se₂Br₂(I₂), cryst. struct. 4-11085
 (NbSe₂)₃₃I, cryst. struct., X-ray diff. obs., CDW instability 4-55804
 Nb₂Te₂Br₂(I₂), cryst. struct. 4-11085
 NdBN₂, chem. and X-ray anal., cryst. struct. study (*French*) 4-50244
 Nd_{1-x}Ba_xMnO₃ single crystals, flux growth from melt 4-51472
 Ni complex, Ni(terpyridine)₂(PF₆)₂, cryst. struct. and EPR spectra 4-11097
 Ni ferrite containing N, prep., struct., saturation magnetisation 4-50227
 (Ni_{1-x}Mg_x)(PO₄)₂ solid solns., struct. refinement, X-ray studies 4-6347
 NiO-Al₂O₃ system, struct., diffuse refl. spectrosc. obs. 4-25781
 NiO-CaO, directionally solidified eutectic, crystallography 4-7416
 Ni₂Re₁₀As₂₄, prop. and cryst. struct. 4-11104
 α-Ni₂SiO₄, cryst. struct. and electron distrib., X-ray diff. study 4-15434
 Ni₂Nb₂O₁₀, rutile structure, nonstoichiometry 4-6345
 Ni₂Zr₂P₂ and Ni₂Zr₂P₃, cryst. chem. 4-11105
 γ-O₂, phase diagram 4-29574
 P₂NbS₈, layered phase, synthesis and cryst. struct. 4-39256
 P₂NbS₈, tridimensional, cryst. struct. refinement 4-39241
 PV₂Si₁₀, cryst. struct., bonding and Li intercalation 4-45105
 P_{0.2}V_{0.2}, cryst. struct., bonding and Li intercalation 4-45105
 Pb oxides, multicomponent, solid solutions formation 4-50523
 Pb-Ga-Te, containing PbTe, homogeneity region, solid solubility 4-57217
 Pb-Te-O single crystal growth from melt, electrophysical props. 4-30625
 PbCo₂(PO₄)₂, Pb₂Co(PO₄)₂, synthesis, Bridgman-Stockbarger crystn. and characterisation 4-40635
 β-PbF₂, cryst. struct., anion disorder and conduction path 4-45106
 β-PbF₂, thermal hysteresis of anion disorder and ionic cond. 4-45107
 PbF₂-YF₃, phase diagram and ionic conductivity 4-6549
 PbGeO₃, new struct. modification, DTA and X-ray diff. studies 4-5791
 PbHPO₄, lattice parameter meas. in vicinity of T_c, X-ray diff. study 4-15437
 PbI₂, polytypism and cryst. struct. 4-34456
 Pb₁₈Nb₄Bi₄Si₉, cryst. struct. study 4-2167
 PbIn₂S₄, polymorphism, isomorphism with Sn chalcogenides 4-11088
 (PbMg_{1/3}Nb_{2/3}O₃)_{1-x}(PbSc_{1/2}Nb_{1/2}O₃)_x, solid soln., electrostriction study 4-35366
 Pb₂MoO₈, superstructure and space groups determ. (*French*) 4-50245
 Pb₂NbO₇, cryst. struct., rel. to pyrochlore type (*German*) 4-29419
 PbO-ZrO₂-Nb₂O₅, pyrochlore-type structure, solid-solution region 4-51640
 Pb₂O₃(BO₃)₂·SO₄ 4-11057
 Pb₂O(Pb₂(BO₃)₂Cl), cryst. struct. determ. 4-2162
 Pb(ReO₄)₂, cryst. struct., X-ray diff. study (*French*) 4-39227
 Pb₂Ru₂O₆, crystal struct. and vacancy ordering 4-50267
 Pb₂S₂Mo₁₀O₄₈, solid soln., superstructure and space groups determ. (*French*) 4-50245
 Pb₂Sb₂S₃, cryst. struct. determ. 4-6332
 Pb_{1-x}Sn_xTe, film, effect of composition on struct. and electrophysical props. 4-50665
 PbTe RF sputtered films, struct. and transport props., substrate depend. 4-40092
 PbTe/Bi compositionally modulated films, prep. and X-ray diff. studies 4-39700
 PbTeO₃, cryst. growth from melt, phase transition, to spontaneously polarised state, dielec., X-ray diff., SHG meas. 4-25696
 Pb₂TeO₆, ferroelec., prep., X-ray diff., dielec., SHG, calorimetric props. 4-25697
 PbTiNbO_{6.5}, crystal struct. and vacancy ordering 4-50267
 PbTi₂S₄, polymorphism, isomorphism with Sn chalcogenides 4-11088
 PbZrO₃, antiferroelec. phase, struct. phase transition meas. by neutron diff. 4-45318
 PbZr_{1-x}Ti_xO₃, phase diagram, crystallographic and dielec. studies 4-30694
 Pd complex, PdPyCl₂, spectral and struct. props. 4-20173
 Pd₂Bi₂Se₂(Se₂), Parkerrite-type struct. (*German*) 4-39259
 Pd₂Mo₂S₈, struct., bonding and charge transfer 4-11080
 Pd₃F_{0.8}H_{0.18}, positions of dissolved H-atoms, neutron powder diff. studies 4-11110
 Pd₆PH_{0.39}, positions of dissolved H-atoms, neutron powder diff. studies 4-11110
 Pr_{1-x}Ba_xMnO₃ single crystals, flux growth from melt 4-51472
 Pr₂NbO₄Cl₆, cryst. struct., powder X-ray diff. studies 4-39236
 PrPS₄, cryst. struct. and vibr. spectrum (*German*) 4-46241
 Pt oxides, structural and electronic props. 4-45080
 (PtCl₂(NH₃)₂)(NO₃)₂, cryst. data, X-ray diff. study 4-20150
 PuPO₄ and PuP₂O₇, crystal structure and synthesis 4-45079
 Pu₁₀(SiO₄)₆O₂, solid-state reaction formation temp. and cryst. struct. 4-39248
 Rb, structural energetics using pseudopot. theory 4-45576

crystal atomic structure of inorganic compounds continued

- Rb(B₂O₃(OH)₄)₂·2H₂O, cryst. struct. determ. 4-45070
RbBi(Cr₂O₇)₂, cryst. struct. determ. (*French*) 4-45071
RbBiF₁₀, ionic cond. and NMR meas. 4-15683
RbCN, cryst. struct. at 4K, neutron powder diff. study 4-45085
Rb₂CrCl₄, two-dimensional ionic ferromag., crystal and mag. structure, neutron diff. study 4-6950
Rb₂CrCl₄·Br₂(l₂), prep. and struct. characterisation 4-39237
RbEu(SO₄)₂, cryst. struct., X-ray diff. study 4-24789
RbIO₃·Te(OH)₆, piezoelec., cryst. struct., X-ray powder diff. study 4-6342
(Rb_{1/2}O)_{1-x}(Cs_{1/2}O)_x, mutually substituted samples, cryst. struct. (*German*) 4-39250
RbOsO₃N, struct. relations, X-ray single cryst. diff. study 4-11112
Rb(Os₂O₈(OH))₂, cryst. struct. determ. 4-45094
Rb₂P₈W₁₆O₆₄, cryst. struct., X-ray and electron diff. (*French*) 4-45086
Rb₂Te₂, synthesis and cryst. struct. (*German*) 4-20166
RbYbF₃, prep., cryst. struct., mag. props., Madelung lattice energy 4-2120
Rb₂ZnCl₄, ferroelec. phase transition and cryst. struct., neutron diff. study 4-16171
Rb₂Zn(N₃)₄, cryst. struct. determ. (*German*) 4-29417
Rb₂[Mg(NH₂)₄], synthesis and cryst. struct. (*German*) 4-45074
Re(CO)₃Cl, cryst. struct. determ. 4-6330
ReP₃, prep. and cryst. struct. 4-11107
Re₂Se₂Cl₂, bidimensional, cryst. struct. and octahedral clusters 4-11083
Re₂Se₂Cl₂, cryst. struct. determ. (*French*) 4-6333
Re₂Se₂Cl₂, synthesis, cryst. struct. and elec. resist. (*French*) 4-20165
ReS₂, struct. assignment 4-11096
Rh₂Bi₂S₂, Parkierite-type cryst. struct. (*German*) 4-39259
RhFeP, cryst. struct., mag. props., and Mossbauer parameters 4-11102
Rh₂P₂, cryst. struct. determ. and vacancies (*French*) 4-6329
Ru₂B₃, relation with Ce₂Co₃ and pyrochlore structures 4-6380
Ru₂Fe₂As₂, cryst. chem. and cryst. struct. 4-11101
(SN)₂, crystal, interchain interaction anisotropy, polarised reflection spectra meas. 4-29411
S₂N₄H⁺BF₄⁻, prod., cryst. and mol. struct., X-ray obs. 4-12334
SO₂, solid, orthorhombic struct., Raman spectrosc. investig. 4-40441
Sb-Zn, phase diagram, cryst. of intermediate compounds 4-57196
SbCl₂-graphite intercalation compounds, stoichiometric determ. by Rutherford backscatt. spectrometry 4-50531
SbNbO₄, electron and X-ray irradi., struct. changes, X-ray diff. study 4-50354
SbNbO₄-TiO₂ ferroelectric ceramics, phase comp. and dielec. props. 4-51202
Se-S system, comp., phase relationships, elec. resist., thermoelec. power meas. 4-2626
Sch₂P₂O₁₀, crystal struct. 4-55800
ScMnGe₂, cryst. struct., single cryst. X-ray diff. study (*French*) 4-39238
Se-As₂Se-As₂Se₂ system, phase diagram, DTA and metallographic studies (*French*) 4-50464
Si whiskers, internal friction, high-temp. max. 4-25191
SiC layers grown by Si surface C contamination, crystallographic struct. (*French*) 4-45558
SiO₂ film on Si, space distrib. of chem. composition 4-11418
SiO₂ produced by thermal oxidation, cryst. chem. of local struct. (*Ukrainian*) 4-39219
SiO₂, re-examination of P₂/a coesite phase 4-29415
SiO₂-Ti, structural and electrophysical characteristics 4-55794
SiP₂, electron density distrib., X-ray and neutron diff. study 4-11095
Sm-B, isostructural phases, average valence of Sm ions 4-55793
SmBN₂, chem. and X-ray anal., cryst. struct. study (*French*) 4-50244
B-SmO₃, cryst. struct. and high resolution electron microscopy images 4-24787
SmRh₂B, perovskite struct., cryst. structures, X-ray anal. 4-45076
SmS, mixed valence cpd., intersite correls. and cryst. struct., role in valence determ. 4-56297
Sm₂Si₆N₁₁, cryst. struct. (*French*) 4-39253
SnIn₂S₄, polymorphism, isomorphism with Pb chalcogenides 4-11088
SnO, thin films, struct. and elec. resist., RHEED and Mossbauer studies 4-50691
SnS₂, polytypism and cryst. struct. 4-34456
Sn₂Bi₂S₂, cryst. struct. determ. 4-6332
SnSe₂, polytypism and cryst. struct. 4-34456
SnTe:In, influence of In on SnTe props., rel. to stoichiometry 4-55858
SnTe/Sb compositional modulated structures, prep. and struct. anal. 4-50669
(SnTe)_{1-x}(PbSe)_x, hot-wall film growth, physicochemical characs. 4-57111
SnTi₂S₄, polymorphism, isomorphism with Pb chalcogenides 4-11088
Sr₂Cd₂Bi₂, cryst. struct. 4-11106
SrCl₂·Pr(La), defect struct., neutron diff. study 4-45125
SrFBr-BaFBr, ion size effect on cryst. struct. 4-24781
SrFBr-SrF₂, ion size effect on cryst. struct. 4-24781
SrFCl-BaFCl, ion size effect on cryst. struct. 4-24781
SrFCl-SrF₂, ion size effect on cryst. struct. 4-24781
Sr_{0.5}La_{1.5}Li_{0.5}Co_{0.5}O₄, ESR and mag. studies 4-20782
Sr_{0.5}La_{1.5}Li_{0.5}Fe_{0.5}O₄, stacking defects and mag. struct. (*French*) 4-40145
Sr₂M₂Mg_{1-x}WO₆, M=Mn-Ni, struct., mag. props. 4-51046
Sr(NO₃)₂·H₂O, pyroelectric nonlinear optical material 4-16170
Sr(NO₃)₂·H₂O, pyroelectric material, room temp. cryst. struct. 4-29404
Sr(NO₃)₂·X₂O, where X=H,D, struct., IR and laser Raman spectra, vibr. anal. 4-7184
SrNb₂O₆(Sr₂Nb₂O₇)-NdNb₂O₉, cross-sections in SrO-Nd₂O₃-Nb₂O₅ system 4-51639
Sr₂Rh_{3-x}Bi_{2x}, crystal structure, X-ray anal. (*German*) 4-45077
SrSeO₄, cryst. struct., X-ray diff. study 4-29401
Sr₂SiO₄, β=α' phase transition and order-disorder in α' phase 4-15416
Sr₂Sr₂Gd₂□W₄O₂₄·Eu³⁺ luminesc., low-lying charge-transfer transition 4-2951
SrTe₂O₁₁, CaF₂-defect struct. cryst. struct. determ. (*German*) 4-2164
Ta₂C₃ phase in Ta-C system, X-ray study 4-6334
TaH(PO₃)₂, crystal structures 4-55801
TaN, cubic and other phases, struct. and stability 4-6335
Ta₂O₅, reduction to Ta(IV)O₂, cryst. struct. determ. 4-24778
Ta₂S₇, single molecular layer suspensions, H₂(H₂O) intercalated, X-ray and electron microscopy studies 4-55808
(TaSe₄)₂l(Br), cryst. struct. and elec. cond. 4-50259
Tb-Pb-S system, PbS based solid solns., X-ray phase anal. 4-50524
TbMn₂Ge₂, magnetic phase transition and cryst. struct. 4-40172

crystal atomic structure of inorganic compounds continued

- Tb₂O₁₁, structural relationship with Tb₂O_{2n-2} series members, high resolution electron microscopy study 4-2173
TeP₃, prep. and cryst. struct. 4-11107
Th₂Mn₂D₂, mag. and cryst. struct. neutron diff. study 4-40143
ThO₂, disorder, at high temps., neutron scattering investigation 4-50251
Ti-Cu-P system phases, cryst. chem. 4-11103
TiNiO photoelectrochem. electrodes, struct. and elec. props. 4-15443
TiP₂S₆ and Ti₄P₈S₂₈, cryst. struct. 4-11093
TiS₂ polytypes, defect-induced long range ordering 4-11084
Ti₂S₂, polytypism and cryst. struct. 4-34456
TiGaSe₂-TiGaTe₂, phase equilibria, microhardness, density, dark cond. 4-51641
TiGaSe₂-TiInS₂, microhardness, density, dark cond. 4-51641
TiGaSe₂-TiInS₂, phase equilibria, microhardness, density, dark cond. 4-51641
TiHF₂, quasi-one-dimensional atomic chain instability 4-24794
TiInSe₂-InGaSe₂, X-ray diffraction anal., solubility, formation of quaternary compounds 4-55795
TiInTe₂-InGaTe₂, X-ray diffraction anal., solubility, formation of quaternary compounds 4-55795
Ti₂Mo₂Se₄, cryst. struct. and supercond. props. 4-11094
TiPO₃-Ce(PO₃)₃, phase equilibrium relations and cryst. struct. 4-20335
TISCN, polymorphism studied using X-ray diff., dynamic twinning 4-2169
Ti₂VS₄, cryst. struct. containing stellae quadrangulae 4-2150
Ti₂V₂S₈, nonstoichiometric channel chalcogenides, topotactic redox reactions and NRM studies 4-6346
Ti₂Zn(N₃)₄, cryst. struct. determ. (*German*) 4-29417
Ti₂Zr₂O₁₂, cryst. struct., X-ray diff. study 4-39232
Ti₂[B₂O₄(OH)₂]₂·2H₂O and Ti₄[B₂O₄(OH)₂]₄·H₂O, hydrothermal cryst. growth and cryst. struct. (*French*) 4-39228
TmS, thin film, formation of oxide phases, electron beam irradiation, aging in air 4-56165
TmSe, mixed valence cpd., intersite correls. and cryst. struct., role in valence determ. 4-56297
UNi₂P₂, cryst. struct. determ. 4-50260
UO₂(OH)(NH₂SO₃)₂·3H₂O, cryst. struct., X-ray diff. study 4-29396
UW₂O_{3x+2}, cryst. struct., electron and ion irradi. effects 4-2160
U_{1-x}Y_x-Sb, valence transition, elec., optical and lattice const. meas. 4-56295
V-Mo-P heteropoly compounds, struct. information from vibrational spectra 4-11066
VMnAs, cryst. struct. and mag. props. 4-11675
V₂O₃, lattice-image interpretation 4-55792
V₂O₃, superstruct. appearance during metal-insulator transition (*French*) 4-15818
VOS₂, with VO²⁺ infinite double chain, synthesis and crystal chem. (*French*) 4-39216
β-W₂C, cryst. struct., e-Fe₂N type ordered struct. and antiphase boundaries obs. (*French*) 4-15429
W_{1-x}Nb₂S₂, intermediate phases, cryst. struct., X-ray diff. study 4-34462
Y₂Al₂O₁₂, integral neutron intensities, ω-method corrections 4-34376
Y(Cu_{1-x}Mn_x)₂Mn₄O₁₂, lattice constant, specific saturation magnetisation, Curie temp. 4-50254
YCu₂Mn₄O₁₂ ferrimagnetic, synthesis, composition range and cryst. struct. 4-29408
YH₂O, temp. depend. on H site occupancy 4-34458
Y₆Mn₂D₂₃, mag. and cryst. struct., powder neutron diff. studies 4-30152
Y₂WO₆, cryst. struct., X-ray diff., ESR spectra 4-25636
Yb-H system, crystal growth and phase relations 4-2123
YbD₂, cryst. struct. determ. 4-6323
YbD₂, diamagnetic, cryst. struct. neutron diff. study 4-2176
YbH₂, cryst. struct. determ. 4-6323
Yb(OH)₂, cryst. struct. determ. 4-20172
YbRh₂B, perovskite struct., cryst. structures, X-ray anal. 4-45076
YbS₂, nonstoichiometric phases, electron diffraction and microscopy studies 4-2159
ZnAg(PO₃)₃, cryst. chem. and struct. 4-6339
ZnBr₂, calorimetric, spectroscopic and struct. studies 4-39534
Zn₂Cd_{1-x}In₂S₄ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
ZnGeAs₂, chalcopyrite, electronic charge density and crystallographic distortion, pseudopot. calc. 4-24768
ZnIn₂Ga₂(1-x)₂S₄ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
Zn₂Na₄(P₄O₁₂)₃, cryst. chem. and struct. 4-6339
ZnO, X-ray struct. amplitudes, electron density distrib., ionisation effect 4-39263
ZnS polytypes of 18L family, X-ray 10.1 oscillation photograph study 4-11058
ZnS, X-ray struct. amplitudes, electron density distrib., ionisation effect 4-39263
ZnSe crystals grown from melt under pressure, crystal structure 4-20163
ZnSe, X-ray struct. amplitudes, electron density distrib., ionisation effect 4-39263
ZnTe, filiform crystals, effects of pulsed laser radiation on electrophysical props. 4-55867
Zr-containing systems, B³⁺ ion struct. state, spectroscopy and electron microscopy obs. 4-40447
Zr₂CuGe₄, cryst. structure refinement, Cu intercalation model (*French*) 4-39226
Zr₆Cu₂Si₂, cryst. struct., X-ray diff. studies (*French*) 4-20164
Zr₂H(PO₄)₃, hydrothermal growth, cryst. struct. 4-45041
ZrO₂, metastable, high temp. X-ray diff. anal. 4-55797
ZrO₂-P₂O₅-M₂O-SiO₂, M=Li, Na, K, Ag, struct., ionic cond., and optical spectra (*French*) 4-24796
ZrO₂-Y₂O₃, defect struct. and phase transformations, Raman scatt. 4-55798
ZrO₂-ZrN system, form. of incommensurate superstructure, TEM obs. 4-3133
ZrO₂-ZrN system, tetragonal and monoclinic ZrO₂ precipitation, high resolution EM 4-3138
β-Zr₂(PO₄)₂SO₄, cryst. struct. determ. and IR spectra meas. 4-50269
ZrS₂ intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
(Zr_{0.33}Ti_{0.67})O₃, Srilankit, cryst. struct. study (*German*) 4-29414
ZrV₂Cu₄O, neutron diff. study of struct. (*Russian*) 4-29409
ZrVFeD_{3.6}, neutron diff. study of struct. (*Russian*) 4-29409

crystal atomic structure of inorganic compounds continued

- ZrVNbD_{5.4}, neutron diff. study of struct. (*Russian*) 4-29409
 Zr₂V₂O₈, D site occupation, geometric model appl. 4-11063
 Zr₂V₂O₈, prep., D site occupation, neutron powder diff. study 4-11062

crystal atomic structure of organic compounds

- N-trimethylsilyl-N'-cyclohexylurea, cryst. and mol. struct. 4-11122
 acetamidooacetone thiosemicarbazone monohydrate, cryst. struct. determ., X-ray diff. study 4-34473
 4-acetyl-4'-n-alkanoyloxazobenzene, X-ray diff. studies of solid and liq. cryst. phases 4-10970
 alcohol dehydrogenase derivatives, horse liver, active site cryst. struct. 4-7925
 n-alkanes, melt crystn. in temp. gradient, cryst. orientation 4-24741
 p-alkylbenzene mol. cryst., intra- and intermol. interaction study 4-56957
 trans, trans-4'-alkylbicyclohexyl-4-carbonitriles, cryst. and mol. struct. 4-6357
 aniline intercalated 2H-NbS₂, effects of organic mol. on layer stacking 4-15457
 anthracene, cryst. struct. between 300 and 100K, X-ray diff. study 4-34470
 aquabis(benzoylacetato)dioxouranium(VI) hydrate, X-ray cryst. struct. 4-45115
 aromatic acid crystals, solid-liq. equilib. and H-bond study 4-24976
 azidomethemerythrin, restrained least squares refinement, bond lengths 4-16835
 azomycin(2-nitroimidazole), cryst. struct. determ. 4-45112
 benzaldehyde 2-nitrophenylhydrazine, cryst. struct. determ. 4-45114
 benzene intercalated with graphite and K, form. and struct. 4-45119
 bis(8-hydroxyquinolinato)dioxomolybdenum(VI) X-ray cryst. struct. 4-45116
 1,7-bis(hydroxy(dimethyl)silylmethyl)-m-carborane, cryst. struct. determ. 4-11117
 bis(ortho-aminobenzoato)zinc(II), cryst. and mol. struct., X-ray diff. study 4-6356
 bis(triphenyltin)telluride, cryst. struct., ¹¹⁹Sn Mossbauer and NMR spectra 4-39275
 bis-(pentylammonium) tetrachlorozincate (II), cryst. struct., optical and thermal props. 4-50277
 bivalent metal-DL-threonine complexes, physical props., IR spectra and normal coord. anal. 4-51281
 1-bromogermatran, cryst. and mol. struct., X-ray diff. study 4-34467
 4'-n-butyl-4-cyanobiphenyl, 4CB, nematogenic, cryst. and mol. struct. 4-6257
 4-butylphenyl 4'-butylbenzoyloxybenzoate, nematic liq. cryst., cryst. and mol. struct. 4-39118
 calcium acetate monohydrate, cryst. struct., X-ray diff. study 4-29420
 ceruloplasmin, location of heavy atoms, X-ray diff. study 4-26358
 3-chloro iminodibenzyl, cryst. data, X-ray powder diagram study (*French*) 4-15452
 4'-chlorophenoxyacetyl-4-methylbenzene, cryst. and mol. struct., X-ray diff. study 4-15454
 cholesterol fluoroalkanoates, phase transition study, cryst. struct. determ. 4-39499
 4-cyano-1,3,6-triazacycl[3.3.3]azine, homomolecular organic semicond., cryst. struct. and elec. cond. 4-50815
 4-cyano-4'-n-propylbiphenyl, solid state polymorphism, thermal anal. and X-ray struct. determ. 4-11127
 1,3-di(carboranyl)methyl-1,1,3,3-tetrakis(trimethylsiloxy)-disiloxane, cryst. struct. determ. 4-11117
 di(n-butyl)-4 phenyl-2,6 TTF, structural evolution from cryst. to meso-phase (*French*) 4-20355
 di-tetraphenylarsenic rare earth pentanitate complexes, prep., cryst. struct., mag. props. 4-2187
 4,4'-diaminodiphenylmethane epoxy resin, cryst. and mol. structures, X-ray diff. study 4-34426
 4,4'-diaminodiphenylsulphone hydrate epoxy resin, cryst. and mol. structures, X-ray diff. study 4-34425
 diazanaphthalene, solid soln., triplet state, EPR study 4-51121
 15 α , 17-dibromophylloclad-16-ene, cryst. and mol. struct. 4-39278
 2,3-dichloro-6,7-dimethylthiophene, X-ray diffuse scatt., least squares anal. 4-11114
 p-dicyanobenzene, C-C and C-N bond peak charge contents 4-10921
 4,4'-dihydroxydiphenyldimethylmethane epoxy resin, cryst. and mol. structures, X-ray diff. study 4-34424
 diketones, substituted, solid-state spectral props., cryst. packing effects 4-16213
 3,3-dimethyl-1,5,10,13,16-pentaoxacyclodocosane-6,9,17,20-tetraone, cryst. struct. 4-11130
 dimethylammonium copper tetrachloride, normal and deuterated, struct. props. 4-55811
 2,3-dimethylnaphthazarin, charge-transfer complex, cryst. and mol. struct. 4-45118
 dimethyltin dichloride, cryst. struct. quadrupole coupling const., Zeeman NQR study 4-35245
 1,2-dipalmitoyl-sn-phosphatidylcholine, single domains, X-ray study 4-15449
 4-(4'-ethoxyphenylazo)phenyl undecylenate, nematogenic, cryst. and mol. struct. 4-39279
 α -D-glucose, conform. and vibr. spectrum calc. in cryst. state 4-11126
 glycine, centrosymmetric crystals, appls. to chiral mol. absolute config. determ. 4-35930
 glycine, crystal struct. (*French*) 4-16836
 glycy-L-L-prolyl-D-leucylglycine, solid and solvated state conforms., X-ray diff. and PMR investig. 4-11115
 guanidinium tetrabromochromate (II) diacetic acid adduct, cryst. and mol. struct. 4-1043
 hafnium bis(ethylcyclopentadienyl)-dichloride, mol. and cryst. struct., X-ray diffraction study 4-34468
 hydroquinone-(O)-d₂, double transition quadrupole reson. spectrum assignment, struct. 4-30316
 α -(1-hydroxyethylidene)acetanilide- α -azo-(4'-nitrobenzene), CI Pigment Yellow 4, cryst. data 4-15451
 iminodiacetic-monomethylphosphonic acid, cryst. and mol. struct. determ. 4-11118
 iminodibenzyl, cryst. data, X-ray powder diagram study (*French*) 4-15452
 iminostilbene, cryst. data, X-ray powder diagram study (*French*) 4-15452
 p-iodobenzoic acid, cryst. struct., X-ray diff. study 4-29421

crystal atomic structure of organic compounds continued

- 4-isopropylfluorenone, cryst. and mol. structures, X-ray diff. study 4-34471
 metallophthalocyanines, cofacially joined, collective props., dopant and architectural effects 00ag11405-r 4-29968
 methemerythrin, restrained least squares refinement, bond lengths 4-16835
 5-methoxyuridine anticodon nucleoside, struct. and conform. in solid state and soln. 4-11113
 methyl lithium, methyl tunnelling and reorientation, NMR and neutron scatt. study 4-39177
 methyl villardine hydrochloride monohydrate, cryst. struct. 4-34475
 1-methyl-5-amino-3-methylthio-1,2,4-triazole, cryst. struct., X-ray investig. 4-15453
 5-methylarabinosylcytosine, a potential antiviral nucleoside, struct. and conformation 4-2185
 1-(4-methylbenzyl)-3-amino-5-methylthio-1,2,4-triazole, cryst. struct., X-ray investig. 4-15453
 methylenedinitrosylhydroxylamine disodium salt, cryst. struct. 4-11125
 methylproline peptides, cryst. struct., mol. conform., IR and ¹³C, NMR spectra 4-35239
 naphthalene-perfluorobiphenyl complex, cryst. struct. determ. 4-45111
 2-naphthalenethiol, thermal expansion of stable and metastable phases, X-ray diff. meas. (*French*) 4-45365
 β -naphthyl-diazo-2-hydroxycyclohexane, cryst. and mol. struct. 4-15450
 nickel-2-isopropylquinoline-8-thiolate, cryst. and mol. struct. determ. 4-11120
 nitromethane, cryst. struct., X-ray diff. obs. 4-11123
 nitromethane, crystal packing and struct. parameters calc. using ab initio intermol. SCF calc. 4-34450
 nitrosylhaemoglobin, struct. and spin distrib. at binding site, EPR spectra 4-36060
 1,2,3,4,7,8,9,10-octahydro 4(4'-methoxybenzylidene) 11-(4'-methoxyphenyl) 11aH-dibenzo (c,f) 1,2-diazepine, struct. 4-6354
 octameric histone core of the nucleosome, crystals, X-ray anal. 4-52270
 octyl-7-thio- β -D-xylpyranoside, disordered smectogenic struct. and cryst. struct. 4-39116
 trans-4-n-octyl-(4'-cyanophenyl) cyclohexane, mesogenic, cryst. and mol. struct. 4-39280
 organotin compounds, cryst. and mol. structures., Mossbauer effect determ. 4-24800
 μ -oxo- μ -bromotetrakis (morpholine) copper(II) dihydrate, cryst. and mol. struct. 4-15456
 peptides, beta folding, crystal struct. (*French*) 4-16836
 phenol crystals, organic materials for nonlinear optics 4-24079
 1-phenyl-5-amino-3-methylthio-1,2,4-triazole, cryst. struct., X-ray investig. 4-15453
 D,L-phenylalanine ethyl ester chloroplatinate, cryst. struct. determ. (*Chinese*) 4-2182
 phenylarsonic acid, cryst. struct., X-ray study 4-24797
 phosphonomethylglycine acid, mol. struct. determ. 4-11118
 o-phthalato(aquo)bis(ethylenediamine)nickel(II) hemihydrate, cryst. struct. determ. 4-11119
 picric acid struct. class, supersymmetry 4-34466
 poly(1,8 nonadiene), cryst. struct. of macromonomer and crosspolymerised product, electron diff. study 4-2101
 poly(2-chloro-p-xylylene), crystal structure determ., X-ray diff. and electron bombardment 4-39164
 polyacene anion radical sodium salts, solvation enthalpy and cryst. lattice energies 4-11318
 polydiacetylene crystals, rad. damage, high resolution microscopy study 4-29480
 L-prolyl-L-methionine monohydrate, cryst. struct. 4-55809
 pyrazole struct. class, supersymmetry 4-34466
 pyridine intercalated 2H-NbS₂, effects of organic mol. on layer stacking 4-15457
 pyridine intercalated NbS₂, mol. arrangements, electron diff. study 4-15458
 pyridinium enneachlorodithallate(III), double salt struct., Raman and NMR studies 4-7189
 rare earth n-butyrate dihydrates, cryst. chem. data, X-ray powder diff. 4-45117
 rubrine C hydrochloride, cryst. and mol. struct. 4-55810
 sesebriol, unit cell and space group determ. by X-ray diff. 4-20177
 sultines, functionalised, conformation anal. by NMR and X-ray cryst., generalised Karplus eqn. appl. 4-2186
 syn-cis-1-methyl- Δ^4 -octalin-1,2-dicarboxylic acid anhydride, cryst. and mol. struct. 4-34474
 TCNQ salt, 1,2-bis(4-pyridinium)ethane(TCNQ)₂, elec., mag., structural characterisation 4-6359
 TCNQ salt, 1,2-bis(4-pyridinium)ethane(TCNQ)₃, elec., mag., structural characterisation 4-6359
 TCNQ salt, (2,2-DHPE Cl)_x(2,2-DPE)_x (TCNQ)₂, elec., mag. and struct. props. 4-45754
 TCNQ salt, (Et₂F₂P)(TCNQ)₂, cryst. struct. and elec. cond. determ. 4-34469
 TCNQ salt, N-methyl, 2,4-dimethylpyridinium (TCNQ)₂, low temp. cryst. struct. and phys. props. 4-11128
 TCNQ salt, NBP-TCNQ, crys. and mol. struct., EPR triplet spin excitons 4-6353
 TCNQ salt, TEA-(TCNQ)₂, cryst. struct. determ. 4-39276
 TCNQ-based charge transfer complexes, struct. and elec. anisotropy 4-2184
 1-(tert-butyl)germatran, cryst. and mol. struct., X-ray diff. investig. 4-11124
 1,1',2,2'-tetrachloroferrocene, cryst. phases, struct. and dynamics investig. 4-24798
 tetramethyl-Si(Ge)(Sn)(Pb) compounds, methyl tunnelling and reorientation, NMR and neutron scatt. study 4-39177
 tetramethylammonium triiodolead(II), cryst., struct., Raman spectra 4-16202
 thiophene, cryst. struct. and phase diagram 4-50276
 thiourea, cryst. incommensurate phases, 1-D model anal. 4-29423
 thiourea, cryst. phases and phase diagram in elec. field 4-29424
 thujaplicatin methyl ether, cryst. struct. determ. 4-45113
 titanium bis(ethylcyclopentadienyl)-dichloride, mol. and cryst. struct., X-ray diffraction study 4-34468
 TMPD-maleonitrile dithiolato nickelate, cryst. struct. and mag. meas. 4-2191
 (TMTSF)_xAsF₆, organic superconductor, electron density distrib. from X-ray diff. obs. 4-15455

crystal atomic structure of organic compounds continued

- (TMTSF)₂BrO₄, metal-insulator transition, anion disorder effects 4-2513
 (TMTSF)₂ClO₄ organic supercond., anion disorder effects, EPR and elec. cond. studies 4-2673
 (TMTSF)₂X, X=TaF₆, NO₃, CF₃SO₃, cryst. structures, X-ray diffr. studies 4-2190
 (TMTSF)₂X cpds., supercond., role of umklapp, retardation and anisotropy processes 4-2671
 (TMTSF)₂X salts, struct., elec. props. 4-2189
 (TMTSF)₂X salts, structural results from diffr. data, implications and predictions 4-2188
 (TMTTF)₂X salts, struct., elec. props. 4-2189
 (TMTTF)₂X salts, structural results from diffr. data, implications and predictions 4-2188
 p-toluquinone-monoquanylihydrazone, crystal and mol. struct. 4-50275
 N-p-tolulyl-N-methylhydroxylamine, cryst. study 4-11116
 2,3,6-trichlorophenyl acetate, cryst. struct., Zeeman split NQR, mol. struct. comparison 4-30343
 3-tricyanovinyl-N-methylpyrrole, cryst. and mol. structures, mol. charge transfer 4-34472
 3-tricyanovinylindole, cryst. and mol. structures, X-ray diffr. study 4-24799
 triphenylbromomethane, cryst. struct. determ. 4-39277
 triphenyllead 2-dimethylaminothiophenolate, cryst. struct., X-ray diffr. obs. 4-11121
 (TTF)₂(BF₄)₂, cryst. struct., X-ray diffr. studies 4-6358
 viruses having non-crystallographic symm., crystallographic refinement 4-41435
 4-ylidene-cyclohexyl p-toluenesulphonate, struct., conformations 4-6355
 zirconium bis(ethylcyclopentadienyl)-dichloride, mol. and cryst. struct., X-ray diffraction study 4-34468
 C₂₈H₂₈ClSb, cryst. struct. determ. 4-11129
 Co(I) complex, cobalt o-quinonediimine, cryst. and mol. struct., X-ray diffr. study 4-2183
 CuNa₃P₃O₁₀·12H₂O, chem. preparation and cryst. data (*French*) 4-39217
 Li₂SO₄·H₂O, pyroelectric, neutron diffr. struct. investigation 4-29422
 potassium hydrogen diformate, cryst. struct. study 4-6352

crystal binding

see also binding energy; lattice energy

- alkali borate crystals, stability and bond energies, heats of formation 4-39202
 alkaline earth chalcogenides, theory of divalent ions in crystals 4-24756
 BCC transition metals, interactive potentials 4-29379
 complex BCC metals, seven param. shell model 4-15423
 crack propag. vel. rel. struct. and internal stress field 4-24905
 diamond, interatomic potential by Heitler-London method (*Japanese*) 4-39200
 elements, cryst. structs., pseudopot. theory 4-20141
 FCC crystals, thermal expansion near plane and stepped surfaces 4-25140
 gehlenite, cryst. struct. containing stellae quadrangulae 4-2150
 II-VI semiconductors, local Heine-Abarenkov model pot. 4-6315
 III-V semiconductors, local Heine-Abarenkov model pot. 4-6315
 ionic crystals, static quadrupole polarisability for closed shell ions 4-50235
 light monolayer on FCC crystal, thermal expansion near plane and stepped surfaces 4-25140
 metals, lattice constant and force const. relationships 4-29381
 metals and alloys, cavitation erosion resistance 4-51824
 phonon Z 4-29556
 pyrochlore type structures, form. and stability regions 4-50234
 rare earth sesquioxides, metal-O bond lengths, inclined W systemisation 4-2136
 rare gas type atom microclusters, morphology statistical statics 4-49201
 transition metal alloys, tetrahedrally close-packed, coord. number distrib. 4-11052
 transition metals, interatomic forces and lattice vibrs., microscopic anal. 4-24757
 valence orbital interactions, nonlocal topology 4-6310
 CaSnF₆, cryst. struct., binding and phase transition studies (*German*) 4-24783
 CeNi₅, formation enthalpy and bonding, dissolution calorimetry studies 4-50540
 CrZrF₆, cryst. struct., binding and phase transition studies (*German*) 4-24783
 CsNiF₃, exchange interaction between Ni²⁺ ions and octahedral packing 4-34922
 Cu complex [Cu(C₁₂H₁₁N₃)(NO₂)(H₂O)]NO₃·H₂O, crystal struct. and bonds (*French*) 4-50246
 Fe₂-Cr_xCaO₄ system, mag. props. 4-30149
 FeZrF₆, cryst. struct., binding and phase transition studies (*German*) 4-24783
 Ge₈Na₆Pt₈, cryst. struct. containing stellae quadrangulae 4-2150
 Hg_{1-x}Cd_xTe heterojunctions, misfit dislocations, dangling bond densities, epitaxial growth theory 4-39706
 Hg_{1-x}Cd_xTe, interfaces, defects, oxidation, band structure, bond strength 4-39770
 InP:Yb³⁺, EPR and spin lattice relax. 4-25635
 InSe, ionicity and polymorphism, IR study 4-51255
 KNiF₃, exchange interaction between Ni²⁺ ions and octahedral packing 4-34922
 K₂SeO₄, commensurate and incommensurate states 4-24758
 KTAO₃:Li, off-centre Li ion displacement and dielec. susceptibility 4-50312
 Li_{1/3}Fe₂Sb_{2/3}O₃, reversible ramsdellite to double hexagonal close packing transitions (*French*) 4-39194
 Li₆Si₂O₇, cryst. struct. containing stellae quadrangulae 4-2150
 Mo-C system, struct. and supercond. props., cubic δ-phase stabilisation with Zr or Hf 4-11622
 MoR, R=rare earth metal, crystal binding 4-45050
 NaPb, cryst. struct. containing stellae quadrangulae 4-2150
 Na₂S₄, cryst. struct. containing stellae quadrangulae 4-2150
 Na₂SnS₄, cryst. struct. containing stellae quadrangulae 4-2150
 Ni (100), I₂ adsorption, core level photoemission study 4-45526
 Ni, thermal expansion near plane and stepped surfaces 4-25140
 NiF₂, exchange interaction between Ni²⁺ ions and octahedral packing 4-34922
 PbF₂, quasi-harmonic pot. and defect props., computer simulation studies 4-45049
 Si, microcrystalline, Raman scatt. study 4-51256
 Ti₃VS₄, cryst. struct. containing stellae quadrangulae 4-2150

crystal binding continued

- W surface, d to s charge conversion and self-consistent charge density 4-39639
 YNi₃, formation enthalpy and bonding, dissolution calorimetry studies 4-50540
 ZnS surface, merocyanine dye molecules, binding and decomposition 4-45531
 ZnS:Fe(Mn)(Co)(Ni), central force constant of impurity paramag. ion complex 4-24927

crystal chemistry

see also crystallography

- alkali metal phosphate phases, ABR(PO₄)₂, A=alkali metal, B=alkaline earth, R=rare earth, prep. cryst. chem. 4-2122
 carbonates, mineralogy and chemistry, book 4-46499
 chemical transport reactions, thermodynamic models, systems with coexisting solid phases or homogeneity range phases 4-40666
 ferroelastics, inorganic pure, cryst. chemistry anal. 4-29390
 oxides with tetragonal potassium-tungsten bronze structure, crystal chem. existence conditions 4-55799
 polytypic crystals, crystal growth, review 4-39184
 rare earth borides, RO₃B₄, R=Gd-Lu, structural chem., mag. behaviour 4-11667
 semiconductors, multinary, cryst. chem. and classification 4-24766
 ternary rare earth-transition metal silicides, cryst. chemical studies 4-11073
 transition metal ternary κ phases, cryst. chem. features 4-11050
 CaGeO₃, perovskite, crystal struct., X-ray diffraction study 4-45064
 Ce(Co_{1-x}Ni_x)₂, Laves system, valency compensation effect, mag. susceptibility, X-ray obs. 4-15425
 CoAg(PO₃)₃, cryst. chem. 4-6339
 Co₂Na₄(P₂O₇)₃, cryst. chem. 4-6339
 CuSO₄·5H₂O, chalcantite, cryst. growth under microgravity, cryst. struct. 4-34459
 Fe₂As₅, cryst. chem. and cryst. struct. 4-11101
 HfO₂-TiO₂, synthesis, fluoritelike phase form., defective struct. 4-11137
 K₂(Ga₂Ge₂)₂O₇, cryst. chem. and fast ionic cond. 4-34698
 KIO₃Te(OH)₆, piezoelec., cryst. struct., X-ray powder diffr. study 4-6342
 K₂(Zn_{1/2}Ge_{1-x/2})O₇, cryst. chem. and fast ionic cond. 4-34698
 MgAg(PO₃)₃, cryst. chem. 4-6339
 NH₄IO₃·Te(OH)₆, piezoelec., cryst. struct., X-ray powder diffr. study 4-6342
 Na₂(Ga₂Ge₂)₂O₇, cryst. chem. and fast ionic cond. 4-34698
 Na₂(Zn_{1/2}Ge_{1-x/2})O₇, cryst. chem. and fast ionic cond. 4-34698
 Na_{1-x}Zr_xY_{2-x}Yb₂(AsO₄)₃, ionic cond. and crystal chem. 4-56066
 Nb₂O₅ based ionic compounds with Li, Wadsley-Roth phases, cryst. chemical data 4-34453
 NiAg(PO₃)₃, cryst. chem. 4-6339
 Ni₄Na₄(P₄O₁₂)₃, cryst. chem. 4-6339
 Ni₂Zr₂P₂ and Ni₂Zr₆P₁₃, cryst. chem. 4-11105
 PbS-As₂S₃ (Sb₂S₃), glass form. tendency and disorder-induced defects 4-6279
 RbIO₃·Te(OH)₆, piezoelec., cryst. struct., X-ray powder diffr. study 4-6342
 Ru₂Fe₁₀As₅, cryst. chem. and cryst. struct. 4-11101
 SiO₂ produced by thermal oxidation, cryst. chem. of local struct. (*Ukrainian*) 4-39219
 Ti-Cu-P system phases, cryst. chem. 4-11103
 Ti₂[B₄O₇(OH)₂·2H₂O and Ti₄[B₆O₁₂(OH)₄·H₂O], hydrothermal cryst. growth and cryst. struct. (*French*) 4-39228
 VOS₂O₃ with VO²⁺ infinite double chain, synthesis and crystal chem. (*French*) 4-39216
 V_{1+x}Se₂, crystal growth by chemical vapour transport, chemical comp. control 4-3038
 ZnAg(PO₃)₃, cryst. chem. and struct. 4-6339
 Zn₄Na₄(P₄O₁₂)₃, cryst. chem. and struct. 4-6339

crystal classes see crystal symmetry**crystal cleavage see brittle fracture****crystal defects**

- see also Cottrell atmospheres; crowdions; crystal inclusions; crystal microstructure; defect electron energy states; disclinations; dislocations; grain boundaries; impurity-defect interactions; phonon-defect interactions; point defects; stacking faults; twinning
 N-acetyl glycine, crystal imperfections, ENDOR spectra 4-35249
 acoustic microscopy technique, appl. to semicond. defect anal. (*French*) 4-14862
 alkali halide crystals, radiation processes and radiolysis (*Russian*) 4-11179
 alkali metal halides, doped, defect clustering kinetics, review 4-20180
 alkali metals, optical breakdown thresholds and density of absorbing inhomogeneities 4-6399
 alkaline earth fluorides: rare earth, heavily doped, ionic cond. studies 4-45395
 bis-tetramethylammonium tetrachlorozincate-d₂₄, incommensurate phase, defect mobility 4-20413
 channelling and X-ray diffraction and techniques 4-45120
 cholesterol derivatives, solid, dynamic mech. behaviour 4-39359
 corundum monocrystals, grown from melt, structural defects genesis 4-50223
 defect proliferation due to order parameter multivaluedness 4-32467
 defect trapping, ion beam anal. review 4-45122
 diamond, defect-induced one-phonon IR absorpt. spectra 4-46249
 diamond-structure materials, interfacial defects 4-20214
 dislocation motion, soliton mobility controlled regimes 4-34493
 double diffractometric topography, imaging laws of lattice defects, Laue case 4-29289
 elastic solid, spheroidal defect mech. interaction with boundary surface 4-2193
 FCC crystals, packing-defect distribs., scope for X-ray examination 4-2034
 ferroelectric phase transitions induced by dipole effects 4-35378
 ferroelectrics, spin-lattice relax. rate, crit. increase by defects 4-30403
 force constant changes around defects in crystals 4-20179
 graphite fiber, intercalated and ion implanted, struct. and elec. cond. 4-24759
 ice:HF(NH₃)(NH₄F), electron as probe for defects 4-29983
 ice, charge partitioning between Bjerrum and ionic defects, ab initio MO calcs. 4-29466
 ice, hexagonal crystals, heat cond coeffs., ageing effects 4-29713
 ice I, Bjerrum I defect migration, activated complex model 4-28584

crystal defects continued

- ice thin films, elec. meas. near cubic-hexagonal phase transform. 4-50503
- III-V mixed compound semiconductors, alloy fluctuations at defects, DLTS studies 4-39811
- incommensurate phases, linear defects 4-24802
- insulators, structurally inhomogeneous, exciton defect form. mechanism 4-11453
- ion damage track form. in insulators 4-29491
- ionic crystals, thermopower, heats of transport of lattice defects 4-20398
- IR microscopy for semiconductor materials (*French*) 4-17933
- localized-particles approach for classical and quantum crystals 4-45272
- metal, electron irradiation, cascade function at PKA energies near threshold (*Russian*) 4-50356
- metals, conduction electron density at a cylindrical dilatation 4-15865
- metals, damping phenomena and evidence against Zener's theory 4-39393
- metals, lattice defects, hyperfine interactions studies, review 4-39282
- metals, lattice distortion around an expansion centre, role in vacancy form. vol. theory 4-55816
- metals, thermal diffusion anal. with SIMS, sputtering effects (*German*) 4-32379
- mica thin film, white, struct. and chem. composition, TEM and SEM studies (*Chinese*) 4-56160
- molecular crystals, energy spectrum, influence of planar defects and disorder 4-39785
- nonmetallic cryst., excitation relax. mechanism at low temps. (*Russian*) 4-46299
- nuclear orientation studies, review 4-40241
- organic single cryst. perfection, synchrotron radiation X-ray topographic study 4-15534
- phyllosilicates, induced thermoluminesc., cryst. defect study 4-21049
- physics and chemistry of ice, conference, Rolla, MO, USA (1982) 4-27232
- point defect absorption by edge dislocation under irradiation 4-34485
- polar crystals, polarons bound to defects, optical absorpt. weak coupling theory, appl. to SrTiO_3 4-11897
- polymers, longit. acoustic modes, influence of defects, normal mode calcs. 4-2296
- polypropylene-polyethylene blend, quality changes of internal stresses 4-39167
- porous materials, thermal cond., contrib. of crystalline lattice defects 4-34732
- quartz, backward-wave phonon echo enhancement by structural defects 4-50451
- quartz, synthetic, Brazil twin form on $-x$ plane (*Chinese*) 4-55843
- quartz monocrystal perfection, investigation using X-ray diffr. technique of increased sensitivity 4-10924
- radiation defects, growth and recomb., generalised kinetic theory (*Russian*) 4-24852
- radiation interaction with crystals containing radiation damage, quantum theory (*Russian*) 4-24850
- radiative and non-radiative decays leads to dip in emission line-shape 4-21039
- semiconductor characterisation, SEM developments 4-24698
- semiconductor wafer inspection, near IR polarising microscope 4-4458
- semiconductors, ion implanted, impurity diffusion and activation, defect effects 4-50587
- shaped crystal prep., conf., Leningrad, USSR (March 1982) 4-27226
- Si, ion irradi., photomechanical effects 4-55912
- solid electrolytes with O ion conduction, defect struct. 4-45413
- solid state positron physics, Varenna, Italy, July 1981 4-27247
- SOS structure, review of physico-chemical and electrical props. (*French*) 4-40068
- steel, low C, tempering processes, quenching temp. effects, elec. resist. and thermal expansion studies (*Russian*) 4-35641
- steel, W-Mo, high-speed, cooling rate in liq. N_2 , effect on retained austenite transform. 4-40837
- surface, step formation and movement, surface mobility and defects 4-29754
- thermal properties of defect melting 4-55971
- thermodynamic forces, virtual, on defects and cracks 4-50415
- type II superconductors, metastable state formation at defects and pinning 4-11653
- Ag halides, doped, defect clustering kinetics, review 4-20180
- AgGaS₂, microscopic scatt. centres, optical and SEM study 4-29425
- AgI polytypes, growth and charactrs., review 4-39185
- n-AlGaAs/GaAs heterojunction interface, electron transport props. 4-15954
- $\alpha\text{-Al}_2\text{O}_3$, synthetic corundum, exoelectron emission rel. to prep. conditions 4-3030
- $\text{Al}_2\text{O}_3\text{-Ag}_2\text{O}$, β and β'' phases, struct. and props., high resolution electron microscopy study 4-34477
- $\text{Al}_2\text{O}_3\text{-Na}_2\text{O}$, β and β'' phases, cracks and other defects, acoustic, optical and electron microscopy studies 4-34575
- $\text{Au}_{0.25}\text{Cu}_{0.30}\text{Zn}_{0.47}$, premartensitic phase, struct., EXAFS study 4-21067
- BaFBr, flux grown, ionic cond. meas. 4-50568
- $\text{Ba}_{1-x}\text{La}_x\text{F}_{2+x}\text{Gd}^{3+}$, ionic thermocurrent and defect struct. 4-20899
- BaTiO_3 , defect characterisation, X-ray diffr. anal. (*French*) 4-50278
- $\text{Ba}_{1-x}\text{U}_x\text{F}_{2+2x}$, thermally generated defect struct., quasielastic neutron scatt. studies 4-45121
- Be_2SiO_4 , irradiated surface layer, electron and hole centres (*Russian*) 4-39813
- $\text{Ca}_3\text{Ga}_2\text{Ge}_2\text{O}_{12}$ garnet, growth macrodefects 4-39285
- CaO powder, photoluminescence emission from surface states 4-46321
- CdGa_2S_4 , ion irradi., blue photoluminesc. studies 4-35488
- CdS single cryst., polaron scatt. processes, exciton absorption studies 4-34889
- CdS thin film, vacuum evaporation and film struct. 4-25889
- CdTe surface, photoetching effect, cathodoluminescence imaging 4-16255
- CdTe , surface at. motion, TEM study 4-50618
- CrF_3 , bonding, covalency and transferred hyperfine interaction, lattice effects 4-45046
- Cr_2O_3 , nonstoichiometric, elec. cond. anomaly 4-56347
- Cu, neutron irradi., defects, X-ray diffr. studies (*Russian*) 4-50372
- $\text{Cu}_{10}\text{Mo}_6\text{S}_8$, neutron irradi., superconductivity and elec. resist. (*Russian*) 4-25469
- $(\text{Fe,Cr})_2\text{C}_3$ coatings, cryst. defects, electron diffr. and microscopy studies 4-11133
- Fe, neutron irradi., defects, X-ray diffr. studies (*Russian*) 4-50372
- Fe_2C_3 , cryst. defects, electron diffr. and microscopy studies 4-11133

crystal defects continued

- FeO, planar and non-planar surfaces, defect struct. calc. 4-20443
- Fe_{1-x}O , wustite, defect struct., electron diffr., TEM studies 4-20233
- Fe_3O_4 , magnetite, activated sintering, role of nonequilibrium defects 4-12041
- Fe_2O_3 , mag. props. nonstoichiometry effects 4-56570
- Fe_{1-x}S , pyrrhotite, impurity band conduction and Hall coeff. 4-45769
- GaAlAs visible lasers, failure mechanism rel. to formation of dark defects 4-10308
- GaAs (100), disorder dechannelling anal. 4-45142
- GaAs, crystal defects obs. by X-ray topography and SEM transmission cathodolum. 4-6360
- GaAs, defect profile and annealing behaviour, impurity complexes form. 4-24841
- GaAs heavily doped MBE layer, defects study 4-34497
- GaAs:Si as-grown single crystals, microdefects and their behaviour (*Chinese*) 4-20220
- GaAs/AlAs superlattices, characterisation by laser-Raman spectroscopy 4-34807
- GaAs/Si₃Ge_{1-x} heterojunction systems, radiation-stimulated gettering of struct. defects 4-30067
- GaSb, self-diffusion of Ga and Sb 4-45392
- Ge, CZ grown, defects induced by annealing or irradiation 4-20182
- Ge, electron irradi. defects, DLTS studies 4-34913
- Ge, high energy proton irradi., defect cluster form., role of nonelastic nucl. processes 4-55890
- a-Ge, low-power laser annealing, defect migration and temp. gradient effects 4-24861
- Ge-Si₃N₄ systems, stressed state and cryst. defects 4-50937
- Ge-SiO₂ systems, stressed state and cryst. defects 4-50937
- ³He, BCC solid, high freq. NMR, defect effects and spin-lattice relax. 4-6613
- Hg_{0.9}Cd_{0.1}Te:Al⁺, ion implanted, defect distrib. profile 4-24845
- In-H quench-condensed films, supercond. enhancement and metastable state formation 4-40104
- InAs, ion-implanted, laser annealing, defect and elec. props. study 4-11182
- InGaAsP laser structures, optically induced catastrophic degradation 4-34478
- InGaAsP-InP LPE double heterostructure, cathodolum. anal. 4-35497
- InP, low temp. electron irradi., defects, DLTS studies 4-50758
- InP:S, ion implanted, laser beam annealing, Hall effect and ellipsometry studies 4-50346
- InP-InGaAsP emitters, sources of defects 4-25189
- InSb, ion-implanted, laser annealing, defect and elec. props. study 4-11182
- KCl, activation energy of substitutional defects 4-55813
- KCl, defect energies calc., quasi-harmonic approx. 4-20178
- $\text{KH}_2(\text{SeO}_3)_2$, ferroelastic, switching, influence of defects 4-30415
- $\text{K}_{1-x}\text{Li}_x\text{TaO}_3$, ferroelectric phase transitions induced by dipole effects 4-35378
- K_2NaCrF_6 , bonding, covalency and transferred hyperfine interaction, lattice effects 4-45046
- $\text{La}_{1-x}\text{Sr}_x\text{MO}_{3-x}$ (M=Cr, Fe) perovskite-type oxide, nonstoichiometry, defect equilib. (*Japanese*) 4-24801
- LiNbO₃ strip crystal growth by Stepanov method, stress and defect struct. 4-25869
- LiTiZn ferrites, dielec. const. and mag. props., Zn conc. effects 4-56844
- LiTiF₄, scheelite struct., cryst. elec. field symm., local distortions, NMR study 4-29935
- Lu_{1-x}S, defect ordering 4-55812
- MgO, planar and non-planar surfaces, defect struct. calc. 4-20443
- MgO powder, photoluminescence emission from surface states 4-46321
- $\text{Mn}_2\text{SiO}_4\text{-Mn}(\text{OH})_2$, leucophoenicite, cryst. struct., TEM, X-ray diffr. and electron probe anal. 4-20146
- Mo, neutron irradi., defects, X-ray diffr. studies (*Russian*) 4-50372
- NaCl, activation energy of substitutional defects 4-55813
- Nb-Ti (50 wt.%), neutron irradi., pinning vol. force, materials treatment effects (*Russian*) 4-25493
- NbSe₂(2H), layered, CDW, effects of defects 4-56330
- Nb₃Sn coatings, radiation defect distrib., nucl. gamma reson. methods (*Russian*) 4-24877
- Ni (111), struct. perturbations, after H₂-O₂ treatments (*French*) 4-6629
- Ni, neutron irradi., defects, X-ray diffr. studies (*Russian*) 4-50372
- Ni, proton irradiated, deformed and ion implanted, defect recovery, ¹¹¹In PAC study 4-35263
- Ni, trivacancy recovery and cubic symmetry defect trap formation on ¹¹¹In impurities, PAC study 4-34523
- $\beta\text{-PbF}_2$, cryst. struct., anion disorder and conduction path 4-45106
- PbF_2 , quasi-harmonic pot. and defect props., computer simulation studies 4-45049
- PbF_2 , structural defect annealing near sublattice melting temp. 4-24804
- $\text{PbF}_2\text{Er}^{3+}$, defect sites identification using site selective laser spectroscopy 4-11164
- $\text{Pb}_{1-x}\text{U}_x\text{F}_{2+2x}$, thermally generated defect struct., sp. ht. studies 4-45121
- Pt surface, chemisorption and ordering of naphthalene and azulene 4-29811
- RbCl, activation energy of substitutional defects 4-55813
- Sc_{1-x}S , defect ordering 4-55812
- Si, CZ grown, defects induced by annealing or irradiation 4-20182
- Si, crystal defect classification by g-values 4-11139
- Si, crystal growth for nuclear radiation detectors 4-3062
- Si, defect form., heat treatment condition effects, X-ray diffr. studies 4-2194
- Si epitaxial layers, cryst. perfection, etching, deposition temp., substrate props. effects 4-29834
- Si, gettering, defect control technique for device processing 4-39281
- Si grapho-epitaxy using partly ionised particle beams 4-16335
- Si, ion implantation through SiO₂ film, induced-defects, compensative study (*French*) 4-15502
- Si, laser irradiated, melting mech. 4-20248
- Si, microdefects, formation on growth by zone refining, influence of temp. gradient 4-51480
- Si, microstructural changes in high elec. fields, high resolution X-ray diffr. study 4-39528
- Si, p-type (100), oxidation in steam; defects study 4-2218
- Si, positron interactions and defect imperfections 4-51407
- Si, proton and neutron irradi., defect cluster parameters determ. 4-6412
- Si shaped crystal prep., electronic props. and defect struct., solar element prod. 4-25863
- Si single cryst., neutron irradi.-induced defects, γ -ray diffr. and IR studies 4-11192

crystal defects continued

- Si surface, defect struct., LEED spot profile anal. 4-6634
 Si, thermally induced microdefects, high resolution electron microscopy study 4-20181
 Si thin film on insulating substrates, recrystallisation using incoherent light sources 4-15381
 Si wafer surfaces, microdeformation and crystal defects, nondestructive optical imaging technique 4-11388
 a-Si:H, light-induced metastable defects 4-39284
 a-Si:H films, CVD and plasma deposition, defect chemistry 4-29839
 a-Si:H films, photocond. and photoluminesc. at low temps. 4-56979
 Si:H₂⁺, ion implantation and diffusion effects on laser induced defects, EPR study 4-15501
 Si:Na, electron irradi., radiation defects, Hall effect meas. 4-50362
 Si:O, minority carrier lifetime, heat treatment effects 4-6803
 Si:P⁺, ion implanted, extended defect reduction by uniform heating 4-29450
 Si-SiO₂ systems, stressed state and cryst. defects 4-50937
 Si₃N₄ films, plasma enhanced CVD deposition, etching and insulation degradation 4-1841
 SiO₂, amorphous, X-ray irradi., 1.9 eV luminescence centres 4-56980
 Sr_{1-x}Ce_xF_{2+x}, cubic solid solns., dielec. relax. expts. 4-46181
 Sr_{1-x}Pr_xF_{2+x} 4-46181
 Ta, radiation induced lattice defects, stage III recovery, PAC study 4-34476
 TaS₂ (1T), Anderson localisation, effect of cryst. defects 4-6738
 TaS₂, electron irradi. induced defects, CDW pinning 4-56326
 TaS₂(2H), layered, CDW, effects of defects 4-56330
 Te, thin film, for optical data storage stability 4-29847
 UO₂, defect structure, migration and mobility rate 4-45389
 V₂Zr, struct. phase transitions, neutron irradi. effects (Russian) 4-50490
 VSe₂(1T), layered, CDW, effects of defects 4-56330
 YAG cryst., neutron irradi.-stimulated recombination processes 4-35482
 ZnIn₂S₄ (II), volt. depend. conductivity along c-axis 4-6785
 ZnP₂ single cryst., γ-irrad. defects and elec. resist. 4-55814
 ZnTe, acousto and photoluminescence, impurity-defect mechanism 4-35504
 Zr, foil, electron irradiation, 14 and 38 MeV, 4.2°K, isochronous annealing (Russian) 4-39343
 Zr, pressure induced α→ω transition, electron microscopy studies (Russian) 4-50489
 ZrO₂-Y₂O₃, defect struct. and phase transformations, Raman scatt. 4-55798
 Zr_{1-x}S_x, defect ordering 4-55812

crystal dislocations see dislocations

crystal electron states see electron energy states (condensed matter)

crystal energy see lattice energy

crystal etching see etching

crystal faces

- diphenyl crystals, growth twinning zones and external morphology 4-20134
 elementary growth layer structure 4-15412
 ferromagnetic 3-D Ising model, equilibrium cryst. shapes 4-29375
 growth, master eqn. formulation 4-6306
 melt growth, face struct. rel. to growth conditions 4-29352
 metals, equilibrium cryst. shape, adsorbed layer effects 4-29376
 polymer, lamellar crystal, roughness of growth faces, morphological evidence and implications 4-11013
 quartz, growth twinning zones and external morphology 4-20134
 Ag multiply twinned particles, surface struct. and energetics 4-39644
 Au multiply twinned particles, surface struct. and energetics 4-39644
 Ba(NO₃)₂ crystals, (111) face growth rate from aqueous soln., slope angle of spiral hillocks 4-2114
 BeAl₂O₄·Cr³⁺, alexandrite, growth habits, X-ray and optical studies (Chinese) 4-50231
 CrB crystal, solidification of Ni-Cr-B type alloy, growth and equilib. morphologies (French) 4-20133
 GaAs coated with Al₂O₃ photoluminescence changes and facet coating procedures 4-56972
 GaSb single crystals, melt pulled, sawtooth line patterns at facet boundary 4-3060
 GaSb:Te pulled crystals, sub-μm steps on facet planes 4-11019
 InSb, shaped single crystals, form. of growth layers at faces and twinning 4-29360
 KMg₃(Si₃AlO₁₀)F₂, fluorophlogopite crystals, growth twinning zones and external morphology 4-20134
 Pb crystals, equilib. shapes, obs. of Pokrovsky-Talapov crit. behaviour 4-50221
 W, heat treated in nearly equilib. conditions, structural changes 4-25985

crystal field interactions

see also crystal hyperfine field interactions

- 3d⁵ ions in low symmetry cryst. field, zero field splitting parameters (Chinese) 4-56301
 actinide trichloride hexahydrates, cation site approx. D_{4d} symm. 4-50771
 alkali halide crystals, in-crystal polarizabilities of alkali and halide ions 4-39843
 alkali halide crystals, ion wavefunctions, cryst. field effects 4-11502
 alkali halides: ¹⁵¹Eu²⁺(¹⁵¹Eu²⁺, Sr²⁺), EPR study 4-20857
 alkaline earth chalcogenides, vacuum UV refl. spectra in energy range 4 to 40 eV 4-30492
 alkaline earth fluorides: rare earth, MF₂ (M=Ca, Sr, Ba), lattice distortion and local compressibility induced by trivalent impurities 4-6385
 antiferromagnetism, mean field theory approach, mapping to ferromagnetism 4-30133
 bis-tetramethylammonium tetrachlorocobaltate: Mn²⁺, ESR line shapes and rot. modes in incommensurate phase 4-30276
 chlorates, NQR spectra, cryst. symmetry and elec. field gradient 4-35247
 chloroform, Raman and far IR spectra, crystal field splittings 4-40426
 di-tetraphenylarsenic rare earth pentanitrates complexes, prep., cryst. struct., mag. props. 4-2187
 dicalcium barium propionate: Mn²⁺, zero-field splitting temp. depend., ESR study 4-11757
 4,6-dichloropyrimidine, polarised IR spectra, Raman spectra, struct. 4-7187
 dynamic susceptibility of mixed valence impurity, inelastic structs. 4-34918
 dynamics of off-diagonal phonon coupling and the Lee model 4-2558
 field strength parameter for arbitrary ions of nIⁿ config. 4-45696
 free and impurity ion spectra, wave function and excitation energy changes on free ion entering cryst. 4-11495

crystal field interactions continued

- germanate glass: Gd³⁺, EPR and optical absorpt. spectra (Russian) 4-56770
 III-V semiconductors, Er doped, 1.54 μm photolum. obs. 4-21001
 ion cryst. field strength parameter 4-6750
 iron III porphyrin, spin-admixed, EPR spectra, zero-field splitting 4-20851
 Kondo alloys, cryst. field effect on resist. maximum 4-25330
 lanthanide ion spectroscopy, spin correlation effects 4-25304
 magnetic ion pairs, electron spin-lattice relax. 4-30266
 manganese (III) porphyrins, electronic struct., mag. props. 4-51032
 modulated ionic crystals, electric field gradient tensor 4-25307
 molecular cryst., strongly harmonic and orientationally disordered, phase transitions 4-39453
 orbit-lattice interaction in Γ₈ quartets, J mixing by cryst. field 4-50773
 quantum field theory of crystals near melting temp. 4-6452
 rare earth alloys, RCO_{2-x}M_x, M=Ni, Cu, Al, Si, mag. props. 4-7017
 rare earth alloys, RCO₂ and R₂Y_{1-x}Cox, mag. anisotropy, cryst. field theory 4-6970
 rare earth alloys, RInAg₂, Heusler alloys, elec. and mag. props. 4-45732
 rare earth alloys, RPd₂Si, R=Dy-Er, ferromagnetic, Curie temps., indirect exchange interactions, cryst. field effects 4-30169
 rare earth alloys, RPd₂Si, R=Gd, Tb, antiferromagnet, Neel temps., metamagnetic transitions, indirect exchange interactions, cryst. field effects 4-30169
 rare earth compounds, RFe₂O₇, R=Sm, Eu, Gd, Tb, Dy, Y, Ho, Er, Tm, Yb, Lu, garnet, electric field gradient calcs. 4-50779
 rare earth hydrides, interstices occupation as probe for electronic struct. 4-2507
 rare earth metals with double HCP struct., cryst. field potential 4-20612
 rare earth metaniobates, IR transmission spectra, tetrad effect 4-35452
 rare earth monosulphides, thermodynamic props. in homogeneity range 4-39537
 rare earth oxides, IR transmission spectra, tetrad effect 4-35452
 rare earth sesquisulphides, R₂S₃ (R=La, Ce, Nd, Gd, Dy), Schottky levels and thermodynamic contribs., calorimetric and optical studies 4-6518
 rare earth ternary alloys, RFe₂Si₂, mag. transition temp., Mossbauer studies 4-25661
 rare earth trichloride hexahydrates, cation site approx. D_{4d} symm. 4-50771
 rare earth tungstates, IR transmission spectra, tetrad effect 4-35452
 relativistic field lattice contrib. to spin-lattice coupling coeffs. 4-45695
 stepped surface, struct. and energy, computer simulation study 4-45474
 thulium ethyl sulphate, optical, mag., and thermal props. 4-16007
 transition metal ions, lower-symm. cryst. field effect in intermediate-coupling scheme 4-25308
 trissarcosine calcium chloride(bromide): Mn²⁺ solid solns., EPR study, 130 to 300K 4-2807
 two-dimensional nonlinear massless field, real-space renormalisation group study 4-47885
 weakly anisotropic systems, critical domain wall props. 4-51091
 zero field splitting parameter of S-state ion (Chinese) 4-2562
 AgPt dilute alloys, spin-orbit and cryst. field effects 4-29934
 BeAl₂O₄·Cr³⁺, cryst. field energy level diagram 4-6747
 C₆Eu graphite intercalation cpd., mag. anisotropy due to π-f exchange 4-2750
 CaF₂:Ce³⁺, lowest 4f→5d near UV transition, two-photon excitation 4-2939
 CaF₂:Eu²⁺, 4f⁷ levels, two-photon absorpt. spectra study 4-11908
 CaHf₂O₆:Gd³⁺, EPR spectra broadening 4-25634
 CaO:Mn²⁺, zero field splitting parameter of S-state ion (Chinese) 4-2562
 CdF₂: rare earth, lattice distortion and local compressibility induced by trivalent impurities 4-6385
 Cd_{0.45}Mn_{0.55}Te, optical absorption and photolum., hydrostatic press. shift 4-11924
 Ce mononitrides: Gd³⁺, exchange and cryst. field effects, EPR study 4-11767
 CeAg, cryst. fields and press. depend. of spin dynamics, inelastic neutron scatt. study 4-2744
 CeAl₃, coupled phonon and crystn. elec. field excitations, Raman scatt. 4-25757
 CeAl₂, valence instabilities, bound state of phonons and cryst. field excitation 4-55934
 CeCu₂Si₂, magnetism and supercond. 4-56543
 CeH₂(D_{3h}), mag. props. at low temps. 4-2739
 CeSb_{1-x}Te_x solid solns., mag. props. 4-6964
 CeSb_{1-x}Te_x solid soln., mag. props. and cryst. field splitting energy 4-56600
 CeTe, transport props. and cryst. field energy 4-34973
 ClO₂(¹¹3/2), CO₂ matrix isolated, ESR study 4-5258
 Cr (III) complexes, absorpt. bands with fine struct., singlet-triplet transitions 4-20988
 Cr complexes, dinuclear Cr(II) complexes, ground term splitting, Wigner-Racah algebra calc. 4-6749
 Cr III in glass ceramics, ligand field strengths, fluoresc. and absorpt. spectra obs. 4-56965
 Cs₂NaNdCl₆, magnetisation meas., NMR and ESR studies 4-7073
 D₂ solid, crystal field determ. model 4-20613
 ErCl₃, solid hexahydrate and frozen aq. soln., Er³⁺ energy levels, parametric anal. 4-51243
 Er₂Gd₁₂Rh₄B₄, Gd mag. moment orientation, Mossbauer studies 4-56564
 α-ErH₃ solid solns., mag. order, magnetisation study 4-7008
 Eu_{1-x}Ho_xMo₂S₈, press. induced supercond. 4-56476
 Eu(OH)₃:Gd³⁺, EPR spectra of impurity ion, spin-Hamiltonian param. temp. depend. 4-56769
 FeCO₃, antiferromagnet, two-centre transitions, IR absorption studies 4-20971
 Fe(II) phthalocyanine, electronic struct. determ., mag. susceptibility and Mossbauer meas. 4-28479
 FeS₂, Mossbauer determ. of electric field gradient orientation 4-30368
 FeS₂ clusters, electronic struct., hyperfine interaction and radial density, Xα calc. 4-29885
 Fe₂S₃, intraatomic-exchange splitting and cryst. field splitting 4-11504
 GaAs:Ta, luminesc. of Ta centres 4-25806
 GaAs:W, luminesc. spectra, cryst. field theory, Tanabe-Sugano diagrams 4-3486
 GaP, bound exciton series, absorpt., isoelectronic trap luminesc. studies 4-39818
 GaP:Ta, luminesc. of Ta centres 4-25806

crystal field interactions continued

- Gd³⁺ EPR spectra broadening in polycryst. ceramics 4-25634
 GdAlO₃:Eu³⁺, electronic transitions, IR transmission spectra 4-29926
 Gd_{1-x}Er_xAl₂, inverse paramag. susceptibility and mag. moments 4-30146
 H₂, solid, crystal field determ. model 4-20613
 Ho₂Gd_{1-x}Rh_xB₄, Gd mag. moment orientation, Mossbauer studies 4-56564
 Ho₂Lu_{1-x}Rh_xB₄, rare earth ion dynamics, supercond. effects, muon spin-lattice relax. rate meas. 4-56841
 Ho₂O₂SO₄, mag. props., optical absorpt. spectroscopy study 4-35146
 InCl₃ quadrupole interactions, TDPAC obs. 4-50777
 InCl₃ quadrupole interactions, TDPAC obs. 4-50777
 InCl₃ quadrupole interactions, TDPAC obs. 4-50777
 InP, fine struct. of (A³⁺X) complex 4-25804
 InP:Yb³⁺, EPR and spin lattice relax. 4-25635
 Ir (III) complexes, spin-orbit interactions, visible and UV reflectance spectra, ligand field calcs. 4-51300
 KBr(Cl):Mn²⁺, double excitation transitions 4-21036
 KCl:Ti³⁺, optical props. and cryst. field model 4-11909
 LaAlO₃:Ge⁴⁺, EPR powder spectra, simulation and interpretation 4-56771
 LaCl₃:Pr³⁺(Eu³⁺), force electric-dipole transition probabilities, electron correl. effect 4-34919
 A-La₂O₃:Eu³⁺, fluorescence spectrum anal. 4-21023
 La_{75-x}Pr_xAl₂₅(Ga₂₅), crystal field effects study 4-56298
 LiC₆ intercalation cpd., valence and core electronic excitations, EELS studies 4-25275
 LiF:Mn²⁺, double excitation transitions 4-21036
 Li₆Nd(BO₃)₃, conc. quenching of Nd³⁺ emission 4-25784
 LiTmF₄, scheelite struct., cryst. elec. field symm., local distortions, NMR study 4-29935
 LiY_{1-x}Er_xF₄ crystals, excitation-energy transport rates 4-51331
 LiY_{1-x}Ho_xF₄ crystals, excitation-energy transport rates 4-51331
 MgO stepped surface, struct. and energy, computer simulation study 4-45474
 MgO:Cr³⁺, EPR fine struct. lines, spin-lattice strain coeffs., superposition model 4-30277
 Mn²⁺ ions in cubic cryst. field, exchange interaction 4-34921
 Mn⁴⁺ ions, ESR spectra in trigonal cryst. field, hyperfine struct. 4-2812
 NH₄Br, cubic rotator phases, orientational order, mol. dynamics calcs. 4-20128
 (NH₄)₂Mg(SO₄)₂·6H₂O:Ni²⁺, optical absorpt. spectra band splitting, spin-orbit interaction 4-2948
 NaCl:Mn²⁺, Suzuki phase, optical and Raman spectra studies 4-15652
 Na₂Eu(MO₄)₄ (M=Mo, W), spectroscopic parameters and paramag. susceptibility 4-6748
 NaF(Cl):Mn²⁺, double excitation transitions 4-21036
 Na₃Mn²⁺, struct. phase transition, EPR study 4-2323
 Na₁₈Nd(BO₃)₇, conc. quenching of Nd³⁺ emission 4-25784
 Na₃Nd(BO₃)₂, conc. quenching of Nd³⁺ emission 4-25784
 Na₃Nd₂(BO₃)₃, conc. quenching of Nd³⁺ emission 4-25784
 Na₂Zn(SO₄)₂·4H₂O:Co²⁺, optical absorpt. spectra band splitting, spin-orbit interaction 4-2948
 NbS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276
 NdAl₃, cryst. field splitting, neutron scatt. study 4-6751
 Ni (II) compounds, 3p level, XPS 4-12007
 Ni²⁺ ions in cubic cryst. field, exchange interaction 4-34921
 NiO, band struct. calc., tight-binding method 4-29881
 PbF₂:rare earth, lattice distortion and local compressibility induced by trivalent impurities 4-6385
 Pb_{1-x}Mn_xS₂, diode laser spectra splitting in zero mag. field 4-7243
 PdCl₂, low-lying unoccupied states distrib., X-ray absorpt. near edge struct. studies 4-7271
 PrCu₂(Cu₆), elec. resist., crystalline elec. field effects 4-50792
 Pr_{0.25}La_{0.75}Al₃, elec. resist., Kondo-like behaviour 4-56334
 PrO₂, mag. ground state, neutron scatt. study 4-30153
 Pt (IV) complexes, spin-orbit interactions, visible and UV reflectance spectra, ligand field calcs. 4-51300
 RbUF₆, electronic struct., cryst. field splitting model (German) 4-25305
 Rh (III) complexes, spin-orbit interactions, visible and UV reflectance spectra, ligand field calcs. 4-51300
 Si, deform. potentials and internal strain parameter, relativistic LMTO calcs. 4-56299
 Si:Er, 1.54 μm photolum. obs. 4-21001
 SnCl₄, lattice vibr., Raman spectra 4-51262
 SrCl₂:Ce, luminescence study (Russian) 4-51346
 SrEuFeO₄, Mossbauer spectroscopy study 4-7102
 SrF₂:Eu²⁺, 4f levels, two-photon absorpt. spectra study 4-11908
 SrF₂:U³⁺, Na⁺(K⁺), tetragonal EPR spectra 4-20861
 SrO:Ni²⁺, magneto-optical studies 4-16183
 SrTiO₃:Cr³⁺, EPR fine struct. lines, spin-lattice strain coeffs., superposition model 4-30277
 TaH_x, acoustic NMR study, hydride precipitation 4-30299
 Tb mononitrides:Gd³⁺, exchange and cryst. field effects, EPR study 4-11767
 TeO₂:Fe³⁺, spectroscopic behaviour 4-20996
 ThBr₄:U⁴⁺, site-selective excitation in visible region 4-11760
 ThBr₄:U⁴⁺, site-selective excitation in visible region 4-11929
 ThBr₄:U⁴⁺, energy levels in D_{3d} and limiting D₂ sites, parametric anal. 4-11503
 TiCl₄, lattice vibr., Raman spectra 4-51262
 TiS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276
 Ti₂Te₃:¹¹¹Cd, electric field gradient study 4-39863
 TmFe₂Si₂, cryst. fields and second-order mag. hyperfine interactions, Mossbauer study 4-56830
 TmZn ferromag. tetragonal phase, mag. props., neutron diffr. studies 4-30219
 U⁴⁺ sulphate complexes, electronic absorpt. spectra rel. to complex struct. 4-51297
 V²⁺ ions in cubic cryst. field, exchange interaction 4-34921
 VS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276
 VSe₂, NMR study of charge density wave state 4-2836
 YIG, magnetic linear dichroism anisotropy 4-25732
 Y₂O₃:RE³⁺ (RE=Nd, Sm, Er, Tm), optical spectra, energy levels and cryst. field anal. 4-16214
 Y(OH)₃:Gd³⁺, EPR spectra of impurity ion, spin-Hamiltonian param. temp. depend. 4-56769

crystal field interactions continued

- ZnGeAs₂, chalcopyrite, electronic charge density and crystallographic distortion, pseudopot. calc. 4-24768
 ZrS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276
- crystal field splitting** see *crystal field interactions*
- crystal field theory** see *crystal field interactions*
- crystal fields** see *crystal field interactions*
- crystal growth**
 see also *crystal growth from melt; crystal growth from solution; crystal growth from vapour; crystal purification; crystallisation; dendrites; epitaxial growth; nucleation*
 actinide metals and compounds, crystal growth methods (French) 4-40613
 alkali metal phosphate phases, ABR(PO₄)₂, A=alkali metal, B=alkaline earth, R=rare earth, prep., cryst. chem. 4-2122
 alkali metal rare earth halides, MRX₃, M=alkali metal, synthesis, cryst. structures 4-2121
 conference, cryst. growth of electronic materials, Milan, Italy (Dec. 1982) 4-4144
 diffusion controlled deposition, cluster statistics and scaling 4-29371
 exfoliated SbCl₃ intercalated graphite for absorption substrates 4-45470
 face growth, master eqn. formulation 4-6306
 faces, elementary growth layer structure 4-15412
 FCC crystal growth, mechanism, kinetics and anisotropy 4-39183
 fractal phase transformations 4-8858
 frost, grain growth rates on planetary surfaces, spectral data interpretation implications 4-27021
 geological systems, surface adsorption and mobility effects 4-31484
 homogeneous nucleation kinetics, supersaturation dependent clusters 4-34609
 ice, crystal growth, solid-liq. interface props., light scatt. study 4-11259
 ice crystal growth at -8±2°C, struct. 4-24747
 measurement of cryst. growth, recommendation 4-30615
 mechanisms of cryst. growth and their morphology (Japanese) 4-55769
 moving material subjected to surface energy transfer, temp. distrib. 4-19700
 organic single cryst. perfection, synchrotron radiation X-ray topographic study 4-15534
 photovoltaic distrib. of crystals allowing for growth dispersion 4-29365
 photoactive solar energy, book 4-17645
 polytypic crystals, crystal growth, review 4-39184
 sapphire shaped crystal growth (Czech) 4-25860
 semiconductor, solid solution growth from liquid phase 4-57082
 semiconductor nuclear radiation detectors, materials research, conf., Boston, USA (Nov. 1982) 4-23
 solidification, pattern form., boundary layer model 4-24748
 surface, step formation and movement, surface mobility and defects 4-29754
 ternary magnetic semiconductors, prep. and charact. 4-29964
 TGS, L-alanine doped, inhomogeneity 4-46190
 thin film growth mechanisms, island size distrib. 4-25180
 thin films, nucleation, growth, adsorption and surface diffusion 4-29854
 time-dependent phase domains boundary, interface evolution, geometrical models 4-55972
 water, supercooled droplet, freezing on ice substrate, role of cubic struct. 4-50471
 AgI polytypes, growth and characts., review 4-39185
 α-Ag₂S, growing layer, mag. field form. (German) 4-2127
 BN, cubic, high press. synthesis from amorphous state 4-7353
 Ba₂As₂S₅, prep., cryst. struct. (German) 4-45090
 BaGeO₃, form. by hydrolysis, polymorphic transform., thermal anal., X-ray diffr. studies 4-15630
 Bi₄Ge₂O₁₂ 4-3036
 Bi₂S₃ film, growth using soln.-gas interface technique, elec. and optical props. 4-29850
 CdWO₄, scintillator material growth, purity and growth control 4-3036
 Cr, nucleation and growth characts. on amorphous substrates 4-50690
 CsEuF₃, prep., cryst. struct., mag. props., Madelung lattice energy determ. 4-2120
 CsNO₃ crystals, γ-irradiated, struct. changes, rel. to cryst. growth conditions 4-11185
 CsNO₃, electron and X-ray irr., struct. changes, X-ray diffr. study 4-50354
 CsYbF₄, prep., cryst. struct., mag. props., Madelung lattice energy determ. 4-2120
 CuNa₃PO₁₀·12H₂O, chem. preparation and cryst. data (French) 4-39217
 CuO, prep. of bulk single crystals by plastic flow method, elec. props. 4-51484
 θ-Fe₂C and χ-Fe₂C microcrystals, Co disproportionation, TEM, Mossbauer spectroscopy 4-34761
 FeMoO₄Cl, two-dimensional antiferromagnet with superexchange pathways, synthesis, cryst. struct., mag. props. 4-56604
 FeO-Ce₂O₃, ferrous cerite, synthesis and props. 4-57131
 GdP₂O₇, prep., cryst. struct., X-ray powder diffr., IR spectra anal. 4-2172
 Hg_{1-x}Cd_xTe crystals, low temp. synthesis 4-7354
 K(D,H)₂PO₄ monocrystal growth and appl. (Czech) 4-25861
 KGeON, prep., cryst. struct., neutron diffr., profile anal. (French) 4-45088
 KH₂PO₄ monocrystal growth and appl. (Czech) 4-25861
 KNbW₂O₆, cryst. growth and ferroelec. characterisation 4-7134
 LiPrP₂O₁₂, optical absorpt. and emission spectra of Pr³⁺ ions 4-56959
 γ-MnOOH, manganese acicular crystals, synthesis and phase transformations 4-50494
 Mo, single-crystal sheet, large scale, prep. by secondary recrystn. 4-40645
 NaCl-KCl crystals, unmixing, linear growth of two-phase regions 4-50512
 NaI:Ti 4-3036
 NaNO₂, electron and X-ray irr., struct. changes, X-ray diffr. study 4-50354
 Na₂ZrP₂O₁₂ synthesis and unit cell data 4-12022
 Ni ferrite containing N, prep., struct., saturation magnetisation 4-50227
 Pb₂OFBr, prep., luminesc. spectra 4-2126
 Pb₂OFCl, prep., luminesc. spectra 4-2126
 Pb₂OFI, prep., luminesc. spectra 4-2126
 Pt, nucleation and growth characts. on amorphous substrates 4-50690
 RbYbF₃, prep., cryst. struct., mag. props., Madelung lattice energy determ. 4-2120

crystal growth continued

- SbNbO₄, electron and X-ray irradi., struct. changes, X-ray diffraction study 4-50354
 Si amorphous ion implanted layers, seeded crystallisation using laser and electron irradi. 4-55724
 Si, electronic devices manufacture (*French*) 4-45035
 Si, laser induced thin film crystal growth on fused silica, TEM study 4-6675
 Si:As (B), ion implanted, pulsed electron beam annealing 4-15536
 Si-on-insulator, large area single cryst., grain boundary-free growth technique 4-21133
 SiC, synthesis by C ion implantation of Si 4-15508
 SiO₂, fibrous, cryst. growth on Si surface, electron microscopy study (*French*) 4-15410
 SiO₂ whiskers grown on Si surface, electron microscope obs. (*French*) 4-51483
 Ti_{1-x}V_xPO₄, prep., mag. props. 4-45993
 V₂Ga Al₁₅ crystals, growth from ion-implanted supersaturated Ga-V solid solns. 4-39323
 YFeO₃, microcrystalline, synthesis, admixture characterisation, Mossbauer study 4-16069
 ZnS, polytypism, review 4-39244

crystal growth from gel

- ammonium hydrogen tartrate, growth in SiO₂ hydrogel, density, morphology, microstructure 4-29363
 gypsum, gel grown single crystals., interpretation twins, alcohol additive role during crystn. 4-12017
 periodic crystallisation from gel, effect of additives 4-2110
 Ba(IO₃)₂, cryst. growth from silica gel, morphology and habit study 4-3040
 Ca₃H₂(PO₄)₆.5H₂O, cryst. growth in silica gel 4-50222
 Ca(IO₃)₂, cryst. growth from silica gel, morphology and habit study 4-3040
 Ca₃(PO₄)₂(OH)₂, cryst. growth in silica gel 4-50222
 CaSO₄.2H₂O, gypsum, gel grown, dendritic struts. 4-2491
 Mg(OH)₂, periodic crystn. from gel, effect of additives 4-2111
 Sr(IO₃)₂, cryst. growth from silica gel, morphology and habit study 4-3040

crystal growth from melt

- see also liquid phase epitaxial growth; zone melting
 alkaline earth ditellurites, MTe₂O₅, M=Ca-Ba, cryst. growth, DTA, X-ray diffraction, chem. anal., dielec. and optical props. 4-50225
 n-alkanes, melt crystn. in temp. gradient, cryst. orientation 4-24741
 Bridgman growth, vertical, radial segregation induced by natural convection and melt/solid interface shape 4-20132
 Bridgman growth, solid-liquid interface shape, thermal cond. effect 4-45036
 corundum monocrystals, grown from melt, structural defects genesis 4-50223
 cyclohexane cryst. growth from melt 4-25879
 Czochralski growth, meniscus shape, analytical representation 4-3052
 Czochralski growth, spoke patterns on melt surface, theoretical model 4-3054
 Czochralski method, monocrystal growth control techniques (*Czech*) 4-25876
 Czochralski system, buoyancy driven flow in rectangular cavity, external mag. field effect 4-44747
 deformations, low-freq., of melt column, influence at phase boundary on cryst. form. 4-24744
 face struct. rel. to growth conditions 4-29352
 garnets, R₃Ga₂O₁₂ (R=Gd, Nd, Sm), melt grown, lattice spacings, stress birefringence obs. 4-34429
 III-V semiconductors, LEC and horizontal Bridgman growth, anion inclusions, scanning AES study 4-20216
 levitated metal droplet, heat and fluid flow under zero gravity conditions 4-57094
 LiNbO₃, shaped single crystals, melt grown, thermoelastic stress distrib., anisotropy factors 4-29357
 liquid bridges, axisymm., one dimens. self-similar soln. of dynamics 4-38785
 liquid meniscuses, mechanical stability, zero gravity effect 4-29728
 liquid sphere, freely floating, surface oscill. due to Marangoni-effect 4-5893
 macroparticle capture and critical growth rate 4-34433
 microporosity evaluation by MHz US attenuation meas. 4-39403
 mixtures, off-eutectic, solidification, effect of oscillatory and ramped freezing rates 4-2313
 monocomponent crystal in nonuniform temperature field, mathematical model 4-12018
 morphology rel. to seed surface area 4-2116
 natural convection, finite element anal. of two-phase Rayleigh-Benard problem 4-34618
 nucleation, mol. theory 4-50228
 oxide compounds, complex, single cryst. plate growth by Stepanov method 4-3061
 pattern formation in cryst. growth, needle growth in simplified model 4-20135
 phase interfaces, temp. and conc. fields, growth forms and stability 4-29355
 phenol crystals, organic materials for nonlinear optics 4-24079
 polymer crust. growth from melt, Monte Carlo modelling, Regime III, chain morphology 4-2113
 polymer crystals, model for nucleation controlled growth 4-45025
 problems rel. to gravity and space flight expts. (*German*) 4-35555
 pulling system for automatic control of crystal diameter (*Czech*) 4-25877
 pure crystal, dislocation density, thermoelastic stress distrib. 4-29358
 rare earth hydrides, phase relationships and crystal growth 4-11258
 refractory semitransparent crystal, melt grown, crystallisation front, temp. distrib., radiative heat transfer effect 4-30621
 ribbon growth, edge stabilized, of semiconductor substrates for solar cells 4-21121
 salol crystal/melt interface, cryst. growth and asymmetry of dynamics 4-55767
 sapphire, shaped single crystals, melt grown, thermoelastic stress distrib., anisotropy factors 4-29357
 sapphire crystal prod. by Stepanov method, tubes for high-pressure Na lamps 4-25867
 sapphire crystals grown by Stepanov method, transverse dimens. sensitivity to temp. and growth rate variations 4-25868
 sapphire shaped growth process improvement 4-25866

crystal growth from melt continued

- sapphire single crystals, structured perfection rel. to growth mechanisms 4-29361
 semiconductor single crystals, melt grown, dislocation struct. rel. to growth conditions 4-29436
 semiconductor single-crystal growth, technology, developments and trends 4-7339
 shaped crystal prep., conf., Leningrad, USSR (March 1982) 4-27226
 Si crystals, solar grade, physics, chemistry and growth aspects for use in flat-plate photovoltaic systems 4-7352
 side surface impurity distrib., growth angle effect 4-29356
 silicate crystal growth, in situ obs. by TV system 4-3058
 single crystals, growth from melt, heat and mass transfer, review 4-21128
 solidification interface morphological stability under convective conditions 4-39444
 Spacelab, scientific accomplishments of first mission 4-53003
 Stepanov method, crystallisation stability rel. to melt pressure 4-30619
 Stepanov method, dynamics of form development 4-29353
 Stepanov method, melt temp. fluctuations transmission to crystn. front 4-25862
 stochastic model 4-3050
 succinonitrile, cryst. growth from melt, foreign particle effects (*Russian*) 4-40642
 surface ripples as chronological marks of crystn. 4-51477
 thermal tube prod. by Stepanov method, for cooling semicond. photoelec. converters 4-25872
 thermoconcentration convection effect on cryst. front shape 4-34434
 thermoelastic stress distrib. rel. to crystallisation conditions 4-29354
 thermostat-modulator for thermocouples reference junctions 4-12019
 tubular profile growth by Stepanov method, crystallisation process stability 4-30620
 volatile compound LEC growth 4-21124
 AgInS₂(Se₂) and AgInSe₂(1-x)S_{2x}, cryst. growth by Bridgman method 4-25874
 Ag₂P₂O₇ crystal, Czochralski growth, phys. props. 4-51476
 Al₂O₃, sapphire, large diameter tubes growth by Stepanov method 4-57089
 Al₂Zr growth morphology in slowly cooled melt 4-39182
 Au-Co metastable solid solns., electrodeposition and growth from melt 4-40689
 BaNbO₃, single crystal growth, by various methods 4-51475
 Ba_{2-x}Sr_xK_{1-x}Na₂Nb₂O₁₅, cryst. growth and ferroelec. props. 4-30402
 Ba₂Sr_{1-x}Nb₂O₆Ce monocrystalline plates obtained by Stepanov method 4-25870
 Be single crystals, zone melting, growth orientation 4-3063
 BeO single cryst., radiation-optical props., cryst. growth depend. 4-56975
 Bi_{100-x}Sb_x, cryst. growth from melt in microgravity environment 4-3049
 Bi₁₂SiO₂₀, monocrystalline plates grown from melt by Stepanov method 4-25871
 Bi₂Te₃-Sb₂Te₃ thermocouples, Czochralski cryst. growth 4-4402
 Ca₃Ga₂Ge₂O₁₂ garnet, growth macrodefects 4-39285
 Ca(VO₄)₂, monocrystalline plates grown from melt by Stepanov method 4-25871
 Cd₂Hg_{1-x}Te crystals, Bridgman growth, rapid quenching, boundary layer thickness 4-3056
 Cd₂Hg_{1-x}Te, polycrystalline ingot, thermal modelling of casting 4-3055
 Cd₂Hg_{1-x}Te, segregation during Bridgman growth 4-40636
 Cd₂Hg_{1-x}Te:Cu, Bridgman grown crystals, Au segregation, elec. props. 4-46432
 CdTe, single crystals, growth from melt, elec. and optical props. 4-35564
 CdTe substrate large single crystal growth by Bridgman method, material eval. 4-21120
 CdTeO₅, cryst. growth, DTA, X-ray diffraction, chem. anal., dielec. and optical props. 4-50225
 CeCu₂Si₂ single cryst. growth, Bridgman method 4-21127
 CeNi₂Ge₂ single cryst. growth, Bridgman method 4-21127
 Cs₂Li₂I₄, synthesis and cryst., struct., X-ray diffraction study 4-15442
 CsNd(MoO₄)₃, stimulated emission on ⁴F_{3/2}→⁴I_{11/2} transition of Nd³⁺ ions 4-56963
 (Cu,Ag)(Zn,Cd)₂(In,Ga)Te₄ diamondlike semiconductors, synthesis and props. 4-24769
 Cu single crystals, directional solidification, γ-ray diffraction obs. 4-3045
 Cu-Au, spherical crystals, melt growth, surface melting and segregation 4-15643
 Cu-Au, spherical crystals, melt growth, surface topography and dendrites 4-15796
 CuIn_{1-x}Fe_xTe₂, crystal growth by programmed-directional-freezing 4-25875
 CuInSe₂, crystal growth from melt, Cu-In-Se phase relations, Hall meas. 4-50842
 ErRh₂B₄, coexistent superconductor, single cryst. growth by flux method 4-25873
 EuLiH₃, synthesis, cryst. growth and optical absorption 4-40638
 F₂O-SiO₂, nonisothermal crystal growth model 4-45038
 Ga chalcogenide layer compounds, growth and characterisation 4-7344
 GaAs, semi-insulating, recent developments (*Japanese*) 4-30623
 GaAs crystal growth Bridgman and Czochralski methods 4-16307
 GaAs, LEC crystal growth with low and homogeneous dislocation densities 4-40626
 GaAs, LEC grown, undoped semi-insulating, EL2 electron trap distrib., DLTS study 4-20591
 GaAs, LEC grown, undoped, semi-insulating, 0.8 eV deep level photoluminescence 4-20592
 GaAs, LEC grown semi-insulating, cryst. homogeneity improvement by annealing 4-51470
 GaAs, LEC growth, deep traps at implanted layer interface 4-25291
 GaAs, LEC growth of undoped crystals, ambient gas effects 4-21123
 GaAs LEC single crystal growth, mag. field applied pulling apparatus 4-21126
 GaAs, LEC-grown semi-insulating wafers, lattice bending, X-ray study 4-24746
 GaAs, semi-insulating, LEC grown, trap level at 78 meV 4-15885
 GaAs semi-insulating growth technology, electron trap deep level conc. 4-7343
 GaAs semi-insulating LEC single crystals, dislocations, transmission cathodolum. obs. 4-20195
 GaAs, single cryst. growth for optoelectronic appls. 4-40641
 GaAs, single crystal growth using liquid encapsulated Czochralski method and improved pulling technique 4-40628
 GaAs:C, semi-insulating, LEC-grown, C shallow acceptors study 4-40624

crystal growth from melt continued

- GaAs:Cr, single crystal growth by gradient freeze method 4-46431
GaAs:Si dislocation-free single crystals grown by LEC procedure 4-21125
GaAs:Si LEC crystals, Si doping effect on elec. props. 4-6810
GaSb ingots, Bridgman growth, texture, cryst. orientation, grain boundaries, SEM, chem. etching, electron channelling 4-29364
GaSb single crystals, melt pulled, sawtooth line patterns at facet boundary 4-3060
Gd₂Ga₂O₇, Czochralski grown, characts. 4-2119
GdSeO₃:Nd³⁺, synthesis and optical props. 4-20966
Ge, dislocation outstripping by crystallisation growth front 4-55768
Ge, rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
Ge shaped crystals, growth thermal stress, slip plane form. 4-29359
In chalcogenide layer compounds, growth and characterisation 4-7344
In Sb:Te crystals, solidification in zero gravity, morphology, struct., solute distrib. 4-57090
InAs:Sc, Czochralski grown, impurity distrib., Hall meas., at. absorpt. anal. 4-11170
InP, deep levels, influence of growing conditions and impurities (*Korean*) 4-39820
InP, high purity, synthesis from melt, donor conc., Hall meas., photoluminesc. 4-40629
InP, LEC grown, annealing effect on struct. defects 4-34495
InP, LEC grown crystals, Si contamination sources 4-40633
InP, LEC growth, control of dislocation structures 4-39297
InP, LEC growth, elec. props., impurity conc. 4-40632
InP, LEC growth, temp. gradients 4-40634
InP, LEC single crystals, microstruct. of grape defects 4-34494
InP, materials science, conf., Lancaster, England (March 1983) 4-36779
InP, polycrystalline ingots, horizontal directional freezing, trace impurity conc. 4-40630
InP single crystal, intrinsic point defects, melt composition effects 4-34484
InP, synthesis, crystal growth, Hall effect, photoluminesc., SIMS 4-40631
InP:Co, LEC single crystals, precip. identification 4-35563
InP:Ge, LEC single crystals, mech. strength, use as substrate for VPE InP layers 4-11215
InP:Ge LEC ingots, dopant inhomogeneity, segregation nature and minimisation 4-35562
InP:Sn(S)(Zn) crystal, liq. encapsulation Czochralski grown, defect struct., synchrotron X-ray topography 4-45137
InSb, Czochralski growth, cryst. diameter programming by cooling plot 4-40639
n-InSb, high purity cryst. growth for IR detectors 4-3051
InSb, shaped single crystals, form. of growth layers at faces and twinning 4-29360
InSe high quality single crystals, growth and characterisation 4-7345
KBr-KI mixed crystals, radiation hardening, dislocation and grain boundaries conc. meas. 4-11183
KCl, prep. and O-containing impurity purification, optical studies 4-57092
KCl, ultratransparent large single crystals, growth apparatus 4-7347
KCl:NaCl mixed crystals, melt grown, ionic cond. meas. 4-29679
K₂Li₂Nb₂O₇, cryst. growth and ferroelec. props. 4-30402
KLu(WO₄)₂:Nd³⁺, Czochralski grown, stimulated emission and luminesc.-generation props. 4-56964
KMg₃(Si₃AlO₁₀)F₂, fluorophlogopite crystals, growth twinning zones and external morphology 4-20134
K₂Ti₂O₈, single crystal, flux evaporation prep., thermal expansion, mech. props. 4-51479
La₃Ga₂SiO₁₄, cryst. growth and optical props. 4-34431
LaMAl₃O₁₉, (M=Ni, Co, Fe, Mg_{1-x}Mn_x), crystal growth and characterisation 4-21130
(La_{1-x}Nd_x)₂Ga₂SiO₁₄, cryst. growth and optical props. 4-34431
La₂S₃-Nd₂S₃, phase equilib., ingot growth from melt, vacancy diffusion mechanism 4-3130
LiF:Ti production technology for TLDs 4-57088
LiNbO₃ crystals, grown by Czochralski technique, piezoelectric-dielectric props. 4-40625
LiNbO₃ monocrystalline plates obtained by Stepanov method 4-25870
LiNbO₃ strip crystal growth by Stepanov method, stress and defect struct. 4-25869
LiNbO₃:Cr, Cr distrib. coeff., growth parameters and elec. fields influence 4-20131
(NH₄)₂Ce(PO₃)₃, prep., cryst. struct. and morphology 4-6305
(NH₄)₂O.Ce₂O₃.4P₂O₅, prep., cryst. struct. and morphology 4-6305
Na_{5-x}Al_{3-x}W₃O₁₂F₃ (A=Li, K), Bridgman grown crystals, ferroelastic domains, polarisation microscopy (*French*) 4-45039
Na₂Mg₂T₂₋₃O_{4-2y+x}F_{2y-x}, cryst. growth, cationic cond. meas. 4-50572
Na₂SO₄:Nd³⁺, cryst. growth and elec. cond. 4-25878
Nb₂Sn, crystallisation by arc casting 4-40637
Nd_{1-x}Ba_xMnO₃ single crystals, flux growth from melt 4-51472
Nd₂Ga₂SiO₁₄, cryst. growth and optical props. 4-34431
Pb-Te O single crystal, growth from melt, electrophysical props. 4-30625
Pb-TeO₂ (Pb₃Co₂PO₄)₂, synthesis, Bridgman-Stockbarger crystn. and characterisation 4-40635
PbHfO₃, antiferroelectric twins 4-24830
Pb₂SeNbO₆, single crystal growth, phase transitions, dielectric nonlinearity 4-51474
Pb_{1-x}Sn_xTe LEC growth using B₂O₃ encapsulant 4-21124
Pb_{1-x}Sn_xTe, melt growth, cryst. inclusions, EPMA, constitutional supercooling model 4-11131
Pb_{1-x}Sn_xTe seed, directional solidification, segregation coeff., X-ray microanalysis 4-35561
PbTe:Ti, single crystal, growth by travelling heater method 4-51478
PbTeO₃, cryst. growth from melt, phase transition, to spontaneously polarised state, dielec., X-ray diffr., SHG meas. 4-25696
Pb₂TeO₆, ferroelec., prep., X-ray diffr., dielec., SHG, calorimetric props. 4-25697
Pr_{1-x}Ba_xMnO₃ single crystals, flux growth from melt 4-51472
RbAg₄I₃ solid electrolyte, directional crystallisation from melt and elec. cond. 4-57093
RbNd(WO₄)₂, stimulated emission on ⁴F_{3/2}-⁴I_{11/2} transition of Nd³⁺ ions 4-56963
Sb-Zn, phase diagram, crystn. of intermediate compounds 4-57196
Se, crystalline rods, melt grown by Stepanov method, temp. and thermoelectric stress distrib. 4-30622
Si, cryst. growth from melt, mechanisms and doping striations 4-24751

crystal growth from melt continued

- Si crystal, Czochralski growth, bulk flow at large melt aspect ratio 4-3053
Si, crystal growth, Czochralski method, melt interface temp. oscills. rel. to process parameters 4-16306
Si, crystal growth for nuclear radiation detectors 4-3062
Si crystallite morphology in Al-Si eutectic alloys, dendrites 4-51471
Si crystals, Czochralski growth, control of C contamination 4-3059
Si, Czochralski crystal growth, heat transfer model 4-45037
Si, Czochralski grown, segregation and precipitation of O, early stages 4-50525
Si, Czochralski grown, thermally induced microdefects after high temp. annealing 4-20129
Si, Czochralski growth, C contamination study (*Chinese*) 4-39181
p-Si, Czochralski type, new electron trap 4-34897
Si ingot growth by oscillating crucible technique 4-21122
Si monocryst. strips grown by Stepanov method, struct. features 4-25865
Si, rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
Si, ribbon, EFG, metallographic techniques 4-35816
Si ribbon growth system, hydrostatic study (*French*) 4-7348
Si ribbon solar cells, EFG technique, minority-carrier diffusion length, illum. effects. 4-52141
Si shaped crystal growth by Stepanov method with different variants of heating 4-25864
Si shaped crystal prep., electronic props. and defect struct., solar element prod. 4-25863
Si, solar grade, cryst. growth techniques and segregation effects 4-7346
Si, Stepanov growth, melt temp. fluctuations transmission to crystn. front 4-25862
SiO₂, Czochralski grown, annealed, deep level photoluminesc. from dislocations 4-21010
SiO₂, Czochralski grown, defects study 4-15461
SiO₂, Czochralski grown, O out-diffusion, SIMS study 4-6558
SiO₂, Czochralski grown, thermal donors, deep level luminesc. study 4-21009
Si:P, crystal growth by vertical mag. field-applied Czochralski method, homogeneous dopant distribution 4-40627
Sr_{1-x}Ba_xNb₂O₆, cryst. growth and ferroelec. props. 4-30402
Sr₂KNb₂O₁₅, cryst. growth and ferroelec. props. 4-30402
Sr₂KNb₂O₁₅, ferroelec., low and high freq. dielec. props. 4-51200
SrTiO₃, grown by Czochralski method, optical props. 4-57091
SrTiO₃ single crystal, growth by Czochralski's method, from cold container 4-51473
TiAl single crystals, floating zone technique 4-21132
TiBr₃ crystal growth by transient Bridgman technique 4-3057
VO₂ single crystals, electrosynthesis from V₂O₅-P₂O₅ melts 4-35565
W single crystals, growth from powder using plasma arc 4-30624
YAG, melt grown, lattice spacings, stress birefringence obs. 4-34429
YAG:Nd monocrystals for pulsed and continuous lasers, admixtures effect obs. (*Czech*) 4-23998
YAG:Nd³⁺, gas bubble assoc. mass transport of Bridgman-Stockbarger melt growth system 4-2108
ZnGeAs₂, chalcopyrite struct., Bridgman growth, melting point, elec. props., DTA, X-ray diffr. studies 4-15411
ZnSe crystals grown from melt under pressure, crystal structure 4-20163
ZnTe, single crystal growth, characterisation (*Korean*) 4-40640
ZnTeO₃, cryst. growth, DTA, X-ray diffr., chem. anal., dielec. and optical props. 4-50225

crystal growth from solution

- see also crystal growth from gel; liquid phase epitaxial growth
amethyst, hydrothermal cryst. growth in NaCl and KCl solns. 4-51469
calcium oxalate monohydrate, renal stone constituent, growth kinetics, soln. comp. 4-35559
calcium oxalate monohydrate, renal stone constituent crystal growth kinetics 4-35557
calcium oxalate monohydrate, renal stone constituents, growth kinetics, seed conc. 4-35558
citrine, hydrothermal cryst. growth in NaCl and KCl solns. 4-51469
cyclotrimethylenetrinitramine, RDX explosive crystals, X-ray orientation, hardness 4-39178
graphite-AlBr₃, prep. of laminar compounds in presence of Br₂ 4-55766
guanidine hydrochloride dihydrate, cryst. growth, reflection UV spectra 4-2934
high temperature solutions for cryst. growth, convection flow rates 4-38823
ice growth from solns., homogeneous nucleation, time-temp. transformation curve, stable glass criterion 4-11023
ionic crystal, interfacial tension in aq. soln. rel. to solubility 4-3046
liquid meniscuses, mechanical stability, zero gravity effect 4-29728
morphology rel. to seed surface area 4-2116
phenol crystals, organic materials for nonlinear optics 4-24079
polydiacetylenes, single cryst., semicond. props. 4-35560
polymer crystals, model for nucleation controlled growth 4-45025
potassium acid phthalate, cryst. growth from aq. soln., impurity incorporation and distrib. 4-2112
quartz, growth twinning zones and external morphology 4-20134
rare earth pentaphosphates, synthesis, struct., sp. ht., ferroelastic phase transition temp. 4-2118
semiconductor single-crystal growth technology, developments and trends 4-7339
silicate crystal growth, in situ obs. by TV system 4-3058
sillinite struct. cpds., Bi₂₄E³⁺PV₄O₄₀ and Bi₃₆E³⁺P₂V₂O₆₀, prep., melting, densities, struct., IR spectra 4-50224
stearic acid, long chain, crystals, soln.-growth, step morphology of giant growth spirals 4-2117
strontium formate dihydrate, cryst. growth from aq. soln., TGA, Raman studies 4-2106
sugar crystallisation control system (*Japanese*) 4-30618
temperature fluctuations at cryst.-liq. interface 4-2124
TGS:Mn²⁺(Li), cryst. growth from soln., growth habit, domains config., dielec. props. 4-2125
TGS, alanine and phosphate substituted, cryst. growth and dielec. props. 4-30399
TGS, crystal growth from aq. soln. 4-40622
TGS, growth rate of (001) face at various saturations, interferometric study 4-34432
thermoconcentration convection effect on cryst. front shape 4-34434
Ag₄V₃O₇, chem. prep., cryst. struct., X-ray diffr. study 4-20157
BaFBr, flux grown, ionic cond. meas. 4-50568

crystal growth from solution continued

- BaFCl₂ cryst. growth by flux technique, etching, impurity effect 4-2107
 BaMoO₄, flux-grown single crystals, Vickers micromech. indentation 4-29519
 Ba(NO₃)₂ crystals, (111) face growth rate from aqueous soln., slope angle of spiral hillocks 4-2114
 BaSO₄ in NaCl soln., cryst. growth kinetics 4-29370
 BeO single cryst., radiation-optical props., cryst. growth depend. 4-56975
 Ca uranates crystal growth by HTS method 4-40619
 Ca₄H(PO₄)₃, crystallisation in supersaturated solns. 4-2115
 Cd dendrites form. during electrodeposition on Ni and Cd substrates in alkali media, morphology 4-16304
 Cd dendrites form. during electrodeposition on Cd substrates in acidic media, morphology 4-16305
 CdI₂ polymorphic crystals, stacking fault struct., in mol. layers 4-50309
 CeO₂, undoped and ZrO₂ doped, hydrothermal crystn. and cryst. growth 4-40617
 CuInS₂, single cryst. growth by travelling-heater method, design 4-29366
 CuSO₄·5H₂O, chalcantinite, cryst. growth under microgravity, cryst. struct. 4-34459
 ErFeO₃, flux grown crystals, {100} surface struct., microtopography 4-15754
 α-Fe₂O₃, hematite, cryst. growth from soln., seed cryst. struct. depend. 4-50226
 α-FeO(OH), goethite, cryst. growth from soln., seed cryst. struct. depend. 4-50226
 GaSb crystals, growth by horizontal travelling heater method, forced convection on centrifuge 4-3042
 InBO₃ large single cryst. growth by slow cooling and top seeded soln. growth methods 4-40618
 K₂Cr₂O₇, crystal growth at boiling point 4-51468
 K(D₂H_{1-x})₂PO₄ monocrystal growth and appl. (Czech) 4-25861
 KH₂PO₄ monocrystal growth and appl. (Czech) 4-25861
 KH₂PO₄, soln. growth of large cryst. by rotating fluid method 4-40623
 KH₂PO₄-type ferroelectrics, growth and characts. of coloured monodomain crystals 4-30417
 KNd(PO₃)₄, flux growth, absorpt. spectra, fluoresc. branching coeffs. 4-51293
 K₂SO₄·Al₂(SO₄)₃·24H₂O, crystal growth rate rel. to microscopic damage 4-3044
 MgF₂, kinetics of crystal growth from supersaturated soln. 4-35556
 MgGeO₃, polymorphs, flux growth, phase relations, crystal struct. 4-45065
 MgSiO₃, orthoenstatite, large crystals flux grown by multiple slow-cooling technique 4-40621
 NH₄(BO₃)₃·4H₂O, growth from soln., cryst. morphology of α- and β-phases, twinning 4-15413
 NH₄H₂PO₄-type antiferroelectrics, growth and characts. of coloured monodomain crystals 4-30417
 NH₄(H₂O)₂MgCl₂, growth from soln., cryst. morphology, twinning 4-15413
 NH₄Zr₂(PO₄)₃, hydrothermal growth, cryst. struct., decomp. 4-45041
 Na₂B₄O₇·10H₂O, borax, needle-shaped and platelet growth from soln. 4-2109
 Na₂B₄O₇·10H₂O, borax, grown from soln., dendritic forms 4-2490
 NaBrO₃, growth from aq. soln., selective etching, microhardness studies 4-3264
 NaCl, crystal growth rate rel. to microscopic damage 4-3044
 NaClO₃ monocrystals, hydrothermal crystallisation 4-3048
 NaMgF₃, flux-grown, X-irrad., glow curves, optical absorpt. spectra studies 4-11948
 Nb₂Sn, crystallisation from soln. in Nb tube 4-46430
 OSi₂, crystal growth, thermopower, elec. cond., IR reflectivity 4-3041
 Pb₂KNb₂O₁₅, SAW substrate material, cryst. growth and dielec. characts. 4-30617
 PbTiO₃, elec. cond., optical absorpt., lattice disorder 4-51294
 RPO₄ crystals, flux growth, supercooling and supersaturation 4-3043
 SrF₂, cryst. growth from aq. soln. 4-57087
 Sr₄PtO₆ single crystal growth by SrO+Pt chem. reaction 4-40620
 SrSeO₄, cryst. struct., X-ray diff. study 4-29401
 Ti₂[B₂O₆(OH)₂]₂·2H₂O and Ti₄[B₂O₆(OH)₂]₄·H₂O, hydrothermal cryst. growth and cryst. structs. (French) 4-39228
 U mononitrides, single crystal growth using metallic Ga solvent 4-21119
 UO₂·NH₃·H₂O, ADU family, space group determ. from single cryst. 4-29407
 V(PO₃)₃ single crystal, flux growth, dielec. const., temp. depend. specific heat, SHG 4-3047
 ZnGeP₂, single crystal, growth from solution in Ti melt 4-57086
 Zr₂H(PO₃)₄, hydrothermal growth, cryst. struct. 4-45041

crystal growth from vapour*see also vapour phase epitaxial growth*

- adsorbed atom distrib. relative to clusters during nucleation 4-24750
 artificial snow production on Space Shuttle, expt. system 4-12322
 chemical transport reactions, thermodynamic models, systems with coexisting solid phases or homogeneity range phases 4-40666
 corundum, single cryst. growth using graphite-based equipment 4-57084
 crystal growth from vapour, growth rates and habits 4-29369
 crystallites on surfaces, model for growth shape 4-34430
 diamond crystallisation under shock compression, optical props. 4-21118
 diphenyl crystals, growth twinning zones and external morphology 4-20134
 graphite-AlBr₃, prep. of laminar compounds in presence of Br₂ 4-55766
 ice, growth steps in growth from vapour 4-57085
 III-VI layer compounds, polytypism, review 4-39245
 mass transport in closed tube, gravimetric technique 4-3037
 needles, cathodic growth, struct., mag. field effect 4-3039
 sapphire, shaped, physical characts., growth and annealing conditions influence 4-24745
 semiconductor single-crystal growth technology, developments and trends 4-7339
 2,2,6,6-tetramethyl-piperidino oxy crystals, growth and ferroelastic phase transitions 4-2326
 AgInS₂(Se₂) and AgInSe₂(1-x)S_{2x}, cryst. growth by chem. transport 4-25874
 Al₁Ga_{1-x}As-GaAs superlattices grown by MOCVD, monolayer heterointerfaces 4-51463
 CaSO₄·Dy, growth and thermoluminescence 4-21117
 CdCr₂Se₄, magnetic spinel semiconductor, cryst. growth by vapour-transport reaction 4-7342

crystal growth from vapour continued

- CdIn₂Ga₂(1-x)S₄ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
 CdS, crystal growth by sublimation, crystallographic polarity anal. (Japanese) 4-16303
 CdS single crystal growth by closed-tube H₂ chem. transport 4-7340
 Co, vapour phase growth by closed tube technique 4-7341
 CoIn₂S₄, spinel struct., cryst. growth, struct. determ., X-ray diff. study 4-11068
 Cr, vapour phase growth by closed tube technique 4-7341
 Cr-Co solid solution, vapour phase growth by closed tube technique 4-7341
 Cu-Al particles, growth by gas-evaporation, comp., cryst. struct. and habit 4-40614
 EuS, sublimation, diffusion mass transport 4-51465
 EuS, transfer in I₂ atmosphere, 1270-1970K 4-51464
 EuTe, sublimation, diffusion mass transport 4-51465
 Fe whisker growth rate, in situ TV obs. 4-15795
 Fe₂O₃-GeO₂ cryst. phases, growth by chem. vapour transport, cryst. struct., X-ray diff., EPMA, neutron activation anal. 4-45084
 Ga chalcogenide layer compounds, growth and characterisation 4-7344
 GaAs, precipitation, in chloride and chloride-hydride processes, partial pressure diagrams 4-57083
 HgCl crystals, vapour phase growth, temp. and thermoclastic stress distrib. 4-30616
 HgI₂ cryst. growth from vapour in presence of organic additives 4-45040
 In chalcogenide layer compounds, growth and characterisation 4-7344
 Mn₃N₂, η-phase, high press. synthesis from Mn+NH₃ (German) 4-40615
 NaCl (1k0) surfaces, thermodynamic stability during macrostep form., light scatt. study 4-25143
 Nb₂Ge₃, metastable modifications, prep. by chem. transport reactions 4-57106
 RuS₂, single cryst., growth and phys. props. 4-29970
 Si, needle cryst. growth by vapour-liq.-cryst. mechanism 4-51467
 SiC, powder, mechanochemical activation of evaporation, crystal growth 4-51466
 SiO₂/Ti, structural and electrophysical characteristics 4-55794
 SnO₂·V, needle crystals, vapour phase growth, elec. resist. 4-21116
 SnS₂, MIM struct., SCL cond., elec. characts. 4-30084
 SnS₂, single crystals, vapour transport, growth spiral shape, stress field effect 4-16300
 SnTe, crystal growth by iodide method, impurities and elec. props. (Russian) 4-6796
 (SnTe)_{1-x}(PbSe)_x, hot-wall film growth, physicochemical characts. 4-57111
 V_{1-x}Se₂, crystal growth by chemical vapour transport, chemical comp. control 4-3038
 Yb-H system, crystal growth and phase relations 4-2123
 Zn₂Cd_{1-x}In₂S₄, prep. and Raman spectroscopy, struct. and dynamical anal. 4-30456
 Zn₂Cd_{1-x}In₂S₄ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
 Zn₂Cd_{1-x}S₂, 2H-6H transform., polymorphism, stacking faults, X-ray diff. study 4-11036
 ZnIn₂Ga₂(1-x)S₄ system layered phases, growth and characterisation by Raman spectroscopy 4-7172
 ZnS crystal, CVD, low resistivity rel. to heat treatment in Zn 4-16301
 ZnS, crystal growth by sublimation, crystallographic polarity anal. (Japanese) 4-16303
 (ZnSe)_{1-x}(CdTe)_x, single crystals, vapour phase growth, surface topography, elec. cond. rel. to comp. 4-16302
 Zr_{1-x}Ti_xS₃, cryst. growth, characterisation and photoelectrochem. props. 4-40616

crystal habit *see crystal morphology***crystal hyperfine field interactions**

- 3dⁿ ions in low symmetry cryst. field, zero field splitting parameters (Chinese) 4-56301
 alkali halides, F and F_A centres, unrestricted Hartree-Fock cluster anal. 4-20998
 alkali halides, ligand relax. and g-shift of s¹ ions 4-20614
 alkali metal complexes, alkali bis(citrate)ferrates(III), Mossbauer studies 4-16126
 amorphous ferromagnets, mag. hyperfine field distribution from Mossbauer data 4-15863
 anthracene photoexcited triplet state spin density distrib., electron spin echo envelope modulation spectroscopy 4-25231
 benzene, lowest excited triplet state, phosphoresc., mol. deform. 4-23630
 bone¹⁶Tb, mag. and quadrupole interactions, Mossbauer studies 4-46940
 carbon tetrachloride, nuclear quadrupole interaction, Self Consistent Charge Extended Huckel procedure 4-39857
 crystalline slabs, new size effects and electric field gradients 4-56170
 p-cyanoanilinium bromide, phase transition, nucl. quadrupole coupling const., NQR 4-30349
 p-cyanoanilinium iodide, phase transition, nucl. quadrupole coupling const., NQR 4-30349
 cytidine-salicy acid complex, irrad., ESR study 4-20865
 diamond:Hf, ion implanted, elec. field gradients, TDPAC study 4-35273
 dimethyltin dichloride, cryst. struct. quadrupole coupling const., Zeeman NQR study 4-35245
 dinitrotoluene, UV and thermally induced radicals, EPR study 4-40231
 EPR, self-induced transparency in the microwave frequency range 4-40575
 exchange-coupled pairs, EPR spectroscopy effective Hamiltonians 4-30265
 ferromagnetic amorphous metals, quadrupole interaction, Mossbauer spectra 4-35290
 ferromagnets, oriented nuclei misalignment 4-39851
 garnet:Fe³⁺(Mn²⁺), zero-field splitting, EPR, superposition model 4-2808
 garnet bubble films, H⁺ implanted, depth selective conversion electron Mossbauer spectroscopy 4-35210
 Ge:F, implanted, quadrupole interactions gamma-ray spectra 4-34932
 α-glycine ²H chem. shift and EFG tensors 4-40256
 graphite, intercalation of InCl₃, TDPAC study 4-40303
 graphite-Eu intercalation cpd., EuC₆, Mossbauer study 4-40317
 graphite-FeCl₂ intercalation cpd., Mossbauer, EPR and SEM studies 4-56829
 halide compounds, linear-bonded, EFG and electronic struct. 4-2561

crystal hyperfine field interactions continued

- Heusler Cl_3 alloys, sp sites, hyperfine fields, TDPAC and Mossbauer study 4-35280
 hexachlorostannate crystals, Cl NQR, press. variation effect, spin-lattice relax. meas. 4-30326
 hyperfine interactions conf., Groningen, Netherlands (July 1983) 4-31958
 in-beam study of hyperfine interactions, active mag. channels system 4-37248
 incommensurate systems, hyperfine interactions temp. depend. 4-39856
 indium metalloporphyrin complexes, elec. field gradient, perturbed ang. correl. 4-11807
 lanthanide $4f \rightarrow 4f$ transitions, elec. dipole intensity parameters 4-25302
 lanthanide complexes, isotropic ligands, $4f \rightarrow 4f$ intensity parameters 4-25303
 metal, noncubic, elec. field gradient at probe nuclei, temp. depend. study 4-34925
 metal surface, mag. struct. and mag. moments, ab initio calcs. 4-16012
 metal surface study by nucl. spin polarised alkali atoms 4-40242
 metallic glasses, Mossbauer spectra, asymmetrisation, elec. field gradient tensor, quadrupole splittings, internal fields distrib. 4-35313
 metals, elec. field gradients systematics 4-34924
 metals, electric field gradients, quadrupole interaction freq. data 4-39862
 metals, lattice defects, hyperfine interactions studies, review 4-39282
 molybdate polymerisation studied by perturbed angular correlation 4-40301
 Mossbauer radiation, time dependence, hyperfine struct. effects 4-30371
 nitrosylhaemoglobin, struct. and spin distrib. at binding site, EPR spectra 4-36060
 NQR, line broadening effects in $I=5/2$ nuclei 4-30331
 NQR elec. and dynamic second moments 4-30350
 nuclear orientation studies, review 4-40241
 nuclear quadrupole resonance spectroscopy, conference, Kingston, Ontario, Canada (July 1983) 4-27234
 perchlorobicyclopentadienyl, elec. field gradients, ^{13}Cl NQR Zeeman study 4-30341
 potassium hydrogen malonate, radical pairs, ENDOR study 4-2842
 quartz:H, hyperfine splitting-evaluation 4-11501
 α -quartz:H, quadrupole interactions, theory 4-29938
 quartz, defect centre study, EPR spectra 4-2822
 quartz, muonium quadrupole interactions 4-16133
 rare earth alloys, RFe_2Al_7 , $\text{R}=\text{Y}$, Sm to Lu , ferromagnetism and hyperfine studies 4-7010
 rare earth dilute alloys, RNi_2Cd , ^{111}Cd transferred hyperfine field, TDPAC studies 4-56839
 rare earth ferrites, RFe_2O_4 ($\text{R}=\text{Y}$, Ho , Er , Tm , Yb), valence fluctuation and Verwey transition, Mossbauer study 4-51164
 rare earth hosts, muon hyperfine fields 4-25664
 rare earth intermetallics, quadrupole interactions at ^{111}Cd sites 4-35283
 rare earth metal hosts, Mossbauer study of mag. and elec. hyperfine interaction of dil. ^{57}Fe impurities 4-40286
 rare earth metals, heavy, Cd impurities, electric field gradient, press. depend. 4-39847
 rare-earth isotopes, HFS and isotope shift study by collinear fast-beam laser spectroscopy 4-34923
 rubidium oxalate monohydrate: $\text{Mn}^{2+}(\text{VO}^{2+})(\text{Cu}^{2+})$, X-ray induced centres, EPR 4-46093
 semiconductors, ^{125}Te and ^{129}I implanted, electronic struct., impurity-host bond lengths, Mossbauer nucl. quadrupole interaction data 4-34931
 l-serine monohydrate, quadrupole coupling tensor, chem. shielding, ^{14}N NMR 4-11776
 spin system $I=3/2$ nuclei, RF pulse response in presence of quadrupole splitting 4-30321
 spinel-type ferrites, mag. hyperfine fields in sublattices 4-25496
 t-stilbene-1,2,4,5-tetracyanobenzene (1:2) complex, photoexcited triplets, ESR and DF ODMR studies 4-56818
 superparamagnetic particles, Mossbauer spectra, magnetisation direction probability effects 4-51104
 TCNQ mixed salts, crystal field and charge transfer, electric field gradient calc. 4-30339
 p-terphenyl cryst., zero field splitting of triplet excitons, fluorescence studies 4-6707
 tetragonal crystals, lattice sum of electric field gradients 4-34935
 trifluorides, electric hyperfine interaction, TDPAC study 4-40298
 trinitrotoluene, UV and thermally induced radicals, EPR study 4-40231
 zeolites, A and Y, Cd^{2+} exchanged, EPR and spin echo 4-20860
 AgIn dilute alloys, internal oxidation, kinetic studies and oxide charact., TDPAC studies 4-20891
 AgIn $_2$, temp. depend. of elec. field gradient, TDPAC study 4-39846
 AgPt, mag. susceptibility, NMR meas. 4-46132
 Al dilute alloys, elec. field gradients, ^{111}In PAC study 4-34929
 $\beta\text{-Al}_2\text{O}_3(\text{Na}_{0.3}\text{Li}_{0.7})_2\text{O}$, local elec. fields, IR absorpt. intensities 4-40434
 $\beta\text{-Al}_2\text{O}_3\cdot\text{H}_2\text{O}$, study of atomic H centres by ENDOR and ESR linewidth 4-7093
 $\beta\text{-Al}_2\text{O}_3\text{-Li}_2\text{O}$, local elec. fields, IR absorpt. intensities 4-40434
 $\beta\text{-Ba}^{18}\text{Al}_2\text{O}_3\text{-Na}_2\text{O}$, structure and Na^+ dynamics, ^{23}Na NMR study of electric field gradients 4-39583
 $\beta\text{-Al}_2\text{O}_3\text{-Na}_2\text{O-Ag}_2\text{O}$, X-irrad., Ag^{2+} ESR study 4-40222
 Au, strained, NMR line shape, effect of quadrupole interaction 4-30356
 Au-Fe, FCC, Mossbauer spectrum and hyperfine splitting 4-56828
 AuFe, Mossbauer spectra, mag. field effects 4-35275
 BaSO_4 , barytes, SO_3^{2-} radical, hyperfine struct., EPR study 4-11768
 $\text{BaSO}_4\cdot\text{PO}_3^{2-}$, barite, EPR of PO_3^{2-} and SO_3^{2-} radicals, hyperfine struct. 4-7061
 $\text{BaY}_2\text{F}_8\text{Ho}^{3+}$, phonon bottleneck, ESR line doubling 4-2292
 Be, nucl. quadrupole interaction, comparison of APW and OPW procedures 4-56303
 Be-As dilute alloys, ion implanted, $^{209,210}\text{At}$ nuclear orientation 4-34928
 Be-In dilute alloys, electric field gradient for ^{111}In and temp. depend., TDPAC meas. 4-35258
 Bi, electric field gradient of Tl, probe atom depend. 4-34927
 Bi_2Te_3 , electric quadrupole interaction, temp. and conc. depend. 4-30364
 Bi_2Te_3 , electric quadrupole interaction, TDPAC meas. 4-35306
 $\text{Bi}_2\text{-Y-FeSbO}_7$, Mossbauer study in paramag. and mag. ordered states 4-7107
 BrF_3 , elec. field gradients, TDPAC study 4-40299
 $\text{Ca}_2(\text{Al}_2\text{Fe}_{1-x})\text{Si}_2\text{O}_{12}(\text{OH})$, $0 \leq x \leq 1$, epidote, Mossbauer study 4-40294
 $\text{CaF}_2\text{-Gd}^{3+}$, Ag^+ , second nearest neighbour F^- ions position determ. by ENDOR technique 4-56817

crystal hyperfine field interactions continued

- $\text{CaF}_2\text{-Pr}^{3+}$, Zeeman effect and hyperfine struct. of $^1\text{D}_2 \rightarrow ^3\text{H}_4$ transition 4-50775
 $\text{CaF}_2\text{-Tm}^{2+}$, optical detection of ENDOR without microwaves 4-11804
 $\text{CaF}_2\text{-U}^{3+}$, EPR hyperfine struct., ^{235}U nucl. mag. moment 4-20862
 $\text{CaO-SiO}_2\text{-Al}_2\text{O}_3$ glass, S doped, EPR study 4-25630
 CaSO_4 , anhydrite, SO_3^{2-} radical, hyperfine struct., EPR study 4-11768
 $\text{CaSO}_4\cdot\text{PO}_3^{2-}$, anhydrite, EPR of PO_3^{2-} and SO_3^{2-} radicals, hyperfine struct. 4-7061
 Cd, electric field gradient at ^{119}Sn , meas. by Mossbauer spectroscopy 4-35254
 Cd, HCP, point defects trapping, PAC study 4-35264
 Cd, noncubic metal, elec. field gradient, isotopic mass effect 4-35252
 Cd single crystal, Sb probe atom depend. elec. field gradient 4-34926
 Cd-Ag dilute alloys, hyperfine interactions and recoil-free fractions of ^{199}Au , Mossbauer study 4-35255
 Cd-Au dilute alloys, quadrupole moments and low temp. thermal relax. 4-35256
 $\text{Cd}(\text{BrO}_3)_2\cdot 2\text{H}_2\text{O}$, Zeeman effect, elec. field gradient 4-11505
 $\text{Cd}(\text{COO})_2\cdot 3\text{H}_2\text{O}\cdot\text{Cu}^{2+}$, ESR and nuclear quadrupole interactions 4-51126
 CdCr_2Se_4 , ^{111}Cd quadrupole coupling, TDPAC study 4-35295
 CdGeAs_2 , electron field gradient, struct. depend., TDPAC study 4-35308
 CdGeP_2 , electron field gradient, struct. depend., TDPAC study 4-35308
 $\text{Cd-Mg}_{1-x}\text{Fe}_x\text{O}_4$, Mossbauer study at 4.2 K 4-7109
 CdSiF_2 , electron field gradient, struct. depend., TDPAC study 4-35308
 CdSnAs_2 , electron field gradient, struct. depend., TDPAC study 4-35308
 CdSnP_3 , electron field gradient, struct. depend., TDPAC study 4-35308
 CdTe-Pb(Ge) , deep level form., EPR study 4-40224
 CdTiO_3 , structural transition, PAC elec. quadrupole interaction 4-40297
 $^{111}\text{CdIn}$ dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
 $^{111}\text{CdSn}$ dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
 Ce alloys, valence sensing by dil. impurity probes, PAC study 4-40290
 ClF, elec. field gradients, TDPAC study 4-40299
 $\text{ClO}(\text{H}_{1/2})_2$, CO_2 matrix isolated, ESR study 4-5258
 Co (II) complexes, mag. moments, cryst. field splitting, IR spectra 4-46242
 Co, dilute impurity hyperfine fields 4-39861
 Co, hyperfine interaction of Ce, nucl. orientation study 4-39855
 Co-based Heusler alloys, Sn impurity hyperfine fields, Mossbauer effect 4-56826
 Co-Fe-B metallic glass and cryst., hyperfine fields and mag. moments 4-56568
 $\text{CoCO}_3\text{-Fe}^{2+}$, hyperfine field features of impurity nucleus 4-20867
 $\text{Co}_2\text{Fe}_2\text{Sb}_2\text{O}_{12}$, hyperfine fields, Mossbauer spectra 4-35296
 $\text{Co}_2\text{MnAl}_{0.98}\text{-Si}_3\text{Sn}_{0.02}$, Sn hyperfine field trends, Mossbauer effect studies 4-45698
 $\text{CoNPf}_6\cdot 3\text{H}_2\text{O}$, Cryst. struct., mag. susceptibility and Mossbauer resonance (French) 4-39225
 $\text{Co}_2\text{TlAl(Ga)}$, ferromagnetic Heusler alloys, hyperfine field, Knight shift 4-50778
 $\text{CoUF}_6\cdot 3\text{H}_2\text{O}$, Cryst. struct., mag. susceptibility and Mossbauer resonance (French) 4-39225
 CrF_3 , bonding, covalency and transferred hyperfine interaction, lattice effects 4-45046
 Cs_3CoCl_6 , Co^{2+} ground state, zero-field splitting, press. depend. (Russian) 4-46090
 CsFeS_2 , mag. and struct. phase transition obs., 4-11664
 Cu, defect induced elec. field gradients, geometrical significance of orientation 4-34930
 Cu maleonitriledithiolate complex, triplet-triplet interactions between dimers, EPR spectra 4-40221
 Cu^{2+} cpds., isotropic hyperfine interaction, two-centre metal-ligand contr. 4-15864
 Cu-Ni, electric quadrupole interaction and electric field gradients 4-29936
 Cu-vacancy system, electric quadrupole interaction and electric field gradients 4-29936
 Cu_2S , phase transformation, TDPAC elec. quadrupole interaction study 4-40296
 DyCo_2Si_2 , Mossbauer hyperfine spectra 4-35286
 $\text{Dy}_2\text{Fe}_{1-x}\text{Al}_x$, Mossbauer study 4-35316
 $\text{Dy}_2\text{Fe}_{1-x}\text{Al}_x\text{H}_x$, X-ray and Mossbauer study, hydrogenation effect on hyperfine field 4-35303
 DyZn , indirect multipolar interactions, ab initio calc. 4-56302
 Er, electric field gradient, temp. depend., perturbed ang. distrib. study 4-39849
 $(\text{Er}_{1-x}\text{Gd}_x)\text{Fe}_3$, spin reorientation, Mossbauer study 4-35282
 Eu monochalcogenides, pure and mag. diluted, Mossbauer study 4-16128
 EuFeP_{12} , giant hyperfine fields, Mossbauer study 4-35297
 Eu_2IrH_5 , ferromagnetism and ^{151}Eu Mossbauer effect 4-51165
 EuRuP_{12} , giant hyperfine fields, Mossbauer study 4-35297
 $\text{EuS}_2\text{-Se}_{1-x}$ spin glass, mag. props. study 4-16039
 F_2 , electric hyperfine interaction, TDPAC study 4-40298
 $(\text{Fe,Ni,Cr})_{75}\text{Sn}_{25}$, amorphous, hyperfine field distrib., Mossbauer spectra 4-35312
 Fe 4-39852
 Fe (001) seven layer film, surface magnetism, self consistent calc. 4-25610
 Fe based alloys, near-neighbour interactions, time differential PAC expt. 4-35276
 Fe complex, $(\text{Fe}(\text{H}_2\text{O})_6)^{2+}$, ligand field and hyperfine interaction, Mossbauer study 4-40292
 Fe, dilute impurity hyperfine fields 4-39861
 Fe, ferromagnet, hyperfine interaction of Ce and La impurities, NMR-ON meas. 4-39855
 Fe, ferromagnetic, hyperfine field of heavy impurities, temp. depend., effect of lattice vibr. 4-40164
 Fe, hyperfine field of ^{131}I , NMR-ON meas. 4-39854
 Fe, hyperfine fields, low temp. nucl. orientation of ^{83}Rb , ^{83}Sr , ^{85}Sr and ^{85}Ym 4-40240
 Fe hyperfine fields and electronic struct. of non-magnetic impurities 4-39842
 Fe-B , BCC, impurity β -emitter hyperfine interactions, NMR and asymmetric β -decay obs. 4-34934
 Fe-Al, magnetic hyperfine splitting induced by ion implantation, Mossbauer study (French) 4-29937
 Fe-Au, dil., local moment induced elec. quadrupole splitting of dil. ^{198}Au , NMR-ON study 4-46127

crystal hyperfine field interactions continued

- Fe-P based ferromagnetic glasses, Mossbauer Zeeman spectra 4-35310
 $\text{Fe}_{1-x}\text{Al}_x$, mag. vacancies, ^{57}Fe TDPAD expts. and simulations 4-35265
 FeB , cryst. and amorphous sputtered films, ferromag. and paramag. phases 4-30251
 $\text{Fe}_{100-x}\text{B}_x$ ferromagnetic glasses, Mossbauer Zeeman spectra 4-35310
 $\text{Fe}_{85-x}\text{Cr}_{15}\text{B}_x$, $x=10-20$, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
 $\text{Fe}_{85-x}\text{Cr}_x\text{B}_{15}$, amorphous, electric field gradient, Mossbauer spectroscopy 4-35291
 $\text{Fe}_{85-x}\text{Cr}_x\text{B}_{15}$, $x=5-30$, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
 $\text{FeH}_2(\text{PO}_3)_2 \cdot 2.5\text{H}_2\text{O}$, hyperfine fields, Mossbauer spectra study 4-40304
 $\text{Fe}_{1-x}\text{M}_x\text{Cr}_2\text{O}_4$ ($\text{M}=\text{Mg}, \text{Zn}$), Mossbauer spectra study 4-7108
 $\text{Fe}_{1-x}\text{M}_x\text{Si}$ ($\text{M}=3d$ transition metal), hyperfine fields and atomic moments, local environment description 4-25306
 $\text{Fe}_{80-x}\text{Mo}_x\text{B}_{20}$, amorphous, electric field gradient, Mossbauer spectroscopy 4-35291
 FeMoO_4Cl , two-dimensional antiferromagnet with superexchange pathways, synthesis, cryst. struct., mag. props. 4-56604
 FeNi Invar alloys, model for mag. abnormalities, ^{57}Fe Mossbauer effect 4-25655
 $(\text{Fe}_{0.75}\text{Ni}_{0.75})_{75}\text{B}_{25}$ metallic glass and cryst., local struct., Mossbauer study 4-51167
 $\text{Fe}_{85-x}\text{Ni}_x\text{B}_{15}$ metallic glass, Mossbauer study 4-35318
 $\text{Fe}_{85-x}\text{Ni}_x\text{B}_{15}$, $x=5-30$, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
 $\text{Fe}_{65}(\text{Ni}_{1-x}\text{Mn}_x)_{35}$, Invar, hyperfine field distrib. curves, Mossbauer spectra 4-51166
 Fe_2O_4 , magnetite, muon stopping sites, muon spin rot. meas., hyperfine field calcs. 4-35322
 $\alpha\text{-FeOOH}$, goethite, Mossbauer spectra interpretation 4-35315
 Fe , Mossbauer study, mag. struct. and elec. field gradient 4-11820
 $\text{Fe}_2\text{P}_{1-x}\text{B}_x$, crystalline, hyperfine field interactions 4-35289
 FeS_4 clusters, electronic struct., hyperfine interaction and radial density, X_α calc. 4-29885
 $(\text{Fe}_{1-25}\text{Sb})_{1-x}(\text{Fe}_{1.68}\text{Sn})_x$ solid soln., hyperfine interactions, Mossbauer studies 4-35319
 $\text{FeSiF}_6 \cdot 6\text{H}_2\text{O}$, spin relax. consideration in Mossbauer spectra 4-46165
 FeSn_2 , ^{119}Sn hyperfine fields, Mossbauer studies 4-11818
 $\text{Fe}_2\text{Ti}_{100-x}$ sputtered films, cryst. and amorphous, Mossbauer studies 4-56824
 Fe_2TiO_5 , monoclinic, characterisation by mag. susceptibility and Mossbauer spectra 4-40152
 GaAs , neutron induced defects EPR (French) 4-7065
 $\text{Ga-Ga}_2\text{O}_3\text{-Na}_2\text{O}$, mobile Na^+ ions, ^{23}Na NMR study 4-40275
 GaP:B(N) , hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
 GaS , ^{67}Ga NQR spectra, hyperfine struct. 4-30319
 GaSe , ^{67}Ga NQR spectra, hyperfine struct. 4-30319
 Gd , dilute impurity hyperfine fields 4-39861
 Gd , magnetic hyperfine field of dil., ^{147}Sm impurities, anomalous temp. depend., TDPAC study 4-39848
 GdAl_2 , ferromagnetic intermetallic cpd., ^{119}Sn impurity, hyperfine interaction, Mossbauer study 4-34937
 $(\text{GdCe})\text{Fe}_2$ ferrimagnetic alloys, mag. compensation, Mossbauer effect hyperfine meas. 4-46063
 $(\text{GdY})\text{Fe}_2$ ferrimagnetic alloys, mag. compensation, Mossbauer effect hyperfine meas. 4-46063
 Ge:B(N) , hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
 $\text{Ge}_3\text{Cu}_{1-x}\text{Fe}_2\text{O}_4$ spinel, mag. props., Mossbauer spectra studies 4-30369
 GeF_4 , nuclear quadrupole interaction, Self Consistent Charge Extended Huckel procedure 4-39857
 Hf-As-Ta system, ^{181}Ta electric quadrupole interaction, TDPAC study 4-46149
 HfV_2 , martensitic transformation, H absorption, TDPAC meas. 4-35300
 $\text{HfV}_2\text{H}_{1.9}$, phase transition, NMR study, 20 to 320K 4-20885
 $\text{Hf}_2\text{Zr}_2\text{V}_2$, martensitic transformation, H absorption, TDPAC meas. 4-35300
 $\text{Hf}_2\text{Zr}_{1-x}\text{V}_x$, lattice transformation hysteresis, Γ -recoil effects 4-35304
 $\text{Ho}_{0.97}\text{Gd}_{0.03}\text{Fe}_2$, ferrimag., domain and domain wall spin echo NMR spectra 4-35193
 HoVO_4 , hyperfine-enhanced nucl. spin order, neutron diff. study 4-56557
 IF_5 , elec. field gradients, TDPAC study 4-40299
 In , surface elec. field gradient, temp. depend., PAC study 4-39859
 $\alpha\text{-InCl}_3$, elec. field gradient at Cd, TDPAC meas. 4-39858
 InCl_2 , elec. field gradient at Cd, TDPAC meas. 4-39858
 InCl_3 , elec. field gradient at Cd, TDPAC meas. 4-39858
 In_2O_3 , polycryst., ^{111}In hyperfine interaction, TDPAC study 4-35266
 In_2O_3 , semicond., TDPAC study, electron capture aftereffects 4-40316
 In_2Te_3 , electric quadrupole interaction, TDPAC meas. 4-35306
 In_2Te_3 :Cd, electric field gradient, PAC study 4-35307
 KCl:Pb^{2+} , X-ray irradiated, Pb^{2+} defect, ESR study 4-2820
 $\text{K}_2\text{CuCl}_4 \cdot 2\text{H}_2\text{O}$, spin transfer, ^1H NMR 4-51139
 $\text{KEu}(\text{WO}_4)_3$, optical hole burning and optically detected NMR 4-38534
 KH_2AsO_4 , X-irradiated, obs. of K hyperfine interaction, electron spin echo envelope modulation 4-46145
 KH_2PO_4 , ferroelectric phase transition, D nucl. quadrupole double reson. study 4-30361
 K_2NaCrF_6 , bonding, covalency and transferred hyperfine interaction, lattice effects 4-45046
 $\text{KZnF}_2\text{:Ni}^{2+}$, EPR spectra 4-51124
 $\text{LaF}_3\text{:Pr}^{3+}$, Raman heterodyne detection of nuclear magnetic resonance 4-11802
 $\text{LiNbO}_3\text{:Fe}$, hyperfine struct., Mossbauer study 4-40293
 $\text{Li}_{0.57}\text{Sb}_{0.43}\text{Fe}_{2.5-2}\text{O}_4$ ferrite, ^{121}Sb and ^{57}Fe Mossbauer spectra studies 4-2850
 $\text{Li}_{10-20}\text{ZrSe}_2$, Li ordering, NMR studies 4-45043
 ^{171}Lu in Zn and In single cryst., elec. field gradient at nucl. site 4-25313
 $\text{Mg}_2\text{Fe}_2\text{Sb}_2\text{O}_{12}$, hyperfine fields, Mossbauer spectra 4-35296
 MgO:Mg , photochromic reactions 4-20929
 $\text{MgO-Al}_2\text{O}_3\text{-SiO}_2\text{-TiO}_2$ glass ceramics, γ -irrad., ESR studies 4-7054
 Mn (II) complexes, high- and low-spin, EPR spectra, ^{55}Mn hyperfine interaction 4-56762
 Mn (II) complexes, mag. moments, cryst. field splitting, IR spectra 4-46242
 Mn^{4+} ions, ESR spectra in trigonal cryst. field, hyperfine struct. 4-2812
 $\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$, NMR of oriented ^{54}Mn nuclei 4-30298

crystal hyperfine field interactions continued

- $\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$, antiferromag., ^{54}Mn NMR-ON, nucl. spin cooling in mK region 4-40268
 MnSn_2 , ^{119}Sn hyperfine fields, Mossbauer studies 4-11818
 Mo compounds, nuclear quadrupole interaction at ^{99}Tc 4-40300
 $(\text{NH}_4)_2\text{BeF}_4$, ferroelectric, γ -irrad., phase transitions, macroscopic quadrupole effects 4-46201
 $(\text{NH}_4)_2\text{InBr}_3 \cdot \text{H}_2\text{O}$, NQR and NMR, electric field gradient 4-30333
 $(\text{NH}_4)_2\text{ZnF}_4 \cdot 2\text{H}_2\text{O}:\text{Cu}(\text{Mn})$, EPR spectra, hyperfine interaction 4-11759
 $(\text{NH}_4)_2\text{ZrF}_6$, hyperfine interaction and phase transition, TDPAC study 4-46151
 $\text{NaF:Al}^{3+}(\text{Ca}^{2+})$, point defects, ^{23}Na double NMR study 4-11800
 NbCl_5 , dimer, elec. field gradient tensors 4-2564
 $\text{Nb}_2\text{V}_{1-x}\text{H}$ single cryst., NMR and acoustic NMR studies 4-51149
 NdAl_2 , cubic ferromag., ^{143}Nd NMR hyperfine spectrum 4-56799
 Ni , critical behaviour of ^{19}F hyperfine fields near Curie temp., TDPAC study 4-40289
 Ni , dilute impurity hyperfine fields 4-39861
 Ni , ferromagnetic, hyperfine field of heavy impurities, temp. depend., effect of lattice vibrs. 4-40164
 Ni , hyperfine field at Sr nuclei, TDPAC meas. 4-39853
 Ni , Neel-type, Knight shift, hyperfine field, NMR freq., and magnetisation meas. 4-40255
 $\text{Ni}_3\text{Cd}_2\text{O}_7\text{Fe}_2\text{O}_4$ ferrite, Mossbauer study 4-25663
 $\text{Ni}_2\text{Fe}_2\text{Sb}_2\text{O}_{12}$, hyperfine fields, Mossbauer spectra 4-35296
 $\text{Ni}_2\text{Fe}_2\text{Sb}_2\text{O}_{12}$, hyperfine fields, Mossbauer spectra 4-35296
 Os , electric field gradient at ^{111}Cd and ^{181}Ta , TDPAC study 4-39845
 $\text{Pb}_2\text{Sn}_{1-x}\text{Te}$, Mossbauer studies, composition depend. 4-16131
 Pd:Yb^{3+} , Mossbauer emission spectra and electronic props. 4-51163
 Pd-Fe , hyperfine mag. field, integral PAC study 4-35277
 PdH_x , H distrib., PAC and Mossbauer study 4-35302
 PdH_x , $x=0.70, 0.75, 0.86$, muon Knight shift meas. 4-35323
 Pd_2Sn complex in Fe, hyperfine interactions and Mossbauer parameters, temp. and press. depend. 4-7105
 PrSn_3 , antiferromag., hyperfine-induced nucl. spin polarisation, neutron diff. study 4-56556
 Pt , muon Knight shift meas. 4-35323
 Pt , quadrupole coupling freq. of lattice defect trapped to ^{111}In , PAC study 4-34524
 RRh_2B_2 , $\text{R}=\text{Ce to Gd}$, ^{111}Cd quadrupole interaction, transferred hyperfine field 4-35284
 $\text{RbCdF}_3\text{:Mn}^{2+}$, struct. phase transition, ENDOR study 4-20888
 RbCl:H , anion site H ENDOR study 4-11799
 RbCl:Pb^{2+} , X-ray irradiated, Pb^{2+} defect, ESR study 4-2820
 RbCl(Br) , relaxed excited states of interstitial H-centres, ODMR study 4-11806
 Re , isomer shift and elec. field gradient of ^{181}Ta , temp. depend. 4-40284
 Ru , electric field gradient at ^{111}Cd and ^{181}Ta , TDPAC study 4-39845
 Ru-Sc , electric quadrupole interaction, TDPAC study 4-35299
 RuFeB , hyperfine field anomalous behaviour, Mossbauer effect 4-35285
 RuFeB , mag. system, novel behaviour of Fe moments 4-20816
 RuFeSi , mag. system, novel behaviour of Fe moments 4-20816
 RuFeSi , Mossbauer studies 4-16132
 $\text{Ru}_2\text{Fe}_2\text{Si}_2$, hyperfine field anomalous behaviour, Mossbauer effect 4-35285
 Sb , electric field gradient at ^{119}Sn , meas. by Mossbauer spectroscopy 4-35254
 Sb , quadrupole interaction at ^{57}Fe , meas. by Mossbauer spectroscopy 4-35253
 Sb-Ag dilute alloys, electric field gradient sign meas. at ^{111}Cd by β - γ TDPAC technique 4-35257
 $\text{Sb}_{1-x}\text{Ag}_x$, electric quadrupole interaction, TDPAC meas. 4-35306
 $\text{Sb}_{1-x}\text{Cu}_x$, electric quadrupole interaction, TDPAC meas. 4-35306
 $\text{Sb}_{1-x}\text{In}_x$, electric quadrupole interaction, TDPAC meas. 4-35306
 $\text{Sb}_{1-x}\text{M}_x$, where $\text{M}=\text{Ag, Cd, In and Sn}$, electric quadrupole interaction, temp. and conc. depend. 4-30364
 $\text{Sb}_{1-x}\text{Sn}_x$, electric quadrupole interaction, TDPAC meas. 4-35306
 Sb_2Te_3 , electric quadrupole interaction, temp. and conc. depend. 4-30364
 Sb_2Te_3 , electric quadrupole interaction, TDPAC meas. 4-35306
 ^{120}Sb dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
 Si , impurity nuclei at interstitial sites, hyperfine interactions 4-34899
 Si surface, adsorbed F atoms, electronic struct. and associated nucl. quadrupole interaction 4-39663
 Si:Au , low symmetry EPR centres 4-2815
 Si:B(N) , hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
 Si:H , ion implanted, low-symm. EPR center 4-20864
 Si:P(As) , donor clusters, ESR study 4-46102
 Si:Pt , EPR line shape meas. 4-51132
 Si-SiO_2 interface, ^{29}Si hyperfine struct. of unpaired spins, EPR study 4-30074
 SiF_4 , nuclear quadrupole interaction, Self Consistent Charge Extended Huckel procedure 4-39857
 $\text{SrF}_2\text{:U}^{3+}$, EPR hyperfine struct., ^{235}U nucl. mag. moment 4-20862
 SrSO_4 , celestine, SO_3^- radical, hyperfine struct., EPR study 4-11768
 $\text{SrSO}_4\text{:PO}_3^-$, celestine, EPR of PO_3^- and SO_3^- radicals, hyperfine struct. 4-7061
 Ta:B , BCC, impurity β -emitter hyperfine interactions, NMR and asymmetric β -decay obs. 4-34934
 Ta-O-H(D) , quadrupole interaction, PAC study 4-35270
 $\text{Ta}_2\text{S}_2\text{H}$, electrochem. intercalation of K^+ , TDPAC studies 4-11821
 $\text{TaS}_2(\text{H})$, NQR-ON study 4-40276
 TbFe_2 , Tb^{159} nuclear magnetisation and hyperfine fields 4-34936
 TbGd , Tb^{159} nuclear magnetisation and hyperfine fields 4-34936
 tetrafluorides , electric hyperfine interaction, TDPAC study 4-40298
 ThCo_5 , ^{232}Th spin echo studies 4-16123
 $\text{TiO}_2\text{:Mg}^{2+}$ pairs, EPR study 4-16090
 Ti , magnetic and electric hyperfine interactions of implanted ^{181}Ta , TDPAC meas. 4-39850
 TiAg , quadrupole splitting above ordering temp., Mossbauer spectroscopy 4-35288
 TmAlO_2 , Ru^{3+} enhanced superhyperfine interaction, EPR study 4-35227
 TmCu , quadrupole splitting above ordering temp., Mossbauer spectroscopy 4-35288
 TmFe_2Si_2 , cryst. fields and second-order mag. hyperfine interactions, Mossbauer study 4-56830
 $\text{Tm}_2\text{Ga}_2\text{O}_{12}$, Yb^{3+} and Ru^{3+} enhanced superhyperfine interaction, EPR study 4-35227

crystal hyperfine field interactions continued

- TmRh, quadrupole splitting above ordering temp., Mossbauer spectroscopy 4-35288
¹⁶⁹Tm, general cases of pseudoquadrupole interaction 4-39860
 V:B, BCC, impurity β -emitter hyperfine interactions, NMR and asymmetric β -decay obs. 4-34934
 V₂GaH₃, short range order and electron structure, NMR studies (*Russian*) 4-51140
 VO²⁺ ion complexes, hyperfine interaction parameters and ground-state wave functions 4-2560
 V₂O₃, metal insulator transition, PAC hyperfine field study 4-35305
 V₂O₃:Cd, hyperfine interactions, TDPAC spectra 4-46154
 Y-Mn alloys, Mn magnetic states spin echo NMR spectra studies 4-30357
 YCo₅, ⁵⁹Co, spin echo studies 4-16123
 Y(Fe_{1-x}M_x)₂ (M=V, Mn, Co, Ni, Al), hyperfine fields at ⁸⁹Y nucl., NMR study 4-30292
 (Y_{0.97}Hf_{0.03})Fe₂, hyperfine mag. field, γ -ray study 4-6992
 Y(Mn_{1-x}Fe_x)₁₂, Mossbauer effect, low temp. hyperfine field meas. 4-35278
 Yb₈₀Ag₂₀, amorphous, short range order, dense random packing, quadrupole splitting, Mossbauer study 4-35293
 Yb₈₀Au₂₀, amorphous, short range order, dense random packing, quadrupole splitting, Mossbauer study 4-35293
 Yb₈₀Cu₂₀, amorphous, short range order, dense random packing, quadrupole splitting, Mossbauer study 4-35293
 Zn, electric field gradient at ¹¹⁹Sn, meas. by Mossbauer spectroscopy 4-35254
 Zn, HCP, point defects trapping, PAC study 4-35264
 Zn, nuclear level-crossing reson. of ⁶⁹Ge 398-keV 9/2⁺ state 4-37518
 Zn₇₀Au dilute alloy, hyperfine interactions and recoil-free fractions of ¹⁹Au, Mossbauer study 4-35255
 Zn₇₁Fe₂₉Sb₂O₂₄, hyperfine fields, Mossbauer spectra 4-35296
 ZnSe, ESR and ODMR of Zn-vacancy-associated defects 4-56821
 ZnSiP₂, electron field gradient, struct. depend., TDPAC study 4-35308
 Zr-Ag dilute alloys, electric field gradient sign meas. at ¹¹¹Cd by β - γ TDPAC technique 4-35257
 ZrFe₂, ⁸⁹Ym, mag. hyperfine interaction and nuclear spin-lattice relax. 4-25550
 ZrS₂, ¹⁸¹Ta, anomalous nucl. quadrupole interaction, TDPAC study 4-11816
 ZrV₂, martensitic transformation, H absorption, TDPAC meas. 4-35300

crystal imperfections see crystal defects**crystal inclusions**

- A-15 superconductors, heterophase interactions and low temp. props. 4-11620
 brass, forming limit diagram, influence of surface roughness and void growth at inclusions 4-3175
 dislocation-inclusion repulsion, diffusional relax. 4-15516
 elastic medium with large number of small absolutely solid inclusions, averaged description 4-10548
 heterogeneous conducting media, field conc., current and Joule heat evolution 4-50783
 ice, strength rel. to grain size at high temp. 4-15583
 III-V semiconductors, LEC and horizontal Bridgman growth, anion inclusions, scanning AES study 4-20216
 metal/alkali halide, single crystal contact, formation of new phases with temp. gradient 4-50648
 metallography using computer controlled SEM; inclusion size and shape 4-51929
 metals, failure surfaces quantitative analysis by TEM 4-46687
 metals, weld, plastic deform. mode, effect of globular silicates (*Slovak*) 4-46569
 metals and alloys, electrochemical method for visual detection of surface inclusions 4-16581
 multiphase composites, elastic moduli, thermal cond., differential scheme 4-15571
 multiply-connected solids with piezocryst. inclusions, elastic wave diff. (*Ukrainian*) 4-38751
 silicate glass, Se containing, cryst. inclusions, X-ray spectral anal. 4-15391
 spherical inclusions, size distrib. calc. from micrograph (*German, English*) 4-26144
 steel, bearing, degassed, automatic inclusion determ. 4-30884
 steel, bearing, fatigue life, morphology and direction of nonmetallic inclusions effect (*Japanese*) 4-51788
 steel, Cr, non-metallic inclusions, external oxide phase and S content effects 4-30856
 steel, ferrite-pearlite, microinhomogeneous deformation, hydrogenation effects (*Russian*) 4-51738
 steel, inclusion content, computer controlled US cleanliness inspection system 4-30918
 steel, linepipe, for use in wet environments containing H₂S 4-41061
 steel, low C, deform. mechanism close to inclusions under compression 4-40917
 steel, mild, H embrittlement, metallographic study 4-35708
 steel, Mn-Si, rail, rupture localisation near eutectoid sulphides 4-30818
 steel, morphogenesis of nonmetallic inclusions 4-51633
 steel, Ni-Cr-Mo, AISI 4340, H trapping 4-16499
 steel, Ni-Cr-Mo, fracture rel. to inclusions and stress states 4-51798
 steel, Ni-Cr-Mo, quenched and tempered, micromechanics of fracture 4-12157
 steel, stainless, localised corrosion initiation, passive film composition and non-metallic inclusions effect 4-57458
 steel, stainless, pitting and crevice corrosion, role of sulphide inclusions, review 4-21364
 steel, structural, fracture toughness, appl. of fracture mechanics concepts (*French*) 4-46623
 steel, structural, low-C, with Ti and Ce, nonmetallic inclusions 4-40981
 steel, sulphide inclusion morphology and transverse impact props., role of rare earth element additions 4-46586
 steel, thermite welds, normalising, struct. and ductility 4-51753
 steel martensitic stainless, HT-9, fracture toughness, influence of specimen size and microstruct. 4-12150
 superconductors, phase segregation regions, elementary pinning force (*Russian*) 4-56513
 US scattering, flaw reconstruction by US Born inversion 4-30869
 Ag-Co electrodeposits, Auger anal. for light elements 4-45174
 Al alloys, fracture toughness and failure under plane strain, screening of excess phases 4-26060

crystal inclusions continued

- AlN, pyrolytic layers, doping with Cl₂ and O₂, effects on elec. cond. 4-56456
 As₂Ge₂Te₄ glassy semicond., elec. transport props., influence of cryst. inclusions 4-15904
 CdTe, defects study by scanning acoustic microscopy 4-6361
 Cu-Ni-Fe superparamagnets, magnetocaloric effects (*Russian*) 4-51059
 Cu-Zn-(Ni), powder, atomisation conditions effect on quality 4-46470
 Fe, cast, stabilised mottled, sulphide inclusion graphitising action 4-21251
 Fe, H trapping at TiC inclusions 4-20360
 Fe, interaction of H with Fe oxide inclusions 4-21310
 Ge, characterisation for nuclear radiation detectors 4-2550
 InGaAsP, defects study by scanning acoustic microscopy 4-6361
 InP, defects study by scanning acoustic microscopy 4-6361
 InP/InGaAsP aged LEDs, dark spot defects 4-56999
 InSe:Gd with macroscopic inclusions, polariton effects, photoluminesc. studies 4-29903
 LaB₆ powder, effect of Ni additions, reaction character, microstruct. and fracture 4-51599
 Mo condensate, on steel, by vacuum arc discharge, influence of ion energy on microstructure and macrostresses (*Russian*) 4-50662
 PbMoS₈, crit. current density, magnetisation meas., grain size, neutron irradi. and doping effects 4-35128
 Pb_{1-x}Sn_xTe, melt growth, cryst. inclusions, EPMA, constitutional supercooling model 4-11131
 Si, characterisation for nuclear radiation detectors 4-2550
 Si, commercial, microstruct., impurity and inclusion distrib. 4-57187
 Si-SiO₂ mixtures, MBE growth, spectroscopic ellipsometry and He backscatt. 4-51498
 Sm-Co-Fe-Cu-Zr sintered alloys, struct. and mag. props. (*Russian*) 4-35198
 Sn, zone-refined bars, impurity mapping using X-ray macroanalyser 4-41124
 SnMoS₈, crit. current density, magnetisation meas., grain size, neutron irradi. and doping effects 4-35128
 Ti, proton irradi. effects on unipolar arc initiation 4-10914
 ZnSe, transparent, optical inhomogeneity, rel. to Zn/Se ratio 4-51219
- crystal internal fields see crystal field interactions**
crystal interstitials see interstitials
crystal lattice structures see crystal atomic structure
crystal microphones see microphones
crystal microstructure
 for microstructural changes, see also phase transformations, hardening, heat treatment, metalworking
 see also crystal defects; crystal inclusions; crystallites; dendritic structure; domain boundaries; domains; electron microscope examination of materials; eutectic structure; grain boundaries; grain size; Guinier-Preston zones; mosaic structure (microstructure); noncrystalline state structure; precipitation; segregation; subboundary structure; superlattices; texture; X-ray diffraction examination of microstructure (*German, English*) 4-35644
 acoustic microscope applic. in materials science 4-41149
 alloys, elastic stabilization of precipitates against applied load coarsening 4-51661
 alloys, interface microstructure, diffusion effects 4-29833
 ammonium hydrogen tartrate, growth in SiO₂ hydrogel, density, morphology, microstructure 4-29363
 atomic and molecular clusters (*German*) 4-55774
 brass, Al, initial corrosion product in natural seawater, microstruct. and comp. 4-12243
 car axles, cold surface rolling, fatigue strength rel. to strain ageing (*Japanese*) 4-21307
 ceramic cutting tool materials, impact resist., fatigue wear rel. to microstructure 4-12199
 ceramics, conf., Saint-Vincent, Italy (June 1983) 4-47759
 ceramics, electrooptic, cryst. microstruct., piezoelec. and optical props. 4-35414
 ceramics, friction and wear study (*French*) 4-16515
 ceramics, plasticity and deformation (*Japanese*) 4-21276
 coarsening, interface-controlled, generalised microstruct. evolution 4-21218
 conference, Orlando, FL, USA (July 1982) 4-27241
 crack propag. vel. rel. struct. and internal stress field 4-24905
 dispersion strengthened condensates, struct., microhardness and mech. props. 4-40991
 elastic interaction of two precipitates subjected to applied stress field 4-16371
 elastic wave attenuation, effects of microstruct. 4-29524
 ferrite plates, struct. of broad faces 4-39530
 ferrite plates, struct. of broad faces 4-39531
 frozen suspensions, microstruct. parameters 4-34162
 heat-resistant materials, struct. stability, thermal activation anal., computer simulation of failure process 4-51675
 high-level glass, microstructure and radiation effects, electron microscope irradiation 4-711
 ice crystal growth at -8 \pm 2°C 4-24747
 IN738LC, cast superalloy, creep and fracture, 750-950°C 4-16493
 Inconel 718, age hardening, struct. transform., mech. props. 4-51755
 lattice imaging of materials with TEM 4-50148
 malachite, synthetic, microstructure and IR spectra 4-45347
 martensite, lath, shape and crystallography (*Chinese*) 4-29644
 martensitic transformations, thermoelastic, stress-strain behaviour 4-6424
 mesophase spherule, carbonaceous, microstruct. study using TEM and X-ray diff. 4-29643
 metallography, standardisation and comparison of methods, report 4-12306
 metals, FCC, yielding, plastic flow, microstructure, review 4-3176
 metals, microstruct. revealed by oxidising etchants 4-57508
 metals and alloys, microstructure analysis by acoustic microscopy 4-46680
 monotectic microstructure, solidified at high growth rates 4-46502
 multilic substrates, obtained by dry-processing, struct. and morphological characterisation 4-51618
 Ni monic PE16, solution annealing, microstruct., mech. props. rel. to double ageing 4-51754
 orientation relationship between matrix and second phase, computer program (*Chinese*) 4-56034
 orthotropic materials, characterisation of microstruct. anisotropy using second rank tensor 4-51911

crystal microstructure continued

- phase decomposition, theoretical anal. based on 2-D, nonlinear diffusion eqn. 4-25941
- phase transformation, parabolic growth rate estimation from stereological counting meas. 4-41155
- phase transformation kinetics, randomness of product phase particle distrib. 4-39467
- PLZT, hot-pressed, translucent, prep., characterisation and props. 4-51607
- porcelain, stomatologic, phase comp. and struct. 4-40721
- rare earth permanent magnets, R_2Co_{17} , precip. hardened, microstructure, mag. domain struct., TEM study 4-7002
- rare earth permanent magnets, R-Co, domain wall pinning 4-7001
- recrystallisation, primary, math. modelling 4-30714
- reflective photothermal imaging, for microstruct. charact. of solids 4-46696
- sapphire single crystals, structured perfection rel. to growth mechanisms 4-29361
- scanning acoustic microscope contrast, elastic anisotropy effect 4-44317
- sintered materials, modelling of physical and morphological props. (French) 4-51721
- steel, alloy rail, high C, mech. props. and microstruct. (Korean) 4-40957
- steel, austenitic, metastable, weld joint, deform. martensite influence on low-temp. cyclic crack resist. 4-51805
- steel, austenitic Mn-Cr behaviour of generator-rotor retaining rings 4-21293
- steel, austenitic precipitation hardening, heat treatment effect on struct. and props. 4-21245
- steel, austenitic stainless, 800 H, creep rel. to struct., 900-1000°C 4-21287
- steel, austenitic stainless, σ -phase precip., crystallographic characts., TEM obs. 4-16396
- steel, austenitic stainless, aluminised layer struct. and phase comp. after heat treatment 4-3158
- steel, austenitic stainless, corrosion cracking susceptibility rel. to heat treatment 4-41053
- steel, austenitic stainless, deformed, heat resist., struct. fineness influence 4-57272
- steel, austenitic stainless, failure temperature conditions, effect on struct. and props. 4-40979
- steel, austenitic stainless, microstructure, phase transform. in Duplex 316L 4-7447
- steel, austenitic stainless, Ni-Cr-Al-C, low-cycle fatigue (French) 4-30807
- steel, austenitic stainless, stress corrosion cracking under compressive stress, fracture surface struct. (Chinese) 4-57386
- steel, austenitic stainless, weld metals, long term heating, morphology and deterioration prevention 4-3160
- steel, austenitic-martensitic stainless, phase and strain hardening, structure factors 4-7481
- steel, boiler type 15 YuA, mech. props. and struct. 4-51692
- steel, brittle fracture, carbide induced, statistical model 4-30804
- steel, C, heat treated, failure mechanism in abrasive wear 4-41001
- steel, C, quenching process analysis, transform. kinetics, stress depend. (Japanese) 4-21210
- steel, carbon, austenite isothermal precipitation and polymorphic transformations (Russian) 4-51664
- steel, carburise case hardening, struct. and hardness distrib., computer prediction 4-25975
- steel, cold formability, microstruct. effect (French) 4-46533
- steel, constructional, reversible temper brittleness, alloying elements redistrib., microadditions influence 4-21320
- steel, Cr, deform. and fractography, carbide particle struct. (Japanese) 4-26042
- steel, Cr, laser-processed, rapid solidification 4-40705
- steel, Cr, martensitic, C clusters, TEM obs. 4-21410
- steel, Cr, recrystallisation upon heating, coarse grain heredity 4-3156
- steel, Cr, thermite rail welds, mech. props. and microstruct. 4-51752
- steel, Cr and Mn, powders, prod. by diffusional impregnation, struct. and props. 4-3098
- steel, Cr type, high-strength, sintered, struct. and mech. props. after thermomech. treatment 4-51811
- steel, Cr-Mn-(Ni)-(V), high N, struct. and mech. props., heat treatment effect 4-30732
- steel, Cr-Mn-Ti-B, hot forged, machinability rel. to heat treatment 4-3157
- steel, Cr-Mo, rotor, carbide-form. processes 4-40842
- steel, Cr-Mo low alloy, coercivity and microstruct., TEM studies 4-7492
- steel, Cr-Mo-V, cold-rolling work rolls bearing necks, hardening 4-40844
- steel, Cr-Mo-V, mech. props. and tempering effect 4-21283
- steel, Cr-Mo-V, structural, austenite form. under rapid heating (Russian) 4-7448
- steel, Cr-Mo-V, weldments, brittle fracture, struct. effect 4-21321
- steel, Cr-Mo-V-Nb, tempering, bainite transform. (Chinese) 4-3141
- steel, Cr-Ni-Ti, ferritic-austenitic, carbonitrides, X-ray phase analysis (German, English) 4-51928
- steel, critical cooling rate, anal. rel. to hardening (Russian) 4-30725
- steel, diffusion of C during low C lath martensite form. 4-16392
- steel, dual-phase, low C, mech. behaviour, influence of microstruct. (Korean) 4-57288
- steel, dual-phase, yielding and deform., effect of retained austenite 4-21264
- steel, eutectoid, subcritical thermomech. treatment, microhardness 4-12092
- steel, fatigue crack propag. of pearlitic struct. (Chinese) 4-3206
- steel, ferritic, Mo-V, long term creep, precipitation struct. (German) 4-3171
- steel, ferritic-pearlitic, weld heat-affected zone, max temps., metallographic study 4-30709
- steel, heat-resistant, development, fundamental trends 4-51674
- steel, high Cr, mag. phase anal., saturation magnetisation 4-46024
- steel, high speed, high temp. heat treatment, primary carbide network transform. 4-21242
- steel, high speed, M2, carbide cracking, fracture mechanism 4-21325
- steel, high speed, prep. by hot isostatic pressing, struct. and contact fatigue (Slovak) 4-46469
- steel, high speed, sintered M2, mech. props., cutting performance 4-7571
- steel, high speed, sintering, effect of C addition (Korean) 4-30661
- steel, high-speed, cast and powder, props. 4-40976
- steel, high-speed, phase comp., heat treatment effect (French) 4-30731
- steel, HSLA, cold-rolled, delamination behaviour (Korean) 4-40958

crystal microstructure continued

- steel, HSLA, precip. strengthened, fracture toughness and microstruct., effect of heat treatment 4-30825
- steel, ledeburitic Cr, wear, N6 and Ti additions effect (German) 4-35732
- steel, low alloy, marine corrosion resist., alloying elements and microstruct. influence (French) 4-7654
- steel, low alloy, tubular, sulphide stress cracking rel. to microstruct. 4-51857
- steel, low alloy, V, dispersion hardening, brittle fracture resist. 4-51680
- steel, low C, annealing textures, development and control 4-51690
- steel, low C, chemically capped, annealing, anomalous struct. form., heating rate influence 4-30733
- steel, low C, dislocation microstruct. during deep drawing 4-24825
- steel, low C and low alloy armature, thermomechanical strengthening (Ukrainian) 4-7484
- steel, low-alloy, cold-rolling rolls, heat treatment and props. 4-40843
- steel, low-alloy, martensitic-ferritic struct., mech. props. 4-21286
- steel, maraging Ni-Co-Mo, struct. rel. to thermomechanical treatment (Japanese) 4-7486
- steel, martensitic, quenched, inhomogeneity, X-ray diffr. (Russian) 4-25978
- steel, martensitic transformation, phase hardening effects (Russian) 4-35626
- steel, Mn, structural plate, welded joint, fracture toughness test (French) 4-12307
- steel, Mo, metallographic characterization of wrinkled ferrite 4-21220
- steel, Nb bearing austenite, dynamic precipitation during high strain rate compression testing 4-40798
- steel, Nb-Mn, controlled-rolled, microalloyed, dual-phase, microstructure props. (Chinese) 4-46535
- steel, Ni-Cr, age hardening, struct. transform., mech. props. 4-51755
- steel, Ni-Cr, C diffusion, martensite form. (Chinese) 4-3137
- steel, Ni-Cr-Mo, fracture rel. to inclusions and stress states 4-51798
- steel, Ni-Cr-Mo, near threshold mixed mode fatigue crack propag., parallel superposition model 4-35694
- steel, Ni-Cr-Mo, quenched and tempered, micromechanics of fracture 4-12157
- steel, Ni-V-Mo, maraging, struct. and props. 4-21323
- steel, powder metallurgical, produced by hot forging, struct. and physico-mech. props. 4-7529
- steel, reactor pressure vessel, dominant mechanism of irradiation embrittlement 4-12171
- steel, reactor pressure vessel, SA533B and SA508, heat treatment microstructure rel. to structural integrity 4-16427
- steel, rolled wire, torn during drawing, fractographic analysis 4-51802
- steel, sheet type, plastic deform. influence on struct. and mech. props. 4-51693
- steel, Si, bainitic transform., composition-prop. approach 4-16497
- steel, Si, bainitic transform., composition-prop. approach 4-16498
- steel, stainless, Cr-Ni-Ti, wire, electroplastic drawing, phase composition and struct. 4-12086
- steel, stainless, ferritic, Cr-Al, struct. and embrittlement, heat treatment effect 4-21256
- steel, stainless, lath martensite, crystallography and microstructure 4-45139
- steel, stainless, powder, compressibility, N content effect 4-25918
- steel, stainless, type 304, ion implantation, microstruct., friction and wear 4-7598
- steel, stainless, weld deposits, solidification, phase transform, delta ferrite struct. (German, English) 4-35621
- steel, stainless, weldments, residual stresses rel. to α phase 4-3189
- steel, stainless maraging, weldments, struct. and props. after heat treatment 4-40838
- steel, stainless to mild, diffusion welded joints, fractography, SEM obs. (Japanese) 4-51794
- steel, structural, cleavage fracture stress, struct. and stress state effects 4-40929
- steel, structural, nuclear, A203D, dynamic strain ageing 4-30727
- steel, thermite welds, normalising, struct. and ductility 4-51753
- steel, tool, Cr-Mo-V , H-11, fracture toughness anomalies, microstruct. analysis 4-12190
- steel, two phase, austenitisation, struct. and hardness (Russian) 4-25980
- steel, type AISI 4140, 4340 and stainless type 304, ion nitrided, tribology and microstruct. 4-7602
- steel, V, struct.-prop. relationship (Korean) 4-16489
- steel, V, thermomechanical treatment, low pearlite content (German) 4-40829
- steel, V-Nb, deform., carbonitride precipitation, phase comp. 4-51669
- steel, W-Mo, high-speed, thermomech. treatment effect on struct. 4-40836
- steel, wear processes, review 4-35735
- steel 0.79C, corrosion and microstructure after tempering in range 100-700°C 4-21359
- steel austenitic, Fe-Ni-Mn based, ageing, hardening and microstructure (Russian) 4-51677
- steel martensitic stainless, HT-9, fracture toughness, influence of specimen size and microstruct. 4-12150
- stellite, plasma sprayed coating, laser processing, microstructure, wear, corrosion resist. 4-30854
- SYNROC waste, from basaltic melts, microstruct. anal. 4-28039
- SYNROC-D, polyphase nuclear waste ceramic, microstructure and mineral chemistry 4-727
- thin films, photodeposited, microstruct. 4-25187
- Ti-Al-V, microstructure, standard scales and classification 4-51623
- transition metal alloy formation, model predictions for vol. contractions, implications for Laves phase form. 4-56033
- transition metal alloy formation, occurrence of topologically close-packed phases 4-56032
- U_2Fe , comminuted, density hardness, microstructure 4-30797
- X-ray phase analysis, quantitative, reference intensity ratio (Chinese) 4-16571
- Zircaloy fuel cladding, high burnup, microstruct. and fracture examinations 4-20373
- Ag contact composites, TEM obs. WRT optimum antifriction and elec. erosion characts. 4-7596
- Ag thin film, internal stresses, microstruct. model anal. 4-45565
- Ag-Au, corrosion and selective dissolution in HNO_3 4-7652
- α -Ag-Cd-In alloys, microstruct., X-ray diffr. study 4-21235
- Ag-Cu-In (35, 5 wt.%), hot extrusion, structural superplasticity, strain rate and temp. depend. 4-3186

crystal microstructure continued

- Ag-Ge, hypoeutectic, undercooling, glass slag technique, solidification struct. 4-40762
 Ag-glass bonded thick films, sintering and microstruct. development 4-51587
 Ag-Sn-Zn, dental amalgam, structure and mech. props. rel. to Zn content (*Korean*) 4-3226
 AgAl two phase alloy, short range ordering and annealing, elec. cond. studies 4-34660
 Al alloy AK4-1, critical recrystallisation, original struct. influence 4-57249
 Al alloys, 7XXX, fatigue, variation of crack rate scatter 4-3215
 Al-Al₂O₃ strips of regular eutectic comps., growth and microstruct. 4-25950
 Al-Al₃Ni strips of regular eutectic comps., growth and microstruct. 4-25950
 Al-Cr rapidly crystallised and extruded alloys, struct. and mech. props. (*Russian*) 4-25964
 Al-Cu, 2011, microstruct. charact. using DSC 4-30870
 Al-Cu, ageing, effect on struct. and props. 4-57266
 Al-Cu, dil., rapid solidification, STEM study of featureless zone 4-40765
 Al-Cu, unidirectionally solidified ingots, inverse segregation 4-51653
 Al-Cu (3 wt.%), elastic interaction of growth ledges on plate shaped precipitates 4-16404
 Al-Cu (4.4 wt.%), powder composite, sintered, aged, soln. treated, microstructure, TEM obs., 4-25984
 Al-Cu system, rapidly quenched, phase comp. and struct. (*German, English*) 4-7427
 Al-Cu-Li, recrystallised 2020, fracture rel. to intermetallic particles 4-21315
 Al-Cu-Mg, hot rolling, secondary phase particles investigation (*Rumanian*) 4-30723
 Al-Cu-Mg-Mn, failure temperature conditions, effect on struct. and props. 4-40979
 Al-Cu-Mg-Si forgings, struct. and props., Mg and Fe contents influence 4-57331
 Al-Cu-Mn, chill cast, overageing, heat resist., hardness, precipitation struct. (*Japanese*) 4-7487
 Al-Cu-Ni system, microstructure of Al-rich corner, phase diagram contours 4-16374
 Al-Ge (1.9 wt.%), precipitate dissoln. during 200 keV Al⁺ irradiat. 4-29486
 Al-Mg-Li, struct. and props., ageing effect 4-57298
 Al-Mg-Sc, homogenising 4-57268
 Al-Mg-Si, B₄C reinforced 6061, ageing reactions 4-40808
 Al-Si, crystn. under pressure, struct. and mech. props. 4-3191
 Al-Si, thermal cycling treatment, effect on struct. and props. 4-40840
 Al-Si eutectic alloys, struct. mech. props., Sr microalloying effect (*Rumanian*) 4-35608
 Al-Si-Cu-Fe, heat treatment, mech. props. rel. to Fe content 4-3187
 Al-Si-Mg-Fe, 6061, strain induced microstruct., US signal analysis 4-30913
 Al-Zn-Mg, 7075, slow fatigue crack growth rel. to heat treatment, microstructure and humid environment 4-40973
 Al-Zn-Mg, polygonized struct. thermal stability, Mg effect 4-3149
 Al-Zn-Mg, prespalling stage of fracture, crack form. correl. with macroscopic props. 4-51817
 Al-Zn-Mg-Cu, H embrittlement, effect of microstruct. and Cu content 4-26054
 Al-Zn-Mg-Cu plates, ingot struct. and props. influence on quality 4-57297
 Al-Zn-Mg, 7XXX series alloys, welding and SCC behaviour, review 4-12268
 Al-Zn-Si (12, 6 wt.%), kinetics of phase transitions after deformation by quenching 4-30750
 Al-Zn-based alloys, ageing, morphology and precipitation (*Russian*) 4-51699
 Al₂O₃, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 Al₂O₃, surface damage, microstruct. and mechanisms, SEM obs. (*German, English*) 4-51775
 Al₂O₃, translucent ceramic, Mg distrib. and microstruct. 4-25045
 Al₂O₃, ZrO₂-toughened, change of tetragonal ZrO₂ by hot isostatic pressing 4-57168
 Al₂O₃-Cr₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
 Al₂O₃-Cr₂O₃ system, solid soln. form., high temp. X-ray diffr. (*German, English*) 4-51635
 β -Al₂O₃-Na₂O, inhibition of degradation by ionic exchange (*French*) 4-51843
 Al₂O₃-SiO₂, melt grown mullite, solid soln. range and microstructure 4-3128
 Al₂O₃-SiO₂, mullite, O ion conductivities and defects 4-45407
 Au coating, modification by ion bombardment during deposition 4-15559
 Au thin film, internal stresses, microstruct. model anal. 4-45565
 Au-Cu-Ag, industrial, 18 carat, struct. and props. 4-7480
 BN, superhard compacts, shock compression, very high press. sintering, struct. 4-30669
 C black, Graphon, Graphon, C black, Raman spectra 4-35424
 C, fibre glass, struct. rel. to neutron irradiat. 4-55881
 Co, microparticles, morphology and cryst. struct., electron microscopy study (*French*) 4-20142
 Co single crystal, self-sputtering, weight loss anal. 4-7304
 Co-Cr-Mo, surgical implant alloys, microstructural changes during isothermal forging 4-40833
 Co-Cr-W abrasive wear rel. to carbide size 4-57357
 Co-Pt, ordering in elastic stress field 4-21204
 Co-Pt sputtered films, mag. props. study 4-30249
 CoCr sputtered films, mag. props. and microstruct., heat treatment effects 4-56721
 Cr thin film, internal stresses, microstruct. model anal. 4-45565
 Cr-Al-Y-Fe (Co) coatings on stainless steel, laser surface fusion and oxidation 4-7649
 Cu binary alloys, metastable states by super-rapid quenching 4-46537
 Cu, dispersion hardened, friction and wear, transfer layer microstruct. and hardness 4-30831
 Cu foil, He ions implantation effects 4-45168
 Cu, pure, ribbon, melt spinning, multilayer deposition 4-51575
 Cu, single crystal, multiple slip oriented, persistent slip band structure 4-55841
 Cu thin film, internal stresses, microstruct. model anal. 4-45565

crystal microstructure continued

- Cu-Al, two phase, quenched, early stages of deform, microhardness obs. 4-16449
 Cu-Al (12 wt.%), friction and wear rel. to heat treatment and electron beam surface melting 4-57354
 Cu-Al₂O₃ single crystals, cold rolled, stored energy, recrystallisation kinetics, second phase particles effect 4-12081
 Cu-Al-Ni, β Hulme-Rothery alloys, modulated microstruct. 4-40742
 Cu-Al-Si-Co (2.8, 1.8, 0.4 wt.%), Corozne 638, superplastic, cavitation damage, fracture 4-51771
 Cu-Au, ordering in elastic stress field 4-21204
 Cu-Be (1.8 wt.%), friction and wear, transfer layer microstruct. and hardness 4-30831
 Cu-Co, tensile deform., precipitating stages, acoustic emission obs. (*Japanese*) 4-26005
 Cu-Ni-Si, thermomech. treatment, elec. resist. obs. (*Japanese*) 4-25982
 Cu-Sn, thermal cycling effect on intracryst. heterogeneity and struct. 4-21247
 Cu-Ti amorphous alloys, crystallisation behaviour 4-44960
 Cu-Zn, β Hulme-Rothery alloys, modulated microstruct. 4-40742
 Cu-Zr amorphous alloys, crystallisation behaviour 4-44960
 Cu-(Al₂O₃) single crystals, cold rolled, deform. struct. rel. to second phase particles 4-12111
 Fe alloys, impact wear testing, failure characts. 4-16608
 Fe alloys, microstruct. invest. using physical acoustics 4-51910
 α -Fe, Armco, cold rolled, development of microstruct. and texture 4-16414
 Fe, Armco, heat treated, failure mechanism in abrasive wear 4-41001
 Fe, Armco, laser hardening, effect on struct. 4-21375
 Fe, BCC, state and habit of Fe₁₆N₂ precipitate, elastic theory 4-39527
 Fe, cast, fracture toughness rel. to ferrite and pearlite distrib. 4-21298
 Fe, cast, malleable, strength, struct. and mech. props. influence 4-21317
 Fe, cast, microstruct.-prop. relationships 4-30882
 Fe, cast, nodular, austenitising, microstruct. rel. to Mo addition (*French*) 4-51700
 Fe, cast, pearlitic structures stabilised with Sb additions (*French*) 4-40761
 Fe, cast, white, rapidly solidified powders, martensite content rel. to plastic deform. 4-40778
 Fe, ductile, mechanism of Mg, Sb and Ce interaction, SEM microanalysis 4-35629
 Fe, ductile, microstruct., mech. props., subversive effect of Pb or Bi, Ce neutralisation 4-35653
 α -Fe, morphology of α'' -Fe₁₆N₂ precipitation, TEM obs. 4-40804
 Fe surface, phase composition after B ion implantation, electron microscopy and diffr. studies 4-11163
 Fe thin films, microstructural studies 4-34822
 Fe-B-Tb-La, prod. of hard mag. materials 4-56699
 Fe-C-Si, recrystn. during diffusional comp. change 4-30706
 Fe-Co-V, heat treatment, ductility and structure 4-7509
 Fe-Co-V, ordered-disordered alloy, cold rolled, shear bands in BCC lattice 4-51745
 Fe-Cr-Co-Mn, deteriorating effect of Mn on mag. props. 4-25589
 Fe-Cr-Co-Si-Ti, permanent mag. alloy, microstruct., mag. props. rel. to treatment and comp. 4-16065
 Fe-Cr-Mn-Ni, scaling resist. rel. to Ni content, subscale layer form. 4-51885
 Fe-Cr-Ni, ferritic-austenitic, continuous δ - γ transform during cooling 4-3134
 Fe-Cu, fibrous composite wires, age hardening 4-46521
 Fe-Fe₂B, eutectic system, primary phase crystal growth and shape 4-3125
 Fe-Mn alloys, austenite stability and short range order, Mossbauer study (*Russian*) 4-34658
 Fe-Mn-Cr-Mo-Al-Si-C, superalloys, duplex microstruct., carbide stability regions 4-51667
 Fe-Mo-C, ageing, interstitial phase formation, kinetics and morphology 4-21228
 Fe-Ni, deformed, time-temp.-reaction diagrams for thermomech. treatment, intercrit. annealing 4-51683
 Fe-Ni, sintered, tensile props. and phase struct. rel. to annealing temp. 4-7527
 Fe-Ni (31.7 at.%), mag. field induced martensitic transform. 4-21215
 Fe-Ni-Au, microstruct. and mag. props. 4-25043
 Fe-Ni-C (31.9, 0.2 wt.%), martensite transform. spread, computer assisted analysis 4-30699
 Fe-Ni-Cr, elastic and mag. props. (*Russian*) 4-6419
 Fe-Ni-Cr LMFBR cladding, microstruct. and irradiation swelling, rare earth addition effects 4-20270
 Fe-Ni-Cr-Mo cermet matrices, struct. and props. 4-3116
 Fe-Ni-Mn (23, 3.9 wt.%), isothermal martensite form., optical microscopy, continuous obs. 4-51657
 Fe-Ni-P, struct. and phys. props., P influence 4-30168
 Fe-Ni-Ti (30.0, 3.8 wt.%), ausaging, martensitic transform. 4-51660
 Fe-Si (3 at.%), slightly deformed, struct. and texture changes during annealing (*Russian*) 4-25969
 Fe-Si (3 wt.%), grain-oriented, hot rolled microstruct. (*Korean*) 4-30728
 Fe-Si-Al ferromagnetic alloy, mech. strength in mag. fields (*Russian*) 4-35677
 Fe-Sn-C, cast high-strength, Sn effect on struct. and props. 4-21250
 Fe-Ti-C, microstructure study 4-56036
 Fe-V, α phase form. mechanisms, elec. resist., acoustic emission obs. (*Japanese*) 4-25953
 Fe-V-C, ageing, interstitial phase formation, kinetics and morphology 4-21228
 Fe₂Ga, compressive flow stress, temp. and nonstoichiometry depend., 77-800K 4-40912
 γ -Fe₂O₃/Os sputtered thin film, microstruct. and high coercivity mag. props. 4-56722
 Fe₂O₃-TiO₂, goethite-rutile intergrowth struct., hydrothermal crystallisation 4-20370
 Fe_{1-x}Sn_x, metal-nonmetal transition, struct. aspects 4-11444
 Ge rod-like defects due to electron irradiat. 4-34482
 (Ge₂)₃(GaAs)_{1-x}, MBE growth and phases separation, TEM studies 4-56012
 Ge_{1-x}Pb_xTe_{1+y}, solubility, deviation from stoichiometry effect, X-ray diffr. 4-56016
 Hf-Os constitution diagram, metallography, X-ray diffr. and electron microprobe studies 4-24969
 In Sb:Te crystals, solidification in zero gravity, morphology, struct., solute distrib. 4-57090

crystal microstructure continued

- InSe deposition struct. and scratch microhardness 4-34841
KCl(Br), laser irradi., impurities and absorpt. spectra 4-39331
LaB₆ powder, effect of Ni additions, reaction character, microstruct. and fracture 4-51599
LaErO₃ ceramic, microstructure, elec. cond. meas. 4-56035
LaYbO₃ ceramic, microstructure, elec. cond. meas. 4-56035
LiNbO₃ ceramics, dielectric spectra, piezoelec. grain reson. 4-2879
LiO₂-TiO₂-Al₂SiO₂ system, crystn. of glass fibres 4-55750
Mg-Li-Si(Ce), rapid solidification processing, refined microstructure, Hall-Petch strengthening 4-40807
Mg-Mn(1.58 wt.%), precipitation, TEM and elec. resist. obs. 4-12070
Mn-Al-C magnets, microstruct., effect of Ni addition, SEM and TEM study 4-29642
Mn-Al-C magnets, spark erosion and rapid solidification prep., mag. props. 4-56708
Mn-Fe-Cu (26, 4 at.%), pseudoelasticity and stress-strain curves (*Russian*) 4-25988
Mo black coatings for solar selective absorbers, opt. props. and microstruct. 4-41378
Mo condensate, vacuum-plasma precipitation, influence of substrate orientation rel. to plasma flow influence of substrate orientation rel. to plasma flow (*Russian*) 4-50663
Mo, reorientation mechanism during rolling 4-12087
Mo-Ti-Zr alloy TsMZA, struct. and creep after internal nitriding 4-3147
Mo-V-C alloy, polycryst., deform. and fracture governing relationships in high-temp. cyclic creep, struct. changes 4-12179
NaCl, laser irradi., impurities and absorpt. spectra 4-39331
NaHCO₃, nahcolite, microstructure rel. to effective sorption of SO₂ at elevated temp. 4-20372
NaHCO₃·Na₂CO₃·2H₂O, trona, microstructure rel. to effective sorption of SO₂ at elevated temp. 4-20372
Nb-Ge, struct. and phase composition, metallographic study (*Russian*) 4-51649
Nb-Ge-Si, struct. and phase composition, metallographic study (*Russian*) 4-51649
Nb-N films, abrasion resist., microhardness, microstructure 4-2489
Nb-Ti superconducting composite wire, props. 4-45982
Nb-Ti superconductors, instabilities anal. (*German*) 4-2710
Nb₂Sn, bronze-processed multifilamentary wire, critical current study 4-30131
Nb₂Sn multifilamentary superconductor, struct. and props. (*Chinese*) 4-2679
Nb₂Sn tapes, superconducting, microstruct. and neutron radiation damage 4-45193
Ni alloy, heat-resistant, hydrostatically extruded bars, failure mechanism 4-21322
Ni alloys, high-alloy, notch sensitivity 4-21284
Ni foil, He ions implantation effects 4-45168
Ni-Al, β and γ phases, twinned microstruct. origins 4-6514
Ni-B composite electrolytic coatings, struct. and phase comp. 4-3288
Ni-based superalloys, lattice rot., substructure form. during stretching (*Russian*) 4-25996
Ni-Cr-Al superalloy, carbide comp. and struct. rel. to Nb and Ta additions 4-12069
Ni-Cr-Al-Co-W-Mo-Ti, struct. and phase comp., Y additions effect 4-21221
Ni-Cr-Al-Fe-Y, wrought heat-resist. alloy, struct. and props. 4-41071
Ni-Cr-Al-Mo, directionally crystallised, annealing, microstructure 4-7493
Ni-Cr-Al-Y(Zr), transient oxide scale form. and struct. 4-7638
Ni-Cr-Co, Udimet 520 superalloy, γ' strengthened, mech. props. rel. to protective coatings 4-40971
Ni-Cr-Fe-Al-C, austenitic, deformed, heat resist., struct. fineness influence 4-57272
Ni-Fe-Cr-Nb, electron diffraction, anal., of δ -phase (*Chinese*) 4-7464
Ni-Mo, sintered, struct. and mech. props. after hot plastic working and heat treatment 4-26014
Ni-Mo-Al (33.5, 7 wt.%), directionally solidified eutectic, precipitation 4-3144
Ni-Mo-W (33, 17 wt.%), superalloy, embrittlement and ductility rel. to phase struct. 4-51801
Ni-Ni₃B, eutectic system, primary phase crystal growth and shape 4-3125
Ni-P electroless thin films grown in alkaline environment, struct. studies 4-34813
Ni-Zn ferrites, mag. permeability, microstruct. depend. 4-2789
Ni₂Al, strongly ordered L1₂ alloys, dynamic recrystallisation rel. to flow and fracture 4-57253
Ni₃Ge, compressive flow stress, temp. and nonstoichiometry depend., 77-800K 4-40912
NiO-CaO, directionally solidified eutectic, crystallography 4-7416
NiO-Ni scales interface form. by oxidation, defect microstructures, TEM obs. 4-25168
Ni₂Si, compressive flow stress, temp. and nonstoichiometry depend., 77-800K 4-40912
Pb binary alloys, struct., mag., physical and supercond. props., quenching rate depend. 4-51651
Pb(Mg_{1/3}Nb_{2/3})O₃, dielec. props. rel. to ceramic processing 4-51174
SOS films, Si-implanted and electron beam annealed, high resolution electron microscopy 4-20505
Si, commercial, microstruct., impurity and inclusion distrib. 4-57187
Si, Czochralski grown, thermally induced microdefects after high temp. annealing 4-20129
Si, ion implanted, excimer laser annealing 4-45183
Si, rod-like defects due to electron irradi. 4-34482
Si(H)(He), microstruct. study by Rutherford backscatt., TEM and SEM 4-24839
SiC, grain boundaries, microstruct. characterisation by TEM (*French*) 4-15493
SiC, high density ceramic, microstruct. rel. to sintering 4-57151
SiC, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
SiC, polycryst. self-bonded, impurities distrib. 4-45176
SiC whisker reinforced Al composite, creep rupture, microstruct. 4-40966
Si₃N₄, dense polyphase, fabrication, comp. and microstruct. 4-30668
Si₃N₄, high density ceramic, microstruct. rel. to sintering 4-57151
Si₃N₄, high strength reaction bonded, nitriding rate, second component gases effect 4-51591
Si₃N₄, hot pressed, liq. phase sintering, microstruct. correl. with mech. props. 4-57350
Si₃N₄, neutron irradi., defect aggregates 4-24876

crystal microstructure continued

- Si₃N₄, reaction-bonded, prep. by nitridation with Si₃N₄ additions, microstruct. 4-57147
Si₃N₄-Y₂O₃, hot pressed, strength degradation, structural reliability at high temp. 4-40952
Si₃N₄-ZrO₂-Y₂O₃ ceramic, hot pressed, microstruct., strength oxidation resist. 4-57287
SiO₂- α -Al₂O₃ system, stable and metastable phase equilib. diagrams 4-51636
Sm-C system, struct., O content 4-51631
Sm-Co-Fe-Cu-Zr sintered alloys, struct. and mag. props. (*Russian*) 4-35198
Sm(Co,Cu,Fe,Zr)_{7.4} magnets, annealed and quenched cellular microstructure 4-6383
Sm(Co,Cu,Fe,Zr)_{7.4}, coercivity, microstruct., ageing effects 4-7020
Sm(Co,Fe,Cu,Zr)_{7.2} magnet, microstructure, mag. props., heat treatment effect 4-7018
Sm(Co,Fe,Cu,Zr)_{7.5} magnets, coercivity enhancement by heat treatment 4-7015
Sm(Co,Fe,Cu,Zr)_z hard magnetic alloys, metallurgical behaviour 4-57358
SmCo₅ magnets, sintered, heat treatments, mag. hysteresis, microstructure 4-7022
Sm(CoFeCuZr)_{7.4} sintered magnets, microstruct. and mag. props., annealing effects (*Russian*) 4-25592
Sm(Co_{0.725}Fe_{0.20}Cu_{0.055}Zr_{0.02})_{7.5} magnets, struct. and mag. props. 4-25042
Sm(Co_{0.90}-vFe_{0.08}Cu_{0.02}Zr_{0.005})_{8.35}, mag. props. meas. 4-25596
(SmYGGdIm)₃Ga_{0.4}Fe_{4.6}O₁₂ films, ion-implanted, characterisation of microstructure by SEM 4-25173
Sn-Al eutectic, embrittlement in damp air 4-41070
SnO₂, activated sintering, densification and elec. props. rel. to oxide additions 4-57153
TaS₃, strandlike domains in charge density wave states 4-11463
TaSe₂ (2H), discommensuration arrays, dark field imaging and convergent beam electron diffraction, obs. 4-11310
TaSi₂ thin films, temp. depend. of elec. and struct. props. 4-30098
Ti alloys, rapid solidification processing, strength and microstructure 4-7443
Ti-Al-Mo-Cr, CORONA 5, fatigue crack growth rate, microstruct., O content 4-40969
Ti-Al-Mo-Zr, microstructure analysis by acoustic microscopy 4-46680
Ti-Al-W, creep deform. modes, phase morphology 4-7523
Ti-Al-Zr-W(Mo)-(B), struct. and corrosion props., effect of quenching from liq. state 4-30857
 α - β Ti-Mn, fatigue crack propag. rel. to phase comp. 4-40968
Ti-Mo-V, phase transform. rel. to ageing temp., TEM obs. (*Chinese*) 4-57215
Ti-N films, reactively sputtered, microstructure, phys. props., TEM study 4-2480
Ti-O-H system, influence of H₂ on diffusion of O₂ at 750°C (*French*) 4-7625
TiB₂-TaC system, sintering kinetics, struct. and props. of heterophase materials 4-7406
TiC, grinding material, mech. props., prep., appls. (*Polish*) 4-3246
TiC, ordered, microstruct. and mech. props. (*Ukrainian*) 4-40932
TiC/Ni microlaminates, evaporated, prep. and props. 4-15785
TiC-Ni-B, slurry coatings applic. using conc. solar energy 4-7643
TiC-NiTi sintered composites, struct., phase comp. and fracture 4-46619
TiO₂-Al₂O₃ system, high temp. reaction, α -Al₂O₃ precipitation, TEM obs. 4-40792
U-Mo(2wt.%), ageing, strain rate sensitivity rel. to cooling rate from γ phase 4-40928
UO₂-MgO, inhomogeneities, temp. depend., small angle neutron scatt. obs. 4-30702
WC-Ni-B, slurry coatings applic. using conc. solar energy 4-7643
Zr-Nb (20wt.%), age hardening rel. to H content (*Japanese*) 4-35637
Zr-Nb (2.5 at.%), microstruct. and hardness, cyclic heat treatment effects (*Russian*) 4-25979
ZrO₂, CaO-(MgO) partially stabilised, aged, elec. cond. and microstruct. relationship 4-30575
ZrO₂, surface damage, microstruct. and mechanisms, SEM obs. (*German, English*) 4-51775
ZrO₂-MgO, partially stabilised ceramic, stress induced polymorph form., decomposition during annealing 4-57238
ZrO₂-Y₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787

crystal morphology

- ammonium hydrogen tartrate, growth in SiO₂ hydrogel, density, morphology, microstructure 4-29363
binary alloy systems, spherical precipitate phase, fibre morphology resulting from solid state coalescence 4-56029
binary alloys, cellular interface morphologies during directional solidification, one-sided model 4-45310
crystal growth from vapour, growth rates and habits 4-29369
cyclotrimethylenetrinitramine, RDX explosive crystals, X-ray orientation, hardness 4-39178
diphenyl crystals, growth twinning zones and external morphology 4-20134
ferromagnetic 3-D Ising model, equilibrium cryst. shapes 4-29375
growth mechanisms of crystals and their morphology (*Japanese*) 4-55769
growth morphology rel. to seed surface area 4-2116
melt column low-freq. deform., influence on cryst. form., radial inhomogeneity 4-24744
melt growth, phase interfaces, temp. and conc. fields, growth forms and stability 4-29355
melt growth, Stepanov method, dynamics of form development 4-29353
metallic glasses, crystallisation, nucleation and phase separation 4-55748
metals, equilibrium cryst. shape, adsorbed layer effects 4-29376
paratellurite, single cryst., morphology, dislocation struct., optical props. 4-55775
polyethylene, as paradigm of polymer cryst. morphology 4-45023
polymer crystallisation, structure and morphology 4-11000
polypropylene, crystallised from melt, morphologies, optical polarized microscopy study (*French*) 4-2099
polypropylene-polyethylene blend, crystal struct. variations 4-39166
quartz, growth twinning zones and external morphology 4-20134
shaped crystal prep., conf., Leningrad, USSR (March 1982) 4-27226
stearic acid, long chain, crystals, soln.-growth, step morphology of giant growth spirals 4-2117

crystal morphology continued

- succinonitrile, cryst. growth from melt, foreign particle effects (*Russian*) 4-40642
- surface, mass transport, tip morphology evolution in FIM 4-29676
- texture anal. by iteration 4-6309
- TGS:Mn²⁺(Li), cryst. growth from soln., growth habit, domains config., dielec. props. 4-2125
- Ti_{1+x}S₂ polytypes, review 4-39246
- Al₃Zr growth morphology in slowly cooled melt 4-39182
- Au/Ni/Au-Ge alloyed ohmic contact to GaAs, interface structure and contact noise 4-29827
- BN cubic single crystals, thermal cond. meas. (*Ukrainian*) 4-6569
- Ba(IO₃)₂, cryst. growth from silica gel, morphology and habit study 4-3040
- Ba₂-Sr_{1-x}K_{1+x}Na₃Nb₂O₁₅, cryst. growth and ferroelec. props. 4-30402
- BeAl₂O₄·Cr₃₊, alexandrite, growth habits, X-ray and optical studies (*Chinese*) 4-50231
- Ca(IO₃)₂, cryst. growth from silica gel, morphology and habit study 4-3040
- Cd dendrites form. during electrodeposition on Ni and Cd substrates in alkali media, morphology 4-16304
- Cd dendrites form. during electrodeposition on Cd substrates in acidic media, morphology 4-16305
- CdSe, UPE layers, cond., electron mobility, cryst. struct. and morphology 4-57102
- Co, microparticles, morphology and cryst. struct., electron microscopy study (*French*) 4-20142
- CrB, cryst. morphology, SEM obs. and theory 4-11022
- CrB crystal, solidification of Ni-Cr-B type alloy, growth and equilib. morphologies (*French*) 4-20133
- Cu-Al particles, growth by gas-evaporation, comp., cryst. struct. and habit 4-40614
- ErFeO₃, flux grown crystals, {100} surface struct., microtopography 4-15754
- Fe, BCC, state and habit of Fe₁₆N₂ precipitate, elastic theory 4-39527
- Fe₂N_{1-x}C_x, prep., crystal morphology, coercive field and use as mag. recording materials (*French*) 4-51103
- γ-Fe₂O₃, tri-dimensional morphology, appl. of dark field weak beam method (*French*) 4-20137
- GaAs whiskers, struct., mechanical props., impurity effect 4-56182
- GaSb:Te pulled crystals, sub-μm steps on facet planes 4-11019
- In Sb:Te crystals, solidification in zero gravity, morphology, struct., solute distrib. 4-57090
- K₂Cr₂O₇, crystal growth at boiling point 4-51468
- K₂Li₂Nb₂O₁₅, cryst. growth and ferroelec. props. 4-30402
- KMg₂(Si₃AlO₁₀)F₂, fluorophlogopite crystals, growth twinning zones and external morphology 4-20134
- LiFeO₃ single crystal spheres, dissoln. forms 4-50527
- NH₄(BO₃)₅·4H₂O, growth from soln., cryst. morphology of α- and β-phases, twinning 4-15413
- (NH₄)₂Ce(PO₃)₅, prep., cryst. struct. and morphology 4-6305
- NH₄(H₂O)₆MgCl₃, growth from soln., cryst. morphology, twinning 4-15413
- (NH₄)₂O·Ce₂O₃·4P₂O₅, prep., cryst. struct. and morphology 4-6305
- Na₂B₄O₇·10H₂O, borax, needle-shaped and platelet growth from soln. 4-2109
- Na₂B₄O₇·10H₂O, borax, grown from soln., dendritic forms 4-2490
- NaCN, first order martensite transformation, domains and surface morphology 4-29596
- Nb₃Sn, crystallisation from soln. in Nb tube 4-46430
- Ni vicinal (001) surface, struct., LEED and UPS studies 4-29744
- Ni-Al-Ta superalloys, microstruct. props. of β-NiAl phase 4-57224
- Si, cryst. growth from melt, mechanisms and doping striations 4-24751
- Si monocryst. strips grown by Stepanov method, struct. features 4-25865
- Si₃N₄ compact, reaction bonded, microstruct. rel. to nitriding atmosphere comp. 4-51590
- SnS₂ single crystals, vapour transport, growth spiral shape, stress field effect 4-16300
- Sr_{1-x}Ba_xNb₂O₆, cryst. growth and ferroelec. props. 4-30402
- Sr(IO₃)₂, cryst. growth from silica gel, morphology and habit study 4-3040
- Sr₂KNb₂O₅, cryst. growth and ferroelec. props. 4-30402
- Ti-Mo-Zr-Sn-O₂ alloys, ω-phase morphology, neutron scatt. and TEM studies 4-6513
- TiS_{1.7} polytypes, defect-induced long range ordering 4-11084
- ZnSe, hetero-epitaxial growth on GaP by MBE 4-16336
- Zr, pressure induced α-ω transition, electron microscopy studies (*Russian*) 4-50489

crystal orientation

- n-alkanes, melt crystn. in temp. gradient, cryst. orientation 4-24741
- bent crystalline grain, bending radius and orientation 4-29374
- α-brass single crystal, slip in stress gradient, kind band form. 4-45141
- cyclotrimethylenetrinitramine, RDX explosive crystals, X-ray orientation, hardness 4-39178
- diphenyl crystals, growth twinning zones and external morphology 4-20134
- electron diffr. patterns, computer programme for unique indexing 4-44900
- massive transformation, nucleation kinetics, crystallography and mechanism 4-57220
- molecular cryst., strongly harmonic and orientationally disordered, phase transitions 4-39453
- monoclinic m crystals, optimum cuts for pyroelec. detectors 4-40362
- PTE, deformed, crystallite orientation distrib. function, multiple-pulse ¹⁹F NMR spectroscopy 4-39171
- quartz, growth twinning zones and external morphology 4-20134
- quartz plates, chem. etching, orientation effects 4-20440
- steel, ferritic stainless 4-6377
- steel, martensitic, shear, cryst. geometry, X-ray diffr. (*Russian*) 4-24832
- steel, stainless, lath martensite, crystallography and microstructure 4-45139
- texture anal. by iteration 4-6309
- texture analysis using orientation matrices 4-45042
- X-ray diffractometer, for orientating large crystals 4-44891
- Ag, ion bombard., morphological evolution of cones on surface 4-51435
- Al, nucleation by Al₃Ti particles in Al-Ti system 4-15415
- Al-Ti system, heterogeneous nucleation, role of lattice coherency 4-24765
- Co-Cr films, targets-facing sputtering prep. mag. props. rel. to perpendicular recording appls. (*Japanese*) 4-30633

crystal orientation continued

- Co-Cr ion beam sputter deposited thin films, mag. and struct. characts. 4-25603
- Cu deformed, mosaic structure effects on strain ratio instability in single cryst. 4-30749
- Cu, dislocation cell structure in deformed [001]-oriented single crystals., X-ray line broadening study 4-50290
- Cu, recrystn. during elec. current passage, orienting effect 4-57259
- Fe-Ni, inverse martensitic transform. induced by high press. (*Russian*) 4-25956
- GaAs, etching in H₂-HCl gas mixtures, dopant and orientation depend. 4-12203
- GaSb ingots, Bridgman growth, texture, cryst. orientation, grain boundaries, SEM, chem. etching, electron channelling 4-29364
- GaSe:Mn single cryst. film, photoluminescence studies, orientation depend. 4-56989
- Ge-GaAs abrupt heterojunctions, valence band discontinuities, effect of crystallographic orientation 4-6876
- KMg₂(Si₃AlO₁₀)F₂, fluorophlogopite crystals, growth twinning zones and external morphology 4-20134
- Mo single crystal, extruded, texture anal. with orientation matrices 4-45042
- Nb single crystals, slip, orientation depend., at 4.2 and 77K 4-55840
- Nb, superconducting proximity effect tunnelling anisotropy 4-20768
- Ni, recrystn. during elec. current passage, orienting effect 4-57259
- Ni-Ni₃Al-Mo, γ/γ'-α eutectic, mutual crystallographic orientation of phases (*Slovak*) 4-45061
- Ni₃(Al, Ta) single crystals, flow stress asymmetry, orientation and temp. depend. 4-51728
- PbSe, epitaxial film growth, limiting temp. of substrate, laser spraying expts. 4-57110
- PbTe, epitaxial film growth, limiting temp. of substrate, laser spraying expts. 4-57110
- Si, diffusion of P, influence of orientation 4-56083
- Si, laser annealed, local cryst., orientation, Raman microprobe studies 4-50230
- Si, recrystallization on thermal SiO₂-coated Si substrates, zone melting, electron beam line source 4-50666
- W, recrystn. during elec. current passage, orienting effect 4-57259
- crystal oscillators** *see crystal resonators*
- crystal properties**
see also crystal chemistry
No entries
- crystal purification**
see also zone refining
Co, high purity pre. by anion exchange and floating zone refining 4-40644
- Cr, crystal purification by floating zone refining, residual resist. and ductility props. 4-40643
- KCl, prep. and O-containing impurity purification, optical studies 4-57092
- RbAg₄I, solid electrolyte, directional crystallisation from melt and elec. cond. 4-57093
- Si, metallurgical grade, heat-exchange purified, metallic particulate defects study 4-45148
- Si, metallurgical grade, hydrometallurgical purification 4-7351
- Si, metallurgical grade, purification by slagging and impurity redistrib. 4-7349
- Si, metallurgical grade, purification by thermomigration of impurity clusters 4-7350
- Si, solar grade, cryst. growth techniques and segregation effects 4-7346
- Si, solar grade, prod. and refining processes, future trends 4-7378
- crystal resonant gamma-ray interactions** *see Mossbauer effect*
- crystal resonators**
see also piezoelectric oscillations
AF tuning generator, precision design, quartz ref., musical instruments appl. (*German*) 4-14850
- clock crystal resonator, interferometric meas. of vibrations (*French*) 4-24067
- disciplined quartz frequency standard, microprocessor controlled 4-53660
- dual crystal gas density sensor 4-32247
- IR detector using quartz crystal 4-53752
- piezoelectric microbalance based on vibrating quartz wire 4-32239
- quartz crystals, acoustic vibrational modes, book contrib. 4-20297
- quartz piezoelectric disk resonators, AT-cut, acoustic modes, laser interferometric study 4-28915
- quartz resonators fabricated from high purity material, acoustic loss meas. 4-20236
- sapphire resonators, elastic vibr. damping, elastic moduli, temp. depend. 4-34595
- temperature digital sensor system 4-37102
- CDs metallised piezoelec. resonator, acoustoinjection luminesc. spectra 4-30536
- crystal structure**
see also crystal atomic structure; crystal microstructure; crystal morphology; crystal orientation; crystal symmetry; crystallography; granular structure; polymorphism
π electron compounds, stabilisation energy, Kekule struct. contrib. and bond lengths 4-15420
- corundum structure, inner-strain tensor 4-2103
- deformation dipole model, NaCl lattice dynamics calc. 4-24928
- elucidation using direct methods applied to difference structures 4-10918
- geometric structure of hard disks packing (*French*) 4-15408
- hexagonal cryst., loading behaviour, struct. and equilib. states 4-24899
- ordering near melting pt., influence of surface layer 4-6300
- polymer structure determination using electron diffraction techniques 4-44901
- probability density function moments, a priori knowledge of atomic coords. 4-11030
- probability density function moments, appl. for space groups P1 and P $\bar{1}$ 4-11024
- probability density function moments, low intensity data elimination 4-11029
- R-factor values after phase refinement by non-crystallographic symmetry averaging 4-11028
- solid state chemistry predictive charact., relation between, chem. bonding, struct., and physical props. 4-15422
- symmetry, topological considerations 4-29348
- topological symmetry and space groups 4-15414

crystal surface and interface vibrations

- (001) surface screening effects in vibr. spectra 4-20459
 adsorbates, vibr. spectra, infrared laser photoacoustic spectroscopy studies 4-37206
 adsorbed molecules on FCC cryst., electronic spectra, adiabatic approx. anal. 4-29801
 adsorbed monolayer, two-dimensional sine-Gordon lattice, mol. dynamics study 4-187
 alkali halides, desorption kinetics of He, corrections to rigid wall approx. 4-20485
 alkali metal halides, ionic cryst. films, mol. dynamics simulation 4-6684
 anthracene crystal, N₂-coated, monolayer surface Raman and fluorec. spectroscopy 4-56134
 anthracene crystal (001) face, monolayer surface Raman and fluorec. spectroscopy 4-56134
 atom-surface scattering, one-phonon, pot. cutoff calc. 4-30584
 bilayer systems, surface phonon-polaritons 4-15758
 boson creation by an atom moving near a surface 4-39660
 chemisorbed molecules, valence photoemission, vibronic coupling and ion recoil effects 4-35551
 collective excitations, macroscopic and microscopic viewpoints 4-25142
 crystal surface and bulk, interstitial atom equil. distrib. and natural freqs. (*Russian*) 4-39289
 diffraction grating, Ag-coated, phase correl. of surface plasmons, photoacoustic study 4-7141
 diffraction of neutral atoms and molecules from crystalline surfaces, review, book contrib. 4-21096
 EELS technique for obs. of surface phonon dispersion (*Japanese*) 4-57052
 elastic wave propagation along rough surface (*Russian*) 4-25141
 FCC crystal (111) surface, phonon dispersion relations and mean correl. displacement 4-2422
 FCC crystals, thermal expansion near plane and stepped surfaces 4-25140
 graphite, desorption kinetics of He, corrections to rigid wall approx. 4-20485
 graphite, surface vibr. amplitude and thermodynamic props. 4-29763
 graphite adsorbed monolayer, weakly incommensurate phase, soliton theory 4-20467
 Green function matching for lattice dynamics 4-50623
 hexagonal crystals, surface influence on phonon-pulse propagation 4-20458
 insulating solids, surface acoustic soliton theory 4-39654
 ionic crystals, semi-infinite, strong coupling polarons 4-56241
 ionic materials, vibrational prop. calc. program 4-15759
 light monolayer on FCC crystal, thermal expansion near plane and stepped surfaces 4-25140
 localized-particles approach for classical and quantum crystals 4-45272
 metal surface, adatom multivalency and adatom-phonon interaction 4-20478
 metal surface film phonon emission into insulating substrate, anharmonic interactions 4-29765
 metal surfaces, IR refl.-absorption spectroscopy of adsorbed mol., review 4-16188
 metals, FCC, surface vibrations on (111) surfaces 4-6643
 metals, surface screening effects in vibr. spectra 4-20459
 metals, surface vibr., adsorpt. site symm. effect 4-39659
 particulate matter, multipolar effects on surface modes 4-30419
 photophoresis, surface-mode enhanced local fields effect 4-38942
 pyridine, electronically excited states of chemisorbed molecules 4-33359
 sapphire, ballistic phonon imaging, bulk focusing and crit. cone channelling effects 4-45481
 semiconductors, surface acoustic soliton theory 4-39655
 single atom surface diffusion, field emission ion microscopy 4-29819
 small particle system lateral interactions 4-50634
 small particles, surface plasmons and phonons, optical absorption studies 4-25269
 solid surfaces, inelastic scatt. of atoms and mols. 4-11992
 SOS, Si-implanted, strain states and optical phonons, Raman scatt. study 4-16195
 superlattice, plasmon modes, classical vs. quantum limits 4-11467
 superlattices, surface phonon theory 4-56135
 surface and interface effects on phonon density of states 4-6450
 surface enhanced Raman scatt. by cylindrical gratings 4-25749
 thermal vibrations, information from keV ion scatt. 4-20460
 transition metals, adsorption of H, ground state props., effective medium theory 4-34796
 Ag (111), He atom inelastic scatt., anomalous peaks 4-35540
 Ag (111), one-phonon scatt. of He atoms 4-21095
 Al/oxide/metal tunnelling junctions, Al-H bond form. and vibrs. 4-45898
 Al-Al₂O₃-metal tunnel junctions, light emission, role of multiple scatt. of surface polaritons 4-7250
 CO, electronically excited states of chemisorbed molecules 4-33359
 Cu (100), Na-covered, adsorbed CO reduced stretch vibr. freq., EELS study 4-29766
 Cu, adsorption of phenol, high resolution EELS, angle-resolved photoemission studies 4-30579
 Cu-Ni, surface segregation, effect of phonons 4-56128
 Cu₂(Fe(CN)₆)₂ electrode-supported films, FT external refl. and photoacoustic spectrosc. 4-57008
 Fe₂(Fe(CN)₆)₃ electrode-supported films, FT external refl. and photoacoustic spectrosc. 4-57008
 GaAs:Te/Ag, inelastic electron scatt., semicond. surface vibr. spectrum, effect of cond. overlayer 4-57051
 GaAs/AlAs superlattices, characterisation by laser-Raman spectroscopy 4-34807
 GaAs/GaAlAs large period superlattices, folded acoustical phonon dispersion 4-2290
 GaAs-Ge heterostructures, band bending during formation, in situ study 4-30062
 He solid/liq. boundary, high freq. acoustic wave reflection 4-34744
 He, solid-liq. interface, Onsager coeff. and roughening transitions 4-11358
 He-solid interface, roton dispersion eqn., surface phonons 4-2392
 Kr adsorbed monolayer, weakly incommensurate phase, soliton theory 4-20467
 Kr monolayer on graphite (0001), surface vibr. and thermodynamic props. 4-6659
 LiF (001), surface phonon spectroscopy by He atom inelastic scatt. 4-29764

crystal surface and interface vibrations continued

- LiF+He beam, resonance in atom diff. by cryst. surface 4-25842
 NO, electronically excited states of chemisorbed molecules 4-33359
 Na₂O₃WO₃, adsorption of water, high resolution EELS, photoemission studies 4-30577
 Ni (001), clean and O₂ covered, surface relax. and force consts. 4-11390
 Ni (100), adsorbed O, converge-depend. vibr. shift 4-29762
 Ni (100), Rayleigh phonon dispersion curve, EELS study 4-56136
 Ni (110), adsorbed H, vibr. modes 4-50622
 Ni, surface struct. of clean and O chemisorbed (001) faces, ion shadowing, blocking meas. 4-39680
 Ni, thermal expansion near plane and stepped surfaces 4-25140
 Ni-Pt, surface segregation, effect of phonons 4-56128
 Ni(100) with adsorbed O and S, adsorbate vibr. energies 4-29781
 Pt electrode surface, oxidized, vibr. spectra, EELS and XPS study 4-46384
 Pt₂Ni_{100-x}, adsorption of CO, vibr. EELS, TDS meas. 4-40589
 Ru (001), adsorbed H, binding sites, high resolution EELS study 4-20489
 Ru (001), ordered O overlayer, EELS and vibr. struct. 4-15757
 Si (100), (111), adsorbed O and H bonding, EELS studies 4-25164
 Si (100), adsorbed water, vibr. spectrum, rel. to EELS meas. 4-29767
 Si (111)-(7×7) and -(1×1), H₂ chemisorption, IR study 4-6658
 Si surface, (111)-(2×1), adsorption of H₂, energy loss spectroscopy studies 4-39678
 Si/SiO₂ bilayer system, surface polaritons and surface phonons 4-56235
 SiC, composite plasmon-phonon modes (*Russian*) 4-39658
 SiO₂ surfaces, n-butane and n-octane collisions, low-level vibr. energy transfer 4-43949
 SnO₂ (110) surface optical phonons, high resolution EELS study 4-30580
 W (100), H induced surface reconstruction, lattice dynamic effects 4-45475
 Xe, harmonic crystal surface, self-consistent cell theory 4-34772
 Xe monolayer on graphite (0001), surface vibr. and thermodynamic props. 4-6659

crystal symmetry

see also *crystallography; group theory*

- alloys, number of superlattices determ. by group-theoretic method 4-2131
 Benard convection cells, struct. in cylindrical symmetry 4-29372
 Birman's theory of symm. changes, physical tensor field criterion 4-2306
 chlorates, NQR spectra, cryst. symmetry and elec. field gradient 4-35247
 classification and properties of orbits of crystallographic groups 4-2130
 coincident site lattices in cubic system, generating function 4-55772
 colour symm. and time reversal 4-11033
 colour transitions classification and chromomorphism of colour groups 4-20136
 cubic crystals, sound vel. anisotropy 4-24914
 dimethylammonium copper tetrachloride, normal and deuterated, struct. props. 4-55811
 electron diffraction determ. 4-34378
 enantiomorph-polarity estimation, Rogers η parameter 4-11026
 FCC lattice, deformed under uniaxial loading, special points 4-2501
 ferroelectric, displacive type, composition, struct. and props. 4-40367
 four-dimensional crystallographic symm. operations, graphic representation and nomenclature 4-39188
 incommensurate cryst. struct., superspace groups 4-11034
 incommensurately modulated structures, symm., dualistic approach 4-39186
 insulators, incommensurate struct. origins 4-50233
 irreducible representations of space group C_{6v} 4-11032
 molecular cryst., lattice energy-functional, symmetry 4-11031
 one-dimensional crystals and polymers, selection rules, line group Kronecker products 4-48027
 order-disorder layers and how to choose them 4-55771
 Patterson function, intrinsic symmetry of struct. fragments and multiple peaks 4-34374
 perfect crystals, stress effect on phase transition temps., symm. aspects 4-34637
 periodic arrays of identical ions packed with 10, 11, and 12 nearest neighbors 4-24752
 periodic ornaments, symmetry groups (*Spanish*) 4-2129
 phase transitions leading to structures with nonmaximal symmetry groups, Landau-Ginzburg-Wilson model 4-45306
 picric acid struct. class, supersymmetry 4-34466
 pyrazole struct. class, supersymmetry 4-34466
 α -quartz, symmetry of effective electroelastic tensor for point group 32 4-29373
 quasi-one-dimensional crystal selection rules from Kronecker products of line groups 4-8718
 quasisymmetry and space groups, semi-direct products 4-11025
 R-factor values after phase refinement by non-crystallographic symmetry averaging 4-11028
 rare earth A₂B₂O₇ oxides, force field comparison, IR and Raman study 4-30463
 second order phase transition, direction at Γ point of O_h space group (*Chinese*) 4-2301
 semiconducting compounds, polarity reversal and symm. in sphalerite and wurtzite structs. 4-34455
 site-symmetry restrictions on thermal-motion-tensor coeffs. up to rank 8 4-55773
 structural phase transitions in crystals, broken-symmetry group 4-29600
 supercrystallographic P-symmetry 4-24753
 texture anal. by iteration 4-6309
 three dimensional 3-connected nets 4.2ⁿ 4-2128
 topological symmetry and space groups 4-15414
 viruses having non-crystallographic symm., crystallographic refinement 4-41435
 CdBr₂, polytypism and cryst. struct. 4-34456
 CdI₂, polytypism and cryst. struct. 4-34456
 (Fe₂Co)AsS, crystal defects and group-subgroup relationships, TEM studies 4-11132
 (Fe,Cr)₂C₃ coatings, cryst. defects, electron diff. and microscopy studies 4-11133
 Fe₂C₃, cryst. defects, electron diff. and microscopy studies 4-11133
 FeS, crystal defects and group-subgroup relationships, TEM studies 4-11132
 K(H_{1-x}D_x)₂PO₄, internal modes and local symmetry, Raman scatt. studies 4-29549

crystal symmetry continued

- KH_2PO_4 , internal modes and PO_4 tetrahedron local symm., Raman scatt. study 4-2925
 $\text{Na}_8\text{Si}_6\text{Al}_6\text{O}_{24}(\text{OH})_2 \cdot 2\text{H}_2\text{O}$, hydrosodalite, struct., X-ray diff. study 4-24791
 $\text{Na}_{1+x}\text{Zr}_2\text{Si}_6\text{P}_{3-x}\text{O}_{12}$, NASICON, comp., cond. mechanism, X-ray diff. study 4-2178
 PbI_2 , polytropism and cryst. struct. 4-34456
 Rb_2ZnCl_4 , low temp. ferroelectric phase, CI NQR studies 4-2838
 SnS_2 , polytropism and cryst. struct. 4-34456
 SnSe_2 , polytropism and cryst. struct. 4-34456
 Ti_2S_2 , polytropism and cryst. struct. 4-34456
 ZrO_2 , tetragonal modification, effects of additives and heat treatment, X-ray diff. study 4-50256

crystal vacancies *see vacancies (crystal)***crystal whiskers** *see whiskers (crystal)***crystalline-amorphous transformations** *see amorphisation***crystallisation**

- see also crystal growth; dendrites; heat of crystallisation; nucleation*
 alkaline earth ditellurites, MTe_2O_6 , $\text{M}=\text{Ca-Ba}$, cryst. growth, DTA, X-ray diff., chem. anal., dielec. and optical props. 4-50225
 n-alkanes, melt crystn. in temp. gradient, cryst. orientation 4-24741
 alloys, rapidly quenched for permanent magnet materials 4-56700
 amorphous materials, non-isothermal crystn. kinetics and activation energy for cryst. growth 4-29322
 amorphous semiconductor films, apparatus for isothermal annealing and crystallisation obs. 4-2078
 borosilicate glasses, crystallisation kinetics, Mossbauer spectrosc. investigation 4-25662
 breakage model, solution of population balance equation via shifted Legendre functions 4-42865
 calcium oxalate crystallisation rel. to kidney stone form., inhibition by glutamic acid 4-41421
 chalcogenide glass thick films threshold and memory switching, thermophonic investigations 4-45901
 chlorocyclohexane solid films, annealing kinetics and rot. isomerism, IR absorpt. spectra 4-51264
 chloromethylchlorophosphine oxide solid films, annealing kinetics and rot. isomerism, IR absorpt. spectra 4-51264
 cholesterol, 37°C phase transition, H bonding struct. pattern 4-39447
 classical systems, statistical theory 4-55770
 composition of exothermal mixtures effect on ferrous metal casting properties (Bulgarian) 4-35623
 cyclohexane cryst. growth from melt 4-25879
 diamond crystallisation under shock compression, optical props. 4-21118
 1,2-dichloroethane solid films, annealing kinetics and rot. isomerism, IR absorpt. spectra 4-51264
 diphenyl crystals, growth twinning zones and external morphology 4-20134
 double-diffusive convection, Engineering Foundation conf. report, Santa Barbara (1983) 4-36780
 equilibrium electroliq. epitaxy, growth kinetics and temp. distrib. 4-6308
 ethyldichlorophosphine oxide solid films, annealing kinetics and rot. isomerism, IR absorpt. spectra 4-51264
 fluoronitride glasses in Zr-metal-F-N system 4-46483
 gas-liquid nonequilibrium duct flow 4-29209
 glass, appl. of Kolmogorov's formula 4-20119
 glass, Avrami exponent determ. by non-isothermal anal. 4-2088
 glass ceramics, nuclei distrib. within filament 4-39151
 growth step motion with a finite rate of crystn. at kinks 4-24749
 homopolymer melts, highly oriented, crystallisation under high tension, dendrite model 4-45026
 ice, electron irradi. induced amorphous state, anomalous devitrification 4-39344
 ice, recrystallisation growth rate 4-29368
 laser-induced struct. changes, kinetics and thermodynamics 4-39448
 liquid flow in porous solid, heat and mass transfer, surface phenomena 4-34073
 liquid metals, undercooled, entropy, free energy and sp. ht. 4-45350
 magnetic holes, one- and two-dimensional crystn. 4-25567
 metallic films, islet-like, supercooling during crystallisation 4-50681
 metallic glasses, amorphous microstruct., structural relaxation, crystallisation, transport props., review 4-39147
 metallic glasses, crystallisation, nucleation and phase separation 4-55748
 metallic glasses, crystallisation, photostimulated exoelectron emission, temp. depend. 4-3027
 metallic glasses, crystn. processes, thermoelec. power studies 4-34953
 metallic glasses, defects, variable energy positron studies 4-51406
 metallic glasses, production and diffusionless crystallisation 4-10990
 metallic glasses, space correlated fluctuations rel. to initial alloy composition 4-44985
 metallic glasses, thermal stability, long-term crystallisation, proposal for standardisation 4-20108
 metallic glasses prepared with different quenching rates, struct. relax., DSC study 4-45008
 metals, glass form. by picosecond pulsed laser-induced melting 4-44996
 metals, pure, vitrification kinetics, glassy layer thickness 4-39156
 metals and alloys, structural changes, thermoelectric effects 4-39878
 Metglas alloys, explosive compaction effects on ferromag. props., relative density and crystallisation 4-35591
 modern theory of crystallisation and the Hansen-Verlet rule 4-6474
 natural rubber vulcanizates, gamma ray induced deterioration, IR spectra, tensile tests 4-34542
 noble metal-nontransition element alloys, amorphous, evidence for Hume-Rothery phase, struct. and Hall coeff. 4-10989
 nylon 6, annealing at elevated press., reequilibration effects 4-15399
 nylon-6, annealing-crystallisation-melting cycles, cumulative memory effect 4-44921
 oxirane cryst., clathrate hydrate and deuterate formation from low temp. annealing, IR spectra 4-35428
 particle size distrib. of crystals allowing for growth dispersion 4-29365
 periodic crystallisation from gel, effect of additives 4-2110
 Permalloys, ordering kinetics during annealing, elec. resist. and permeability studies 4-15380
 PET, blends, crystallisation studies by Fourier transform IR photoacoustic spectroscopy 4-35439
 n-phenylenediamine copolymer in H_2SO_4 soln., crystallisation, viscometric obs., $40\text{-}55^\circ\text{C}$ (Russian) 4-44917
 phosphate foam glass ceramic, textural and mech. props., bone implant appl. 4-51589

crystallisation continued

- photographic process based on crystallisation induced by photochem. reaction 4-41230
 picric acid-naphthalene (anthracene) mixtures, organic eutectics and mol. complexes obs. 4-50474
 plant tissues, intracellular water crystn. 4-31186
 polyamides, epitaxial cryst. onto benzoic acid 4-39720
 polybutadiene, c black filled, crystn., phys. and chem. forces (Russian) 4-6293
 1,4-cis-polybutadiene, filled, crystallisation and melting (Russian) 4-15623
 polybutene-1, isotactic, crystallisation, soln. history effect 4-50473
 polycaprolactam, heterogeneous nonisothermal crystallisation (Russian) 4-15624
 polycaprolactam, crystallinity and homogeneity, thermal conditions influence 4-29340
 polydimethyl siloxanes, oligomeric, mixtures with long-chain unbranched alkanes, miscibility, cloud pt. curves 4-11300
 polyesters, epitaxial cryst. onto benzoic acid 4-39720
 polyethylene, epitaxial cryst. onto benzoic acid 4-39720
 polyethylene, fractions, crystallisation, scaling laws 4-50216
 polyethylene, linear and branched blends, morphology 4-34422
 polyethylene, melt crystn. in temp. gradient, cryst. orientation 4-24741
 polyethylene, mixed single crystals., comp. heterogeneity, HNO_3 etching obs. 4-34423
 polyethylene, molten, capillary rheometry, end correction factor, flow induced crystallisation effect 4-5855
 polyethylene, quenched, crystallisation temp. estimation 4-45031
 polyethylene crystallisation, twisting orientation and transient states 4-39173
 polyethylene fibres, radiation-crosslinked, lamellar crystn. of pendant chains 4-34421
 polyethylene terephthalate fractions, crystallisation, scaling laws 4-50216
 polyethylene-ethylene-propylene copolymer blends, phys. characterisation 4-15397
 polyethylene-ethylene-propylene-diene terpolymer blend, phys. characterisation 4-15398
 polyethyleneglycoladipinate, crystallisation rate rel. to translational mobility (Russian) 4-29332
 polyisoprene, c black filled, crystn., phys. and chem. forces (Russian) 4-6293
 cis-polyisoprene, crystallisation kinetics 4-50229
 polymer, lamellar crystal, roughness of growth faces, morphological evidence and implications 4-11013
 polymer crystallisation, structure and morphology 4-11000
 polymer crystals, model for nucleation controlled growth 4-45025
 polymer solns., flow-induced fibrillar form. in Poiseuille flow 4-35409
 polymer-crystallisable plasticizer system, crystallisation, phase by separation kinetics (Russian) 4-15403
 polymerisation-crystallisation phenomena combined, existence of polymerisation waves 4-3407
 polymers, crystalline, struct. and props., review 4-55759
 polymers, crystallisation under shear, kinetics, meas. methods 4-6303
 polyphenylene-1,3,4-oxadiazole and polyphenylene benzimidazole terephthalamide, struct. and phase transforms. (Russian) 4-6294
 polypropylene, crystallised from melt, morphologies, optical polarized microscopy study (French) 4-2099
 polypropylene, isotactic, crystallisation from melt, struct., IR obs. (Russian) 4-55754
 polypropylene, melt crystallisation, struct. form. 4-45032
 polypropylene film, isotactic, blended with rubbers, kinetic, morphological and thermodynamic props. 4-11016
 polypropylene-polyethylene, mixture, nonisothermal crystallisation 4-29339
 polystyrene, molten, capillary rheometry, end correction factor, flow induced crystallisation effect 4-5855
 polyvinylidene fluoride, crystn. from soln., substrate effects 4-6298
 potassium acid phthalate, cryst. growth from aq. soln., impurity incorporation and distrib. 4-2112
 PVC-solvent gels, morphology and props. 4-16697
 quartz, growth twinning zones and external morphology 4-20134
 quartz, thermoluminescence, predose sensitisation used to evaluate crystallisation temp. 4-30535
 rare earth alloy thin films, crystallisation under electron beam annealing 4-34826
 rare earth alloys, rapidly quenched, mag. hysteresis 4-51099
 rare earth metallic glasses, R-Al, thermal stability, mag. and elec. props. 4-45727
 refractory semitransparent crystal, melt grown, crystallisation front, temp. distrib., radiative heat transfer effect 4-30621
 rubber, capillary rheometry, end correction factor, flow induced crystallisation effect 4-5854
 sapphire crystals grown by Stepanov method, transverse dims. sensitivity to temp. and growth rate variations 4-25868
 semiconductor, solid solution growth from liquid phase 4-57082
 semiconductors, growth from solid phase, model 4-55852
 semiconductors, ion-implanted, crystallisation induced by pulsed laser irradi. 4-6400
 steel, stainless, type 304, ion implantation, microstruct., friction and wear 4-7598
 Stepanov growth method, melt temp. fluctuations transmission to crystn. front 4-25862
 Stepanov method, crystallisation stability rel. to melt pressure 4-30619
 struct. and crystallisation, Mossbauer study 4-55729
 supercooled melt, crystal front propagation, boundary layer props. 4-34751
 thermoconcentration convection effect on cryst. front shape 4-34434
 three-dimensional classical one-component plasma, crystallisation 4-55976
 transition metal alloys, $\text{M}_x\text{Sn}_{1-x}$ ($\text{M}=\text{V, Cr, Mn, Fe, Co, Ni, Cu}$), amorphous, forming ability, stability and elec. transport 4-44962
 transition metal amorphous alloys, $\text{Zr}_x\text{Ti}_{1-x}$, electronic and thermal props. 4-56195
 transition metal dilute metallic glass alloy, impurity atom binding energy (Russian) 4-34411
 transition metal-metalloid amorphous alloys, crystn., Mossbauer study 4-45005
 tubular profile growth by Stepanov method, crystallisation process stability 4-30620
 water, dispersed within emulsions, freezing, thermally stimulated depolarisation study 4-55970

crystallisation continued

- water emulsions, pure and inseeded by AgI particles, ice nucleation, kinetics studied by DSC 4-29367
- water-salt systems, struct. features, cryocrystallisation 4-34619
- AgGa₂ films, polycrystalline and amorphous, growth by flash evaporation, elec. props. 4-45562
- Al-(Mg)-(Cu)-(Zn)-Ti, dendrite liquation of Ti 4-57209
- Al-Al₃Cu strips of regular eutectic comps., growth and microstruct. 4-25950
- Al-Al₃Ni strips of regular eutectic comps., growth and microstruct. 4-25950
- Al-Mg-Li-Zr, struct. and props., effect of cooling rate during crystn. 4-57299
- Al-Si, crystn. under pressure, struct. and mech. props. 4-3191
- Al₂O₃ anodic film in borate soln., composition determ. by Rutherford backscatt. 4-56173
- Al₂O₃-SiO₂ fibres, refractive index, composition and crystallisation relationship during heating (Czech) 4-50208
- As-Ge-Se glass-ceramic, IR transmission props. 4-28794
- As-Se amorphous system, medium range order and crystallisation 4-44972
- As₂S₃-As₂Te₃ system, glass-cryst. transitions, DTA and X-ray microprobe anal. study 4-50206
- As₂Te₃ glasses, crystn. and local order, DSC, X-ray diff., and Mossbauer studies 4-2084
- (Au_{100-x}Cu_x)₇₇Si₂₃Ge₁₄, amorphous alloys, cryst. nucleation 4-6274
- B₂O₃-Fe₂O₃-Mn₂O₄ glass, rapidly quenched, crystn. behaviour with regard to thermal and mag. props. (German) 4-2093
- B₂O₃-Li₂O-TiO₂-BaO-CuO(Gd₂O₃) vitroceraamics, struct. and partial crystallisation, EPR study 4-46098
- BaO-B₂O₃-NdAl₃(BO₃)₄ pseudo-ternary system, crystallisation and viscosity 4-39446
- Bi amorphous films, crystn. activation energy, film thickness depend. (Russian) 4-24723
- Bi₁₂SiO₂₀, monocrystalline plates grown from melt by Stepanov method 4-25871
- CaCO₃ aqueous soln., magnetised, early crystn., flow ultramicroscopy study 4-34428
- Ca₂H(PO₄)₂, crystallisation in supersaturated solns. 4-2115
- Ca(VO₄)₂, monocrystalline plates grown from melt by Stepanov method 4-25871
- CdO-ZnO-P₂O₅ glasses, memory switching 4-45840
- CdTeO₅, cryst. growth, DTA, X-ray diff., chem. anal., dielec. and optical props. 4-50225
- Co₂O, undoped and ZrO₂ doped, hydrothermal crystn. and cryst. growth 4-40617
- Co-Gd amorphous ribbons and films, crystn. kinetics 4-45003
- Co-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (Russian) 4-40083
- Co-Ta-Zr amorphous sputtered film, zero-magnetostriction, mag. props. 4-30247
- Co₇₅Si₁₀B₁₅ metallic glass, structural relax., crystn., precip., internal friction, shear modulus meas. 4-39382
- Cu-Cd (2 wt.%) thin layers, internal friction and shear modulus studies 4-40872
- Cu-Ti amorphous alloys, crystallisation behaviour 4-44960
- Cu-Zr amorphous alloys, crystallisation behaviour 4-44960
- Cu-Zr based glasses, thermal props., stability, struct. factor, density 4-6290
- Cu₅₀Zr₅₀ metallic glasses, phase separation kinetics, elec. resist. study 4-45013
- Cu₆₀Zr₄₀, amorphous-crystalline transition, DC elec. resist. study 4-44963
- Cu₈₈Zr₁₂, amorphous alloy, prep. by magnetron sputter deposition, crystn. 4-55744
- Fe₂O-SiO₂, nonisothermal crystal growth model 4-45038
- Fe-B-Si-Cr-C amorphous ribbons, high freq. mag. props., Cr and C addition effects 4-56688
- Fe-C-Si-Ce system, cast Fe, eutectic crystallisation 4-12062
- Fe-Fe₂B, eutectic system, primary phase crystal growth and shape 4-3125
- Fe-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (Russian) 4-40083
- Fe-Nb-Si-B amorphous alloys, magnetostriction and mag. core loss 4-16078
- Fe-Ni base metallic glasses, coercive force composition depend. 4-25595
- Fe-Ni-B amorphous alloys, crystn. 4-2081
- Fe-Ni-Cr-W, amorphous and crystallised, corrosion resist. behaviour 4-46649
- Fe-Si (33 at.%), amorphous films, crystn. behaviour 4-29320
- Fe-Si-B metallic glasses, struct. after rapid heat treatment 4-20107
- Fe-Sn-B-Si amorphous alloys, crystn. and mag. props. 4-46064
- Fe-V-B-Si amorphous alloys, N-bearing, crystn. processes, mag., thermal, and transport props. 4-45006
- Fe-Zr amorphous ferromag. alloy, anomaly in Young's modulus 4-45246
- Fe₃₀B₇₀, metallic glass, neutron irradi. effect on property changes 4-24875
- Fe₈₀B₂₀, amorphous to cryst. transform. under press., thermoelec. power meas. 4-6766
- Fe₈₀B₂₀ metallic glass, crystallisation obs. by DSC and Mossbauer spectroscopy 4-46157
- Fe₈₃B₁₇, amorphous, neutron irradi., amorphous to crystalline transform. 4-55880
- Fe₈₃B₁₇ glassy alloy, primary crystallisation, X-ray diff. anal. 4-6289
- Fe₈₀B₂₀-Al_x (Ga_x) metallic glass ribbons, elec. and mag. props. 4-30202
- Fe₈₇Bi₁₂Au₁ metallic glass ribbons, Mossbauer spectra and crystallisation products 4-56825
- Fe_{92-x}B₈M_x, M=Si, Ni, V or Mo, amorphous alloys, flow and relax. kinetics 4-39394
- FeBSiC annealed amorphous ribbons, mag. and struct. props. 4-30203
- Fe₈₃Bi₁₄Si₃C_{1.5} metallic glass, structural evolution rel. to magnetoelastic effect and magnetomechanical damping (French) 4-40213
- Fe_{100-x}C_x, amorphous, sputter deposited, crystn., carbide form., struct. 4-11423
- FeC₂P₁₃, amorphous, segregation and crystallisation (Russian) 4-50518
- FeCoNiCrBSi metallic glasses, internal friction, dynamic elastic modulus, microhardness meas. 4-40854
- (Fe₉₀Co₁₀Si₃₅Ni₃₅)₇₅Si₁₈B₁₄, metallic glass, crystn., precip. sequence (Chinese) 4-51662
- Fe₅₀Co₅₀Si₁₅R₁₀, amorphous, density, effect of isochronal annealing 4-55899

crystallisation continued

- FeCr₁₀C₂P₁₃, amorphous, segregation and crystallisation (Russian) 4-50518
- FeCr₂S₆, preparation, by chem. transport method, phys. props., 120-300K 4-57065
- Fe₇₈Mo₂B₂₀, metallic glass, neutron irradi. effect on property changes 4-24875
- Fe₄₀Ni₄₀B₂₀, amorphous, crystallisation study 4-39472
- Fe₂Ni_{78-x}Bi₁₀Si₁₂ metallic glass, electron phenomena, positron annihilation studies 4-7268
- Fe₄₀Ni₄₀B₂₀, amorphous, struct. relax. and crystn. 4-3168
- Fe₃₂Ni₃₆Cr₁₄P₁₂B₆, metallic glass, influence of superimposed tensile stress 4-15392
- Fe₄₀Ni₃₈Mo₄B₁₈ glassy alloy, crystn. EXAFS and XANES study 4-29327
- Fe₄₀Ni₄₀P₁₄B₆, amorphous, ion irradi., crystn., conversion electron Mossbauer spectra 4-34550
- Fe₄₀Ni₄₀P₁₄B₆, amorphous, density, effect of isochronal annealing 4-55899
- Fe₄₀Ni₄₀P₁₄B₆, metallic glass, influence of superimposed tensile stress 4-15392
- Fe₂O₃-TiO₂, goethite-rutile intergrowth struct., hydrothermal crystallisation 4-20370
- FePd₂Au alloy, sp. ht. of ordering, annealing studies 4-11315
- Fe₂Si₂B₁₀, amorphous powders produced by gas-water atomisation, struct. and props. 4-40704
- (Fe_{0.5}Si_{0.4})₈₂Si₁₈B₁₀, amorphous, structural relax., crystn., internal friction, shear modulus meas. 4-39381
- GaAs, electroliquid epitaxy, mass transport and growth rate 4-6307
- Ga₂O₃-P₂O₅, region of glass formation 4-20118
- GaSb flash evaporated amorphous film, Raman studies 4-46353
- GdScO₃:Nd³⁺, synthesis and optical props. 4-20966
- Ge, amorphous, in-situ crystn. under laser irradiation in TEM 4-39336
- Ge, amorphous, low power laser annealing effects, crystallisation 4-15528
- Ge, dislocation outcropping by crystallisation growth front 4-55768
- a-Ge film, laser annealing, in situ TEM studies 4-24860
- a-Ge, low-power laser annealing, defect migration and temp. gradient effects 4-24861
- Ge melt, crystn. in an external elec. field 4-29362
- a-Ge sputtered films, ordering prior to crystn., Raman scatt. and EXAFS study 4-6273
- a-Ge thin films, electron beam induced explosive crystallisation and dendritic growth 4-39711
- Ge-Se-Te films, amorphous, elec. props., electrode effects 4-2613
- Ge-Sn metastable semicond. alloy, synthesis by pulsed UV laser crystallisation, charact. study 4-11411
- Ge(S₂Se_{1-x})₂ glasses, Raman spectra and athermal laser annealing 4-7197
- GeSe, amorphous thin films, crystn. in TEM 4-34406
- GeSe₂-GeTe-Sb₂Te₃ chalcogenide glasses, isothermal and continuous heating crystallisation 4-20111
- Ge_{1-x}Sn_xSe₂ glasses, Mossbauer study of bonding chemistry 4-29330
- Ge₂₀Te₈₀ glass, double stage crystallisation, DSC, X-ray diff., TEM 4-34643
- GeTe(Se) amorphous films, local struct., XPS and UPS studies 4-44973
- He⁺, solid antiferromag., crystn. wave damping, spin wave emission, surface magnetisation 4-2403
- ⁴He, crystal, appl. of universal features of roughening and facet formation 4-11380
- ⁴He, HCP crystals, third roughening transition, exptl. obs. 4-2400
- ⁴He, solid-liq. interface, Onsager coeff. and roughening transitions 4-11358
- ⁴He solid-superfluid interface, growth resistance, roton scatt. 4-45448
- In_{1-x}Ga_xSb amorphous films, laser induced explosive crystn. for optical information storage 4-14763
- InSb, influence of elec. current 4-51481
- InSb, thin films, elec. props. and crystallisation behaviour 4-56461
- IrSn₄, high press. form., crystallisation and supercond. transition temp. 4-50472
- KMg₂(Si₂AlO₁₀)F₃, fluorophlogopite crystals, growth twinning zones and external morphology 4-20134
- K₂O-SiO₂, glass form., crit. cooling rates 4-2087
- K₂O-SiO₂ glass, unidirectional crystallisation 4-44969
- K₂TeO₆·3H₂O, cryst. struct. determ. (Chinese) 4-2146
- Li/polyethylene salt and Li/TTN rechargeable organic batteries using electrocrystn. 4-41333
- Li₂B₂O₄, amorphous, ionic cond. during pre-crystallisation process (Chinese) 4-50566
- LiO₂-TiO₂-Al₂SiO₂ system, crystn. of glass fibres 4-55750
- Li₂O-Al₂O₃-SiO₂ glass containing Zr and Ti, phase separation and crystallisation (Russian) 4-6292
- Li₂O-Al₂O₃-SiO₂-(TiO₂) glass, ESR study of change of structural state of Cu II during crystallisation 4-20856
- Li₂O-MoO₃-WO₃, roller quenched glasses, transitions, elec. cond. (Japanese) 4-40759
- Mg sialon glasses, factors influencing crystn. 4-39148
- MgO-Al₂O₃-SiO₂-MnO cordierite-type glasses, crystallisation, MnO effects 4-55738
- Mg(OH)₂, periodic crystn. from gel, effect of additives 4-2111
- Mg₇₀Zn₃₀, amorphous, struct. studies 4-44981
- γ-Mo, alloying element segregation during directional crystallisation (Russian) 4-50517
- MoO₃-K₂O-Li₂O-Al₂O₃-SiO₂, glass-ceramic, nucleation kinetics 4-29329
- (Mo₉₅Ru₅)_{100-x}B_x glasses, struct. studies and relax. behaviour, X-ray diff. study 4-45007
- Na₂O-CaO-MgO-Al₂O₃-SiO₂-(TiO₂) glass, ESR study of change of structural state of Cu II during crystallisation 4-20856
- Na₂O-SiO₂, gel-glass conversion 4-57182
- Na₂O-SiO₂, glass form., crit. cooling rates 4-2087
- Na₂O-SiO₂ gel and glass, crystallisation behaviour, X-ray diff. study 4-55742
- Na₂O-SiO₂ system, crystn. of glasses (French) 4-55751
- Na₂O-ZrO₂-SiO₂ vitreous electrolyte, NASIGLAS, phys. props. 4-45404
- 2Na₂O·CaO·3SiO₂, appl. of Kolmogorov's formula 4-20119
- Nb-Ti(W), alloying features, directional crystallisation 4-12085
- γ/γ'-NbC, alloying element segregation during directional crystallisation (Russian) 4-50517
- β-Nb₂N heteroepitaxial films, CVD, crystallisation and struct. 4-3082
- Nb₂Sn, crystallisation by arc casting 4-40637
- Nb₂Sn, crystallisation from soln. in Nb tube 4-46430
- Ni thin layers, internal friction and shear modulus studies 4-40872

crystallisation continued

- Ni-Cr-Fe-Si-B-C metallic glass, internal friction, shear modulus meas. 4-40853
 Ni-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Ni-Nb amorphous film on semicond. substrates, thermal stability 4-45554
 Ni-Ni₃B, eutectic system, primary phase crystal growth and shape 4-3125
 Ni-P, amorphous hexagonal metastable phase, twins (*Chinese*) 4-2321
 Ni-P films, crystn., electron diffr. study 4-24735
 Ni-Si-B alloys, glass form. and crystn. 4-10991
 Ni-Zr crystallised glasses, local order, EXAFS studies 4-50240
 Ni₆₀B₃₄ amorphous alloys, struct., crystallisation and elec. cond. 4-10999
 Ni₆₀Nb₄₀, amorphous, prep. by mech. alloying, X-ray and DSC studies 4-20103
 Ni₃Ti₆₅ glass, structural relax., crystn., DSC meas. 4-34414
 NiZr₂, glassy, struct. and crystallisation 4-55730
 PbCo₂(PO₄)₂, Pb₂Co(PO₄)₂, synthesis, Bridgman-Stockbarger crystn. and characterisation 4-40635
 PbO-GeO₂ glass, crystn., oriented grain growth of pyroelec. glass-ceramics 4-30676
 PbTiO₃, amorphous rapid and slow crystallisation, Raman spectroscopic study 4-24724
 Pb(Ti_{0.35}Zr_{0.53}Nb_{0.08}Zn_{0.018}Mg_{0.023})O₃, ferroelectric films, cathode sputtering 4-57100
 Pd-Si, amorphous alloy, ageing 473K, crystallisation, atmosphere effect, Mossbauer effect, AES (*Japanese*) 4-6270
 Pd₇₇Cu₈Si_{16.5}, amorphous and crystallised, internal friction peaks, H-related 4-21257
 Pd_{83.5}-M_{16.5} metallic glass, M=Hf, Ta, W, Re, Os, Ir, Pt, Ru or Rh (*Chinese*) 4-55737
 Pd₄₀Ni₆₀P₂₀, metallic glass, crystal nucleation and growth kinetics 4-50204
 RbAg₄I₅ solid electrolyte, directional crystallisation from melt and elec. cond. 4-57093
 RhGe₄, high press. form., crystallisation and supercond. transition temp. 4-50472
 Sb, amorphous films, vacuum-deposited, crystn., electron irradiation effects 4-56176
 Sb amorphous vacuum-deposited films, prep. and crystallisation 4-45552
 Sb-Zn, phase diagram, crystn. of intermediate compounds 4-57196
 a-Se films, crystallisation, compressive stress form., vacancy mechanism 4-34828
 Se vapour deposited amorphous thick films, room temp. ageing, X-ray diffr. 4-29836
 Se-Sn-As chalcogenide glass and cryst. cpds., ¹¹⁹Sn Mossbauer studies 4-56836
 Se-Te amorphous semiconductors, phys. props. and crystallisation 4-2082
 SeO₂-TeO₂ system, phase diagram and phase form. 4-11254
 Se₆₀S₂₀Te₂₀ chalcogenide glass, crystallisation kinetics 4-44974
 Se₈₀Te₂₀ amorphous mixture, semicond.-metal transition and crystallisation 4-45631
 Si, amorphous, photocrystallisation by laser beam or incoherent radiation, SEM/TEM study 4-6304
 Si, amorphous and microcrystalline, vacuum deposition form. 4-46442
 Si amorphous ion implanted layers, seeded crystallisation using laser and electron irradiation 4-55724
 Si, CVD structures formed by amorphous and crystalline growth 4-51511
 a-Si, density of gap states, charged dangling bonds, crystn. studies 4-39833
 Si film, laser crystallisation on amorphous insulating substrates 4-20243
 Si films, laser and electron beam enhanced crystallisation 4-15524
 Si films, patterned, graphoeptaxy and zone melting recrystallisation 4-21159
 a-Si films, self-sustaining crystallisation study 4-39723
 a-Si, on Si₃N₄, material migration, grain growth and crystallisation, in situ laser heating in STEM 4-10931
 Si, polycrystalline film, electron beam melting and recrystallisation on insulator substrates 4-20253
 Si, polycrystalline film, large area recrystallisation with W-halogen lamp 4-25175
 Si shaped crystal growth by Stepanov method with different variants of heating 4-25864
 a-Si:B(P) CVD film, crystallisation growth rate, doping depend. 4-44948
 a-Si:H, glow discharge deposited film, crystallisation 4-39721
 a-Si:H,B(P) film, doping efficiency, crystallisation effects 4-44949
 a-Si:H films, hydrogenated and pure, intermediate range order 4-39135
 a-Si:H heterogeneous LPCVD films, X-ray diffr. and Raman scatt. studies 4-39137
 a-Si:H RF sputtered coatings, microcryst. struct. 4-45550
 a-Si:H-metal contacts, Schottky barrier form. and struct. props. 4-6866
 Si-C alloy film, tetrahedrally bonded amorphous semicond., crystallisation process study 4-39142
 Si-Ge films, tetrahedrally bonded amorphous semicond., crystallisation process study 4-39142
 Si-N alloy film, tetrahedrally bonded amorphous semicond., crystallisation process study 4-39142
 Si-on-insulator, buried oxide, laser recrystallised and graphite strip heater recrystallised systems 4-25887
 Si-on-insulator, CW laser crystn., thermal modelling 4-15529
 Si-on-insulator layers, crystn. by laser annealing (*German*) 4-15530
 Si₃N₄-Y₂O₃, amorphous powder, calcination, microstruct. and sinterability (*Japanese*) 4-51601
 SiO₂-Al₂O₃-CaO-K₂O-Cu₂O glass, phase transforms, Cu₂O effect 4-10993
 SiO₂-Al₂O₃-MgO-CaO-Na₂O/K₂O-F₂-P₂O₅ system based machinable bioactive glass-ceramics (*German*) 4-7475
 SiO₂-B₂O₃-P₂O₅ systems, monolithic aerogel prep., glass conversion 4-57177
 single crystals, zone melting, growth orientation 4-3063
 SnSe₂, thin films, phase transformations, electron microscopy study 4-50658
 SrF₂, cryst. growth from aq. soln. 4-57087
 SrF₂-MgF₂-YF₃-AlF₃ glass for IR transmission, crystn. kinetics 4-2085
 β-Ta amorphous film, crystallisation and supercond. transition temperature 4-45548
 Ta-Ag amorphous films, crystallisation and supercond. transition temperature 4-45548

crystallisation continued

- Ta-Zr supersaturated solid soln. films, supercond., pulsed electron beam form. 4-20754
 γ-Ta₂N heteroepitaxial films, CVD, crystallisation and struct. 4-3082
 Te-HgTe-CdTe system, epitaxial crystallisation, liquidus isotherms 4-51557
 Ti-Cu, amorphous, thermal stability, effect of short-range ordering 4-2090
 Ti₈₀Si₂₀, amorphous alloy, quenched, annealed, crystallisation at high press. 4-15379
 TiS, thin films, crystallisation kinetics, electron diffraction studies 4-34833
 VO₂ single crystals, electrosynthesis from V₂O₅-P₂O₅ melts 4-35565
 ZnTe₂O₅, cryst. growth, DTA, X-ray diffr., chem. anal., dielec. and optical props. 4-50225
 Zr-Ni glasses, crystallisation, effect of chemical short range ordering 4-45011
 Zr-Ni glasses, electronic props., sp. ht. and supercond. phases 4-45916
 Zr-transition metal metallic glasses, Zr_{1-x}M_x, M=Fe-Cu, short range order thermal stability 4-45019
 ZrF₄-BaF₂-LaF₃ glass, crystn. kinetics, DSC study 4-24729
 Zr₇₆Ni₂₄ amorphous and part-crystalline alloys, formation and stability 4-45015
 Zr₂PdH_x, cryst. and amorphous, thermal stability 4-45021

crystallite texture see texture

crystallites

see also crystal microstructure

- carbon tetrachloride, liq. and plastic crystalline, electron, X-ray and neutron diffr. 4-45034
 glass-ceramics, surface damage and fracture, effect of crystallites 4-16482
 ice crystallite melting, mol. dynamics computer simulation 4-29579
 metal, ductile fracture, cavity nucleation at interface, dislocation mechanism 4-20286
 mode for growth shape on surfaces 4-34430
 nylon 11, elec. field induced morphological changes 4-50212
 PET fibres, crystallite orientation, X-ray diffr. obs. 4-24739
 PET fibres, melt spun, isothermal heat treatment, microstructure rearrangement, birefringence, X-ray scatt. 4-12091
 polyamide-6, thermal treatment effects on mech. props. (*Polish*) 4-57269
 polycrystalline aggregates, anisotropic, subjected to external stress field, strain distrib. 4-45248
 polyethylene, crystallite size distrib., studied using Raman active longitudinal acoustic mode 4-11883
 polytrioxane, thermal treatment effects on mech. props. (*Polish*) 4-57269
 polyurethane films, cryst. forms. investig. 4-50214
 PTFE, deformed, crystallite orientation distrib. function, multiple-pulse ¹⁹F NMR spectroscopy 4-39171
 semiconductor crystallites, ionis. pot., electron affinity, aq. redox pot. calcs. 4-20717
 Al₂O₃ powder, sintering, initial cryst. growth, X-ray line broadening obs. 4-57160
 C fibre, PAN based, tensile failure rel. to structure 4-7551
 C, glass-like, a C_xH intercalation cpd., struct. and annealing behaviour 4-39176
 CaZrTi₂O₇, zirconolite, polytypic behaviour 4-50271
 Cd films, epitaxial growth by hot wall technique, surface topography, reflectivity 4-20512
 Cu thin film, chemically deposited, struct. studies 4-29844
 Fe₂O₃, fine powder, precipitation, DTA, mag. props. 4-25937
 MoS₂ films, RF sputtered lubricant, environmental stability and wear rel. to crystallite orientation 4-51828
 Nd-Fe-B high performance permanent magnets, mag. props., struct. 4-56702
 Pr-Fe-B high performance permanent magnets, mag. props., struct. 4-56702
 Si crystallite morphology in Al-Si eutectic alloys, dendrites 4-51471
 SnO₂ thin films, CVD on rutile substrates, struct. (*Japanese*) 4-11422
 ZnO thin films, struct. and optical props. 4-57010

crystallographic shear

- kinematic hardening models at finite deformation (*French*) 4-1615
 oxides, nonstoichiometric, long-range ordering of extended defects, computer simulation 4-24833
 piezoelectric medium weakened by tunnel notch, longit. shear problem 4-51196
 steel, martensitic, shear, cryst. geometry, X-ray diffr. (*Russian*) 4-24832
 Al₂O₃, twinning shear 4-6379
 MoO₃, structural rearrangements occurring during reduction, EPR obs. 4-56768
 Nb₂O_{5-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 (Ti,Cr)O_{2-x}, solid solubility, temp. depend., electron microscopy obs., linear cationic interstitial small defect models 4-56024
 TiO₂:Cr₂O₃, dielec. props. due to crystallographic shear planes 4-40326
 TiO_{2-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 TiO_{2-x}, rutile, thermomechanically treated, point, linear and extended defect structures, electron microscopy obs. 4-24835
 WO₃, intergrowth of [102] and [103] crystallographic shear planes 4-50310
 WO_{3-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834

crystallography

- see also crystal atomic structure; electron diffraction crystallography; gamma-ray diffraction; isomorphism; lattice constants; neutron diffraction crystallography; space groups; X-ray crystallography
 corundum structure, inner-strain tensor 4-2103
 deformation density peaks, charge content determination 4-10921
 Fourier transforms, one-dimensional sign problem soln. 4-55680
 Karle-Hauptman determinants and entropy 4-39041
 Kendrew model at. coords. from two projections 4-15343
 MITHRIL, integrated direct-methods computer program 4-44884
 molecular biophysics, crystallography 4-16838
 multiple-wavelength anomalous dispersion data, relative scaling 4-39039
 noncentrosymmetric structures, derivation of peaks in γ synthesis 4-55761
 orientation matrices in crystallographic textures analysis 4-45042
 PLORTEP, computer program using PLUTO and ORTEP features 4-14602

crystallography continued

- statistical geometry, accelerated convergence using contrast amplification 4-10920
 statistical geometry, numerical soln. via single pixel eqn. 4-10919
 triplet phase invariants, evaluation using anomalous dispersion data 4-39040
 variant unitary cryst. struct. types. ordinal registry nos and stereograms 4-39191
 CdI₂ polymorphs, thr notation 4-50219

crystals

- see also *bicrystals*; *crystal structure*; *crystallography*; *dendrites*; *epitaxial layers*; *liquid crystals*; *plastic crystals*; *whiskers (crystal)*
 'Monokrystals' (Czechoslovak) range, for scientific and engineering appl. (Czech) 4-57081
 scientific and engineering appl., 'Monokrystals' (Czechoslovak) range (Czech) 4-57081

Curie point see *Curie temperature*; *ferroelectric Curie temperature*

Curie point writing see *thermomagnetic recording*

Curie temperature

- see also *ferroelectric Curie temperature*
 alloys, amorphous, magnetic props., flash annealing effects 4-56690
 alloys, second-order phase transition, press. effects (Russian) 4-6975
 dilute Ising ferromagnet, mag. props. calcs. 4-51081
 dipolar isotropic ferromagnet, recursion relations near dipolar critical point 4-25560
 ferromagnet, inhomogeneous surface mag. states near Curie point (Russian) 4-35191
 ferromagnet, surface mag. long- and short-range order, Ising model calc. 4-2780
 ferromagnets, HF eqn. with screening potential, effective mass discontinuity at Curie temp. 4-6974
 Ising antiferromagnet, triangular, with first and second neighbour interactions, transition temp. 4-56655
 Ising ferromagnet, Curie temp. theory 4-46025
 Ising ferromagnet, quadratic, two-dimensional, with mixed spins (S=1/2,1) Curie temp. calc. 4-51075
 Ising ferromagnet, two-dimensional bond-disordered, numerical study 4-46057
 Ising model, random-field, low-temp. behaviour 4-2776
 itinerant ferromagnets, superconductivity mean-field approx. anal. 4-50977
 magnetic semiconductors, electron photoferromagnetism, Curie point shift 4-20820
 metallic glasses, fundamental mag. props. 4-56696
 metallic glasses, structural relax. irreversibility and mag. props. 4-55739
 mixed valence compounds, static mag. and acharge susceptibilities 4-2720
 rare earth alloys, R_{1-x}Gd_xAl₂ (R=La, Lu, Y), electronic and mag. props., bremsstrahlung isochromat spectra 4-21063
 rare earth alloys, R₂Fe₁₇, magnetostriction and thermal expansion 4-30256
 rare earth alloys, RAgGa, paramag. props., Curie and Neel temps. 4-56536
 rare earth alloys, rapidly quenched, mag. hysteresis 4-51099
 rare earth alloys, RInAg₂; Heusler alloys, elec. and mag. props. 4-45732
 rare earth alloys, RPd₂Si, R=Dy-Er, ferromagnetic, Curie temps., indirect exchange interactions, cryst. field effects 4-30169
 rare earth amorphous alloy film, R-Fe, mag. props. and hydrogenation 4-56717
 rare earth borides, (R_{1-x}Rh_x)Rh₂B₂, phase diagrams and itinerant mag. props. 4-6472
 rare earth compounds, percolation model for giant intrinsic mag. hardness, Curie temp. 4-51058
 rare earth metallic glasses, R-Al, thermal stability, mag. and elec. props. 4-45727
 rare earth-transition metal alloys, R₆M₂₃, mag. struct. and props., review 4-20791
 rare earth-transition metal amorphous films for magneto-optical recording 4-30244
 s-d model, orbital degeneracy in the double exchange theory (Russian) 4-51040
 transition metals, local magnetisation above Curie temp. 4-20825
 transition metals, photoelectron spectra from inner core states 4-30600
 weak itinerant ferromagnets, spin fluctuations near T_c 4-2768
 Au-Fe, FCC, Mossbauer spectrum and hyperfine splitting 4-56828
 BaTiO₃ ceramics, positive temp. coeff. of resist. with Curie points between 60 and 360°C 4-25383
 (Bi, G, Tm, Ca)₃(Fe, Si)₂O₁₂, bubble garnets, mag. props. study 4-56743
 CdCr₂S₄, dynamic behaviour of the s-d model 4-25532
 CeAg, magnetic and struct. props. at high press., elec. resist. study 4-30162
 Ce_{1-x}Gd_xAl₃, x=0.05, 0.2, effect of ferromagnetism on Kondo state 4-56753
 CeNi₄Fe, ferromagnetic order, Curie temp., magnetisation 4-56542
 CeSb_{1-x}Te_x solid solns., mag. props. 4-6964
 Co₂B₇Fe, mag. struct. and Curie temp. (French) 4-51029
 Co₂Cr_{1-x}S_x, elec. and mag. props., anomalies 4-34976
 Co₇₀Fe₃₀Si₁₀B₁₅ composite, high freq. mag. props. 4-46068
 Cu-Ni-Fe superparamagnets, magnetocaloric effects (Russian) 4-51059
 CuCr₂S₄, film, elec. and galvanomagnetic props. 4-56454
 Cu_{0.5}Fe_{0.5}Cr₂S₄, film, elec. and galvanomagnetic props. 4-56454
 Cu₂Zn_{1-x}Cr₂Se₄, mag. props., double exchange effects 4-20812
 DyFe₃, mag. props. and domain struct. 4-51089
 Er, antiferromagnetic, elec. resist. anomalies at mag. transition points 4-11513
 ErFe₂H₃, magnetisation behaviour, Curie temp. and mag. moments 4-30217
 ErFe₂Si₂, mag. ordering, neutron diff. study 4-51030
 α-ErH₃ solid solns., mag. order, magnetisation study 4-7008
 ErMn₂Ge₂, mag. ordering, neutron diff. study 4-51030
 ErMn₂Si₂, mag. ordering, neutron diff. study 4-51030
 Eu₂IrH₆, ferromagnetism and ¹⁵³Eu Mossbauer effect 4-51165
 EuLiH₃, synthesis, cryst. growth and optical absorption 4-40638
 EuMo₂S₆(Se₂), low-temp. mag. props., Mossbauer study 4-56837
 EuYIG films, Ga substituted, laser annealed, thermal variation in mag. props. 4-25619
 (Fe,Co,Ni)-(Si,B) amorphous alloys, Curie temp. 4-40166
 Fe, isomer shift in Mossbauer spectra near Curie temp. (Chinese) 4-56823
 Fe, spin susceptibility near Curie temp., wavevector and temp. depend. 4-20784

Curie temperature continued

- Fe, three-spin correlation dynamics study by neutron polarisation 4-20793
 Fe-B, amorphous, electronic struct. and mag. props. 4-20545
 Fe-B metallic glasses, struct. relax. and Curie temp. 4-20112
 Fe-based amorphous alloys, magnetovolume effects, comparison with cryst. alloys 4-56756
 Fe-Cr-P-C amorphous alloys, quenched ribbons mag. props. rel. to Cr content, Mossbauer obs. 4-51098
 Fe-Nb-Si-B amorphous alloys, magnetostriction and mag. core loss 4-16078
 Fe-Ni Invar alloy, forced vol. magnetostriction near Curie temp. 4-51115
 Fe-Ni-P, struct. and phys. props., P influence 4-30168
 Fe-rare earth based Co-free permanent magnetic materials, mag. props., chem. comp. depend. 4-56701
 Fe-Si-B metallic glasses, struct. after rapid heat treatment 4-20107
 Fe-V-B-Si alloys, N-bearing, amorphous, effects of annealing on Curie temp. 4-46028
 (Fe_{1-x}Al_x)₂Gd (Dy), mag., elec. and thermal props., local disorder effects 4-51056
 Fe₃₀B₇₀, metallic glass, neutron irradiation effect on property changes 4-24875
 Fe₈₀B₂₀, Metglas 2605, activation energy spectra in relax., crossover and reversibility 4-44999
 FeBSiC annealed amorphous ribbons, mag. and struct. props. 4-30203
 Fe₈₀B_{14.5}Si_{5.5}C₂ amorphous ribbon, mag., thermal and mech. props. 4-56617
 Fe₃C-H, mag. struct. and Curie temp. (French) 4-51029
 FeCo₂B, mag. struct. and Curie temp. (French) 4-51029
 Fe₇₀Co₁₈B₁₂Si₁, METGLAS 2605CO, Mossbauer study 4-56832
 Fe₂Co₇Si₁₅B₁₀, amorphous, relax. processes occurring below Curie temp. (Russian) 4-26070
 (Fe_{1-x}Cr_x)₂B₁₆ amorphous, elec. cond. and mag. props. (Chinese) 4-2578
 FeCr₂S₄, film, elec. and galvanomagnetic props. 4-56454
 Fe₂Cu_{1-x}Cr₂Se₄, mag. moment studies (Korean) 4-16017
 (Fe_{1-x}Mn_x)₇₅P₁₅B₆Al₃, amorphous, reentrant spin glass behaviour 4-51057
 Fe₇₈Mo₂B₂₀, metallic glass, neutron irradiation effect on property changes 4-24875
 FeNi Invar alloys, model for mag. abnormalities 4-25542
 (Fe₂₀Ni₈₀)₈₃B₁₇ glass, relax. behaviour during annealing 4-45002
 Fe₂₀Ni₈₀B₂₀, amorphous, elec. cond. critical behaviour 4-11507
 Fe₂Ni₈₀B₁₉Si₁, amorphous, elec. cond. critical behaviour 4-11507
 Fe₃₂Ni₆₈Cr₁₄P₁₂B₆, metallic glass, internal friction and Curie temp. 4-25551
 Fe₃₂Ni₆₈Cr₁₄P₁₂B₆, metallic glass, internal friction and Curie temp. 4-25552
 Fe₃₂Ni₆₈Cr₁₄P₁₂B₆ amorphous, annealing kinetics for Curie temp. changes 4-25553
 Fe₄₀Ni₆₀P₁₄B₆, amorphous, field induced anisotropy and Curie temp. 4-25547
 Fe₇₀Ni₃₀Ti₁₀ metallic glass ribbons, magnetisation and FMR studies 4-56691
 Fe₂P_{1-x}Si_x, cryst. struct. and mag. props. 4-11109
 Fe₂Ti_{100-x} sputtered films, cryst. and amorphous, Mossbauer studies 4-56824
 Fe₉₀V₁₀ alloy, coupling between mag. and chem. interactions 4-30180
 Fe_{100-x} metallic glasses, mag. props. hydrogenation effects 4-56563
 Fe_{1-x}Zr_x metallic glasses, ferromagnets, magnetoresist. meas. 4-56318
 Fe₉₀Ti₁₀ metallic glass ribbons, magnetisation and FMR studies 4-56691
 Fe₉₉Ti₁H₂₀ glass, mag. props., effect of hydrogenation 4-2730
 Gd, anomaly of emissivity and absorptivity 4-2757
 Gd-Dy, dil., ¹⁶¹Dy nucl. spin relax. near Curie temp., Mossbauer effect obs. 4-40288
 Gd-Ge amorphous alloy, mag. and transport props., conc. depend. 4-30210
 Gd_{1-x}Dy_xAl₃ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Er_xAl₃ alloys, Curie temp. and exchange interactions 4-11705
 Gd₂Fe_{1-x}H_x amorphous film, mag. and elec. props. 4-46027
 Gd_{1-x}Ho_xAl₃ alloys, Curie temp. and exchange interactions 4-11705
 HgCr₂Se₄, nonlinear paramag. effect near Curie temp. 4-20787
 Hg_{1-x}Zn_xCr₂Se₄, ferromag. semicond., elec. props. and stoichiometry, heat treatment effects 4-6777
 Ho₂Co_{17-x}M_x (M=Ni,Fe,Mn,Cr,V,Ti,Cu,Al), cryst. struct. and mag. props. 4-40169
 Ho₂Co_{17-x}M_x, M=Al, Y-Fe, Ni, Cu, lattice consts., Curie temp., coercive force, comp. depend. 4-6979
 K₂CuF₆, spin dynamics and phase transition, neutron scatt. study 4-11700
 KMn_{1-x}Ni_xF₃, susceptibility, antiferromag., Neel temp., phase transitions 4-46005
 (La, Sm, Lu, Tm, Ca)₃(Fe, Ge)₂O₁₂ bubble garnet film, mag. props. study 4-56740
 (La, Sm, Lu, Tm)₃(Fe, Ga)₂O₁₂ bubble garnet film, mag. props. study 4-56740
 LaMnO_{3+x}, concentrational antiferromagnetic-ferromagnetic transition 4-51047
 LaNi₄Fe, ferromagnetic order, Curie temp., magnetisation 4-56542
 Mn-Zn ferrite, quenched from various temp., crystal defect struct., physical props. 4-55817
 Mn-Zn ferrites, phys. props. and structural imperfection 4-11678
 MnAlC permanent magnets, magnetic circuit temp. behaviour (German) 4-40197
 Mn_{1-x}Cr_xSb, press. effect on Curie temp. (Russian) 4-6975
 Mn_{1-x}M_xAlGe (M=3d metal), mag. props. 4-56577
 Mn_{1-x}Sb, mag., elec. and struct. props. after high press. high temp. treatment 4-11753
 MnSi, spiral mag. correl., neutron scatt. study 4-20796
 (Mn_{1-x}Ta_x)₂B₄ ferromag. solid soln., exchange striction 4-30260
 Mn_{0.5}Zn_{0.5}F₂, mag. field effect on transition temp. 4-20815
 Na(Cu_{1-x}Mn_x)₃Mn₂O₁₂, lattice constant, specific saturation magnetisation, Curie temp. 4-50254
 Nd-Fe-B permanent magnets, anisotropy, magnetisation and Curie temp. 4-56703
 Ni, correl. effects, mag. props. 4-30158
 Ni, critical behaviour of ¹⁹F hyperfine fields near Curie temp., TDPAD study 4-40289
 Ni ferrite containing N, prep. struct., saturation magnetisation 4-50227
 Ni sputtered atoms, photon emission near Curie point, target temp. effects 4-11396

Curie temperature continued

- Ni-Al(Si)(Ge), elec. cond. and mag. transition temp. 4-34945
 Ni₃Al; itinerant electron ferromagnet, Curie temperature 4-51051
 Ni_{1-x}Cu_xCr₂O₄, synthesis, mag. susceptibility, ferrimag, Curie temp. and magneton no. meas. 4-40149
 Ni_{0.784}Mn_{0.216}, re-entrant, ferromagnetic spin waves in spin glass state 4-35154
 Ni₂MnSn, pressure effect on magnetic transition 4-35216
 Ni_{3-x}Mn_xSn Heusler alloy, mag., magneto-optical and crystallographic props. 4-51037
 NiO-CoO type II antiferromag. solid soln., high temp. susceptibility 4-30157
 NiSiF₆·6H₂O, mag. phase transitions under press. 4-25558
 Ni₂Zn_{1-x}SiF₆·6H₂O, mag. props. meas. (Russian) 4-56613
 Pd-Fe, ferromagnetism 4-56578
 Pd-Fe films, Curie temp. 4-56724
 Pd-Fe films, DC sputtered, disorder and mag. props. 4-56725
 Pd_{1-x}Cu_xSi_{1.5}Fe_{1.5}, amorphous alloys, mag. double transitions 4-30165
 (PdNi)₂Mn, competing exchange interactions, AC susceptibility meas., T_c comp. depend. 4-46011
 Pr(CO_{1-x}M_x)₂ (M=Zn, Fe, Mn, Cr, V, Ti), magnetic props. and cryst. struct. 4-46066
 Pr₂(Co_{1-x}Cr_x)₁₇, lattice parameters and mag. props. 4-31160
 Pr₂(Co_{1-x}Fe_x)₁₇, lattice parameters and mag. props. 4-31160
 Pr₂(Co_{1-x}Mn_x)₁₇, lattice parameters and mag. props. 4-30160
 Pr₂(Co_{1-x}Mn_x)₁₇, mag. anisotropy, saturation magnetisation, Curie temp. 4-6968
 Pr₂Co_{17-x}T_x, T=Al, Cr-Fe, Cu, mag. and structural props. 4-51042
 PrNi₅, metallic nucl. magnet, evidence for moment fluctuation effects 4-2741
 PtMnSn, pressure effect on magnetic transition 4-35216
 (Sm, Dy, Lu, Ca)₂(Fe, Si)₂O₁₂, bubble garnets, mag. props. study 4-56743
 Sm-Fe-Fe Laves phase alloys, struct. and magnetostriction 4-3215
 Sm-Fe-Co-Ni-Al-Cu alloys, struct. and mag. props. 4-6322
 Sm₂Co₁₇B₄, magnetisation process and reversal 4-30218
 Sr₂La_{1.5}Li_{0.5}Co_{0.5}O₄, ESR and mag. studies 4-20782
 SrM₂Fe₁₆O₂₇ hexaferrites (M=Fe, Ni, Co, Zn), W and X types, mag. props. 4-56692
 TaS₂(IT), Anderson localised state, ferromagnetism obs. 4-5100
 Tb(Cu,Ni)₂ alloys, mag. struct., Ni conc. effects, neutron dfr. study 4-46003
 TbFe₂H₂, magnetisation behaviour, Curie temp. and mag. moments 4-30217
 Th₆Mn₂₃D₈, mag. and cryst. struct. neutron dfr. study 4-4014
 Th₆Mn₂₃H_{17.6}, mag. ordering, H₂ absorption effects 4-51096
 Ti_{1-x}V_xPO₄, prep., mag. props. 4-45993
 TmFe₂H₂, magnetisation behaviour, Curie temp. and mag. moments 4-30217
 U(Fe_{1-x}Co_x)₂, mag. props., press. effects 4-20817
 UNi₂, mag. props., press. effects 4-20817
 U₃P₄, critical mag. behaviour, susceptibility and spontaneous magnetisation 4-25561
 Y₂Ni₇, mag. props., H₂ sorption effects 4-46009
 Y(Cu_{1-x}Mn_x)₂Mn₂O₁₂, lattice constant, specific saturation magnetisation, Curie temp. 4-50254
 YNi₄Fe, ferromagnetic order, Curie temp., magnetisation 4-6542
 Yb₆Mn₂₃, intermetallic cpd., ferrimagnetic, neutron dfr. study 4-40142
 ZnFe₂Mn₂CrO₄, antiferromagnetic behaviour, susceptibility, Curie const. 4-2736

Curie-Weiss law see magnetic susceptibility; paramagnetic properties of substances; paramagnetism**curium**

- see also nuclei with
 metabolism and removal by DTPA in rats 4-58021
 Cm + Pb, coupling matrix elements calcs. 4-19138
²⁴⁸Cm, comparative retention of bone-seeking radionucl. in rat skeleton 4-3610

curium compounds

- fluorinated compounds, oxidation states in gas phase (ch) 4-14610
 CmPO₄, vibr. props. (German) 4-2277
 Cm₁₀(SiO₄)₂, solid-state reaction formation temp. and cryst. struct. 4-39248

current (electric) see electric current**current algebra**

- see also elementary particle theory; hadron current algebras; quantum field theory
 σ^0/σ^0 value predictions for charged-current neutrino reactions 4-48416
 Adler-Bardeen theorem validity in supersymmetric (1) gauge model, radiative corrections 4-9043
 baryons as solitons and mass formulae 4-53971
 colourless currents, quark and gluon, nonperturbative QCD effects in polarisation operator 4-18183
 complete integrability in classical field theory model 4-48353
 CP_{N-1} models with quarks, chiral symm. breaking and PCAC rein. 4-43161
 EM current, off-diagonal matrix elements, covariant parametrisation by multipole form factors 4-27740
 hyperon hadronic decay, partial rate difference from CP violation 4-13902
 lattice fermion action, axial vector current anomaly and meson decay constants 4-48315
 lattice QCD, strong-coupling expansions, chiral symmetry breaking, pion mass and decay const. 4-32598
 Lorentz structure of leptonic charged weak interactions 4-32500
 mirror fermions, universality and the beam dump experiment electron deficiency 4-18142
 muon decay, electron transverse polarisation relations from V-A structure 4-32695
 muon decay, right handed current search 4-4
 nucleon axial form factor and π N vertex in relativistic quark model, PCAC 4-32019
 O(N) super-chiral model, nonlocal invariant conserved currents, Kac-Moody struct. (Chinese) 4-398
 pseudo-Goldstone fermions in broken supersymmetry, current algebra formula for mass 4-22949
 pseudoscalar and vector mesons decay in relativistic quark model 4-454
 pure gauge fields on coset space of a chiral group, confinement props. (Chinese) 4-53962

current algebra continued

- semileptonic neutral to charged current cross-section meas. 4-32665
 'sine-Gordon eqn., Hamilton-Cartan formalism for higher order conserved currents, 1st order Lagrangians 4-37297
 solitons, relation to QCD dynamic props. 4-32501
 V-A struct., of weak current and mirror leptons 4-32499
 A₁ decay widths and local current commutators calcs. (Bulgarian) 4-43360
 cN, deep inelastic scatt., invariant current algebra on light cone 4-53999
 K⁺ → μ^+ ν , muon polarisation meas., right-handed currents search 4-32668
 $\Lambda_c^+ \rightarrow p K^0$ ($\Lambda \pi^+$), noneptonic weak decay rates using current algebra and SU(6) theory 4-48474
 (μ, ν), muon capture relevance to weak charged currents, V-A currents, unification 4-48567
 $\bar{n} \rightarrow p e \bar{\nu}$, angular asymmetry, second class current detection 4-53906
 ($\nu, \bar{\nu}$), coherent production 4-32667
 $\bar{\nu}(p)$ N, structure functions, invariant current algebra on light cone 4-53979
 $\nu d \rightarrow \nu p n$ neutrino scatt. reaction, deuteron disintegration (Russian) 4-37364
 $\nu N \rightarrow \pi^0 X$, coherent production 4-32667
 $\nu N \rightarrow h \mu$, scaling X and Y distrib. meas. 4-32664
 $\Omega \rightarrow \gamma Z$ as penguin diagram test, pole model anal. using bag model matrix 4-23015
 τ decay widths and local current commutators calcs. (Bulgarian) 4-43360
 $\tau \rightarrow e + \nu + \bar{\nu}$, weak and EM interactions (Russian) 4-23005

current control, electric see electric current control**current density**

- see also critical current density (superconductivity); electron density
 cold-cathode electron gun for CO₂ laser pre-excitation 4-33682
 combustion MHD generator anal. using coupled core-boundary layer model 4-57735
 electrodeposition equipment current density meas. and control instruments (Rumanian) 4-48155
 hollow cathode discharge, current density, intensity, plasma potential meas. 4-2024
 performance of CMG nickel hydroxide electrodes as a function of their structure 4-7860
 physics of amorphous metals 4-29326
 steel, C, passivity, study using impedance technique 4-57481
 Al₂O₃, CVD, charge-carrier injection, trap-assisted tunnelling model 4-35104
 Pb-acid battery, role of the macrostructure of industrial tubular type positive electrodes 4-7848

current distribution

- see also current density
 bounded regions, force-free current and mag. field distrib. (Ukrainian) 4-5537
 coal-fired MHD generator power takeoff analysis and expt. 4-26302
 conductors, flat, current redistribution using magnetic bars 4-44015
 corrosion testing, current distribution, microcomputer controlled meas. system (Japanese) 4-46689
 filamentation due to electrothermal instability in fully ionised plasma 4-34260
 MHD Faraday generators, fault current distrib. anal. 4-50092
 performance of CMG nickel hydroxide electrodes as a function of their structure 4-7860
 plasma focus current sheath filamentation and radial magnetic field generation 4-34272
 relativistic electron beam dense filamentary propagation obs. 4-33611
 solid body plasma electric current distribution in magnetic field (Russian) 4-50857

current fluctuations

- see also noise
 incommensurate CDW pinned by impurities, current oscils. 4-6768
 GaAs, current fluctuation phenomena, irreversible thermodynamics 4-50823

current limiters see limiters**current measurement, electric** see electric current measurement**current-mode logic** see emitter-coupled logic**current transformers**

- see also electric current control; electric current measurement
 clamp-on, installation verification techniques for piezoelectric accelerometer 4-32250
 error calc. for sinusoidal and nonsinusoidal primary currents 4-13654

current transients see transients**currents algebra** see current algebra**curvature measurement**

- automated topography measurement system 4-22752
 cylindrical form errors meas. by noncontact gap sensor, electrostatic-capacitance sensor (Japanese) 4-8869
 diaphragm reflectance pressure transducer, environmentally insensitive, fibre optic sensor appl. 4-38591
 lens radius of curvature meas. using autostigmatic microscope 4-17932
curvature of field see aberrations
- curve fitting**
 crack growth rate obs., data processing techniques evaluation 4-16609
 fatigue curves with nonconstant standard deviation, filtering to data with runouts 4-51914
 laboratory data handling using Apple II computer 4-27492
 least-squares, dielectric const. eqns. and Lorentzian spectral line profile 4-32030
 least-squares fitting procedure convergence 4-42701
 polychlorinated biphenyls, multicomponent analyses by FTIR spectroscopy 4-12406
 polynomials, solution, fitting, differentiation, integration using ORT1 code 4-47833

cutting

- see also machine tools; machining
 ceramics, macrocrack trajectory in orthogonal cutting by finite element method (Japanese) 4-55915
 CR-39 allyl diglycol carbonate sheets cutting with CW CO₂ laser instrumentation and parametric study 4-54547
 crystal cleaving using shape memory wires 4-51941
 fibre optic waveguide end quality evaluation, using spark erosion method (Slovak) 4-1515
 glass fibre reinforced plastics, relation between fibre orientation and tool wear 4-12075

cutting continued

- laser materials processing, Nd:YAG appls., book contrib. 4-5635
 metallic glasses, mechanical chopping, P/M flake material prep. 4-57136
 metallic surface cutting mechanism by abrasive grain with plastic flow taken into account 4-21381
 metals, shear localisation 4-7520
 optical fibre cutting tool, stapler type, hand-held design for end surface preparation 4-38645
 plasma arc cutting systems, reduces costs 4-44866
 rapid solidification laser processing at high power density, book contrib. 4-7622
 reactive gas assisted laser cutting, phys. mechanism, technical limitations 4-49423
 steel, alloy, quenched, cutting by CBN tools (*Japanese*) 4-21378
 steel, cold shearing, plastomechanical analysis 4-3148
 steel, high speed, sintered M2, mech. props., cutting performance 4-7571
 steel, high-speed, cast and powder, props. 4-40976
 steel, high-speed high-C, optimum hardening and tempering cycles 4-40835
 steel, tool, wear in mass production shearing 4-30833
 steels, high-alloy, cutting using combustion products from transonic jet of O_2-H_2 and O_2 -propane generators 4-35851
 wear resistant coatings, heat insulating effect during cutting (*Ukrainian*) 4-41016
 Al-Si hypereutectic alloys, cutting with sintered diamond tool (*Japanese*) 4-41002
 BN-TiC cermets, effect of cubic BN content on cutting performance of polycryst. tools 4-40994
 TiC-TiN-WC-TaC-Mo-Ni-Co, cermet, sintering and mech. props. 4-40733

CVD *see chemical vapour deposition***CVD coatings**

- semiconductor superlattice, strained layer, lattice distortion direct obs. 4-11408
 a-Si:H film, CVD deposition process 4-51519
 solar selective absorber coatings development for high temp. applications 4-36030
 wear resistant hard material coatings for tools, props., appl. manufacture 4-3299
 AlGaAs shallow-homojunction solar cells with high efficiency, MOCVD grown 4-52138
 Al_{0.9}Ga_{0.1}As MOCVD layers on semi-insulating GaAs, bulk and transfer doping 4-50958
 Al₂O₃, CVD, charge-carrier injection, trap-assisted tunnelling model 4-35104
 AlP₂O₃ (Al₂O₃) dielectric films on InP, LPCVD and elec. props. 4-56439
 BN amorphous films produced by double-plasma reactor for semicond. appls. 4-3085
 BP freestanding films 4-25895
 C:H hard amorphous RF plasma deposited coating, optical and protective props. 4-24111
 Cr coatings, CVD and electroplated, endurance evaluation in hot gas erosion atmosphere 4-16569
 Fe₂O₃-Cr₂O₃ CVD coatings, modulation reflection spectroscopy anal. 4-57432
 GaAs-Al_{0.6}Ga_{0.4}As multiple quantum well structs., MOCVD grown, stimulated emission 4-40480
 GaAs-Ga_{1-x}Al_xAs superlattices, MOCVD growth and struct. study 4-20498
 GaAs-GaAlAs optical waveguides, MOCVD grown, low losses, attenuation meas. 4-24179
 GaAsP_{1-x}GaP, MOCVD grown, strained-layer superlattice structures, planar channelling studies 4-45223
 a-Ge:H, thin film, homogeneous chemical vapour deposition 4-51513
 In_{1-x}Al_xAs epilayers on InP substrates, deposition and props. 4-30638
 InP MOCVD layers on semi-insulating InP, deep level electron traps, DLTS study 4-39810
 Nb₃Ge tape supercond., CVD prep., props. 4-45980
 Nb₃Sn CVD superconducting composite tapes, stability and plastic yielding 4-50987
 Ni-Al layers, on Hastelloy X, protection against carburisation in HTGR He 4-16570
 Si, amorphous, prepared by CVD, refr., index depend. on optical gap 4-7257
 Si amorphous film, halogenated and hydrogenated, transport props. rel. to deposition parameters 4-6824
 Si amorphous film, hydrogenated, photocond. and trapping parameters 4-6823
 a-Si film, photo-electronic props. 4-15972
 a-Si film, photochemical vapour deposition 4-51517
 Si film, preparation and optical and elec. props. 4-51518
 Si film structure on (100) texture, laser recrystallised on fused quartz 4-50651
 Si oxides on SiO₂, elec. and growth study 4-30099
 Si, polycrystalline LPCVD thin films for inversion layer solar cells 4-46878
 Si, polycrystalline/single crystal interface, TEM study 4-45534
 Si thin film strain gauges, low-cost pressure/force transducer appl. 4-22767
 a-Si:B,H films, prep. by CVD, optical parameters, effect of post-hydrogenation and H-exodiffusion 4-40390
 Si:B(P), amorphous CVD films, doping and elec. props., plasma hydrogenation effects 4-39321
 a-Si:B(P) CVD film, crystallisation growth rate, doping depend. 4-44948
 Si:H, amorphous CVD film, post-hydrogenated, electronic props. 4-35578
 a-Si:H, recomb. processes, ODMR and photoluminesc. study 4-20889
 a-Si:H, thin film, homogeneous chemical vapour deposition 4-51513
 a-Si:H CVD films, struct. and electronic props., Raman scatt. study 4-40436
 a-Si:H film, CVD deposition and photoconductivity 4-51520
 a-Si:H film, CVD growth and photoconductivity 4-51516
 a-Si:H film, chemical vapour deposition characterisation 4-51514
 a-Si:H film, laser CVD study 4-51515
 a-Si:H heterogeneous LPCVD films, X-ray diffr. and Raman scatt. studies 4-39137
 Si:P films, dielectric props. meas. 4-40327
 Si:P polycrystalline layers, ion implanted, elec. resist., effect of annealing in H₂ and N₂ atmos. (*Chinese*) 4-40084

CVD coatings continued

- Si:P(As)(O)(Cl), CVD polycryst. film, impurity effect on grain growth 4-6674
 Si-C thin films, hydrogenated, plasma-enhanced CVD grown, microhardness 4-2488
 Si-Ge-B alloy, thermal oxidation 4-35757
 a-Si-Ge-B LPCVD films, oxidation mechanism and work functions, rel. to submicron device fabrication 4-51836
 SiC films, prep. by plasma CVD, morphology, struct., comp., TEM, SEM, Rutherford backscattering, IR spectra studies (*Japanese*) 4-2472
 SiC-CVD coating for fusion reactor, performance results 4-20527
 Si₃C_{1-x} amorphous CVD films, photoluminescence and optical props. (*French*) 4-46320
 Si₃N₄ CVD films, AES anal. electron and ion beam effect 4-51421
 Si₃N₄ CVD layers, amorphous, two-carrier cond. 4-56468
 Si₃N₄ films, plasma enhanced CVD deposition, etching and insulation degradation 4-51841
 Si₃N₄ films of Si, CVD grown, interface state density 4-56444
 Si₃N₄ low-pressure CVD layers, electron and hole conduction 4-11532
 Si₃N₄ plasma-deposited, for low-loss optical waveguides 4-19557
 SiO₂ CVD films, Zn diffusion mask for GaAs 4-50326
 SiO₂ plasma oxide, role in InP MIS struct. 4-40067
 SiO₂, chem. deposited film, IR absorpt., XPS 4-57065
 SiO₂Ny film, growth and chemical composition 4-51525
 a-Si_{1-x}Sn_xH, sputter assisted plasma CVD films, props. 4-40439
 SnO₂Sb film, charact., for solar cell appls. 4-30434
 Sn₂As thin film, ion implanted, elec. props. 4-35099
 TiC coatings for first wall of fusion reactor, thermal and mechanical props. 4-20526
 TiN coating, CVD grown on TiC, effect of expt. conditions 4-2479
 VO₂ films, undoped and doped, spectral and resist. switching 4-35031
 W, CVD coating on Si wafer, props. 4-2477
 W, film, form., low temp., by vapour phase reaction (*Japanese*) 4-46448
 W film prepared by CVD, hemispherical and diffuse refl. (*French*) 4-4342
 WSi₂ films, property depend. on plasma CVD conditions (*Japanese*) 4-4556
 n-ZnS epitaxial layers on n-GaAs, photocurrent versus electrode potential 4-2395
 ZnSe heteroepitaxial film grown from organoelemental cpds. as electron bunched laser 4-14698
 ZnSe, MOCVD, donor spatial distrib., cathodolum. study 4-34521
- CVD etical growth** *see vapour phase epitaxial growth*
- CVD thin films** *see CVD coatings*
- cyanogen** N₂ *see carbon compounds*
- cyclopentenylenes** *see organometallic compounds*
- cyclotron resonance**
for microwave resonance spectroscopy see mass spectroscopy; for ion cyclotron resonance heating see plasma heating
see also magnetism; dopplers
 electron cyclotron resonance amplifier, kinetic power theorem anal. (*Chinese*) 4-48163
 electron cyclotron resonance amplifiers with tapered waveguide (*Chinese*) 4-4816
 electron-cyclotron resonance discharge, ion charge-state distrib. 4-50124
 electron-phonon system, cyclotron resonance lineshape 4-56776
 free electr. laser operation using collective effect 4-33676
 graphite-Si₃, C₃₆SbCl₅ and C₆₀SbCl₅, cyclotron resonance studies 4-39758
 kinetic effs. in electron cyclotron resonance in a nonuniform magnetic field 4-199
 lineshape thries, validity of perturbative expansions 4-40233
 linewidth, qntum-limit, theory 4-40235
 masers wit counterrunning waves, nonstationary processes, theory 4-55002
 metal surface transport phenomena, review 4-50892
 piezoelectric laser system, quasi-2D, cyclotron reson. lineshape, temp. depend. 4-24
 plasma ECR, romagnetic autoresonance in low density plasma 4-44824
 relativistic cytron-resonance masers, transverse magnetic mode, mode select. 4-286
 rippled film neutron, Brillouin flow equilb., relativistic anal. 4-55061
 semiconductor, subjected to external mag. field, high-power EM pulse propag. 4-250
 semiconductor superlattices, Stark cyclotron waves anal. 4-6885
 semiconductors, nonlinear cyclotron-phonon reson. 4-16100
 two-dimensional cytron gas, dielec. function props. 4-2532
 two-dimensional cytrons, anomalous shifting and narrowing of cyclotron resonance lines 4-11774
 Bi, EM wave res. interaction (*Russian*) 4-30001
 Cd, ultrasound in. absorption, Doppler-shifted cyclotron reson. (*Russian*) 4-25203
 CdAs₂, theory of, raband magneto-optics, voigt configuration 4-56893
 p-CdSb, Shubnikov-Haas effect and cyclotron reson. meas. 4-39775
 n-GaAs epitaxial lrs, cyclotron resonance line, plasma shift (*Russian*) 4-35005
 n-GaAs, epitaxial lrs, cyclotron resonance plasma shift 4-46112
 GaAs, negatively charged donor states, spectroscopic transitions to neutral states, magneto-opt. expts., cyclotron reson. obs. 4-2825
 GaAs, polarons, cyron resonance study under hot electron conditions 4-6717
 He, liquid, ripplonic cytrons in mag. fields, weak coupling case 4-25104
 n-HgTe, cyclotron reance, magnetoabsorption 4-34862
 In, US wave field trport by conduction electrons 4-39992
 InP, nonequilibrium cytron system, cond. electrons and donors, far IR magnetoabsorpt. stu 4-16099
 InSb, hysteretic cyclotron resonance excitation 4-40234
 InSb inversion layers, sening of collective cyclotron reson. 4-40236
 Ir, cyclotron reson. isotropy, electron-phonon interaction, relativistic APW Fermi surface 4-29870
 P, black, far IR cyclot. reson. absorpt. meas. 4-7067
 Si inversion layers, cyron resonance linewidth, impurity and thickness effects 4-56777
 Te, free and bound urity states, press. depend., photocond. studies 4-39816
 W, Fermi surface cycto. reson. (*Russian*) 4-25202
 Zn, ultrasound reson. orption, Doppler-shifted cyclotron reson. (*Russian*) 4-25203

cyclotrons*see also microtrons; synchrocyclotrons*

- AVF cyclotron, atomic beam polarised ion source at RCNP (*Japanese*) 4-43750
 cold-cathode PIG ion source development at INS SF cyclotron (*Japanese*) 4-43743
 DC-1 cyclotron, supercond. mag. system field, computer studies 4-48855
 electromagnet system for GANIL 4-48814
 fast neutron data meas. facility in Brazil 4-37961
 Hamburg cyclotron, isochronous, radial oscillation anal. 4-5073
 heavy ion cyclotron, space charge effect 4-48813
 injection channel of electron cyclotron, current losses minimisation 4-28257
 isochronous, phase and time struct. of beams (*Chinese*) 4-23445
 kaon factory, use of TRIUMF as injector 4-37965
 laser plasma, C^{3+} ion acceleration 4-48858
 Milan Superconducting Cyclotron, acceleration studies, internal beam dynamics 4-5068
 Milan superconducting cyclotron, central region anal. 4-5067
 Milan superconducting cyclotron, RF cavity, preliminary meas. 4-48831
 multiply charged heavy ion source for IPCR cyclotron (*Japanese*) 4-43745
 proton beam energy meas., in U-240 cyclotron 4-28256
 RCNP cyclotron, accel. of protons and deuterons polarised in horizontal plane 4-23444
 RCNP cyclotron, heavy ion accel. development 4-43714
 role of physics in development, conf., Dhaka, Bangladesh, (Jan. 1982) 4-27244
 section-focused cyclotrons, accelerated orbits, canonical treatment 4-33224
 sector magnet construction for RIKEN SSC 4-48816
 static field computation, 2- and 3-D, with codes VEPO2 and POFEL3, for cyclotron facilities 4-54494
 superconducting cyclotron, beam injection from tandem accelerator, beam bunching system study 4-54457
 superconducting cyclotron, current leads system 4-48829
 superconducting cyclotron, prototype coil in separated sectors 4-48817
 superconducting cyclotrons, channel magnets without stray fields 4-48818
 superconducting cyclotrons, mag. field calcs., magnet design 4-48815
 superconducting cyclotrons as boosters for tandem accelerators 4-54491
 TRIUMF, magnet installations for high radiation areas, handling techniques 4-48852
 TRIUMF mag. field stabilisation 4-48819
 variable energy cyclotron at Calcutta and its utilization 4-28260

cytology *see cellular biophysics***Czochralski method** *see crystal growth from melt***D-layer** *see D-region***D mesons**

- branching ratios and hadronic cross-sections from π^-p interactions 4-27764
 decay large enhancements 4-9101
 decay to charged particles, branching ratio determ., D production cross sections 4-32679
 heavy quark weak decays, gluon effects, charm appl. 4-48470
 lifetime meas. with vertex detector 4-27731
 lifetimes, WA58 expt. using tagged photon beam 4-27735
 production and decay properties from π^-N interactions 4-27763
 Schrodinger fit of spectra using $V_0 + A_0 \cdot 0$ potential 4-4637
 weak decays of heavy quark systems and soft hadron interaction effects 4-48471
 $D^- \rightarrow K^- \pi^0$, decay amplitudes in infinite momentum frame, soft pion approximation 4-37371
 $D^- \rightarrow \bar{K}^0 \pi^0$, lepton mass and form factor effects 4-27725
 $D^0 \rightarrow K^- \pi^+$, branching fractions from high energy photoprod. of D^* 4-32674
 $D^0 \rightarrow K^- \pi^+ \pi^0 (K^- \pi^+)$, branching ratio meas. using tagged photon spectrometer 4-32683
 $D^0 \rightarrow K^0 \pi^0 (K^0 \pi^0)$, branching ratio meas. using tagged photon spectrometer 4-32683
 D^+ , D^0 , hadronic decay branching ratio using quark combinatorics 4-18235
 $D^+ \rightarrow K^0 \pi^+ (K^0 \pi^+) (\pi^0 \pi^+)$ quark theory of two-body weak decays 4-53984
 D^\pm , D^0 lifetime meas., review 4-32681
 D^\pm , D^0 lifetimes and prod. ratio from 20 GeV photoprod. 4-43361
 D^\pm decay in νN and pN lifetime meas. 4-27726
 DD production cross-section, deduced from neutrino fluxes in pN interactions 4-27767
 $e^+e^- \rightarrow D^* X$, 34 GeV, charm jet fragmentation 4-32732
 $\gamma p \rightarrow D^* X$, production mechanism 4-32683
 $K^- \rightarrow K^- \pi^+ (\bar{K}^0 \pi^0) (K^- K^+) (\pi^- \pi^+)$ quark theory of two-body weak decays 4-53984
 $\bar{\nu} \rightarrow Ds$ production cross-sections 4-18221
 $pN \rightarrow (\Lambda_c D) X ((DD) X)$, charm prod. in fixed target beam dump expts. 4-18311
 $pp \rightarrow DX$, quasiparton mechanism 4-18282
 $\pi^- Be \rightarrow DX$, associated hadronic production, energy dependent cross-section 4-18299
 $\pi^- Be \rightarrow DX$, production and decay properties 4-18300
 qq bound states, relativistic two-body eqn. using QCD gluon exchange 4-23594

D-region

- auroral absorption, relation to electron energy distrib. of auroral plasma 4-58343
 electron loss as linear process, theory 4-47487
 heavy ion ledge, transition height from incoherent scatter obs. 4-52984
 ion composition 4-58334
 ionisation by solar radiation, radiowave absorpt. use for NO conc. determ. 4-42252
 ionising solar flares, correl. with sunspots morphology/mag. fields 4-13287
 microwave beams interaction and ionized region production 4-47481
 riometer method for studying D-region, production rate and electron density 4-47488
 seasonal variations of ionospheric parameters 4-17329
 solar eclipse disturbance described by predictive chem. computer code 4-58342
 structural characteristics rel. to winter anomaly 4-47475

D/A conversion *see digital-analogue conversion***dairying**

waste wood energy appl. 4-31061

damage, radiation *see radiation effects***damming** *see dams***damping***see also dislocation damping; internal friction*

- building acoustics 4-1549
 cantilever beam with dry friction damping, forced vibr. response, theory 4-19757
 cantilever beam with dry friction damping, forced vibr. response, expt. 4-19758
 coherent macroscopic quantum superposition obs., impossibility 4-4371
 diaphragm theory for elastoplastic damping with single loading (*Russian*) 4-10559
 double-shell system, circular and cylindrical, with internal damping, axisymm. response 4-33980
 ferrite-resin composite material for vibration damping and its applications 4-35603
 ferromagnetic damping alloys, appl. in gears for noise control 4-38664
 fibre reinforced composites, damping props. 4-40849
 forced and self-excited mechanical vibrations (*German*) 4-47860
 glass fibre reinforced plastic plates and beams, damping characts. of structures, determ. using Zoom-FFT 4-38775
 gravitational radiation antenna, low dissipation support 4-32161
 gyroscopic conservative continuous systems, dynamic, instability, effects of damping and circulatory forces 4-19719
 high damping materials, mechanisms and appls. 4-40850
 immiscible liquids in rectangular container, oscills., damper for cantilever beam 4-49614
 inhomogeneous viscoelastic bodies, natural oscills., damping 4-49752
 internal friction measurement using automatic pendulum, temp. and strain amplitude dependence obs. 4-34022
 Ising model, damping of transverse and longit. excitations in transverse field 4-35390
 lumbosacral hinge, vibr. behaviour, nucleus pulposus ablation effects, baboon expts. 4-12606
 lumped-mass elastic system, damped, vibr. eigenfrequencies 4-17685
 mast antenna structs., response to non-stationary random excitations, time depend. variance and covariance 4-49615
 multilayer media, thermal elastoplastic wave damping (*Ukrainian*) 4-38749
 nonconservative damped continuous system, harmonic forced motion with nonpotential follower forces 4-38748
 nonlinear oscillator with band limited excitation, response and maxima distribution calc. 4-1644
 plastics, C-fibre and glass-fibre reinforced, damping capacity and natural freqs. 4-40878
 plates, response of damped rectangular plate with viscous damping (*Chinese*) 4-47851
 plates, rigid-plastic, square, in damping medium, dynamic response 4-1595
 porous and impregnated materials, elasticity and damping 4-55904
 rotating mechanical systems, inertia, damping and load measuring device 4-42953
 satellite system in SGEMP simulator vacuum tank, EM responses 4-53005
 shells, shallow spherical, geometrically imperfect with structural damping, large-amplitude vibrs. 4-49738
 space charge wave propagation above statistically uneven surface, dispersion 4-16150
 structures, fast modal response analysis 4-5788
 substructure synthesis method, vibr. analysis 4-14879
 tone-arm outrigger damping devices 4-8734
 transducer damping ratio determ., by frequency-domain analysis 4-4392
 vibrations of damped systems, substructuring and modal synthesis 4-1646
 Al-Zn, damping capacity, influence of cold-working 4-7498
 Au-Cd, martensitic transform., US study 4-40780
 MgAl₂O₄-Al₂O₃ system, internal friction spectra, comp. depend. 4-15585
 Mn-Cu-Zn, damping capacity, effect of static tensile stresses, allowance for temp. 4-12098

dams*see also civil engineering; hydroelectric power stations*

- concrete, rock foundations reliability 4-52712
 earth dams, soils and construction methods 4-52222
 Kurpsai hydroelectric station seismic loads, elastic and inertial forces consideration 4-57650
 porous, discharge calc. 4-44783
 reservoir lake-waves, calc. of return period (*Chinese*) 4-31543
 seismic waves in canyons of hydroelectric power station sites 4-36305

dark space *see discharges (electric)***DA5D** *see magnetic disc and drum storage***data acquisition***see also CAMAC; data handling; indicators; recorders*

- Apple-CAMAC data acquisition systems 4-23540
 astronomy, portable telescope, photometer and data-recording system 4-36585
 ATLAS accelerator data acquisition system 4-23546
 autoanalyser system for data collection using S-100: CP/M microcomputer 4-37075
 Belevac Heavy Ion Spectrometer data acquisition system 4-23550
 borehole portable level and temp. monitor with data compression and error correction 4-26872
 Brookhaven FASTBUS/UNIBUS interface 4-23552
 Brookhaven large neutrino detector, data acquisition system 4-28326
 CCD camera at Kitt Peak National Observatory, computer control system 4-36587
 chromatography system automation 4-21499
 COMEDY: a microcomputer based system for controlling pulsed dye-laser experiments 4-28720
 computer-aided surface roughness meas. system 4-33103
 development system for higher level language data acquisition system 4-23538
 digital data acquisition and signal processing system for an atmospheric boundary layer wind tunnel 4-22034
 distributed laboratory data collection and management 4-8882
 Doublet III diagnostic data acquisition system 4-28327
 dynamic parameter array system 4-23557
 Earth resources from space Crestwood study panel report 4-21952

data acquisition continued

employee noise exposure monitoring, data acquisition and instrumentation 4-19688
 EPR spectrometer microcomputer data accumulation and reduction system 4-27547
 fast ADC scanner for multiparameter nuclear physics experiments 4-23531
 FASTBUS to UNIBUS processor interface, data collection system 4-23563
 fatigue crack growth, computer controlled data collection system 4-3327
 fibre optics data acquisition systems, practical problems in field appl. 4-14812
 GANIL acquisition system GAS 4-28330
 geometrical welded structures, US flaw classification 4-41150
 geophysical electromagnetic sounding, low-freq. data acquisition problems 4-13030
 geophysical small-scale surveying using microcomputer data gathering system 4-52893
 heavy ion physics experiments, analysis system 4-18881
 high bandwidth FASTBUS based data acquisition system for imaging coronary arteries 4-31391
 high speed data acquisition system for Fermilab experiments 4-28323
 high strain biaxial testing rig for thin walled tubes 4-35790
 Holifield Heavy Ion Research Facility data acquisition software 4-28329
 ICAMS, automated emulsion data acquisition and anal. 4-28325
 impact testing instrumented system, microcomputer appl. 4-3370
 intelligent multichannel data-acquisition system for pulsed laser applications 4-44135
 INTERSIL IM6100 CMOS 12-bit processor for AEC-NIM system (Japanese) 4-28314
 ion scatt. spectroscopy data acquisition rel. to surface anal. 4-3008
 kernel design for higher level language data acquisition system 4-28317
 laboratory data handling using Apple II computer 4-27492
 laboratory data management, processing and display, integrated approach for marine research 4-22092
 laboratory instruments interfacing with microcomputers 4-53433
 laboratory microcomputer system Labtech 70, 650 kHz analog data acquisition speed 4-8880
 LAMPF data acquisition system Q memory resident histogramming system 4-23528
 LAMPF RSX-11M Q data acquisition system 4-23562
 Lawrence Berkeley Laboratory general purpose magnetic measurement data acquisition system 4-48095
 Lidar, simplified data acquisition of aerosol concentration in atmosphere (German) 4-22124
 LMFB components testing under thermal transients, data acquisition and control 4-18731
 LSI-IV23 with SKYMNK-Q array processor as data acquisition front end processor 4-23535
 M7 computer for on-line track-finding 4-23543
 magnetic-sector GC/MS instruments, top-hat filter adaptation for data acquisition 4-48246
 measuring-data acquisition using displacement sensors, principles, design, application 4-48086
 metallurgy, local and remote data acquisition and process control facility 4-35793
 meteorological data, automatic transmission of surface data, automatic transmission of surface data from remote stations via satellite 4-42228
 microcomputer-aided instrumentation, using Apple II computer and ISAAC interface 4-8883
 MILLE microprocessor based large logging expt. system 4-28333
 moire fringe information processing, computerised technique, displacement and strain meas. appl. 4-17886
 multi-processor data acquisition and monitoring systems for particle physics 4-23547
 multineedle detectors readout 4-23482
 multiparameter data acquisition system 4-23545
 networked VAX/LSI/CAMAC data acquisition system development 4-28334
 NMR spectrometers, multipurpose, control, data acquisition and online processing 4-48165
 NSCL data acquisition system 4-28332
 nuclear data acquisition system based on auxiliary crate controller 4-23533
 nuclear materials, data collection system, error propagation exercise 4-28342
 nuclear plant data measurement using microcomputers 4-14102
 nuclear power plant inspection, data acquisition and processing system (Japanese) 4-14082
 Nuclear Structure Research Lab., VAX based data acquisition system 4-28331
 parallel processor for fast event analysis 4-23544
 particle detectors, computer aided measurement and analysis (Hungarian) 4-54535
 photoelectron and electron energy loss spectrometers automation, using microcomputer 4-13628
 photoelectron spectrometer for studying reactive transient species 4-46847
 portable digitized multi-channel data recording system for deep seismic sounding (Chinese) 4-17272
 portable signal acquisition/processing station 4-23542
 process information system for commercial reprocessing plant 4-28339
 process tank calibration data, acquisition program 4-28066
 proportional coordinate detectors, controller for data reading and encoding 4-23502
 rainfall instrumentation package with improved sampling, using microcomputer 4-31693
 Raman spectrometer minicomputer data acquisition and anal. system 4-53762
 real time computer appl. in nuclear and particle physics, conf., Berkeley, CA, USA (May, 1983) 4-27231
 scanning electron microscope, model for microcomputer control 4-18014
 seismic data acquisition, fibre optics appls. 4-22143
 seismometer tape recorder triggering system and microseismic energy analyser 4-36530
 sequential X-ray spectrometer, versatile program for data capture in multielement anal., in BASIC 4-48274
 SHEIVA, multiparameter interactive data acquisition and processing system 4-23548
 SHIVA, multitask data acquisition system 4-23549
 solar pond design and instrumentation 4-57771

data acquisition continued

sound absorption in gases meas., using Apple II microcomputer 4-33881
 spectrometer control and data acquisition using Rockwell AIM-65 4-48210
 standard CP/M-86 hardware system in lab. 4-53663
 tape recorder, digital system for hydroacoustic data recording 4-42232
 TASSO data acquisition system experience 4-28335
 temperature measurement means, automatic measurement and checking 4-4403
 three axis knee goniometer diagnostic test, on-line meas. and interpretation 4-3643
 time-of-flight mass spectrometer, automatic control and timing unit 4-22869
 TPC data acquisition electronics, CAMAC interface 4-23534
 TRAQ I, a CAMAC system for multichannel data acquisition, storage and processing 4-23541
 TRAQ I CAMAC System for multichannel data acquisition, storage and processing 4-55623
 TRIUMF's data acquisition system 4-28318
 TRIUMF Time Projection Chamber data acquisition system 4-28328
 two-dimensional data acquisition system for display type photoelectron energy analyser 4-42940
 UNIX time sharing system, data acquisition with PDP-11/44 and MBD-11 branch driver 4-28319
 US testing, automated inspection and data collection system 4-51951
 user data acquisition program for higher level language system 4-23539
 Utrecht EN tandem injector 4-54475
 VAX 11/750-MBD data acquisition and anal. system 4-28320
 VAX 11/780 data acquisition facility at Triangle Universities Nuclear Laboratory 4-28321
 virtual memory based data acquisition system at CERN 4-28316
 X-ray diffractometer, data collection acceleration algorithm 4-48270
³H magnetic resonance spectroscopy, practical aspects 4-13663

data communication equipment

see also computer peripheral equipment; telemetering equipment
 fibre optic cable links for data communication, connectors and modems 4-49565
 fibre optic DS-3 bipolar interface 4-10459
 fibre optics data acquisition systems, practical problems in field appl. 4-14812
 integrated optoelectronic transmitter containing TJS laser, driver FET and multiplexer 4-55067
 International Solar Polar Mission, mag. field instrumentation and data streams processing 4-31731
 Josephson junction switching for information processing 4-6930
 lightguide manufacture for data transmission 4-10463
 meteorological Czechoslovak experiences with MDA reception equipment (Czech) 4-47526

data communication systems

see also computer peripheral equipment
 autoanalyser system for data collection using S-100: CP/M microcomputer 4-37075
 electro-optic data link for EM sensor, using integrated optic channel waveguide modulator and polarisation preserving fibres 4-38599
 European communications satellites 4-42285
 fibre optic WDM system, two wavelength, for analogue data links 4-10458
 HF digital radio data links, channel evaluation meas. for 2.4 kbps modem 4-8355
 high-voltage spark source, RF interference reduction by fibre optic signal transmission 4-34342
 image data communication system for medical information system (Japanese) 4-36251
 meteorological data, automatic transmission of surface data, automatic transmission of surface data from remote stations via satellite 4-42228
 shipboard observations in N Atlantic, data transmission via GOES to shore 4-17175
 SITER data processing for Japan's Power Reactor and Nuclear Fuel Development Corp. (Japanese) 4-43614
 TIROS-N Operational Vertical Sounder data communication and processing system 4-31651
 wind energy measuring system, construction, layout, power supplies and data transmission (Dutch) 4-52918

data compression

see also information theory
 borehole portable level and temp. monitor with data compression and error correction 4-26872
 holographic storage, higher spatial frequencies in records of graphical-text documents (Russian) 4-10262
 medical image storage, encoding/compression techniques and statistical props. 4-57966

data dictionaries *see database management systems***data handling**

see also data reduction and analysis
 boiling processes, cine recordings, computer-aided processing (Russian) 4-55977
 dynamic parameter array system 4-23557
 fission reactor fuel reprocessing, information systems, safeguards/process interface 4-28340
 laboratory data handling using Apple II computer 4-27492
 NMR, improved data storage 4-48168
 nuclear enrichment plants, safeguard data system 4-28343
 nuclear materials, data collection system, error propagation exercise 4-28342
 nuclear safeguards, minicomputer network for real-time accounting 4-28341
 polygon mirror automatic calibration system (Japanese) 4-19537
 process information system for commercial reprocessing plant 4-28339
 uniform data interface 4-23536
³H magnetic resonance spectroscopy, practical aspects 4-13663

data loggers

EPROM storage of tide gauge data 4-8316
 geophysical small-scale surveying using microcomputer data gathering system 4-52893
 global solar radiation collection network automation developments in Ohio 4-42135
 microcomputer-controlled data logger for engineering geophysics 4-31707
 oceanographic digital tape recorder system for hydroacoustic data recording 4-42232

- data loggers continued**
 seismometer tape recorder triggering system and microseismic energy analyser 4-36530
 Transducer Tempcon, conf., London, England (June-July 1982) 4-53350
- data processing** *see DP industry*
- data processing industry** *see DP industry*
- data reduction and analysis**
see also data acquisition
 acoustic logging instrumentation, data digital recording and processing (Russian) 4-13079
 aeromagnetic data interpretation, pattern recognition (Rumanian) 4-47144
 aircraft noise monitoring at airports 4-7913
 ANALOGIC array processor AP400 for list mode data processing 4-23561
 autoregressive spectrum analysis using Marple's algorithm 4-13065
 CCD camera at Kitt Peak National Observatory, computer control system 4-36587
 charge transfer resistance estimation by graphical anal. of semicircular complex impedance diagrams 4-13627
 computer graphics interactive system for radar and satellite data compositing 4-3830
 computerised data acquisition and processing of moire fringe information 4-17886
 crack growth rate obs., data processing techniques evaluation 4-16609
 DARSY online/offline data analysing system 4-23530
 deconvolution algorithm using spline functions 4-4384
 digital processing of measurement values (German) 4-17683
 dual-polarised communication link expts., data anal. 4-22040
 EPR spectrometer microcomputer data accumulation and reduction system 4-27547
 fatigue curves with nonconstant standard deviation, filtering to data with runouts 4-51914
 geochemical prospecting, statistics and data anal. techniques (book) 4-47793
 geophysical electromagnetic sounding, low-freq. data acquisition problems 4-13030
 heavy ion physics experiments, analysis system 4-18881
 high spin nuclei, orientation meas. in crystal ball detector, data anal. program 4-23559
 hot-wire meas. of high-turbulent three-dimensional flows 4-55456
 laboratory instruments interfacing with microcomputers 4-53433
 LISA; off-line data analyzing program; FORTRAN program package; sorting events; histograms; manipulation; graphical; numerical output; 4-23551
 LULU analysis program 4-23529
 McIDAS III, interactive meteorological data access and anal. system 4-3827
 mesoscale rawinsonde data anal., use of dynamical constraints 4-3791
 multi-detector STEM images, elemental classification using image anal. clustering techniques 4-22882
 multichannel auto-regressive data models, new recursive procedure 4-26812
 multichannel geophysical data analysis, sample bias in polarization estimation 4-3848
 multicomponent infrared analysis using P-matrix methods 4-48094
 noisy, exponential fits, quantification of hazards 4-17827
 nuclear reactor H₂ burn monitoring, Three Mile Island reactor data analysis 4-18730
 palaeomagnetic direction studies, test to exclude erroneous observations 4-17284
 polymer solutions, polydispersity, photon correlation spectroscopy, subdistribution method 4-46275
 probability plotting for experimental data analysis 4-8884
 radiometer radiant flux meas., numerical treatment of meas. data 4-27569
 remotely sensed hyperdimensional spectral data, contextual classification 4-42185
 ring laser gyro data analysis with cluster sampling technique 4-38503
 rock demagnetisation studies, linear and planar struct. in ordered multivariate data 4-17283
 seismic ocean reflection data enhancement, 500-channel streamer appl. 4-47445
 seismoholographic algorithms for data processing (Russian) 4-12807
 single-channel data validation technique, for differential pressure cells in turbulent flow 4-15050
 spectrophotometric high-speed detector, photodiode array technology appl. to HPLC 4-12414
 stellar uvby photometry, accuracy of reduction algorithm 4-58389
 three axis knee goniometer diagnostic test, on-line meas. and interpretation 4-3643
 TIROS-N Operational Vertical Sounder data communication and processing system 4-31651
 VAX 11/750-MBD data acquisition and anal. system 4-28320
 VAX 11/780 data acquisition facility at Triangle Universities Nuclear Laboratory 4-28321
 VisiCalc program for custom computerized analytical reports and data reduction 4-27491
 XPS, data reduction using microcomputer (Japanese) 4-40602
 NaI scintillation detector response curves generation by interpolation technique 4-969
- data security** *see security of data*
- data structures**
 European economic development and energy consumption, Explor model data bank restructuring 4-26264
- data tables** *see collections of physical data*
- data transmission equipment** *see data communication equipment*
- data transmission systems** *see data communication systems*
- database management systems**
 automatic pattern extraction and collection applied to radar derived rain maps 4-52912
 Czechoslovak database on solar radiation (Czech) 4-7812
 distributed laboratory data collection and management 4-8882
 fission reactors, nuclear database NEA, description 4-37708
 FUACS, computerised fuel and core component records management system 4-33091
 laboratory data management, processing and display, integrated approach for marine research 4-22092
- database management systems continued**
 laboratory information management systems, Perkin-Elmer LIMS/2000 4-27499
 nuclear data bank design 4-37709
 star catalogue computer data-base facilities of ESA for astronomical satellite operation 4-53056
 Strasbourg Stellar Data Center data base, SIMBAD, description 4-4055
- dating, Earth** *see geochronology*
- dating, radioactive** *see radioactive dating*
- Davydov splitting**
 No entries
- Davydov states** *see Davydov splitting*
- dawn** *see twilight*
- dawn chorus** *see atmospherics*
- dayglow** *see airglow*
- DBR lasers** *see distributed Bragg reflector lasers*
- d.c. motors**
 cryostat excitation winding eddy currents an heat production calculation (Russian) 4-48139
- d.c. sputtering**
 planar magnetron system, mag. field distrib. effect on discharge characteristics (Japanese) 4-46436
 In₂-Sn₂O₃-y films, reactive DC magnetron sputtering, automatic control system 4-12025
 Nb-Si A15 superconducting films, DC sputtered, tunnel junction formation 4-40114
 NbTa multilayers, DC sputtered, low temp. diffusion, X-ray obs., elec. characts. 4-50562
 Ti thin film, d.c. sputtering, struct. and elec. props. 4-39733
 TiN films, reactive sputtering prep., substrate shape effects 4-40650
 TiN thin film, d.c. sputtering, struct. and elec. props. 4-39733
 TiN, films, reactive high rate DC sputtering, stoichiometry and optical props. 4-40649
 TiO₂ films, reactive high rate DC sputtering, stoichiometry and optical props. 4-40649
 VO₂ thin films, DC magnetron-reactive sputtering, struct., elec. and optical props. study (Japanese) 4-21141
 V₂O₅ thin films, DC magnetron-reactive sputtering, struct., elec. and optical props. study (Japanese) 4-21141
 ZnO, RF sputtered thin film, elec. and optical props. 4-50960
- d.c. to a.c. invertors** *see invertors*
- DDA** *see digital differential analysers*
- DDC** *see direct digital control*
- de Broglie waves** *see wave mechanics*
- de Haas-van Alphen effect**
see also diamagnetic properties of substances; diamagnetism
 Fermi surface, hydrostatic press. and uniaxial stress derivatives 4-11429
 helicon resonances in metals, review 4-39946
 inversion layers and superlattices, de Haas-van Alphen effect and Seebeck effect 4-35055
 metals, high freq. EM phenomena, de Haas-van Alphen effects 4-20683
 pulsed field 40 T de Haas-van Alphen spectrometer 4-34860
 semiconductor 4-15809
 thin wire in mag. field, electron energy levels 4-15807
 transition metals, de Haas-van Alphen effect 4-56189
 two-dimensional electron systems, magnetothermal effect in strong mag. field 4-20680
 Au, Fermi surface, temp. depend., de Haas-van Alphen study 4-6691
 Cd, effective masses, de Haas-van Alphen effect study 4-34866
 Cs, spin susceptibility and conduction electron dynamical props. 4-15810
 Cu alloys, dilute, Dingle temp., Fermi surface area, de Haas-van Alphen effect 4-2504
 Cu, dislocation scatt., de Haas-van Alphen meas. 4-6769
 Eu, Fermi surface, band struct. and de Haas-van Alphen freqs. calc. 4-2500
 In₂Bi, Fermi surface, de Haas-van Alphen study 4-45584
 In₂Bi₃, Fermi surface, de Haas-van Alphen meas. 4-11431
 Lu, de Haas-van Alphen meas. of Fermi surface 4-50704
 Os, conduction electron g-factor meas. 4-56191
 Pd, conduction electron g-factor and Zeeman splitting, de Haas-van Alphen study 4-56192
 Ru, conduction electron g-factor meas. 4-56191
 Si MIS field effect struct., de Haas-van Alphen effect in inversion layers 4-25449
 TiN, de Haas-van Alphen effect and Fermi surface 4-34861
 U₃As₄, Fermi surface, de Haas-van Alphen meas. 4-6693
 U₃P₄, Fermi surface, de Haas-van Alphen meas. 4-6693
- debugging, computer** *see computer debugging*
- Debye-Huckel theory**
 polyelectrolyte soln. dynamics, Debye-Huckel pot. 4-57567
 polystyrene sphere suspensions, freezing curves 4-29576
 AgBr, premelting lattice disorder rel. to superionic cond. 4-6553
 PbF₂, premelting lattice disorder rel. to superionic cond. 4-6553
- Debye-Scherrer cameras** *see cameras; X-ray crystallography apparatus*
- Debye temperature**
see also specific heat
 alkali halides, elastic and thermal props., compressible ion theory 4-15605
 metal crystals with Zincblende structure, interorbital theory 4-15607
 metals, FCC, lattice dynamics using ionic Morse pot. in sea of free-electron gas 4-55945
 metals, high purity, residual elec. resist. and Debye temp. (Russian) 4-56313
 oligomethylphenyl siloxanes, free vol. parameters and viscosimetric obs. at low temps. (Russian) 4-39163
 refractory metals and oxides, solid and liq.-states, specific heats: 4-15657
 semiconductors, diamond-like, amorphisability and mech. props. 4-29492
 surface thermal vibrations, information from keV ion scatt. 4-20460
 TEA⁺(TCNQ)₂⁻, order-disorder phase transition 4-24754
 Ar, solid, low temp. props., pair and many-body pots. 4-29380
 Ar, solid state props. near 0K from [n(r)]-6 pot. 4-29383
 Au thin film, electrical resist., grain boundary and surface Debye temp. effects 4-35093
 B, quantum features of low-temp. dynamic fracture 4-3247
 BaF₂, low temp. heat capacity and Debye temp. 4-11311
 Cr₁₀Fe_{90-x}Ni_x, conc. mag transition, lattice crust., Debye temp. 4-20821
 Cr₅Fe_{95-x}Ni_x, conc. mag transition, lattice crust., Debye temp. 4-20821
 Cs-halides, bond bending forces in cryst. dynamics 4-55783

Debye temperature continued

- Cu-Zr, crystalline and amorphous, specific heat meas. 4-25051
 Fe complex, cis-bis(bipyridyl)dichloroiron (III) tetrachloroferrate (III), struct. 4-15435
 α -Fe, lattice dynamics, extended Cheveau model calcs. 4-55933
 Fe-Al, Debye temp. anomalies (*Russian*) 4-6464
 FeNi, FCC, paramag. state, 2γ states, ^{57}Fe Mossbauer isomer shift meas. 4-35309
 $\text{Fe}_{0.60}\text{Ni}_{0.20}\text{Cr}_{0.20}$, FCC, paramag. state, 2γ states, ^{57}Fe Mossbauer isomer shift meas. 4-35309
 $\text{Fe}_{65}\text{Ni}_{35-x}\text{Cr}_x$, conc. mag. transition, lattice crust., Debye temp. 4-20821
 $\text{Fe}_{65}\text{Ni}_{35-x}\text{Cr}_x$, low temp. specific heat, 5-90K 4-29647
 $\text{Fe}_{50}\text{Ni}_{50-x}\text{Mn}_x$, conc. mag. transition, lattice crust., Debye temp. 4-20821
 $\alpha\text{-Fe}_2\text{O}_3$ microcrystals, Mossbauer effect, particle motion influence 4-46163
 $\alpha\text{-FeOOH}$ microcrystals, Mossbauer effect, particle motion influence 4-46163
 Ge-Sb-Se glasses, elastic props., US vel. meas. 4-2252
 GeAs, thermodynamic properties, 2-300K 4-56038
 ^3He , BCC unordered, elastic const., Debye temp. and exchange parameters 4-6609
 ^4He adsorbed monolayer, solid, props. and melting transition 4-2402
 K, compression, equations of state, and thermal expansion 4-20325
 Kr, solid state props. near 0K from $[n(r)]$ -6 pot. 4-29383
 $(\text{La}_2\text{Nd}_{0.3}\text{Lu}_{0.7})\text{Li}_2\text{Ga}_2\text{O}_{12}$ garnet, elastic and photoelastic consts. 4-11212
 MgO^{57}Cr , Mossbauer second order Doppler shift 4-2851
 Mn_2GaC perovskites, magnetic transitions, sp. ht. study 4-6986
 Na, compression, equations of state, and thermal expansion 4-20325
 Nb single crystal, elastic props. and RMS dynamic displacement of Nb atoms 4-2255
 Nd, specific heat calc., Debye temp., temp. variation 4-29649
 Ne, solid, thermal cond., temp. and volume depend. 4-50598
 Ni, polycryst. yield stress, temp. depend., low-temp. anomalies 4-21270
 Pb, Debye temp., Gruneisen parameter, temp. depend. 4-15608
 Pb island films, Debye-Waller factor size depend. of Bragg reflections, Debye temp., electron diffr. (*Russian*) 4-24940
 Pr, specific heat calc., Debye temp., temp. variation 4-29649
 Rb, compression, equations of state, and thermal expansion 4-20325
 Si crystal, thin cooled, coherent bremsstrahlung from relativistic electrons 4-30556
 a-Si, specific heat at low temp. 4-39538
 SiAs, thermodynamic properties, 2-300K 4-56038
 SnSe_2 , semicond. layer cpd., sp. ht. meas., Debye temp. 4-2344
 SrF_2 , low temp. heat capacity and Debye temp. 4-11311
 $\text{Ti}_x\text{M}_{1-x}\text{C}_x\text{N}_x$ ($\text{M}=\text{Zr}, \text{Hf}, \text{V}, \text{Nb}$), solid solns., Debye temp., elastic moduli 4-55903
 Xe, solid state props. near 0K from $[n(r)]$ -6 pot. 4-29383
 $\text{ZrO}_2\cdot\text{Y}_2\text{O}_3$, sp. ht. and thermal cond. at low temp. 4-20376
 ZrRuP, superconducting t_c and specific heat 4-56489

Debye-Waller factors

- see also lattice dynamics
 absolute Mossbauer fraction and Debye-Waller factors, thickness nonhomogeneity effects 4-30367
 atom-surface diffraction, Debye-Waller factor, effective hard wall model 4-24943
 d-band metals, anomalous Debye-Waller factors in photoelectron spectra 4-30610
 diamond:Co, heated and implanted, lattice damage reduction, impurity distrib., Mossbauer study 4-34504
 double quadratic chain with strong, medium and weak coupling 4-2280
 incommensurate systems, hyperfine interactions temp. depend. 4-39856
 metals, cubic, anharmonic Debye-Waller factor, temp. depend. 4-24941
 metals, FCC, lattice dynamics using ionic Morse pot. in sea of free-electron gas 4-55945
 one-dimensionally modulated structures, floating temp. phases 4-29564
 terephthalic acids, disordered H-bonded dimers, neutron scatt. 4-29562
 thin film diffraction, Debye-Waller factors 4-2037
 Be, band struct., lattice vibrs. and mag. props. (*Russian*) 4-50711
 CaWO_4 phosphors, Debye-Waller factor and emission intensity 4-15606
 Cs, band struct., lattice vibrs. and mag. props. (*Russian*) 4-50711
 CuBr, zero phonon-exciton band spectral characts. (*Russian*) 4-25239
 Ge, pulsed laser annealing, time-resolved surface struct. study using LEED 4-34538
 Kr, Debye-Waller exponents, phenomenological rigid atom model 4-11248
 Pb island films, Debye-Waller factor size depend. of Bragg reflections, Debye temp., electron diffr. (*Russian*) 4-24940
 SrCl, quasiharmonic Debye-Waller factors, shell model anal. 4-45299
 TaD_3 , static and dynamic displacements close to D, energy dispersive X-ray diffr. meas. 4-45297
 Ti-V(Mo) alloys, struct. and elec. resist. props. 4-29948

decay periods (radioactive) see radioactive decay periods**decay schemes (radioactive) see radioactive decay schemes****decay theory (nuclear) see nuclear decay theory****decision theory see decision theory and analysis****decision theory and analysis**

- see also Bayes methods; dynamic programming
 fusion reactor power generation research and development, economic probabilistic decision analysis 4-54418
 nuclear reactor, steady-state control, decision anal. techniques demonstration 4-33085
 ternary decision tree, multistage classifier with reject option 4-5554

decoding

- see also demodulation
 coded aperture masks, geometric design, phantom imaging using gamma camera 4-26499
 television cinedecoder, semi-automatic (*Russian*) 4-13699
 X-ray coded-aperture image reconstruction using kinoform array, lens-matrix decoding method 4-22892

decomposition

- microstructure features and processes only; for other aspects see dissociation and pyrolysis
 see also spinodal decomposition
 steel, austenitic, precipitation hardening, with Pb impurity, thermocyclic treatment effect on props. 4-40845
 steel, Cr-Mo-V, decomposition rate of supercooled austenite 4-3143

decomposition continued

- steel, Cr-Mo-V, for rolls, isothermal decomp. of austenite by pearlitic mechanism 4-40743
 steel, Cr-Mo-V-Nb, tempering, bainite transform. (*Chinese*) 4-3141
 steel, high speed, high temp. heat treatment, primary carbide network transform. 4-21242
 steel, Mo, isothermal decomposition, ferrite ageing 4-12078
 steel, Ni, intergranular tempered martensite embrittlement 4-16478
 steel, stainless, duplex, σ phase precipitation, alloying elements effects 4-21222
 steel, stainless, weldments, residual stresses rel. to α phase 4-3189
 tridymite to cristobalite transformation, high temp., kinetics 4-55967
 Al-(Mg)-(Cu)-(Zn)-Ti, dendrite liquation of Ti 4-57209
 Al-Al₃Ti system, directional peritectic solidification, solute distrib. at solid-liq. interface 4-51652
 Al-Mg-Li, struct. and props., ageing effect 4-57298
 Al-Mg-Li-Zr, struct. and props., effect of cooling rate during crystn. 4-57299
 Al-Sc, decomp. features 4-57235
 Al-Zn-Ag (5.2, 1.5 at.%), precipitation, neutron small angle scatt. with isospin contrast 4-3140
 $\beta^{\text{II}}\text{-(Al,Fe)}_{1-x}\text{O}_2\cdot\text{Na}_2\text{O}$, solid state reaction mech., TEM study 4-34661
 $\text{Al}_2\text{Si}_2\text{O}_7(\text{OH})_4$, kaolinite, heat decomposition, spinel phase form., struct., lattice energy 4-3142
 AuSi_3 , room temp. dissoc. in Au-Si hypoeutectic alloys 4-21194
 $\text{BaB}_2\text{O}_4\text{-Li}_2\text{B}_4\text{O}_7$ system, phase equilibrium and cryst. structs., thermal and X-ray diffr. anal. (*Chinese*) 4-55960
 $\text{BaB}_2\text{O}_4\text{-Li}_2\text{O}$ system, phase equilibrium and cryst. structs., thermal and X-ray diffr. anal. (*Chinese*) 4-55960
 $\text{BaTiO}_3\cdot\text{Y}_2\text{O}_3$, electrophysical and magnetochemical props. 4-56857
 $\text{CaO-SiO}_2\text{-H}_2\text{O}$, structural relations 4-39273
 Cd-Cd₃Ag system, directional peritectic solidification, solute distrib. at solid-liq. interface 4-51652
 Cu-Al-Ni (28.2, 3.9 at.%), decomp. of β_1 phase 4-21195
 Fe-Cr-Mn-C, cast, high-Cr, phase transform. features 4-21205
 Ge:Al (Ga)(In)(Sb), kinetics of decomposition, with separation, retrograde scheme 4-57231
 GeS-GeSe solid soln. system, phase diagram and decomposition 4-34615
 $\text{HfO}_2\text{-TiO}_2$, synthesis, fluoritelike phase form., defective struct. 4-11137
 $\text{H}_2\text{Se}_2\text{-GeSe}_2$ system, phase diagram, peritectic reaction obs. 4-7434
 $\text{KPO}_3\text{-LaP}_2\text{O}_7$ system, compound formation, DTA, X-ray and IR absorpt. obs. (*French*) 4-50249
 Mo alloys, low-alloyed cast, interstitial solid soln. decomp., fine struct. 4-51621
 Mn_2MnAl alloy, decomposition kinetics, elec. resist. studies 4-45343
 NaCl:AgCl crystals, solid soln. decomp. small-angle X-ray scatt. obs. (*Russian*) 4-39526
 NaCl-KCl crystals, unmixing, linear growth of two-phase regions 4-50512
 $\text{Na}_2\text{O-L}_2\text{O}_3\text{-TiO}_2\text{-B}_2\text{O}_3\text{-SiO}_2$ system, heat treatment, leaching, phase decomposition 4-7470
 Ni-Al bronzes, complex, microstruct. development during continuous cooling 4-7424
 Ni-Al(14 at.%), isothermal ageing, nucleation and growth of γ' -precipitates 4-3139
 Pb-Sn-Sr-Al, as-cast, cellular precipitation and overaging 4-51679
 Si:As, supersaturated solid soln., decomposition, sessile Frank loop, impurity atmosphere effects 4-29442
 Si_3N_4 , reaction bonded, densification kinetics rel. to impurities 4-16359
 Ti-Al-Mo-Cr (7.5, 2.5, 1.8 wt.%), decomp. of metastable β -phase, effect of thermal treatment 4-40744
 U-Nb, phase diagram features, decomposition, DTA 4-30688
 Zr-Nb (20wt.%), age hardening rel. to H content (*Japanese*) 4-35637
 $\text{ZrO}_2\text{-MgO}$, partially stabilised ceramic, stress induced polymorph form., decomposition during annealing 4-57238
 $\text{ZrO}_2\text{-SiO}_2\text{-Al}_2\text{O}_3\text{-TiO}_2$ system, thermal props. rel. to impurities 4-25946
 $\text{ZrO}_2\text{-SiO}_2\text{-Al}_2\text{O}_3\text{-TiO}_2$ system, initial melting temp., thermal dissociation, impurities effect 4-25947

decomposition, spinodal see spinodal decomposition**decomposition, thermal see pyrolysis****decorative coatings**

No entries

deep level transient spectra see deep level transient spectroscopy**deep level transient spectroscopy**

see also deep levels

- Boonton 72BD capacitance meter modification 4-42987
 electron irradi., defect form. parameters 4-50361
 III-V mixed compound semiconductors, alloy fluctuations at defects, DLTS studies 4-39811
 MOS structures, bipolar weighting function for current DLTS studies 4-25447
 MOS structures, DLTS automatic meas. of interface-state densities (*Japanese*) 4-40062
 MOS system, interface state electron capture cross-section, DLTS studies 4-35075
 p-n junctions, traps, DLTS curves corresponding to nonexponential transients 4-45673
 semiconductors, capacitively meas. scanning DLTS system 4-15844
 strongly compensated structures with deep centres, DLTS study (*Spanish*) 4-39808
 uniaxial stress apparatus appl., neutron irradiated Si obs. 4-42976
 $\text{Al-Si}_3\text{N}_4\text{-GaAs}$ MIS struct., characterisation using capacitance method (*French*) 4-35073
 $\text{Al-SiO}_2\text{-Si}$ MIS structures, transient charging of insulator, DLTS study 4-56434
 $(\text{AlGa})\text{As-GaAs}$ 2-D electron gas devices, deep-level anal. by low-freq. noise measurement 4-50909
 p-CdTe-CdS thin film solar cell, electrochemically deposited, hole trap 4-50911
 GaAs, deep levels, electric field enhanced emission, DLTS 4-45665
 GaAs, effects of dry etching, determ. by Schottky diode evaluation 4-41017
 GaAs epitaxial layers, plastically bent, dislocation levels, DLTS study 4-25279
 GaAs, LEC grown, midgap electron traps, DLTS studies 4-15835
 GaAs, LEC grown, undoped semi-insulating, EL2 electron trap distrib., DLTS study 4-20591
 n-GaAs LPE layers, traps at interfaces with different substrates 4-6737
 GaAs, proton irradiated, accumulation and annealing of deep centres, role of charge state 4-25292

deep level transient spectroscopy continued

- GaAs, semi-insulating, LEC grown, trap level at 78 meV 4-15885
 GaAs:O, O midgap level, DLTS study 4-45667
 n-GaAs/Cr, Schottky barrier diode, deep levels 4-6862
 GaAs-Pt buried Schottky barrier, interface states, DLTS study 4-40015
 GaAs_{1-x}P_x, γ -ray induced defects, recombination-enhanced annealing 4-20252
 n-Ge, capacitance transient spectroscopy of states localised at dislocations 4-15846
 Ge, characterisation for nuclear radiation detectors 4-2550
 Ge, electron irradi., subthreshold, search for intrinsic point defects 4-45189
 Ge, electron irradi. defects, DLTS studies 4-34913
 p-Ge, plastic deformation-induced defects, DLTS studies 4-6364
 Ge:H, H⁺ implanted or electron irradi., H-divacancy complexes, DLTS study 4-15833
 Ge:Ni n⁺p diodes, mobility of Ni-related centres 4-2225
 Ge:P, transient elec. props. of low angle tilt boundaries 4-15847
 III-V semiconductors, capacitively meas. scanning DLTS system 4-15844
 InGaAs/InP n-n heterojunction, deep levels, capacitance and DLTS studies 4-25425
 In_{0.75}Ga_{0.25}As_{0.98}P_{0.02}, LPE grown, electron traps, MOS-DLTS method (Chinese) 4-50752
 InP, deep levels, influence of growing conditions and impurities (Korean) 4-39820
 InP, electron irradi. defects, elec. and optical investigations 4-34902
 InP, high-purity hydride VPE, defect centre obs. 4-35478
 InP, localised deep level electron trap MOE2, DLTS studies 4-39809
 InP, low temp. electron irradi., defects, DLTS studies 4-50758
 InP, MOCVD layers on semi-insulating InP, deep level electron traps, DLTS study 4-39810
 InP, metastable M centre, defect charge state controlled struct. relax. 4-20595
 InP, n-type, proton irradiated defects study (French) 4-55891
 InP, undoped and doped, DLTS obs. of electron irradi. defects 4-34903
 InP, unintentionally doped LEC crystals, annealing effects 4-34901
 InP:Co(Fe), Hall effect, elec. resist. and DLTS studies 4-25374
 InP:SiO₂ MIS capacitors, interface states 4-50944
 Na⁺ induced surface states in Si-SiO₂ interface, transient capacitance spectroscopy 4-50885
 a-Se photoconductors, deep gap state spectroscopy 4-20606
 Si, CW beam-annealed, electron microscopy and defect/impurity spectroscopy 4-20604
 Si, capacitance transient spectroscopy of states localised at dislocations 4-15846
 Si, capacitively meas. scanning DLTS system 4-15844
 Si, characterisation for nuclear radiation detectors 4-2550
 n-Si, deep levels introduced by electron beam deposition of metals, DLTS study 4-50887
 Si deep point defect centre levels, passivation/annihilation techniques (Chinese) 4-6728
 p-Si, defects induced by electron beam deposition, DLTS study 4-50886
 Si, electron irradi., subthreshold, search for intrinsic point defects 4-45189
 Si, grown-in impurities investig. by DLTS 4-11476
 p-Si, heat treatment-induced deep levels, DLTS study 4-56269
 n-Si, neutron irradi., annealing, DLTS studies 4-20260
 n-Si, neutron irradi., low dose, electron traps and annealing behaviour, DLTS study (Chinese) 4-39807
 Si wafers, long-time processed, Cu precip., cryst. defects, TEM, DLTS studies 4-2192
 Si:Au-Fe, deep levels in band gap, EPR and DLTS study 4-50754
 Si:B, flash annealing with pulsed Xe lamp and appl. for solar cells 4-39332
 Si:B, interstitial level energies 4-6729
 a-Si:H, deep level distrib., transient voltage spectroscopy 4-40046
 Si:H, dislocated, hydrogenation, DLTS study 4-15504
 a-Si:H, MIS diodes, trap level and conc., DLTS 4-15887
 Si:P solar cells, pulsed electron beam annealing effect on open-circuit voltage 4-16786
 Si:Te, trap level obs. by deep level transient spectroscopy 4-25276
 Si:Ti, ion implanted, deep impurity levels, DLTS studies 4-20593
 Si/PtSi interface, Pt diffusion, electron traps, DLTS studies 4-29696
 Si-SiO₂, electron and hole traps study 4-11473
 Si-SiO₂ interface region, Ag distrib. profiles, DLTS 4-45177

deep levels

- see also *deep level transient spectroscopy*
 amorphous semiconductors, localisation, deep states in gap, and hopping transport 4-45685
 core excitons in electronic polaron model 4-56221
 ethylene propylene fluorinated copolymer, radiation-induced conductivity 4-6786
 Ga_{1-x}Al_xAs, elec. resist. var., deep levels, band struct. 4-34974
 hopping transport on randomly substituted lattice in presence of dilute deep traps 4-50803
 metal-semiconductor interfaces, dipole layers rel. to deep levels 4-6860
 metals, deep level spectra, phonon effects, beyond linear screening and linear-coupling models 4-25289
 oxide surfaces, electronic struct. DV-X α cluster calc. 4-11567
 p-n junctions, deep centres behaviour, graphic representation (Chinese) 4-20590
 n-phenylenediamine, photoconductor, carrier trapping by deep impurity levels 4-6833
 poly-N-epoxypropylcarbazole, photoconductor, carrier trapping by deep impurity levels 4-6833
 poly-N-epoxypropylcarbazole, UV photosensitivity, low-molecular impurities effects 4-6834
 polyethylene terephthalate, X-ray photoconductivity, doping effects, deep traps obs. 4-30004
 polyethylene terephthalate films, radiation induced conductivity 4-45904
 quasi-one-dimensional system, charge carrier photogeneration, recomb. and transport 4-39960
 radiation detector fabrication, overview 4-1000
 semiconductor, deep impurity line spectrum, one-band model 4-50761
 semiconductor, deep levels at dislocations 4-15842
 semiconductor interfaces, dipole layers rel. to deep levels 4-6860
 semiconductor materials and devices 4-34379
 semiconductor thin films, light absorption by deep impurity centres, characts. 4-25789

deep levels continued

- semiconductors, compensated, capacitance and relax. times at carrier exclusion 4-45807
 semiconductors, deep level determination using capacitance-volt. charact. meas. 4-29928
 semiconductors, dislocation properties and struct., Colloquium, Aussois, France (Mar. 1983) 4-13475
 semiconductors, mechanical properties, recrystallisation and diffusion, effect of doping, review 4-20213
 semiconductors, nonradiative multiphonon hot electron capture coeffs. of deep traps, electron temp. depend. 4-39827
 semiconductors, photoionisation of deep h centres 4-34914
 semiconductors, shallow and deep impurities, high mag. field effects 4-2546
 strongly compensated structures with deep centres, DLTS study (Spanish) 4-39808
 Al-Zn (8.5 wt.%) positron annihilation characts., temp. depend. 4-40563
 AlGaAs:Cu(Fe), deep acceptor levels, comp. dependence and random alloy effects 4-25280
 AlGaAs:Si selectively doped short period superlattice, MBE grown, persistent photocond. 4-25428
 (AlGa)As-GaAs 2-D electron gas devices, deep-level anal. by low-freq. noise measurement 4-50909
 n-Al_{1-x}Ga_xAs:Si MBE layers capacitance and Hall effect meas. 4-50962
 CdS/CdTe electroplated thin film solar cells, high efficiency 4-46873
 CdSe_{1-x}Te_x films, impurity luminesc., photocond. meas., comp. depend., band struct. 4-35506
 CdTe:In(Al) epitaxial layers, LPE growth and doping characts. 4-34820
 CdTe:Pb(Ge), deep level form., EPR study 4-40224
 p-CdTe-CdS thin film solar cell, electrochemically deposited, hole trap 4-50911
 α -Fe₂O₃ sintered electrodes, photoelectrochem. behaviour 4-15959
 α -Fe₂O₃:TiO₂ sintered electrodes, photoelectrochem. behaviour 4-15959
 Ga_{1-x}Al_xAs alloys, deep energy levels, photocond., cond. band struct. effects 4-30015
 Ga_{1-x}Al_xAs, Hall mobility, electron conc. and resistivity meas. at 300K 4-11544
 GaAs, deep levels, electric field enhanced emission, DLTS 4-45665
 GaAs, EPR and magnetic circular dichroism study of defects 4-51134
 GaAs, electron indicated, deep donor levels excitation and annealing (Russian) 4-56265
 GaAs, heavily doped, electron irradi., annealed, internal quantum efficiency of deep-centre luminesc. 4-7246
 GaAs, LEC grown, undoped, semi-insulating, 0.8 eV deep level photoluminescence 4-20592
 GaAs, LEC growth, deep traps at implanted layer interface 4-25291
 GaAs, large diameter crystals, IR absorption nonuniformities, photoinduced quenching 4-51304
 GaAs, MBE growth, surface processes and film props. 4-15789
 GaAs, MBE growth conditions rel. to deep levels generation 4-50661
 GaAs, photoionisation of deep h centres 4-34914
 GaAs, radiation defect energy levels, light absorption and Hall effect studies 4-20602
 GaAs, semi-insulating, deep centre EL2, direct IR imaging obs. 4-34905
 GaAs, semi-insulating, undoped, deep donor EL2, IR absorption study 4-35471
 GaAs semi-insulating, undoped, 0.68 eV emission, persistent photoluminesc. quenching, EL2 deep donor obs. 4-46295
 GaAs semi-insulating growth technology, electron trap deep level conc. 4-7343
 GaAs semiconductor/metal diodes, deep levels and I-V characts. 4-20723
 GaAs:Cr, deep level trapping dynamics, freq.-domain study 4-11472
 GaAs:Cr, single crystal growth by gradient freeze method 4-46431
 GaAs:Se, donor-level deepening under hydrostatic press., photoluminesc. study 4-21011
 GaAs:Se, implanted, deep levels, TSC and photolum. studies 4-2542
 n-GaAs:Te,Ge epitaxial layer, edge photoluminescence, compensation effects 4-11938
 n-GaAs/Cr, Schottky barrier diode, deep levels 4-6862
 GaAsP:Cr, deep level photoluminesc. 4-40497
 GaAs_{1-x}P_x, MOVPE grown, luminesc. props. and deep electron traps 4-25794
 GaN, deep centre emission anisotropy 4-35492
 GaP, elec. and photoelectrical props. 4-35015
 GaP p-n structs., nonclassical thermal injection currents, luminesc. study 4-11585
 GaP red-emitting LED, 0.75 eV killer centre, dark transient capacitance study 4-11471
 GaP, vacancy induced deep levels, density of states change 4-39747
 GaP:Fe, optical and thermal props. of Fe 4-2547
 GaP:N epitaxial layers, deep level induced by plastic deform., TSC meas. 4-2538
 Ge, characterisation for nuclear radiation detectors 4-2550
 Ge:Cu, plasma hydrogenation, deep levels and Cu solubility 4-29923
 a-Ge:Mo films, local struct. and elec. props. 4-39133
 HfS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
 Hg_{1-x}Cd_xTe, deep levels in near-surface region, C-V characts. of MOS struct. 4-50762
 In_{1-x}Ga_xP solid soln., donor-acceptor recombination, band struct. effects 4-25809
 InP, doped and undoped VPE, optical characterisation of acceptors 4-35477
 InP, high-purity hydride VPE, defect centre obs. 4-35478
 InP, influence of growing conditions and impurities (Korean) 4-39820
 InP, ion implanted, rapid lamp annealing, band-to-band luminesc. 4-51312
 InP, localised deep level electron trap MOE2, DLTS studies 4-39809
 InP, MOCVD layers on semi-insulating InP, deep level electron traps, DLTS study 4-39810
 InP, vacancy induced deep levels, density of states change 4-39747
 InP:Co, deep levels, space charge spectra, photoluminescence and EPR studies 4-39814
 InP:Fe, impurity centres, time depend. photoluminesc. study 4-46324
 InP:Fe, pure and doped, deep centres, optical studies 4-11479
 InP:Fe, recombination centre parameters, photoelec. studies 4-6828
 InP:Si, elec. and photolum. obs. of Si implantation and damage, residual impurities 4-34511
 InSb, dislocation induced deep levels, optical absorption studies 4-16224
 InSb, lattice relaxation controlled free carrier conc., transport props. study (French) 4-56357

deep levels continued

- In₂Se_{1-x} amorphous films, carrier mobility and lifetime meas. 4-45789
 Pb_{1-x}Sn_xTe:In, liquid phase epitaxy, elec. cond., deep levels in forbidden zone 4-51556
 PbTe epitaxial film, deep level photoluminescence 4-46319
 PtSi-Si, thermal diffusion of Pt in Si, deep electron traps obs. 4-45428
 a-Se, deep trapping levels, elec. field ionisation 4-45690
 a-Se, equilib. doping and elec. behaviour, xerographic studies 4-45804
 a-Se photoceptors, deep gap state spectroscopy 4-20606
 Si CVD VPE from SiCl₄-H₂ system, deep levels study 4-15836
 Si, chalcogen doped, deep centers and their importance for semiconductor devices 4-39830
 Si, characterisation for nuclear radiation detectors 4-2550
 Si, deep level defects after beam processing in solid phase regime 4-15839
 n-Si, deep levels introduced by electron beam deposition of metals, DLTS study 4-50887
 Si deep point defect centre levels, passivation/annihilation techniques (*Chinese*) 4-6728
 p-Si, defects induced by electron beam deposition, DLTS study 4-50886
 Si epitaxial planar p-n junction, thermally stimulated current studies (*Russian*) 4-45862
 p-Si, heat treatment-induced deep levels, DLTS study 4-56269
 Si, impurity nuclei at interstitial sites, hyperfine interactions 4-34899
 Si, ion implantation through SiO₂ film, induced-defects, compensative study (*French*) 4-15502
 Si, minority carrier lifetime, SEM cathodolum. assessment 4-35499
 n-Si, neutron transmutation doped, piezoresist. and Hall effect, annealing and quenching effects, deep donors formation 4-6776
 Si, oxidised, MOS struct., paramag. defects and electronic deep levels, EPR 4-46107
 Si, photoionisation of deep h centres 4-34914
 Si, plasma hydrogenation, deep levels 4-29923
 Si polycrystalline thin film, threshold and memory switching effects, deep levels 4-50881
 Si solar cells, electron irradiation and light injection 4-46870
 Si, T₂ symmetric deep level wave functions, defect centres (*Chinese*) 4-50753
 Si, thermal processing, effect on thermophysical props. and structural perfection 4-50836
 a-Si, transport and related props., transient expts. 4-45775
 Si:Au-Fe, deep levels in band gap, EPR and DLTS study 4-50754
 Si:Cu, symmetric lattice distortions around deep level impurities 4-6736
 a-Si:H, B, dopant states, tight-binding model 4-6743
 Si:H, B, Hall effect and hole transport 4-20673
 Si:H, deep Au-related donor and acceptor levels hydrogenation by electrolytic doping 4-45668
 a-Si:H, deep level distrib., transient voltage spectroscopy 4-40046
 a-Si:H, deep trapping, disorder and band tail localisation effects 4-45809
 a-Si:H, dopant states, tight-binding model calc. 4-6741
 a-Si:H, gap states density, deep levels, TSC meas. in space charge zone 4-2623
 a-Si:H, space-charge-limited I-V characts. and density of states 4-45798
 Si:Mn²⁺, Jahn-Teller centres, ESR and spin lattice relax. studies 4-25632
 Si: noble gas atoms, deep impurity levels, luminescence studies 4-45672
 Si:O, Czochralski grown, annealed, deep level photoluminesc. from dislocations 4-21010
 Si:O, Czochralski grown, thermal donors, deep level luminesc. study 4-21009
 Si/Si₃N₄/GeO₂/SiO₂/metal memory multilayer struct., photoelectret charging (*Russian*) 4-40332
 SiO₂, impurity states, chemical trends in deep energy levels 4-45678
 SiO₂N_x, ultrathin nitrided oxide films, deep levels, electron capture and tunnel emission 4-40099
 Te, free and bound impurity states, press. depend., photocond. studies 4-39816
 TiN_x, electronic struct., deep levels and valence bands, XPS studies 4-11439
 ZnO, deep level struct. of O vacancies, semi-empirical calc. 4-34906
 ZnO, elec. cond. and thermoelec. power, temp. and O₂ partial press. effects (*French*) 4-15870
 ZnSe, cryst., cathodolum. spectra and images in SEM 4-35500
 ZrS₂ intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804

defect electron energy states

- see also colour centres; deep levels
 alkaline earth oxides, Li⁺ or Na⁺ ion implanted, point defects, ESR, optical absorpt., luminesc. spectra 4-20269
 amorphous semiconductors, nucl. spin relax. phenomena 4-40270
 amorphous semiconductors, triplet exciton, recomb., ODMR studies 4-39782
 crystal with isotropic impurity, local biphonons 4-24933
 degenerate impurity centres, spectral distrib., random deformation field effects (*Russian*) 4-25282
 diamond, electron states associated with partial dislocations, tight-binding calc. 4-15850
 diamond, H3 vibronic centre excited states, absorpt. and luminesc. meas. 4-16223
 diamond, vacancies, ideal and reconstructed, localised electron states, tight-binding calc., recursion method 4-6734
 diamond, vacancy and partial dislocation energy levels, first principles calc. 4-15851
 diamond, vacancy charge states and stress matrix elements 4-45671
 Hubbard model, delocalised vacancy scatt. by spin fluctuations 4-11663
 III-V compounds, dislocation energy states, exptl. studies review 4-15843
 metal, indirect exchange interaction with resonance defect electron states 4-11669
 metal, mag. susceptibility, near electronic transition, dislocation contrib. (*Russian*) 4-25514
 molecular crystals, energy spectrum, influence of planar defects and disorder 4-39785
 piezoelectric semiconductors, random strain broadening of hydrogenic donors 4-39826
 polar crystals, polarons bound to defects, optical absorpt. weak coupling theory, appl. to SrTiO₃ 4-11897
 polyacetylene, dynamic charges for photoexcited defects 4-39840
 polyacetylene, neutral solitons, implications of ENDOR results 4-2843
 polyacetylene films, defect states, photoacoustic and diffuse refl. obs. 4-20544

defect electron energy states continued

- polymer chain with isotopically substituted host, localised excitations 4-11484
 quartz, thermolum. centres 4-51358
 quartz glass, O-vacancy defects, electronic struct. and optical studies 4-2966
 semiconductor, deep levels at dislocations 4-15842
 semiconductor, elec. transport in dislocation core, one-dimensional conduction 4-15869
 semiconductor, hole-capture cross section of charged dislocations 4-29986
 semiconductor bicrystal, grain boundary tunnelling conduct. 4-40025
 semiconductor-insulator boundaries, conf., Eindhoven, The Netherlands (April 1983) 4-42605
 semiconductors, deep level determination using capacitance-volt. charact. meas. 4-29928
 semiconductors, diamond-like, bulk and surface electronic props. 4-30042
 semiconductors, dislocation mobility meas. atomic and electronic dislocation core struct. studies, review 4-15490
 semiconductors, many-valley, hopping elec. cond. under AC conditions 4-50817
 semiconductors, recombination-stimulated defect diffusion (*Russian*) 4-6565
 a-Si:H solar cell degradation, role of C 4-41338
 Si, neutron irradi., DLTS studies 4-42976
 vacancy lines, electronic structure in simple cubic lattice 4-6735
 Al, defect electronic structure, extension of muffin-tin Greens-function theory 4-45674
 BaS:Cu,Bi phosphors, gamma-ray induced thermally stimulated luminesc. study 4-16259
 Be₂SiO₄, irradiated surface layer, electron and hole centres (*Russian*) 4-39813
 Bi thin film, defect energy distrib., Vand theory eqn. modification 4-50674
 C, dislocation core behaviour calcs. 4-25278
 Cd,Hg_{1-x}Te, γ-irrad. effect on elec. props. (*Russian*) 4-56372
 Cd_{1-x}Mn_xTe, imperfection photocond. and acceptor levels 4-6829
 CdSe single crystal films, slow recombination centres, photoelec. props. studies 4-11482
 CdTe, intrinsic point defects 4-24813
 CdTe, long-time photoconductivity relax. (*French*) 4-15913
 CdTe, plasticity, Hall effect, thermoelec. power meas., chemomechanical effect 4-15892
 CrH₃, nonstoichiometric, electron struct. and K emission spectra (*Russian*) 4-25215
 CuInSe₂, elec. props., intrinsic defect influence 4-45806
 GaAs (100), surface electron states, UPS studies (*Chinese*) 4-50884
 GaAs (110) 4-46425
 GaAs, charge-state-controlled struct. relax. of EL2 centre 4-2633
 GaAs crystal, electronic struct. of ideal vacancies 4-29922
 GaAs, defect profile and annealing behaviour, impurity complexes form. 4-24841
 GaAs, epitaxial, electronic props. of native deep level defects 4-39815
 GaAs epitaxial growth by MO-CVD, optical and elec. props. (*Japanese*) 4-34832
 GaAs epitaxial layers, plastically bent, dislocation levels, DLTS study 4-25279
 GaAs, γ-ray irradi., E5 centres, annealing and accumulation, elec. field effects 4-25293
 GaAs, LEC grown, midgap electron traps, DLTS studies 4-15835
 GaAs, radiation defect energy levels, light absorption and, Hall effect studies 4-20602
 GaAs, recomb. electron beam irradi. enhanced dislocation mobility 4-15540
 GaAs, T₂ symm. deep level wavefunction predictions 4-11478
 GaAs, vacancies and anti-site defects, electronic struct., tight-binding calc. 4-2540
 GaAs:C, defect states, thermodynamic calcs. 4-39819
 GaAs:Cr, thermally converted, defect profiles, photoluminescence spectra 4-2965
 a-GaAs:H, amorphous and microcryst., electronic struct., photoemission spectra 4-39767
 GaAs:H (110) Ga-H defect sites, photon stimulated desorption studies 4-45851
 GaAs-dielectric interfaces, surface Fermi level 4-6904
 Ga_{0.9}In_{0.1}As-dielectric interfaces, surface Fermi level 4-6904
 Ga_{0.9}In_{0.1}P_{0.5}As_{0.5} solid solns., intrinsic defects conc. calc., deviation from stoichiometry 4-24812
 GaP, vacancy induced deep levels, density of states change 4-39747
 GaP, vacancy spin polarisation energy 4-39821
 n-Ge, capacitance transient spectroscopy of states localised at dislocations 4-15846
 Ge crystal, electronic struct. of ideal vacancies 4-29922
 Ge, dislocation core behaviour calcs. 4-25278
 Ge, dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907
 Ge, γ-ray irradi., A centres, energy levels and annealing 4-50760
 p-Ge, plastic deformation-induced defects, DLTS studies 4-6364
 Ge, T₂ symm. deep level wavefunction predictions 4-11478
 a-Ge:H, doped and undoped, defect correl. energy, IR absorpt. 4-40483
 Ge:H, H⁺ implanted or electron irradi., H-divacancy complexes, DLTS study 4-15833
 Ge:P, transient elec. props. of low angle tilt boundaries 4-15847
 Ge-Si-Cu, solid soln., electron irradi. effect on electrophys. props., radiation defect form. control by alloying 4-56363
 HfO₂:TiO_{1.5}, synthesis, fluoritelike phase form., defective struct. 4-11137
 InP, deep levels, influence of growing conditions and impurities (*Korean*) 4-39820
 InP, electron irradi. defects, elec. and optical investigations 4-34902
 InP, low temp. electron irradi., defects, DLTS studies 4-50758
 InP, recomb. electron beam irradi. enhanced dislocation mobility 4-15540
 InP, T₂ symm. deep level wavefunction predictions 4-11478
 InP, undoped and doped, DLTS obs. of electron irradi. defects 4-34903
 InP, vacancy induced deep levels, density of states change 4-39747
 InP-dielectric interfaces, surface Fermi level 4-6904
 InSb, dislocation induced deep levels, optical absorption studies 4-16224
 InSb, lattice relaxation controlled free carrier conc., transport props. study (*French*) 4-56357
 InSb, plastically deformed, galvanomagnetic props. 4-15891
 K1(Br), F centre excited state electron spin polarisation meas. 4-11475
 K₂NbO₄ doped ferroelec. semicond., phase transitions and props. 4-46205
 α-MnSe, elec. resist., Hall effect and thermoelec. power 4-39908

defect electron energy states continued

- NaMgF₃, flux-grown, X-irrad., glow curves, optical absorpt. spectra studies 4-11948
 PbTe epitaxial film, deep level photoluminescence 4-46319
 Se, amorphous, AC cond., photoinduced changes 4-45787
 Si, capacitance transient spectroscopy of states localised at dislocations 4-15846
 Si, carrier spin-dependent recomb. at dislocation dangling bonds 4-15848
 Si, deep level defects after beam processing in solid phase regime 4-15839
 n-Si, deep levels introduced by electron beam deposition of metals, DLTS study 4-50887
 p-Si, defects induced by electron beam deposition, DLTS study 4-50886
 a-Si, density of gap states, charged dangling bonds, crystn. studies 4-39833
 Si, dislocated crystal, photolum. study 4-16235
 Si, dislocation core behaviour calcs. 4-25278
 Si, dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907
 Si, dislocation structure and energy levels 4-15840
 Si, dislocations, static and moving, localised electron states calc. 4-6733
 Si, divacancy-O₂ defect complexes, electronic struct., Si-P2 centre simulation 4-39828
 Si, EBIC contrast from dislocations, temp. depend. 4-15479
 Si, electrical resist. and carrier conc., grain size and doping effects 4-29973
 a-Si evaporated films, dangling bond density reduction by hydrogenation under NH₃ 4-245
 Si, grain boundary electronic struct. calcs. 4-39825
 p-Si, heat treatment-induced deep levels, DLTS study 4-56269
 Si, ion implantation through SiO₂ film, induced-defects, compensative study (French) 4-15502
 Si, liquid phase transient laser annealing, point defect origins 4-15460
 Si, local density theory of impurity states 4-2544
 Si MOS structures, γ -irrad., paramag. Si³⁺ centres obs. 4-40052
 Si, microcrystalline, defect states study 4-50756
 a-Si, p-type, sputtered, elec. and optical props. 4-6779
 Si, partial dislocation, 90°, valence force-field geometry and electronic states 4-20603
 Si, partial dislocations, 90°, core struct. and electronic bands. 4-45134
 Si, plastic deform., deep level defects 4-15845
 Si, proton and neutron irrad., defect cluster parameters determ. 4-6412
 Si reconstructed (001) surfaces, electronic struct., angle-resolved EELS, LEED studies 4-21086
 Si, reconstructed dislocations, energy levels and defect props. calc. 4-15841
 Si, shallow short-range electron traps in mag. field 4-6730
 Si, solitons, dislocation elec. and mobility props. 4-6372
 Si, T₂ symm. deep level wavefunction predictions 4-11478
 Si, T₂ symmetric deep level wave functions, defect centres (Chinese) 4-50753
 Si, vacancies, ideal and reconstructed, localised electron states, tight-binding calc., recursion method 4-6734
 Si, vacancies, interaction between dangling bonds 4-11140
 Si, vacancy negative U-props. and expl. p(1/T) characts. 4-20594
 Si, vacancy spin polarisation energy 4-39821
 Si:B, interstitial level energies 4-6729
 Si:B(As), ion implanted, ESR study 4-16096
 a-Si:C(N), local struct., NMR, EPR, Raman scatt., and IR absorpt. studies 4-39131
 a-Si:H, AC cond., photoinduced changes 4-45787
 Si:H, amorphous CVD film, post-hydrogenated, electronic props. 4-35578
 a-Si:H, light-induced metastable defects 4-39284
 a-Si:H, recombination processes and spin-dependent photocond. 4-6831
 a-Si:H, spin-dependent photoinduced absorpt., ESR study 4-40225
 a-Si:H, trapped electron-trapped hole recomb., dangling bonds, photocond., EPR studies 4-39834
 Si:H, twisted, radiative recomb hydrogenation effects. 4-16236
 Si:H (alkali metal) impurity vacancy complexes, electronic struct. 4-45676
 a-Si:H and a-Si, dangling bond states, rigorous energy bounds 4-45681
 a-Si:H and a-Si, hydrogenated bond states, rigorous energy bounds 4-45682
 a-Si:H film, short lived photoinduced midgap absorpt. 4-40551
 a-Si:H films, dangling bonds, ENDOR study 4-40280
 a-Si:H films, prep. by ion beam deposition, photoacoustic spectroscopy, charge transport 4-40484
 Si:Na, electron irrad., radiation defects, Hall effect meas. 4-50362
 Si:noble gas atoms, deep impurity levels, luminescence studies 4-45672
 Si:O, Hall effect, temp. depend., differential evaluation 4-25277
 Si:P, annealed, shallow donor complex, photocond. spectra 4-45669
 n-Si/Au Schottky diodes, elec. characts. and electron beam annealing 4-15961
 Si-SiO₂, ESR, optically induced, spin-dependent recombination 4-45883
 Si-SiO₂ interface, continuously distributed trap states model 4-45894
 Si-SiO₂ interface defects, characterisation by ESR, review 4-46105
 Si-SiO₂ interface defect centres, EPR, effect of As⁺ implantation 4-46108
 Si-SiO₂ MOS devices, charge trapping 4-50946
 Si-transition metal Schottky barriers, Fermi level pinning by Si dangling bonds at interfacial vacancies 4-30071
 SiC, neutron irrad., D₁ centres, vibr. struct., absorpt. and luminesc. spectra 4-30494
 SiN₂:H, amorphous, ion irrad., dark cond. meas., defect states 4-39837
 Si₃N₄, amorphous, defect states energy levels, trap states 4-50750
 SiO₂ MOS capacitors, field-sensitive interface states, elec. characterisation and modelling 4-45895
 SiO₂, vitreous, oppositely charged dangling bond pair, form. energy, CNDO/2 calcs. 4-15837
 SiO₂, X-ray radiation-induced electron traps 4-15834
 SmS, defect-induced valence instabilities, group theory anal. 4-2557
 TiO₂/electrolyte interface, surface state photoresponse in near IR region 4-20718
 Zn-ZnO-Au struct., nonohmic characts., trap clusters 4-56449
 ZnSe crystal, electronic struct. of ideal vacancies 4-29922
 ZnSe:Ga, defect levels, photocapacitance study 4-29920
 ZnTe, single crystal growth, characterisation (Korean) 4-40640

defectoscopy see crack detection**defects, crystal see crystal defects****defibrillators**

- see also patient treatment
 electrosurgical dispersive electrodes, use for ventricular defibrillation 4-52526
 evaluation of defibrillators 4-47104

deformation

- see also bending; cold working; creep; drawing (mechanical); elastic deformation; elongation; ferroelasticity; plastic deformation; shape memory effects; thermomechanical treatment
 ABS acoustic emission during stretching or temp. jump 4-6445
 alloys, phase diagrams and deformability, mutual relationships (Russian) 4-25942
 amorphous glassy polymers, acoustic emission during stretching or temp. jump 4-6445
 anisotropic solid whose deformation characts. depend on form of stressed state, elasticity relation 4-49675
 bars, prismatic, torsion theory for finite deform. 4-44391
 beams, laminated anisotropic; of bimodulus materials, finite element analysis 4-49696
 beams, prismatic, buckling under axial and transverse loads 4-10579
 block compression, three dims. finite element anal. 4-49711
 ceramics, AE during deformation and fracture 4-57518
 composite winding, continuous model for force analysis 4-44365
 composites, almost-cylindrical, deform. problem approx. soln. 4-55332
 continuum plasticity, finite strain, for stress paths of arbitrary comp. and direction 4-28983
 crack dislocation model of brittle fracture, deform. and thermodynamic response 4-29516
 curvilinear orthotropic inhomogeneous bodies of revolution, thermostress study 4-55327
 diamond, synthetic compact, deform. and microtwinning, TEM study 4-20209
 dissipative materials and variational formulations 4-53482
 doubly curved shell element, differential geometry scheme 4-19737
 drops, spreading and break-up in gas stream 4-49868
 electroelasticity with small deformations in dielectrics 4-2261
 FCC lattice, deformed under uniaxial loading, special points 4-2501
 fibre reinforced elastic material, finitely deformed, instabilities 4-1635
 forming with heating, stress-strain state in inner deformation zone 4-24360
 fracture and deformation mapping 4-40945
 glass plates, unirradiated and He ion bombarded, stress relaxation, dims. stability 4-50377
 ice, deformation and fracture under temp. gradient, elec. charge separation 4-31614
 isotropic points, classification in stress fields 4-38734
 jets, rectangular turbulent, transverse section deform. 4-5930
 muscle, skinned striated fibres, planar deformation, expt. study 4-41557
 optical fibre, periodically deformed, light modulation study 4-33781
 optical fibres, jacketed, with initial imperfection, thermal characts. 4-55197
 PAN films, chain conformational changes on swelling 4-5527
 plate, viscoelastic, with circular hole, vibratory loading 4-49720
 polycrystalline aggregates, anisotropic, subjected to external stress field, strain distrib. 4-45248
 polyurethane-urea elastomers, segmented, IR dichroism and orientation 4-51234
 programs based on pavement design computations for use on microcomputer 4-12183
 quantification using electron channelling 4-35808
 rock brittle, microcrack model for deformation and failure 4-41897
 rocks, joint deform. under normal and shear loading 4-41896
 shells, cylindrical, displacements and stress based on an improved theory 4-49669
 shells, flexible, variable-thickness, conical, nonaxisymm. deform. 4-44375
 shells, helicoidal, general, undergoing large one-dims. strains or large inextensional deformations 4-39392
 shells, orthotropic, three-layer, with viscoelastic filler, thermomech. theory 4-55339
 shells-governing equation, computerised analysis 4-19727
 spatially reinforced hybrid composite, deform. characts. (Russian) 4-7516
 steel, abrasion, Cr content effect, small scale yielding mechanism (Japanese) 4-51789
 steel, surface deformation, positron annihilation study 4-51405
 steel tapered I-columns, min. weight design 4-49705
 strain cell for the study of smectic liquid crystals (French) 4-48096
 thermoplastic medium, statistical characts. of coherent radiation dispersed by 'frost' deformation (Russian) 4-49420
 vacancy winds in cyclic deformation 4-20282
 volumetric component distribution of forces (Bulgarian) 4-28992
 wood, deformation behaviour (Japanese) 4-36153
 X-ray diffr. peak shapes, Fourier anal., single peak methods 4-44894
 zero energy deformation mode suppression 4-32046
 Zircaloy sheath strain during an in-reactor LOCA transient test 4-27972
 Cu deformed, mosaic structure effects on strain ratio instability in single cryst. 4-30749
 Cu-Al (12 wt.%), strained, formation of stable 15R-martensite phase 4-11044
 Fe-Si (3 wt.%), grain oriented sheets, domain struct., tensile stress effect (Chinese) 4-2787
 GaSb-AlSb superlattice interface and lattice strain measurement by ion channelling 4-2420
 InP substrate, deform. of etched V-grooves by heat treatment 4-46636
 Mo, BCC, deform. by rolling, complex axial texture study 4-12084
 Nb-H alloys, twist effect, assoc. with hydride precip. 4-21265
 Ni-based superalloys, lattice rot., substructure form. during stretching (Russian) 4-25996
 Si, Al covered, multiple-energy He⁺ irrad., surface deform. and gas escape process 4-29485
 Ta-H alloys, twist effect, assoc. with hydride precip. 4-21265
 Ti-Ni, features of shape-memory effect 4-21292
 V-H alloys, twist effect, assoc. with hydride precip. 4-21265

deformation lines see Luder's bands**degenerate semiconductor materials see degenerate semiconductors****degenerate semiconductors**

- see also heavily doped semiconductors; superconducting semiconductors
 long-range interaction of mag. impurity states (Russian) 4-56275
 nonuniform band struct., elec. current, carrier density 4-50839

degenerate semiconductors continued

- Peltier coeff. rel. to Fermi level position and carrier scatt. mechanism 4-50850
 phenoxazine-iodine (2:3) and phenothiazine-iodine (2:3), one-dimensional conductivity 4-50799
 photon-drag current, hole intervalley scatt. effect 4-39895
 photostimulated planar acoustomagnetolectric effect in semiconductors 4-45838
 Cd_2SnO_4 thin films, influence of point defects on electrical properties 4-40091
 $(\text{CuCr}_2\text{Se}_4)_x(\text{Cu}_{0.5}\text{Mg}_{0.5}\text{Cr}_2\text{Se}_4)_{1-x}$ ($\text{M}=\text{In}, \text{Ga}$) spin glass state suppression by indirect exchange 4-35182
 n-GaAs, degenerate, electronic specific heat calcs. 4-56037
 n-GaAs, electron indicated, deep donor levels excitation and annealing (*Russian*) 4-56265
 n-InAs, degenerate, electron temperature, Shubnikov-de Haas oscillations in mag. field 4-29995
 In_2O_3 films, prod. by PYROSOL process, transparency, cond., IR refl. props., appls. (*French*) 4-34836
 n-InSb, degenerate, electron temperature, Shubnikov-de Haas oscillations in mag. field 4-29995
 n-InSb, electron heating in quantising mag. field 4-20684
 Se-S system, comp., phase relationships, elec. resist., thermoelec. power meas. 4-2626
 Si p-n junction, abrupt, open-circuit photovoltage, degeneracy and heavy doping effects 4-40037
 $\text{Sn}_{1-x}\text{Cr}_x\text{Te}$, as-grown and Zn annealed, mag. phase transitions, mag. susceptibility meas. 4-51035
 SnO_2 films, prod. by PYROSOL process, transparency, cond., IR refl. props., appls. (*French*) 4-34836
 $\text{SnO}_2:\text{F}(\text{Sb})$ heat reflecting layer formation on glass, optical props. (*Czech*) 4-50685
 $\text{ZnO}:\text{In}$ film, prep. by spray pyrolysis, elec., struct. and optical props. 4-30095

dekattrons

No entries

delay circuits

see also delay lines

- digital delay CAMAC module with 550 MHz preset counter for TRIS-TAN accelerator 4-9648
 ionising radiation automatic measuring set-up based on DRG2-01 radiation monitor 4-5112
 scanning electron microscope stroboscopy, delay circuit, 100 ps resolution 4-43143
 scanning nanosecond delay generator, multilaser system for resonant ionisation spectroscopy appl. 4-22850

delay elements (circuits) see delay circuits**delay lines**

see also acoustic delay lines

- fibre optic tapped delay line filter employing coherent optical processing 4-33774
 optical fibre recirculating delay lines, phase-induced intensity noise spectral struct. 4-33771
 SAW, for gas detection 4-31146
 SAW delay lines, fabrication on magnetic bubble garnet films 4-24330
 single mode fibre recirculating delay lines for high speed pulse train generation 4-1489

delayed neutrons

- data, compilation for reactor design and operation 4-27918
 emission probabilities and β -strength function semi-empirical estimation 4-43434
 fission reactor fuel, neutron background, separation from fissile nuclides neutrons 4-4980
 Gamow-Teller β -decay strength functions, resonances, review 4-4814
 precursor data compilation 4-36815
 (n,f), aggregate delayed neutron intensities and spectra using augmented ENDF/B-V precursor data 4-14010
 $\text{ArB}, A=93-97$, delayed neutron energy spectra 4-27919
 $\text{Cs}, A=143-146$, delayed neutron energy spectra (*Chinese*) 4-54080
 $\text{Cs}, A=143-146$, fission products, delayed neutron emission spectra, high resolution meas. 4-37501
 $\text{Cs}, A=144, 145, 147$, delayed neutron granddaughter states population and optical pot. 4-37503
 $\text{K}, A=53, 54$, neutron rich isotopes, β -delayed neutron yields, half lives 4-4819
 $\text{Mg}, A=31-34$, β -delayed neutron yields meas. 4-37495
 $\text{Na}, A=29-34$, β -delayed neutron yields meas. 4-37495
 $^{239}\text{Pu}(n,f)$, 0.5-7.5 MeV, fast fission, delayed neutron spectral meas. and covariance error anal. 4-37680
 $\text{ArB}, A=93-97$, delayed neutron energy spectra (*Chinese*) 4-54080
 $\text{Rb}, A=93-97$, fission products, delayed neutron emission spectra, high resolution meas. 4-37501
 ^{96}Rb , delayed neutron granddaughter states population and optical pot. 4-37503
 $^{235}\text{U}(n,f)$, 0.5-7.5 MeV, fast fission, delayed neutron spectral meas. and covariance error anal. 4-37680
 $^{235}\text{U}(n,f)$, delayed neutron average energies, integral meas. 4-37681
 ^{238}U (μ , fission), probability of muon attachment to fission fragments 4-14013

delayed protonsGamow-Teller β -decay strength functions, resonances, review 4-4814 $^{26}\text{P}_{\text{m}}$, ^{26}Mg , beta-delayed two-proton emission, mechanism 4-18389**delays**

see also delay circuits; distributed parameter systems

- fibre optic sensors, temperature desensitisation of delay 4-24188
 graded-index optical fibres, wavelength-dependent differential modal delay 4-28845
 neural systems, chaotic dynamics 4-46982
 optical fibre, loose tube cable struct., transit time delay, temp. stability 4-1494

demagnetisation

see also magnetisation

- ferromagnet, magnetostriction effect on Bloch and Neel wall vibrs. 4-56684
 permanent magnet, stray field, magnetisation config. and surface charges 4-16067
 rare earth permanent magnets, bonded, thermal stability characts. 4-7028
 rare earth-Co magnets, props., measurements and standards 4-8926

demagnetisation continued

- rare earth-Co matrix magnets, air ageing characts. 4-7035
 rare earth-Co permanent magnet alloys, oxidation behaviour rel. to mag. props. 4-7034
 $\text{Sm}_{1-x}\text{Er}_x(\text{Co}, \text{Fe}, \text{Cu}, \text{Zr})_7$, 3 permanent magnets, B-H loop meas. meas 4-56706
 spin-glasses, magnetisation, susceptibility and ESR, demagnetisation effects 4-20827
 two-stage nuclear demagnetisation refrigerator reaching 27 μK 4-53691
 weakly magnetic material, meas. error with regard to demagnetising field (*Chinese*) 4-53709
 $(\text{Cr}(\text{NH}_3)_6)(\text{Cr}(\text{CN})_6)$ and $(\text{Cr}(\text{H}_2\text{O})(\text{NH}_3)_5)(\text{Cr}(\text{CN})_6)$ ordered bimetallic magnets, ferromag. props. 4-56576
 Fe, demagnetising fields at grain boundaries, law of approach to saturation at intermediate fields 4-11743
 Mn-Mg ferrite, impact of irradiation on pulse reversal of magnetisation (*Russian*) 4-30220
 ^{14}N NMR powder pattern, heteronuclear cross polarisation 4-30311
 Ni, demagnetising fields at grain boundaries, law of approach to saturation at intermediate fields 4-11743
 Ni, elastic stress and demagnetising field effects, magnetoelastic studies 4-16062
 SmCo_5 permanent magnets, ageing, positron annihilation, electron microscopy, elec. resist., mag. meas. 4-7019
 $\text{Sm}_2\text{Co}_{17}\text{B}_6$, magnetisation process and reversal 4-30218
 $\text{Sm}(\text{CoFeCuZr})_{7.4}$ magnets, phase composition and hysteresis props. (*Russian*) 4-51093
 YIG, acoustic FMR and nonlinear magnetoelastic props. 4-51138

demagnetisation, adiabatic see magnetic cooling**Dember effect**

- multivalley semiconductor, transverse photovoltaic effect, interpretation of spectral characts. (*Russian*) 4-6836
 Si n^+p-p^+ solar cells, open-circuit voltage, temp. depend. under high illum. levels 4-7878

demodulation

see also demodulators; modulation

- fibre interferometric sensor demodulation using a fibre-optic passive quadrature demodulator 4-22830
 fibre interferometric sensors, passive quadrature demodulation 4-38598
 fibre optic interferometer, passive accurate phase meas. system 4-38601
 fibre optic sensors, demodulation schemes 4-5720
 laser beams attenuation meas., by intermediate frequency substitution method 4-28740
 MBBA, nematic liq. cryst., polarized Rayleigh scatt., spectral line width, homodyne and heterodyne measurements 4-39091
 multimode waveguide Y-couplers, heterodyne detect. 4-24182
 optical fibres, multimode, optical FM signal interferometric demodulation, relation to modal dispersion 4-24196
 optical-heterodyne method for measuring a deflection angle 4-32302
 photoacoustic and photothermal microscopy, optical heterodyne detection 4-37167
 shot-noise-limited detection scheme for two-beam laser spectroscopy 4-32330
 sound distortions meas. using Gilbert demodulator (*Russian*) 4-14863
 SQUID, resistive DC, 245 GHz radiation heterodyne detection using internal narrowband oscillations 4-43051
 $\text{Al}_{0.48}\text{In}_{0.52}\text{As}/\text{Ga}_{0.47}\text{In}_{0.53}\text{As}$ interdigitated photoconductive detectors 4-37170

demodulators

see also demodulation; discriminators; modems

sound distortions meas. using Gilbert demodulator (*Russian*) 4-14863**demonstrations**

includes student experiments

see also student laboratory apparatus

- casualty paradoxes and nonparadoxes, classical superluminal signals and quantum meas. 4-8676
 Compton effect, modified scatt. geometry for advanced undergraduate lab. 4-53431
 Compton effect, student laboratory demonstrations 4-42667
 constant force generator, Newton's second law demonstration 4-53421
 crack-defect demonstrator, paper devices for classroom demonstration 4-8697
 defects under surface of solid objects, holographic detection 4-8674
 differentiation and integration of continuous experimental data, teaching method 4-27271
 diffraction pattern intensity measurements in the introductory college physics laboratory using microcomputers 4-46
 Earth inductor recycling, meas. by students 4-53429
 electrostatic demonstrations at high relative humidity 4-36874
 harmonically forced Cavendish balance 4-49
 light measurement in UV and IR (*Norwegian*) 4-62
 light source, field distance depend. meas. by photodiodes and solar cells 4-42653
 light speed meas. by determ. of freq. and wavelength of laser radiation 4-8677
 magnetic dipole moment measurement 4-53406
 magnetic meas., high-freq., meas. using small inductive probes 4-8686
 magnetic pendulum apparatus for analog demonstration of first-order and second-order phase transitions and tricritical points 4-36854
 magnetic repulsion expts. 4-8683
 magnetometer, sensitive vibrating 4-4179
 Maxwell distrib. law of rel., spectral line shape anal. demonstrations 4-36868
 microwave apparatus, use of inexpensive sources and detectors 4-52
 microwave attenuation in liquid media 4-53397
 moments of inertia, demonstration using Tinker toys 4-66
 optical transducer to meas. damped harmonic motion 4-61
 photoelastic simple-stress-concentration demonstration 4-33939
 photoelastic stress-freezing, teaching demonstration 4-27272
 piano strings, coupled motion, classroom simulation 4-42655
 refractive medium, light props., introductory physics course expt. 4-36866
 rotational motion expt., computerised, for introductory physics laboratory 4-45
 solitons in undergraduate laboratory 4-8673
 stellar spectrography, simulators 4-4182
 streak photography, use in fluid flow meas. 4-53398
 temperature coeff. of resistance, meas. using BBC microcomputer, in BASIC 4-48151
 thermal imaging demonstration, Count Rumford's expt. 4-47821

demonstrations continued

- two dims. kinematics expt. using microcomputer interval timer 4-53430
- Rb, hyperfine struct. and isotope shift studied using laser spectroscopy 4-22543
- ¹¹³Sn, gamma emitter identification for advanced physics laboratory class 4-36865

dendrites

see also *crystal growth*

- diffusion limited aggregation with directed and anisotropic diffusion 4-50699
- diffusion-limited aggregation model of growth, spectral dimension 4-4339
- succinonitrile, cryst. growth from melt, foreign particle effects (*Russian*) 4-40642
- water droplets, frozen on ice surface, cryst. struct. and orientation 4-29578
- Al-(Mg)-(Cu)-(Zn)-Ti, dendrite liquation of Ti 4-57209
- CaSO₄·2H₂O, gypsum, gel grown, dendritic struts. 4-2491
- Cd dendrites form. during electrodeposition on Ni and Cd substrates in alkali media, morphology 4-16304
- Cd dendrites form. during electrodeposition on Cd substrates in acidic media, morphology 4-16305
- Cu-Au, spherical crystals, melt growth, surface topography and dendrites 4-15796
- a-Ge thin films, electron beam induced explosive crystallisation and dendritic growth 4-39711
- Hf-Os constitution diagram, metallography, X-ray diffr. and electron microprobe studies 4-24969
- Hg_{1-x}Cd_xTe, quenched, dendrite config. and distrib. 4-34659
- Na₂B₄O₇·10H₂O, borax, grown from soln., dendritic forms 4-2490
- Nb₃Sn, crystallisation by arc casting 4-40637
- Nb₃Sn, crystallisation from soln. in Nb tube 4-46430
- Si crystallite morphology in Al-Si eutectic alloys, dendrites 4-51471
- SnO₂:V, needle crystals, vapour phase growth, elec. resist. 4-21116

dendritic crystals see *dendrites***dendritic structure**

- castings, equiaxed zone form. 4-40768
- solidification model, interfacial pattern form. dynamics 4-15621
- steel, Cr-Mo-V, for rolls, isothermal decomp. of austenite by pearlitic mechanism 4-40743
- steel, high speed, MZ, as-cast, 4-30730
- steel, high strength, cast, comparative study of fracture and fatigue 4-57325
- Stellite hardfacing coating on stainless steel, laser processing effects 4-7648
- Al-Cu, hypoeutectic alloys, directional solidification, dendrite morphology 4-51648
- Al-Cu, solidification zero gravity, Cu distrib. in grains 4-57204
- Al-Cu (4.5 wt.%), powder, prodn. by rotating-water-atomisation process 4-16352
- Al-Mg-Li-Zr, struct. and props., effect of cooling rate during crystn. 4-57299
- Al-Si eutectic alloys, morphology of {100}-textured Si crystallites, dendrites 4-51471
- Al-Si-Na (12.5 wt.%), eutectic alloy, morphology rel. to Na addition (*Chinese*) 4-3121
- Al-Zn-Mg-Cu, high strength, unworked fracture behaviour 4-30803
- BaPb_{0.5}Bi_{0.5}O₃ sputtered films, superconducting props., PbO₂ annealing atmosphere effects 4-6925
- Cu-Ni, coarsening of dendrite struct. during isothermal holding (*Japanese*) 4-7444
- Fe-Ni (25 wt.%), supercooled, microstruct. and solute distrib. 4-30696
- Hg_{1-x}Cd_xTe, quenched, dendrite config. and distrib. 4-34659
- Pb-Sn-Sr-Al, as-cast, cellular precipitation and overaging 4-51679
- Pb-Tl alloys, solidification front morphology during unidirectional growth 4-40764
- Si, laser induced thin film crystal growth on fused silica, TEM study 4-6675
- Sn-Pb, semi-solid dendritic, compression at low strain rates, liquid-solid segregation 4-57301
- Ti-Al-V (8.4 at.%), as-cast and laser surface melted, comparison of microstruct. 4-7634
- WC-Co alloys, microstruct., optical and electron microscopy study 4-7413

dense fluids, theory see *liquid theory***densification**

see also *density*; *powders*; *sintering*

- bonding processes during dynamic compaction of metallic powders 4-21180
- ceramic, tough components, development trends 4-46478
- ceramics, spherical powder prep. using sol-gel processes 4-57150
- cold pressing, constitutive modelling 4-25906
- compacted powder bed, tensile strength rel. to granule deform. characts. (*Japanese*) 4-21277
- composite powder materials, consolidated, struct., elec. cond., percolation theory approach 4-51569
- die compaction, inhomogeneous density, expts. and finite element calcs. 4-7381
- diphasic ceramic composites, sol-gel method prep. 4-57167
- glass, microplasticity, ductile behaviour mechanism indentation test obs. 4-12105
- graphite manufacture, review of science and technology 4-7377
- high power ultrasonic transducer system for materials testing and powder compaction 4-57521
- hot isostatic pressing, mechanisms 4-7380
- magnetic head ferrite blocks manufacturing process 4-25925
- metal fibre materials, porous, sintered, contact phenomena, compact quality 4-51583
- metal gauze packs, deform. effect on porosity 4-7396
- metal powder, hot pressing in porous shells, densification kinetics, fund. eqns. 4-51582
- metal powder compaction, sliding friction on cemented carbide walls 4-25909
- metal powder compaction by ultrasonic vibr. press. 4-57133
- metal powder mixture with pore-forming agents, densification behaviour 4-51578
- metal powder pressing process, phenomenological model 4-51580
- metal powders, shock wave consolidation, energy deposition, metal 4-30657

densification continued

- Metglas alloys, explosive compaction effects on ferromag. props., relative density and crystallisation 4-35591
- multilayer strip production by rolling solid metal with powder layer, reduction conditions 4-51579
- Nasicon ceramic electrolytes, densification and props., effect of decomp. 4-16362
- particle interactions in powder mechanics conf., Eindhoven, The Netherlands (Aug. 1983) 4-47746
- porous blanks, densification kinetics calc. 4-3097
- porous materials, viscous flow theory 4-3096
- powder compaction, predictor method for finite element analysis of sliding friction 4-25907
- powder compaction testing 4-26115
- powder densification by particle deform. compaction eqn. 4-7383
- powder materials, experimental results (*Polish*) 4-7382
- powder mechanics in tribology 4-49777
- powder packing in a press mould, modelling (*Russian*) 4-3095
- powder rolling, stressed state in lag zone 4-25912
- powder sintering parameters calc. based on rheological theory relationships 4-7385
- powder-fibre composite, high-porosity, vol. changes reduction during sintering 4-7398
- powdered system, compactibility and compressibility problem 4-51565
- powders, hot isostatic pressing combined with reactive sintering using gases 4-40697
- pressure sintering, anal. by computer simulation 4-51564
- rare-earth chalcogenide materials for IR optical appls., fabrication 4-28790
- snow densification at polar glaciers and ice sheets 4-31540
- steel, high speed, sintering, effect of C addition (*Korean*) 4-30661
- Synroc D, nuclear waste ceramic, large scale densification by hot isostatic pressing 4-27962
- ultrahigh compression by shock collision of layered structures 4-34133
- Ag-glass bonded thick films, sintering and microstruct. development 4-51587
- Al coating, hydraulic pulse densified, form. model 4-26101
- Al, coatings produced by hydraulic-pulse densification of powder, anticorrosion props. 4-7642
- Al-Cu powders, compaction, die wall an internal lubrication rel. to mech. strength 4-30665
- Al-Mg (10 wt.%), rapidly solidified powder, extrusion, microstruct. 4-30662
- Al₂O₃ aggregated powder, compaction, size distrib. 4-3109
- Al₂O₃ spray dried powder, stress transmission during die compaction 4-3110
- β-Al₂O₃, struct., props. and production, review 4-51596
- Al₂O₃-SiO₂, mullite/ZrO₂ composites, sintering and mech. props., zirconia addition effect 4-3114
- Al₂O₃-SiO₂ gels, densification under heat treatment, glass form., Raman spectra 4-57178
- Al₂O₃-W cermets, phys. props., effect of W spatial distrib. 4-51610
- Al₂O₃-ZrO₂-SiO₂, ceramic powders, glass densification, sol-gel prep. 4-35594
- BN, superhard compacts, shock compression, very high press. sintering, struct. 4-30669
- BN-TiC cermets, effect of cubic BN content on cutting performance of polycryst. tools 4-40994
- BaTiO₃ ceramics, sintered, production of fine grain size by fast firing 4-12049
- Bi₂TeO₆ piezoceramic, struct. characters. and densification (*French*) 4-39220
- 2D-C-C fibre reinforced BN 4-30674
- CaLa₂Si₂ ceramic IR window material prep. using densification techniques 4-28789
- Ca₂P₂O₇, sintering of powders obtained by pyrolysis of CaHPO₄·2H₂O 4-25916
- CaZrO₃ powder, coprecipitation, sintering and densification (*French*) 4-57156
- Cr₂C₃ and Cr₂C₆, high-density specimens prep., corrosion and electrochem. props. 4-7407
- Cu composite powder deposition by displacement under bubbling conditions, characterisation 4-40707
- Cu powder, mixture prep. from optimised and electrolytic powders, characts. 4-7395
- Fe powder, strength and contact growth kinetics rel. to pressing and sintering parameters 4-40710
- Fe₇₃B₁₃Si₁₄, amorphous powder, explosive consolidation 4-21184
- Fe₄₀Ni₄₀P₁₄B₆ amorphous powder, compacting by explosion pressing and struct. 4-57137
- α-Fe₂O₃ powder, sintering, microstruct. and density rel. to purity 4-57152
- FeTi, activation for hydrogenation, H₂ storage appl. 4-41251
- MgF₂-CaF₂, ceramic powders, sintering pre-eutectic densification 4-51588
- Mo powder, explosively consolidated, heat treatment, microstruct., hardness 4-30712
- MoC, high-temp. shock compression, carbide formation 4-21181
- NaF, initial sintering shrinkage, 560-720°C 4-12050
- Na₂O-SiO₂, gel-glass conversion 4-57182
- Ni-Zn ferrite, fast sintering mechanism 4-57157
- PbBi₂Nb₂O₉, grain-oriented ceramic, fabrication process 4-40726
- Si-Si₃N₄ powder compacts, nitridation, sintering, microstructural development obs. 4-57154
- SiC, fused densified, elastic moduli, hardness and thermal expansivity (*Japanese*) 4-40847
- β-Si₃N₄, dense, room temp. microhardness, effect of densification aid conc. changes 4-12145
- Si₃N₄, hot pressed, liq. phase sintering, microstruct. correl. with mech. props. 4-57350
- Si₃N₄, hot pressed, sintering behaviour, effect of lanthanide oxides additions 4-25933
- Si₃N₄, reaction bonded, densification kinetics rel. to impurities 4-16359
- Si₃N₄, reaction bonded compacts, nitridation, Si₃N₄ additions to green compact 4-35593
- Si₃N₄ sintering obs., using high-temperature, high-pressure dilatometer 4-263
- Si₃N₄-SiO₂-Ce₂O₃, sintered in high press. N₂, props. and struct. 4-40724
- Si₃N₄-TiN, sintering, effect of TiN additions 4-25936
- Si₃N₄-Y₂O₃, hot isostatic pressing, effect of Y₂O₃ additions 4-51597
- Si₃N₄-Y₂O₃ (3-7 wt.%), densification, hot isostatic pressing 4-7404

densification continued

- Si₃N₄-Y₂O₃-SiO₂ system, hot pressing densification mechanism 4-57149
 SiO₂ gel, densification below 1000°C, microstruct., gel to glass conversion temp. 4-57171
 SiO₂ glass, prep. by sol-gel process 4-57173
 SnO₂, activated sintering, densification and elec. props. rel to oxide additions 4-57153
 TiB₂-TaC system, sintering kinetics, struct. and props. of heterophase materials 4-7406
 TiC, high-pressure hot pressing kinetics 4-3113
 TiC-Ni composites, liq. phase sintering 4-40735
 TiN-TiC system, shock compaction of powders, chem. content depend. 4-12044
 W powder, active and activated isothermal sintering effect on porous struct. 4-51581
 W, powders processed by chemically activated sintering, mech. props. 4-7389
 WC powder, die compaction, creep effect 4-25908
 ZrO₂, monoclinic powders, fabrication by pressureless sintering (*Japanese*) 4-51602

densimeters *see densitometry*

densitometers *see densitometry*

densitometry

see also photometry

- automatic scanning with improved sensitivity of fringe patterns using microdensitometer 4-53741
 bone mineral, quantitative in vivo determ. using computerised roentgenographic densitometry 4-21771
 bone mineral densitometry, high resolution, with a γ camera, small animal appl. 4-31388
 brain research, densitometer for quantitative autoradiography 4-31383
 coal, gamma-ray multienergy densitometry 4-13667
 colour printing paper, resin-coated, inter-image effects 4-308
 CT differential diagnostics of benign and malignant tumours, dispersion analysis of densitometric data (*Russian*) 4-16952
 electrochemical etch spot evaluation, image processing techniques 4-28292
 exhaust gases from diesel engines, smoke density meter (*Russian*) 4-36051
 eye, cone pigment density difference spectra determ. in spatially resolved foveal regions, TV method 4-26564
 FBTR fuel pin end plug welds, radiographic evaluation, defect standard, microdensitometry 4-12285
 material accountability, L_{III} edge densitometer, fabrication and evaluation 4-28057
 PDS microdensitometers, improved logarithmic amplifier cct. 4-22330
 scanning film densitometers, automated, used in electron and photon beam therapy dosimetry, acceptance testing and quality assurance 4-8119
 surface profile reconstruction, microdensitometer analysis of electron micrographs of shadowed surface replicas 4-48076
 surface profile restitution from microdensitometer anal. of surface replica electron micrographs 4-48259
 videodensitometry, digital film anal. system, quantitative autoradiography with radiopharmaceuticals 4-16969
 videodensitometry, regional lung blood flow meas. appl. 4-3606

density

- see also atmospheric pressure and density; density control; density measurement; density of gases; density of liquids; density of solids*
 crystal-liquid interface, free energy, triple point, compressibilities and Gruneisen parameters 4-15620
 drop velocity from an ink-jet nozzle, empirical equation and experimental data 4-49870
 dye solutions, laser-induced density profiles 4-25065
 FCC crystal-vapour systems, struct., densities, pot. energies, 2D radial and ang. distrib. functions 4-15628
 magnetofluid, bulk viscosity 4-39557
 poly(vinyl alcohol), modified, membrane prep. and props. (*Polish*) 4-21494
³He-⁴He thin films, dil., density fluctuations 4-11375

density, atmospheric *see atmospheric pressure and density*

density, vapour *see density of gases*

density control

- alcohol measurement and control, nonelectrochemical methods 4-35963
 liquid density measurement and control methods 4-48087

density measurement

see also hydrometers

- alcohol measurement and control, nonelectrochemical methods 4-35963
 blood density meas., significance in blood rheology 4-21826
 diffusion, meas. by gravimetric method in solns. and in molten alkali nitrates 4-56057
 dynamic density meas. student laboratory apparatus 4-42661
 forearm density evaluation with axial tomography 4-21786
 gas, dual crystal gas density sensor 4-32247
 hydrobalance, density meas. of solids 4-42668
 liquid density measurement and control methods 4-48087
 liquid density measurement at low temperatures 4-27487
 liquids, using tuning-fork transducer, microcomputer-controlled system 4-27488
 metal matrix composite materials, fibre vol. and void fraction meas. methods 4-51912
 moiré deflectometry for axisymmetric density field meas. in supersonic flow 4-49893
 P-V state diagram meas. of metal density near critical point 4-2247
 porous materials and powders, using differential He pycnometry 4-237
 soil, freezing, nondestructive moisture/density meas. using dual-energy gamma-ray technique 4-51940
 thick-source alpha particle gas densimeter, gas composition effect 4-42928
 thin films, pure element, surface density meas. by X-ray fluoresc. spectroscopy 4-4507
 Ag thick-film laser targets, density meas. 4-4497
 Al, thick-film laser targets, density meas. 4-4497
 Al₂O₃, liq., density meas., new technique (*French*) 4-17877
 Au, thick-film laser targets, density meas. 4-4497
 Bi, liq., precision density meas. (*German*) 4-22762
 Cd, liq., precision density meas. (*German*) 4-22762
 Cu, thick-film laser targets, density meas. 4-4497
 Fe, neutral, densities in front of ref. limiter in TEXTOR 4-17878
 Ga, liq., precision density meas. (*German*) 4-22762

density measurement continued

- Pb, liq., precision density meas. (*German*) 4-22762
 Sn, liq., precision density meas. (*German*) 4-22762
 Ti, oxidation, stoichiometry and oxide thickness, AES, EELS and microgravimetry studies 4-16537
 Tl, liq., precision density meas. (*German*) 4-22762
 Y₂O₃, liq., density meas., new technique (*French*) 4-17877

density of gases

- dense gases, density fluctuations, binary collision effects 4-42846
 dichlorosilane, physical and thermodynamical properties 4-55475
 measurement, using dual crystal gas density sensor 4-32247
 measurement using thick-source alpha particle gas densimeter, gas composition effect 4-42928
 methane in range 15 to 270 MPa and 323 to 723K, press., vol. and temp. meas. 4-55476
 transpiration apparatus, density of vapours meas. in reactive atmospheres 4-19910
 Ar impurity effect on density of saturated Rb vapour 4-49926
 H, spin polarized atomic, virial calcs. in two and three dimensions 4-2406
 Hg liquid-vapour interface, density profile, X-ray reflectivity 4-34753
 KrCl, formation in quasi-stationary electric discharge (*Russian*) 4-24683
 N₂ dense fluid, thermodynamics study by mol. dynamics 4-38923
 XeCl, formation in quasi-stationary electric discharge (*Russian*) 4-24683

density of liquids

see also hydrometers

- alkoxycyanobiphenyls, birefr. and order parameter in nematic phase 4-10976
 alkylcyanobiphenyls, birefr. and order parameter in nematic phase 4-10976
 amines, trisubstituted, struct., dipole moments, dielectric study 4-2997
 1,4-bis-[4-n-hexylbenzoyloxy]-2-subst.-benzenes, liq., crystalline, lateral branches effects 4-50179
 n-butanol, aq. solns., isothermal compressibilities and internal pressures 4-15564
 butyl-(alkoxybenzylidene)-aminobenzoates, smectic phases, DSC, density, and refr. index meas. 4-11281
 15C5 crown ether-water mixture, Raman spectra, shear viscosity, density and permittivity meas. 4-14430
 cubic chain-of-rotators eqn. of state and vapour-liquid equilibrium calcs. 4-24952
 trans-decalin-benzene(toluene)(isooctane)(n-heptane), molar excess vol. meas. at 298.15K 4-24889
 n-decane, density calcs. using Lee-Kesler correlation 4-24888
 1,2-dichloroethane containing mixtures, conformational equilib. and calorimetric behaviour 4-16682
 dichlorosilane, physical and thermodynamical properties 4-55475
 1,1-dimethoxy-2-propanone, permittivity and density, press. and temp. depend. 4-30377
 electrolyte in aqueous soln., absolute ionic partial molal hydration volumes 4-24892
 ethane-ethene mixtures, vap. press., density and enthalpy 4-11299
 ethyl acetate binary liq. mixtures, excess thermodynamics props., US study 4-39400
 ethyl-p-(alkoxybenzylidene)-aminobenzoates, smectic phases, DSC, density, and refr. index meas. 4-11281
 formic acid in H₂O, apparent molar vol. depend. on sodium formate conc. 4-15563
 generalised eqn. of state, boiling point as parameter 4-24954
 hard spheres, random close packing, freezing transition, and spinodal decomp. 4-20069
 heavy water, thermodynamic props. calc. from acoustic data 4-15664
 heavy water, US velocity studies 4-15590
 n-heptane-benzene mixture, sound vel., densities and isentropic compressibilities meas. 4-55922
 p-n-heptyl-p'-cyanobiphenyl, nematic-isotropic transition, effect of quasi-spherical solutes 4-11286
 N-(p-hexyloxybenzylidene)-p-butylaniline, liq. cryst., dielec. anisotropy, order parameter 4-39111
 immiscible viscous liquid, surface and interface oscills. of freely floating spheres 4-39632
 inherent struct., density effect 4-55694
 Lennard-Jones, fluid, freezing transition 4-29575
 Lennard-Jones fluids with spherical boundary conditions, finiteness effects in computer simulations 4-6234
 liquid and supercrit., struct. study by X-ray diff., mol. density radial distrib. and paired correl. functions 4-55699
 liquid metals, roulette theory calc. of thermodynamic props. (*Korean*) 4-2063
 liquid surface ellipsometry 4-48180
 measurement and control using oscillating tubes and sample irradi. 4-48087
 measurement microcomputer-controlled system, using tuning-fork transducer 4-27488
 metals, liq. simple, density-functional theory of surface tension 4-6628
 methanol-hexane partially miscible system, density, viscosity, surface tension and dielec. props. 4-45375
 methyl ethyl ketone-alkanols-n-nonane ternary mixts., excess vol. meas. 4-15562
 molten salt systems, electrical cond., density, viscosity and surface tension data 4-4167
 n-octane, density calcs. using Lee-Kesler correlation 4-24888
 organic binary liquid mixtures, excess enthalpies and volumes meas. 4-2352
 poly(tetramethylene oxide) in benzene, excess vol. and thermodynamic functions 4-2346
 polyorganosiloxane rubbers, rheological props. of melts under hydrostatic press. (*Russian*) 4-5861
 simple fluids, density calcs. using Lee-Kesler correlation 4-24888
 smectic G-nematic and nematic-isotropic transitions, density studies 4-39504
 TBBA, nematic, smectic A and smectic C phases, sp. vol. studies 4-50193
 tetrahydrofuran, binary liquid mixtures, US studies 4-50435
 toluene-chlorobenzene (benzyl alcohol)(n-hexanol) binaries, viscosities and thermodynamics 4-15673
 triethylamine-water, density, heat capacity and refractive index, critical behaviour 4-2347
 water, density meas. by dynamic method, student apparatus 4-42661
 water, laser irradi., nonlinear photoacoustic effect 4-50441

density of liquids continued

- water, superheated, base to define normal components of expansivity and compressibility of stable water 4-39432
 Al hot expanded liquid, vol., enthalpy, temp. and elec. resist. 4-45707
 Al_2O_3 , liq., density meas., new technique (*French*) 4-17877
 n-alkane-branched-chain alkane, isotropic compressibilities, density and ultrasonic rel. meas. 4-55923
 Bi, precision density meas. (*German*) 4-22762
 CS_2 , liq., density fluctuations, polarised light scatt. 4-2932
 Cd, precision density meas. (*German*) 4-22762
 Ga, precision density meas. (*German*) 4-22762
 H_2 , metallic liquid, ground-state energy 4-29717
 ^3He , A-phase, superfluid currents at $T=0$ 4-6588
 ^4He - ^4He film, dil., density fluctuations induced by impurities 4-15738
 ^4He , confined, superfluid density scaling failure 4-29723
 Hg liquid-vapour interface, density profile, X-ray reflectivity 4-34753
 Hg, thermodynamic and elec. props. 4-25317
 N_2 dense fluid, thermodynamics study by mol. dynamics 4-38923
 N_2 fluid, second moment density and temp. behaviour, Raman spectra 4-35440
 $\text{NaBO}_2\text{-UO}_2$ solutions, density, thermal expansion and viscosity at high temps. 4-15565
 $\text{Na}_2\text{B}_2\text{O}_7\text{-UO}_2$ solutions, density, thermal expansion and viscosity at high temps. 4-15565
 Pb, precision density meas. (*German*) 4-22762
 Se-Te liquid mixtures, semicond.-metal transition at high temp. and press. 4-45635
 Sn, precision density meas. (*German*) 4-22762
 Y_2O_3 , liq., density meas., new technique (*French*) 4-17877
 Yb, liquid, density meas. 4-6417
 $\text{ZnCl}_2\text{-KCl}$ system melts, density, refr. index, melt struct. 4-39358

density of solids

- alkali aluminoborate glasses containing U, neutron and γ -irrad. effects on physical props. 4-20258
 alkali metal glass system, mixed alkali effect and phase separation 4-11337
 alloys, amorphous, struct. relax., mol. dynamics method anal. 4-29323
 ammonium hydrogen tartrate, growth in SiO_2 hydrogel, density, morphology, microstructure 4-29363
 brittle cellular solids, fracture toughness modelling 4-55917
 corundum refractories, lightweight, prod. by semidry pressing 4-51598
 graphite, artificial, mech. props. anisotropy rel. to texture 4-35673
 graphite, nuclear grade, Young's modulus, elec. cond., thermal oxidation effect 4-15568
 humans and lab. animals, cross-sectional geometry and mass density distrib., evaluation using CT 4-12610
 hydrobalance, density meas. of solids 4-42668
 Lennard-Jones, fluid, freezing transition 4-29575
 oligomethylphenyl siloxanes, free vol. parameters and viscosimetric obs. at low temps. (*Russian*) 4-39163
 PET fibres, melt spun, isothermal heat treatment, microstructure rearrangement, birefringence, X-ray scatt. 4-12091
 polyethylene, high-density, density changes on drawing by solid-state extensions 4-12321
 polyethylene, lamellar, surface mech. props., chlorosulphonation influence 4-26080
 polyurethane foam cylindrical rigid blocks, mech. props. nonuniformity 4-51759
 polyurethane-PMMA interpenetrating polymer networks, comp. parameters influence on synthesis, phys. props. 4-12055
 powder solid, bulk density, rel. to fluidity, volumetric mixture ratio and particle diameter 4-41159
 PVC films, cryomodification (*Russian*) 4-7541
 rare earth monosulphides, thermodynamic props. in homogeneity range 4-39537
 rocks, thermal expansion, 80-300K, rel. to porosity, density, mech. strength and water content (*Japanese*) 4-52701
 sillenite struct. cpds., $\text{Bi}_2\text{E}^{3+}\text{PVO}_{10}$ and $\text{Bi}_3\text{E}^{2+}\text{P}_2\text{V}_{10}\text{O}_{60}$, prep., melting, densities, struct., IR spectra 4-50224
 steel, Cr and Mn, powders, prod. by diffusional impregnation, struct. and props. 4-3098
 transition metal glasses, X-ray diffr. and density meas., rel. to soft-sphere struct. models 4-44992
 U_3Fe , comminuted, density hardness, microstructure 4-30797
 Al_2O_3 anodic film in borate soln., film density and shopping power for α -particles 4-57062
 Al_2O_3 particle reinforced $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$ glass, density, AC cond., thermal expansion, transform. range 4-39565
 $\alpha\text{-Al}_2\text{O}_3$ pellets, additives influence on prep., granulation and props. 4-46479
 $\text{Al}_2\text{O}_3\text{-SiO}_2$ gels, densification under heat treatment, glass form., Raman spectra 4-57178
 $\text{Al}_2\text{O(OH)}_3$, bauxite, sintering characts. rel. to K_2O content 4-30673
 $\text{BaO-V}_2\text{O}_5$ glass, elec. cond. 4-6780
 CH_4 films, amorphous, prep., struct., phys. and optical props. 4-7261
 Co complexes, specific gravity calc. from X-ray chem. shift 4-11963
 Cu complexes, specific gravity calc. from X-ray chem. shift 4-11963
 Cu powder, mixture prep. from optimised and electrolytic powders, characts. 4-7395
 Cu powders, atomised, control of props. 4-25919
 Cu-Zr based glasses, thermal props., stability, struct. factor, density 4-6290
 D_2 , solid, lattice const., and thermal expansion (*Russian*) 4-45443
 Fe, sintered, mag. props. rel. to porosity 4-11747
 Fe, sintered compacts, damping capacity rel. to processing conditions 4-12097
 Fe-base alloys, carburised, high-temp. phys. props. 4-51689
 $\text{Fe}_3\text{Co}_{70}\text{Si}_{15}\text{R}_{10}$, amorphous, density, effect of isochronal annealing 4-55899
 $\text{Fe}_{40}\text{Ni}_{40}\text{P}_{14}\text{B}_6$, amorphous, density, effect of isochronal annealing 4-55899
 $\text{FeO-Ce}_2\text{O}_3$, ferrous cerite, synthesis and props. 4-57131
 $\alpha\text{-Fe}_2\text{O}_3$ powder, sintering, microstruct. and density rel. to purity 4-57152
 $\alpha\text{-Fe}_2\text{O}_3$ powders, particle characts., thermal analysis, electron microscopy (*Japanese*) 4-21191
 $\alpha\text{-FeOOH}$ powders, particle characts., thermal analysis, electron microscopy (*Japanese*) 4-21191
 KCl:Ba^{2+} solid soln., solvus, single cryst. density studies 4-34655
 $\text{Na}_2\text{O-Al}_2\text{O}_3\text{-CuO-SiO}_2$ glass, struct., EPR and optical props. 4-10996

density of solids continued

- Ni-base alloys, carburised, high-temp. phys. props. 4-51689
 $\text{NiO-Mn}_2\text{O}_3$ powder-mixtures, prep., resistivity temp. coeff., thermistor appl. 4-40723
 Se-Te amorphous semiconductors, phys. props. and crystallisation 4-2082
 SiO_2 fibrous ceramics, Space Shuttle tile, nondestructive evaluation, sonic vel. meas. 4-30897
 SiO_2 gel, densification, glass prep. by sol-gel process 4-57173
 Ti-N films, reactively sputtered, microstructure, phys. props., TEM study 4-2480
 TiC powder, hot drop forging, density depend. (*Russian*) 4-30671
 $\text{TiGaS}_2\text{-TiGaTe}_2$, phase equilibria, microhardness, density, dark cond. 4-51641
 $\text{TiGaSe}_2\text{-TiInS}_2$, microhardness, density, dark cond. 4-51641
 $\text{V}_2\text{O}_5\text{-B}_2\text{O}_3$ glass, elec. cond. 4-6780
 W, density near critical point, P-V state diagram meas. 4-2247
 $(\text{Zr}_{0.667}\text{Ni}_{0.333})_{1-x}\text{B}_x$, amorphous, density, elec. resist., supercond. props. 4-6287
 ZrO_2 pellets, additives influence on prep., granulation and props. 4-46479

density of states, electron *see electronic density of states*

deoxyribonucleic acids *see DNA*

depinning *see demagnetisation*

desalination

- brackish water with thermally regenerable ion-exchange resin using solar pond 4-7811
 functional membranes, review 4-52054
 high-temperature electrodialytic process optimisation 4-26224
 operation experience with solar powered 10 M3 per day MSF-plants in Kuwait and results of upscaling experiments 4-12451
 recent solar distillation developments 4-12450
 salt-water desalination three-stage unit, design 4-57776
 small integrated solar energy systems for developing countries 4-7904
 solar desalination unit using modified evaporating wick technique 4-57678
 solar desalination using the vacuum freezing ejector absorption (VFEA) process 4-12452
 solar energy combining with freezing and distillation equipment, new desalting techniques 4-52094
 solar energy studies applied to large scale industries 4-52117
 solar powered multieffect distillation water cost 4-7810
 solar still, double-basin, effect of dye on performance 4-21575
 solar technologies and potential, applications 4-7824
 solar water distiller basin waterproofing materials field testing 4-57777
 Sydney University solar desalination pilot plant design 4-12453
 CO_2 regeneration of weak acid ion exchange resins with added anion exchanger 4-51968

desalting *see desalination*

design aids

see also design engineering; nomograms
 No entries

design engineering

- corrosion fatigue aspects in design 4-21399
 laminates, antisymm. angle-ply, design sensitivity anal. 4-49740
 reliability-related parameters influencing the optimum design of an autonomous solar photovoltaic system 4-57725
 shallow solar pond, plastic bubble-film covered, design and tests 4-46901
 sound level meters integration, design principles 4-28941
 stand-alone photovoltaic systems sizing 4-57723
 steel tapered I-columns, min. weight design 4-49705
 Zn-Br battery module, 10 kW, design and testing 4-7859

desk calculators *see calculating apparatus*

desk-top computers *see minicomputers*

desorption

- alkali halides, desorption kinetics of He, corrections to rigid wall approx. 4-20485
 angle resolved thermal and flash desorption of atoms from surfaces, one-phonon approx. 4-25145
 desorbing absorbate behaviour, 2D hydrodynamic model 4-2448
 diquaternary ammonium salts, energy deposition in desorption ionization, EHD ionisation and fast atom bombardment mass spectra 4-16685
 direct bound-free photodesorption of physisorbed molecules 4-25154
 directional switching in planar waveguides effected by adsorption-desorption processes 4-33763
 electron- and photon stimulated desorption, surface chem. information 4-11403
 electronically stimulated desorption and dissociation and strain induced localisation 4-2444
 fast heavy ion induced desorption of secondary ions, energy depend. 4-12000
 flash desorption and thermalization 4-20492
 gelatin desorption by cationic F-containing surface-active substances and their action in developing solns. (*Russian*) 4-52058
 glass, excited Cd ion desorption, electron-impact-stimulated, optical obs. 4-25149
 graphite, desorption kinetics of He, corrections to rigid wall approx. 4-20485
 graphite, He thermal desorption, time of flight spectra studies 4-29799
 graphite-Br intercalation cpd., two-dimensional struct., effect of intercalate desorption 4-45098
 high vacuum, desorption process description using analogous models (*German*) 4-4415
 Inconel 625 surfaces, desorption energies of H_2 and CO 4-34775
 insuln, desorption from inelastic surface collisions 4-11990
 ion beam anal., conf., Tempe, AZ, USA (May 1983) 4-42579
 ion-surface inelastic collision, conf., Middelfart, Denmark, Sept. 1982 4-8643
 ions, pulsed laser field desorbed and field evaporated, energy distrib. 4-34789
 laser desorbed ions, energy spread meas. 4-16708
 laser-induced gas-surface interactions, review 4-6646
 LEED, desorption and ARUPS studies 4-45517
 MBE, desorption rel. to sticking coeffs. 4-20497
 metal monolayer form., struct., 2D phase transformation, desorpt., binding energies and reactivity 4-15764
 metallic thin films, clear, adsorption and decomposition of water, work function and elec. resist. meas. 4-34776
 metallic thin films, pretreated and passivated, water adsorption, work function, elec. resist. meas. 4-34777

desorption continued

- metals, group VIII, of O₂, oxidation and surface struct. (Russian) 4-34779
- metals, surface dynamical problems and surface chem., expt. aspects (Japanese) 4-41263
- molecular monolayers, on Ag surface, thermal desorption, time of flight mass spectra 4-50628
- oxide insulators, electron stimulated desorption during SIMS profiling, isotope effect 4-45532
- photon-stimulated ion desorption, isolated surface site features study 4-29780
- porous materials, adsorption-desorption hysteresis model 4-1599
- sapphire, He thermal desorption, time of flight spectra studies 4-29799
- semiconducting gas sensors, surface cond. method 4-22775
- semiconductors, laser-induced desorption, review (Japanese) 4-39684
- semiconductors, photo-desorption threshold energies 4-45498
- separation efficiency in cyclic steady state 4-31018
- single species surface reactions, adsorption, desorption and rate multiplicity 4-46800
- solid surfaces, desorbed neutral atoms electronic excitations 4-11984
- spectrometer, cold-trap, useful in normal vacua 4-26255
- sputtered atoms, photon emission near Curie point, target temp. effects 4-11396
- steel, stainless, AISI 304 LN desorption energies of H₂ and CO 4-34775
- surface reaction dynamics 4-57597
- temperature programmed desorption at high pressures 4-15760
- theoretical aspects of adsorption and heterogeneous catalysis 4-29816
- thermal desorption spectra, meas. using quadrupole mass analyser with personal computer (Japanese) 4-37242
- transition metals, thermal desorption of N₂ during NO decomp. 4-20491
- volatile sorbed cpds., gas chromatographic determ. by partial desorption (Russian) 4-41295
- Ag (111), of Cl, LEED, Auger effect and desorption studies 4-29802
- Ag (111), Xe, Kr and Ar overlayers, electron stimulated desorption 4-29812
- Ag, adsorption of water on clean and O-covered surfaces 4-34793
- Ag, inelastic scatt. of NO from (111) surface, molecule-surface dynamics, laser induced fluoresc. study 4-30593
- Al-O system, electron bombardment effects on AES spectra (French) 4-50364
- Al₂O₃, electron-induced desorption (Russian) 4-50357
- Al₂O₃, photon-stimulated desorption of H⁺(F⁺) and photoelectron yield, core excitons obs. 4-6663
- Al₂O₃ surface activation and cleaning by CW CO₂ laser 4-35523
- BeO, photon-stimulated desorption of H⁺(F⁺) and photoelectron yield, core excitons obs. 4-6663
- CdS, surface, laser induced desorption of atoms and mols. study 4-20463
- CdSe, surface, laser induced desorption of atoms and mols. study 4-20463
- CdSe thin films regeneration after O chemisorption 4-39690
- Co (1010), adsorbed CO, flash desorption spectra evaluation 4-56146
- Co, black, solar absorber, photodesorption (Korean) 4-39670
- Cr (110), chemisorption and surface reaction of Br₂ 4-56152
- Cr surface, struct. and kinetic studies of halogen interactions, chemisorption and epitaxial growth 4-29817
- α -Cr₂O₃, of O₂, isothermal kinetics (French) 4-45484
- Cs₃Sb photocathode as high current density photoemissive electron source 4-48835
- Cu (100) surface, CO laser induced thermal desorption 4-20470
- Cu (110), adsorption and decomp. of formic acid, IR reflection-absorption spectroscopy study 4-20494
- Cu (110), of H₂O, UPS, desorption, work function and LEED studies 4-45509
- Cu (111), chemisorption of H, photoemission, thermal desorption spectra 4-2451
- Cu, adsorption of water with Br on (110) and (111) surfaces, UPS, LEED, TDS, work function studies 4-30603
- GaAs (001) surface reconstruction, photoemission study 4-45472
- GaAs:H (110) Ga-H defect sites, photon stimulated desorption studies 4-45851
- Ge (111), chemisorption of Pb, LEED and AES meas. 4-15763
- H/H, dissoln. by H₂ release at elevated temps. 4-6666
- InP-Pd/Ti Schottky diode, of H, effect on elec. characts. 4-35068
- K coadsorbed, interaction with π -electron orbital containing mols. on Pt(111) 4-7746
- KCl:Ca²⁺, dislocation charges, effects of impurities 4-55835
- KHCO₃ soln., boiling, CO₂ desorpt. 4-35935
- LaNi₅, intrinsic cycling degradation and annealing procedures 4-20362
- LiF, electron-induced desorption (Russian) 4-50357
- LiF, single cryst., light induced desorption 4-20464
- LuCo₃H₈, H₂ desorption isotherms and thermodynamic props. 4-39665
- MgO, thermally stimulated exoelectron emission and desorption in UHV 4-7327
- Mo (100), clean and S-covered, adsorption and decomp. of thiophene, thermal desorption study 4-34800
- Mo, halogen desorption, LEED, AES and work function meas. 4-45521
- Mo, of Al oxide layers, thermal dissolution, FEM obs. 4-39698
- NO+CO reaction on Pt (100), chemical autocatalysis, isothermal desorpt. 4-21491
- NaF (100) photon-stimulated Na⁺ and F⁺ desorption, Auger decay mechanism 4-6660
- Nb, halogen desorption, LEED, AES and work function meas. 4-45521
- NbSe₂, H accumulation, absorptivity change after sorption-desorption cycles (Ukrainian) 4-39511
- Ni (100), coadsorption of CO and D₂, temp. induced effects, thermal desorption, work function, UPS and XPS meas. 4-29793
- Ni (110), CO adsorption, CO-S interactions 4-2456
- Ni (110), H⁺ from NH₃ layer, X-ray induced electron stimulated and photon stimulated desorption 4-25161
- Ni (111), NH₃ desorption, transition state theory appl. 4-29774
- Ni (111) surface, H₂ thermal desorption, adsorption isotherms 4-20469
- Ni, adsorbed CO, electron- and ion-induced desorption studies 4-29809
- Ni surface, desorption kinetics of CsCl rel. to Fe impurity conc. 4-11397
- Ni-Fe-Cr, surface, He thermal desorption, time of flight spectra studies 4-29799
- Ni(110) surface, effect of O₂ exposure after ion bombardment, ellipsometric and AES study 4-57399
- Pd, chemisorption of acetylene, catalysis, UPS, XPS, LEED, work function, desorption, mol. beam meas. 4-41257
- Pd, coadsorbed H and CO, methanol decomp. and interactions, TDS, LEED, AES studies 4-41256
- desorption continued**
- Pd polycrystalline surfaces, adsorption and desorption kinetics of CO 4-20493
- Pd surfaces, (110), (100) and (111), Xe adsorpt., LEED, UPS, work function and flash desorpt. investig. 4-39664
- Pt (100), adsorption of O₂, kinetics and energetics, thermal desorption, work function, and XPS meas. 4-56151
- Pt (100), of NO, electron stimulated desorption of molecular and dissociated phases 4-45508
- Pt (111), adsorption of CO, thermal He scatt. study 4-34794
- Pt (111), adsorption of O₂ and reaction with S 4-35943
- Pt (111) surface, C covered, adsorption of 2,4,6-trinitrotoluene, temp. programmed desorption study 4-34773
- Pt (111)/Cu system, growth and alloy form., LEED, AES and desorption studies 4-29808
- PtCu (111), CO chemisorption, thermal desorption and PES meas. 4-25157
- Pt_{0.98}Cu_{0.02} (110), CO chemisorption on (1X3) surface thermal desorption and PES meas. 4-25155
- Pt_{0.98}Cu_{0.02} (110), CO chemisorption on (1X3) surface, (1X1) surface formation 4-25156
- Pt_{0.98}Ni_{0.02}, adsorption of CO, vibr. EELS, TDS meas. 4-40589
- Pt(100), CO induced hex=(1X1) phase transition, absolute coverages and hysteresis phenomena 4-6487
- Rh (001) surface CO desorption by He⁺ and Ne⁺ impact 4-11404
- Rh (100), coadsorption and interaction of CO and D₂, electron spectroscopic study 4-50639
- Rh (100), coadsorption of NO and D₂ 4-45513
- Rh (100), NO chemisorption and decomposition, desorption studies 4-45512
- Rh (111), adsorption and reaction of NO and O₂ 4-31027
- Rh (111), adsorption of benzene and naphthalene, LEED, AES, and thermal desorption study 4-29796
- Rh (111), benzene adsorption, LEED, EELS, desorption and Auger studies 4-45527
- Rh, adsorption of N₂, surface struct. effect, FEM, TDS studies 4-39679
- Rh, of HCNO, mol. dissoc., AES, EELS, TDS studies 4-41258
- Rh polycrystalline surfaces, adsorption-desorption kinetics of CO 4-56147
- Rh, SiO₂-supported, of H₂ kinetics investig. 4-2433
- Rh/SiO₂ catalyst, of NO, decomposition kinetics 4-7707
- Ru (001), coadsorption of H₂O and Na, thermal desorption and electron stimulated desorption study 4-2461
- Ru (100), Cl adsorption, UPS, AES, LEED, work function and desorption studies 4-29805
- Ru, adsorption of NH₃, mol. orientation, LEED, ESDIAD, TDS, work function meas. 4-39681
- Ru surface, (001), CO desorpt. kinetics and adsorpts. equilib., adsorbate interactions effect 4-11400
- SO₂-O₂-NiO system, temp.-controlled desorpt. and microcalorimetric obs. 4-3426
- Sb₂SnFe_{0.25}O₃ catalyst, adsorp. and desorpt. activation energy of O₂ determ. using isochor technique (French) 4-35932
- Si (111), electron activated stepwise oxidation and nitridation, electron stimulated desorpt. study 4-35741
- Si (111), of H₂ and ethene, work function, desorption and surface cond. studies 4-45511
- Si, CVD epitaxial growth, doping element incorporation, adsorption- and equilibrium-referred interpretation 4-11159
- Si, microcrystalline, elec. cond., EPR and gas adsorption effects 4-11522
- Si, sublimation, desorption, vacancy and diffusion effects 4-29589
- Si surface, desorption, electron-hole pairs role 4-2455
- Si/Sb, evaporative doping during MBE 4-50671
- SiC, electron-induced desorption (Russian) 4-50357
- a-SiH glow-discharge films, H₂ evolution and annealing studies 4-39134
- SiO₂, electron-induced desorption (Russian) 4-50357
- SiO₂, photon-stimulated desorption of H⁺(F⁺) and photoelectron yield, core excitons obs. 4-6663
- SiO₂ surface activation and cleaning by CW CO₂ laser 4-35523
- Ta, halogen desorption, LEED, AES and work function meas. 4-45521
- TiH, dissoln. by H₂ release at elevated temps. 4-6666
- V surface, struct. and kinetic studies of halogen interactions, chemisorption and epitaxial growth 4-29817
- W (100), of H, LEED and work function study 4-45502
- W (111), desorption rates of Xe, coverage depend. 4-34795
- W, halogen desorption, LEED, AES and work function meas. 4-45521
- W, of Al oxide layers, thermal dissolution, FEM obs. 4-39698
- W, of CO, dissoci. kinetics, XPS 4-40606
- W, of Si, thermal desorption mass spectrometry studies 4-45505
- W, oxidised, kinetics of desorption of thin Ag films, mass spectrometry 4-11398
- W, polycryst. surface, laser induced thermal desorption of small mols., SIMS analysis 4-20468
- W substrate, laser photodetachment of rhodamine 6G ions from adsorbed layers 4-29814
- W surface angle resolved thermal and flash desorption of He 4-25145
- W, vacancy clustering at Ag and In impurities, PAC and He desorption study 4-34480
- Xe, solid, thermal desorption of Ar and Ne, sticking probabilities calcs. 4-50629
- ZnO, polycryst., nonuniform desorption of atomic O 4-20461
- ZnO surface activation and cleaning by CW CO₂ laser 4-35523
- ZnO/Zn anodically and thermally formed systems, photostimulated exoelectron emission, desorption of water 4-7336
- ZrH, dissoln. by H₂ release at elevated temps. 4-6666
- detection (demodulation) see demodulation**
- detector circuits**
see also demodulation; demodulators
EBT-P quench detection cct. in magnetically noisy environment 4-9646
extremum detector systematic error 4-53645
- detectors**
see also electric sensing devices; hydrophones; infrared detectors; microwave detectors; nonelectric sensing devices; particle detectors; photodetectors; ultraviolet detectors
chromatographic analysis detectors (French) 4-7774
SnO₂ sensor for selective detection of gas 4-37082
- determinants**
see also matrix algebra
Szego-Kac theorem proof and definitions of determinant 4-53632

detonation

- see also explosions; shock waves
blast waves dissipation and dynamic compressibility of soil 4-5920
chemically reacting fluids, weakly nonlinear detonation waves 4-34121
cylindrical explosive flow, Rayleigh-Taylor instability 4-50037
ethylene-O₂ mixtures, flame propag. in tubes with orifice (German) 4-29207
explosive, dil., shock initiation of detonation 4-34131
explosive transformation development behind weak nonstationary shock front, specimen diameter effect 4-39397
Fry-Robinson steam explosion expt. simulation using dynamic thermic detonation model, reactor appl. (German) 4-5021
gas, multifront detonation, critical regime 4-5907
gas mixture, imploding detonation waves, electron temp. meas. 4-38850
gas-film system, heterogeneous, detonation wave front, press. meas. 4-5906
gun design using detonation products as propelling fluid 4-14996
particles thrown by detonation waves, laser visualisation, coating appls. 4-39398
propulsion of explosives in nozzles 4-10697
shock front governed by celerity-curvature relation, motion (French) 4-49853
strong spherical detonation, shock wave, approx. solns. 4-10706
two-phase systems, detonation, shock wave, laminar boundary layer, mass exchange 4-5973
waves, diffraction by thin airfoil (Chinese) 4-49851
waves, regular reflection 4-44647
Pb(N₃)₂, laser detonation initiation, size effect, surface energy distrib. effect on critical flow 4-7728
WC-Co powder sprayed coatings, adhesion and workability 4-26105

detonation spraying see powder spraying

deuterium

- abundance in Population II halo dwarf stars 4-22373
adsorbed on W(011), thermal and electron-stimulated disordering 4-11407
atom trapped in frozen soln., electron spin echo modulation effect 4-23644
atomic beam polarised ion source at RCNP (Japanese) 4-43750
atomic beams polarisation by collisional pumping 4-38314
atomic-beam polarised deuterium sources, source temp. depend. of figure of merit 4-43748
channelling studies in V, defect interactions 4-50387
coadsorption and interaction with CO on Rh (100), electron spectroscopic study 4-50639
coadsorption with CO on Ni (100), temp. induced effects, thermal desorption, work function, UPS and XPS meas. 4-29793
coadsorption with NO on Rh (100), desorption, LEED and work function meas. 4-45513
development position of controlled nuclear fusion (German) 4-48605
fusion reactor fuel, potential 4-54413
heavy water production and electrolysis, new hydrogen technology development 4-32994
high density, thermal props. 4-54408
hydrological studies in Delicias Valley, Mexico 4-8333
inertial confinement fusion reactor, LOTRIT reactor chamber for capitalising on AFLINT 4-54414
interstellar abundance ratio of [D]:[H] from mol. obs. 4-27167
isotope separation in rotating plasma 4-44001
linear theta pinch, Stark broadening of D spectral lines, plasma turbulence 4-29247
liquid hydrogen solns., thermodynamics 4-54395
liquid in porous Vycor glass, specific heat study 4-11313
molecule, autoionisation Rydberg state spectrum calc. 4-9843
molecule, dissociative attachment, semiclassical calcs. 4-5497
molecule, electron impact, Lyman and Werner band excitation, absolute cross-sections 4-43996
molecule, electron impact excitation of B and C states 4-10143
molecule, electron impact excitation/dissociation, atomic Balmer line shape 4-5494
molecule, energy unresolved electron scatt., vibr. effect 4-43984
molecule, X⁺Σ_g⁺ state, vibr.-rot. energies nonadiabatic, relativistic and radiative corrections 4-33357
molecule electron-photon coincidence expts. 4-10159
muonic hyperfine effects 4-10187
pellet ablation in fusion plasma, stopping power problem 4-23428
physisorbed by C₂₄Rb intercalation cpd., dil. conc. regime elastic neutron scatt. 4-45523
physisorption by C₂₄K; low temp. sp. ht. meas. 4-15663
polarised target, Cr V complex with deuterated ethanediol ligands synthesis 4-48842
quantum fluids and solids, conf., Sanibel Island, USA, (April 1983) 4-4140
RF plasma discharge, Stark-broadened line profile, radiation redistribution 4-14366
rhyolite, D and H₂O contents rel. to magma degassing during shallow intrusion and eruption 4-21912
scattering of n-H₂, p-H₂, n-D₂, o-D₂, selective adsorption reson. on Ag (111) 4-25843
West Siberian plate, D and ¹⁸O content of groundwater and hydrocarbon prospecting possibilities 4-41998
solid, containing tritium, IR absorpt. spectra 4-11893
solid, crystal field determ. model 4-20613
solid, equation of state, bulk modulus and thermal expansion 4-45446
solid, lattice consts. and thermal expansion (Russian) 4-45443
solid, NMR spin-lattice relax. at reduced para conc. 4-6618
solid, orientational ordering at intermediate J=1 conc. 4-6617
solid, thermodynamic props. in premelting region (Russian) 4-45444
sorption by carbon-K intercalation cpd. at low temps. 4-39688
spin polarised Fermi system, transport and mag. props. 4-11376
CO₂-D₂ gasdynamic thermal-mixing laser 4-10277
D⁺ in Venus ionosphere, ion mass spectrometry 4-13223
D⁺ ion accelerator, neutron source development for cancer therapy 4-36224
D/H ratio from primordial nucleosynthesis with adiabatic fluctuations, local vars. 4-42566
D/H ratios in meteorite organic matter 4-36641
D-T filled glass microballoons, plasma focus expts., neutron prod. 4-34333
D-T Tokamak plasma, neoclassical transport props. 4-50040
D+(OH), rate consts., quasi-classical trajectories 4-9703

deuterium continued

- D+H₂, differential cross sections, mol. beam meas., pot. energy surface 4-57541
D+H₂, exchange reactions, rate consts., EPR and thermometric meas. 4-57535
D+H₂, reactions, reduced dimensionality quantum rate consts. 4-12335
D+H₂, reactive scatt., infinite order sudden approx. 4-46751
D+H₂→HD+H, reactive scatt., rate consts., adiabatic T matrix theory 4-21445
D+HBr, exchange reactions, quantal sudden calcs. 4-21433
D⁺+H₂(HD)(D₂) collisions, electron detachment cross sections 4-9961
D⁺+inert gas (H₂), detached electron prod., energy spectra 4-9959
D⁺+inert gas atom, detachment collision, electrostatic vs. dynamical coupling 4-10027
D⁺+Ne collisions, electron detachment 4-9925
D⁺+H, n-body problem, reduction to (n-1)-body problem 4-17737
D⁺+methane, ion association reaction, drift tube meas. 4-41209
D₂ gas, viscosity coeffs., temp. depend. 4-34222
D₂ open-anode lamps, energy and operational charact. improvements 4-33727
D₂ solid, SIMS data by electron and ion scatt. 4-45449
D₂ suprathermal vibr. excitation at heated Re surface 4-43951
D₂⁺, bombardment of Na, negative charge-state fraction, trajectory effects 4-11986
D₂⁺, implantation in graphite surface, Raman spectra effects 4-56902
D₂⁺, prod. by collisional dissoc., translational spectrosc. obs. 4-12361
D₂-Ne gas mixtures, ultrasonic absorpt. and dispersion meas. 4-1866
D₂+Ar, collision-induced mol. fluoresc., intensity, vibr. lifetime meas. 4-23746
D₂+Cl, vibr. excitation, pot. energy barrier, quasiclassical trajectory study 4-3391
D₂+D⁺ collisions, electron detachment cross sections 4-9961
D₂+F, hot atom reaction, cross-sections, trajectory method 4-3422
D₂+F, pot. energy surface, reaction attributes, cross sections and reson. features depend. 4-30925
D₂+F, reactive scatt., infinite order sudden approx. 4-46751
D₂+F→FD+D, product ang. distrib., quasiclassical trajectory study 4-21441
D₂+H, vibr.-rot. distrib. at translational energies 0.55 and 1.30 eV 4-16616
D₂+H⁺, isotope effects, linear- and circular-polarisation meas. 4-23804
D₂+H→HD+D, chemical exchanges product quantum state distrib. 4-21440
D₂+He collisional excitation at low keV energies 4-10007
D₂+Li⁺ collisions, differential cross sections and energy transfer distrib. 4-19167
D₂+N⁺, chemiluminescence, NH⁺(ND⁺) emission 4-21461
D₂+Rb, (5P) fine struct. transition, mol. rot. energy effects 4-9922
D₂⁺+Ar(H₂), collisional dissoc. and charge exchange cross sections 4-12356
D₃, beam form., visible spectra, radiative lifetimes and charge exchange 4-49041
D₃, Rydberg states, emission spectra obs. 4-54736
D₃⁺, collisional dissoc., D₃⁺ prod., translational spectrosc. obs. 4-12361
D₃⁺, vibr. spectrum, 3D basis selection, CI wavefunction convergence 4-48945
D₃+D₂→D₅⁺ equilibria in corona discharge, exptl. determ. 4-23851
D₃H, beam form., visible spectra, radiative lifetimes and charge exchange 4-49041
DT-DD hybrid pellet for inertial confinement fusion, T breeding 4-852
D⁺ ang. distrib., translational energy prod. from D₂-e collisions 4-5494
GaAs:H(D), implanted, damage ranges meas. 4-45157
H⁺-D chemical shift correl. spectroscopy 4-56801
H₂-D₂ system, liquidus curves meas. (Russian) 4-6473
He+D₂ collisions at low keV energies 4-19162
Ho₆Fe₃D₈, D site occupation and magnetisation, neutron scatt. study 4-2143
N⁺(²D)+D₂→ND⁺(B²Δ)+D, chemiluminesc. reactions, spectroscopy and dynamics 4-52016
Nb:D location of interstitial D, X-ray Huang diffuse scatt. 4-11134
SF₆+D→SF₅⁺+DF(v), vibr. energy disposal, flowing afterglow IR chemiluminesc. 4-51983
a-Si:(D,O) films, IR study of bonding 4-46354
a-Si:D, vibr. resonance modes 4-39428
a-Si:D(H), vibr. props., IR absorpt. spectra 4-40440
Ta:H, D, electromigration of H and D, isotope effect 4-15724
Ta-D system, displacement field of D by fast ion channelling 4-45222

deuterium compounds

- see also heavy water
isolated in Ne matrix, EPR spectra 4-33429
DCN, vibronic states dissoc., quantum treatment 4-30953
DCI H-bonded heterodimers, IR obs., vibr. band assignment 4-5208
DCI liquids, vibr. energy relax., soft cores and anisotropic forces effect 4-34382
DCI+Cl, reaction probabilities, rate coeffs., variational transition state theory, tunnelling approx. 4-35881
DCI+Cl collinear reactions, exact quantum and vibr. adiabatic quantum, semiclassical and quasiclassical study 4-7712
DF→CO₂ transfer laser, high-pressure, continuously tunable, optically pumped 4-23951
DF, CW lasers, use of N₂ as diluent gas 4-44096
DF H-bonded heterodimers, IR obs., vibr. band assignment 4-5208
DF, high-pressure. chemical lasers, reactant-surface stretching effect 4-44095
DF, IR spectra of polycrystalline samples at 80K 4-7170
DF laser propagation, analytical modelling 4-1427
DF-CO₂ chemical supersonic laser ring model with unstable-telescopic resonator, energy characs. 4-19435
DF-CO₂ pulsed chem. transfer laser amplifier, CO₂ vibr. populations 4-19433
DID collinear models, vibr. bonded quantum states 4-28414
DN₂, IR multiphoton excitation and dissoc. 4-3420
DN₂, cis and trans, g-values, susceptibility anisotropy, quadrupole moments and electronic charge distrib. anisotropy 4-38218
DO₂ gas, self-sustained volume discharge with preionisation, initial-stage dynamics 4-29285
D₂O ice, amorphous, neutron diff. studies, CRN model 4-29321
D₂O ice, cond. band electrons, mobility and trapping 4-29966
D₂O, optogalvanic studies with a CO₂ laser 4-28431
D₂O⁺ isolated in Ne matrix, EPR spectra 4-33429

deuteronium compounds continued

- D₂O+O, energy partitioning, prod. state distrib., spectroscopic anal. 4-35882
 D₂O⁺, vibr. states, ab initio SCF CI calcs. 4-48948
 DS, multiphoton laser-induced fluoresc. studies 4-23648
 D₂S, anharmonicity corrections, mol. consts. calcs. 4-1232
 DT filled spherical microtarget irradiated with 1-3 TW laser pulses 4-10863
 dT_μ, μ-mesic molecular ion spectrum 4-19307
 HCl-DCI mixed cryst., NQR study of quantum tunnelling 4-11793
 HFeCo₂(CO)₁₂, DFeCo₂(CO)₁₂, ¹H and ²H NMR spectra 4-28456
 O+D₂O, energy partitioning, prod. state distrib., spectroscopic anal. 4-35882

deuteron effects

- steel, structural, charged particle braking power and paths, 0.1 to 90 MeV (Russian) 4-39355
 SiO₂, ionising particle irradiation, predose effects 4-11198

deuteron interactions see *deuteron-nucleus reactions; hadron-deuteron interactions; lepton-deuteron interactions; meson-deuteron interactions; photon-deuteron interactions; proton-deuteron interactions*

deuteron-nucleus reactions

for inelastic deuteron-nucleus scattering, see 'deuteron-nucleus scattering'
 see also *nuclear fusion*

- A_p≤12 projectile reactions and scatt., density distrib., double folding model, review 4-37652
 intranuclear cascade calculations of momentum transfer in light-ion collisions with complex nuclei 4-18395
 stripping reaction DWBA calc., Gaussian expansion 4-54110
 (d,α), tensor analysing powers, L mixing and D-state effects 4-54148
 (d,n) stripping process to isolated analogue resonances, form factors, DWBA 4-43446
 (d,pn) angular correlations, DWBA and adiabatic calc. comparison 4-607
²⁷Al(d,α), intermediate strut. induced by low energy deuterons 4-4867
²⁷Al(d,p), intermediate strut. induced by low energy deuterons 4-4867
 Au(d,X), reaction product asymmetry meas. using Rutherford scatt. normalisation 4-622
¹¹B(d,n)¹²C, single proton stripping reactions, single particle strength 4-4870
⁹Be(d,α), <3.1 MeV, vector anal. cap., diff. cross section energy and ang. depend. 4-621
⁹Be(d,n) thick target neutron spectrum 4-37989
 Be(d,n), neutron energy spectrum from thick target 4-37975
²⁰⁹Bi(d,p), ²¹⁰Pb levels, spins and γ-transitions 4-508
²⁰⁹Bi(d,γ), ²⁰⁸Pb levels, spins and γ-transitions 4-508
¹²C(d,⁶Li), anomaly mechanism, ghost state in direct and compound nucleus reactions 4-23119
¹²C(d,α), intermediate strut. induced by low energy deuterons 4-4867
¹²C(d,n)¹³N, 7-13 MeV, absolute differential cross section meas. 4-37642
¹²C(d,p), 8.9 GeV/c, stripping cross section meas. 4-666
¹²C(d,p), intermediate strut. induced by low energy deuterons 4-4867
⁴⁰Ca(d,p), ang. distrib. calc. with three-body deuteron stripping model 4-43449
⁴⁰Ca(d,p)⁴¹Ca, 4 MeV, vector analysing power, j depend. 4-4871
¹¹⁴Cd(d,p), ¹¹⁴Cd level structure determ., particle-hole excitations and IBM anal. 4-27794
⁵⁵Co(d,X), 85-89 MeV, excitation functions 4-664
 Dy(d,X), x=p,t, hole states based on ¹¹/₂[-505] neutron orbital within pairing gap 4-37641
 Er(d,X), x=p,t, hole states based on ¹¹/₂[-505] neutron orbital within pairing gap 4-37641
¹⁹F(d,α), intermediate strut. induced by low energy deuterons 4-4867
¹⁹F(d,p), intermediate strut. induced by low energy deuterons 4-4867
²¹H(d,γ)⁴He, 376 MeV, differential cross section meas. 4-32901
²¹H(d,n), neutron polarisation meas. using fast neutron polarimeter 4-37532
²¹H(d,n) reaction yield meas. for 1 MJ plasma focus device operating with D₂-³He gas mixture 4-14016
²¹H(d,n)³He, neutron energy spectrum calc. 4-665
 H(d,X), fusion reaction meas. in Princeton Large Tokamak 4-37686
²¹H(d,X), neutron energy spectrum and variation of peak width with plasma ion temp. 4-10889
³H(²H,n)⁴He, ³He resonance state, three particle nature 4-9188
³H(n,n)⁴He, 50 keV to 1 MeV, mean neutron energy and energy spread 4-48583
³H(n,n)⁴He, μ catalysed mesic mol. reson. state formation 4-38357
⁴H(d,X), A=2,3, muon-catalysed fusion, mol. resonances back-decay 4-4927
³He(d,p), ⁵Li scatt. states phase shifts 4-37470
³He(d,p) reaction yield meas. for 1 MJ plasma focus device operating with D₂-³He gas mixture 4-14016
⁴He(d,pn)⁴He, diff. cross section and analyzing powers, E_d=12, 21 MeV 4-9212
⁴He(d,X)⁴He, A=3,4, light nuclei. momentum spectra at large momentum transfer 4-32903
⁶Li(d,n)⁶Be, total cross sections 4-662
⁶Li(d,X), cross-section meas. 4-37644
⁶Li(d,α)n, three and four body nuclear reactions in special kinematical conditions 4-13998
⁷Li(d,X), 13.6 MeV, ³He, ⁴Be short lived states decay and lifetime 4-571
⁷Li(d,2n)⁶Be, total cross sections 4-662
⁴Mg(d,d')⁴Mg, A=24,26, deuteron-γ ang. correlations and diff. cross-section 4-9213
²⁴Mg(d,α), intermediate strut. induced by low energy deuterons 4-4867
²⁴Mg(d,p), intermediate strut. induced by low energy deuterons 4-4867
⁴Mo(d,⁶Li)⁴Zr, A=92-100, levels, spectroscopic factors, shell model calcs. 4-54036
¹⁴N(d,α), reaction mech., ¹⁶O giant resonance fine struct., spectroscopic characts. 4-598
⁵⁸Ni(d, pX), 56 MeV, cross sections and anal. power meas., projectile breakup calcs. 4-4869
²²³Ra(d,t), level structure from cross section and excitation energy meas. 4-4760
²²⁶Ra(d,t), ²²⁵Ra near stable octupole deformation, band struct. 4-18338
⁴S(d,p) A=34,36, level struct. using DWBA calcs. 4-43492
⁴Se(d,⁴He) A=80, 82, A-⁴He mass meas. 4-23124
⁴Si(d,d')⁴Si A=28,30, deuteron-γ ang. correlations and diff. cross-section 4-9213
²⁸Si(d,α), intermediate strut. induced by low energy deuterons 4-4867

deuteron-nucleus reactions continued

- ²⁸Si(d,p), ang. distrib. calc. with three-body deuteron stripping model 4-43449
²⁸Si(d,p), intermediate strut. induced by low energy deuterons 4-4867
²⁸Si(d,p)²⁹Si, 17.85 MeV, cross section meas., spectroscopic factors for bound and unbound states 4-9211
³⁰Si(d, p), 10, 17 MeV, ang. distrib., reaction mech., ³¹Si levels and l-assignment 4-4868
¹¹⁷Sn(d,p), 12 MeV, ¹¹⁸Sn energy levels, l-value and spectroscopic strengths distorted-wave calc. 4-13937
⁸⁹Sr(d,p) neutron orbit radii from DWBA 4-54147
 Ta(d,X), 4.2 GeV/c per nucleon, γ-rays, Λ hyperons and K_s⁰ mesons prod. 4-27885
 Ta(d,X), 4.2 GeV/c/N, large transverse mom. baryon prod., cascade model anal. 4-18471
¹²²Te(d,n)¹²³I, excitation functions, ¹²³I prod. 4-12705
¹⁸⁶W(d,2n)¹⁸⁶Re, 13.6 MeV, ¹⁸⁶Re isomer states, g-factors 4-530
⁹⁰Zr(d, pX) 4-4869

deuteron-nucleus scattering

- A_p≤12 projectile reactions and scatt., density distrib., double folding model, review 4-37652
 (d,d), elastic scatt. description in adiabatic approx. 4-27883
²¹Al(d,d'), intermediate strut. induced by low energy deuterons 4-4867
¹²C(d,d')¹²C, Glauber model S-matrix, effective profile expansion 4-27854
¹²C(d,d'), intermediate strut. induced by low energy deuterons 4-4867
⁸C(d,d'), 8.9 GeV, momentum spectra meas. 4-9214
¹⁹F(d,d'), intermediate strut. induced by low energy deuterons 4-4867
¹⁵N(d,d), 56 MeV, polarised, tensor analysing power meas. using RCNP cyclotron 4-23444
²¹H(d,d), 5.76 GeV/c, diff. cross section from Glauber multiple scatt. theory (Chinese) 4-54150
²¹H(d,d), inelastic screening and quark matter transitions at ISR and SPS energies 4-43419
³H(d,d), elastic scatt. cross sections 4-37643
⁴He(d,d), elastic scatt. cross sections 4-37643
²⁴Mg(d, d')²⁴Mg, quadrupole-quadrupole interaction 4-18436
²⁴Mg(d,d'), intermediate strut. induced by low energy deuterons 4-4867
²⁰⁸Pb(d,d'), 79.4 MeV, deuteron breakup channel effects, folding model 4-54149
²⁰⁸Pb(d,d'), elastic scatt. below Coulomb barrier, adiabatic theory 4-27884
²⁸Si(d, d')²⁸Si, quadrupole-quadrupole interaction 4-18436
³⁰Si(d,d'), intermediate strut. induced by low energy deuterons 4-4867
³⁰Si(d, d), 10, 17 MeV, ang. distrib., reaction mech. 4-4868

deuteron photodisintegration

- γd-expp, nonrelativistic field-theoretical approach 4-23063
 γd-ppπ⁺(pπ⁺), 200-700 MeV, backward direction, differential cross section 4-18270
 D(γ,ρ), photodisintegration in Δ-resonance region, differential cross section 4-32862
²¹H(γ,n)p, forward photodisintegration cross section, relativistic effects 4-32862
²¹H(γ,pn), <180 MeV, EM retardation effects and multipole interactions 4-629

deuteron polarisation

- chiral nucleon bags, system of two axial polarizability 4-13880

deuteron scattering see *deuteron-nucleus scattering; hadron-deuteron scattering; lepton-deuteron scattering; meson-deuteron scattering; photon-deuteron scattering; proton-deuteron scattering*

deuterons

- see also *cosmic ray deuterons*
 asymptotic D state, form factor effects, quark degrees of freedom 4-32573
 beam generation in turbulent plasma forms 4-34331
 chiral nucleon bags, system of two axial polarizability 4-13880
 electric polarisability 4-32806
 excited quark configurations s⁰ and s¹, fractional parentage coeffs. calc. 4-448
 form factor pole expansion 4-48481
 fragmentation spectra meas., of relativistic deuterons and α particles 4-28280
 Q and η, model-dependent rel. 4-43401
 wave function, quark model correction 4-48434
 ed, elastic scatt., deuteron struct., wave function, relativistic light front dynamics appl. 4-23100

developers (photographic) see *photographic materials*

development, photographic see *photographic process*

development management see *research and development management*

DFB lasers see *distributed feedback lasers*

diagnosis, patient see *patient diagnosis*

diagnostics, particle beam see *particle beam diagnostics*

diagnostics, plasma see *plasma diagnostics*

diagrams

- see also *Bode diagrams; Feynman diagrams; nomograms; phase diagrams*
 p-n junctions, deep centres behaviour, graphic representation (Chinese) 4-20590

dialogue systems see *interactive systems*

diamagnetic properties of substances

- see also *de Haas-van Alphen effect; diamagnetism*
 benzene, high field D NMR, diamag. susceptibility anisotropy 4-54756
 butoxybenzylidene-butylaniline, nematic liq. cryst., acoustic invest. in rot. mag. field under varying press. and temp. (French) 4-50187
 EBBA/ZLI-1167 mixed liq. cryst., opposite diamag. anisotropies, temp. dependent switching transition, Landau theory 4-39496
 I-III-VI₂ ternary compounds, mag. susceptibility, temp. depend. 4-30141
 lyotropic nematics, struct. characterisation by polarising microscopy 4-6255
 nematic liquid crystals, diamagnetism, influence on nematic order 4-34400
 nematic lyomesophases, mag. orientation, susceptibility and anisotropy 4-6254
 nematic polar-nonpolar mixtures, dielectric, diamagnetic and elastic props. 4-20087
 oriented molecules in thermotropic solvent mixtures, diamag. anisotropy effects, NMR obs. 4-56788

diamagnetic properties of substances continued

- polyamide fibres, molecular chain orientation, mag. anisotropy obs. (*Russian*) 4-29333
 polyethylene, low-density, diamag. props., temp. and defect conc. depend. 4-16008
 polystyrene micro-crystals, mag. orientation during phase transition from softening to solid state 4-16009
 rare earth rhodium silicides, R_2RhSi_3 , cryst. struct., elec. and mag. props. 4-50272
 Stycast 1266 epoxy, magnetic susceptibility meas. from 2.5 to 400K 4-22786
 TCNQ salt, 1,2-bis(4-pyridinium)ethane(TCNQ)₂, elec., mag., structural characterisation 4-6359
 tetramethylammonium hexacyanotrimethylene-cyclopropanide, mag. and struct. phase transition study 4-45995
 (Ag_{0.5}Cu_{0.5})₁₀₀-Ge₂, mag. susceptibility meas. in amorphous and liq. states 4-20785
 BaPb_{0.75}Bi_{0.25}O₃, reentrant superconducting resistive transition obs. 4-45921
 Cd-Sb liquid alloys, magnetic susceptibility and short range order 4-46000
 CdS:Cl, press. quenched, mag. props. 4-11665
 CoSe, X-ray and UV photoelectron spectra 4-43919
 Cu-Ni-Sn ternary system, phase diagram and mag. props. (*German*) 4-35614
 Fe complexes, Fe(I) and Fe(II), η^5 -C₅H₅Fe₂/ η^6 -C₆(Me)₆ electron reservoir sandwiches, Mossbauer studies and IHT MO calcs. 4-16127
 Fe, dispersed on graphitised C-B, mag. and Mossbauer study 4-25659
 MnSe X-ray and UV photoelectron spectra 4-43919
 Na-Pb liquid alloys, mag. susceptibility, temp. and conc. depend. 4-45998
 Na-Sn liquid alloys, mag. susceptibility, temp. and conc. depend. 4-45998
 NiSe, X-ray and UV photoelectron spectra 4-43919
 ReSi₂, struct. assignment 4-11096
 Ti-CuTiTe₂ molten system, electron transport props. and mag. susceptibility 4-25342
 Xe, Rydberg states diamag. behaviour, RF optogalvanic study 4-38132
 YbD₂, diamagnetic, cryst. struct. neutron diff. study 4-2176
 ZnK₂(SO₄)₂·6H₂O:Mn²⁺, exchange const., spin Hamiltonians and EPR meas. 4-11761

diamagnetic resonance see cyclotron resonance**diamagnetism**

- see also cyclotron resonance; de Haas-van Alphen effect; diamagnetic properties of substances
 excitons, odd states in crossed mag. and elec. fields 4-11450
 free-electron reactive induction props. 4-56530
 ideally conducting phases in quasi two-dimensional conductors 4-6755
 metal-insulator composites, divergent diamagnetism near percolation threshold 4-35117
 metallic clusters, small, anomalous magnetism in weak mag. field 4-40138
 metals, thermodynamic and kinetic characts., diamag. oscils. at low temps. (*Russian*) 4-45997
 relativistic molecular orbital theory 4-1030
 Rydberg atoms in external fields, ion detect. technique appls. 4-18944
 semiconductors, anisotropic, anomalous magnetism in weak mag. field 4-40138
 superconducting composites, divergent diamagnetism near percolation threshold 4-35117
 susceptibility near surface or twinning plane at supercond. state transition 4-2675
 uniaxial diamag. cryst. with paramag. impurities, acoustic self-induced transparency 4-29540
 H, diamagnetism, adiabatic invariant elementary derivation 4-18916
 ZnTe, luminescence study of neutral donor bound excitons 4-21017

diameter measurement

- absorbing fibre sizing using scatt. intensity-ratio technique, eikonal approx. 4-32232
 blood vessel outside diameter, high resolution in vitro meas. device (*Japanese*) 4-21860
 blood/lymph vessels, area/dia.meas., image sensor and signal processing equipment (*Japanese*) 4-8170
 chest and abdomen dia. changes meas., 4-channel magnetometer 4-21760
 crystal growth from melt, pulling system for automatic control of crystal diameter (*Czech*) 4-25877
 epicardial coronary arterial diameter meas., improved US method, piezoelec. device (*German*) 4-47048
 Gaussian 1- μ m dia. beam meas. techniques 4-44120
 Gaussian laser beam dia. meas. through direct inversion of knife-edge data 4-10337
 laser beam, using vibrating cross hair 4-24053
 laser Gaussian beam diameter meas. using generalisation of Ronchi ruling method 4-4448
 optical fibre and connector geometry, precise meas. by image shearing 4-5711
 optical fibres and wires, diameter meas. by laser 4-49529
 pupilometer with selfscanning photodiode array 4-26492

diamond

- (001), electron radiation 4-11209
 abrasive for metallographic polishing, material removal rate, effects of type and size of diamond abrasives 4-57505
 ages and isotopic abundances, implications for early Earth history 4-36322
 band struct. and electron band populations in case of axial channelling 4-25211
 brown diamonds, luminescence decay times, cathodoluminescence and photoluminescence 4-57000
 carbonado-type, synthesis using high press. and high temp. apparatus 4-8917
 colour centres, persistent spectral hole burning 4-56967
 composite and single crystal, polishing, rate of material removal 4-57512
 crystallisation under shock compression, optical props. 4-21118
 CVD mechanisms, (100) surface props. 4-7364
 defect-induced one-phonon IR absorpt. spectra 4-46249
 detector for α -particles, polarisation and space charge 4-23509
 diamond:⁵⁷Co, ion implanted, amorphisation, ⁵⁷Fe Mossbauer study 4-15548
 diamond:Co, heated and implanted, lattice damage reduction, impurity distrib., Mossbauer study 4-34504

diamond continued

- diamond:Co, ion implanted, amorphisation, Mossbauer study 4-34551
 diamond:Hf, ion implanted, elec. field gradients, TDPAC study 4-35273
 distribution in kimberlite pipes rel. to N admixture 4-3767
 electron optical imaging 4-10933
 electron states associated with partial dislocations, tight-binding calc. 4-15850
 electronic charge density, recursion method generalisation 4-45578
 electronic excitations, self-consistent-field calc. 4-45615
 epitaxial synthesis by low energy C ions deposition 4-50692
 formation by laser heating and rapid cooling of C black 4-34629
 geology, review 4-36361
 graphite-3d-transition metal system, diamond form. 4-30655
 H3 vibronic centre excited states, absorpt. and luminesc. meas. 4-16223
 impurity potential calcs. 4-6731
 interatomic potential by Heitler-London method (*Japanese*) 4-39200
 ionising radiation detector, dosimetry appl. for β , γ or X-radiation 4-54442
 IR absorption lines 4-35447
 kimberlites of South Africa, C isotopes and chemistry of diamonds 4-58120
 microstrength characterisation by IR absorpt. 4-41162
 MIS structure containing diamond layer, basic props. 4-35087
 natural and synthetic, ¹³C NMR spectroscopy using dynamic nuclear polarisation 4-16124
 partial dislocations, 90° core struct., valence force field calc. 4-15468
 pendellosung fringes, fading phenomena in X-ray section topography (*Chinese*) 4-55682
 photoelectron spin orientation, electronic states 4-46424
 powders, surfaces, adsorption props. 4-41249
 semiconductors, dislocation properties and struct., Colloquium, Aussois, France (Mar. 1983) 4-13475
 NE Siberian platform, kimberlite magmatism and diamond content 4-12911
 small diamonds (0.01-0.03 carat), characts. and origin (*Russian*) 4-26693
 stylus for surface profiling, polishing machine (*Japanese*) 4-21342
 surface, O and H overlayers, RBS anal. 4-45486
 synthesis, phase changes, STEM obs. 4-35624
 synthetic, surface study by electron microscopy (*Chinese*) 4-2415
 synthetic compact, deform. and microtwinning, TEM study 4-20209
 synthetic diamond, lonsdaleite determ. by immersion method, refr. index meas. (*Ukrainian*) 4-7145
 type IIa, thermal conduct. determ. by heat-flux contraction method 4-27514
 type-Ia and IIa, relativistic positron and electron channelling radiation, platelet effects 4-34554
 vacancies, ideal and reconstructed, localised electron states, tight-binding calc., recursion method 4-6734
 vacancy and partial dislocation energy levels, first principles calc. 4-15851
 vacancy charge states and stress matrix elements 4-45671
 Z 4-2989

diaphragms**see also valves**

- diffusion diaphragm cell design and calibration, for liquid-phase diffusion coeff. determ. 4-4508
 fibre optic method for sensing diaphragm deflection 4-38590
 fibre optic sensor, environmentally insensitive diaphragm reflectance pressure transducer 4-38591
 metallic spherical-cap diaphragms, deform. and strength characts. 4-19738
 NDT by multiaperture speckle shearing technique 4-26143
 sensors/transducers survey, calibration and testing for pressure measurement 4-48113
 thick film strain gauge pressure transducer, using ceramic diaphragm technology 4-248
 three-convolution circular arc corrugated diaphragm design (*Chinese*) 4-44377

diaryons see baryon resonances**dichroism****see also magnetic circular dichroism; pleochroism**

- binaphthyls, chiral mols., circular dichroism in excited triplet states 4-1192
 bistability, dichroic, caused by reson. optical orientation of impurity centres 4-44138
 cellulose-based liq. cryst. polymers, cholesteric phase, struct. and optical props. 4-6258
 chiral molecule, magneto-chiral birefringence and dichroism 4-43908
 chiral molecules, circular dichroism in vibr. transitions down to 600 cm⁻¹ 4-53775
 4,6-dichloropyrimidine, polarised IR spectra, Raman spectra, struct. 4-7187
 2,3-dimethylthiirane, excited electronic state, VUV and circular dichroism study 4-28480
 DNA electric dichroism orientation function 4-38363
 etioporphyrin I in hydrocarbon solvents, 77K, spectroscopic manifestations of dimerisation 4-52034
 Fourier transform IR vibr. circular dichroism, methodology and results 4-53774
 induced cholesteric solns., IR optical rot. dispersion and linear dichroism 4-56882
 ketone-TCNE charge transfer complex, induced optical activity 4-1217
 ketones, hot transitions in absorpt. and circular dichroism spectra (*Russian*) 4-38157
 lysozyme gels, Raman, IR and CD spectroscopy 4-38361
 metal cylinders, dichroism study 4-11860
 molecular crystals, vibr. circular dichroism, contribution of nondegenerate vibr. overtones, permittivity determ. 4-40410
 molecular crystals, vibr. circular dichroism and rot. dispersion theory, contrib. of fundamental tones 4-40408
 molecular crystals, vibr. circular dichroism and rotatory dispersion, selection rules 4-40409
 molecular solutions, characterisation using electro-optical effects 4-1300
 nematic liquid cryst., linear dichroism, order parameter influence 4-7155
 organic glasses, circular dichroism in excited triplet states, matrix birefringence, photoselection and rot. diffusion effect 4-1191
 PE-2 transparent emulsion, induced sensitized photanisotropy 4-51236
 photoinduced, ps photothermal deflection spectroscopy detection 4-37210
 phytochromobilin, and related cpds., circ. dichroism and absorpt. spectra 4-54768

dichroism continued

- pico-second differential absorpt. spectroscopy, photoselection 4-8963
- polyelectrolytes, rodlike, electric birefringence and dichroism, orientation function 4-2896
- polymers amorphous, powder, polarised IR attenuated total refl. spectra 4-56899
- polystyrene matrices activated by Rhodamine 6a, orientational effects 4-55758
- polyurethane-urea elastomers, segmented, IR dichroism and orientation 4-51234
- protein tertiary structure class, sensitivity of circular dichroism spectra 4-7934
- resonant media, nonlinear saturated absorpt., level-degeneracy-induced polarisation effects 4-38535
- sodium uranyl acetate crystals, circular dichroism spectra 4-7164
- spirobifluorenes, chiral mols., circular dichroism in excited triplet states 4-1192
- steroids, dicarbonyl-containing, vibr. circ. dichroism, coupled oscill. interpretation 4-14463
- thiazolo[5,4-d]thiazole, UV absorpt. spectra in vapour and cryst. phases and in soln. 4-9787
- transition metal complexes, solid state circular dichroism 4-56885
- uniaxial crystals with high rotary power, circular dichroism meas. 4-22818
- weakly inhomogeneous medium with birefr., and dichroism, vector representation of polarised light 4-23892
- AsSe amorphous chalcogenide films, photostruct. transformations 4-45322
- Cu complexes, N,N'-ethylenebis(salicylidene)-minato)copper(II), IR vibr. assignments and reson. Raman spectra 4-51282
- KCl(Br)(I):Ti³⁺, A-band effective dynamical coupling constants 4-2947
- Kl(Br)(Cl):Ti, geometrical struct. of (Ti³⁺)₂ luminescent centre, optical studies 4-40522
- La₃Ga₂SiO₁₄, cryst. growth and optical props. 4-34431
- (La_{1-x}Nd_x)₂Ga₂SiO₁₄, cryst. growth and optical props. 4-34431
- LiF radiatively coloured crystals for passive shutters in Nd lasers 4-5599
- NaCl:Ti³⁺, A-band effective dynamical coupling constants 4-2947
- Nd₂Ga₂SiO₁₄, cryst. growth and optical props. 4-34431
- SiO₂, interstitial O IR spectrum and stress-induced dichroism 4-51248
- YIG:Zr, localisation of magneto-optical active centres 4-25728

dictionaries *see glossaries***die steel** *see tool steel***dielectric breakdown** *see electric breakdown***dielectric constant** *see permittivity***dielectric depolarisation**

- see also dielectric polarisation*
- composite, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
- isothermal space-charge relaxation in dielectric with blocking electrodes, numerical anal. 4-2871
- keratin, depolarization thermal current study for high water content 4-16832
- MNOS structure charge transport region determ., using automatic system 4-8921
- polymer, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
- polypropylene copolymer phase separation, TSC meas. 4-20901
- triblock styrene-isoprene copolymers, microdomain formation effect in TSC 4-20902
- La_{1-x}Ba_xF_{3-x} solid soln., elec. cond. study 4-15877
- (Pb_{1-x}Ti_x)₂O₇ ceramics, mech. props., ageing changes 4-35678
- Pb(Se_{1-x}Ta_x)₂O₇ ceramics, depolarisation and reversible pyroelectricity 4-40359
- SrF₂:La, polarisation and depolarisation processes 4-16140

dielectric devices

- see also capacitors; ferroelectric devices; insulators; piezoelectric devices; pyroelectric devices; space-charge limited devices*
- No entries

dielectric-filled waveguides *see dielectric-loaded waveguides***dielectric function**

- core excitons in electronic polaron model 4-56221
- crystal dielectric function, Lorentz-Lorenz formula 4-2533
- electron gas, charged particle slowing down, extension to Fermi-Teller formula 4-25260
- electron gas, homogeneous, dielec. function, role of corrs. between electrons with antiparallel spins 4-29911
- electron-assisted exciton recomb., Green's function treatment 4-6705
- graphite, optical spectra, ab initio SCF band struct. model 4-46288
- graphite monolayer on Ni (111), plasmons in response function 4-39801
- ice, cryst., hexagonal, optical spectra and electronic struct. 4-29880
- jellium, dielectric function, dynamic exchange effects, perturbative and variational methods 4-34894
- liq., vacuum UV spectra; reflectance determ., dielectric and energy loss function 4-40469
- long-wavelength limit and logarithmic singularities 4-20586
- metal, optical response from randomly rough surface 4-7142
- metal large particles, enhanced fields, dynamic depolarisation 4-11566
- metal surface, irradiated, non-local EM effects 4-51222
- metals, dielec. function, core polarisation, self-consistent field approx. 4-2534
- metals, electron liquid dielectric const. tensor singularities 4-34891
- metals, lattice constant and force const. relationships 4-29381
- metals, optical properties, LMT0 calc. 4-25129
- mode softening and high-temperature superconductivity 4-50971
- molecular cryst., effective and nonlocal polarisability response 4-5316
- optical characterisation by ellipsometry 4-43014
- PbCl₂, polycrystalline film, dielec. function, EELS study 4-46383
- physical adsorption and surface plasmons 4-6656
- plasmas, multicomponent, partial response function 4-44801
- polarization forces between macroscopic bodies, RPA calc. 4-2868
- polycarbonate with soliton, Green's function theory 4-39839
- polypyrrole thin films, dielec. function by spectroscopic ellipsometry 4-20941
- Prussian Blue thin films, dielec. function by spectroscopic ellipsometry 4-20941
- quasi-two-dimensional semiconductor system, dielectric function calcs. 4-29910
- selective thin film coatings for solar radiation conversion, review 4-41377
- semiconductor, Auger recombination, screening 4-2998

dielectric function continued

- semiconductor, impurity-ion potential, mobility of scattered electrons 4-39892
 - semiconductors, collective excitations, excitons and plasmons 4-25272
 - semiconductors, dielectric function, freq. depend., RPA and Penn model calc. 4-25261
 - semiconductors, p-type, dielec. function and DC cond. 4-34893
 - semiconductors, Thomas-Fermi-Dirac dielectric response 4-20588
 - small metal particles, plasmon resonance broadening 4-25259
 - small particles, surface plasmons and phonons, optical absorption studies 4-25269
 - squalane, liq., vacuum UV spectra, reflectance determ., dielectric and energy loss function 4-40469
 - thin films, dielectric function and thickness determ. by spectroscopic ellipsometry 4-53731
 - two-dimensional electron gas, dielec. function props. 4-2532
 - two-dimensional electrons, anomalous shifting and narrowing of cyclotron resonance lines 4-11774
 - Ag sphere, enhanced fields, dynamic depolarisation 4-11566
 - CoFe_{2-x}Al_xO₄, polar magneto-optical Kerr effect and dielec. tensor 4-46235
 - Fe, paramagnetic, optical props., interpolation scheme band struct. model 4-7148
 - Fe_{1-x}B_x amorphous sputtered alloys, optical props. 4-46281
 - GaAs, electrolyte elec. field modulated ellipsometric spectrum (*Chinese*) 4-40414
 - GaAs:Be, shallow implantation, spectroscopic ellipsometry and Raman scatt. anal. 4-50327
 - GaAs_{1-x}P_x, dielec. function and derivative spectra by ellipsometry, Fourier analysis 4-46222
 - KCN, far IR spectrum and dielec. function in disordered cubic phase 4-20973
 - K_{1-x}Li_xTaO₃, dielec. susceptibility, elec. field depend. 4-50746
 - KNbO₃, ferroelec. phase transitions, IR spectra studies 4-40371
 - NaCN, far IR spectrum and dielec. function in disordered cubic phase 4-20973
 - Ni surface, clean and O exposed, spectroscopic ellipsometric anal. 4-40401
 - NiO, optical props., band struct. calc. 4-30426
 - PbBr₂, polycrystalline film, dielec. function, EELS study 4-46383
 - PbF₂, polycrystalline film, dielec. function, EELS study 4-46383
 - PbI₂, polycrystalline film, dielec. function, EELS study 4-46383
 - (SN)_x crystal, interchain interaction anisotropy, polarised reflection spectra meas. 4-29411
 - Si reconstructed struct., surface plasmon energy shifts across phase transitions 4-20702
 - a-Si:H, electronic and optical props. 4-45687
 - Ti_{1-x}Hf_xSe₂, electronic and lattice dynamical props., IR reflectivity spectral meas. 4-29889
 - TiGaSe₂, ferroelectric soft mode, dielec. function dispersion 4-30409
- dielectric heaters** *see dielectric heating*
- dielectric heating**
- polyoxymethylene, ultrahigh modulus, prod. by drawing under dielec. heating 4-35643
 - RF dielectric heaters, occupational exposure in industry 4-52390
- dielectric hysteresis**
- ferroelectric hysteresis loop tracer, with automatic sampling ckt. 4-32273
 - ferroelectric hysteresis obs., loop tracer with waveform storage 4-17900
 - films, polarisation hysteresis obs. using light diff. by acoustic waves 4-51207
 - polyvinylidene fluoride, ferroelec. polarisation and piezoelec. props. under shock wave action 4-40349
 - polyvinylidene fluoride, thermal pulse induced pyroelec. response and piezoelec. oscils. 4-7128
 - TGS, pure and X-irradiated, electrogyration 4-46228
 - thiourea, high elec. field ferroelectric transitions 4-30411
 - trisarcosine calcium chloride, dielectric and pyroelectric props. 4-35328
 - varicometer, dynamic hysteresis loop meas. of ferroelectric materials (*Polish*) 4-42985
 - Cd₂Nb₂O₇, elec. polarisation characts., dielec. props. meas. 4-11833
 - KH₂(SeO₃)₂, ferroelastic, switching, influence of defects 4-30415
 - LiKSO₄ ferroelectricity, polarisation-electric field hysteresis 4-40379
 - NaH₂(SeO₃)₂, ferroelec., ferroelastic domain struct. and Barkhausen effect 4-30416
 - PLZT films, RF diode sputtering prep., dielec. and optical props. 4-30394
 - PZT ferroelectric films, RF magnetron sputtering 4-30628
 - PZT, ferroelectric films, thermal decomp. prep., dielec. props. 4-40667
 - Pb₂Ge₃O₁₁ films, elec. and dielectric props. 4-35105
 - Pb_{0.99}Nb_{0.02}(Zr_{0.68}Sn_{0.25}Ti_{0.07})O₃, pyroelec. energy conversion, hysteresis losses 4-7130
 - Pb(Zr,Ti)O₃ ferroelectric films, RF planar magnetron sputtering and dielec. props. 4-16166
- dielectric-loaded waveguides**
- broadband microwave light modulator, parameters calculation 4-5694
 - Cherenkov radiation from high-current electron beam 4-5541
 - metallic rectangular waveguide, TM and TE wave solns., plane waves, ray optics 4-22552
- dielectric loss angle** *see dielectric losses*
- dielectric loss-angle measurement** *see dielectric loss measurement*
- dielectric loss measurement**
- see also dielectric losses*
 - chlorophyll-A, surface conductance in ambient gases, I(V) characts., dielec. loss, capacitance 4-16829
 - coaxial line techniques, matched termination and resonant line methods 4-48154
 - insulator loss tangent meters, using K155 microcircuits 4-42983
 - low loss dielectrics, optimisation of complex permitt. meas. in cylindrical TE_{01n} mode cavities 4-48152
 - resonant bridge for capacitance meas. of very high loss factor (*Polish*) 4-22790
 - three-electrode system, anomalous phenomena 4-48153
 - time-domain dielectric spectrometer, automated 4-32278
 - two-phase system, AC elec. transport props., complex dielec. const., loss angle, percolation 4-16138
- dielectric losses**
- see also loss angle*
 - amines, trisubstituted, struct., dipole moments, dielectric study 4-2997

dielectric losses continued

- Artemia cysts, dielec. studies using time domain spectroscopy, effect of hydration 4-36058
 chlorobenzene-chloroform(bromoform), dielectric permittivity and loss meas. 4-2858
 N,N-dimethylacetamide, dil. soln., dielectric relax., loss and const. meas. 4-46172
 4-N,N-dimethylaminobenzonitrile and rel. compounds, singlet and triplet states, fluoresc., dipole moments 4-38221
 ferroelec. ceramics, dielec. const., expt. study (*German*) 4-46171
 fibre reinforced plastic, mag. polarisation influence on electrophys. props. in wide temp. range 4-46174
 geophysical media, dielectric props. determ. 4-31697
 halogenobenzene-decalin supercooled solns., dielec. spectra, single particle site model for relax. and reson. behaviour 4-11840
 N-(p-hexyloxybenzylidene)-p-toluidine, solns., hindered rot., dielectric loss and const. 4-2857
 insulator wetted by liquid dielectric, surface resist. 4-11573
 PET, glass, secondary relax. transition, 310K (*Russian*) 4-30736
 photographic emulsion layer electrophys. characts. (*Russian*) 4-48237
 poly(amide-imide) films, elec. conductivity, dielec. loss, chip technology appls. 4-15977
 poly(ether ester) thermoplastic elastomers, dielec. props. and secondary relax. 4-30372
 poly(vinyl chloride-vinyl acetate-vinyl alcohol) terpolymer, low freq. dielec. relax. 4-51186
 poly-N-epoxypropylcarbazole, dielec. charact. temp. depend. (*Russian*) 4-16137
 polycarbonate, relax. transition rel. to oligomer additives, elasticity dynamic modulus, dielec. loss tangent (*Russian*) 4-30737
 polycarbonate urethanesiloxane block copolymers, glass transition temp., mech. and dielec. props. (*Russian*) 4-29613
 polyethylene, dielectric γ relax. fine struct. 4-35348
 polysaccharides, solid, TSC study, amylose, pullulan and dextran models 4-16831
 polystyrenes, substituted, props. of dielec. materials 4-20904
 proteins and constituent amino acids, dielec. props. and far IR spectra 4-36098
 PVC cpds., dielec. props., effect of plasticisers (*Korean*) 4-35326
 PVC dielectric losses around glass transition, freq. and temp. depend. 4-20906
 random impedance-capacitance network, elec. cond. theory 4-34940
 sandstone from India, dielec. props. in 10^2 to 10^7 Hz freq. range 4-52695
 skin collagen, lyophilized, hydrated and dehydrated, TSC study rel. to ageing 4-16834
 soft piezoelectric materials, dielec. and electromech. parameters, freq. and temp. depend. 4-20915
 styrene polymerised film, dielectric props. 4-30387
 tetrabutylammonium ion, D₂O soln., hydrophobic hydration and mol. struct. 4-10950
 TGS, alanine and phosphate substituted, cryst. growth and dielec. props. 4-30399
 TGS, doped, pyroelectric meas. 4-16169
 TGS, ferroelec., crit., dynamics, nonclassical or classical behaviour 4-7138
 TGS-polyethylene composites, dielec. permittivity and pyroelec. props. 4-40361
 thermopolarisation effect and dielec. relax. in dielectrics and ferroelectrics 4-35344
 trissarcosine calcium chloride, dielectric and pyroelectric props. 4-35328
 two-phase system, AC elec. transport props., complex dielec. const., loss angle, percolation 4-16138
 AgBr emulsion grains, ionic conductivity, influence of triazindiolisine 4-15681
 Al₂O₃:TiO₂ composite dielec. thin film, dielec. props. 4-51190
 Ba₂Na₂Nb₁₀O₃₀, ferroelectric, high-temp. dielec. relax. and phase transitions 4-30389
 Ba_{2-x}Sr_xK_{1-x}Nb₂O₁₅, dielectric props. meas. 4-40323
 BaTiO₃ ceramic, BaZrO₃ modified, elec. resist. and dielec. characts. temp. depend. 4-15871
 CO/N₂/Ar quadrupole glass, mol. rotations, dielec. studies 4-29350
 CaTiO₃:Y³⁺, polycryst., dielec. props. 4-51176
 CdI₂, type layered crystals, struct. behaviour and phys. props., review 4-40325
 Cd₂Nb₂O₇, elec. polarisation characts., dielec. props. meas. 4-11833
 CsNO₂ crystal, phase transition and freezing of ionic disorder 4-25023
 CsNO₂-TiNO₂ system, ion orientational and positional disorder and its freezing 4-24971
 Dy₂O₃:B, thin films amorphisation, forbidden gap 4-55725
 ErF₃ thin film, dielectric props. meas. 4-35359
 GaP, doped, low freq. dielectric behaviour under illumination 4-46173
 Ge, amorphous, low temp. AC loss meas., evidence for two loss mechanisms 4-50812
 HgI₂ single crystals, dielec. props., 80-425K 4-30373
 KCl:SiCl₂, dielec. relax. caused by mutual conversion of Z₁, Z₂, and F-centres 4-55824
 K_{0.20}Na_{0.20}Sr_{0.60}Ba_{0.20}Nb₂O₆, electroelastic const. determ. (*Chinese*) 4-2856
 KTiOPO₄, dielectric const., ion cond., nonlinear temp. depend. 4-40328
 La(OH)₃, anhydrous and hemihydrated, dielec. props., phase transition 4-11837
 Li-Ti-Zn ferrites, props. for microwave appl. (*Polish*) 4-11744
 Lu₂Y_{1-x}Sc_xO₃:Nd(Er)(Eu), electrophysical props. 4-56341
 MgO-C, arc-fused, dielectric behaviour 4-35346
 (NH₄)₂SO₄, low temp. ferroelectric phase transition 4-51205
 NaVO₃, sintered discs, dielectric and pyroelectric props. meas. 4-40333
 PLZT films, RF diode sputtering prep., dielec. and optical props. 4-30394
 PZT, ferroelectric films, thermal decomp. prep., dielec. props. 4-40667
 PZT/polymer composites, piezoelec. props. 4-40350
 Pb(M_{1/3}Nb_{2/3})O₃, dielec. props. rel. to ceramic processing 4-51174
 Pb(NO₃)₂:K⁺(Na⁺), ionic cond. and dielec. loss meas., 100 to 400°C 4-6552
 PbNb_{0.5}In_{0.5}O₃, phase transition, X-ray and dielec. studies 4-25694
 PbNb_{0.5}Sc_{0.5}O₃, phase transition, X-ray and dielec. studies 4-25694
 Pb(Ni_{1/3}Sb_{2/3})₂Ti₂Zr₂O₁₂:MnO ferroelec. ceramics, dielec. const., expt. study (*German*) 4-46171
 PbTeO₃, cryst. growth from melt, phase transition, to spontaneously polarised state, dielec., X-ray diffr., SHG meas. 4-25696

dielectric losses continued

- Pb₃TeO₆, ferroelec., prep., X-ray diffr., dielec., SHG, calorimetric prop. 4-25697
 (SN)₂, dielec. const. and loss, 16 GHz microwave meas. 4-20896
 SbSI thin films, prep. and dielec. props. 4-30392
 SiO₂, amorphous films, vacuum evaporated, optical and dielec. props., comp. dependence 4-30552
 Sr_{1-x}Ce_xF_{2+x}, cubic solid solns., dielec. relax. expts. 4-46181
 Sr_{1-x}Dy_xF_{2+x}:Yb(Er), ionic thermocurrent and dielectric losses 4-20898
 Sr_{1-x}Er_xF_{2+x}:Dy(Yb), ionic thermocurrent and dielectric losses 4-20898
 SrO-TiO₂-Na₂O-SiO₂ system glasses, opt. dielec. and thermal props., conc. depend. (*Rumanian*) 4-46278
 Sr_{1-x}Pr_xF_{2+x} 4-46181
 SrTiO₃ glass-ceramics, dielectric props. 4-40322
 Ta-Al-N alloy, anodised thin film capacitor, Auger electron spectroscopy, dielec. loss study (*Japanese*) 4-7125
 TiO₂:Cr₂O₃, dielec. props. due to crystallographic shear planes 4-40326
 TiO₂ films, series equivalent capacitance and dissipation factor, meas. 4-16165
 TiNO₂ crystal, phase transition and freezing of ionic disorder 4-25023
- dielectric materials**
 see also *antiferroelectric materials; dielectric thin films; electrets; ferroelectric materials; glass; insulating materials; insulation; piezoelectric materials*
 breakdown, relaxation and life tests, Weibull statistical analysis 4-16160
 dielectric cryst., generalised hydrodynamics 4-37046
 dimethyl siloxane, dielectric fluid, current response 4-35002
 electrical insulation and dielec. phenomena, conf., Buck Hill Falls, USA (Oct. 1983) 4-31963
 glass, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 glass and ceramic, in O₂ production in cold plasma reactor, solid dielectric influence 4-19991
 helical sheath in coaxially layered lossy dielec. medium, EM wave propag. study 4-49243
 highly purified, charge injection and transport anal. 4-35012
 mirrors on metallic substrate, spectra props. 4-51213
 phonon boundary scattering and hypersound absorption in thin dielec. slabs 4-11231
 polycarbonate, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 polyethylene, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 polyvinylchloride, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 silicone oil, current response threshold parameter variation 4-35004
 solid dielectrics, breakdown processes, analysis and elec. strength calc. 4-16163
 space radiation effects, simulated by protons and electrons, rel. to Galileo Orbiter 4-45209
 triblock styrene-isoprene copolymers, microdomain formation effect in TSC 4-20902
 waveguides resonators and antennas appl. 4-19914
 SrTiO₃ boundary layer capacitor material, grain boundary area, TEM obs. 4-55846
- dielectric measurement**
 see also *dielectric loss measurement; permittivity measurement*
 agricultural and biological materials, dielec. props. meas. technique using automatic network analyser 4-41684
 charge transport region determ. in MNOS structure, using automatic system 4-8921
 crystal piezoelectric and electrostrictive deformations, using capacitive transducer 4-8920
 diffuse interface, time domain reflectometry, waveform reproduction method 4-22791
 electrostrictive high-temp. props. in ferroelectrics meas. 4-22795
 ferroelectric hysteresis loop tracer, with automatic sampling cct. 4-32273
 ferroelectric hysteresis obs., loop tracer with waveform storage 4-17900
 ferroelectric liquid crystals, spontaneous polarisation, direct meas. 4-20085
 ice: F⁻, layered capacitor method for dielec. bridge meas. 4-11839
 irregular surface solid dielectrics, method for elec. characts. determ. (*Russian*) 4-4417
 oil shale, dielectric meas. rel. to temp. and freq. 4-52940
 relaxation processes meas. using automatic instrument 4-53702
 suspensions, concentration anal. using dielec. constant meas. (*Japanese*) 4-16699
 variconometer, dynamic hysteresis loop meas. of ferroelectric materials (*Polish*) 4-42985
 VHF-UHF lightning radiation, physical mechanism hypothesis (*French*) 4-47397
- dielectric phenomena**
 see also *dielectric hysteresis; dielectric losses; dielectric properties of substances; dielectric relaxation; dielectric resonance; electric strength; ferroelectricity; photodielectric effect; piezoelectricity; solvated electrons*
 GaP: S local dielec. modes, spectral fine struct. in Raman scatt. 4-56931
- dielectric polarisation**
 see also *Barkhausen effect; dielectric depolarisation*
 after field effect and transient-state theory 4-20905
 anisotropic dielectrics, dispersive interfacial electric polarisation calc. (*French*) 4-2867
 butadiene-nitrile vulcanisates, polarisation current relax. mechanism, polymerisation current (*Russian*) 4-56849
 chiral smectic C liq. crystals, helical pitch, elec. field effects 4-39106
 composite, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
 p-cyanophenyl-p-heptylbenzoate, nematic, dielectric props. and birefringence 4-56843
 diamond detector for α -particles, polarisation and space charge 4-23509
 diffusion and dielectric friction 4-7121
 dipropylene glycol, polar liquid, orientation polarisation in Cole-Davidson relaxation model (*Spanish*) 4-2869
 ferroelectric colloid, character of phase transition (*Russian*) 4-30410
 ferroelectric liquid crystals, spontaneous polarisation, direct meas. 4-20085
 ferroelectric phase transitions induced by dipole effects 4-35378
 ferroelectric semiconductor, LF fluctuations and relax. 4-16147
 ferroelectric thin film, pulse electrooptical light modulation (*Russian*) 4-20944
 ferroelectrics, thermopolarisation effect 4-35335

dielectric polarisation continued

- fibre reinforced plastic, mag. polarisation influence on electrophys. props. in wide temp. range 4-46174
 glass, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 homogeneous anisotropic nonlinear dielectrics, pot. distrib. calc. 4-16139
 inhomogeneous media, nonmetal-metal transition in Bruggeman optical theory 4-56869
 ionic crystals, polarisation by point defects, dipole approx. 4-11831
 ionic crystals, bulk cond., polarisation and defect exchange 4-45408
 IV-VI semiconductors, dielectric props. and band struct. calcs. 4-35331
 linear and nonlinear dielectrics, quasi-static capacitance and ultraslow relax. 4-35345
 liquid, Clausius-Mossotti formula for dielectric suspension of spherical inclusions 4-30381
 macromolecular solids, stable dielectrics with giant polarization 4-35342
 magnetic fluids, electric and magnetic polarisation, elec. and mag. field depend. 4-30240
 Maxwell-Wagner effect and strong low-frequency dispersion 4-35341
 methanol-hexane partially miscible system, density, viscosity, surface tension and dielec. props. 4-45375
 nematic-smectic transition, electro-optical and dynamo-optical effects 4-25725
 off-centre impurity ion induced ferroelec. transition, anomalous props. 4-2887
 orientation polarisation in Cole-Davidson relaxation model (*Spanish*) 4-2869
 PET, contact-injected space charge 4-11596
 phenol, intermolecular association, dielectric polarisation study 4-2865
 photographic emulsion layer electrophys. characts. (*Russian*) 4-48237
 piezoelectric ceramics, differentially poled, guided acoustic interface wave propag. 4-28942
 plant stems, time domain dielec. spectroscopy 4-36269
 PMMA and PTFE, nonisothermal currents associated with temperature gradients 4-20903
 PMMA films, TSC studies of desorption currents 4-11835
 polar liquids, polarisation diffusion and dielectric friction 4-51183
 polarization forces between macroscopic bodies, RPA calc. 4-2868
 polyvinylidene fluoride electrets, polarisation distribs., electrode material effects, thermal pulse method, pyroelectric coeff. meas. 4-2866
 poly(vinylidene fluoride), piezoelectric meas., hydrophone appl. 4-35363
 polycarbonate, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 polyethylene, anomalous polarisation with AC charging 4-56850
 polyethylene, low density, anomalous polarisation effects with AC charging 4-35340
 polyethylene, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 polymer, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
 polyvinylchloride, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 polyvinylidene fluoride, corona poling, piezoelec. and pyroelec. props. 4-35369
 polyvinylidene fluoride, ferroelec. polarisation and piezoelec. props. under shock wave action 4-40349
 polyvinylidene fluoride electret, poling behavior at room temp. 4-40330
 propionic acid, intermolecular association, dielectric polarisation study 4-2865
 pyromellitimide thin film photoelectret, excitation effects 4-11827
 sawtooth superlattices, transient elec. polarisation phenomenon 4-25433
 solids, dielec. relax., book 4-42612
 tetrafluoroethylene-hexafluoropropylene copolymer film, unusual cond. and dielec. props. 4-35343
 TGS, alanine and phosphate substituted, cryst. growth and dielec. props. 4-30399
 TGS, doped, pyroelectric meas. 4-16169
 TGS, ferroelectric, anisotropic polarisation relax. time, 45° Brillouin scatt. study 4-51198
 TGS, L-alanine doped, inhomogeneity 4-46190
 TGS, phase transition in presence of temp. gradient 4-11850
 TGS plate, trigger medium for modelling autowave processes 4-7139
 thermopolarisation effect and dielec. relax. in dielectrics and ferroelectrics 4-35344
 AgNb_{1-x}Ta_xO₃ solid solns., ferroelectricity 4-46195
 alkali aluminosilicate, interdiffusion of Ag, rel. to electronic polarisability 4-39613
 (Ba_{0.95}Sr_{0.05})Nb₂O₆, relax. polarisation and thermally stimulated depolarisation currents 4-2870
 BaTiO₃ ferroelectric crystals, with spiral dislocations, thermodynamic study above Curie point 4-30401
 BaTiO₃, illumination influence on polarisation changes 4-25677
 BaTiO₃, para-ferroelectric phase change, spontaneous polarisation and Bloch orbital interactions (*French*) 4-7137
 BaTiO₃, parameter variations in strong EM field 4-2862
 BaTiO₃, Z 4-46199
 CdF₂, bulk-cond. determ. from TSC meas. 4-15686
 CsRbSeO₄, ferroelectric and thermal props. 4-25693
 KD₂PO₄-KH₂AsO₄, ferroelectric domain switching, ESR studies 4-11849
 KH₂PO₄, ferroelec. phase transition, Slater theory anal. and extension 4-46203
 KH₂PO₄ type ferroelectrics, phase transition, models, light scatt. spectra and polarisation fluctuations 4-40375
 KH₂PO₄-KD₂PO₄ mixed cryst., ferroelec., polarisation relaxation spectra of (H₂PO₄)⁻ dipoles 4-25774
 KNbO₃, ferroelec. phase transitions, IR spectra studies 4-40371
 KNbO₃, ferroelectric, spontaneous polarisation and band-edge phenomena, theory 4-46199
 KNbO₃, para-ferroelectric phase change, spontaneous polarisation and Bloch orbital interactions (*French*) 4-7137
 K₂S₆(NbO₃)₅, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 KTaO₃-Li, off-centre Li ion displacement and dielec. susceptibility 4-50312
 LiKSO₄ ferroelectricity, polarisation-electric field hysteresis 4-40379
 LiNbO₃, relax. polarisation and thermally stimulated depolarisation currents 4-2870
 LiNbO₃:Ni(Cr)(Sm)(Gd), pyroelectric props. (*Korean*) 4-40364
 NH₄HSeO₄, ferroelectric phase transition study 4-51206
 NaCl:Pb, nucleation processes, ionic cond. and optical spectra 4-15651
 Na₂O-SiO₂, interdiffusion of Ag, rel. to electronic polarisability 4-39613

dielectric polarisation continued

- PLZT electro-optic ceramic depolarisation at low temps. 4-44165
 PLZT transparent ferroelec. ceramics, electronic processes and phase transitions 4-11846
 PZT, ferroelectric films, thermal comp. prep., dielec. props. 4-40667
 PZT, solid solns., electrostrictive props. near tricritical point 4-46184
 Pb₂Ge₂O₇, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 Pb₂Ge₂O₇ films, elec. and dielectric props. 4-35105
 Pb(Mg_{1/3}Nb_{2/3})O₃, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 PbMg_{1/3}Nb_{2/3}O₃, ferroelec., with diffuse phase transition, phys. phenomena, review 4-35413
 Pb(Mg_{1/3}Nb_{2/3})O₃, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
 Pb_{0.99}Nb_{0.02}(Zr_{0.68}Sn_{0.25}Ti_{0.07})_{0.96}O₃, pyroelec. energy conversion, hysteresis losses 4-7130
 Pb(Sc_{1-x}Ta_x)O₃ ceramics, depolarisation and reversible pyroelectricity 4-40359
 Pb(Zn_{1/3}Nb_{2/3})O₃, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
 Pb(Zr,Ti)O₃ ferroelectric films, RF planar magnetron sputtering and dielec. props. 4-16166
 PbZrO₃-PbTiO₃ system ceramics, electric polarisation effect study (*Chinese*) 4-2864
 RbHSeO₄, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 RbHSeO₄, domain struct. and light deflection at domain walls 4-25698
 Rb_{1-x}(NH₄)_xH₂PO₄ mixed cryst. proton glass, Vogel-Fulcher scaling of susceptibility 4-25670
 SbSI film on Si substrate, elec. and dielectric props. 4-40346
 ScTaO₃, ferroelec. cryst., spontaneous polarisation and phase transition 4-35393
 Sr_{0.5}Ba_{0.5}Nb₂O₆:La dislocation-free cryst., dielec., SAW, and electro-optical props. 4-30400
 SrF₂:La, polarisation and depolarisation processes 4-16140
 SrTiO₃ single cryst., electroluminesc., at low temps. 4-11943
 TGS, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 TGSe, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 ZrO₂:Y₂O₃/Pt interface, polar behaviour and charge storage 4-40024
- dielectric power factor** see *power factor*
- dielectric properties of gases**
 No entries
- dielectric properties of liquids and solutions**
 amines, trisubstituted, struct., dipole moments, dielectric study 4-2997
 Artemia cysts, dielec. studies using time domain spectroscopy, effect of hydration 4-36058
 bilayered fluid smectic phase, dielec. relax. 4-40338
 blood, dielec. anal. by raster-electrode technique 4-47118
 breakdown, using holographic interferometry 4-35355
 butanols, isomeric, in benzene solns., dielectric relax., refractive index and permittivity meas. 4-16135
 chiral smectic C liq. crystals, helical pitch, elec. field effects 4-39106
 chlorobenzene-chloroform(bromoform), dielectric permittivity and loss meas. 4-2858
 chloroform, liq., mol. reorient., spectrosc. method appls. 4-56917
 p-chlorophenylisocyanate, benzene soln., NCO group struct. and dielectric relax. study 4-2873
 chlorophyll solutions in nematic liq. crystals, dielec. props. obs. 4-52251
 cholesteryl chloride-cholesteryl alkanoates mixtures, electro-optic and dielec. studies 4-39114
 Clausius-Mossotti formula for dielectric suspension of spherical inclusions 4-30381
 15CS crown ether-water mixture, Raman spectra, shear viscosity, density and permittivity meas. 4-14430
 cyano substituted nematogenic liq. crystals, negative dielec. anisotropy and spectroscopic props. 4-6260
 2-cyano-4-heptylphenyl-4'-pentyl-4-biphenyl carboxylate-4-n-heptyl-4'-cyanobiphenyl mixture, nematic phase, dielec. consts., conductivities, skewed cybotactic struct. effect 4-39108
 4-cyanobiphenyl-2-alkylaminobenzoates, liq. cryst. and dielec. props. 4-39489
 1-cyclohexyl-2-(4'-halobiphenyl-4'-yl)ethanes, synthesis and mesomorphic props. 4-10977
 2,3-dicyano-4-pentyloxyphenyl 4'-pentyloxybenzoate-nonpolar liq. cryst. mixture, dielec. props. 4-40324
 dielectric fluids, labyrinthine instability 4-35334
 dielectric fluids, labyrinthine instability theory 4-29195
 dielectric liq., prebreakdown phenomena, elec. fields, Kerr effect study 4-46183
 1,1-dimethoxy-2-propanone, permittivity and density, press. and temp. depend. 4-30377
 N,N-dimethylacetamide, dil. soln., dielectric relax., loss and const. meas. 4-46172
 3,3'-dinitro-4,4'-dimethylobiphenyl, in p-xylene, intramolecular motion, dielectric relax. 4-30386
 dipropylglycol, polar liquid, orientation polarisation in Cole-Davidson relaxation model (*Spanish*) 4-2869
 dipyrindyl ethylenes, mol. dynamics, dielectric relax. meas. 4-7119
 dipyrindyls and trans-1,2-dipyrindyl-ethylenes, dielectric relax. and conformational calcs. 4-51184
 DNA incorporated radiation injuries, freeze-thaw mechanism, dielectric and hydrodynamic meas. 4-31172
 double layer, dielectrically nonuniform, in dil. electrolytes, continuous struct. 4-52024
 electrical insulation and dielec. phenomena, conf., Buck Hill Falls, USA' (Oct. 1983) 4-31963
 electrolyte solns., dielectric decrement calc. 4-46178
 electrolytes, aq., dielectric and struct. props., ion size and charge influence 4-11824
 electrolytic tank, dielectric problems 4-8695
 ferroelectric polymers, solid and liq., dielec. const., rigorous bounds 4-35327
 ferrofluids, magnetodielectric anisotropy dispersion 4-30261
 frequency dependent dielec. const. calc. in computer simulation 4-25666
 halogenbenzene-decalin supercooled solns., dielec. spectra, single particle site model for relax. and reson. behaviour 4-11840
 n-hexane, liq., positive streamer propag., impurity effects 4-35353

dielectric properties of liquids and solutions continued

- N-(p-hexyloxybenzylidene)-p-butylaniline, liq. cryst., dielec. anisotropy, order parameter 4—39111
 N-(p-hexyloxybenzylidene)-p-toluidine, solns., hindered rot., dielectric loss and const. 4—2857
 insulin, solns, dipole moments, permittivity dispersion studies 4—31159
 ISM liquids, coupling of long and short range correl. and dielec. const. 4—24709
 liquid crystal binary mixture with induced smectic-A mesophase, dielectric and electrooptic props. 4—55720
 liquid crystals, exhibiting reentrant phenomena, dielec. relax. 4—56851
 liquids, mol. rot., analytical approach appl. to NMR and dielectric relax. 4—50157
 magnetic fluids, electric and magnetic polarisation, elec. and mag. field depend. 4—30240
 MBBA-p-methoxy benzylidene p'-cyano aniline mixtures, nematic, domain form., mol. alignment 4—39103
 metal electrode/electrolyte soln. interface, image forces and permittivity 4—11826
 methanol-cyclohexane critical liq. mixture, elec. resist. and dielectric constant anomaly 4—2320
 methanol-hexane partially miscible system, density, viscosity, surface tension and dielec. props. 4—45375
 methyl cyanide, dielectric permittivity computer simulation study 4—51178
 methyl cyanide, permanent and induced dipole interference, dielectric props., computer simulation 4—51179
 nematic liquid crystals, electrohydrodynamic instability and dielectric anisotropy 4—20090
 nematic polar-nonpolar mixtures, dielectric, diamagnetic and elastic props. 4—20087
 nematic-smectic transition, electro-optical and dynamo-optical effects 4—25725
 p'-nitrophenyl-p-n-octyloxybenzoate/(2-hydroxy)-p-ethoxybenzylidene-p'-butylaniline mixtures, smectic A-nematic transition boundary 4—11280
 p'-n-octyloxy-p-cyanobiphenyl/p-butoxyphenyl-(p'-pentyloxy)benzoate mixtures, smectic A-nematic transition boundary 4—11280
 OHMBBA, magnetically aligned, dielec. anisotropy and dipole moment 4—34401
 organic dilute solutions, dipole moment and dielec. relax. time calc. 4—51185
 pentyl-cyano-biphenyl, electrohydrodynamic instability 4—20089
 phenol, intermolecular association, dielectric polarisation study 4—2865
 phenothiazines-1₂, association, dielectric const. meas. 4—16627
 polar fluids, effective interaction energy of test multipoles 4—30378
 polar liquid, surface layer, mol. orientation calc. 4—34381
 polar liquids, polarisation diffusion and dielectric friction 4—51183
 polar mol. immersed in fluid, electrohydrodynamic effects in dielectric relaxation 4—46179
 polar systems, dipole moment fluctuations in computer simulations 4—10942
 polyelectrolytes, cylindrical, dielec. saturation effects 4—2048
 positive streamer propag. velocity, volt. and gap position effects 4—35352
 propionic acid, intermolecular association, dielectric polarisation study 4—2865
 reentrant nematic mixtures, dielec. props., effect of smectic ordering 4—10967
 smectic E phase of liq. cryst., dielec. relax. 4—40337
 squalane, liq., vacuum UV spectra, reflectance determ., dielectric and energy loss function 4—40469
 squalene, liq., vacuum UV spectra, reflectance determ., dielectric and energy loss function 4—40469
 submillimetre dielectric properties of liquids, interaction models, complex permitt. meas., optical const. 4—25672
 suspensions, aggregative stability in mixed solvent, dielec. anal. 4—16690
 tetrabutylammonium ion, D₂O soln., hydrophobic hydration and mol. struct. 4—10950
 tollyscyanates, benzene soln., NCO group struct. and dielectric relax. study 4—2873
 transport properties of liquid dielectric materials in crossed electric and magnetic field with photographic observation 4—25681
 twisted nematic cells, multiplexing under nonrigid boundary conditions 4—29311
 two-components fluid of nonpolarisable dipolar species, dielec. relax. theory 4—40335
 water, complex 9 GHz permittivity at 293K and 298K 4—25668
 water, dielectrically nonhomogeneous boundary layer, standard chem. potential calc. 4—15356
 LiAsF₆ in 1,2-dimethoxyethane soln., mol. relax. investig. 4—2360
 Mn(ClO₄)₂·6H₂O, diethylacetamide soln., permittivities and dielectric relax. 4—30374
 Mn(NO₃)₂·4H₂O, diethylacetamide soln., permittivities and dielectric relax. 4—30374

dielectric properties of solids

- amylose, solid, thermally stimulated current and creep 4—50838
 anodic ceramic films on Al-Mg dielec. breakdown during form. (*Russian*) 4—7122
 butadiene-nitrile vulcanisates, polarisation current relax. mechanism, polymerisation current (*Russian*) 4—56849
 composite, low-cycle loading effect on mech. and LF dielec. characts. 4—46607
 cotton, effect of physical-mechanical props. on electrical characts. of US waves (*Russian*) 4—5745
 disaccharide frozen aq. solns., bound water, depolarisation thermocurrent study 4—35337
 elastic dielectric dynamics, Lagrangian density 4—24346
 elastic dielectrics, nonlinear couple stress theory, dynamic deform. appls. 4—14886
 electrical insulation and dielec. phenomena, conf., Buck Hill Falls, USA (Oct. 1983) 4—31963
 EM scattering by dielectric bodies, arbitrary shape, inhomogeneous, tetrahedral modelling 4—49241
 epoxies, Al filled, dielec. props., elec. susceptibilities 4—40380
 fibre reinforced plastic, mag. polarisation influence on electrophys. props. in wide temp. range 4—46174
 glass transition, dielectric relaxation as free vol. process 4—16145
 guanidinium sulphate tris-fluorine antimonate crystals, dielec. anomalies 4—7114
 hexamethylenetetramine, crystal, dielec. and IR absorpt. line widths (*French*) 4—51191

dielectric properties of solids continued

- ice, dielectric properties in presence of space charge 4—40344
 ice, lh, dielectric props., time-induced changes 4—30384
 ice, lh polycrystalline, dielectric study by depolarisation thermocurrent method 4—30382
 ice, Kirkwood-Frohlich dielectric eqn. 4—30379
 ice crystals, internal friction and dielec. relax., X-ray irradi. effects 4—29476
 ice dispersed microcrystals, dielectric study by depolarisation thermocurrent technique 4—30383
 ice thickness, radar meas. sensitivity to elec. parameter errors 4—47461
 inhomogeneous anisotropic dielectrics, electrostatic theory, variational estimates 4—2863
 inhomogeneous media, nonmetal-metal transition in Bruggeman optical theory 4—56869
 ionomeric materials, TSC study of dielec. props. and cond. 4—11836
 irregular surface solid dielectrics, method for elec. characts. determ. (*Russian*) 4—4417
 macromolecular solids, stable dielectrics with giant polarization 4—35342
 Maxwell-Wagner effect and strong low-frequency dispersion 4—35341
 monosaccharide frozen aq. solns., bound water, depolarisation thermocurrent study 4—35337
 oil shale, dielectric meas. rel. to temp. and freq. 4—52940
 permittivity at millimetre-wave freq. 4—30375
 PET, glass, secondary relax. transition, 310K (*Russian*) 4—30736
 PET films and yarns treated by corona discharge 4—11018
 PET treated by corona discharge struct. and dielec. props. 4—11017
 physics and chemistry of ice, conference, Rolla, MO, USA (1982) 4—27232
 PMMA, electric field interaction, space charge effects 4—25682
 polycarbonate, relax. transition rel. to oligomer additives, elasticity dynamic modulus, dielec. loss tangent (*Russian*) 4—30737
 polycarbonate urethanesioxane block copolymers, glass transition temp., mech. and dielec. props. (*Russian*) 4—29613
 polyethylene, elec. props., strong gamma-ray field effects (*Rumanian*) 4—29963
 polyethylene, electric field interaction, space charge effects 4—25682
 polymer, low-cycle loading effect on mech. and LF dielec. characts. 4—46607
 PVC cpds., dielec. props., effect of plasticisers (*Korean*) 4—35326
 relaxation, book 4—42612
 snow, dielectric behaviour, theoretical models and obs. 4—22033
 soft piezoelectric materials, dielec. and electromech. parameters, freq. and temp. depend. 4—20915
 squaric acid, transition temp., uniaxial stress effect, dielec. meas. 4—11269
 1,1',2,2'-tetrachloroferrocene, cryst. phases, struct. and dynamics investig. 4—24798
 tetrafluoroethylene-hexafluoropropylene copolymer film, unusual cond. and dielec. props. 4—35343
 TGS:Mn²⁺(Li), cryst. growth from soln., growth habit, domains config., dielec. props. 4—2125
 TGS, alanine and phosphate substituted, cryst. growth and dielec. props. 4—30399
 TGS-polystyrene composites, dielec., pyroelec., and thermal props. 4—11823
 transparent dielectrics, optical destruction, dimens. and conc. effects 4—46210
 trissarcosine calcium chloride, dielectric and pyroelectric props. 4—35328
 Zenneck wave, phase struct. 4—51210
 Ag₂Hgl₄, superionic, complex dielec. permeability, freq. and temp. depend., β-α transform. 4—29689
 α-Agl, dielectric const., microwave cond., complex transmission factor meas. 4—29695
 Cd₂Hgl₂Te, refractive index calc. rel. to freq. and mole fraction 4—40385
 CdI₂ type layered crystals, struct. behaviour and phys. props., review 4—40325
 Cd₂Nb₂O₇, elec. polarisation characts., dielec. props. meas. 4—11833
 CsNO₂ crystal, phase transition and freezing of ionic disorder 4—25023
 CsNO₂-TiNO₂ system, ion orientational and positional disorder and its freezing 4—24971
 GaAs, dielectric props., first-principles calc. 4—25671
 GaP, doped, low freq. dielectric behaviour under illumination 4—46173
 Hgl₂ single crystals, dielec. props., 80-425K 4—30373
 K₂ZnCl₄, phase transitions, hydrostatic press. effects, DTA and permittivity meas. 4—51203
 La(IO₃)₃, anhydrous and hemihydrated, dielec. props., phase transition 4—11837
 LiNbO₃ ceramics, dielectric spectra, piezoelec. grain reson. 4—2879
 Na₂O-SiO₂ glasses with high water content, dielec. characts. 4—56846
 NaVO₃, sintered discs, dielectric and pyroelectric props. meas. 4—40333
 PLZT transparent ferroelec. ceramics, electronic processes and phase transitions 4—11846
 PZT, ferroelectric films, thermal decomp. prep., dielec. props. 4—40667
 Pb(Fe_{1/2}Nb_{1/2})O₃-Pb(Fe_{2/3}W_{1/3})O₃, low firing multilayer capacitor material, dielec. props. 4—30404
 Pb_{2-x}La_{1-x}Li_{0.5}O_{6+x} ceramic pyrochlore structured system, dielectric relaxation and conduction meas. 4—40334
 Sr_{1-x}Ce₂F_{2+x}, cubic solid solns., dielec. relax. expts. 4—46181
 Sr_{1-x}Gd₂F_{2+x}, solid solns., dipoles, dielec. relax. behaviour 4—46182
 SrO-TiO₂-Na₂O-SiO₂ system glasses, opt. dielec. and thermal props., conc. depend. (*Rumanian*) 4—46278
 Sr_{1-x}Pr₂F_{2+x} 4—46181
 TaS₃, electron irradi. effects, charge density wave pinning, dielectric and cond. props. 4—39887
 TiGaSe₂, ferroelectric soft mode, dielec. function dispersion 4—30409
 TiNO₂ crystal, phase transition and freezing of ionic disorder 4—25023
 YIG, mag. dielectrics, mag. and elec. field obs. by electron diff., microwave absorpt. (*German*) 4—40148
 ZnFe₂O₄-Fe₂O₃, mag. dielectrics, mag. and elec. field obs. by electron diff., microwave absorpt. (*German*) 4—40148
 α-Zr(PO₄)₂ (A=Li,Na,K), ionic cond. and dielec. props. 4—6551

dielectric properties of substances

see also antiferroelectricity; dielectric depolarisation; dielectric function; dielectric materials; dielectric measurement; dielectric phenomena; dielectric polarisation; dielectric properties of gases; dielectric properties of liquids and solutions; dielectric properties of solids; electric strength; optical susceptibility; permittivity; piezoelectricity; pyroelectricity
 alkylamides in polystyrene matrix, internal rot. 4—5513

dielectric properties of substances continued

- cellular spin resonance, method for dielec. props. determ. 4-41655
 crystalline and amorphous dielectrics, radiation damage 4-20235
 polaron dispersion relations and damping, ATR, light scatt., nonlinear optical processes meas. 4-25245
 PVC, glass transition temp. and relax. time 4-39509
 s-polarised optical props. of dielec. with surface monolayer, classical microscopical model 4-40398
 snow, dielectric behaviour, theoretical models and obs. 4-22033
 Au thin island films, dielec. props., statistical theory, appl. and comparison with expt. results 4-51398

dielectric relaxation

see also *dielectric resonance*

- acetate H-bond complexes, association, equilib. const. and thermodynamic props. 4-41197
 amines, trisubstituted, struct., dipole moments, dielectric study 4-2997
 anodic oxide films, kinetics of ionic migration and relaxation 4-12218
 anomalous, elec. charged dislocation effects 4-30388
 Artemia cysts, dielec. studies using time domain spectroscopy, effect of hydration 4-36058
 automatic instrument for relaxation processes meas. 4-53702
 p-azoxyphenetole, nematic and isotropic phases, dielec. relax. 4-7120
 bilayered fluid smectic phase, dielec. relax. 4-40338
 butadiene-nitrile vulcanisates, polarisation current relax. mechanism, polymerisation current (*Russian*) 4-56849
 4-n-butylxyphenyl-4-n-hexylbenzoate, isotropic and nematic phases, permittivity, dielec. relax., mol. reorientation mechanisms 4-50177
 chloroform, liq., mol. reorient., spectrosc. method appls. 4-56917
 p-chlorophenylisocyanate, benzene soln., NCO group struct. and dielectric relax. study 4-2873
 cluster approach to the structure of imperfect materials and their relaxation spectroscopy 4-2874
 composite, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
 crystals, at. transport via point defects, at. mobilities and dielectric relaxation 4-50558
 dielectric materials, breakdown, relaxation and life tests, Weibull statistical analysis 4-16160
 N,N-dimethylacetamide, dil. soln., dielectric relax., loss and const. meas. 4-46172
 3,3'-dinitro-4,4'-dimethylbiphenyl, in p-xylene, intramolecular motion, dielectric relax. 4-30386
 dipropylenglycol, polar liquid, orientation polarisation in Cole-Davidson relaxation model (*Spanish*) 4-2869
 dipyrilidyl ethylenes, mol. dynamics, dielectric relax. meas. 4-7119
 DNA incorporated radiation injuries, freeze-thaw mechanism, dielectric and hydrodynamic meas. 4-31172
 ferroelectric semiconductor, LF fluctuations and relax. 4-16147
 fibre reinforced plastic, mag. polarisation influence on electrophys. props. in wide temp. range 4-46174
 fluoropolymer electrets, charge relax. at high surface potential 4-51182
 glass transition, dielectric relaxation as free vol. process 4-16145
 halogenobenzene-decalin supercooled solns., dielec. spectra, single particle site model for relax. and reson. behaviour 4-11840
 N-(p-hexyloxybenzylidene)-p-toluidine, S_B and solid II phases, dielec. studies 4-7112
 N-(p-hexyloxybenzylidene)-p-toluidine, solns., hindered rot., dielectric loss and const. 4-2857
 ice: F^- , layered capacitor method for dielec. bridge meas. 4-11839
 ice, dielectric properties in presence of space charge 4-40344
 ice crystals, internal friction and dielec. relax., X-ray irradi. effects 4-29476
 ionomeric materials, TSC study of dielec. props. and cond. 4-11836
 Kapton-H polyimide films, field-induced TSC 4-40331
 linear and nonlinear dielectrics, quasi-static capacitance and ultraslow relax. 4-35345
 liquid crystals, exhibiting reentrant phenomena, dielec. relax. 4-56851
 liquids, mol. rot., analytical approach appl. to NMR and dielectric relax. 4-50157
 Maxwell-Wagner effect and strong low-frequency dispersion 4-35341
 metal-semiconductor junction admittance dispersion, dielec. relax. contrib. 4-35067
 MOS structures, I-V characteristics meas. by triangular and sinusoidal voltage sweeps 4-45888
 organic dilute solutions, dipole moment and dielec. relax. time calc. 4-51185
 organic thin films, plasma-polymerised, dielectric relax., breakdown, electrical cond. and photocond. meas. 4-16144
 orientation polarisation in Cole-Davidson relaxation model (*Spanish*) 4-2869
 PMMA, dielec. relaxation modes as function of tacticity using TSC 4-20907
 PMMA, photon correl. polarised light scatt., relax. processes, activation energy and vol. meas. 4-56950
 polar liquids, polarisation diffusion and dielectric friction 4-51183
 polar organic cpds., mol. struct., microwave absorpt. and NMR spin-lattice relax. obs. 4-19047
 polarization diffusion and dielectric friction 4-7121
 poly(ethylene oxide) complex with $LiClO_4$ and $NaClO_4$, dielectric relax. study 4-25679
 poly(vinyl chloride-vinyl acetate-vinyl alcohol) terpolymer, low freq. dielec. relax. 4-51186
 poly(vinylidene fluoride) cryst. form II, dielec. relax. and mol. motion under high press. 4-40339
 poly-L-alanine, picosec. relaxs., mm-wave spectroscopy obs. 4-36068
 polyethylene, dielectric γ relax. fine struct. 4-35348
 poly-L-proline II, hydrated, dielec. relaxation mechanisms, conductivity 4-16148
 polymer, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
 polymers, TSC, high temp. peak, effects of free carriers conc. and charge (*French*) 4-50831
 polysaccharides, solid, TSC study, amylose, pullulan and dextran models 4-16831
 proteins, picosec. relaxs., mm-wave spectroscopy obs. 4-36068
 PVC, dielec. relax. at glass transition as free vol. process 4-16145
 PVC dielectric losses around glass transition, freq. and temp. depend. 4-20906
 quartz, smoky, gamma irradi., anomalous low-temp. thermal, dielec. and acoustic props., elec. dipole echoes 4-51208

dielectric relaxation continued

- relaxation times distribution and after field effect and transient-state theory 4-20905
 rhodopsin system, spectral shifts, environmental effects, quantum mech. calcs. 4-28511
 semiconductors, dielectric relax. of dislocations and elec. cond. 4-46180
 semiconductors, heterogeneous, conductivity and dielectric relaxation parameter determ. using isolation layers 4-37118
 skin collagen, lyophilized, hydrated and dehydrated, TSC study rel. to ageing 4-16834
 smectic E phase of liq. cryst., dielec. relax. 4-40337
 solids, dielec. relax., book 4-42612
 styrene polymerised film, dielectric props. 4-30387
 tetrabutylammonium ion, D_2O soln., hydrophobic hydration and mol. struct. 4-10950
 tetramethylammonium zinc tetrachloride, incommensurate phase, dielec. relax. 4-20923
 $TGS:Cs^{3+}(VO_2^{2+})$, γ -irrad., permitt. relax., rel. to domain struct. 4-11838
 thermopolarisation effect and dielec. relax. in dielectrics and ferroelectrics 4-35344
 tollyisocyanates, benzene soln., NCO group struct. and dielectric relax. study 4-2873
 two-components fluid of nonpolarisable dipolar species, dielec. relax. theory 4-40335
 vinylidene fluoride-trifluoroethylene copolymer, dielectric relax. 4-25678
 $Ba_4Na_2Nb_{10}O_{30}$, ferroelectric, high-temp. dielec. relax. and phase transitions 4-30389
 $CaTiO_3 \cdot Y^{3+}$, polycryst., dielec. props. 4-51176
 $CsNO_2$ crystal, phase transition and freezing of ionic disorder 4-25023
 $CsNO_2 \cdot TiNO_2$ system, ion orientational and positional disorder and its freezing 4-24971
 H-bonded complexes, assoc., thermodynamic parameters, dielec. relax. meas. 4-2872
 $(K-Na)TaO_3$, quadrupolar and dielectric relax. studies 4-16119
 $KCl:SrCl_2$, dielec. relax. caused by mutual conversion of Z_1 , Z_2 , and F-centres 4-55824
 KH_2PO_4 - KD_2PO_4 mixed cryst., ferroelec., polarisation relaxation spectra of $(H_2PO_4)^-$ dipoles 4-25774
 $K_1-Li_2TaO_3$, dielec. susceptibility, elec. field depend. 4-50746
 $KTaO_3:Li$, dielectric relax. meas. 4-40336
 $KTaO_3:Li$, random site elec. dipole system, collective effects 4-11847
 K_2ZnCl_4 , ferroelectric, incommensurate-commensurate transition, dielec. dispersion 4-51204
 $La_{1-x}Ba_xF_{3-x}$ solid soln., elec. cond. study 4-15877
 $LiBbO_3:Fe$, photorefraction characts. meas. (*Russian*) 4-20931
 $Mn(ClO_4)_2 \cdot 6H_2O$, diethylacetamide soln., permittivities and dielectric relax. 4-30374
 $Mn(NO_3)_2 \cdot 4H_2O$, diethylacetamide soln., permittivities and dielectric relax. 4-30374
 $NaCl:Pb$, nucleation processes, ionic cond. and optical spectra 4-15651
 $Na_2O-B_2O_3-SiO_2$ glasses, electric relax. study (*German*) 4-7612
 Na_2O-SiO_2 glasses with high water content, dielec. characts. 4-56846
 PbF_2 , rare earth doped, elec. relax., complex impedance meas. 4-16146
 $PbF_2:La$, Ce, dipolar relax. times, anomalous press. depend. 4-11841
 $Pb_{1-x}La_xLi_3O_{6+x}$ ceramic pyrochlore structured system, dielectric relaxation and conduction meas. 4-40334
 $RbHSO_4$, ferroelectric dynamics study 4-35394
 $RbHSO_4$, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 Se-Te (7.0 wt.%), dielec. relax., 20 to 60°C (*Russian*) 4-35347
 Se-Tl (0.01 wt.%), dielec. relax., 20 to 60°C (*Russian*) 4-35347
 $Sr_{1-x}Ce_xF_{2+x}$, cubic solid solns., dielec. relax. expts. 4-46181
 $Sr_{1-x}Gd_xF_{2+x}$, solid solns., dipoles, dielec. relax. behaviour 4-46182
 $Sr_{1-x}Pr_xF_{2+x}$, 4-46181
 TGS, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 TGSe, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 $TiO_2:Cr_2O_3$, dielec. props. due to crystallographic shear planes 4-40326
 $TiNO_2$ crystal, phase transition and freezing of ionic disorder 4-25023
 $VO_2:Ti(Cr)(Al)$, low freq. dielectric relax. meas. 4-46177

dielectric resonance

see also *dielectric relaxation; paraelectric resonance*

- halogenobenzene-decalin supercooled solns., dielec. spectra, single particle site model for relax. and reson. behaviour 4-11840
 Ag island film, elec. dipole reson. freq. shifts 4-51209
 Au island film, elec. dipole reson. freq. shifts 4-51209
 PZT, electrically excitable mech. resonance, effects of domain struct. 4-35398

dielectric strength see electric strength**dielectric susceptibility see optical susceptibility****dielectric thin films**

see also *ferroelectric thin films; insulating thin films; optical films; piezoelectric thin films*

- anisotropic dielectric thin films, props. in MM-wave region, meas. 4-37117
 breakdown, specific field value determ. 4-16167
 breakdown characterisation, Weibull statistical analysis 4-16159
 conducting body with dielectric coating, EM wave diff. 4-10215
 diffused waveguide with As_2Se_3 dielec. film coating, acoustooptic interaction 4-28833
 films, polarisation hysteresis obs. using light diff. by acoustic waves 4-51207
 haemoglobin, Langmuir-Blodgett films, dielec. props. 4-16830
 impedance, in presence of spatial dispersion, and boundary conditions 4-40555
 Langmuir-Blodgett films in dielectric and biological research 4-35360
 optical system design and production using thin film technology 4-44186
 organic thin films, plasma-polymerised, dielectric relax., breakdown, electrical cond. and photocond. meas. 4-16144
 photodielectric layers refractive index meas. 4-32295
 photographic emulsion layer electrophys. characts. (*Russian*) 4-48237
 plasma-polymerised thin films, photoinjection from metal electrodes 4-11595
 polyethylene film electrodes, charge magnitude strain effect (*Russian*) 4-7115
 polyethylene terephthalate films, radiation induced conductivity 4-45904
 polyvinylidene fluoride film, secondary electron emission 4-40584
 PTFE film electrodes, charge magnitude strain effect (*Russian*) 4-7115

dielectric thin films continued

- radiation flux enhancement and absorpt., solar cell appls. 4-49261
- radiation-induced foil electret chamber for electret charging 4-7118
- stearic acid films, elec. and dielectric props. 4-35108
- Ag₂IW₂O₈ superionic conductor films, dielec. props. 4-46170
- Al₂O₃ 4-12032
- Al₂O₃:TiO₂ composite dielec. thin film, dielec. props. 4-51190
- Ba₂Sr_{1-x}F₂ epitaxial films, MBE growth on InP (001) 4-12028
- CaF₂ epitaxial films, MBE growth on InP (001) 4-12028
- ErF₃ thin film, dielectric props. meas. 4-35359
- FeF₃ thin films, inhomogeneous, elec. charge transfer, less resistance path, TSC 4-15978
- MgF₂-Se multilayer coatings, enhanced Fabry-Perot fringe visibility over long path differences 4-1464
- PbSnTe-piezoelec. ceramic interface, channelled acoustic wave propag. vel. meas. in polydomain ferroelec. 4-2421
- Pb(Zr,Ti)₂O₇ ferroelectric films, RF planar magnetron sputtering and dielec. props. 4-16166
- Si₃N₄-SiO₂ double layer thickness and refractive index calcs. of upper layer 4-7144
- Si₃N₄ 4-12032
- SiO₂ deposition by UV laser photolysis 4-12032
- SiO₂ layer growth on metal silicides, VLSI appls. 4-35750
- SiO₂ layers on Si, charge build-up influence on breakdown 4-20738
- SiO_x amorphous films, vacuum evaporated, optical and dielec. props., comp. dependence 4-30552
- SrF₂ epitaxial films, MBE growth on InP (001) 4-12028
- Ta-Al-N alloy, anodised thin film capacitor, Auger electron spectroscopy, dielec. loss study (*Japanese*) 4-7125
- TbF₂, opt. props., thickness and wavelength depend. 4-57012
- TiO_x films, series equivalent capacitance and dissipation factor meas. 4-16165
- WO₃ anodic thin film, photocond. 4-39956
- ZnO 4-12032
- ZrO₂ bulklike films, ion-assisted electron beam deposition, optical props. 4-3086
- ZrO₂ dielectric films, ion-assisted deposition, struct. and optical props 4-30639

dielectric triodes *see space-charge limited devices*

dielectric waveguides

- see also optical waveguides*
- anisotropic, scalar finite element anal. (*Japanese*) 4-28836
- anisotropic, variational analysis method 4-24181
- dielectric and dielectric-coated metal structures, waveguides resonators and antennas appl. 4-19914
- grating filter, analysis and insertion-loss response prediction 4-38634
- standard field generator, electromagnetic field spatial variation 4-10211
- strip dielectric waveguides, nonhomogeneous theory and design using perturbation method 4-33756
- transversely anisotropic, variational anal. of nonstandard eigenproblem 4-10434

dielectrics *see dielectric materials*

diesel-electric locomotives

- H₂/diesel/H₂ fuel cell powered, techno-economic comparison 4-36038

diesel engines *see internal combustion engines*

difference amplifiers *see differential amplifiers*

difference equations

- anharmonicity in epitaxial interfaces, substrate-induced dissociation of finite epitaxial islands 4-50683
- anomalous error rejection using stochastic models (*Russian*) 4-225
- atmospheric dispersion equation, finite differencing scheme 4-36048
- boundary-layer stability, numerical expts. 4-49802
- Cauchy method of finite differences for nonlinear Schrödinger type eqns. (*Russian*) 4-32070
- chaos, difference eqn., exactly solvable for a continuous range of param. 4-37013
- Chew-Low eqns., general soln., power law expansion 4-53890
- coercivity numerical calc., using exponential-periodic graded mesh 4-30198
- dielectrics, homogeneous anisotropic nonlinear, pot. distrib. calc. 4-16139
- divergent channel flow stability, numerical approach 4-49883
- eddy currents, three-dimens., network method 4-49228
- EMP calc. for high-altitude explosion emitting X and γ photons (*French*) 4-48744
- EMP caused by ground level nuclear explosion, calc. (*French*) 4-48743
- equilateral triangular mesh grid S_N codes, finite difference formulae, DIAMANT2 code 4-54206
- flow, rotational, Ekman matching condition, partially filled rapid rotating cylinder 4-44600
- function difference minimisation, errors using PDP-MINUIT program 4-47840
- gravitational radiation emission calc. using finite difference eqns. 4-32128
- heat and moisture transfer problems soln., finite difference circuit (*Ukrainian*) 4-37052
- heat conduction, inhomogeneous half space, finite wave speeds, thermal transients 4-33895
- heterogeneous nucl. reactors, homogenisation method, finite difference eqns. development 4-14028
- inverse scatt. transform, expansion over squared solns. and difference evolution eqns. 4-36965
- ionising radiation EM field calc., at ground level, verification using nucl. explosion (*French*) 4-49209
- Ising model correlation functions, difference eqns. and reln. to Z₂ lattice gauge theory 4-42889
- laminar free convection over horizontal circular cylinder with blowing and suction (*Chinese*) 4-38822
- layered media, electron transport-computation by invariant imbedding 4-37740
- melting/freezing processes, temp. distrib., enthalpy method in singularity region 4-15619
- neutron transport, discrete ordinates flux dip in 1D spherical geometry, anal. and elimination 4-37750
- non-Newtonian fluids, pulsating flows in mild stenosis (*French*) 4-1829
- nonlinear difference-differential eqn., soln. related to multi-solitons in nonlinear lattice 4-42888
- nonorthogonal meshes for neutronics, diamond differencelike spatial difference scheme 4-18500
- optical waveguides anal. using Fourier transform, appl. to intersecting waveguides (*Japanese*) 4-28835

difference equations continued

- parabolic boundary value problems, convergence rate of finite difference approx. for generalized solns. (*German*) 4-48059
- plates, rectangular anisotropic, in flexure with free edges, numerical soln. 4-55341
- pressurised thermal shock anal., mass weighted skew upwind appl., finite difference technique 4-27928
- quantum dynamical semiconductor time generation, finite-difference evolution eqns. 4-47914
- shallow water eqns., shock modelling 4-44650
- shell, elastic, interaction with compressible fluid, stability of explicit difference schemes 4-19776
- single edge notch specimen, fast crack growth, elastodynamic anal. 4-55371
- soliton, 'small' stationary, binding energy versus nonlinearity 4-105
- soliton solution of three differential-difference equations in wronskian form 4-22595
- storage rings, transverse instability, appl. of linac cumulative beam breakup theory 4-48833
- surface Green function matching for crystal lattice dynamics 4-50623
- difference frequency generation (optical)** *see optical frequency conversion*
- differential amplifiers**
 - nanooameter, circuit design using LF 355 differential amplifier (*Spanish*) 4-4422
- differential analysers**
 - see also digital differential analysers*
 - image-analytic cytometry slide analyser design 4-26548
- differential calculus** *see differentiation*
- differential equations**
 - see also boundary-value problems; difference equations; Green's function methods; integro-differential equations; linear differential equations; Navier-Stokes equations; nonlinear differential equations; partial differential equations*
 - Abraham-Lorentz eqn. for point particles 4-4223
 - acoustic wave generation in anisotropic piezoelectric materials, numerical analysis 4-30395
 - analytic mechanics, generalised variational principles, nondifferentiable potentials 4-53463
 - boundary-layer theory differential eqn. soln. 4-55392
 - breakage model, solution of population balance equation via shifted Legendre functions 4-42865
 - cellular automata, alternative to differential eqns. in modelling physics 4-47858
 - charged particle beam modelling and control, stability methods appl. to linac 4-33244
 - combined natural and forced convection between parallel walls, flow development 4-55405
 - cosmological planar models, differential eqns., numerical methods 4-4124
 - Coulomb wavefunctions asymptotic expansion by saddle-point method 4-13547
 - damped differential eqns., even order, with deviating arguments, oscillation theorems 4-53452
 - Davey-Stewartson eqns., integrability in 3-D 4-55418
 - diffusion-convection one-dimensional eqn. soln. by Galerkin-Petrov finite element method (*German*) 4-48049
 - Dirichlet problem for vibrating string eqn., solvability (*Russian*) 4-8746
 - DMZ equation, filtering theory and quantum mechanics, formal analogy 4-8761
 - dynamic simulation and parametric sensitivity studies on a central solar domestic hot water system 4-52098
 - effectiveness factor concept for catalyst deactivation reaction problem 4-30920
 - electrodynamical transient problems solution using finite element anal. (*Polish*) 4-33600
 - electrodynamics, transcendental equations solution 4-49250
 - Ermakov systems and Feynman propagator 4-22625
 - evolution eqns., Lie-Backlund vector fields 4-42693
 - generalised Raman-Nath eqn. soln. 4-22571
 - Gibbs-Duhem eqn., extensivity 4-219
 - granular solids, pseudoturbulent bed, convective heat transfer, differential eqns. 4-34072
 - gyroscopic stabiliser, three-axis, differential eqns. of motion on moving base (*Russian*) 4-44360
 - heat conduction eqn. integration for linearly varying heat conductivity (*Rumanian*) 4-28962
 - impulsive flow past a circular cylinder Blasius' expansion anal. 4-14960
 - Kahler equation, local rigid spin transformations 4-4542
 - linear stochastic differential eqns., cumulant expansion 4-48006
 - liquids, mol. rot., analytical approach appl. to NMR and dielectric relax. 4-50157
 - long periodic orbits near an equilibrium and the averaging method in higher-order resonances 4-53017
 - matrix solar collector fabricated from broken glass pieces, anal. 4-21571
 - mechanical systems governed by linear and nonlinear Mathieu eqns., sensitivity anal. (*Polish*) 4-47874
 - melting of ice, treatment as Stefan-Signorini problem 4-49658
 - numerical anal. in BASIC language, book 4-47805
 - orbits, homoclinic bifurcations and the area-conserving Henon mapping 4-53018
 - particle dynamics, higher-order special self-adjoint differential eqns. connection 4-4211
 - partition function, variationally optimised canonical density matrix 4-27403
 - plasma equilibrium calcs. by line successive over relaxation 4-44844
 - plate, infinitely extended with articulated hole edge support, Kirchhoff differential eqn. analytical soln. with boundary collocation (*German*) 4-55321
 - plates, orthotropic composite, loaded in compression, postbuckling 4-49724
 - plates, shear deformable, one-dimens. formulation of torsion and flexure 4-5801
 - quadratic evolution eqn., soln. using perturbation method 4-32026
 - quasipotential eqns., class of exact solns. 4-53881
 - random physical systems, stochastic differential eqns., characteristic functions 4-53592
 - Riccati eqn., homogeneous, linearisation 4-80
 - scattering, coupled eqns., invariant imbedding approx. soln. type algorithm 4-17755
 - scattering theory in two states approx., coupled differential eqns. appl. 4-36968

differential equations continued

- second order linear ordinary differential eqns. characteristic exponents 4-58369
- sine-Gordon eqns., modified, exact solns. 4-17710
- singularly perturbed differential eqn. system., boundary problems soln. asymptote 4-42694
- stability and stabilisation of motion with respect to part of variables 4-22575
- stochastic, asymptotic soln. 4-27425
- stream-vorticity function, direct soln. by Chebyshev approx. 4-19845
- suspensions, flow through fissures, differential eqn. solns. 4-49880
- thick plates, plastic deformation, integration of differential eqns. (*Russian*) 4-44413
- three Coulomb-bound particles, expectation values and wavefunctions calcs. 4-4245
- three hard sphere problem, wave function components, differential eqn. calcs. (*Russian*) 4-36971
- uniform column under action due to weight and axial load, Bessel functions and buckling 4-49731
- vibrating string problem, class of exact inversion solns. 4-8792
- volume holograms recorded by two strong and N weak plane waves, coupled wave theory 4-23928
- waveguide, planar, normal mode propag., incomplete Galerkin method, stability 4-24170
- Cu conductor, elec. heating 4-45734
- O₂ diffusion with nonlinear absorption in tissue, modelling by moving-boundary problem 4-52294

differential scanning calorimetry see thermal analysis**differential thermal analysis** see thermal analysis**differentiation**

- see also differential equations
- experimental data, continuous, differentiation and integration, teaching method 4-27271
- numerical anal. in BASIC language, book 4-47805
- polynomials, solution, fitting, differentiation, integration using ORT1 code 4-47833
- quantitative multicomponent analysis from differential spectra 4-57617
- Sturm-Liouville eigenvalue problems, soln. by Lagrangian differentiation and integration 4-4205

diffraction

- see also acoustic wave diffraction; diffraction gratings; diffractometers; electromagnetic wave diffraction; electron diffraction; neutron diffraction
- anisotropic media, reson., diff. of wave beams 4-17714
- cylindrical cavities, elastic wave, HF scatt. 4-55365
- detonation waves, diffraction by thin airfoil (*Chinese*) 4-49851
- geophysical diffraction tomography, theoretical foundations 4-47446
- ocean waves, nonlinear diffraction by large cylinders, forces on offshore structures 4-52740
- wave diffraction matrix operators, semiinversion method, theory (*Russian*) 4-32059

diffraction gratings

- see also holographic gratings
- beam deflecting optical switch using volumetric thermal gratings 4-24150
- bigratings, surface-polariton resonances and field enhancements in light scatt. 4-1339
- binary amplitude grating production and testing using a self-imaging and double exposure technique 4-17929
- chirp grating lenses on LiNbO₃, fabrication, state of the art 4-49572
- chirped grating lenses on Nb₂O₅ transition waveguides 4-1476
- colour mixtures through theta-modulation technique 4-19393
- corrugated focusing gratings for coupling radiation in and out of diffused LiNbO₃ waveguides 4-10426
- coupler, grating, overcoated surface plasmon component use in far IR and sub-MM 4-55176
- curved surface elastic-plastic strain meas. by moiré effect (*German*) 4-34023
- curved surface strain determ. using three-beam interferometric technique 4-10617
- deep dielectric lamellar gratings, numerical study (*French*) 4-24152
- deep-UV spatial-frequency doubling by combining multilayer mirrors with diffraction gratings 4-27612
- demultiplexer, planar, with chirped grating, for WDM systems, diff. behaviour 4-28879
- dielectric uniform gratings, power conservation and field structs. 4-49497
- dielectric waveguide grating filter, analysis and insertion-loss response prediction 4-38634
- diffuse light scattering, photoacoustic study 4-1471
- directional switching in planar waveguides effected by adsorption-desorption processes 4-33763
- dispersion element for opto-optical deflector 4-24151
- dual grating alignment technique for X-ray lithography 4-27630
- enhanced nonlinear optical process EM theory 4-49444
- fabrication by holographic lithography using edge-defined techniques 4-33744
- far-IR interferometers, band pass filter for increased resolution 4-53740
- fibre grating, high-efficiency, for multiple beam prod. of uniform intensity 4-38564
- focusing gratings, diff. limited, high energy laser diagnostics appls. 4-1472
- four-wave mixing in photorefr. media, theory and appls. 4-49463
- Fourier transform profilometry for automatic meas. of 3D object shapes 4-22746
- Fresnel diffraction by US progressive wave phase grating, theory 4-38566
- Fresnel diffraction from US progressive wave associated with optical grating, theory 4-38565
- fringe sharpening, complementary gratings effect on fringe orders 4-10415
- generalized diffraction grating eqn., vector method of ray-tracing 4-23897
- grating gap determ., working gap range recommendations (*Chinese*) 4-14778
- grating interferometry for direct and real-time unit surface strain determ. 4-53735
- grating spectrometer for mm waves 4-48213
- high precision expt. in diff. and interf., optical assembly (*French*) 4-22834
- high precision metrology appl. to photographically recorded interf. fringe patterns (*French*) 4-22835
- hole gratings for laser damage testing 4-10414

diffraction gratings continued

- hook method expt. setup improvement and simplification 4-13675
- induced gain grating for mode selection in standing wave lasers 4-28741
- inorganic hard waveguiding materials, embossing technique for integrated optical component fabrication 4-28893
- integrated optic diffraction gratings in low Δn waveguides, four-mode anal. 4-5741
- integrated optical grating coupler with varying ripple depth 4-28881
- integrated optics, conf., Florence, Italy (Oct. 1983) 4-22519
- interferometers, grating shearing, using incoherent illum., heuristic explanation 4-37161
- inverse scattering problem from non-periodic rough surfaces, numerical soln. 4-14641
- lamellar metallic gratings for metrology and process control simple parameter optimisation problem 4-44200
- large-angle optically induced light deflection 4-55172
- Lau interferometry with cross gratings 4-17928
- lens refractive index evaluation using grating in coherent optical-processing config. 4-48184
- light channelling in thick phase diff. grating 4-10417
- liquid crystal modulated structures, light diff. at inclined incidence 4-6256
- metrology target fabrication by step and repeat method 4-49422
- mixed molecular crystal, dilute, transient vibrational grating scattering 4-14743
- mode-matching method with higher-order smoothing procedure for numerical soln. of grating diff. 4-1342
- moiré contourography applications to the human body 4-36264
- moiré gratings by stacked card method 4-5690
- monochromator, on-blaze plane-grating, higher-order suppression 4-38562
- multi-demultiplexer, all-optical-passive component for fibre-telecommunications 4-44251
- multichannel phase-shifted interferometer 4-43042
- multiplexing and modulation, fibre optic technology, conf., Arlington, VA, USA (April 1983) 4-8636
- nematic liquid crystal films, optically-induced phase gratings 4-19500
- nematic liquid crystal thin films, induced gratings, polaris. anal. 4-44201
- oblique strip grating, plane EM wave diff. (*Ukrainian*) 4-38567
- oblique viewing attachment for microscope 4-44202
- optical grating transducers, novel appls. 4-49498
- optical image subtraction using multiple-imaging effect of photographic diffusers 4-49280
- overcoated plasmon mode, high efficiency coupling in far IR 4-49495
- periodic grating structure form. characts. due to solid surface absorpt. of monochromatic radiation 4-14780
- phase grating, three-dimens., induced by light pulses in a nonlinear medium, diff. efficiency 4-28819
- phase gratings, 3D, electrodynamic perturbation theory of light diff., second and third approx. 4-55177
- photomasks, scales and gratings, book 4-17660
- photosensitive grating masks fabrication 4-33745
- pitch control using electron-beam exposure system, integrated optics appls. 4-24266
- planar gradient glass waveguides as elements of integrated optics circuits 4-55227
- plane gratings used in soft X-ray region, efficiency optimisation 4-27636
- polarised light reflection from a diff. grating at oblique incidence 4-28620
- polarising, large, for IR region 4-10416
- prism grating GRINrod combination for fibre optic WDM 4-10457
- quantometer with two concave diff. gratings, optical system calc. 4-10412
- radial, high precision, large, manufacture (*Chinese*) 4-14779
- radial groove gratings for X-ray spectrographs 4-22886
- refractive index determination by means of a diff. grating 4-32296
- replica gratings, fabrication (*Japanese*) 4-19550
- resolving power of gratings in planar multimode waveguides, relation to spectral line curvature in grating spectrographs (*German*) 4-19551
- resolving power of gratings in planar multimode waveguides 4-49508
- rough surfaces, light scatt. theory 4-38398
- ruled gratings, stray radiation, ghosts 4-14777
- self-imaging in connection with holography of periodic objects (*German*) 4-33630
- self-induced diffraction grating in CdS crystals subjected to CW laser excitation 4-28820
- SHG by nonlinear grating (*French*) 4-24083
- short-pulse grating formation in photorefractive materials 4-28818
- signal processor, grating-based white-light, coherence meas. 4-38403
- sinusoidal grating simultaneous masking meas. in terms of temporal sensitivity 4-52348
- smectic-A film, laser-induced transient and permanent gratings and ultrasonic waves 4-55709
- Smith-Purcell radiation from a charge moving above a penetrable grating 4-23886
- speckle shearing interferometry, multiplexed diff. gratings appl., slope meas. 4-32301
- speckle shearing interferometry, single-aperture, with single grating 4-37154
- stabilised image fading, role of local adaptation 4-52331
- stimulated scattering of light by waves representing excited-state populations 4-10376
- submicron crossed square wave grating fabrication by dry etching and thermoplastic replication techniques 4-28888
- surface EM wave excitation and reson. transform. during irradi. of solid by high-power laser radiation, periodic struct. form. 4-14734
- surface plasmons in Ag-coated grating, phase correl., photoacoustic study 4-7141
- thin film thickness meas. using gratings 4-42909
- triangular groove perfectly blazed reflection gratings 4-49496
- two-coordinate light-beam deflection device 4-43004
- uniform dielectric gratings, coupled wave versus modal theory 4-19364
- variable grating mode liquid cryst. modulator, physical characterisation, nonlinear optical processing and computing function appls. 4-24160
- variable line-space gratings, designs for grazing incidence spectrometers 4-22852
- volume phase gratings, multiwave regime of light diff. and focusing effect 4-24153
- waveguide scattering problem analysis, TM polarisation 4-28827
- white-light processing technique for colour photography with white black film and tricolour grating (*Chinese*) 4-8969

diffraction gratings continued

- AlGaAs semiconductor laser with grating feedback, tunable single mode pico-second pulse generation 4-1389
- CO₂ CW tunable laser resonator optimisation 4-24018
- GaAs, grating formation by one-step laser-photochem. etching 4-28892
- GaAs optical gratings, submicrometer, maskless laser-enhanced chem. etching 4-28817
- GaAs, picosecond degenerate four-wave mixing through orientation and concentration gratings 4-55111
- GaAs/GaAlAs semiconductor laser, beam-scannable light source, superluminescent mode, grating coupler design 4-19469
- Ge surface, <111>, higher-order laser-induced grating obs. 4-29472
- Ge surface bombarded by laser, resonant conversion of EM waves 4-5691
- Ge thin film, surface EM wave excitation and reson. transform. during irradiation by high-power laser radiation, periodic struct. form. 4-14734
- GeO₂ thin-film waveguides, photoinduced grating filters 4-24241
- InP diffraction grating profiles for DFB lasers and integrated optics, bilevel processing technique 4-24243
- LiNbO₃:Fe grating for Cu vapour laser (*Russian*) 4-5577
- LiNbO₃:Ti integrated-optics Bragg coupler with charact. grating 4-10425
- Si:Au, nonequilibrium carrier lifetime determ., dynamic grating method 4-6806
- Ta₂O₅ corrugated planar waveguide, thick-grating beam-squeezing device 4-28829

diffraction instruments *see diffractometers***diffraction model**

- Chou-Yang model, diffractive excitation, number of constituents in proton 4-43328
- fireball-hadron interactions, Glauber model of diffraction scatt., rel. wave functions 4-18197
- low momentum transfer processes, quark-parton model 4-13890
- $hA \rightarrow hX$, differential cross sections, quark struct. depend. in diffractive region 4-9078
- pp, 540 GeV, soft hadronic interactions, total cross section, diffraction dissociation, KNO scaling 4-27770
- pp(pp), differential cross section, geometrical scaling 4-18286
- pp \rightarrow px, 22.4 GeV, p diffractive dissociation anal. 4-463
- ψ prod. by γ , μ and ν , vector dominance and QCD models, diffraction mechanism 4-48467

diffractometers*see also X-ray diffractometers*

- plate camera construction for 12 beam position laser recording (*German*) 4-49300

diffusion

- see also bi diffusion; diffusion in gases; diffusion in liquids; diffusion in solids; electromigration; membranes; osmosis; permeability; self-diffusion; surface diffusion; thermal diffusion; turbulent diffusion*
- actinide oxides, self-diffusion and chem. diffusion characts., review 4-50573
- adsorption, diffusion controlled, conc. kinetics, ideal isotherms and some appl. 4-11402
- aerosol droplets, diffusion interaction, EM control 4-24464
- aerosol particles, bipolar diffusion charging 4-31034
- aggregates, diffusion limited, Alexander-Orbach conjecture, geometrical arguments 4-53612
- aggregates, diffusion limited, crossover of fractal dimension 4-213
- aggregation, diffusion-controlled, fractal model 4-8847
- aggregation, two-dimens. diffusion limited, finite size scaling approach 4-53588
- anisotropically diffusing particles accretion 4-37053
- anomalous enhancement of the diffusion coefficient near the intermittency transition 4-2361
- asphaltenes, hindered diffusion through microporous membranes 4-29171
- asymptotic equivalence to Fokker-Planck eqn. 4-4360
- biased correlated walks in one dimens., novel behaviour 4-53603
- bistable potential, diffusion study with nonlinear Langevin and Fokker-Planck eqns. 4-17857
- bistable pots., diffusion 4-22694
- bistable reaction-diffusion eqn., pure initial value problem 4-8852
- bistable reaction-diffusion system, stochastic bifurcations with Neumann boundary conditions 4-22731
- boundary layer on plate in inhomogeneous chem. props., stationary convective diffusion 4-5886
- bovine serum albumin, fluorescence depolarization by anisotropic rotational diffusion of a luminophore and its carrier molecule 4-33443
- Brownian particle of arbitrary symmetric shape, ang. vel. autocorrel. function, long-time behaviour 4-32205
- Brownian particle suspension, diffusion in laminar flow, correl. functions and effective transport coeff., shear rate depend. 4-38787
- Brusselator, spherically symmetric structs. (*Chinese*) 4-53457
- cellular automata, deterministic, chaos and diffusion 4-48009
- cellular automata, one dimens., deterministic diffusion mechanism 4-27465
- classical diffusion model with percolation transition, density relaxation function props. 4-22734
- classical diffusion with arbitrary energy barriers, time scale 4-22736
- classical particle mobility in three-dimensional periodic potential field 4-214
- combined free and forced convection in channel, solute dispersion coeff., Grashof number 4-38817
- concentration fluctuations and fluxes, turbulent-transport model 4-49807
- convection-diffusion eqn., finite difference scheme 4-34092
- deformable macromolecules, wt. diffusion with mean local cylindrical symmetry 4-38362
- dense binary mixtures, with one tracer component, transport props., Enskog theory calcs. 4-29295
- density distrib. function, differential entropy calcs. 4-210
- diffusion-convection one-dimensional eqn. soln. by Galerkin-Petrov finite element method (*German*) 4-48049
- diffusion-retarded reaction, first-order, in catalytically active membranes, temp. depend. 4-52050
- diffusive instability for diffusion-reaction systems in finite domains 4-8849
- disordered Lorentz gas, diffusion law, non-Markovian process 4-4354
- disordered two-barrier system, diffusion coeff. calc. (*Russian*) 4-22732
- dissipative quantum system, diffusion and localisation behaviour 4-131
- double diffusive convection, finite element model 4-53492
- doublets of spheres, slip coeff. 4-31036
- driven-cluster model for first-order phase transitions 4-220

diffusion continued

- electrodes, porous, electrochemical reactions, electrolyte conc. and electrode pot. variation effect, diffusion role 4-16662
- electrolytic solns., hypernetted chain approx. for transport processes 4-20385
- Euclidean lattice field theory, random walk simulation, lattice QCD appl. 4-13748
- exciton transport, non-Markovian, in one dimens. lattice 4-27427
- fluctuation-dissipation theorems for nonequilibrium steady states without detailed balance 4-48048
- free boundary in porous medium, initial motion for nonlinear diffusion eqn. 4-29168
- gas molecules passing through membrane pore, Maxwell's Demon restrictions 4-8808
- gelatin gels, diffusion coeff., dynamic light scatt. study 4-20980
- generalised Fokker-Planck eqn. derivation from Boltzmann transport eqn. 4-37019
- grain dislocation, stochastic diffusion 4-47846
- growing interface in diffusion-limited aggregation 4-8850
- hard sphere suspensions, collective and self-diffusion coefficients 4-26230
- hot plume, salinity gradient heating 4-15014
- hydrodynamic dispersion in unsaturated porous media 4-29174
- instabilities in continuum equations for aggregation by diffusion 4-48030
- interacting Brownian particles suspension, diffusion kernel, cluster expansion 4-4338
- interacting walks in one dimens., asymptotic soln. 4-4351
- Josephson active junction line and reaction-diffusion systems, periodically oscillating states 4-35124
- laminar isothermal free jet, buoyancy and diffusion (*German*) 4-5939
- laminated cylindrical slabs, heat energy drains, short-circuited diffusion phenomena 4-19699
- lattice diffusion with traps, self-consistent calcs. 4-32202
- Lie Backlund vector fields of diffusion eqns. 4-17858
- linear, with reversible trapping and eroding boundary, finite element anal. 4-9245
- long-time tails amplitude, divergences 4-22727
- mean field theory, t 4-42876
- molecular diffusivity, scalar diffusion in stimulated helical turbulence 4-38819
- moments of first going out for diffusion type processes (*Russian*) 4-42899
- monodisperse colloid soln., coagulation kinetics, dynamic light scatt. 4-7757
- moving boundaries in heat conduction and mass diffusion, math. anal. 4-48050
- n-layer stratified system, particle asymptotic dispersion 4-1800
- Navier-Stokes eqn., variational principle 4-1696
- nonlinear chem. reaction with diffusion, nonequilibrium phase transition, bifurcations, propag. solns. 4-42660
- nonlinear convection-diffusion eqns., topological derivation using network theory 4-19835
- nonlinear convective diffusion eqn., asymptotic soln., porous medium flow appl. 4-29169
- nonlinear diffusion eqn., travelling front interactions 4-178
- nonlinear diffusion eqns., Lie algebra of infinitesimal symmetries 4-22733
- nonlinear heat diffusion, parabolic partial differential eqn., finite difference approx. 4-32208
- nonlinear transfer processes, localised structs., self-insulation 4-33921
- nonsymmetric hopping model, renormalisation group approach using random diffusion eqn 4-9006
- one-dimensional system, diffusion in the presence of drift 4-8848
- optimised solution for diffusion eqn. on non-uniform grid 4-53493
- pair diffusion in random lattices, behaviour at percolation threshold 4-42874
- parabolic system with coupled nonlinear boundary conditions, numerical soln. 4-57558
- parasite problem and diffusion on random clusters 4-37037
- particle diffusion in medium with random distrib. of isotropic traps 4-4359
- percolation cluster, infinite, fractal geometry and anomalous diffusion in backbone, Monte Carlo study 4-27434
- percolation fractals, diffusive annihilation 4-48020
- percolation networks in an external field, diffusion and drift 4-53606
- percolative lattice, diffusion as interacting Bose-Fermi fields theory 4-27432
- plumes, steady self-similar turbulence above a point source of heat and matter 4-44539
- Poiseuille flow, diffusion and convection calc. using Monte Carlo technique 4-5961
- polarization diffusion and dielectric friction 4-7121
- polarization diffusion effects on reaction rates in polar solvents 4-12332
- polymer chain length distrib. inside spherical vol., internal diffusion 4-46934
- polymer network strands, convection, diffusion, constitutive eqns. 4-24432
- porous membranes, diffusional extraction 4-46796
- pressurised thermal shock anal., mass weighted skew upwind appl., finite difference technique 4-27928
- quantum diffusion in stochastic media 4-42854
- quenching by static traps: initial-value and steady-state problems 4-51958
- random walk, continuous time, long-time behavior in diffusion and trapping 4-13584
- random walk on lattice with random trap distrib. 4-27423
- random walk on random channel with absorbing barriers 4-27420
- random walks, lattice animal and percolation cluster calcs., renormalisation group anal. 4-48018
- reaction efficiency in compartmentalised systems, lattice theory 4-30922
- reaction-diffusion eqns., strongly coupled time-depend. systems, pointwise bounds 4-53637
- reaction-diffusion systems, instability, resulting chemical waves 4-12329
- reactions, diffusion controlled, variational formula for optimum reaction coordinate 4-26190
- roundoff error problems in diffusion calculations 4-699
- Rutherford backscattering study of diffusion in polymers 4-45414
- short-lived species, diffusion coeff. meas. 4-7709
- Smoluchowski diffusion eqn. in pot. fields, asymptotic soln. 4-37056
- sodium octanoate micelle solns., light scatt. study 4-30482
- solute dispersion from time-dependent releases in parallel flow 4-29185
- solute dispersion in MHD channel flow, radiation effect 4-44746

diffusion continued

- spherical particles diffusing in fluid, local size distrib., meas. technique (French) 4-15032
- spin systems, limit diffusion mechanism of relaxation 4-27419
- stability condition, Richardson's explicit finite difference eqn. probabilistic derivation 4-53420
- stagnation point flow in a diffusion cell 4-29172
- static sink trapping, fluctuating nonequilibrium thermodynamics 4-13605
- statistical dynamics generated by fluctuations of local Lyapunov exponents 4-42859
- steady two dimens. flow, vorticity, convection, finite difference method 4-34093
- stochastic process corresponding to the $(1/\phi^2)$, interaction 4-37025
- sucrose, hydrolysis on cation exchange membrane, H^+ counterion catalysis 4-52050
- sum rules for $S_{\text{ph}}(k, \omega)$ for two diffusing species 4-27463
- superconductor, nonequilibrium, steady inhomogeneous patterns, μ^* model system long-time behaviour 4-20758
- transient convective diffusion problems, accurate Petrov-Galerkin methods 4-5894
- transient reaction diffusion in medium containing random distrib. of nonoverlapping traps 4-41174
- transmission line model method for diffusion, consistency and accuracy 4-4352
- two-phase media, diffusion and conduction, multiscale anal. 4-29149
- unsteady incompressible viscous flow in enclosures, numerical soln., Mehrstellen techniques 4-34049
- variant of two-parameter diffusion (Ukrainian) 4-37050
- viscous incompressible shear flow, Navier-Stokes, eqn. axisymmetric vortex soln. 4-49825
- wave dispersion and dissipation, nonlinear eqns. with singular integral terms, exact solns. 4-42737
- $Ar+H_2$, transport and relax. cross sections, close coupling calcs., Raman spectra 4-38279
- C, combustion rate in flowing gas streams 4-52011
- Pb-acid accumulators, thermopassivated dry-charge positive electrodes, depassivation, expt. 4-7849

diffusion coefficient *see diffusion***diffusion creep**

- crystalline solids, creep equation formulation, characteristic flow area 4-11219
- interface-controlled diffusional creep 4-20283
- steel, low C, unkilld, high temp. creep 4-26015
- steel Cr-Mo-V, low alloy heat resistant, creep fracture mechanisms 4-30799
- superplastic flow mechanisms, quantitative evaluation 4-21266
- InSb, deformation mechanism map 4-55911
- K, deformation mechanism maps 4-46580

diffusion in gases

- see also self-diffusion in gases; thermal diffusion in gases*
- aerosol particles, Stokes-Cunningham diffusion const. in flames 4-24514
- atmospheric dispersion equation, finite differencing scheme 4-36048
- binary gas mixture at liquid surface, generalised theory 4-44789
- Brownian particles interaction in fluid with fixed macroparticles 4-8819
- dense gas dispersion, heat transfer modelling 4-49919
- dense gases, vibr. relax., Raman Q-branch width 4-23786
- electron lateral diffusion coeff. and vel. distrib. function under elect. field effect 4-33605
- electron swarm transport, diffusion tensor 4-34229
- electron swarms in gases and liquids, conf., Innsbruck, Austria (Aug. 1983) 4-31970
- flames, soot particles, diffusion coefficient meas. 4-24515
- gas mixture component, diffusion-viscous flow through channels 4-15054
- gas phase thermal lens expts., mass diffusion effects 4-43064
- high-field ion mobility and transverse diffusion coeff. elementary derivation 4-42663
- ideal gas mixtures, entropy, wave speed, frame depend., kinetic theory 4-34214
- ion drift and diffusion calc., basis set expansion with non-Gaussian weight functions 4-38936
- ion transport appl. in direct tropospheric ion sampling and mass identification 4-42245
- Lorentz gas, generalised diffusion eqn. 4-55474
- mass-identified ions transverse diffusion in parent gases 4-38934
- MHD convective flow of rarefied gas along vertical porous plate, thermal and mass diffusion 4-53025
- Navier-Stokes eqns., difference scheme for numerical soln. (Russian) 4-10632
- nitriding atmosphere for Si compact, second component gases effect 4-51591
- pre-breakdown swarm expts., metastable particles effect 4-34232
- Prigogine diffusion theorem, invariance props. and appl. to atmospheric transfer processes 4-42042
- saturated field effects, matrix expression 4-38926
- solid-solid reactions, vapour phase diffusion coupled, diffusivity and rate constant 4-51566
- swarm experiments in gas mixtures 4-34231
- turbulent diffusion flames, nonequilib. effects, statistical props. 4-29206
- Ar-He(Ne)(Xe) systems, mutual diffusion coeff. from 350 to 1300K 4-34221
- D₂O, gaseous and liq., viscosity, thermal cond. and diffusion coeff. 4-47777
- F₂ electronegative gas, electron swarm param. calc. 4-34230
- Fe vapour phase chemical transport in CsI, electron beam irradi., LMFBR fuels appl. (Japanese) 4-23149
- H₂O, electronegative gas, electron swarm param. calc. 4-34230
- He/Ne mixture, low-energy electron energy characts. 4-34228
- He-Ne, mutual diffusion coeffs., 350-1300K 4-49916
- He-Xe, mutual diffusion coeffs., 350-1300K 4-49916
- Kr, low-energy electron energy characts. 4-34228
- Li⁺ in Ar, drift and diffusion calc., basis set expansion with non-Gaussian weight functions 4-38936
- Li⁺, transverse diffusion coeff. and mobility in Ar 4-38939
- N⁺ drifting in He, energy distrib. study 4-38935
- N₂, pulsed discharge, contraction at medium press., thermal cond. and diffusion times 4-39021
- N₂-H₂ mixture, nitriding atmosphere for reaction bonded Si₃N₄, H effect on transport props. 4-51590
- N₂-noble gas mixture, diffusion, mag. field effect 4-49917

diffusion in gases continued

- Na⁺ ions in Ne, Ar, methane, H₂ and D₂, mobilities and diffusion coeff. meas. by flight-distance scanning method 4-10812
- Na⁺ ions in Ne, Ar and methane at room temp., mobilities and longitudinal diffusion coeff. meas. 4-10810
- Ne, low-energy electron energy characts. 4-34228
- O₂ gas analyser, electrochemical (Russian) 4-31049
- SF₆, electronegative gas, electron swarm param. calc. 4-34230
- Sb₂S₃ vapour transport and diffusion coeffs. 4-10807
- SiH₄+F₂, laser induced fluorescence in diffusion flames 4-49082
- Xe, low-energy electron energy characts. 4-34228

diffusion in liquids

- see also electromigration; self-diffusion in liquids; thermal diffusion in liquids*
- aggregates, diffusion limited, translational friction coefficient 4-56019
- anionic dye trace diffusion coeff. through cationic polyelectrolyte soln., fluoresc. photobleaching study 4-6536
- benzotriopyran, in water-dioxane mixtures, holographic relax. spectrosc. 4-38433
- binary liquid mixtures, mutual diffusion coeffs., ultracentrifugal method (German) 4-2363
- Brownian particles interaction in fluid with fixed macroparticles 4-8819
- carbon tetrakyltins tracer diffusion in methanol, 1-butanol and 1-octanol from 298 to 433K 4-11323
- characteristic flow parameters 4-11219
- chlorobutane, pseudospherical mol. diffusion in solvents, dipole moment effect 4-6535
- colloid, growth rates, diffusion controlled, Monte Carlo simulation 4-52060
- colloidal suspensions undergoing steady shear flow, fluctuations theory 4-55439
- 18-CROWN-6, liq. state, quasielastic neutron scatt. study of dynamics 4-6241
- deposition from laminar viscous stream in rectangular channel 4-29162
- diaphragm cell design and calibration, for liquid-phase diffusion coeff. determ. 4-4508
- dichloropropane, pseudospherical mol. diffusion in solvents, dipole moment effect 4-6535
- dye solutions, laser-induced density profiles 4-25065
- fluorescent probe FITC, diffusion in viscous soln. 4-11327
- glass melts, diffusion processes (German) 4-2378
- gravimetric meas. in solns. and in molten alkali nitrates 4-56057
- magnetic fluids, high-gradient mag. separation 4-29198
- membranes, macromolecular structure and solute diffusion, overview of recent theories 4-46797
- methane tracer diffusion in methanol, 1-butanol and 1-octanol from 298 to 433K 4-11323
- microgravity research with sounding rockets, materials science expts., review 4-12320
- octadecyl rhodamine B clustered transport system in Triton-X-100 micelles, excitation transport, ps. fluoresc. study 4-40499
- one-dimensional nonlinear diffusion convection eqn. 4-6537
- oriented molecules anisotropic diffusion, multiple quantum spin echoes study 4-35248
- PAA, nematic homologous, ¹H spin relax. dispersion investig. 4-56808
- poly(n-alkylisocyanates), rot. diffusion in lyotropic-mesomorphic phases 4-50553
- poly 2-vinyl pyridine in tetrahydrofuran, translational diffusion coeff., conc. and temp. depend. 4-25066
- poly-L-lysine mols., mobilities in low-scatt solns. 4-52254
- polyacrylamide gels in theta solvent, collective diffusion study 4-41271
- polymer diffusion in nonhomogeneous vel. gradient flows 4-29134
- polymer dilute solns., crossover behaviour of transport props., renormalisation group approach 4-11328
- polystyrene, semi-dilute theta soln., scaling, dynamic light scatt. study 4-34679
- radioactive waste, radioisotope migration in groundwater bearing horizons 4-54265
- rod-like macromolecules, rot. diffusion, in lyotropic-mesomorphic phases 4-50553
- rodlike polymers in conc. soln., dynamics rel. to restricted rotational diffusion 4-10953
- simple liquids, velocity correlations and cooperative effects 4-2049
- sintering, liquid phase, particle growth by coalescence 4-21175
- smectic A-phase, translational diffusion, spin-echo NMR 4-55705
- tetracene, in soln., rot. diffusion anisotropy, solvation structural depend. 4-10945
- tetrachloromethane, pseudospherical mol. diffusion in solvents, dipole moment effect 4-6535
- thermodiffusive flow, elec. anisotropic effects on thermal instability 4-44680
- thioxine, diffusion coeff., voltammetric determ. 4-46849
- trichloroethane, pseudospherical mol. diffusion in solvents, dipole moment effect 4-6535
- Al-Cu, unidirectional solidification, solid-liq. interfacial stability, influence centrifugal forces 4-16383
- Ar tracer diffusion in methanol, 1-butanol and 1-octanol from 298 to 433K 4-11323
- CS₂, liq., density fluctuations, polarised light scatt. 4-2932
- CsCl molten, inelastic neutron scatt. study 4-44919
- D₂O, gaseous and liq., viscosity, thermal cond. and diffusion coeff. 4-47777
- F₂O-SiO₂, nonisothermal crystal growth model 4-45038
- Fe, cast, flake graphite, C diffusion in liquid during steady-state solidification 4-57213
- Fe, grey cast, diffusion process fading during inoculation (Czech) 4-39552
- Fe-Cu, liq. phase sintering, particle growth by coalescence 4-21182
- ³He-⁴He superfluid, volume sound absorpt. (Russian) 4-6605
- InAs, dissolution in In-As melt, kinetics, 823-973K 4-56014
- KCl, Soret and diffusion coefficients, simultaneous meas. 4-34677
- KH₂PO₄, mass transfer coeff. estimate 4-25068
- Kr tracer diffusion in methanol, 1-butanol and 1-octanol from 298 to 433K 4-11323
- LiCl-KCl eutectic melt, struct. and dynamical props., numerical simulation 4-45369
- NH₄H₂PO₄, dissolution and growth studies 4-11324
- Na, diffusivity in liq. Sn, determ. using Na- β'' -Al₂O₃ 4-29660
- Na₂SO₄, Soret and diffusion coefficients, simultaneous meas. 4-34677
- RbCl molten, inelastic neutron scatt. study 4-44919

diffusion in liquids continued

Sn, diffusivity of Na, determ. using Na- β - Al_2O_3 4-29660
 Xe tracer diffusion in methanol, 1-butanol and 1-octanol from 293K to 433K 4-11323

diffusion in plasma see plasma transport processes**diffusion in solids**

see also *electromigration; ionic conduction in solids; self-diffusion in solids; surface diffusion*
 activated and nonactivated surface diffusion 4-29673
 activation energies and diffusion data rel. to grain size 4-25074
 adatom cluster, surface diffusion, field ion microscopy studies 4-29820
 adsorbate surface diffusion, field emission studies, review 4-29822
 adsorbed atom surface diffusion, correlation with concentration and step struct. 4-29823
 adsorbed particles, surface diffusion and statistical mechanical models 4-29818
 agar gell, effective diffusion coeff. of methylene blue 4-7756
 alloys, diffusion phenomena, quasichem. approx. 4-29701
 alloys, interface microstructure, diffusion effects 4-29833
 atomic diffusion, rel. to breakdown of Hooke's law 4-65
 binary alloy, nucleation, role of diffusion 4-24963
 binary system, inter- and intrinsic diffusion coeffs., determ. 4-39615
 bis-tetramethylammonium tetrachlorozincate- d_{24} , incommensurate phase, defect mobility 4-20413
 bulk metal/thin metal film interface, room temp. compound form. 4-25166
 chemical reactions, atomic hopping motions of interstitial species in time depend. inhomogeneous interactive fields 4-16648
 chemistry, appl. of neutron scatt., review, book contrib. 4-39056
 compound weld, up-hill diffusion theory 4-6562
 condensed systems, atomic diffusion, amorphisation effects 4-11332
 conf., Les Arcs, France, Sept. (1981) 4-27245
 cubic lattice, tracer diffusion, multivariable Zwanzig-Mori formalism 4-25077
 density autocorrelation functions and diffusion coefficients 4-29672
 diatomic linear chain, modified moments and continued fraction coeffs. 4-27429
 diffusion controlled-reactions, lattice valency effects 4-17851
 diffusion limited aggregation with directed and anisotropic diffusion 4-50699
 diffusion-limited aggregation, effects of particle drift 4-11304
 discrete models for coupled random-walk chains 4-29671
 dislocation glide, diffusion induced 4-11152
 dislocation-inclusion repulsion, diffusional relax. 4-15516
 dislocations, diffusion problem, computer-simulated random walk anal. 4-45133
 dislocations containing solids, diffusion-controlled absorpt. or desorption 4-45427
 electrodes, electrochem. and photochem. processes, Mirage effect studies 4-41225
 energy barriers to point defect migration in dislocation cores (*Russian*) 4-6393
 eutectic alloy, solid-phase diffusion interaction between eutectics and metals forming them 4-57189
 ferrite, plasma spraying, thermal disloc. and oxygen diffusion nature 4-57362
 free radicals, microdiffusion in solid organic cpds., tunnel mechanism (*Russian*) 4-15711
 frozen rigid-sphere fluid, diffusion blocking 4-2362
 GaAs (001)-Al interface, growth processes 4-20417
 gas diffusion in porous solids, Knudsen and ordinary diffusion regimes, Monte Carlo simulations 4-10708
 gas diffusion through capillary, local heating effects 4-50559
 gas permeation through solids, principles 4-50560
 glass, fatigue limit determ. 4-7570
 glass, surface reaction and Cs penetration, finite difference numerical analysis 4-2379
 glass fibre cement, total porosity, diffusion coeff. and strength 4-51615
 glass reinforced polyamides, diffusional stabilization, effect on props. 4-51758
 glasses, diffusion processes (*German*) 4-2378
 glassy polymers, theoretical models for diffusion 4-11346
 grain boundary diffusion in film thickening kinetics 4-56061
 grain boundary diffusion-induced migration, grain boundary-dislocation climb mechanism 4-15702
 graphite intercalation with Br and ICl, intercalate displacement and exchange study 4-39559
 graphite-Li intercalation cpd., C_6Li , metallic character from CESR mes. 4-40229
 HCP crystal, anisotropic diffusion of irradi. generated point defects, dislocation bias 4-29706
 high-defect-content solids, diffusion correlation and isotope effects 4-39602
 ice, cryst. and amorphous, positronium formation and diffusion studied with variable-energy positrons 4-16265
 ice, recrystallisation growth rate 4-29368
 ice I, Bjerrum L defect migration, activated complex model 4-28584
 II-VI semiconductor-metal interface, chem. struct. and Schottky barrier form. 4-6891
 III-V semiconductor-metal interface, chem. struct. and Schottky barrier form. 4-6891
 impurity diffusion, encounter model, rel. to correl. effects in NMR 4-34718
 Inconel 718, cathodically charged, NMR study of H 4-30308
 inhomogeneous medium, matter diffusion and liq. filtration (*Ukrainian*) 4-24466
 interstitial dopant diffusion in field of standing US wave, periodic struct. form. 4-34720
 ion exchange membranes, transport numbers 4-3427
 ion exchange resins, effective diffusion coeffs., ^{86}Rb radioactive tracer investig. (*German*) 4-2369
 ion-exchanged waveguides, integrated optical components by selective diffusion method 4-44248
 ionic crystals, thermopower, heats of transport of lattice defects 4-20398
 irregular crystals, quantum diffusion of atoms 4-20393
 ligneous materials, adsorp. of phenol, thermodynamic and kinetic investig. (*French*) 4-29778
 low-molecular particles in polymers, diffusion coeffs., press. effects (*Russian*) 4-15710
 mass transport along surfaces, different driving forces 4-29674

diffusion in solids continued

massive transformation, growth kinetics and mechanism 4-57221
 massive transformation, nucleation kinetics, crystallography and mechanism 4-57220
 massive transformation, thermodynamics 4-57218
 massive transformations, distinguishing features 4-57219
 membranes, swollen, solute diffusion theory and coeffs. 4-7751
 metallic glasses, atomic transport and struct. relax. 4-44995
 metallic glasses, defects and atomic transport, review, book contrib. 4-39562
 metallic glasses, ion implanted, pattern form., model 4-20268
 metals, FCC and BCC, radiation-induced creep, Weertman dislocation multiplication, diffusion-dislocation approach 4-6398
 metals, H diffusion coeff. and dissolved H conc., determ. by electrochem. permeation method (*Japanese*) 4-25092
 metals, recrystallisation as an irreversible phenomenon, grain boundary nucleation and migration (*Czech*) 4-7478
 metals, strain ageing, dislocation struct., US vel. obs. 4-51701
 metals, transport mech. of light interstitials, review, book contrib. 4-39609
 methane adsorbed layer on graphite, mol. mobility and 2-D transitions 4-29825
 MOS structures, mobile Na^+ contamination in thermally annealed oxides 4-45426
 multilayer system, computer model for diffusion, image buildup in diffusion transfer photographic system 4-37236
 myoglobin crystals, temp. depend. anisotropic diffusive motion of haeme Fe, Mossbauer study 4-41419
 naphthalene- d_8 , randomly doped crystals, energy migration, percolation model 4-2539
 Nernst-Einstein equations and cross phenomenological coeffs. interpretation 4-20392
 neutron temporal evolution in coherently scattering crystalline moderator 4-4929
 optical fibre loss due to H_2 generation at high temp. 4-49541
 optical fibre transmission loss increase due to H_2 diffusion 4-19591
 optical fibres, attenuation increase caused by H_2 diffusion, fundamental and overtone absorpt. spectra obs. 4-33797
 oxide layers, protective, coating composition and formation at high temps. 4-16567
 oxide nuclear-fuels, fission gas release, flow modelling 4-9265
 oxides, cubic, stoichiometric and nonstoichiometric, diffusion meas. 4-20397
 particles in solids, short-lived large energy fluctuations, kinetic many-body theory, reviews 4-34687
 passive layers on high temperature austenitic alloys, H permeation 4-56090
 permeable fibre reinforced polymer composites, Fickian diffusion model 4-50582
 phase decomposition, theoretical anal. based on 2-D, nonlinear diffusion eqn. 4-25941
 polyaromatic compounds, restrictive diffusion in gamma- Al_2O_3 4-29668
 polydimethylsiloxane, diffusion and heat of absorption of CO_2 rel. to quality (*Russian*) 4-56078
 polyethylene, diffusion and heat of absorption of CO_2 rel. to quality (*Russian*) 4-56078
 polyethylene, irradi., recombination of allyl radicals, reaction kinetics 4-12352
 polymer film, liquid penetration, case II diffusion kinetics, swelling stress model 4-45379
 polymer science, laser spectroscopy applications 4-16209
 polymers, solubility and diffusivity of vapours 4-29669
 polyolefins, migration and diffusion of straight-chain octadecane, radioactive tracer investig. 4-56075
 polyvinyltrimethylsilane, diffusion and heat of absorption of CO_2 rel. to quality (*Russian*) 4-56078
 α -quartz:Na, Haven ratio, radioactive tracer sectioning technique anal. 4-34719
 quartz, interstitial ions, charge compensating, thermal and radiation induced mobilities 4-20418
 quasi-particle diffusion in nonlinear media (*Russian*) 4-6542
 B-quasi clathrate, translational motion of inert gas atoms, rot. translational diatomic mols. motion and host-guest interactions 4-34712
 radioactive waste, radionuclide transport through fractured rock, 1-D models 4-48640
 random lattice diffusion, weak disorder expansion 4-27466
 randomly doped crystals, energy migration, percolation model 4-2539
 rate theory, return jump catastrophes, and the center manifold 4-34686
 Rene 41, Ni-base superalloy, diffusion processes and weldability 4-57265
 sapphire, plastic deform., dislocations, diffusion, review 4-20203
 semiconductor, diffusing impurity localisation 4-50313
 p-semiconductors, effective carrier mobility theory 4-11539
 semiconductors, impurity atom distrib. formed by radiation-stimulated diffusion 4-50335
 semiconductors, ion implanted, impurity diffusion and activation, defect effects 4-50587
 semiconductors, mechanical properties, recrystallisation and diffusion, effect of doping, review 4-20213
 semiconductors, recombination-stimulated defect diffusion (*Russian*) 4-6565
 single adatom and diatomic cluster surface migration, FIM studies 4-29821
 sintering, diffusion-dislocation mechanism, size effect in plastic self-indentation of solids in contact 4-51568
 sintering, liquid phase, particle growth by coalescence 4-21175
 soda-lime glasses, proton irradi., surface temp. increment 4-15550
 static disorder systems, diffusion, hopping models 4-45380
 steel, austenitic, He ion implanted He bubble nucleation at grain boundaries, TEM studies 4-25034
 steel, austenitic stainless, He ion implantation and bubble growth, TEM studies 4-11307
 steel, austenitic stainless, T exposed, ion beam profiling of ^3He 4-16589
 steel, C, methane bubble growth 4-57328
 steel, Cr and Mn, powders, prod. by diffusional impregnation, struct. and props. 4-3098
 steel, Cr-Mo-V, for rolls, isothermal decomp. of austenite by pearlitic mechanism 4-40743
 steel, diffusion coating processes, nonsteady state mass transfer problems 4-30859
 steel, diffusion of C during low C lath martensite form. 4-16392

diffusion in solids continued

- steel, galvanized wires, drawing, surface elevations form. at interface 4-40890
- steel, H diffusion, derivation of diffusion eqns. from Boltzmann-type transport eqns. 4-11340
- steel, H diffusion, numerical study of permeation and trapping parameter determ. 4-11341
- steel, H trapping and repelling defect classification 4-7567
- steel, mass transfer of H under repeated variable impact load 4-51900
- steel, medium C, oxidation resist., diffusional Al siliciding effect 4-41089
- steel, Ni-Cr-Mo, crack propag., load response in delayed failure, H diffusion (*Japanese*) 4-46595
- steel, stainless, cryoformed, α' martensite struct., H diffusion and permeation 4-45425
- steel, stainless, structural, irradiation, in-pile nucleation and growth of gas bubbles on grain boundaries 4-15544
- step formation and movement, surface mobility and defects 4-29754
- structural materials, irradi., cavity formation and He migration 4-56079
- ternary diffusion paths, empirical representation in system with const. diffusion coeffs. 4-25076
- thermal diffusion, path probability method 4-53571
- thermotransport in solids, LeClaire-Brinkman theory 4-56062
- thin film compound formation, anal. of isotope separation 4-25075
- thin film diffusion size effect 4-39608
- thin films, nucleation, growth, adsorption and surface diffusion 4-29854
- tracer diffusion, vacancy assisted, correlation factors 4-45423
- tracer diffusion on one-dimensional lattice 4-20391
- transition metal silicides, review of form. and phys. props., book contrib. 4-6483
- transition metal silicides, thermal oxidation, mass transport role 4-3402
- two-dimensional square lattice, diffusion controlled aggregation 4-56030
- vacancy mechanism exact soln. 4-15713
- Zircaloy-2, release of fission recoiled ^{135}Xe 4-29700
- Ag, grain boundary heterodiffusion of Ni, segregation effect 4-39604
- Ag ion diffusion process for fabricating ten-port graded-index waveguide star coupler 4-28885
- Ag, ion implanted, impurity internal oxidation, ^{119}Sn Mossbauer spectra 4-35269
- Ag photoenhanced migration in transparent heat mirror coatings 4-55168
- Ag single crystal, H impurity diffusion meas. using ion-beam sputtering 4-56089
- Ag single crystals, impurity diffusion of Cd, isotope effect 4-56077
- Ag-Mg-Zr alloy, US effect on internal oxidation and recrystn., 500-750°C 4-57260
- AgBr:K⁺(Rb⁺), diffusion study and ionic cond. 4-15706
- AgBr:Rb⁺(Na⁺), impurity diffusion study 4-15705
- AgCl:Cs⁺(Na⁺), impurity diffusion study 4-15705
- AgCl:K⁺(Rb⁺), diffusion study and ionic cond. 4-15706
- Ag₂WO₄ solid electrolyte-TaS₂ insertion electrode interface, chemical diffusion, SEM and X-ray study 4-39614
- Al, H diffusion 4-11347
- Al, thin metallic markers redistribution under ion bombardment 4-51429
- Al/Ni(Pd)(Pt), bilayers, phase formation by ion beam mixing and thermal annealing 4-11194
- Al/Sb thin film couples, grain boundary interdiffusion and surface cpd. form. 4-15721
- Al/W and Al/Ti thin film reactions, Cu impurity effects, glancing-angle X-ray diffr. and Rutherford backscatt. study 4-20414
- Al-Ag-Sn solid solution, interdiffusion at 832K 4-56098
- Al-Cu thin films, W marker motion during sequential cpd. form., Rutherford backscattering spectra 4-15714
- Al-Cu-Li, recrystallised 2020, fracture rel. to intermetallic particles 4-21315
- Al-Si thin film diffusion couples, effects of different solute element addition on Si diffusion 4-56088
- Al-Zn, dil., solute diffusion and interaction with vacancies 4-34715
- Al-Zn-based alloys, ageing, morphology and precipitation (*Russian*) 4-51699
- AlAs-GaAs:Zn disordered superlattices, diffusion and interdiffusion processes 4-34716
- AlGaAs, open tube diffusion of Zn, rel. to ohmic contact form. 4-6559
- AlGaAs/GaAs double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
- Al_{0.9}Ga_{0.1}As quantum well heterostructure laser, wavelength modification by layer interdiffusion 4-1395
- Al_{0.9}Ga_{0.1}As/GaAs heterostructures, photoluminescence, Al isovalent impurity effects (*Russian*) 4-40533
- Al_{0.9}Ga_{0.1}As-GaAs quantum well heterostructure, impurity induced disordering 4-50905
- β -Al₂O₃, growth at interface between α -Al₂O₃ and NaAlO₂ 4-6566
- Al₂O₃, thin metallic markers redistribution under ion bombardment 4-51429
- α -Al₂O₃:Cr³⁺(V³⁺), doped and undoped, diffusion and elec. cond. studies 4-15694
- Al₂O₃-Cr₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
- β -Al₂O₃-Na₂O, O interstitial transport and chemical coloration 4-34723
- β -Al₂O₃-Na₂O-CaO, diffusion and ionic cond. 4-39579
- alkali aluminosilicate, interdiffusion of Ag, rel. to electronic polarisability 4-39613
- As₂S₃ amorphous films on polycrystalline Ag₂S substrates, photochemical reactions, Raman study 4-7739
- As₂S₃:Ag film, photostimulated diffusion study (*Russian*) 4-50588
- As₂Se₃ amorphous films, elec. and photoelec. props. controllability 4-45790
- Au/Co bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
- Au/Cu bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
- Au-Ag, dilute alloy, impurity migration, vicinity of developing atom-atom collision chain (*Russian*) 4-45416
- Au-Ag, interstitial impurity caging near collision cascade 4-56092
- Au-Al thin step-shaped couple, growth rates of diffusively formed Au₂Al, spectral refl. 4-46343
- Au₁La_{1-x} amorphous alloy, interdiffusion reaction prep. and free energy 4-45429
- Au₁Y_{1-x} amorphous alloy, interdiffusion reaction prep. and free energy 4-45429
- B fibre reinforced Al, physico-chem. interaction 4-57275
- Ba²⁺- β'' -alumina, ion transport study 4-25082

diffusion in solids continued

- Bi-Sb, dislocations revealed by Cu impurity diffusion and chem. etching 4-11147
- C amorphous with Cu island films, surface and volume diffusion during condensation 4-2474
- Ca²⁺- β'' -alumina, ion transport study 4-25082
- CdS:Ag, light illum., impurity migration, photostimulated gettering 4-2228
- CdTe:Li-Au low resistance contacts 4-30049
- Ce₂O₃-ZrO₂ powders, sintering, dilatometry 4-57161
- Co, H solubility, surface contamination effects 4-25028
- Co silicides, layer growth on evaporated Si, elec. props. 4-35095
- Co-CoSi₂ interface, stability and reactions, Rutherford backscatt. study 4-50589
- Co-Cu₂O, diffusion couple, displacement reaction, kinetics and morphology, impurity effects 4-41099
- Cr₂O₃-MgO spinel, elec. cond. during synthesis 4-40717
- CsI, Cu²⁺ doping and diffusion, NMR study (*German*) 4-25094
- Cu, adsorption of Pb-Sn double monolayers, AES, secondary electron emission obs. 4-39697
- Cu, diffusion and solubility of O, using potentiostat. and potentiometric techniques 4-34717
- Cu, diffusion of Cr and Mn, and Mn isotope effect 4-2381
- Cu diffusion of implanted ^{57}Fe , depth-selection conversion electron Mossbauer spectroscopy study 4-35262
- Cu, irradiation creep due to elastodiffusion 4-55863
- Cu, muon diffusion below 2K, μSR study 4-7110
- Cu/Al and Pt/Cu/Al thin films, interfacial reactions, O₂ effects 4-39611
- Cu/Al thin film bilayers, interdiffusion and sequential cpd. form. 4-29707
- Cu/Al thin film bilayers, W interdiffusion marker during sequential cpd. form. 4-29708
- Cu/Sn binary diffusion couples, nonparabolic growth of intermediate phases 4-34726
- Cu-Ag(Mg)(Sb)(In)(Cd)(Sn), diffusion induced grain boundary migration and discontinuous precip. 4-40803
- Cu-Cr polycr. structures, electrophysical props., low temp. diffusion effects 4-2662
- Cu-He, gas evolution, under alpha-particle irradiation (*Russian*) 4-39595
- Cu-Zn, ternary alloys, interdiffusion coeffs. 4-15723
- Cu-Pd diffusion couples, diffusion-induced grain boundary migration, TEM, AES studies 4-20415
- Cu-Ti explosive welded zone, intermetallic growth on heating 4-21373
- Cu-Zn, surface relief produced by diffusion-induced grain boundary migration 4-56091
- Cu-Zr phases formed by laser surface treatment, microstruct., anal. 4-46378
- β -CuAl₂ precipitates in Al-Cu alloys, shape changes during dissoln. 4-57234
- CuH₂PO₄, topochem. decomposition, reactivity near reagent/product interface 4-41195
- Cu₂O:Ag, diffusion and point defects 4-50585
- Fe, H diffusion, influence of lattice imperfections (*German*) 4-34722
- Fe H diffusion, surface effects (*Japanese, English*) 4-20411
- Fe, H solubility, surface contamination effects 4-25028
- Fe, high purity, H diffusion 4-39606
- Fe, irradiation creep due to elastodiffusion 4-55863
- γ -Fe, Nb diffusion, 948-1201°C 4-15701
- Fe, pure single crystals, H transport by screw dislocations 4-15709
- α -Fe, self-diffusion and Co heterodiffusion, mag. anomalies 4-56085
- α -Fe:He, impurity migration, vicinity of developing atom-atom collision chain (*Russian*) 4-45416
- α -Fe:He, interstitial impurity caging near collision cascade 4-56092
- Fe-Al vac. deposited multilayers, mixing by laser pulse or ion implantation 4-15722
- Fe-Al(Ti), high temp. alloys, radiotracer studies of C permeation through oxide scales 4-35759
- Fe-austenitic stainless steel system, annealing, interdiffusion, 1023-1373K 4-15715
- Fe-B-Si, amorphous, Si diffusion coeff. meas. 4-6557
- Fe-C-N, BCC systems, short range and long range migration of heavy interstitials (*French*) 4-39600
- Fe-Cr-Ni, invariant diffusion coeffs. (*Russian*) 4-50563
- Fe-Cr-Ni (18, 14 wt.%), austenites, irradi. in HVEM, interstitial migration, role of C and Ti (*French*) 4-34545
- Fe-Cu, liq. phase sintering, particle growth by coalescence 4-21182
- Fe-H base amorphous alloys, H diffusion study 4-45383
- Fe-Mn(Si), Nb diffusion, 948-1201°C 4-15701
- Fe-Ni-Cr, model alloy, stress-rupture in sulphidising and oxidising environments 4-7636
- Fe-Si, Nb diffusion, 948-1201°C 4-15701
- (Fe_{1-x}Al_x)₂- γ -O₂, vacancy diffusion study 4-20412
- Fe₄₀Ni₄₀P₁₄B₆, Metglas 2826, H mobility, induced mag. anisotropy 4-39605
- Fe_{1-x}O, chemical and tracer diffusion theory 4-15688
- FeTi, activation for H₂ absorption and storage, review 4-12495
- Fe₂Y_{100-x} metallic glasses, mag. props. hydrogenation effects 4-56563
- Fe₂Zr_{100-x} metallic glasses, mag. props. hydrogenation effects 4-56563
- Ga_{1-x}Al_xSb on GaSb, LPE grown, Zn diffusion and appl. to IR detection (*French*) 4-56086
- GaAs, diffusion of Cr, masking props. of SiO₂ films 4-50583
- n-GaAs epitaxial layer, diffusion of impurities forming donor mols. 4-34721
- GaAs, implanted impurity redistribution, stress effect 4-24843
- GaAs, open tube diffusion of Zn, rel. to ohmic contact form. 4-6559
- GaAs:Cr, interstitial Cr diffusion coeff. and Cr complexes 4-6560
- GaAs:Cr, S, Cr redistrib. under annealed S implants 4-29697
- GaAs:Cr,Mn, semi-insulating, dopant redistribution during annealing 4-39330
- GaAs:Mn, ion implanted, Mn accumulation, Fermi energy and annealing studies 4-34648
- GaAs:Sn, diffusional doping from spin-on film sources, review 4-50586
- GaAs:Zn, diffusion masks using CVD-SiO₂ and plasma-SiN_x films 4-50326
- GaAs:Zn, ion implantation, diffusion and segregation 4-34506
- GaAs:Zn, leaky tube diffusion, SiO₂ sputtered coating for surface protection 4-15497
- GaAs/Al interface reaction, XPS studies (*Chinese*) 4-50647
- GaAs/AlAs superlattices, characterisation by laser-Raman spectroscopy 4-34807

diffusion in solids continued

- GaAs/Ga-Ge ohmic contacts, redistributed component mapping after laser annealing 4-34806
 GaP-Au contacts, struct. effects on heating 4-39696
 Ge, growth model from amorphous phase 4-16299
 Ge:Ga, diffusion of Ga along small angle grain boundaries 4-6563
 Ge:Ga, sources of impurity clouds, IR laser small angle scatt. study 4-11348
 n-Ge:Se, He ion irr., conversion to p-type, radiation-accelerated diffusion effects 4-15556
 H, permeability in Ni and Ni alloys 4-15712
 H₂ diffusion in optical fibre, effect on attenuation 4-10431
 H₂ diffusion in SiO₂ based fibres at room temp., effect on attenuation 4-10432
 H₂ energy systems materials degradation 4-36041
 H₂ permeation const. meas. in Fe, Fe alloys, and steels 4-56080
 H(UO₂PO₄), 4H₂O, proton diffusion, NMR study 4-29684
⁴He, quantum diffusion of ³He, NMR study (*Russian*) 4-2399
⁴He, solid, positive charge diffusion in low fields (*Russian*) 4-45445
 α -Hf:N, ion implanted, N diffusion 4-35996
 (Hg, Cd)Te, gettering mech. obs. 4-56087
 HgCdTe/CdTe bicrystals, misfit dislocation introduction and interdiffusion 4-29829
 In_{1-x-y}Ga_xAl_yAs, MBE growth, doping and elec. characts. 4-30636
 InGaAs/Zn, diffusional doping from spin-on film sources, review 4-50586
 In_{0.53}Ga_{0.47}As, of Cd, exam. rel. to device fabrication 4-34713
 In_{0.53}Ga_{0.47}As-GaAs superlattice, Zn diffusion induced disorder 4-20407
 InGaAsP and InP, CD(Zn) diffusion for p-n junction formation 4-20405
 InGaAsP/InP double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
 InP, diffusion of Ag from vapour phase, surface equilibria 4-29703
 InP, of Cd, exam. rel. to device fabrication 4-34713
 InP:Ag, out-diffusion of radioactive Ag, comparison with Fick's law 4-39599
 InP:Zn, diffusional doping from spin-on film sources, review 4-50586
 InP/InGaAsP aged LEDs, dark spot defects 4-56999
 KBr(Cl):Ti, diffusion in γ -radiation field 4-11349
 KCl, activation energy of substitutional defects 4-55813
 K₂Zn₃(Fe(CN)₆)₂, adsorpt. of methylpentanes, kinetics (*French*) 4-29777
 LiAlO₂, breeder materials, diffusion rate and T solubility effect on T inventory 4-54386
 Li₂Cd₂Cu, fast interstitial diffusion processes 4-15707
 Li₂N:Al(Cu)(Mg)(H), ionic cond. and defect migration 4-25085
 LiNbO₃, Ti diffused waveguides, struct. and optical meas. 4-24176
 LiNbO₃:Ti in-diffusion process in dry and wet atmospheres 4-24272
 LiNbO₃:Ti optical waveguide fabrication by Ti indiffusion, cpd., growth obs. 4-14785
 LiNbO₃:Ti(Mg), optical and ferroelec. props., electro-optical device appl. 4-30440
 Li₂O-GeO₂, ion exchanged glasses, refractive index, conc. depend. 4-51228
 Li₂SiO₃, breeder materials, diffusion rate and T solubility effect on T inventory 4-54386
 MgF₂:Li, nature of defects, diffusion and ionic cond. 4-15462
 Mg₂NiH₄, monoclinic-cubic transition, rel. to H motion, NMR investig. 4-20876
 MgO, arc-fused, back diffusion, gas evolution 4-34724
 MgO:C, arc-fused, diffusion of C, ¹²C(d,p)¹³C reaction studies 4-34711
 Mo, implanted He, interaction with H self-interstitial atoms 4-11177
 Mo, ion bombardment, structural changes in volume (*Russian*) 4-50373
 Mo, polycrystalline, vacuum annealing, 0 desorption from grain boundaries, ductility recovery (*Japanese*) 4-35639
 Mo single crystals, Fe diffusion 4-56081
 NH₄ClO₄, topochem. decomposition, reactivity near reagent/product interface 4-41195
 NO₃⁻ motion in NH₄NO₃ solid, ¹⁴N NMR study 4-25083
 NaCl, activation energy of substitutional defects 4-55813
 NaF, initial sintering shrinkage, 560-720°C 4-12050
 NaI molten, inelastic neutron scatt. study 4-44919
 Na₂O-Al₂O₃-SiO₂, glass, treated with aqueous solutions, interdiffusion of ions 4-50590
 Na₂O-K₂O-Al₂O₃-ZrO₂-SiO₂, molten alkali feldspar, contact angle on aluminosilicate substrate, ZrO₂ content effect 4-25119
 Na₂O-SiO₂, interdiffusion of Ag, rel. to electronic polarisability 4-39613
 Nb, of T, Gorsky effect meas. 4-2380
 Nb-Mo, activity and diffusivity of O, EMF obs. 4-7418
 Nb-O-N, BCC systems, short range and long range migration of heavy interstitials (*French*) 4-39600
 Nb-V, activity and diffusivity of O, EMF obs. 4-7418
 Nb-Zr, (0.85 wt.%) ion bombardment, structural changes in volume (*Russian*) 4-50373
 Nb₂Sn diffusion layer, growth kinetics 4-56096
 NbTi-Cu multifilamentary wires, diffusion barrier study (*Chinese*) 4-2383
 Ni, diffusion of Pt(Au), Rutherford backscatt. study 4-20410
 Ni, dislocation loop, voids, radiation creep, influence of nonstationary diffusion (*Russian*) 4-50296
 Ni, electron irr., induced creep 4-46575
 Ni films on Si, SiO₂ or glass ceramic substrates, monitoring of heat treatment by FMR 4-51136
 Ni, H solubility, surface contamination effects 4-25028
 Ni, impurity diffusion of Cu, 1080-1613K, atomic absorpt. analysis (*Japanese*) 4-34714
 Ni⁺:N implanted contact on n⁺-Si, thermal stability and elec. resistivity 4-2655
 Ni/Fe system, vapour transport and diffusion-induced grain boundary motion 4-25099
 Ni/Si system, silicide form. by pulsed laser irr. 4-15719
 Ni-base superalloy, brazed joint, B diffusion (*Czech*) 4-39601
 Ni-Co, diffusion coeff. for H, temp. depend., 260-1000K (*Japanese*) 4-25093
 Ni-Cr-Fe (16, 7 at.%), previously covered with external Cr₂O₃ layer corrosion in H₂-H₂S mixtures 4-51872
 Ni-Cu, diffusion coeff. for H, temp. depend., 260-1000K (*Japanese*) 4-25093
 Ni-Cu₂O, diffusion couple, displacement reaction, kinetics and morphology, impurity effects 4-41099
 Ni-Ge, dil., solute diffusion and interaction with vacancies 4-34715
 Ni-Nb amorphous film on semicond. substrates, thermal stability 4-45554

diffusion in solids continued

- Ni-NiSi₂ interface, stability and reactions, Rutherford backscatt. study 4-50589
 Ni-NiSi₂(NiSi₂) contacts, thermal and ion-induced silicide dissociation 4-20503
 Ni₃Al-Ni₃Ga-Ni₃Ge-Ni₃Si, pseudo-quaternary system, continuous solid soln. 4-35612
 NiO, recrystn., diffusion induced 4-21233
 NiO single crystal, interaction with O₂, microcalorimetry to study defect structure 4-50281
 NiO-Cr₂O₃, pure and doped, single crystals, heterodiffusion of Co, Mg and Ca impurities, 800-1700°C (*French*) 4-20409
 P₂O₅-SiO₂:P(B), doping process and CVD on semicond. substrates 4-21156
 Pb-Sn (5 wt.%), cellular precipitation, impurity effects (*Russian*) 4-50515
 Pb²⁺- β -alumina, ion transport study 4-25082
 PbS_{1-x}Se_x, DH diode laser, fabrication by compositional interdiffusion 4-33685
 Pb_{0.8}Sn_{0.2}Te:In, In diffusion, X-ray microanal. studies 4-25096
 Pd, surface, (100) and (111), H chemisorpt., H-Pd bond and H diffusion investig. by SW X α calc. (*German*) 4-2429
 Pd-Si-H base amorphous alloys, H diffusion study 4-45383
 Pd-SiC interface, form. and oxidation, AES and EELS study 4-15771
 Pd₃Pt₁₉, H chemical potentials and diffusion coeffs. in diffusion membranes 4-20408
 Pt (111)/Cu system, growth and alloy form., LEED, AES and desorption studies 4-29808
 Pt, H solubility, surface contamination effects 4-25028
 Pt-Ir alloy, surface segregation and diffusion kinetics study using time-of-flight atom-probe field ion microscope 4-34645
 Pt-Ni-Si bimetallic condensates, monitoring of heat treatment by FMR 4-51136
 Pt-Si-Si, thermal diffusion of Pt in Si, deep electron traps obs. 4-45428
²²²Ra, effect of time dependent diffusion on attenuation 4-23567
 RbCl, activation energy of substitutional defects 4-55813
 Se, amorphous films, elec. and photoelec. props. controllability 4-45790
 p-Si (100), denuded zone form., heat treatment effects 4-39514
 Si (111)-Au interface interdiffusion due to Cr catalyst 4-11350
 Si (111)-Pd(Cr) interface reaction, synchrotron radiation photoemission study 4-6567
 Si, annealed, interstitial O conc. depth profiles 4-50334
 Si, doping by dye-laser pulse induced diffusion (*Chinese*) 4-39318
 Si, from doped SiO₂, Al diffusion, distrib. conc. 4-55859
 Si, growth model from amorphous phase 4-16299
 a-Si, interfacial reaction with Schottky metals 4-39612
 a-Si, ion mixing of marker atoms 4-34514
 Si, multilayer amorphous Fe-W metallizations, stability 4-2485
 Si, of P, influence of orientation 4-56083
 Si, oxidation, stress evolution, point defect generation 4-50584
 Si, oxidation mechanism, transport of O and H₂O in oxide layers 4-57374
 Si, polycrystalline, effectiveness of diffusion sources 4-20404
 Si, polycrystalline, solar cells, grain boundary and intragrain Al diffusion 4-46875
 Si, self-interstitial migration barrier 4-56074
 Si solar cell fabrication by laser induced diffusion 4-16785
 Si structural defects and electronic effect in devices and unprocessed material 4-39935
 Si, thin metallic markers redistribution under ion bombardment 4-51429
 Si:Al, ion implanted, diffusion under semi-continuous laser annealing (*French*) 4-15700
 Si:Al(Ga), effect of O₂ from vapour phase on doping 4-56082
 Si:As, As retarded diffusion by thermal oxidation 4-11344
 Si:As, ion implanted, controlled diffusion by electron beam heating 4-15699
 Si:As, ion implanted, transient enhanced diffusion during short time annealing 4-39594
 Si:As (B), ion implanted, pulsed electron beam annealing 4-15536
 Si:As/Si bilayer films, As diffusion along grain boundaries 4-34725
 Si:As⁺, high dose ion implanted, annealing behaviour 4-15500
 Si:As(Br)(P), high conc. diffusion, profile estimation using unified analytic approx. 4-50333
 Si:Au, Au diffusion and solubility, neutron-activation anal. and spreading resist. meas. 4-34710
 Si:Au(Cu) single cryst., impurity gettering by porous Si during annealing 4-2382
 Si:B, B diffusion profile from BN source by H₂ injection 4-15703
 Si:B, B diffusion profile 4-15704
 Si:B, ion implanted, diffusion behaviour, flash-lamp annealing effects 4-45421
 Si:B, ion implanted, rapid thermal annealing using ultrahigh power arc lamp 4-50318
 Si:B, laser implanted, AES and SIMS study 4-34519
 a-Si:B,H films, prep. by CVD, optical parameters, effect of post-hydrogenation and H-exodiffusion 4-40390
 Si:B diffused resistors in process industry, comparison through narrow and wide areas 4-6561
 Si:Fe, single crystals, rel. to thermal defects, radioactive tracer and ESR investig. 4-25090
 Si:H, amorphous, silicide formation with metals for semitransparent photo-diode electrodes appl. 4-56094
 a-Si:H, glow discharge deposited, impurity diffusion study 4-39598
 a-Si:H films, diffusion of H 4-39597
 Si:H ribbon, H diffusion and passivation along grain boundaries 4-50581
 Si:H₂⁺, ion implantation and diffusion effects on laser induced defects, EPR study 4-15501
 a-Si:H-metal contacts, Schottky barrier form. and struct. props. 4-6866
 Si:In, ion implanted, high temp. diffusion in oxidising atmosphere 4-25097
 Si:O, Czochralski grown, O out-diffusion, SIMS study 4-6558
 Si:P, diffusion in crystallised amorphous layers 4-45418
 Si:P, diffusion models, vacancy and interstitial mechanisms 4-29698
 Si:P, low temp. diffusivity and precipitation of P 4-45415
 Si:P, P diffusion, Si self-interstitials supersaturation 4-20403
 Si:P, P diffusion, theory 4-20406
 Si:P, P diffusion from high surface conc., theory 4-45417
 Si:P, shallow diffusion profile anal. by four-point probe meas. 4-15697
 Si:P layers, impurity diffusion, incompatibility dislocation struct. effect 4-11343
 a-Si:P sputtered coating, P diffusion, Auger spectra study 4-45422

diffusion in solids continued

- Si:P/TaSi₂ system, P dopant redistrib. during high temp. sintering 4-2223
- Si:P(B), impurity profiles, anodic oxidation and chemical polishing study 4-34517
- Si:Sb, high concentration Sb diffusion using auxiliary wafers 4-45419
- Si:Sb, solid-phase epitaxially grown, point defect trapping 4-50322
- Si:Sb(Bi)(Ga)(In), laser-induced diffusion, TEM studies (French) 4-15698
- Si/metal systems, silicide formation by CW scanned laser and electron beams 4-24864
- Si/Mo bilayers, MoSi₂ form. kinetics by CW laser annealing 4-15720
- Si/Ni-Au bilayers, ion induced reactions, glancing angle X-ray diffr. and particle backscattering spectrometry 4-6410
- Si/Ni-Au dilute alloys, ion-induced or thermal reactions, Rutherford backscatt. and glancing angle X-ray diffr. 4-6411
- Si/Pt system, reaction products after pulsed electron beam annealing 4-15717
- Si/PtSi interface, Pt diffusion, electron traps, DLTS studies 4-29696
- Si/Pb thin film system, pulsed laser-and electron beam-induced diffusion 4-15716
- Si/SiO₂/Al capacitors, H migration under electron avalanche injection 4-29711
- Si/Ti(TA) systems disilicide form. by thermal pulse annealing 4-15718
- Si-Al contacts, interdiffusion reduction by improved surface ordering 4-39610
- Si-Ni-Pt system, silicide formation, metallurgical and elec. behaviour 4-50897
- Si-Ni(Pd) interface, Schottky barrier height, effect of variations of silicide characts. 4-6864
- Si-Pt interface, silicide formation, internal stresses and reflectivity studies 4-56097
- Si-SiO₂, of B, influence of thermoelastic stresses 4-56084
- Si-silicide interfaces, microscopic chem. rel. to Schottky barrier height determ. 4-6670
- Si-TaSi₂ interface, P diffusion, lattice and grain boundary diffusion 4-29831
- Si-transition metal interfaces, low temp. diffusion of dopant atoms during silicide form. 4-45424
- Si-V interface, chemical reaction and Schottky-barrier form. 4-45535
- Si-W(Ni)(Pt) interface, silicide formation, atom probe and field ion microscopy study 4-34804
- a-SiC:H, diffusion of In and Sn from transparent electrode, XPS study 4-41344
- a-SiH glow-discharge films, H₂ evolution and annealing studies 4-39134
- Si₃N₄ ceramics, sintered, diffusion joining, flexural strength 4-40731
- Si₃N₄-Y₂O₃-SiO₂, hot pressed, oxidation kinetics and thermodynamics, diffusion model 4-51645
- SiO₂, amorphous, ion mixing of marker atoms 4-34514
- SiO₂, fused silica, thermal annealing of radiation induced defects, rel. to MOS devices 4-45179
- SiO₂, silica, optical fibres, H diffusion, protective coating, ageing effects 4-49531
- SiO₂, thin metallic markers redistribution under ion bombardment 4-51429
- SiO₂/Ni-Au bilayers, ion induced reactions, glancing angle X-ray diffr. and particle backscattering spectrometry 4-6410
- SiO₂-GeO₂ optical fibres, diffused H₂ gas chem. change to OH⁺, expt. study 4-38612
- Sn biccystals, migration of <001> tilt grain boundaries, press. depend. 4-56093
- Sn-Ge interphase boundaries, isolated, In diffusion at high press. 4-29702
- Sr²⁺-β"-alumina, ion transport study 4-25082
- SrCl₂, neutron study of anion hopping 4-15684
- SrCl₂, thermoelectric power and vacancy diffusion 4-15902
- Ta, of T, Gorsky effect meas. 4-2380
- Ta-N, activity and diffusivity of O, EMF obs. 4-7418
- Ta-O, impurity Snoek relaxation, internal friction meas. (French) 4-39390
- Ta-O-C-N, BCC systems, short range and long range migration of heavy interstitials (French) 4-39600
- Ta-W, activity and diffusivity of O, EMF obs. 4-7418
- TaSi₂-SiO₂ interface, P diffusion, lattice and short-circuit diffusion 4-29832
- TeSb, self-diffusion and Sb diffusion, vacancy mechanism 4-11345
- α-Ti, Fe diffusion in single crystals. 4-39603
- Ti films, evaporated, elec. resist. and Auger electron APS, O diffusion effects 4-20741
- Ti plasma coatings, H permeability 4-51899
- α-Ti single crystal, diffusion coeff. of ⁶⁰Co 4-6564
- Ti/Au bimetal films, interdiffusion and elec. resist. changes under annealing 4-35092
- TiC coatings for first wall of fusion reactor, thermal and mechanical props. 4-20526
- TiO_{2-x}, rutile, thermomechanically treated, point, linear and extended defect structures, electron microscopy obs. 4-24835
- TiSi₂, bilayers on poly-Si, As ion implantation diffusion and distrib., heat treatment 4-29704
- TiC:Si²⁺(SO₄²⁻), defect migration and struct. studies 4-15708
- (U, Pu)O₂, pore migration, actinide redistribution in fuel element operation 4-54271
- UO₂-PuO₂, sintered mixed compacts, homogenisation and cation interdiffusion, X-ray obs. 4-54249
- V, diffusion study by oscillating cryst. method 4-29670
- V, effect of Ar sputtering on H₂ permeation, sputtering both sides 4-25091
- V, of T, Gorsky effect meas. 4-2380
- V-Zr, dil., solute and solvent diffusion 4-45386
- W, ion bombardment, structural changes in volume (Russian) 4-50373
- YIG:Ga, effect of ionic migration induced by heat treatment on Faraday rotation 4-25727
- Yb-Al (110) interface, electron spectroscopy study 4-56155
- Zn-Cu-Mn (0.92, 0.60 wt.%), superplastic deform. mechanisms, metallography 4-12113
- ZnSe-Cu, diffused Cu impurities, EXAFS studies 4-11342
- Zr, ion bombardment, structural changes in volume (Russian) 4-50373
- α-Zr, single crystal, diffusion of ⁵¹Cr 4-29699
- α-Zr:N, ion implanted, N diffusion 4-29596
- Zr-Nb (20 wt.%), ion bombardment, structural changes in volume (Russian) 4-50373

diffusion in solids continued

- Zr-Ni amorphous films form. by solid state reactions 4-45553
- ZrN thin film, oxidation kinetics 4-3403
- ZrO₂, P₂O₅ stabilised biccystals, grain boundary grooving rel. to MgO sintering additive 4-57162
- ZrO₂-Y₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
- Zr₂PdH₂, metallic glass, diffusion and phase transitions 4-45382
- Zr₅₀Ti₅₀, ⁶⁰Co diffusion and melting point 4-25095
- diffusion pumps**
cascade diffusion pump system for electron microscope 4-48255
- diffusivity** *see diffusion*
- diffusivity, thermal** *see thermal diffusivity*
- digital-analogue conversion**
see also analogue-digital conversion
integrated electrooptic digital-analogue convertor 4-19602
- digital arithmetic**
see also roundoff errors
integrated optical circuits for numerical computation, systolic architectures 4-49571
optical computing development, ultra-high-speed matrix algebra 4-14647
optical floating point computation, spatial encoding 4-38401
- digital communication systems**
19 GHz digital radio-relay and the weather, attenuation considerations 4-3801
100Mbit/s ASK heterodyne detect. expt. using 1.3-μm DFB laser diodes 4-49560
compact disc (German) 4-44252
F-400M fiber optic transmission system 4-10436
fibre optic DS-3 bipolar interface 4-10459
high-definition TV systems for cinematography, parameter requirements (Russian) 4-43098
hydrophobic arrays, recording and signal processing systems development 4-49623
military applications of fibre optics 4-5713
optical signal receiver correcting circuit, impulse characteristic determination 4-49567
single-mode optical fibre cable for telecommunication networks 4-10438
submarine optical fiber cable transmission, development 4-10437
two channel wavelength-division-multiplexed system, nonlinear crosstalk from stimulated Raman scatt. 4-55214
- digital control**
see also direct digital control
nuclear reactor, digital controller appl. 4-33104
stellar spectrophotometer with photon counting, digital control panel 4-36588
temperature controller for surface studies 4-53676
- digital differential analysers**
As₄ vapour deposited yellow films, struct. and optical props., condensation condition effects 4-39722
- digital discs** *see video and audio discs*
- digital filters**
see also signal processing
combination filter appl. to gravimeter (Chinese) 4-17273
digital edge enhancement technique for Thematic Mapper data 4-17309
geophysical signal analysis 4-41779
linear filters for resistivity sounding with four-electrode array 4-41703
SAR imagery enhancement, adaptive filtering use 4-17307
tomographic filters, design for radiographic image processing 4-57997
two-electrode and Schlumberger filters for resistivity and EM sounding curve calc. 4-41705
weak earthquakes, automatic online detection at Graefenberg Array 4-41780
- digital instrumentation**
see also digital readout; digital voltmeters
A/D conversion systems used for digital multimeters, range, accuracy (French) 4-17888
acoustic microscope, precision instrument for surface characterisation 4-49638
acoustical measuring technique (Hungarian) 4-55276
difference thermometer, design (German) 4-13641
heart rate meter with wide range, instantaneous response 4-17007
high temperature thermometer, 0-1500°C, design and characts. 4-4404
IR detector using quartz crystal 4-53752
loop tracer with waveform storage for ferroelectric hysteresis obs. 4-17900
measurement value acquisition and processing (German) 4-17683
multimeters, Fluke Series 70 range, microprocessor control, display technique using ADC (French) 4-22774
psychometer and humidity controller, low-cost design and appl. 4-27536
pyroelectric digital calorimeter using BaTiO₃, laser pulses energy meas. appl. 4-44123
remote sensing photographic system FEAG digital photowrite and photoscan system 4-42225
rodent ultrasonic vocalisations, digital ultrasound recorder 4-36262
storage oscilloscopes for shock testing 4-1542
strain measurement weighing, digital instruments (Russian) 4-27510
temperature and frequency meas., digital panel meters appl. 4-48130
temperature digital sensor system, using quartz crystals 4-37102
US biometric instrument, precision thickness gauging using digitised RF waveforms 4-52413
Si-steel sheets, digital testing set for DC magnetic props. (Chinese) 4-13655
- digital instruments** *see digital instrumentation*
- digital integrated circuits**
see also integrated logic circuits; integrated memory circuits; microprocessor chips
conference, nuclear space and radiation effects, Gatlinburg, TN, USA (July 1983) 4-42582
- digital readout**
see also digital instrumentation
human performance evaluations of digital image quality 4-21665
multimeters, Fluke Series 70 range, microprocessor control, display technique using ADC (French) 4-22774
- digital signal processing** *see computerised signal processing; signal processing*
- digital signals**
IR detector using quartz crystal 4-53752

digital simulation

7th Annual Geothermal Conference and Workshop (1983) 4-46856
acetone in CS₂ solns., atom-atom radial distrib. functions, intermol. pot. 4-43933
advanced simulator for real time simulation of two-phase flow transients 4-37846
aggregates, diffusion limited, crossover of fractal dimension 4-213
alkali metal halides, ionic cryst. films, mol. dynamics simulation 4-6684
AMBRA program for buildings/thermal behaviour simulation, field validation 4-52092
2-anthracenecarboxylic acid ω -dimethylaminoalkyl esters, exciplex form., Monte Carlo simulation 4-7705
axial-channeling radiation of MeV electrons in high-*Z* materials, computer simulation 4-2243
BCC lattice, kinked screw dislocations, interaction energies 4-2207
BCC lattice, kinked screw dislocations, struct. and Peierls stress of isolated kinks 4-2206
Bennett-type RF mass spectrometer, computer simulation of analytical characs. 4-32374
BETAPLOT user's manual, black oil reservoir simulator, output processing 4-16732
black oil reservoir simulation program user manual 4-16733
blood pump development for artificial heart with polarized EM drive system 4-3655
bromochlorofluoromethane, rot.-translation correl., computer simulation 4-28394
bromochlorofluoromethanes, liq., rot.-translation coupling, low temp. mol. dynamics 4-15366
bromochlorofluoromethanes, optically active liq., mol. dynamics 4-15365
Brownian particle suspension, diffusion in laminar flow, correl. functions and effective transport coeff., shear rate depend. 4-38787
carrier domain magnetometer, with circular p-n-p-n structure, computer model 4-27541
clouds, aids research in forecasting rain, hail and snow 4-47390
cluster-particle aggregation with fractal (Levy flight) particle trajectories 4-53625
cold fluidised bed simulation 4-34172
colloid particle interaction covered by oriented polymeric monolayer, computer simulation (*Russian*) 4-31039
conducting-insulating phase mixture, struct. and cond. mechanism, computer simulation (*Polish*) 4-35034
creep recovery and work hardening rate meas. technique, computer simulation 4-30765
deformation processes, finite element method (*German*) 4-42721
dense Lennard-Jones fluid, stationary nonequilib. states, mol. dynamics calcs. 4-44916
dichloromethane, nonGaussian effects in computer simulation, rot. and translational motion 4-14379
dielectric constant, freq. depend. calc. in computer simulation 4-25666
t-1,2-dimethylcyclopropane, rot.-translation correl., computer simulation 4-28394
trans-1,2-dimethylcyclopropanes, rototranslation, mol. dynamics 4-15367
dynamic simulation and parametric sensitivity studies on a central solar domestic hot water system 4-52098
electrodynamical boundary-value problems digital solution (*Polish*) 4-19344
electron beam interactions, oscills., HF external waves, computer simulation 4-34275
electron micrographs, high resolution, simulation by high-speed computation techniques 4-4499
electrostatic spraying and coating model for computer simulation 4-35751
enantiomers, rot.-translation correl., computer simulation 4-28394
energy barriers to point defect migration in dislocation cores (*Russian*) 4-6393
ethane, liq., interaction models, Monte Carlo simulation 4-34392
fluid mixtures, new theories of eqns. of state 4-24947
fluid phase equilibria: experiment, computer simulation, and theory 4-29573
formamide, aq. hydration, hydrophilic and hydrophobic effects 4-57536
gas-liquid mass transfer, appl. of well mixed model 4-8846
gaze movements in scanning three horizontal targets, anal. (*Japanese*) 4-3557
gradient lenses in fibre optical devices, simulation 4-49555
graphite with near-monolayer Xe films, melting transition, computer simulation study 4-50638
hand surgery, reconstructive, computer aided planning, muscle, tendon and joint models 4-31271
hay drying with barn roof acting as a solar collector, performance simulation 4-57663
high-level forest fires spreading, mathematical modelling 4-21478
homogeneous nucleation for inverse power pot. and Lennard-Jones liqs. 4-55693
human motion, computer simulation of 3-D motions in loading operations 4-47029
hydrodynamics of small tubular pumps 4-49874
hyperthermia treatments, EM and US, survey of computer simulations 4-52410
ice crystallite melting, mol. dynamics computer simulation 4-29579
ice Ic, mol. dynamics computer simulation 4-29297
ice Ih crystallite, press. melting, simulation 4-29577
ice/frost growth on cryogenic tanks prediction 4-265
immobilised spin labels, Q-band ESR spectra, simulation 4-19093
instabilities, fluctuations and transitions, computer simulation 4-12325
intracavity therapy, dose calc., computer simulation of radionuclide γ -energy spectra 4-16959
JT-60 nuclear fusion test facilities power supply system computer simulation 4-5038
laminar dilute suspension flows in plate-and-frame ultrafiltration units 4-10638
latent heat thermal energy storage reservoir using spherical capsules (*Japanese*) 4-41383
latent heat thermal energy storage reservoirs, optimum design (*Japanese*) 4-16801
LED package to fibre coupling 4-28855
Lennard-Jones, atomic liq., dynamic and static props., mol. dynamics simulation 4-50165
Lennard-Jones, fluid, freezing transition 4-29575
Lennard-Jones amorphous solid, dislocationlike motion, computer simulation 4-2080
Lennard-Jones fluid, homonuclear diatomics struct. near wall, mol. dynamics simulation 4-34388

digital simulation continued

Lennard-Jones fluids with spherical boundary conditions, finiteness effects in computer simulations 4-6234
Lennard-Jones system, two dimens., ordered and stochastic behaviour 4-10943
liquid Lennard-Jones mixtures, molecular dynamics studies 4-24705
liquid-liquid dispersions, mass transfer, Monte-Carlo simulation 4-29153
liquids, anisotropy in computer-simulated fluids 4-34383
magnetic resonance spectra simulation, computer programs 4-46085
material expansion during laser-induced vaporisation, multidimens. numerical simulation 4-50482
metal, electron irradi., cascade function at PKA energies near threshold (*Russian*) 4-50356
metal, irradiated by high-energy bombarding particles, subcascade defect cluster effect on hardening 4-2235
metals, FCC, interstitial-twin boundary interaction, computer simulation 4-6396
metals, low temperature plastic deform., bifurcation theory 4-25993
methane structure I clathrate hydrate mol. dynamics computer simulation 4-29297
methanol, mol. dynamics, far IR spectrosc., interferometric and computer simulation investig. 4-20968
methyl cyanide, dielectric permittivity computer simulation study 4-51178
methyl cyanide, permanent and induced dipole interference, dielectric props., computer simulation 4-51179
3-methylcyclohexanone, rot.-translational coupling, computer simulation 4-9752
MICRODARE/LABNET software for instrumentation, control, and simulation 4-27493
molecular dynamics digital simulation at const. press. and temp. 4-24700
molecular liquids, field-induced phenomena, computer simulation 4-2045
monocrystal convertors, use in radiation damage simulation with gamma radiation beams (*Russian*) 4-24866
muscle model, human, digital computer simulation by iterative process 4-12608
musical instruments, nonlinear oscillations, computer simulation 4-14851
NDT of multilayered structures, computer based acoustic model 4-35842
nearly spherical amorphous bodies, capillarity-induced spheroidization by viscous flow 4-57263
neocognition, neural network model of mechanism of visual pattern recognition 4-46998
neural circuit models, role in voluntary movement 4-41482
neuromuscular synapse simulation 4-46973
NMR, solid-state, half-analytical gradients and Monte Carlo simulation 4-56795
noise level protection of open entry rooms 4-1543
nondiffusive system simulation, entropy estimation 4-50163
nonlinear, nonconservative system, vib. study 4-4213
nuclear reactor control rod movement simulation, 3-D computer code 4-54347
one-dimensional antiferromagnetic Heisenberg chain, spin dynamics simulation 4-51082
oxides, nonstoichiometric, long-range ordering of extended defects, computer simulation 4-24833
p-n junctions, EBIC linecans, computer simulation 4-35060
PARA computer simulation code for plasma driven electromagnetic launchers 4-2002
particles behaviour in turbulent flow, numerical simulation (*French*) 4-14954
passive solar collector-storage walls efficiency and heat removal factor 4-57770
point cathode, explosive electron emission 4-16289
polar systems, dipole moment fluctuations in computer simulations 4-10942
polyethylene crystal, mol. motion and phase transition, Monte Carlo simulation 4-55937
polymer solutions, Brownian dynamics simulation in steady shear flow 4-19860
powder compaction, predictor method for finite element analysis of sliding friction 4-25907
Puerto Rico wind energy resource assessment project 4-57642
pulmonary gas mixing during spontaneous breathing and at high-frequency ventilation 4-47019
pupil size effect, systems model 4-7976
quantized Hall effect and localization, review 4-50847
quark behaviour and props. computer simulation on 4-dimens. space-time lattice 4-32638
racemic mixtures, rot.-translation correl., computer simulation 4-28394
rare earth-transition metal alloys, R(Co_{1-x}M_x)₅, giant intrinsic mag. hardness 4-16068
reaction kinetics on fractals, random walker simulations and exciton expts. 4-53626
rotational motion of mol. impurity coupled to phonons, computer simulation 4-2278
SEM, secondary electron collector, high efficiency, design 4-37263
semiconductors, doped, Anderson localised regime, theory of interacting donor electrons 4-50767
simple fluids, self-diffusion and shear viscosity, mol. dynamics calcs. 4-29298
simple liquids, velocity correlations and cooperative effects 4-2049
SIMSEM, simulated SEM for students 4-42670
single-kink dynamics in one-dimensional atomic chain 4-22730
soft sphere system struct. under shear, computer simulations and colloidal suspensions comparison 4-10936
solar domestic hot water system performance computing 4-41375
solar heating system design computer simulation models 4-26319
solar power station CESA-1 4-57690
solid-fluid reactions, numerical simulation in isothermal porous spheres 4-19896
solute particles in colloidal suspensions, generalised van der Waals model for solvation forces 4-12390
sound insulation test, choice of freq. weightings and reverberation time correction 4-3511
spinodal decomposition, Ginzburg-Landau model, time-depend., computer simulation 4-3119
stepped surface, struct. and energy, computer simulation study 4-45474
strain amplitude depend. dislocation damping due to point defects 4-50342
strain amplitude dependent dislocation damping with uniform point defect dragging 4-45264

digital simulation continued

- submicron focused ion beam system optics, computer simulations 4-33612
- subnanosecond waveform analysis in the presence of fading by means of a random sampling technique [biomolecule application] 4-53666
- synchrotron, bunches coalescence to change accel. harmonic number 4-54489
- tetracene, in soln., rot. diffusion anisotropy, solvation structural depend. 4-10945
- tetrahedral compounds, polytypes and stacking faults, electron microscope imaging 4-11156
- time delay estimation using coherence, adaptive approach 4-44302
- time-coded emission tomography, 3-dimens. resolution investig. 4-47060
- TRNSYS/GROCS simulation of the TECH House I ground-coupled series solar-assisted heat pump system 4-46884
- two-dimensional lattice, cluster growth processes, computer simulation studies 4-25036
- US transducer, design, analysis and evaluation by computer model 4-14865
- variable excluded volume effect on lattice chain dynamics 4-32174
- viable stand-alone photovoltaic systems applied to the Greek environment 4-57728
- viscous compressible gas, three-dimensional flow calcs. 4-44519
- viscous liquids, numerical simulation of flow (French) 4-14939
- vortex breakdown, simulation by vortex-filament method 4-1763
- water, computer simulation methods for phys. props., review 4-50156
- water, liq., H bond struct., press. effects 4-44918
- water-rigid ion crystal surface interface, computer simulation 4-25121
- water-wall interaction, mol. dynamics simulation 4-44910
- weak turbulence close to convection threshold in large aspect ratio systems 4-10671
- workshop I: passive solar systems design for heating of dwellings 4-12460
- AgAuTe₄, cryst. struct. and antipase boundaries 4-29389
- Au-Ag, interstitial impurity caging near collision cascade 4-56092
- CS₂, intermol. force models and cryst. struct. 4-29391
- Cu-Co-Si, textured wire, yield function for simultaneous torsion and extension 4-40901
- α -Fe:He, interstitial impurity caging near collision cascade 4-56092
- Fe-Ni-C (31.9, 0.2 wt.%), martensite transform. spread, computer assisted analysis 4-30699
- Fe₉₃B₇, amorphous, computer-simulated struct. model 4-44988
- GaAs n⁺-n-n⁺ ballistic diode, high-freq. negative conductance, computer simulation 4-40028
- H₂, solid HCP phase, orientational ordering, computer studies 4-6621
- H₂/diesel/H₂ fuel cell powered, techno-economic comparison 4-36038
- K₂O-SiO₂ glass, atomic behaviour at fracture surface, molecular dynamics simulation 4-56133
- LiCl-KCl eutectic melt, struct. and dynamical props., numerical simulation 4-45369
- MgO (001), vacancy form. energy, computer simulation calc. 4-50280
- MgO, pipe diffusion coeffs., computer simulation study 4-15692
- MgO stepped surface, struct. and energy, computer simulation study 4-45474
- ND₄Cl phase transition, molecular dynamics, ND₄⁺ rotations and libration frequency determ. 4-45317
- Na₂O-CaO-SiO₂-AsO₃-CeO₂ glass, solarisation mechanism and glass struct., EPR study 4-57583
- PbF₂, quasi-harmonic pot. and defect props., computer simulation studies 4-45049
- β -PbF₂:Na(La), superionic cond. and point defect parameters 4-45390
- PdH_x, strain-induced elastic interaction energies between H atoms 4-6363
- Pt-Cu alloys, ethene chemisorption and surface segregation, AES studies 4-29803
- Si (111)-(2×1) surface, struct. study 4-6631
- a-Si, continuous random network model, force field treatment 4-55732
- Si, high dose reactive O⁺ implants computer simulation 4-39322
- Si, ion-implant conditions in device processing, transport in amorphous targets, Monte Carlo simulation 4-29453
- Si, ion-surface backscattering of 1 MeV He ions, computer simulation 4-16285
- a-Si:H solar cells, numerical computer simulation 4-52158
- a-Si-based p-n solar cells, computer modelling 4-7872
- Si-SiO₂ MIS, computer model of radiation effects 4-45886
- SnO₂:Sb, twin images, electron microscope study 4-20211
- UO₂-PuO₂ mixed oxide reactor fuel, thermodynamic props., computer simulation 4-6527
- W (100), H chemisorbed layer, incommensurate struct., LEED simulation 4-45528
- W surface, (100) and (110), scatt. of fast protons incident at grazing angles 4-51443
- W surface, fast proton beam glancing scatt., computer simulation 4-57057
- XeCl electron-beam-excited lasers, theoretical simulation 4-23960
- XeCl laser, e-beam excited, simulation 4-55016

digital storage

- see also cellular arrays; cryotrons; magnetic storage; optical storage; random-access storage; read-only storage; semiconductor storage
- NMR, improved data storage 4-48168

digital systems

- see also computer networks; multiprocessing systems; real-time systems; time-sharing systems
- digital data acquisition and signal processing system for an atmospheric boundary layer wind tunnel 4-22034

digital voltmeters

- fibre optic voltage meters, sensor design using LiNbO₃ crystal (Japanese) 4-27539

digitisers see analogue-digital conversion**dilatometers see extensometers****dilute alloys**

- see also impurity electron states; Kondo effect; magnetic properties of dilute systems
- alkali metal alloys, molten, thermal diffusion and thermoelec. powers 4-34678
- Auger line shape 4-57047
- binary, hydride precipitation, two-level model 4-25029
- binary alloys, solidification, nonlinear stability anal. of model eqn. 4-57205
- differential reflectograms, line shape anal. 4-46285

dilute alloys continued

- magnetic dilute alloys, longitudinal static dielectric const. (Russian) 4-25673
- Matthiessen's rule, deviation at high temps. (Japanese) 4-39889
- melting, surface effects, thermodynamic calc. 4-24973
- nearly-free-electron type, screening charge transfer and pseudatom size 4-34845
- rare earth alloys, (La,R)Sn₂, R=Ce-Nd, Sm, Gd-Er, spin disorder resist., anomalous behaviour 4-56331
- rare earth dilute alloys, M-R (M=Ag, In, Sn, Sb, R=rare earth), liquid, electrical resistivities meas. 4-45722
- rare earth dilute alloys, RNi₂Cd, ¹¹¹Cd transferred hyperfine field, TDPAC studies 4-56839
- rare earth-transition metal alloys, R(Co_{1-x}M₃)₃, giant intrinsic mag. hardness 4-16068
- transition metal dilute metallic glass alloy, impurity atom binding energy (Russian) 4-34411
- Ag-Au, molten, thermal diffusion and thermoelec. power 4-34678
- Ag-Mn, dil., nucl. spin lattice relax. of impurity nucl. 4-40264
- AgIn dilute alloys, internal oxidation, kinetic studies and oxide charact., TDPAC studies 4-20891
- AgPt dilute alloys, spin-orbit and cryst. field effects 4-29934
- Al dilute alloy, electronic struct. calcs. 4-2505
- Al dilute alloys, elec. field gradients, ¹¹¹In PAC study 4-34929
- Al, residual resistivity, charge transfer and band effects 4-2586
- Al, thermopower at elevated temps. 4-45751
- Al-Ag, dil., positron annihilation Doppler-broadened lineshapes, thermal equilb. meas 4-57027
- Al-Cu, low temp. internal friction peak mechanisms 4-50425
- Al-Cu(Ni)(Co) dil. alloys, extension of muffin-tin Green's function theory to defects 4-45674
- Al-Ge, dil., positron annihilation Doppler-broadened lineshapes, thermal equilb. meas 4-57027
- Al-Mg dilute alloys, vacancy clustering process 4-39287
- Al-Mn(Cr), precipitation rel. to recryst. behaviour, internal friction and dynamic elastic moduli meas. 4-40794
- Al-Si, dil., positron annihilation Doppler-broadened lineshapes, thermal equilb. meas 4-57027
- Al-Si(0.5 wt.%), with brittle inclusions, fracture characts. (Russian) 4-51783
- Al-Zn, dil., solute diffusion and interaction with vacancies 4-34715
- Au-In, dil., damage rate expts., PAC study 4-34525
- Au-Mn, dil., nucl. spin lattice relax. of impurity nucl. 4-40264
- AuNi dilute alloys, elec. resist., free electron scatt. by localised pot. 4-29957
- Be-As dilute alloys, ion implanted, ^{209,210}At nuclear orientation 4-34928
- Be-In dilute alloys, electric field gradient for ¹¹¹In and temp. depend., TDPAC meas. 4-35258
- Cd-Ag dilute alloys, hyperfine interactions and recoilfree fractions of ¹⁰⁷Au, Mossbauer study 4-35255
- Cd-Au dilute alloys, quadrupole moments and low temp. thermal relax. 4-35256
- ¹¹¹CdIn dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
- ¹¹¹CdSn dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
- CeCu₂Si₂, magnetism and supercond. 4-56543
- Co-based Heusler alloys, Sn impurity hyperfine fields, Mossbauer effect 4-56826
- Cr-Mn dilute alloy, elec. resist. and mag. phase transitions 4-51055
- Cu, 3d impurities, self-consistency iterations in electronic-structure calculations 4-20538
- Cu alloys, dil., γ -irrad. and deformed, dislocations, annealing, US absorpt. meas. 4-50303
- Cu alloys, dilute, Dingle temp., Fermi surface area, de Haas-van Alphen effect 4-2504
- Cu, residual resistivity, charge transfer and band effects 4-2586
- Cu-Ag, dil., electron-electron scatt. resist., strain depend. 4-20623
- Cu-Ag, dil., strained, high precision resist. meas. below 1 K 4-20627
- Cu-based dilute alloys, lattice sp. ht. at low temp., Green's function theory 4-6519
- Cu-Ga(1.5 at.%), differential reflectograms, line shape anal. 4-46285
- Cu-In, dil., vacancy clustering detection, PAC and lattice location meas. 4-34522
- Cu-In dilute, lattice defect probing by radioactive atoms 4-45155
- Cu-Mn, dil., nucl. spin lattice relax. of impurity nucl. 4-40264
- Cu-Ni, dilute, electron impurity scatt. rates, surface state reson. study 4-6771
- Fe-Au, dil., local moment induced elec. quadrupole splitting of dil. ¹⁹⁸Au, NMR-ON study 4-46127
- Fe-Mo, dil., nucl. spin-lattice relax., mag. field depend., NMR obs. 4-46141
- Fe-Ni, elec. resist., Hall effect, magnetoresist. meas., martensitic transform. 4-56316
- Fe-Ni dilute alloy, electron irrad., annealing behaviour, mag. aftereffect study 4-46073
- Fe-Ni-Mn, dilute, diatomic impurity cluster effects (Russian) 4-51045
- Fe-Sb, dil., mag. and static lattice perturbation, diffuse neutron scatt. study 4-20794
- Fe-Tc, dil., nucl. spin-lattice relax., mag. field depend., NMR obs. 4-46141
- ⁵⁷Fe-implanted rare earth elements, isomer shifts of conversion electron Mossbauer spectra 4-30366
- Gd-Dy, dil., ¹⁶¹Dy nucl. spin relax. near Curie temp., Mossbauer effect obs. 4-40288
- Hf-As-Ta system, ¹⁸¹Ta electric quadrupole interaction, TDPAC study 4-46149
- Hg-Li, dil., liq., thermoelec. power minimum, elec. resist. meas. 4-34952
- In-Mn(Cr), dil., thermodynamics, effect of localised states in energy gap 4-25478
- Li-Pb liquid dilute alloy, elec. resist. and chem. short range order 4-50785
- Li-Sn liquid dilute alloy, elec. resist. and chem. short range order 4-50785
- Na-Bi dilute molten alloys, Na activity and struct. implications, EMF meas. 4-29304
- Na-Sn dilute molten alloys, Na activity and struct. implications, EMF meas. 4-29304
- Ni, irrad., void growth under vacancy supersaturation conditions, segregation zone form., vacancy diffusion coeff. 4-55861

dilute alloys continued

- Ni-Au dilute alloys, interface with Si, ion-induced or thermal reactions, Rutherford backscatt. and glancing angle X-ray diffr. 4-6411
 Ni-Ge, dil., solute diffusion and interaction with vacancies 4-34715
 Ni-H, dil., elec. resist. and solubility meas. 4-6764
 Pb-Mn, dil., thermodynamics, effect of localised states in energy gap 4-25478
 Sb-Ag dilute alloys, electric field gradient sign meas. at ^{111}Cd by β - γ TDPAC technique 4-35257
 ^{125}Sb Sn dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
 UBe $_{13}$, heavy fermion supercond., effect of impurities on supercond. and normal state props. 4-56475
 V-Zr, dil., solute and solvent diffusion 4-45386
 W-Sb-He system Sb and He ion implanted, vacancy trapping and He decoration 4-46150
 Y-Ce(Sn)(Dy)(Tb) dil. alloys, transport props., temp. depend. 4-29959
 YGd, dilute alloys, spin density wave transition, sp. ht. study 4-56584
 Zn-Au dilute alloy, hyperfine interactions and recoilfree fractions of ^{97}Au , Mossbauer study 4-35255
 Zn-Mn dilute supercond. film, quenched and annealed, localised excited states 4-50749
 Zr-Ag dilute alloys, electric field gradient sign meas. at ^{111}Cd by β - γ TDPAC technique 4-35257

dimensions

No entries

dimer lasers *see excimer lasers*

dimerisation *see association*

dimers *see molecules*

dineutrons *see neutrons*

Dingle temperature

- metals; thermodynamic and kinetic characts., diimag. oscills. at low temps. (Russian) 4-45997
 Cu alloys, dilute, Dingle temp., Fermi surface area, de Haas-van Alphen effect 4-2504
 Cu, dislocation scatt., de Haas-van Alphen meas. 4-6769
 InSb, Shubnikov-de Haas meas. 4-15889

diode lasers *see semiconductor junction lasers*

diode sputtering

- optical coatings for laser systems, RF diode sputtering process advantages 4-33815
 Co-Pt sputtered thin films for high density recording 4-25602
 PLZT films, RF diode sputtering prep., dielec. and optical props. 4-30394
 TiB $_3$, thin film, RF diode sputtering and props. 4-3072
 ZrB $_2$ thin film, RF diode sputtering and props. 4-3072

diode tubes *see diodes*

diodes

- see also plasma diodes; rectifier tubes; semiconductor diodes*
 electron beam kinetic energy extraction and division, inverse and series diode expts. 4-33610
 one-dimensional space-charge-limited diode for X-ray production electron backscatter and impedance 4-18023

dipole antennas

- safety, power absorbed distribution inside sphere simulating human head in near field (Japanese) 4-21732
 satellite, two component warm plasma performance comparison 4-44858

dipole moment, electric *see electric moments*

dipole moments, magnetic *see magnetic moments*

Dirac electron theory *see Dirac equation; electron theory*

Dirac equation

- see also electron theory*
 4-18257
 Atiyah-Singer index theorem for Dirac eqn. 4-22918
 atoms, heavy, hyperfine interactions calc. using Dirac wave functions 4-33300
 bag model, deformed chiral, nucleon and isobar deformations 4-13889
 baryon mag. moments in Dirac eqn. based independ. quark model 4-18257
 basis set expansion of the Dirac operator without variational collapse 4-32416
 basis-set expansion without var. collapse, fourth-back free-particles
 Foldy-Wouthuysen transformation 4-9654
 Breit equation tensor form for two Dirac particles 4-48275
 charged Dirac particle in strong mag. field, ground-state energy, radiative corrections 4-43303
 Clifford analysis of exterior forms and Fermi-Bose symmetry 4-13757
 covariant Dirac spinor theory from Clifford and Lie bundles 4-4530
 CPT, manifestly covariant presentation, Dirac eqn., screwing fermions 4-32497
 Dirac-Kahler lattice regularisation of fermionic degrees of freedom 4-43220
 eikonal scattering amplitudes expansion from Dirac potential scatt., (p,p) calc. 4-54103
 Einstein-Dirac eqn., exact soln. for neutrino in curved space-time 4-32121
 elastic scatt. Dirac-eikonal amplitude 4-4824
 exotic atoms, relativistic two-particle effects calcs. 4-23844
 fermion interaction with monopole, low-energy props. 4-405
 fermion zero modes in the presence of non-Abelian vortices 4-4525
 ferromagnet, relativistic multiple scatt. theory of electrons 4-15352
 ferromagnet-electron elastic scatt. and emission, electronic struct., relativistic multiple scatt. theory 4-11425
 Feynman path integral for Dirac eqn. 4-53839
 generalised even power potential soln., eigenenergies and Regge trajectories, heavy quark composite spectroscopy 4-4531
 heavy atoms+relativistic ions, K-shell excitation and ionisation, semiclassical approx. 4-19139
 hydrogenic atom, Dirac eqn., algebraic approx. 4-33285
 Klein-Gordon and Dirac eqns., limiting procedure in quantum field theory (Russian) 4-32417
 linear scalar confining potential in uniform electric field, exact solns. 4-48289
 magnetic monopoles, fractionally charged, in SU(5) GUT and SU(2), gauge confinement 4-13787
 many-electron bound states, relativistic theory foundations 4-32556
 massless Dirac field in four dims., Bose representation 4-338
 massless Fermi fields from Bose operator in 2+1 dims. 4-4558

Dirac equation continued

- massless monopole in Dirac eqn., general nonlinear eqn. for spin 1/2 monopole 4-48278
 meson mass spectra, Dirac eqn. with power-law potential 4-13803
 Minkowski lattice, consistent fermion formulation with operator Dirac eqn. approx. 4-9019
 molecular Dirac eigenfunctions symmetrisation 4-38031
 nonlinear, invariant solns., group theory approach 4-13805
 nucleon-nucleus impulse approx. optical model pot. for Dirac eqn. 4-4823
 one-dimensional relativistic band models 4-55
 QED in strong mag. field, electron states 4-22965
 quantum physical state space in continua (German) 4-53502
 quantum stochastic, reln. between relativistic and nonrelativistic path integrals 4-32079
 quark bound state model of hadrons 4-18195
 quark confinement and Dirac eqn. 4-8688
 quasibound states of Dirac fermion in Schwarzschild metric (Chinese) 4-136
 quaternionic formulation of Dirac theory in special and general relativity 4-53849
 relativistic electronic states in finite disordered systems 4-39739
 rigid electron model interpreted by general relativity theory (French) 4-42768
 semiclassical approximation of the time-dependent Dirac equation with first order perturbation theory and finite difference method 4-19139
 separability, Killing-Yano tensor effect 4-48295
 space-time geometry, Dirac eqn., relativistic quantum mech. 4-36966
 spheroidal harmonics, mass dependent spin $1/2$ 4-22925
 spin dynamics in quantum theory with definite parity of operators 4-53542
 spin- $1/2$ particle formalism in curved space-time, spinorial soln. 4-43192
 spinning test particle in gravitational field, motion from balance eqns. 4-138
 SU(5) theory, fermion scatt. on colourless mag. monopole 4-22964
 supersymmetry of Pauli eqn. in presence of mag. monopoles 4-53897
 third quantisation and bilocal lattice fields 4-53850
 torsion generated field in four-dimensional Weitzenböck space 4-9030
 vacuum quantum effects in gravit. fields, renormalisations 4-32151
 valence s electron, isotope shift and hyperfine struct. 4-23625
 (p,p) elastic scatt., intermediate energy, Dirac eqn. and nuclear struct. 4-9206
 ^{40}Ca (p,p), impulse approx. optical model potentials for Dirac eqn. 4-4848
 H-like atoms, Coulomb excitation by molecular cluster of point charges 4-19191
 ^{208}Pb (p,p), impulse approx. optical model potentials for Dirac eqn. 4-4848

direct access storage devices *see magnetic disc and drum storage*

direct current motors *see d.c. motors*

direct digital control

see also control systems

- fuel alcohol production from sugar beet at pilot plant 4-35975

direct energy conversion

see also bioenergy conversion; cells (electric); chemical energy conversion; magnetohydrodynamic conversion; photothermal conversion; plasma diodes; solar energy conversion; thermionic conversion; thermoelectric conversion

- energy transformation by means of isothermic dissipative structures (German) 4-57707
 heat and electricity prod. (Dutch) 4-32212
 HV underwater discharge, mech. vibrations of metallic barrier, energy conversion efficiency (Russian) 4-20048
 inverted vertical spout evaporators for open cycle ocean thermal energy conversion 4-41360
 magnetised ferrimagnets shock loading, mag. effects 4-40210
 magnetised ferromagnets, shock loading, mag. effects 4-40210
 R&D at ETL (Japanese) 4-3446
 Dy, thermomag. energy conversion appls., rel. to struct. and mag. props. 4-45743

direct nuclear reactions and scattering

see also pick-up reactions; stripping reactions

- A=12-40, semidirect processes in the giant dipole resonance 4-13975
 deuteron stripping, three-body model 4-43449
 Dirac phenomenology, two-component reduction, implications for direct reactions 4-9185
 heavy ion collisions, light particle emitting reaction, direct description 4-608
 heavy ion reactions, collision dynamics of barrier, direct-compound-like reaction link 4-18409
 incomplete fusion reactions, interface between direct and compound reactions 4-54159
 knock-out reactions with three charged particles in final state 4-54095
 neutron-pumped gas laser driver for inertial confinement fusion reactor 4-34309
 pre-equilibrium decay energy spectra, symmetrical and asymmetrical components 4-616
 proton-nucleus and nucleus-nucleus collisions, particle correl. expt. studies 4-23112
 statistical model, neutron nuclear reaction theory 4-37531
 two-nucleon transfer mechanisms, relative importance of sequential and direct transfer 4-43448
 (d,pn) angular correlations, DWBA and adiabatic calc. comparison 4-607
 (n,n'), fast n, direct and stat. mechs. for scatt. from low-lying levels 4-4866
 (v,X), Z 4-613
 (p,X), on A=84-238, inclusive fragmentation, charge yield curves 4-48555
 (p,x), Z 4-613
 (p,X) on Ti, Fe, Co, Ni, Cu, Zn, 12 GeV, spallation reactions, charge distributions, target depend. 4-4858
 ^{27}Al (^{16}O ,p), proton emission mechanism model 4-32926
 ^{27}Al (α ,d), 27.2 MeV, diff. cross sections, direct, microscopic and cluster descripts. 4-668
 ^{197}Au (^{16}O ,p), proton emission mechanism model 4-32926
 ^{197}Au (α ,px), 43 MeV/nucleon, inclusive proton spectra and proton-proton correl. 4-9216
 ^{197}Au (n,n'), ang. distrib. model in pre-equilib. reactions 4-37606
 ^{10}B (p, γ), 0.07-2.2 MeV, ^{11}C level structure 4-4797
 ^{10}B (p,x), x=t, ^3He , 52 MeV, ang. distrib., zero-range DWBA calc. 4-9201

direct nuclear reactions and scattering continued

- ⁷Be($\gamma,\alpha n$), direct 3-body breakup cross-section for 1576 keV γ -rays 4-18412
- ²⁰Bi(¹²C, α), double- α direct transfer process, EFR-DWBA calcs., preformation probability 4-37526
- (C,X), on A=84-238, inclusive fragmentation, charge yield curves 4-48555
- ^AC(α,p), A=12, 13, 35 MeV, ¹⁵N high spin states study, semimicroscopic DWBA anal., optical potential effects 4-4728
- ¹²C(¹¹B,x), 54 MeV, fast light-particles prod. cross section 4-4889
- ¹²C(α,γ), E1 and E2 cross sections calc., astrophysical S-factor determ. 4-18438
- ¹²C(d,¹Li), anomaly mechanism, ghost state in direct and compound nucleus reactions 4-23119
- ¹²C(d,p), 8.9 GeV/c, stripping cross section meas. 4-666
- ¹²C(p,⁶Li)⁷Be, 37, 40 MeV, fragmentation cross section meas. 4-32896
- ¹²C(p,p α), 100 MeV, quasi-elastic knockout, cross section. α -particle model, eikonal distorted impulse approx. (Chinese) 4-612
- ¹²C(p,p α)⁸Be, fast α production at large momentum transfer 4-4865
- ¹²C(t, γ)¹⁵N, 2.3-6.5 MeV, polarised triton capture cross section meas. 4-18439
- ¹³C(¹⁰B,x), 54 MeV, fast light-particles prod. cross section 4-4889
- ⁴⁰Ca(¹⁶O,X), 9-13 GeV/N, target fragmentation modes, π^\pm , K⁰, Λ , $\bar{\Lambda}$ and \bar{p} prod. 4-43525
- ⁴⁰Ca(⁶Li,X), 156 MeV, breakup, coupled channel anal., dynamical polarisation potential determ. 4-27860
- ⁴⁰Ca(⁶Li,X), 156 MeV, inclusive charged particle spectra, spectator breakup component studies 4-27897
- ⁴⁰Ca(HI,X), proton pickup, DWBA anal., spectroscopic factor inconsistency 4-43506
- ¹⁹F(n, γ)²⁰F, thermal, γ -ray multiplicity, ²⁰F nucl. spectroscopic study 4-4802
- ¹⁵⁴Gd(e,e')¹⁵⁴Gd, lowest 2⁺ levels, test of IBA 4-13981
- ³H(p,pn), time-depend. mean field anal. 4-43442
- ³He(α,γ)⁷Be, direct capture model, solar neutrino problem 4-32908
- ³He(e,e), electrodisintegration, double differential cross section meas. 4-32866
- ⁴He(π^+ ,3pn), 156 MeV, total and diff. cross sections, knock-out process 4-32932
- ⁴He(π^+ , π^+ 2p), 156 MeV, total and diff. cross sections, knock-out process 4-32932
- ⁴He(π^+ , π^+ p), 156 MeV, total and diff. cross sections, knock-out process 4-32932
- Kr(p,X), 80-350 GeV, fragment prod., thermal liquid drop model, critical phenomena 4-43450
- ⁷Li(d, α n), three and four body nuclear reactions in special kinematical conditions 4-13998
- ²⁴Mg(p,p)²⁴Mg, energy dependence on cross-sections 4-18421
- Mn(α , κ), 12-172 MeV, integral excitation functions, meas. and hybrid model anal. 4-37650
- Mo(n,n'), 5-8 MeV, diff. cross sections, reaction mech., stat., CC and DWBA anal. 4-13994
- (¹⁶N,X) in emulsion, 2.1 GeV/N, projectile He fragments, factorisation and limiting fragmentation test 4-32911
- ⁹³Nb(n,n') ang. distrib. model in preequilib. reactions 4-37606
- ⁹³Nb(n,n), elastic and inelastic, 5-8 MeV; cross section meas., mechanism, DWBA and CC anal. 4-18434
- ^ANe(p, γ), A=21, 22, 0.3-1.6 MeV, direct capture process, nucl. and astrophysical aspects 4-9202
- ⁵⁸Ni(α ,px), 43 MeV/nucleon, inclusive proton spectra and proton-proton correl. 4-9216
- ⁵⁸Ni(d,pX), 56 MeV, cross sections and anal. power meas., projectile breakup calcs. 4-4869
- ¹⁶O(α , α), enhanced clustering in cluster knockout reactions, comments 4-54109
- ¹⁶O(p,p α), enhanced clustering in cluster knockout reactions, comments 4-54109
- ³¹P(n,n') ang. distrib. model in preequilib. reactions 4-37606
- ^APb(γ ,n α) A=207,108 direct-semidirect ang. distributions 4-9197
- ²⁰⁶Pb(¹⁶O,X), 9-13 GeV/N, target fragmentation modes, π^\pm , K⁰, Λ , $\bar{\Lambda}$ and \bar{p} prod. 4-43525
- ²⁰⁸Pb(¹²C,X), 101 MeV, ¹³C and ¹¹B production, reaction asymm. and spin-orbit interaction 4-27781
- ²⁰⁸Pb(³He, α), energy depend. of neutron pickup cross sect. 4-18410
- ²⁰⁸Pb(⁶Li,X), 156 MeV, inclusive charged particle spectra, spectator breakup component studies 4-27897
- ²⁰⁸Pb(α ,⁴He), energy depend. of neutron pickup cross sect. 4-18410
- ²⁰⁸Pb(p,X) α and t production, energy depend. of neutron pickup cross sect. 4-18410
- ²⁰⁸Pb(p,t)²⁰⁶Pb, sequential transfer in unnatural-parity transitions 4-32884
- ^AS(d,p) A=34,36, level struct. using DWBA calcs. 4-43492
- ³⁴S(³²S,X), 90, 97 MeV, proton and neutron transfer, DWBA anal. 4-4881
- ^ASe, A=78, 80, inelastic scatt. correlation effects, direct process contrib. (Russian) 4-23116
- ^ASe(n,n'), A=78,80,82, 1 MeV, ang. anisotropy and role of direct reaction mechanism 4-27878
- ²⁸Si(⁶Li,X), 99 MeV, breakup, coupled channel anal., dynamical polarisation potential determ. 4-27860
- ³⁰Si(d,p), 10, 17 MeV, ang. distrib., reaction mech., ³¹Si levels and λ -assignment 4-4868
- ¹⁴Sm(p,p') scattering through isobaric analog resonances and the structure of ¹⁴Sm 4-32889
- ¹⁴⁷Sm(³He, α)¹⁴⁸Sm, 26 MeV, transition probabilities in continuum, γ -ray energy depend. 4-4804
- ²³²Th(n,n'), (n,n), 144 keV, scatt. cross section meas. 4-48571
- ²³²U(n,f), thermal, charge distrib., fine struct., odd-even effects as dynamical fragmentation 4-54190
- V(α , κ), 12-172 MeV, integral excitation functions, meas. and hybrid model anal. 4-37650
- Xe(p,X), 80-350 GeV, fragment prod., thermal liquid drop model, critical phenomena 4-43450
- ⁹⁰Zr(¹⁶O,p), proton emission mechanism model 4-32926
- ⁹⁰Zr(d,pX) 4-4869

direction finders, radio see radio direction-finding

directional couplers

- and switches fabrication in semiconductors 4-28889
- dielectric waveguide directional couplers interferometers, normal mode loss effects 4-49522

directional couplers continued

- fibre interferometer, passively stabilised, using (3X3) fibre directional couplers 4-38597
- integrated optics for velocity matched gates, subpicosecond light pulse switching 4-55229
- Mach-Zehnder interferometer, integrated optical modulator, tuning with Ta₂O₅ film loading 4-24240
- Michelson interferometer sensor, all single-mode fibre directional coupler 4-24212
- optical directional coupler cross-talk problems 4-38573
- optical directional coupler using polarisation maintaining monomode fibres 4-38618
- optical fibre directional couplers, monomode polarisation maintaining, fabrication 4-28873
- Sagnac and Mach Zehnder fibre interferometers, effects of directional coupler asymm. losses 4-44215
- semiconductor junction arrays, gain-guided integrated, coupling mechanism 4-49352
- single-mode waveguides and directional couplers with rectangular cross-section, scalar variational anal. 4-24174
- thermooptically controllable multimode directional coupler 4-1480
- GaAs based semiconductor materials, fabrication of modulators and switches 4-24253
- GaAs waveguide modulators and directional couplers with low losses for high speed operation at 1.3 μ m 4-33761
- GaAs-Al_{0.3}Ga_{0.7}As DH rib waveguide electro-optic directional coupler switch 4-24254
- LiNbO₃ high speed $\Delta\beta$ -reversal directional coupler modulator with low insertion loss for 1.3 μ m 4-33767
- LiNbO₃:Ti channel waveguides, directional coupling meas. and calcs. 4-49512
- LiNbO₃:Ti directional couplers, photorefr. effect obs. at GaAs wavelengths 4-33803
- LiNbO₃:Ti high-speed travelling-wave directional coupler switch/modulator for 1.32 μ m 4-24168
- LiNbO₃:Ti integrated optics, computer anal. and design, comparison with expt. 4-38638
- LiNbO₃:Ti low-loss polarisation-indepnd. electrooptical switches at 1.3 μ m 4-55225
- LiNbO₃:Ti stepped beta directional coupler having a high extinction ratio 4-33762
- LiNbO₃:Ti travelling-wave directional coupler, design for 14 Gbit/s optical signal encoding at 1.32 μ m 4-38637
- directional patterns see antenna radiation patterns
- directors (programs) see supervisory and executive programs
- dirty superconductors
- critical temperature with paramagnetic and normal impurities under the square well model 4-56470
- disordered systems, supercond. and localisation, local gauge invariant approach 4-6923
- highly disordered superconductors, theory of upper crit. fields, localisation effects 4-45960
- inelastic scatt. and freq.-depend. cond. 4-56492
- phase segregation regions, elementary pinning force (Russian) 4-56513
- phase-slip processes very near T_c, deviations from local equilibrium 4-2691
- spin-orbit scatt. and spin contamination 4-30108
- two-dimensional, mag. field scaling and vortex fluctuations 4-45962
- Al clean films, magnetoresist. data, localisation and supercond. fluctuations 4-56497
- Fe₂SnMoS₈ supercond. props., press. and impurities effect 4-35114
- Nb point contacts, dirty, phonon spectroscopy, nonlinear I-V curves (Russian) 4-30113
- Zr₃Ni, ideal type II amorphous supercond., flux flow resist. and upper crit. field 4-40124
- Zr₃Rh, ideal type II amorphous supercond., flux flow resist. and upper crit. field 4-40124
- discharge lamps
- see also arc lamps; flash lamps; fluorescent lamps; metal vapour lamps
- checking, by colour temperature determination by colour measuring method (German) 4-42965
- dountable cathode lamp, appl. to atomic absorption and fluorescence spectroscopy 4-12408
- explosive-driven plasma generator, pulsed light source parameter calcs. 4-34323
- gas-discharge source of subnanosec. high-intensity light pulses 4-37192
- glow discharges, positive ion importance in optogalvanic detection 4-24678
- hollow cathode lamp, optogalvanic signal temporal behaviour 4-24677
- hollow-cathode discharge with laser excitation, use for atomic fluoresc. investig. 4-49185
- hollow-cathode lamp, LT-2, pulsed operation 4-49474
- inert gas discharge lamps, emission spectra for Raman spectrometer calibration 4-6215
- plasma diagnostics, spectroscopic methods, review 4-39007
- RF burst injecting pulsed hollow cathode lamps, transient emission characteristics (Japanese) 4-29275
- D₂ open-anode lamps, energy and operational charact. improvements 4-33727
- Na, coherent data processing, use of radiation with low degree of coherence (Russian) 4-10239
- discharge lasers see gas lasers
- discharge tubes see gas discharge tubes
- discharges (electric)
- see also arcs (electric); electric breakdown; exploding wires and foils; flashover; glow discharges; high-frequency discharges; lightning; partial discharges; positive column; sparks; surface discharges; Townsend discharge
- 60 kV plasma focus discharge formation, energy transfer and X-ray emission obs. 4-34334
- air, plane high-current discharge study 4-34347
- air discharge, gaseous products, periodic characteristics (Japanese) 4-34352
- ASDEX, plasma density change during discharge, high density disruptions 4-15332
- ASDEX deuterium discharge, nonthermonuclear neutron production 4-15334
- ASDEX discharges, global energy balance, total radiation losses 4-15333
- avalanche-streamer transition, critical electron density, statistical approach 4-50122

discharges (electric) continued

- ball lightning formation mechanism 4-31623
- beam heated expanded boundary divertor discharges, characteristics 4-55676
- beam plasma discharge, electron beam injection expts. 4-31715
- capillary discharge thermonuclear burner design 4-2021
- capillary discharges, wall vaporisation: radiative and gasdynamic processes 4-29270
- cathode damage by high power electron beam lasers, microscopic study 4-14709
- CLEO, low-q discharges 4-15335
- continuous optical discharge burning near refractory target, theory 4-29284
- control, power necessary for given shock wave profile, analytical calc. (Russian) 4-39019
- convective instability of an electric discharge 4-44874
- current channel formation dynamics in non-self-maintained discharge plasma 4-10824
- DC discharge cell for laser optogalvanic spectroscopy 4-13679
- DC discharge positive column, axial particle density gradient 4-34354
- dielectric active N₂ generator for chemiluminesc. and anal. studies 4-34343
- dielectric liq., prebreakdown phenomena, elec. fields, Kerr effect study 4-46183
- dielectric loss meas. using three-electrode system, anomalous phenomena 4-48153
- diffuse discharge opening switches, electron drift vel. and ionisation and attachment coeffs. 4-34367
- diffuse discharges, electron beam controlled, switching appls. 4-55677
- discharge, transient opto-galvanic effect (Chinese) 4-49923
- Doublet III, beam heated divertor discharges, high temp. and density plasma 4-15061
- Doublet III, high energy neutral flux spectra 4-55556
- Doublet III, neutral beam heated divertor discharges, energy and particle confinement 4-15327
- Doublet III divertor discharges, MHD activity obs. 4-55511
- dye lasers, CW, freq. locking by at. absorpt. lines 4-28683
- effective ionisation rates in transient gas discharges, meas. 4-55480
- electric charge neutralisation discharge appl. to gas lasers (Chinese) 4-55667
- electrical explosion characts., external pulse press. effect (Russian) 4-20050
- electrically exploding wires in spark gaps, elec. and space-time charact. correl. 4-24596
- electroerosion printing, wear 4-41006
- electronisation discharge, electron-ion pair form. 4-2027
- electron beam interactions, oscills., HF external waves, computer simulation 4-34275
- electron column, finite length, electrostatic modes, Vlasov theory 4-34353
- electron cyclotron resonance heating on TOSCA at high β_p and lower q 4-15190
- electron energy distrib. function in flowing afterglow Ar plasma 4-10902
- electron lateral diffusion coeff. and vel. distrib. function under elect. field effect 4-33605
- electron plasma column, positive ion conc. 4-34355
- electron-cyclotron resonance discharge, ion charge-state distrib. 4-50124
- excimer laser with Blumlein type UV preionisation energy coupling relationship, discharge characts. (Chinese) 4-49415
- exiplex production in electric discharge, substitution reaction rate const. meas. (Russian) 4-24630
- externally maintained discharge, instability processes near the cathode 4-34360
- field emission and explosive electron emission processes in vacuum discharges, in review 4-24681
- fractal dimension 4-50116
- FT Tokamak, LH heated discharges, central Fe conc. decrease 4-15330
- FT Tokamak, low-q discharges 4-15329
- gas discharge system, gas temp. for plasma diagnostics 4-1870
- gas mixtures gas discharge with electronegative component bounded by a dielect., change in form study 4-34358
- gas-filled gaps, wave breakdown, rapid stages study 4-44875
- grazing discharge development and return leader formation 4-6221
- HBTXIA reversed field pinch, plasma resistance 4-15338
- high current discharges, H plasma collision processes rate coeffs. 4-39025
- high energy charged particle emission in plasma focus device, diode model 4-15256
- high-voltage discharge, heavy particle reflection from cathode 4-44883
- hollow cathode discharge, at. and mol. optogalvanic double reson. spectroscopy 4-22848
- hollow cathode discharge, plasma heating, optogalvanic effect (French) 4-24673
- hollow cathode discharge tubes, recombination and diffusion 4-50114
- HV underwater discharge, mech. vibrations of metallic barrier, energy conversion efficiency (Russian) 4-20048
- inert gases, hollow cathode discharge, Stark shift and broadening, optogalvanic spectra 4-23654
- laser-guided discharges, melting, hole boring and welding of materials 4-55658
- lasers with UV preionisation, radiating in UV, visible and IR ranges 4-44089
- light-initiated surface discharge form. 4-29280
- linear high current discharge at low press., instabilities obs. (Russian) 4-6214
- liquids and solids, low-mobility insulating, electric discharge and breakdown 4-40340
- low press. Penning discharge, ion momentum distrib. (Russian) 4-50125
- low-inductance high-current grazing discharge switches, control methods 4-2018
- low-press. discharge, current interruption in positive column 4-50123
- magnetic discharge mass spectrometer, using resonance method 4-8984
- magnetised plasma, localised additional discharge, double layer negative pot. dip 4-24574
- magnetron sputtering discharges, current-voltage characts. 4-29272
- mineral oil, electric discharge, gas-filled cavity energy characts. (Russian) 4-6218
- MT-1 tokamak, internal disruption phenomenology 4-15336
- negative differential conductivity in gases 4-38937
- nonequilibrium plasma appl. in organic chem. 4-3390
- nonequilibrium systems, pulsating 4-184

discharges (electric) continued

- nonuniform decaying plasma, travelling intense acoustic wave obs. 4-49980
- PDX, high confinement discharges with neutral beam injection 4-15328
- Penning cell, method for amplifying charged particle currents at centre of cathode 4-29281
- Penning discharge, electrostatic pot. and electron no. density 4-50126
- Penning discharge, modified, electrostatic pot., longitudinal profiles, electron no. density 4-50127
- Penning discharge with thermocathode at various discharge gap lengths (Russian) 4-6222
- Penning discharges, cold-cathode, at low press., formative processes 4-39029
- piezoelectric transducers calibration, for electric discharge acoustic signals 4-32274
- plasma science, conf., San Diego, USA, May, 1983 4-47752
- plasmachemical reactors, electron beam interactions, hydrodynamic approach 4-15172
- PLT discharge, nonlinear wave processes, emission near electron plasma freq. 4-49955
- polyethylene, electric discharge and treeing props. rel. to hydrostatic press. 4-16152
- positive impulse corona in air, behaviour of space charge 4-20055
- positive ion-sheath, boundary effect on self excited ion oscills. 4-49995
- powder/air mixture ignition by discharges of static electricity 4-55674
- pulse discharge in small enclosed liquid volume, electromech. characts. (Russian) 4-6216
- pulsed discharges, electron density time depend. 4-34364
- pulsed electron beams, mag. analyser 4-15292
- pulsed prebreakdown phenomena in centimeter vacuum gaps 4-50120
- quiescent magnetised plasma column production, with low-pressure hollow-cathode discharge 4-34282
- rarefied air, steady discharge elec. breakdown, electrode elastic wave excitation 4-44880
- RF discharge optogalvanic signal studies using CO₂ laser 4-28431
- room ion generators for electrostatic discharge 4-22872
- runaway electrons during discharge current rise in tokamak LT4 4-24533
- self-sustained volume discharge with preionisation, initial-stage dynamics 4-29285
- separation processes in beam-plasma discharges, mag. field effects 4-15068
- shock waves, electric discharge, radiation intensity ratio calc. 4-38849
- silicone liquid, elec. discharges, decomposition products anal., comment and reply 4-24648
- simulated solar cell array, discharge characts. meas. 4-52144
- simulation of tokamak equilibrium with a hybrid system (Russian) 4-55591
- spark discharge, graphite electrodes, spark source mass spectrometry 4-35958
- stable explosive emission from cathodes with a bounded emitting surface 4-29283
- straight thetatron discharge, turbulent plasma, EM wave emission 4-15085
- T-11 tokamak, low-q discharges 4-15331
- tearing low-m magnetic modes, control in Tokamaks 4-6149
- TEXTOR lines, hydrogen recycling const., in-situ meas. 4-15285
- Tokamak discharge form. in Princeton large torus by lower hybrid waves 4-50047
- tornado vortices and elec. discharges 4-52844
- transmission lines, distortion of pulse voltage waveform due to corona discharge 4-34351
- transverse hollow-cathode discharge, electron energy distrib. function 4-10904
- underwater spark discharge, channel internal structure, computer calc. (Russian) 4-20049
- underwater spark discharges, eqn. of state of plasma channel (Russian) 4-6217
- vacuum gap, rise time triggered by exploding wire plasma 4-38985
- vacuum gap, whisker electrode projection, field increase factor, gap length effect 4-34349
- water, electric discharge, gas-filled cavity energy characts. (Russian) 4-6218
- water, electric discharge, numerical investigation 4-44872
- water, leader propagation mechanism 4-34361
- Z pinch discharge, radiation emission and hydrodynamics coupling 4-55612
- ZT-40M reversed field pinch, equilibrium control, discharge behaviour 4-15337
- Ag I-like array 4d¹⁰5s-4d⁹5s² 4-48972
- Ar, energy distrib. of electron escaping from anode perforations in discharge 4-39035
- Ar gas, self-sustained volume discharge with preionisation, initial-stage dynamics 4-29285
- Ar gas continua in a barrier discharge 4-5163
- Ar HF discharges, electron energy distrib. and excitation rates 4-24671
- Ar hollow cathode discharge, plasma rot. and particle temps., Doppler spectroscopic meas. 4-50109
- Ar, liquid, current injection and light emission in divergent elec. field 4-50111
- Ar-H low press. microwave plasma, dissociation of chlorosilane to Si 4-7717
- Ar-Hg, fluorescent lamp discharges, plasma kinetics 4-24639
- Ar-Hg, fluorescent lamp discharges plasma kinetics 4-24640
- ArF discharge pumped laser improved energy output 4-44091
- CO discharge medium, optogalvanic spectra characts. (Chinese) 4-54672
- CO, nonequilib. discharge, vibr. kinetics and dissociation rates 4-50107
- CO, nonequilib. discharge, self-consistent electron energy distrib. function 4-50108
- CO post discharges, coupling of electron and vibr. energy distrib. 4-28539
- CO₂ cascade lasers with electric discharge excitation 4-28661
- CO₂ gas, bulk discharge ignition volt., impurity effects 4-6220
- CO₂ laser discharges, optogalvanic effect, temp. perturbation model 4-33642
- CO₂ laser impedance fluctuations, multi-step ionisation and temp. perturbation models 4-33643
- CO₂ laser with plasma cathode, nonself-sustained discharge 4-28660
- CO₂ lasers, transversely excited, anomalous gain coeff. meas. 4-28658
- CO₂ lasers operating in atm. and ultra-atm. press. regimes with a self-maintaining discharge 4-5566
- CO₂ TEA lasers, photoionisation origin identification 4-28657

discharges (electric) continued

- CO₂ TEA lasers, plasma effect in injection-mode locking 4-38445
 CO₂ transversely excited discharge, accurate press.-broadened linewidth meas. 4-29271
 CdS, lasing in the streamer channel direction 4-24055
 CdS,Se_{1-x} lasing in the streamer channel direction 4-24055
 Cd(6S; to 5P₁) laser at 480 nm pumped by transverse discharge 4-49332
 Cl⁻, optogalvanic photodetachment spectroscopy 4-23668
 Cu vapour laser, role of pulse repetition freq. 4-24057
 Cu vapour laser pumped by fast transverse elec. discharge 4-14715
 DO₂ gas, self-sustained volume discharge with preionisation, initial-stage dynamics 4-29285
 F₂, electronegative gas, electron swarm param. calc. 4-34230
 Fe-Ar hollow cathode discharge, atomic level populations meas. 4-24668
 H₂, low-press. gas discharge, temp. determ. (*German*) 4-10901
 H⁺, prod. and loss in hollow cathode discharge 4-39037
 H₂, collisional processes, efficiencies and rate coeffs. 4-55678
 H₂ discharge, high-current, steady-state props. calcs. 4-55679
 HF chemical laser initiated by discharge creeping on surface of a dielectric 4-14683
 HF laser excited by a capacitively coupled discharge 4-49399
 H₂O, electronegative gas, electron swarm param. calc. 4-34230
 He, atmospheric, discharge pumped, excited state population, time resolved meas. 4-24643
 He gas, bulk discharge ignition volt., impurity effects 4-6220
 He gas, self-sustained volume discharge with preionisation, initial-stage dynamics 4-29285
 He/Ne mixture, low-energy electron energy characts. 4-34228
 He-Br mixture, electron temp. and density 4-39015
 He-F₂ laser mixtures, stable impurity species, mass spectrometric meas. 4-23961
 He-Ne, anomalous discharge current in transverse mag. field 4-44881
 HfN, thermochemical cathodes in air, discharge, temp. in arc spot 4-41221
 Hg discharge lamp effective size in far-IR 4-37218
 Hg-Ar mixture, low pressure discharges, electron mobility calcs. 4-39031
 Hg-H₂, pulsed discharge afterglow, Hg excited states radiative decay 4-33373
 HgBr efficient cavity-dumped laser 4-24009
 I⁻, optogalvanic photodetachment spectroscopy 4-23668
 Kr gas continua in a barrier discharge 4-5163
 Kr, low-energy electron energy characts. 4-34228
 Kr-Br mixture, electron temp. and density 4-39015
 KrCl discharge pumped laser improved energy output 4-44091
 KrCl, formation in quasi-stationary electric discharge (*Russian*) 4-24683
 La XIII 4d⁹-4d⁵5p transition array anal., Rh I isoelectronic series 4-48973
 Li anode primary battery behaviour under abusive conditions, obs. 4-7842
 Li/SOCl₂, BrCl primary cell, electrical impedance 4-52130
 Mo(CO)₆ dissociation in pulsed discharge, metal vapour prod. 4-26199
 N₂ gas, bulk discharge ignition volt., impurity effects 4-6220
 N₂ gas, self-sustained volume discharge with preionisation, initial-stage dynamics 4-29285
 N₂ gaseous discharge, ionisation currents below Paschen's minimum 4-15321
 N₂ in pulsed self-maintaining discharge, heating dynamics 4-38981
 N₂ laser, high press., with transverse discharge 4-38455
 N₂ pulsed discharge, contraction at medium press., thermal cond. and diffusion times 4-39021
 N₂ spectrum excitation kinetics in a self-maintained vol. discharge 4-29276
 N₂⁺ laser pumped by charge transfer 4-49335
 N₂-O₂ mixture, breakdown ionising wave propagation 4-24670
 N₂+H₂S_i discharge reaction products, NH₂SH microwave spectra 4-5202
 NF₃ discharges, negative ion and electron densities, microwave interferometry 4-39014
 NO, plasmachem. synthesis in N₂-O₂ mixture 4-30926
 N₂O TE laser operation, transversely excited 4-28663
 Nb/S cells, thermal props. during charge and discharge 4-52133
 NbCl₅ dissociation in pulsed discharge, metal vapour prod. 4-26199
 Ne, low-energy electron energy characts. 4-34228
 Ne, optogalvanic and optoacoustic effects obs. 4-19929
 Ne pinched discharge ionisation waves, abrupt pinching dynamics, strata dispersion characts. 4-1867
 Ne, pinched discharge ionisation waves, artificial strata and pinching near crit. current 4-1868
 Ne-Ar plasma prod. by RF discharge, electron energy distrib. function 4-29239
 Ne-Br mixture, electron temp. and density 4-39015
 Ne-Ca discharge, quasi-resonant Penning ionisation, optogalvanic spectroscopy 4-5336
 Ne-Cu hollow cathode discharge, Cu Penning ionisation, optogalvanic spectra 4-24676
 Ne₂⁺ molecular ions, vibr. relax. and dissociative recombination in decaying plasma 4-33529
 O₃ formation rate in ozoniser, gas press. and comp. effects 4-30970
 Pb/acid cells discharge performance, influence of acid diffusion into electrodes 4-35999
 Pb/acid cells tubular positive plates formation, influencing factors, resting and extreme conditions 4-36000
 SF₆, electronegative gas, electron swarm param. calc. 4-34230
 SiH₄ discharges, electron kinetics anal. 4-20044
 SiH₄ plasma, electron induced dissociation, SiH prod. and reactivity 4-41180
 TaCl₅ dissociation in pulsed discharge, metal vapour prod. 4-26199
 Ti vacuum spark discharge microplasma, satellite transitions, inner-shell excitation, density meas. 4-24679
 U V₅ level, 5f² config. parametric anal. 4-48970
 W, failure in zone affected by electric discharge 4-35695
 W(CO)₆ dissociation in pulsed discharge, metal vapour prod. 4-26199
 Xe gas continua in a barrier discharge 4-5163
 Xe light-initiated surface discharge form. 4-29280
 Xe, liquid, current injection and light emission in divergent elec. field 4-50111
 Xe, low-energy electron energy characts. 4-34228
 XeCl excimer laser, discharge characts. (*Chinese*) 4-55018
 XeCl, formation in quasi-stationary electric discharge (*Russian*) 4-24683
 XeO laser pumped by open discharge radiation, energy characts. 4-14679
 ZnSe, lasing in the streamer channel direction 4-24055

discharges (electric) continued

- ZrCl₄ dissociation in pulsed discharge, metal vapour prod. 4-26199
 ZrN, thermochemical cathodes in air, discharge, temp. in arc spot 4-41221
- discharges (partial) see partial discharges**
- disclinations**
 carbonaceous mesophase, nonequilibrium disclinations obs. 4-10956
 cholesteric blue phases, lattice symmetry of BP I and BP II phases, elastic and lattice consts. 4-20100
 covalently bound materials, topologically disordered, geometry and energy of disclinations 4-55828
 4-cyanophenyl-tran-4'-n-pentylcyclohexane mixture, point disclinations at nematic-isotropic interface 4-10979
 dislocation-disclination defects, pair interaction energy 4-29467
 DMPC lyotropic liq. crystals, undulating paired disclinations 4-39094
 DOBAMBC, chiral smectic C*, planar samples, change of struct. in electric field 4-29315
 frustration and curvature in configurational glasses and cholesteric blue phase 4-24717
 liquids, order, frustration and defects 4-20114
 metallic glasses, order, frustration and defects 4-20114
 microcrack formation under conditions of developed plastic strain 4-11224
 nematic liq. cryst. mixtures, high strength disclinations 4-39104
 polycrystalline aggregates, triple lines as disclinations 4-39307
 polyethylene crystal, dispirations, disclinations, dislocations and chain twist 4-11012
 smectic C phase, disclination line with partial twist under mag. field 4-39101
 smectic liquid crystals, Ginsburg-Landau-de Gennes gradient term 4-10980
 solitons in solids, review book contrib. 4-6362
 a-Si:H films, etch pit symm., disclinations, high resolution electron microscopy 4-39141
 SiO₂ produced by thermal oxidation, cryst. chem. of local struct. (*Ukrainian*) 4-39219
- discontinuous metallic thin films**
 catalyst metal-support interaction, discontinuous films, Rutherford backscat. spectrometry 4-45543
 columnar, elec. resist. eqns. derivation 4-2659
 crystallites on surfaces, model for growth shape 4-34430
 granularity on C film, cond. meas. (*French*) 4-30086
 nucleation and growth, recent progress, review 4-29852
 resistive inhomogeneity and metal insulator transition 4-40080
 ruthenium tri-bipyridine adsorbed on Ag-island films, light scatt., electromagnetically induced changes in intensities, spectra and temporal behaviour 4-51395
 strain gauge coefficient of resistivity of supported film 4-11603
 supercooling during crystallisation 4-50681
 Ag clusters and continuous overlayers on Al substrate optical props., comparative study by differential reflectometry 4-57015
 Ag island film, chemisorbed 1-hexadecane thiol, surface enhanced Raman studies 4-56933
 Ag island film, elec. dipole reson. freq. shifts 4-51209
 Ag island film, radiation coupling into thin film modes by localised plasma reson. 4-57009
 Ag overcoated granular films, structure and optical behaviour 4-51399
 Al film, granular, electron inelastic lifetime, electron-electron attraction strength, magnetoresist. 4-2661
 Au island film, elec. dipole reson. freq. shifts 4-51209
 Au island film, energy distrib. of emitted electrons 4-21115
 Au particulate film, potential optical storage material, TEM anal. 4-29846
 Au thin island films, dielec. props., statistical theory, appl. and comparison with expt. results 4-51398
 Cu discontinuous films, oxidation effect on optical props. 4-2976
 Cu island films on amorphous C, surface and volume diffusion during condensation 4-2474
 Cu overcoated granular films, structure and optical behaviour 4-51399
 Cu, transmittance meas., sensitive method for studying oxidation process 4-46350
 Fe island formation on MoS₂, AES and work function meas. 4-39726
 Ni island formation on MoS₂, AES and work function meas. 4-39726
 Pb island films, Debye-Waller factor size depend. of Bragg reflections, Debye temp., electron diff. (*Russian*) 4-24940
 Pb submonolayer deposits on Cu (111), oxidation, XPS and work function study 4-51889
 Pt (111)/Cu system, growth and alloy form., LEED, AES and desorption studies 4-29808
 Pt discontinuous thin films, elec. props and τ -spectroscopy 4-40078
- discrete symmetries**
 see also C invariance; CP invariance; CPT invariance; P invariance; parity; T invariance
 conference, electroweak interactions at high energies, Hamburg, Germany (Sept. 1982) 4-42600
 density matrices, upper bounds of violation in quantum mechanics 4-36965
 nonperturbative neutrino masses in SU(2)_L×SU(2)_R×U(1) left-right symmetric models 4-13837
 Rishon model, hypercolour gauge of discrete symmetry, mass matrix struct. 4-43341
 vector-like gauge theories, restrictions on symmetry breaking 4-48284
 t-quake, mass from discrete symmetries 4-48369
- discriminators**
 see also demodulators
 amplitude discriminator with variable disable interval, neurophysiological recording appl. 4-47110
 constant fraction discriminator, design for short time interval meas. system 4-13622
- disinclinations see disclinations**
- disintegration (radioactive) see radioactivity**
- disintegration energies see radioactivity**
- dislocation anchoring see dislocation pinning**
- dislocation arrays**
 ferrite plates, struct. of broad faces 4-39530
 ferrite plates, struct. of broad faces 4-39531
 III-V semiconductor quantum-well heterostructures, strained-layer, stimulated emission 4-14690
 pores, cylindrical, dislocation generation obs. 4-50294

dislocation arrays continued

- steel, austenitic stainless, fatigue, high temp. low cycle, influence of N content 4-40943
 steel, C, fatigue, changes in residual stress, domain size and microstrain 4-7558
 thermodynamic forces, virtual, on defects and cracks 4-50415
 Cu-Mn (1.05-3.3 at.%), single crystals, dislocation arrays at end of yield region 4-20193
 Fe-Cr-Mo, BCC, dislocation annihilation in small-angle boundaries 4-39299
 GaAs, crystal defects obs. by X-ray topography and SEM transmission cathodolum. 4-6360
 GaAs, LEC-grown semi-insulating wafers, lattice bending, X-ray study 4-24746
 GaAs, semi-insulating, undoped, deep donor EL2, IR absorption study 4-35471
 InP, LEC single crystals, microstruct. of grappe defects 4-34494
 Si, dense dislocation arrays, elec. props. 4-25351
 Si, dislocation motion, doping effects 4-15476

dislocation breakaway, pinned *see* **dislocation damping****dislocation climb**

- grain boundary diffusion-induced migration, grain boundary-dislocation climb mechanism 4-15702
 inclusion-dislocation repulsion, diffusional relax. 4-15516
 nematic layered structures, elliptical shear instability, dislocation motion 4-15378
 Rayleigh-Benard convection, wavenumber selection mechanism 4-29705
 sapphire, dislocation struct., effect of nonstoichiometry 4-20202
 smectic liq. cryst. layered structures, dislocation motion 4-15378
 Al, internal friction, microdeformation meas., dislocation motion (*French*) 4-50432
 Al, internal friction peaks connected with grain boundary sliding 4-50433
 Al-Cu, θ' precip. mechanism on climbing dislocations 4-12074
 Co, transient creep near transform. temp. 4-34567
 Fe, high purity, transient creep at low stresses and homologous temps. 4-3169
 GaAs, electron irradiated, mech. of dislocation climb, electron microscopy study 4-20198
 InP:Si, single crystals, plastic deform., effect of temp. and S doping 4-6429
 MgAl₂O₄, dislocation struct., effect of nonstoichiometry 4-20202
 Ni-Al-Ti, eutectic superalloy, directionally solidified, interface dislocations motion (*Japanese*) 4-35618
 Ni₃Al, compression induced dislocation dissociation, weak beam study 4-39298
 Si:P, implanted, impurity drag on climbing misfit dislocations 4-34498
 W₂C, hemicarbid, deform. mechanisms (*French*) 4-16457

dislocation damping*see also* **Bordoni effect**

- alkali metal halides, dislocation damping, temp., freq. and charge depend. 4-24828
 BCC metals, cold worked, Snoek-Koster relax. 4-40851
 configurations in point obstacle networks with random unpinning forces (*Russian*) 4-50286
 damping due to point defect drag of dislocations 4-50287
 depinning effect on damping peak, associated with pinning-point drag 4-2208
 electron-dislocation interactions anal. 4-24815
 microporosity evaluation by MHz US attenuation meas. 4-39403
 steels, US wave attenuation spectra, depend. on grain size and dislocation damping 4-35795
 steels, US wave attenuation spectra anal. 4-39404
 strain amplitude depend. dislocation damping due to point defects 4-50342
 strain amplitude dependent dislocation damping with uniform point defect dragging 4-45264
 US attenuation, acoustic microscopy 4-38679
 Cu alloys, dil., γ -irrad. and deformed, dislocations, annealing, US absorpt. meas. 4-50303
 Cu, gamma irradi., anomalous modulus defect due to dislocation pinning, damping meas. 4-50302
 Cu monocrystals, dislocation damping with limited phonon-electron interaction at He temps. 4-2209
 LiF, vibrating dislocations, mass and line tension calc. 4-20192
 Mo, dislocation damping, amplitude depend. 4-50300
 Mu-Cu, high damping capacity alloys, internal friction rel. to comp. and annealing 4-40865
 Nb, deformed, H impurity removal, intrinsic dislocation damping peaks 4-50301
 Pb-In, Abrikosov vortex density effect on dislocation hysteresis losses (*Russian*) 4-6376
 Ta, deformed, H impurity removal, intrinsic dislocation damping peaks 4-50301
 W, dislocation damping spectrum 4-50299

dislocation density

- alkali metal halides, US irrad., point defect excess conc., dislocation density 4-6397
 anharmonicity in epitaxial interfaces, equil. struct. of thin epitaxial films 4-50684
 brass, 65/35, work hardening mechanisms, 77 to 673K 4-30720
 α -brass, internal friction at kHz freq. 4-50424
 crack growth for double slip plane crack model, fatigue crack growth 4-55367
 crack growth for double slip plane crack model, R-curve 4-55366
 crystal, melt grown, dislocation density, thermoelastic stress distrib. 4-29358
 inhomogeneous elastic medium, elastic deformation expression by dislocations distrib. 4-15573
 isothermal treatment, austenitizing, microstruct. of intermediate temp. transform. (*Chinese*) 4-46503
 metals, recrystallisation as an irreversible phenomenon, grain boundary nucleation and migration (*Czech*) 4-7478
 metals, superconducting and normal state, electron and phonon drag on mobile dislocations, book contrib. 4-20204
 NaCl, dislocation pipe diffusion 4-15691
 paratellurite, single cryst., morphology, dislocation struct., optical props. 4-55775
 quartz, cut crystals, US absorption, plastic deformation and elec. field effects 4-24917

dislocation density continued

- quartz, synthetic, high purity, radiation effects, ESR, IR absorpt. studies 4-20236
 sapphire, shaped, physical characts., growth and annealing conditions influence 4-24745
 single and polycrystals, strain hardening, yield point and deformation curves 4-46526
 sink strength of a dislocation tangle distrib., extension of effective medium method 4-15467
 steel, austenitic stainless, 800 H, creep rel. to struct., 900-1000°C 4-21287
 steel, austenitic stainless, Cr-Ni-Mo, transient creep, subboundary struct., TEM obs. 4-30761
 steel, austenitic stainless, Cr-Ni-Mo, transient creep kinetics 4-30760
 steel, austenitic-ferritic, work hardening, effect of grain size 4-16416
 steel, austenitic-martensitic stainless, phase and strain hardening, structure factors 4-7481
 steel, C, fatigue, changes in residual stress, domain size and microstrain 4-7558
 steel, Cr and Mn, powders, prod. by diffusional impregnation, struct. and props. 4-3098
 steel, Cr-Mn, thermomechanically strengthened, mech. props., substructure 4-57271
 steel, Cr-Mo-V-Nb, tempering, bainite transform. (*Chinese*) 4-3141
 steel, dual-phase, low C, mech. behaviour, influence of microstruct. (*Korean*) 4-57288
 steel, ferrite-austenite stainless, deformed by rolling, microstruct. 4-40921
 steel, ferritic stainless, cold-rolled, transition band struct., electron microscopy study 4-46527
 steel, low alloy, slightly predeformed, dislocation model for crack tip blunting 4-30801
 steel, low C, dislocation microstruct. during deep drawing 4-24825
 steel, low C, yield strength of nonpolyhedral structures (*Slovak*) 4-7515
 steel, mild, cold-worked, stress relax. expts. 4-16429
 steel, Mn-Nb, impact fracture at low temps. (*Chinese*) 4-16471
 stress intensity factors and dislocation pile-ups 4-45136
 surface breaking crack, incident Rayleigh waves 4-44451
 α -Ag-Cd-In alloys, microstruct., X-ray diffr. study 4-21235
 Al, strain ageing, dislocation struct., US vel. obs. 4-51701
 Al-Cu-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
 Al-Mg (5.7 at.%), high temp. deform., internal stress rel. to dislocation density (*Japanese*) 4-35665
 Al-Mg-Si, B₂C reinforced 6061, ageing reactions 4-40808
 Al-Zn (11 wt.%), creep at intermediate temp., evolution of internal stresses and substruct. 4-57279
 Al-Zn-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
 Al-(Mn), stress relaxation, effect of electron irrad. 4-55874
 AlN, formation by N⁺ ion implantation, precipitation process obs. 4-20228
 BN, cubic cryst., thermal shock influence on substruct. and strength 4-57341
 BN polycrystals, NMR spectra, 3/2 spin under quadrupole interaction, dislocation density determ. (*Russian*) 4-7080
 CdTe films, (100), MBE growth on GaAs (100) 4-40653
 Co, transient creep near transform. temp. 4-34567
 Co-Pt disordered alloys, magnetomech. damping, plastic deformation effects 4-40869
 Cu alloys, dil., γ -irrad. and deformed, dislocations, annealing, US absorpt. meas. 4-50303
 Cu, dislocation cell structure in deformed [001]-oriented single crystals, X-ray line broadening study 4-50290
 Cu, dislocation scatt., de Haas-van Alphen meas. 4-6769
 Cu, electrolytic powder compacts, sintering, shrinkage by particle sliding 4-40708
 Cu-Mn (1.05-3.3 at.%), single crystals, dislocation arrays at end of yield region 4-20193
 Cu-Sn-Zn, cold worked, X-ray diffr. study of microstruct., role of Sn addition 4-16410
 Cu-Zn-Al, rapidly solidified, microstruct. of β -phase 4-16384
 Cu-(Al₂O₃) single crystals, cold rolled, deform. struct. rel. to second phase particles 4-12111
 Fe-Cr-C, (252), martensite, substruct. 4-25959
 Fe-Si, interaction with molten In, dislocation formation (*Russian*) 4-6375
 GaAs heavily doped MBE layer, defects study 4-34497
 GaAs, LEC crystal growth with low and homogeneous dislocation densities 4-40626
 GaAs, LEC grown semi-insulating, cryst. homogeneity improvement by annealing 4-51470
 GaAs, LEC growth of undoped crystals, ambient gas effects 4-21123
 GaAs, semi-insulating crystals, undoped, inhomogeneities, photocurrent distribution profiles 4-11554
 GaAs semi-insulating substrate wafers uniformity characterisation, optical and elec. methods 4-21012
 GaAs, single cryst. growth for optoelectronic appls. 4-40641
 GaAs-GaInAs heterojunction, Fermi level pinning by misfit dislocations 4-6871
 n-GaP, luminescence and deep level studies of dislocations 4-16257
 Ge, dislocation outstripping by crystallisation growth front 4-55768
 Ge:P, transient elec. props. of low angle tilt boundaries 4-15847
 Hg_{1-x}Cd_x abrupt heterojunctions, misfit dislocations and dangling bond densities 4-50907
 In Sb:Te crystals, solidification in zero gravity, morphology, struct., solute distrib. 4-57090
 InP:Sn(S)(Zn) crystal, liq. encapsulation Czochralski grown, defect struct., synchrotron X-ray topography 4-45137
 KBr-KI mixed crystals, radiation hardening, dislocation and grain boundaries conc. meas. 4-11183
 KH₂PO₄, optical uniformity, effect of annealing 4-56883
 LiF, edge components of dislocations, sign of deformation effects 4-24819
 LiF, healed crack, forms of dislocations 4-24820
 Mo film, vacuum-plasma precipitation, influence of substrate orientation rel. to plasma flow (*Russian*) 4-50663
 Mo single cryst., dynamic recovery during rolling, hardness and yield stress studies (*Russian*) 4-35638
 Mo single crystals, Fe diffusion 4-56081
 Mo, strain ageing, dislocation struct., US vel. obs. 4-51701
 Mo-Ir, zone melt grown, impurity distrib., dislocation struct., conc. depend. 4-24846

dislocation density continued

- NaBrO₃, X-ray irradi., hardness, optical absorption and dislocation density meas. 4-29520
 NaCl, hydrostatically compressed, fracture study 4-6437
 Nb-Ti (50 wt.%), neutron irradi., pinning vol. force, materials treatment effects (*Russian*) 4-25493
 Ni, dislocation density variation under creep (*Russian*) 4-50298
 Ni, neutron irradi., voids, dislocations, annealing kinetics (*Russian*) 4-24872
 Ni, strain ageing, dislocation struct., US vel. obs. 4-51701
 Ni-Nb (15 to 40 at.%), rapidly quenched, phase stability under Ni²⁺ ion irradi. 4-55886
 Ni₃Fe(Mn)(Al), mag. moment distrib. and superlattice dislocations 4-11707
 PbTe, electrolytically thinned, defect struct., X-ray transmission topography 4-50292
 Pt₃Fe(Co), mag. moment distrib. and superlattice dislocations 4-11707
 Si, dislocation structure at lower yield point, quantitative TEM anal. 4-20199
 Si films, seeded, recrystallized between SiO₂ layers, low angle grain boundary suppression 4-21134
 Si, isolated layers, FIPOS fabrication, dislocation density, elec. characts. 4-21347
 Si, proton and γ -ray irradi., point defect-group radiation defect interactions 4-34531
 Si substrates, evaluation of dislocation generation by selective oxidation 4-26076
 Si:Os, electronic states and thermal dissociation 4-56272
 SnI₂ single crystals, etching on HCl, dislocation activities 4-39301
 SnI₄ single crystals, etching on HCl, dislocation activities 4-39301
 α -Ti, neutron damage structure 4-29482
 Zn crystals, effect of electric pulses on deformation behaviour and dislocations (*Russian*) 4-51734
 Zn crystals, twin boundaries, incoherent, accommodation range form. under high press. (*Russian*) 4-6382
 Zn single crystal, low temp. creep, forest dislocation effects (*Russian*) 4-25998
 Zn, slip, nonbasal, anomalous temp. depend. 4-15489
 ZnSe(Te), plastic deform., defect struct., photoplastic effect, TEM 4-15483
 Zr, dislocation struct. and strain hardening during creep at 77K (*Russian*) 4-24817
 Zr, strain ageing, dislocation struct., US vel. obs. 4-51701

dislocation dipoles

- alkali metal halides, dislocation damping, temp., freq. and charge depend. 4-24828
 β -brass, Bauschinger effect and new slip 4-12123
 contact fatigue crack initiation under repeated oblique force 4-30834
 dielectric breakdown during mechanical deformation of solids 4-2875
 dielectric relaxation, anomalous, elec. charged dislocation effects 4-30388
 edge dislocation dipole annihilation by glide mechanism 4-39306
 edge dislocations, radiation annealing, radiation creep (*Russian*) 4-50285
 ionic insulator, dislocation charging and dislocation during plastic deform. 4-11146
 metals, plastic deform. by shock loading, microwave excitation 4-6431
 sapphire, plastic deform., dislocations, diffusion, review 4-20203
 Wulff construction appl. to dislocations 4-55830
 AgCl(Br), charge flow associated with dislocation motion 4-15486
 Fe₃P₂₀, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
 Fe₃P₁₀Ni₄B₆, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
 KCl, bent, dislocation photocond. and deform. mechanism 4-15917
 KCl:Ca, dislocation charge, impurity conc. and temp. depend. 4-24826
 KCl:Ca²⁺, dislocation charges, effects of impurities 4-55835
 KCl:Ca²⁺, edge dislocation charges, 82 to 294K 4-15487
 KCl:CaCl₂, dislocation charge meas. 4-55834
 LiF, charged dislocation motion due to laser pulse 4-39309
 LiF, deformed in contact with external medium, dislocation distrib. in surface layers 4-11149
 NaCl, charged dislocation motion due to laser pulse 4-39309
 NaCl crystal, stress relax., current carried by dislocations (*Japanese*) 4-20669
 NaCl crystals, electrification kinetics, deformation and heat treatment effects 4-30051
 NaCl:Ca²⁺, dislocation dynamics, pulsed NMR study 4-24827
 Si, Czochralski grown, segregation and precipitation of O, early stages 4-50525

dislocation drag

- creep controlled by jog-drag and cell-form., apparent activation energy 4-30756
 damping due to point defect drag of dislocations 4-50287
 dislocation-point defect interaction mechanisms 4-50340
 edge dislocations, solute drag in low vel. limit 4-39607
 metals, superconducting and normal state, electron and phonon drag on mobile dislocations, book contrib. 4-20204
 solid solution alloys, creep behaviour, incorporate of Suzuki and Fisher interactions 4-7519
 solute drag by dislocations, differential eqn., asymptotic solns. 4-34491
 steady-state model of dislocation motion with obstacle drag 4-34492
 strain amplitude depend. dislocation damping due to point defects 4-50342
 strain amplitude dependent dislocation damping with uniform point defect dragging 4-45264
 Al-Cu, low temp. internal friction peak mechanisms 4-50425
 LiF:B, viscous dislocation drag study 4-39308
 Ni-H, plastically deformed, dislocation, relax. peaks involving H drag 4-29464
 Zn, single cryst., dislocation mobility, drag mechanism 4-45140

dislocation crystal

- BCC lattice, kinked screw dislocations, interaction energies 4-2207
 steel, type AISI C 1010, internal friction studies 4-40867
 Wulff construction appl. to dislocations 4-55830
 α -Ga, glide systems, and plastic deformation, TEM studies 4-50408

dislocation etching

- cyclotrimethylenetrinitramine, RDX explosive crystals, X-ray orientation, hardness 4-39178
 semiconductor single crystals, melt grown, dislocation struct. rel. to growth conditions 4-29436
 topographic study of pits formed by indentation and etching 4-20194

dislocation etching continued

- topography evolution in sputtered media and in spatio-time variable ion flux conditions 4-46419
 Al-Zn (5 wt.%), stress exponent and subgrain size, effect stress reductions 4-16446
 BaMoO₄ crystals, dislocation etching, dissolution kinetics 4-50293
 Bi-Sb, dislocations revealed by Cu impurity diffusion and chem. etching 4-11147
 Cu (111) surface, Young's soln., etching, dissolution rate at dislocation sites (*Japanese*) 4-6374
 Cu, annealed, decoration of etch figures 4-20196
 Cu, dislocation etch pits, dissoln. on (111) surface under potentiostatic electrolysis 4-24821
 Fe, pure, fatigue crack nucleation sites, grain orientation depend. (*Japanese*) 4-21306
 Fe-Si (3at.%), early fatigue crack propag., etch-pit study (*Japanese*) 4-3229
 GaAs, LEC growth of undoped crystals, ambient gas effects 4-21123
 n-GaAs, photoetching and selective etching in aq. CrO₃-HF solns., hillock morphology rel. to gas bubbles 4-15472
 GaAs:Si, LEC grown, dislocations study 4-34499
 n-GaAs:Si, selective etching and photoetching of {100} surface in aq. CrO₃-HF solns. 4-15471
 Ge:P, transient elec. props. of low angle tilt boundaries 4-15847
 Hg_{1-x}Cd_xTe epitaxial layers, blocking of threading dislocations 4-39701
 Hg_{1-x}Cd_xTe, Te precipitation during recrystn. annealing, dislocation loops obs. 4-29633
 InP, LEC grown, annealing effect on struct. defects 4-34495
 KCl:Ca²⁺, edge dislocation charges, 82 to 294K 4-15487
 Li₂CO₃:K, single crystals, chemical etch pits, trapped impurities, SEM obs. 4-29438
 LiF, edge components of dislocations, sign of deformation effects 4-24819
 LiF, healed crack, forms of dislocations 4-24820
 NaBrO₃, X-ray irradi., hardness, optical absorption and dislocation density meas. 4-29520
 NaNO₂ plastically deformed, disloc. struct., selective etching studies 4-11151
 Si, dislocation motion, doping effects 4-15476
 Si, struct. defects effect on etching rate 4-57364
 Si:As⁺, MeV ion implantation, extended defect reduction and planar n-p-n transistor fabrication 4-2220
 SnI₂ single crystals, etching on HCl, dislocation activities 4-39301
 SnI₄ single crystals, etching on HCl, dislocation activities 4-39301
 α -TeO₂, paratellurite, single crystal, etching in aq. KOH, RbOH and CsOH 4-57367
 Zn, slip, nonbasal, anomalous temp. depend. 4-15489
 ZnSnAs₂, preferential and nonpreferential etchants 4-12204

dislocation glide *see slip***dislocation interactions**

- see also impurity-dislocation interactions; vacancy-dislocation interactions*
 alloys, aged, dislocation motion, interaction of superdislocations with ordered-phase particles 4-29462
 BCC lattice, kinked screw dislocations, interaction energies 4-2207
 binding energy calcs. and vibr. entropy (*Russian*) 4-50336
 capron, deformed, low temp. annealing, dislocation pinning by point defects 4-30718
 covalently bound materials, topologically disordered, geometry and energy of disclinations 4-55828
 crystal relief screening due to dislocation interactions with point defects 4-34532
 damping due to point defect drag of dislocations 4-50287
 damping peak associated with pinning-point drag, effect of depinning 4-2208
 disclination-dislocation defects, pair interaction energy 4-29467
 dislocation-point defect interaction mechanisms 4-50340
 edge dislocation interaction with semicircular cut on straight boundary 4-39293
 edge dislocation-circular inclusion interactions, at elevated temps. 4-20190
 electron-dislocation interactions anal. 4-24815
 grain boundary diffusion-induced migration, grain boundary-dislocation climb mechanism 4-15702
 grain boundary splitting and grain boundary dislocation motion (*Russian*) 4-34501
 hardening by coherent precipitates having lattice mismatch, effect of dislocation splitting 4-46520
 HCP cryst., dislocations elastic interaction with {100} monoclinic point defects 4-34533
 HCP crystal, anisotropic diffusion of irradi. generated point defects, dislocation bias 4-29706
 inclusion-dislocation repulsion, diffusional relax. 4-15516
 line crack-screw dislocation interaction, displacement and stress fields 4-29463
 metals, b.c.c., mobile interstitials interactions with dislocations 4-50343
 metals, electron and γ -irrad., peaking effect model 4-50338
 metals, electron and γ -irrad., peaking effect models 4-50337
 metals, neutron irradi., improvement in mech. props. 4-45196
 metals, weld, plastic deform. mode, effect of globular silicates (*Slovak*) 4-46569
 mobility calc. including dislocation-obstacle interactions 4-29434
 Nimonic PE16, precip. hardening and particle growth 4-57243
 sapphire, dislocation struct., effect of nonstoichiometry 4-20202
 sapphire, plastic deform., dislocations, diffusion, review 4-20203
 second sound damping due to scattering of magnons by dislocations 4-25536
 semiconductors, dislocation mobility meas. atomic and electronic dislocation core struct. studies, review 4-15490
 solid solution alloys, creep behaviour, incorporate of Suzuki and Fisher interactions 4-7519
 steel, pressure vessel, yield stress and cleavage fracture stress, influence of microstruct. 4-40982
 strain amplitude depend. dislocation damping due to point defects 4-50342
 two-dimensional periodic field, dislocation motion 4-39294
 AgCl, strain ageing, room temp. 4-45252
 Al, dislocation-point defect interaction mechanisms 4-50339
 Al, internal friction and dislocation interactions (*French*) 4-50421

dislocation interactions continued

- Al-based alloys, internal friction assoc. with precip. and recrystallisation 4-40848
- Be-Co system alloys, struct. and physicomech. props., Co influence 4-57254
- CdS, plastically deformed cryst., optical props. 4-16234
- Cu, electron irradi., internal friction flux depend. 4-29525
- Cu-Al (16 wt.%), double ribbons-inclined dislocation interactions 4-34530
- Cu-based alloys, internal friction assoc. with precip. and recrystallisation 4-40848
- Cu-Zn-Al, martensitic, internal friction behaviour 4-40858
- Ge, isolated dislocations mobility in single cryst., asymmetry 4-15477
- KCl microcryst. powders, thermal instability of colour centres 4-45132
- KNbO₃, dislocation interactions with ferroelec. domains 4-24818
- Mg, electron irradi. and cold worked, internal friction and anelastic phenomena (*French*) 4-40880
- MgAl₂O₄, dislocation struct., effect of nonstoichiometry 4-20202
- MgO, internal friction calcs. (*French*) 4-50420
- NaCl:Ca²⁺, dislocation dynamics, pulsed NMR study 4-24827
- Si, dislocation motion, doping effects 4-15476
- Si, friction force acting on dislocations, temp. depend. 4-29446
- Si, isolated dislocations mobility in single cryst., asymmetry 4-15477

dislocation jog motion *see* **dislocation jogs****dislocation jogs**

- creep controlled by jog-drag and cell-form., apparent activation energy 4-30756
- Zircaloy-4, creep, cell diameter to dislocation spacing ratio 4-16454
- Zircaloy-4, thermally activated deform., 298-798K 4-57286
- Al, internal friction, microdeformation meas., dislocation motion (*French*) 4-50432
- Cu-Al (16 wt.%), double ribbons-inclined dislocation interactions 4-34530
- GaAs, electron irradiated, mech. of dislocation climb, electron microscopy study 4-20198
- Ni, electron irradi. induced creep 4-46575

dislocation locking*see also* **Cottrell atmospheres**

- Si:O₂, impurity-dislocation interactions 4-15515

dislocation loops*see also* **vacancy condensation loops**

- alkali halide crystals, evaporation in electrostatic field, surface ledge configurations 4-17553
- ice, stacking faults, form. and annihilation 4-29451
- metal, containing reactive solute, coalescence of gas-filled pores, dislocation loops, size distrib. 4-20191
- metal, FCC and HCP, strain hardening theory, model 4-57246
- metals, FCC, interstitial-twin boundary interaction, computer simulation 4-6396
- metals, FCC and BCC, radiation-induced creep, Weertman dislocation multiplication, diffusion-dislocation approach 4-6398
- metals, plastic deform. by shock loading, microwave excitation 4-6431
- nematic-smectic A-smectic C multicritical point, dislocation loop theory 4-29610
- point defect pinning of dislocations, US absorpt. and vel. calcs., vibr. string model modification (*French*) 4-50288
- sapphire, plastic deform., dislocations, diffusion, review 4-20203
- second sound damping due to scattering of magnons by dislocations 4-25536
- sintering, diffusion-dislocation mechanism, size effect in plastic self-indentation of solids in contact 4-51568
- statistical characts. simulation of dislocation structure formation along slip lines 4-2204
- Wulff construction appl. to dislocations 4-55830
- A₂BX₄ type crystals, incommensurate-commensurate phase transitions, statics and dynamics 4-25004
- Al, point defect clusters at twin boundary 4-24805
- Al, strain rate sensitivity, role of dislocation loop and point defect recovery 4-21269
- Al-Cu, ledge struct. and θ' precipitate growth 4-40801
- Al-Mg dilute alloys, vacancy clustering process 4-39287
- Al-Si (1.3 wt.%), precipitation study 4-40802
- Al-Zn (8.5 wt.%) positron annihilation characts., temp. depend. 4-40563
- Al-Zn alloys, preprecipitation studies by positron Doppler broadening meas. 4-39523
- Al₂O₃, electron irradi. damage in cation sublattice, HVEM and optical meas. 4-20255
- Cu alloys, dil., γ -irrad. and deformed, dislocations, annealing, US absorpt. meas. 4-50303
- Cu foil, He ions implantation effects 4-45168
- Cu monocrystals, dislocation damping with limited phonon-electron interaction at He temps. 4-2209
- Fe-Cr alloys, irrad. hardening 4-15543
- GaAs, electron irradiated, mech. of dislocation climb, electron microscopy study 4-20198
- GaAs:Se, implanted, electron-beam annealed, electron microscopy study 4-20229
- Hg_{1-x}Cd_xTe, Te precipitation during recrystn. annealing, dislocation loops obs. 4-29633
- InGaAsP epilayers, optically induced catastrophic degradation lines 4-39703
- InP, LEC grown, annealing effect on struct. defects 4-34495
- InP, LEC single crystals, microstruct. of grape defects 4-34494
- InSb, single cryst., 2 Mev electron irradi. between room temp. and 200°C, dislocation loops, electron microscopy study 4-11188
- Mo, cascade/cluster struct., low-energy damage effects 4-50363
- Mo, He implanted, electron bombardment-induced loop punching 4-6371
- Mo:Si amorphous films, collective flux pinning 4-11652
- NaCl, screw dislocation loop, decoration method study 4-39300
- NaCl, screw dislocation mobility, recovery after electric pulse 4-11153
- Nb₃Si (Ge) amorphous films, collective flux pinning 4-11652
- Nb₃Sn tapes, superconducting, microstruct. and neutron radiation damage 4-45193
- Ni foil, He ions implantation effects 4-45168
- Ni, irrad., dislocation loop growth and void swelling, quantitative anal. 4-55876
- Ni, voids, radiation creep, influence of nonstationary diffusion (*Russian*) 4-50296
- Ni-Ti-Fe-Al, precip. hardened, containing ordered γ' and γ'' precip., deform. mechanisms 4-57294

dislocation loops continued

- Si, Czochralski grown, segregation and precipitation of O, early stages 4-50525
- Si, ion implanted, heat pulse annealing, struct. charact. by TEM 4-24838
- Si, thermal processing, effect on thermophysical props. and structural perfection 4-50836
- Si:As, supersaturated solid soln., decomposition, sessile Frank loop, impurity atmosphere effects 4-29442
- Si:B⁺(BF₃)⁺ implanted slices, TEM studies after annealing and oxidation 4-24823
- Si:O, Czochralski grown, annealed, deep level photoluminesc. from dislocations 4-21010
- Si₃N₄, neutron irradi., defect aggregates 4-24876
- Ti alloys, rapidly solidified, microstruct. 4-30697
- α -Ti, neutron damage structure 4-29482
- Ti-Al, radiation defect annealing, neutron irradiation, positron annihilation (*Russian*) 4-50370
- Zn, slip, nonbasal, anomalous temp. depend. 4-15489
- Zr-Nb (1 wt.%), radiation effects on mechanical props. (*Russian*) 4-50366

dislocation motion*for* **dislocation relaxation** *see* **dislocation damping***see also* **dislocation climb**; **slip**

- alkali metal halides, dislocation damping, temp., freq. and charge depend. 4-24828
- alloys, aged, dislocation motion, interaction of superdislocations with ordered-phase particles 4-29462
- anisotropic solid, edge dislocation nonuniform motion 4-45135
- crack, stationary, semi-infinite, dynamic stress intensity factor due to arbitrary screw dislocation motion 4-1682
- crystal relief screening due to dislocation interactions with point defects 4-34532
- crystal with high Peierls barrier, dislocation motion 4-25098
- dielectric breakdown during mechanical deformation of solids 4-2875
- double kink form. and dislocation motion in 1-D periodic field 4-6370
- edge dislocations, solute drag in low vel. limit 4-39607
- electron-dislocation interactions anal. 4-24815
- fatigued, US absorpt. and testing (*French*) 4-51796
- grain boundary splitting and grain boundary dislocation motion (*Russian*) 4-34501
- ice, microplasticity, very low freq. internal friction meas. 4-50434
- ice on (0001) and (1010) planes, dislocation velocity determ. 4-29440
- II-VI semiconductors, charged dislocation motion 4-20205
- II-VI semiconductors, deformation luminescence and mobile dislocations 4-16172
- ionic insulator, dislocation charging and dislocation during plastic deform. 4-11146
- Lennard-Jones amorphous solid, dislocationlike motion, computer simulation 4-2080
- material softening by impurities, disloc. motion (*Russian*) 4-34569
- metal, planar stress wave, dislocation dynamics and viscosity effects 4-2267
- metallic materials, back stress in dislocation creep (*Czech*) 4-7512
- metallic materials, dispersion strengthened, back stress in dislocation creep (*Czech*) 4-7513
- metals, b.c.c., mobile interstitials interactions with dislocations 4-50343
- metals, dynamic fracture, spalling, review 4-12170
- metals, flow stress, press. depend., dislocation motion 4-51729
- metals, superconducting and normal state, electron and phonon drag on mobile dislocations, book contrib. 4-20204
- semi-infinite stationary crack dynamic stress intensity factor due to arbitrary rectilinear screw dislocation motion 4-14922
- semiconductor, dislocation mobility, theories, review 4-15469
- semiconductors, dislocation mobility meas. atomic and electronic dislocation core struct. studies, review 4-15490
- semiconductors, mechanical properties, recrystallisation and diffusion, effect of doping, review 4-20213
- single and polycryst., strain hardening, yield point and deformation curves 4-46526
- sintering, diffusion-dislocation mechanism, size effect in plastic self-indentation of solids in contact 4-51568
- sintering, dislocation structure, role in contact form. 4-2205
- small scale yielding materials, dislocation motion at crack tips (*Chinese*) 4-6434
- soliton mobility controlled regimes 4-34493
- steady-state model of dislocation motion with obstacle drag 4-34492
- steel, austenitic stainless, fatigue deformation, dynamic strain ageing 4-21312
- steel, austenitic stainless, neutron radiation strengthening, 240-650°C (*Russian*) 4-40806
- steel, austenitic stainless, strain ageing rel. to stress relaxation 4-57277
- steel, structure sensitive fatigue crack growth 4-40988
- strain amplitude depend. dislocation damping due to point defects 4-50342
- thermodynamic forces, virtual, on defects and cracks 4-50415
- two-dimensional periodic field, dislocation motion 4-39294
- Zircaloy-4, thermally activated deform., 298-798K 4-57286
- AgCl(Br), charge flow associated with dislocation motion 4-15486
- Al-based alloys, internal friction assoc. with precip. and recrystallisation 4-40848
- Al-Cu, ledge struct. and θ' precipitate growth 4-40801
- Al-Mg, internal friction peaks rel. to microstruct. changes 4-40863
- Al-Mn, internal friction spectrum, plastic deform. effects 4-51719
- CdS (Se)(Te), TEM obs. of dislocation motion 4-55837
- CdTe, plasticity, Hall effect, thermoelec. power meas., chemomechanical effect 4-15892
- Co, transient creep near transform. temp. 4-34567
- Cu-based alloys, internal friction assoc. with precip. and recrystallisation 4-40848
- Fe, pure single crystals, H transport by screw dislocations 4-15709
- Fe-C, dislocation enhanced Snoek relax. peak 4-50427
- Fe-Ni-V, influence of dislocation mobility or martensitic transform. (*Russian*) 4-7451
- GaAs, plastically deformed, creation of As_{Ga} defects, dislocation-related electron states 4-15849
- GaSb ingots, Bridgman growth, texture, cryst. orientation, grain boundaries, SEM, chem. etching, electron channelling 4-29364
- Ge, isolated dislocations mobility in single cryst., asymmetry 4-15477

dislocation motion continued

- InSb, dislocation mobility, plasticity, X-ray Lang topography study 4-15484
 KBr(Cl) X-irrad. crystals, acoustic and photon emissions during mech. deform. 4-34586
 KCl coloured crystals, mechanoluminescence 4-16260
 LiF, charged dislocation motion due to laser pulse 4-39309
 NaCl, charged dislocation motion due to laser pulse 4-39309
 NaCl, screw dislocation mobility, recovery after electric pulse 4-11153
 NaCl X-irrad. crystals, acoustic and photon emissions during mech. deform. 4-34586
 NaCl:Ca²⁺ dislocation dynamics, pulsed NMR study 4-24827
 NaCl:Ca(Pb), yield stress, hardness, dislocation motion meas. 4-50403
 Ni-Ta-Fe-Al precip. hardened, containing ordered γ' and γ'' precip., deform. mechanisms 4-57294
 Si, crystal, plastic deformation, 385-650°C 4-39370
 Si, dislocation bend motion, kink model 4-15576
 Si, dislocation bends in high stress deformed crystals 4-15475
 Si, dislocation glide, theoretical interpretation 4-20206
 Si, dislocation motion, doping effects 4-15476
 Si, dislocation structure at lower yield point, quantitative TEM anal. 4-20199
 Si, dislocations, static and moving, localised electron states calc. 4-6733
 Si, double kink interaction and form. energies 4-55832
 Si, friction force acting on dislocations, temp. depend. 4-29446
 Si, isolated dislocations mobility in single cryst., asymmetry 4-15477
 Si, plastic deformation at low temp., influence of doping 4-15575
 Si single crystal, plastic zone obs. from 650 to 900°C (Chinese) 4-39303
 Si, solitons, dislocation elec. and mobility props. 4-6372
 Ti, commercial, deform. kinetics at low temps. 4-26010
 Zn, grain boundary glide study (Russian) 4-6378
 Zn, pure single crystals, fast neutron irrad., 77K, ductility, fracture stress, dose depend. 4-51724
 Zn single cryst., creep, current pulse effects 4-7525
 Zn single cryst., creep, current pulse effects (Russian) 4-25999
 ZnO, single cryst., dislocation mobility, drag mechanism 4-45140
 ZnO, TEM obs. of dislocation motion 4-55837
 Zr, dislocation struct. and strain hardening during creep at 77K (Russian) 4-24817

dislocation motion, nonconservative *see* **dislocation climb****dislocation motion hindrance** *see* **dislocation drag****dislocation multiplication**

- metals, FCC and BCC, radiation-induced creep, Weertman dislocation multiplication, diffusion-dislocation approach 4-6398
 metals, plastic deform. by shock loading, microwave excitation 4-6431
 single and polycryst., strain hardening, yield point and deformation curves 4-46526
 statistical characts. simulation of dislocation structure formation along slip lines 4-2204
 Cu-Zn-Al, shape memory effect, degradation, grain size refinement, internal stresses, reflectivity obs. (Japanese) 4-46505
 Hg_{1-x}Cd_xTe, Te precipitation during recrystn. annealing, dislocation loops obs. 4-29633
 Si single crystal, plastic zone obs. from 650 to 900°C (Chinese) 4-39303
 Zn, slip, nonbasal, anomalous temp. depend. 4-15489

dislocation nucleation

- metals, FCC, interstitial-twin boundary interaction, computer simulation 4-6396
 pores, cylindrical, dislocation generation obs. 4-50294
 Fe, fracture, computer simulation using long-range pair potentials 4-50416
 Nb-Ta superconducting alloy, surface pinning 4-16001
 Si, Czochralski grown, segregation and precipitation of O, early stages 4-50525
 Si whiskers, internal friction, high-temp. max. 4-25191
 Si₃N₄, neutron irrad., defect aggregates 4-24876
 W, lattice and grain boundary dislocations, ion microscopy study (Russian) 4-50295

dislocation pile-ups

- α -brass, single crystals, SCC (Japanese) 4-41075
 internal friction, impurity grain boundary maximum theory (Russian) 4-6438
 metals, fracture toughness and microcrack growth (Chinese) 4-51774
 sintering, diffusion-dislocation mechanism, size effect in plastic self-indentation of solids in contact 4-51568
 steel, austenitic stainless, plastic deformation, early stages, TEM study 4-21268
 steel, ferritic, low C, with fine grain size, cleavage fracture 4-30802
 stress intensity factors and dislocation pile-ups 4-45136
 Cu, stacking fault energy and deform. twinning 4-15496
 Cu₂O, photoconductivity and birefringence, dislocations 4-15912
 Ni, intermediate temp. embrittlement 4-40955
 Ni₂Si₂B₁₇, metallic glass ribbons, plastic deform., slip bands, mech. tests, SEM obs. 4-16455

dislocation pinning*see also* **dislocation damping**

- capron, deformed, low temp. annealing, dislocation pinning by point defects 4-30718
 configurations in point obstacle networks with random unpinning forces (Russian) 4-50286
 crystal relief screening due to dislocation interactions with point defects 4-34532
 damping due to point defect drag of dislocations 4-50287
 damping peak associated with pinning-point drag, effect of depinning 4-2208
 dislocation-point defect interaction mechanisms 4-50340
 edge dislocation pinning by impurity cloud (Russian) 4-6394
 grain boundary dislocations, ledges and glide props. (Russian) 4-34500
 ice crystals pure and doped with NaCl, KCl and NaOH, internal friction meas. 4-29445
 metals, ion implantation appls. to wear resistance 4-6387
 point defect pinning of dislocations, US absorpt. and vel. calcs., vibr. string model modification (French) 4-50288
 steady-state model of dislocation motion with obstacle drag 4-34492
 steel, austenitic stainless, 800 H, creep rel. to struct., 900-1000°C 4-21287
 steel, dual-phase, Barkhausen jumps, effect of heat treatment in intercrit. temp. range 4-56694
 strain amplitude dependent dislocation damping with uniform point defect dragging 4-45264

dislocation pinning continued

- Al-Cu, low temp. internal friction peak mechanisms 4-50425
 Al-Mn, internal friction spectrum, plastic deform. effects 4-51719
 Al-Zn (11 wt.%), creep at intermediate temp., evolution of internal stresses and substruct. 4-57279
 Cu alloys, dil., γ -irrad. and deformed, dislocations, annealing, US absorpt. meas. 4-50303
 Cu, cold worked, internal friction behaviour during steplike heating 4-40881
 Cu, gamma irrad., anomalous modulus defect due to dislocation pinning, damping meas. 4-50302
 Cu, oxidised and reduced, electron irrad., dislocation pinning effects 4-39305
 Cu, reduced and oxidised, internal friction and Bordoni peaks, electron irrad. effects 4-40879
 KCl microcrystalline powders, colour centre stability, effect of dislocation thermal unpinning 4-2201
 Ni-H, plastically deformed, dislocation. relax. peaks involving H drag 4-29464
 Pb-In, Abrikosov vortex density effect on dislocation hysteresis losses (Russian) 4-6376
 Si:P, implanted, impurity drag on climbing misfit dislocations 4-34498
 Sm₂(Co, Cu, Fe, Zr)₁₇-type permanent mag. alloys, hardness rel. to coercivity 4-30223
 Zr, impurity interstitial-dislocation interactions, internal friction 4-50341

dislocation relaxation *see* **dislocation damping****dislocation scattering***used for carrier scattering by dislocations*

- Aharanov-Bohm problem, extended, solution 4-25314
 metals, pure and with given distrib. of impurities, vacancies, and dislocations, elec. resist. theory 4-39875
 semiconductor, elec. transport in dislocation core, one-dimensional conduction 4-15869
 semiconductor, photogalvanic effect in crystal with dislocations 4-6827
 Cu, dislocation scatt., de Haas-van Alphen meas. 4-6769
 GaAs_{1-x}Sb_x p-n junctions, reverse current, influence of dislocations 4-25435
 Ge, dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907
 n-Ge, plastically deformed, filling of dislocations by electrons, Hall effect study 4-29962
 K, electrical resist., effect of plastic deform., scatt. mechanisms 4-20622
 K-Rb, elec. resist., effect of plastic deform., scatt. mechanisms 4-20622
 Si, dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907

dislocation sources*see also* **Frank-Read sources**

- sintering, diffusion-dislocation mechanism, size effect in plastic self-indentation of solids in contact 4-51568
 statistical characts. simulation of dislocation structure formation along slip lines 4-2204
 GaAs, proton bombarded, nature of dislocation sources 4-11148
 Si, local oxidation induced dislocation generation near Si₃N₄ mask edges, HVEM study 4-29435

dislocation structure

- alloys, Laves phase structure simulation by polystyrene latexes, optical microscopy 4-50532
 BCC lattice, kinked screw dislocations, struct. and Peierls stress of isolated kinks 4-2206
 crystal dislocation struct., description using nonRiemannian geometry 4-6368
 crystalline specimens, calc. of tilt angles for obtaining stereo transmission electron micrographs 4-44905
 curved dislocation in two phase medium, elastic stress field 4-50289
 cyclotrimethylenetrinitramine, RDX explosive crystals, X-ray orientation, hardness 4-39178
 diamond, partial dislocations, 90°, core struct., valence force field calc. 4-15468
 edge dislocations, radiation annealing, radiation creep (Russian) 4-50285
 eutectic alloy, directional, model of subgrain boundary form. 4-51629
 ferrite plates, struct. of broad faces 4-39530
 ferrite plates, struct. of broad faces 4-39531
 ferrite spinel layers, heteroepitaxial CVD growth, dislocation structures, inner stresses, SEM, X-ray studies 4-11414
 IN738LC, cast superalloy, creep and fracture, 750-950°C 4-16493
 latent hardening and work softening of single crystals, predeform. effect 4-51688
 materials, irrad., mechanism of swelling suppression by cold work 4-29470
 metal, FCC and HCP, strain hardening theory, model 4-57246
 metals, ductile, deform. at crack tips 4-46621
 metals, FCC, yielding, plastic flow, microstructure, review 4-3176
 paratellurite, single cryst., morphology, dislocation struct., optical props. 4-55775
 polydiacetylene crystals, rad. damage, high resolution microscopy study 4-29480
 rare earth alloys, RCo₃, R₂Co₁₇, cryst. struct., polystyrene latexes simulation, metallography 4-50242
 relaxation processes characteristic times (Russian) 4-24816
 sapphire, dislocation struct., effect of nonstoichiometry 4-20202
 sapphire, plastic deform., dislocations, diffusion, review 4-20203
 sapphire, shaped, physical characts., growth and annealing conditions influence 4-24745
 sapphire single crystals, structured perfection rel. to growth mechanisms 4-29361
 semiconductor single crystals, melt grown, dislocation struct. rel. to growth conditions 4-29436
 semiconductors, dislocation mobility meas. atomic and electronic dislocation core struct. studies, review 4-15490
 sink strength of a dislocation tangle distrib., extension of effective medium method 4-15467
 sintering, dislocation structure, role in contact form. 4-2205
 statistical characts. simulation of dislocation structure formation along slip lines 4-2204
 steel, austenitic stainless, high temperature ageing of Alloy 800, carbide precipitation struct., TEM obs. 4-40826
 steel, austenitic stainless, strips, dislocation and phase struct. changes, caused by plastic deform. (Polish) 4-30752
 steel, austenitic stainless, thermal neutron irrad., solution annealed, microstruct. rel. to the content 4-29483

dislocation structure continued

- steel, austenitic stainless reactor creep, 30-650°C (*Russian*) 4-51735
 steel, C, forming, dislocation cells geometrical characts. (*French*) 4-29441
 steel, Cr, bearing, martensitic transform., effect of prior cold work 4-40784
 steel, ferrite-austenite stainless, deformed by rolling, microstruct. 4-40921
 steel, ferritic stainless 4-6377
 steel, fracture toughness rel. to high temp. thermomechanical treatment, recrystallised austenite grains 4-3233
 steel, low alloy, V, dispersion hardening, brittle fracture resist. 4-51680
 steel, maraging, Ni-Co-Mo, H compensation of lattice defects, positron annihilation Doppler broadening obs. 4-12290
 steel, Mn-Nb, impact fracture at low temps. (*Chinese*) 4-16471
 steel, stainless, lath martensite, crystallography and microstructure 4-45139
 transmission X-ray topography, skew-symm. photographs, influence of source width 4-24686
 Ag halide tabular grains, disorder, stacking faults and twinning dislocations 4-45146
 Al bicrystals, creep deform., grain boundary sliding, dislocation absorpt. 4-12122
 Al, directional strain softening, cell boundary dissolution 4-12083
 Al dynamic modulus and dislocation segment distributions during deformation 4-3161
 Al, electron and gamma irradi., void form., dislocation struct., electron microscopy (*Russian*) 4-24869
 Al, internal friction, dynamic modulus meas., dislocation segment distrib. effects 4-50304
 Al-Al₂O₃ oxide dispersion strengthened, high temp. strength 4-40889
 Al-Cu, single crystals, containing θ' precip., cyclic deform., orientation and history depend. 4-12102
 Al-Fe (0.6 wt.%), cold drawn wire, dynamic recrystallisation 4-12079
 Al-Zn (5 wt.%), stress exponent and subgrain size, effect stress reductions 4-16446
 Bi₁₂SiO₂₀, monocrystalline plates grown from melt by Stepanov method 4-25871
 Ca(VO₄)₂, monocrystalline plates grown from melt by Stepanov method 4-25871
 CdS, plastically deformed cryst., optical props. 4-16234
 Cu, cyclic stress-strain response and dislocation struct. in polycryst. 4-57290
 Cu, dislocation cell structure in deformed [001]-oriented single cryst., X-ray line broadening study 4-50290
 Cu, fatigue dislocation structures at elevated temperatures 4-12173
 Cu fatigued single crystals oriented for double-slip, dislocation structures, TEM obs. 4-15485
 Cu, irradiation creep due to elastodiffusion 4-55863
 Cu, polycryst., fatigue cracks, threshold stress intensity and dislocation struct. 4-40961
 Cu, rolled, texture, dislocation struct. 4-21234
 Cu, single crystal, multiple slip oriented, persistent slip band structure 4-55841
 Cu, single crystals, deform. struct. and nucleation of dynamic recryst. 4-12101
 Cu-Ni-Si, thermomech. treatment, elec. resist. obs. (*Japanese*) 4-25982
 Cu-Si (6.5 at.%), with low stacking fault energy, in situ deform., HVEM (*French*) 4-12100
 Cu-(Al₂O₃) single crystals, cold rolled, deform. struct. rel. to second phase particles 4-12111
 Fe, cold worked, dislocation struct. adjacent to fatigue crack tips 4-16496
 Fe, fatigue crack propag. rel. to intermittent oversteering 4-21326
 Fe, high purity, transient creep at low stresses and homologous temps. 4-3169
 Fe, irradiation creep due to elastodiffusion 4-55863
 Fe-Au (0.18 at.%), grain boundary struct., effect of solute segregation 4-45143
 Fe-base alloys, stability of extrinsic grain boundary dislocations rel. to segregation and precip. 4-7458
 Fe-Mo-C, ageing, interstitial phase formation, kinetics and morphology 4-21228
 Fe-Ni-C alloys, austenite-martensite interface and dislocation struct. 4-7457
 Fe-Si, interaction with molten In, dislocation formation (*Russian*) 4-6375
 Fe-V-C, ageing, interstitial phase formation, kinetics and morphology 4-21228
 Fe-V-Ni solid solution, deformed-and-recovered, dislocation substruct., influence of processing parameters 4-57292
 GaAs, crystal defects obs. by X-ray topography and SEM transmission cathodolum. 4-6360
 GaAs semi-insulating LEC single crystals, dislocations, transmission cathodolum. obs. 4-20195
 Gd₃Fe₂O₁₂ garnet, orientational mag. transitions 4-16030
 Ge crystal, cyclic bending failure, fracture surface structure 4-20287
 Hg_{1-x}Cd_xTe heterojunctions, misfit dislocations, dangling bond densities, epitaxial growth theory 4-39706
 HgI₂ single cryst., plastic deform. and dislocation struct. 4-6428
 InGaAsP/InP multilayers grown by MBE, hillock defects 4-50675
 InP, LEC growth, control of dislocation structures 4-39297
 InP:Sn(S)(Zn) crystal, liq. encapsulation Czochralski grown, defect struct., synchrotron X-ray topography 4-45137
 InSb, dislocation mobility, plasticity, X-ray Lang topography study 4-15484
 KCl single cryst., dislocation struct. evolution during isothermal annealing (*Russian*) 4-39302
 LiF, deformed in contact with external medium, dislocation distrib. in surface layers 4-11149
 LiF single cryst., dislocation struct. evolution during isothermal annealing (*Russian*) 4-39302
 LiNbO₃ single cryst., dislocation struct. of subboundaries, Au decoration study (*Chinese*) 4-50291
 LiTaO₃ single cryst., dislocation struct. of subboundaries, Au decoration study (*Chinese*) 4-50291
 Li₂TiSi₂ intercalate, struct. and dislocations 4-20168
 Mg, electron irradi., Bordoni peak amplitude and temp. variations (*French*) 4-50431
 Mg-Mn(1.58 wt.%), precipitation, TEM and elec. resist. obs. 4-12070
 MgAl₂O₄, dislocation struct., effect of nonstoichiometry 4-20202
 Mo-Ir, zone melt grown, impurity distrib., dislocation struct., conc. depend. 4-24846

dislocation structure continued

- Mo-Ir, zone melt growth with rot., impurity distrib., dislocation struct., conc. depend. 4-24847
 NaCl single cryst., dislocation struct. evolution during isothermal annealing (*Russian*) 4-39302
 NaNO₃, plastically deformed, disloc. struct., selective etching studies 4-11151
 Na₂TiSi₂ intercalate, struct. and dislocations 4-20168
 Nb, strain aging under stress, model appl. 4-3153
 Ni, dislocation density variation under creep (*Russian*) 4-50298
 Ni foil, dislocation structures in near twin boundaries 4-15488
 Ni, polycryst., fatigue development mechanism during thermal cycling 4-35699
 Ni, pure, secondary creep parameters analysis 4-7530
 Ni-base superalloys, particle strengthened, anelastic relaxation, cyclic creep and stress rupture (*Chinese*) 4-16428
 Ni-Cr-Al-Y(Zr), transient oxide scale form. and struct. 4-7638
 Ni-Fe-Mo alloy, thermal treatment effect on dislocation structure (*Polish*) 4-30724
 Ni₃Cu₃Sn₂₅, massive and martensitic transform. structures 4-21214
 PbTe-PbS epitaxial bicrystals, dislocation superlattice characts. 4-11150
 Pt, catalyst particles, ledge growth defect struct. 4-20207
 Si, core dislocation struct. study by high resolution electron microscopy (*French*) 4-15474
 Si, dislocation core structure, elucidation by high resolution electron microscopy 4-15473
 Si, dislocation structure and energy levels 4-15840
 Si, dislocation structure at lower yield point, quantitative TEM anal. 4-20199
 Si, EBIC contrast from dislocations, temp. depend. 4-15479
 Si, orientation of straight edge dislocation, impurity atmosphere form. effect 4-2203
 Si, partial dislocation, 90°, valence force-field geometry and electronic states 4-20603
 Si, partial dislocations, 90°, core struct. and electronic bands: 4-45134
 Si, polycrystalline, dislocation content of some near-coincidence grain boundaries 4-20200
 Si, undissociated 60° dislocations, lattice images 4-20197
 Si:P layers, impurity diffusion, incompatibility dislocation struct. effect 4-11343
 Si-on-insulator, buried oxide, laser recrystallised and graphite strip heater recrystallised systems 4-25887
 α -TeO₂, paratellurite, single crystal, etching in aq. KOH, RbOH and CsOH 4-57367
 W, lattice and grain boundary dislocations, ion microscopy study (*Russian*) 4-50295
 W₂C, hemicarbidic, deform. mechanisms (*French*) 4-16457
 ZnSe(Te), plastic deform., defect struct., photoplastic effect, TEM 4-15483
 Zr, dislocation struct. and strain hardening during creep at 77K (*Russian*) 4-24817

dislocation translation *see slip***dislocations**

- For pipe diffusion, see diffusion in solids. See also dislocation see also Bordoni effect; Cottrell atmospheres; disclinations; edge dislocations; grain boundaries; prismatic dislocations; screw dislocations*
 acoustic contrast calc. for isotropic medium 4-6373
 adsorbate system, commensurate melting, domain walls, and dislocations 4-29788
 adsorbed atoms on anisotropic rectangular lattice, commensurate-incommensurate system, Schultz-Halperin-Henley model 4-20471
 alkali metal halides, solid-phase version of Stokes expt. 4-29666
 bicrystal, anisotropic, elastic fields of dislocations piercing interface 4-6369
 configurations in point obstacle networks with random unpinning forces (*Russian*) 4-50286
 crack dislocation model of brittle fracture, deform. and thermodynamic response 4-29516
 damping materials, mechanisms and appls. 4-40850
 deformable polycrystalline samples, plastic rotations of the lattice (*Russian*) 4-50406
 diamond, electron states associated with partial dislocations, tight-binding calc. 4-15850
 diamond, vacancy and partial dislocation energy levels, first principles calc. 4-15851
 diffusion in dislocations, computer-simulated random walk anal. 4-45133
 diffusion-controlled absorpt. or desorption in dislocation containing solids 4-45427
 EBIC contrast of dislocations, recombination strength calc. 4-34496
 electroluminescence around single dislocations, theory 4-51347
 elemental semiconductors, lattice defect effects in induced current scanning microscopy 4-15481
 ferroelectrics, fracture micromechanisms, dislocation models 4-6436
 glide, multiaxial creep laws 4-55839
 grain boundary, Fresnel effects and high resolution images 4-39068
 grain boundary dislocations, extrinsic model of nonequilib. changes 4-15495
 grain boundary dislocations, ledges and glide props. (*Russian*) 4-34500
 graphite, precipitation of intercalants onto dislocations 4-15654
 ice crystals, deformed, dislocations at large-angle grain boundaries, generation and absorpt. 4-29439
 ice Ih, defects studied by very low freq. internal friction meas. 4-29444
 III-V compounds, dislocation energy states, exptl. studies review 4-15843
 III-V layer compounds, polytypism, review 4-39245
 inhomogeneous struct. of shock loaded solids 4-29526
 internal friction and US attenuation in solids, conf., Villeurbanne, France (July 1983) 4-36782
 loading discontinuities, elasticity, singular integral eqn. validity 4-32043
 metal, mag. susceptibility, near electronic transition, dislocation contrib. (*Russian*) 4-25514
 metal overheating study, dislocation covers 4-34621
 metallic epitaxial bilayers, accommodation and misfit dislocations obs. (*French*) 4-45557
 metallic glasses, defects, variable energy positron studies 4-51406
 metals, He irradiated, pore development during annealing, He tubular diffusion effects 4-15557
 metals, plastic deformation and cracking, dissolution effects 4-7526
 metals, yield stress, grain size effects 4-26012
 nonlinear eqns. of continuum theory 4-15470

dislocations continued

nuclear spin wave-defect interaction and NMR line width (*Russian*) 4-25641
 optical props., photoacoustic methods, review 4-16217
 N-(4-n-pentyloxybenzylidene)-4-n-hexylaniline, static and viscoelastic props. of various smectic phases 4-39095
 polycrystalline aggregates, triple lines as disclinations 4-39307
 polyethylene crystal, dispirations, disclinations, dislocations and chain twist 4-11012
 polyethylene crystallisation, twisting orientation and transient states 4-39173
 positron annihilation studies of vacancy-type defects, review 4-40560
 radiation defects in crystals containing dislocations, mathematical simulation (*Russian*) 4-24851
 rectangular lattice gas model and 2-D ANNNI model in a field 4-20466
 semiconducting materials, microscopy studies, conf., Oxford, England (Mar. 1983) 4-17636
 semiconductor, deep levels at dislocations 4-15842
 semiconductor, hole-capture cross section of charged dislocations 4-29986
 semiconductor, polar with dislocations, carrier recombination and exciton-phonon interaction 4-20671
 semiconductor materials and devices 4-34379
 semiconductor passivation and protection in solar cells 4-57377
 semiconductors, cathodoluminescence studies of dislocations 4-16258
 semiconductors, dislocation properties and struct., Colloquium, Aussois, France (Mar. 1983) 4-13475
 semiconductors, EBIC contrast and SEM methods 4-15478
 solitons in solids, review, book contrib. 4-6362
 sputtered amorphous film, mag. saturation, defects, anisotropy and surface roughness effects 4-30252
 steel, austenitic, He ion implanted He bubble nucleation at grain boundaries, TEM studies 4-25034
 steel, carbon, hardness and residual austenite, cooling rate effects during quenching (*Russian*) 4-25981
 steel, Cr-Mo low alloy, coercivity and microstruct., TEM studies 4-7492
 steel, low alloy structure, dynamic props., appl. of plastic wave theory (*Chinese*) 4-3173
 TGS, light scatt. by dislocations, orientation depend. 4-56955
 two-dimensional electron lattice, dislocation-mediated melting 4-6480
 two-dimensional phase transitions, dislocations and melting, crit. region 4-34612
 weakly coupled layers, dislocation mediated melting 4-50476
 Al, internal friction peaks connected with grain boundary sliding 4-50433
 Al, internal friction peaks at high temp., inverted flexure pendulum meas. 4-55919
 Al, orientation depend. of special grain boundary energy 4-2217
 Al-Zn-Si (12, 6 wt.%), kinetics of phase transitions after deformation by quenching 4-30750
 Al₃Ni-Al fibre matrix eutectic alloy, interphase boundary struct. 4-6667
 Al₃Ni-Al fibre matrix eutectic alloy, interphase boundary geometrical modelling 4-6668
 Au (111) surface elastic and plastic deform. obs. 4-39653
 Au₂Zn(H), dissociated antiphase boundaries and dislocations 4-29645
 BaF₂-Ge(InP), epitaxial interfaces, misfit dislocations, electron microscopy anal. 4-11410
 BaFCl, cryst. growth by flux technique, etching, impurity effect 4-2107
 BaTiO₃ ferroelectric crystals, with spiral dislocations, thermodynamic study above Curie point 4-30401
 CaCO₃, calcite, blue colour rel. to radiation damage 4-11143
 CaSO₄·2H₂O, gypsum, dislocation obs. by HVEM 4-50297
 CdS, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 CdTe, defects study by scanning acoustic microscopy 4-6361
 CdTe, long-time photoconductivity relax. (*French*) 4-15913
 CdTe, plastic deform., thermopower and elec. props. 4-39943
 CdTe, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 Cu-Al-Co (15, 2 at.%), FCC heterophase single crystals, twinning and brittle fracture 4-12174
 Cu-Al-Ti (1.2, 2.7 wt.%), FCC heterophase single crystals, twinning and brittle fracture 4-12174
 CuZn, dislocations, Burgers vector determ., HVEM 4-45138
 Fe, cast, grey, internal friction and graphite precipitates 4-40876
 Fe, internal friction, creep, dislocations (*French*) 4-51715
 Fe, magnetic domain wall motion and magnetomech. damping (*French*) 4-40214
 Fe-Si-Al ferromagnetic alloy, mech. strength in mag. fields (*Russian*) 4-35677
 FeH₂, internal friction and microdeformation (*French*) 4-50426
 GaAs epitaxial layers, plastically bent, dislocation levels, DLTS study 4-25279
 GaAs, large diameter crystals, IR absorption nonuniformities, photoinduced quenching 4-51304
 GaAs:Cr, semiinsulating, dislocation grain boundaries, photoEMF, photoconductivity spectra 4-15919
 GaAs:Si, LEC grown, dislocations study 4-34499
 GaAs:Te, impurity distrib. around dislocations 4-11175
 GaP, single dislocations, recomb. efficiency 4-55831
 GaP:N epitaxial layers, deep level induced by plastic deform., TSC meas. 4-2538
 Gd₂(MoO₄)₃, acoustic wave interaction with ferroelastic domain walls 4-39367
 n-Ge, capacitance transient spectroscopy of states localised at dislocations 4-15846
 Ge, characterisation for nuclear radiation detectors 4-2550
 Ge, dislocation disloc. after reverse motion along a slip plane 4-29437
 Ge radiation detector fabrication, overview 4-1000
 Ge:Ga, diffusion of Ga along small angle grain boundaries 4-6563
 He adsorbed monolayer, solid, props. and melting transition 4-2402
 III-V heterostructure layers, interface defect struct., etch pits obs. on chem. bevel (*French*) 4-15772
 InGaAsP, defects study by scanning acoustic microscopy 4-6361
 InGaAsP-InP LPE double heterostructure, cathodolum. anal. 4-35497
 InP, defects study by scanning acoustic microscopy 4-6361
 InP/InGaAsP aged LEDs, dark spot defects 4-56999
 InP-InGaAsP emitters, sources of defects 4-25189
 Mn-Al-C magnets, microstruct., effect of Ni addition, SEM and TEM study 4-29642
 Mo-N, Snoek relaxation, internal friction study 4-51711
 NH₄HSO₄, incommensurate antiferroelec., dislocations and time-dependent dynamics, NMR study 4-35382

dislocations continued

NaBrO₃, growth from aq. soln., selective etching, microhardness studies 4-3264
 NaCl, deformation-induced vacancy clusters, annealing behaviour 4-29428
 NaCl, isolectric temp., rel. to vacancy form. energy 4-15465
 Ni₃MnGa, Heusler alloy, plastic deform. occurring during cold work, PAC study 4-56827
 NiO-Ni scales interface form. by oxidation, defect microstructures, TEM obs. 4-25168
 NiSi₂/(001)Si interface, atomic struct., TEM study 4-20506
 NiSi₂/Si (001) 4-39695
 Pb-In, with dislocations, mag. field penetration (*Russian*) 4-56486
 Pb_{1-x}Sn_xTe, single cryst., structural defects, X-ray topography, double-cryst. spectrometry 4-45130
 PdMnSb, Heusler alloy, plastic deform. occurring during cold work, PAC study 4-56827
 Si, capacitance transient spectroscopy of states localised at dislocations 4-15846
 Si, carrier spin-dependent recomb. at dislocation dangling bonds 4-15848
 Si, characterisation for nuclear radiation detectors 4-2550
 Si, diffusion of P, influence of orientation 4-56083
 Si, dislocated crystal, photolum. study 4-16235
 Si, dislocations, static and moving, localised electron states calc. 4-6733
 Si, laser irradiated, melting mech. 4-20248
 Si, p-type (100), oxidation in steam, defects study 4-2218
 Si, plastic deform., deep level defects 4-15845
 Si, proton and γ-ray irradi., point defect-group radiation defect interactions 4-34531
 Si, pulsed electron beam annealing, struct. defects induced by thermoelastic stresses, SEM studies 4-24822
 Si, reconstructed dislocations, energy levels and defect props. calc. 4-15841
 Si wafers, long-time processed, Cu precip., cryst. defects, TEM, DLTS studies 4-2192
 Si:B⁺(BF₃⁺) implanted slices, TEM studies after annealing and oxidation 4-24823
 Si:BF₃⁺ implanted, oxidation generated defects, TEM studies 4-24824
 Si:Fe, single crystals, rel. to thermal defects, radioactive tracer and ESR investig. 4-25090
 Si:H, dislocated, hydrogenation, DLTS study 4-15504
 Si:P, annealed, shallow donor complex, photocond. spectra 4-45669
 Si:Sb ion implanted solid soln., partially coherent Sb precipitate form. 4-29629
 Si-metal contacts, I-V characts. model 4-30070
 SrF₂:La, polarisation and depolarisation processes 4-16140
 Ti-Nb-Ta-Zr, supercond., flux pinning, role of α precipitates 4-45966
 W filament, polycryst., deform. characts., effect of Cu and Ta coatings 4-57391
 W, plastically deformed, Auger electron intensity meas. 4-30572
 ZnSe, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 ZnSe:N⁺, void formation on annealing TEM study 4-45210
 ZnTe, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 ZnTe:P,Na, pure and doped, defect struct., TEM and photoluminesc. study 4-51321
 Zr, plastic deform. effect on internal friction 4-50428

disordered systems, vibrational states see vibrational states in disordered systems

disperse systems

see also aerosols; Brownian motion; colloids; dust; emulsions; foams; fog; gels; powders; smoke; sols; suspensions
 concentrated dispersions of deformable particles, Arrhenius viscosity-vol. fraction relationship 4-14935
 conductivity, struct. effect 4-2386
 diffuse medium of uniform latex microspheres, psec. pulse propag. expts. 4-28627
 dilute dispersion, sedimentation with vertical inhomogeneities 4-49873
 doublets of spheres, slip coeff. 4-31036
 electromagnetic fields in dispersive medium, constitutive rels. 4-36851
 flocculation by water soluble polymers, regularities, kinetics and mech. (*Russian*) 4-41266
 flow-microfluorometric equipment with laser excitation for investigation of microscopic particles (*German*) 4-13743
 fluidised beds, external heat transfer coeffs. 4-19878
 gray medium, heat conduction and radiation, anisotropic scatt. effect 4-44344
 heat and mass transfer, conf., Minsk, USSR, Sept. 1980 4-17627
 ice dispersed microcrystals, dielectric study by depolarisation thermocurrent technique 4-30383
 laser particle counter using pulse height analyser 4-44133
 latex particles, swelling method 4-35668
 liquid-liquid dispersions, drop coalescence by flow through glass fibre beds 4-44712
 liquid-solid powder close systems, stability conditions, thermodynamic props. (*French*) 4-35944
 lyotropic phases, dispersed, as carrier for active substances 4-52551
 micellar solutions, laser light scatt., absolute intensity calibration 4-51289
 monodisperse atomisation of liq. by rotating atomiser blow with airflow 4-16695
 nebulisers, flow processes of compressible and incompressible media, review 4-1774
 particle concentration and size in liquids meas., using light scattering based apparatus 4-8868
 particle dispersion in turbulent flow, crossing trajectories effects 4-29065
 particle interactions in powder mechanics conf., Eindhoven, The Netherlands (Aug. 1983) 4-47746
 particulate clouds and mol. gases in cylindrical system, radiative heat transfer 4-19706
 penetrable spheres dispersion, expected surface area and its characteristic function 4-32165
 Poiseuille flow, diffusion and convection calc. using Monte Carlo technique 4-5961
 polydimethyl siloxanes, oligomeric, mixtures with long-chain unbranched alkanes, miscibility, cloud pt. curves 4-11300
 polydisperse systems, characteristic light scatt. functions 4-41267
 polydisperse systems, phase separation, symmetry aspects 4-6471
 polymer, dispersive, thermal cond. coeff. meas. method 4-37100

disperse systems continued

- polymer dispersions, aqueous, particle size distribution meas. using Rayleigh-Hans turbidity spectra 4-16691
 polymer films, two-phase mixtures, mech. strength 4-40894
 polystyrene solutions in mixed solvents of acetone with n-alkanes, demixing behaviour, classic cosolvency 4-11302
 polystyrene solutions in mixed solvents of acetone with n-alkanes, free vol. theory applic., cosolvency 4-11303
 polystyrene solutions in n-alkanes, upper and lower crit. soln. temps., demixing behaviour 4-11301
 porous, isothermal sublimation kinetics 4-2316
 rodlike polymer behaviour in conc. solns., polydispersity effect 4-34026
 sieve tray, air-water mixture liquid dispersion and efficiency 4-44686
 solid disperse material bed, steam condensation 4-19833
 spatial averaging method for functional operator synthesis 4-21498
 spherical particles, interceptional and gravitational collision efficiencies of single collectors 4-1815
 spherical particles diffusing in fluid, local size distrib., meas. technique (French) 4-15032
 spray column, direct contact evaporation, theoretical anal. 4-39450
 turbulent two-phase flow, particles motion 4-10730
 two-phase liquid dispersion, phase separation techniques 4-55437
 ultradisperse systems, thermodynamics of vacancies 4-15466
 variable mass particle dynamics during drying of dispersed material in pneumatic dryer 4-33926
 viscosity statistical continuum method 4-26231
 water-in-oil dispersions, electrostatic coalescence, phase ratio effects 4-46801
 $\text{Al}_2\text{O}_3\text{-Cr}_2\text{O}_3$ finely dispersed oxide, solid-phase reactions 4-57118
 $\text{D}_2\text{-Ne}$ gas mixtures, ultrasonic absorpt. and dispersion meas. 4-1866
 Ni based ferrofluid, struct. and particle size distrib. 4-31037
 Si powder, in disperse systems, wetting and dispersion props., van der Waals forces 4-2408

dispersion (wave)

see also *acoustic dispersion*; *optical dispersion*

- EM, scale-invariant systems, free waves, general wave eqn., dispersion 4-28606
 laminated composite, isotropic, Love waves, dispersion relations analysis 4-44468
 nonlinear media, modulation instability, envelope solitons, coupled mode approach 4-1531
 plasma dispersion eqns., nonpotential waves in cylindrical waveguide 4-6092
 preaccelerators, heavy ion, branched coaxial and bifilar shielded lines, dispersion eqns. 4-23440
 space charge wave propagation above statistically uneven surface, dispersion 4-16150
 wave dispersion and dissipation, nonlinear eqns. with singular integral terms, exact solns. 4-42737
 GaS, refractive index dispersion, 80, 300K, temp. depend., single oscillator model anal. 4-25709

dispersion hardening

see also *precipitation hardening*

- edge dislocation-circular inclusion interactions, at elevated temps. 4-20190
 metallic materials, dispersion strengthened, back stress in dislocation creep (Czech) 4-7513
 steel, Cr-Mn-(Ni)-(V), high N, struct. and mech. props., heat treatment effect 4-30732
 steel, dispersion strengthened, optimisation of mech. props. by suitable heat treatment 4-46522
 steel, low alloy, V, dispersion hardening, brittle fracture resist. 4-51680
 Ag contact composites, TEM obs. WRT optimum antifriction and elec. erosion characts. 4-7596
 $\text{Al-Al}_2\text{O}_3$ oxide dispersion strengthened, high temp. strength 4-40889
 $\text{Al-Al}_2\text{O}_3\text{-MgO}$ cast particle composite, fracture ductility, SEM obs. 4-21299
 Al-Cu-WC, sintered, precip. and particle-hardening, combined effect 4-21186
 Al-Hf-Al₃Hf, lattice parameter variation, dispersion hardening characts. 4-11043
 Al-Li, rapidly solidified, deform. rel. to second phase dispersoids 4-7524
 Al-Mg-Si, B₄C reinforced 6061, ageing reactions 4-40808
 Al-Mg-Si, peak aged, fatigue crack propag., dispersoid particles effect 4-21324
 Al-MgO, dispersion strengthened, qualitative fracture anal. (Slovak) 4-46600
 Al-Ti-Al₃Ti, lattice parameter variation, dispersion hardening characts. 4-11043
 Al-V-Al₃V, lattice parameter variation, dispersion hardening characts. 4-11043
 Al-Zr-Al₃Zr, lattice parameter variation, dispersion hardening characts. 4-11043
 Al_2O_3 particle reinforced $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$ glass, density, AC cond., thermal expansion, transform. range 4-39563
 $\text{Al}_2\text{O}_3\text{-SiO}_2\text{-ZrO}_2$ toughened, reaction sintering, effect of MgO additions 4-21187
 $\text{Al}_2\text{O}_3\text{-ZrO}_2\text{-Y}_2\text{O}_3$, transform. toughening by dispersed partially stabilized tetragonal ZrO_2 4-51682
 Cu, friction and wear, transfer layer microstruct. and hardness 4-30831
 Cu-Al single crystals, Al_2O_3 particles disposed in peripheral layer, plastic deform. rel. to layer thickness 4-35671
 Cu-Al₂O₃ single crystals, cold rolled, stored energy, recrystallisation kinetics, second phase particles effect 4-12081
 Cu-Fe, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
 Cu-MgO dispersion hardened alloys, optimisation of prep. conditions 4-7399
 Cu-SiO₂, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
 Cu-ZrO₂, martensitic nucleation in ZrO₂ particles 4-3136
 Cu-(Al₂O₃) single crystals, cold rolled, deform. struct. rel. to second phase particles 4-12111
 Fe, TiO₂ dispersion hardened, plastic deform. and fracture mechanisms 4-46582
 Fe-Y₂O₃ dispersion strengthened, fatigue crack growth rate 4-35693
 Mo alloys, strength under biaxial tension, 293-1800K 4-7533
 Mo-Ti-Zr alloy Tsm2A, struct. and creep after internal nitriding 4-3147
 Ni-base superalloy, oxide dispersion strengthened, anelastic relaxation, cyclic creep and stress rupture (Chinese) 4-16428

dispersion hardening continued

- Ni-base superalloys, dispersion strengthened, Hf-bearing, incipient melting (Chinese) 4-7462
 Ni-Cr-W superalloy, dispersion hardened, steady-state creep, phys. parameters 4-51762
 Ni-ThO₂, dispersion hardened, steady-state creep, phys. parameters 4-51762
 $\text{Ni}_2\text{Si}_3\text{B}_7$ metallic glass, yield and deform. rel. to second phase particle additions 4-51725
 $\text{Ni}_2\text{Si}_{10}\text{B}_{12}$ amorphous composite, particle-dispersion hardening 4-46518
 Pd-Cu-Ag, precipitation hardening study (Russian) 4-7476
 Ti alloys, rapid solidification processing, strength and microstructure 4-7443
 Ti alloys, rapidly solidified, microstruct. 4-30697
 $\alpha\text{-U}$, high temp. strength, flow stress. rel. to Al, Fe and Si additives 4-16447
 W alloys, heat-resistant, alloying principles 4-51622

dispersion power, rotatory see *optical rotation*

dispersion relations

- see also *dispersion (wave)*; *Kramers-Kronig relations*; *Mandelstam representation*; *N/D method*; *phonon dispersion relations*; *phonons*; *plasma instability*; *plasma waves*; *S-matrix theory*
 anthracene, polariton group velocity meas. 4-39789
 ballooning mode spectrum in general toroidal systems 4-6059
 charmed baryon-pion elastic scatt., dispersion theory sum rules and coupling consts. determ. 4-37311
 Compton effect, diff. cross section, t-channel helicity amplitudes and dispersion inequalities 4-18268
 Compton effect dispersion inequality optimality for nucleon 4-9113
 dielectrics, polariton dispersion relations and damping, ATR, light scatt., nonlinear optical processes meas. 4-25245
 electron beam-plasma system, EM wave parametric decay 4-44834
 electron cyclotron absorpt. coeff. at fundamental freq. in Doppler regime, analytical approx. 4-6117
 electronic systems, chaotic renormalisation approach 4-50702
 equilibrium statistical mechanics treatment of a 'modified' two-dimensional guiding center plasma 4-24525
 ferrimagnetic semiconductors (Russian) 4-39831
 ferrite films, backward internal magnetostatic waves reflection from metal halfplane 4-35162
 ferromagnet, easy plane type, spin wave spectrum in presence of impurities with competing anisotropy 4-25537
 fusion plasma, EM ion-cyclotron wave propag. 4-1926
 gyrotropic crystals, degenerate excitations, dispersion relation 4-29891
 gyrotropic media, optical problems in electrodynamics 4-7168
 Heisenberg ferromagnet, spin-wave dispersion, small dilution correction 4-46017
 hot QCD plasma, $q\bar{q}\rightarrow e^+e^-$ as chiral symm. probe 4-43324
 hot-electron ring stability, anisotropic press. and finite hot-electron Larmor radius effect 4-6061
 lattice gauge theories, SU(2) and SU(3), Lorentz invariance restoration, glueballs 4-48312
 light elements, soft X-ray forward Rayleigh scatt., bound-bound transitions in dispersion relation 4-9713
 longitudinal stability limit for electron bunches in double RF system 4-5070
 Orr-Sommerfeld eqn. soln. for large Reynolds numbers 4-10723
 partial wave, Loewner interpolation 4-17754
 percolation clusters, anomalous acoustic behaviour and backbone structure 4-37034
 n-piezoelectric semiconductors, longitudinally magnetised, Raman instability calcs. 4-30493
 plasmons, transverse, in electron gas 2-D, current-current response function, dispersion relation 4-27405
 ponderomotive effects in nonneutral plasmas 4-24556
 randomly rough surface, surface plasmons, dispersion relations 4-20584
 relativistic electron beam in plasma, dispersion relation 4-6062
 semiconductors, covalent diamond-like, exciton dispersion law, variational calc. 4-50734
 transient waves in stratified flows, Laplace-Fourier transforms (Chinese) 4-49866
 $\gamma\gamma\rightarrow\pi\pi$, fixed momentum transfer dispersion relations in reson. dominance approx. 4-27738
 ΠN σ -term using dispersion relations, chiral and scale invariance breaking 4-13915
 a-Ge, refractive index dispersion temp. depend. 4-30429
³He, superfluid, low temp. A-phase, US dispersion relation, cusp at $\omega=2\Delta_{\text{A}}(T)$ 4-56113
⁴He(π,π), 0-300 MeV, elastic scatt., phase-shift anal. 4-27906
 n-InSb, longitudinally magnetised, Raman instability calcs. 4-30493
 n-InSb, stimulated Brillouin scatt., Brillouin instability 4-56948
 Si inversion layers, 2-D plasmons, dispersion laws 4-25266
 a-Si:H, P films, transient-photoacoustic studies 4-40094
 Ta₂O₅, effect of oxide additions on elec. cond. 4-50810
 TiN, optical props. study 4-7151
 YIG, 'pseudo-acoustic' magnon dispersion, anomalous anisotropy 4-25530

dispersions see *disperse systems*

dispersoids see *disperse systems*

displacement measurement

- behavioural research, startle transducer for small-animal movement meas. 4-36263
 blade vibrational displacement and stress meas. using time-average holographic interferometry (Chinese) 4-49786
 comparative holographic moire interferometry in real time 4-54977
 cylinder high-resolution rotation-angle meas. using speckle displacement detect. 4-13615
 diaphragm deflection sensing with fibre optic method 4-38590
 diaphragm NDT by multiperture speckle shearing technique 4-26143
 differential movement observation using dynamic interferometric technique 4-19400
 dynamic displacement interferometer with improved sensitivity using laser detector 4-284
 Fabry-Perot etalons control, using capacitance micrometry 4-22832
 fibre end interferometric sensor using cooperative retroreflectors 4-10443
 fibre optic gauge appl. 4-4398
 fibre optic sensors, total internal reflection, designs and pot. appls. 4-5721
 fringe movement observation technique for fibre interferometers 4-43041
 gravitational constant determ., fine displacement of cylindrical masses meas. (German) 4-37267

displacement measurement continued

- hologram interferometric system for 3D displacement meas. in industry 4-38431
- hologram regulated path length interferometry, 3D displacement meas. 4-37067
- holographic and speckle interferometry, book 4-53375
- holographic interferograms of displacement field, computer-based evaluation 4-38426
- holographic interferograms of pure translations, automated digital analysis 4-38427
- holographic interferometry, 3D displacement and strain determ. for non-plane objects 4-37066
- holographic interferometry, fringe modification with amplification, appl. for strain and rot. determ. 4-38425
- holographic interferometry of displacements 4-49296
- holographic measurement of 3D displacements using holographic plate 4-37068
- holographic moiré technique, real-time, for slope change meas. 4-54985
- laser beam apparatus, design and operation (*Japanese*) 4-4375
- laser displacement meas. instruments, Michelson interferometer interf. signal 4-43047
- laser meter for vibration displacement, using Michelson interferometer 4-32236
- linear displacement transducer 4-53655
- linear displacement transducer development for AGR environments 4-771
- local displacement analysis using sandwich-speckle holography 4-5558
- measuring-data acquisition using displacement sensors, principles, design, application 4-48086
- microdisplacement measurements by holographic digital image processing 4-42912
- moiré fringe appl., computerised data acquisition and processing 4-17886
- moiré fringe multiplication technique for measuring small displacements 4-231
- nuclear power industry, inductive transducer appl. 4-773
- nuclear reactor instrumentation, review 4-23267
- optical grating transducers, novel appls. 4-49498
- optical methods, using neutral wedge and cylindrical lenses 4-32234
- optical point sensors for process control, conf., London, England (Jan. 1984) 4-36805
- out-of-plane surface movement inspection over small areas using electronic speckle pattern interferometry 4-17927
- real-time interferometry using IR holography on oil films 4-38422
- rigid body displacement meas. using holographic interferometry 4-1369
- rotating structure strain meas., electronic speckle pattern interferometry using pulsed laser 4-49783
- small displacement measurement using dynamic two-freq. interferometry 4-32303
- smoothed coherent transform method of holographic detection 4-22749
- speckle displacement meas. using 2-D level-crossing technique 4-14640
- speckle interferometry and other inspection techniques 4-43036
- speckle photography fringe formation, cross-correlation function 4-49270
- speckle shearing interferometry, single-aperture, with single grating 4-37154
- surface strain measurement using optical-heterodyne method 4-49787
- Transducer Tempcon, conf., London, England (June-July 1982) 4-53350
- transparent planar model, stress anal. using experimentally numerical method (*Czech*) 4-38772
- transvastrain testing machine, vel. and displacement meas. 4-46721
- US amplitude measurement and calibration using laser interferometer for wire bond 4-33704

displacive transformations

- see also martensitic transformations; polymorphic transformations; reverse martensitic transformations; soft modes*
- cubic crystals, soft acoustic modes, phonon relax. due to anharmonism and central peak 4-6465
- point defect, microscopic model near displacive phase transition 4-24810
- quartz, intermediate phase, satellite reflection obs. 4-20161
- similarity operators and displacive transitions, appl. to hexagonal NiAs type to orthorhombic MnP type transition 4-29607
- surface structural phase transitions, Monte Carlo and renormalization group studies 4-20333
- Co-based amorphous alloys, reversible displacive transformation, mag. meas. 4-55990
- Fe, uniaxial loading, finite temperature Bain transformation, FCC to BCC, Monte Carlo simulation 4-12064
- K₂SeO₄, incommensurate, overdamped phason branch, neutron scatt. study 4-20313
- NaN₃, phase transition, X-ray diff. 4-11268
- Zr-Al (27at.%), splat quenching, ordered ω -phase form 4-3131

display devices

- see also liquid crystal displays*
- cycloramic display using moiré enlargement of periodic picture arrays 4-33738
- DC plasma display, Cs activated 4-39009
- high contrast, fabrication by atomic layer epitaxy (*German*) 4-245
- self-luminous displays, CIE L*a*b* colour-difference eqns. 4-37144
- CdS, low-voltage photoconducting materials, information recording and display 4-14649
- WO₃, colloidal, electrochromism, reversible display device appl. 4-40419
- ZnS:Mn MISIM thin film electroluminescent display devices, electron impact excited luminesc. 4-16252
- ZnS:Mn thin films, with chalcogenide glass control layers, DC electrolum. 4-25814

display equipment *see display instrumentation***display instrumentation**

- see also cathode-ray tube displays; display devices; screens (display)*
- colour contrast effects on visual performance 4-8018
- colour contrast quantification, standard feasibility exam. 4-17917
- colour graphics, psychological and physiological factors 4-41524
- colour vision fundamentals 4-21658
- digital multimeters, Fluke Series 70 range, microprocessor control, display technique using ADC (*French*) 4-22774
- fibre optic signs for communication and safety in transportation 4-5714
- HDTV, large screen system, feasibility of light-valve projection (*German*) 4-38555
- human performance evaluations of digital image quality 4-21665
- liquid-crystal hand-held electrocardiograph 4-58033
- multichromatic visual-display terminals, visual accommodation and convergence 4-16867
- optical techniques for airborne displays 4-1463

display instrumentation continued

- polar display technique of phase angle of optical interference 4-43045
- raster display systems, spatial-freq.-based criteria limitations 4-38407
- raster-scan and direct view storage tube displays, visual fatigue and operator performance 4-16865
- Spacelab experiments, versatile ground data display system 4-3925
- spectroradiometric instruments and applications 4-37188
- stereo TV displays, effect of camera separation and head movement on visual performance 4-16877
- two-dimensional data acquisition system for display type photoelectron energy analyser 4-42940
- US soft tissue 3D display system, computerised equipment using overlaid intensity-graded sectional images (*Japanese*) 4-36193
- video display terminal-induced visual fatigue 4-16866
- viewability assessment using laser optometry 4-21664
- visual display and hardcopy colouring, perceptual considerations 4-52344
- weather vane. Remote electronic indication with LEDs (*German*) 4-53817

display instruments *see display instrumentation***display systems** *see display instrumentation***display tubes, television** *see television picture tubes***disruptive voltage** *see electric breakdown***dissipation (heat)** *see cooling***dissociation**

- see also electrolytic dissociation; heat of dissociation; ionisation; molecular dissociation; molecular dissociation energies; photodissociation*
- electronically stimulated desorption and dissociation and strain induced localisation 4-2444
- ferrite, plasma spraying, thermal dissoc. and oxygen diffusion nature 4-57362
- polyacetylene:InCl₆.6H₂O, characterisations, stability determ. 4-29969
- polyamides; aliphatic, physico-chem. props., accessibility, H-D isotope exchange investig. (*Russian*) 4-15405
- polyvinylidene fluoride, thermal stability relation with struct. (*Russian*) 4-30975
- solid solution, under irradiation, kinetic approach (*Russian*) 4-50367
- tetrafluoroethylene-ethylene copolymers, thermal stability relation with struct. (*Russian*) 4-30975
- CaCO₃, decomp. in mixture, used in fluoresc. powders technology (*Rumanian*) 4-30927
- CaCO₃ in H-plasma, thermal decomp., heat transfer 4-34067
- Ca(OD)₂, dehydration studies 4-26198
- Cr₂O₃-Ba(ClO₄)₂.3H₂O, thermal dissoc. and reactions, thermal and X-ray diff. obs. 4-26197
- Cu-Ni surface alloys, prep. by Ni(CO)₄ decomp., ellipsometry, AES, LEED, ion depth profiling 4-41259
- Cu₂O, dissoc. press. meas. using O₂ pump of stabilised ZrO₂ 4-37079
- EuP, stability during heating in vacuum, thermodynamic props. 4-57593
- α -FeOOH, goethite, grinding induced decomposition to α -Fe₂O₃ 4-3269
- γ -FeOOH, thermal decomp., water vapour partial press. effect 4-26196
- H₂/O₂ recovery by rapid cooling of low-pressure equilibrium mixtures in solar furnaces 4-35871
- LaMnO₃, decomposition, O partial press., elec. cond. and heat of form. 4-55988
- NbO and NbO₂, calorimetric studies 4-56043
- Ne₃⁺ ions, dissoc. recombination with electrons, electron temp. depend. 4-16649
- α -RbCu₂Cl₃, solid-electrolyte cell, stability 4-31081
- Sb-Zn, phase diagram, crystn. of intermediate compounds 4-57196
- TiC₂O₄, chem. struct. transformations, effect of thermobaric treatment 4-50493

dissolution *see dissolving***dissolving**

- see also solubility; solutions; solvation*
- alkali metal halides, doped, defect clustering kinetics, review 4-20180
- aluminofluorophosphate glasses, durability and props. 4-15396
- brass, 63/37, corrosion and dezincification in NH₃ soln., effect of thioureas 4-12227
- brass, corrosion and dezincification in 1% H₂SO₄ soln., effect of mixed inhibitors 4-51849
- brass, corrosion and dezincification in NH₃OH, inhibitive action of azoles 4-21360
- gas bubble dissolution in liquid, variable time step methods 4-10728
- glass-ceramic fibres, alkali resistant, development for reinforcing cement 4-40736
- metallic glasses, stressed, failure modes in aq. acidic media 4-21304
- metals, H diffusion coeff. and dissolved H conc., determ. by electrochem. permeation method (*Japanese*) 4-25092
- metals, plastic deformation and cracking, dissolution effects 4-7526
- nematic solns. giving rise to smectic mesophases 4-25022
- nuclear waste glass, simulated, leaching, influence of gamma irradi. 4-45186
- Pb-acid cells, reactions at Pb electrodes in H₂SO₄ near equilibrium potential 4-52020
- polyester and ester interactions with chlorinated solvents, IR and NMR obs. 4-25030
- porous mixtures, dissolution, pore diffusion effect 4-29622
- spherical particles, dissolution rates growth eqns. 4-11297
- steel, austenitic stainless, dissolution and passivation kinetics in organic media, H₂O effect 4-57465
- steel, austenitic stainless, passive film composition in elevated temp. solns. 4-57467
- steel, austenitic stainless, repassivation pot. of corrosion pits 4-57453
- steel, high speed, MZ, as-cast, 4-30730
- steel, liquid, dissolution kinetics of Ti 4-56027
- steel, low alloy, nitride dissolution and formation, hot extraction analysis (*German*) 4-26148
- steel, low alloy, passivation, rotating ring-disc electrode studies 4-57479
- steel fatigue failure in aggressive environments, adsorpt., dissoln., and H embrittlement processes 4-21393
- superalloys, hot corrosion, fluxing model for protective oxide scale dissolution 4-16545
- Ag halides, doped, defect clustering kinetics, review 4-20180
- Ag-Au, corrosion and selective dissolution in HNO₃ 4-7652
- Al oxide layers on W and Mo faces, thermal dissolution, FEM obs. 4-39698
- Al-(Ag/Si), interface composition variation around a dissolving precipitate 4-39521

dissolving continued

- Al-Fe-Mn, dissolution in HNO_3 , inhibitive efficiency of benzoic acid 4-41048
 Al-Ge (1.9 wt.%), precipitate dissoln. during 200 keV Al^+ irradiat. 4-29486
 Al-Zn-Mg, static and dynamic SCC, influence of temp. (*Japanese*) 4-41078
 Al-Zn-Mg, welded, SCC mechanism 4-12221
 BaMoO₄ crystals, dislocation etching, dissolution kinetics 4-50293
 CaAlSi₂O₁₂, dissolution studies 4-713
 CaCO₃ (calcite) dissolution rates, mixed kinetic control 4-3755
 Ce dissolution in Ce-Sn melt at high temp., enthalpy (*French*) 4-50511
 Cu, dislocation etch pits, dissoln. on (111) surface under potentiostatic electrolysis 4-24821
 Cu-Ag-Ge, liq. alloys, enthalpy of form., dissoln. of Ge (*French*) 4-35611
 Cu-Ag-Si, liq. alloys, enthalpy of form., dissoln. of Si (*French*) 4-35611
 Cu-Ni alloy, active anodic dissolution in NaCl solution (*French*) 4-3276
 θ -CuAl₂ precipitates in Al-Cu alloys, shape changes during dissoln. 4-57234
 Fe-Cr alloys, passive state, quantitative ESCA anal. 4-57466
 Fe-Cr-Mo alloys, passive state, quantitative ESCA anal. 4-57466
 Fe-Cr-Ni alloys, dissolution and passivation kinetics during localised corrosion 4-57437
 Fe-Cr-Ni-Mo (14.5, 14.5, 2.5 wt.%), single cryst., electrochem. meas. on low index planes 4-57483
 Fe-W, amorphous, in multilayer metallizations on Si, stability 4-2485
 Fe₃O₄, magnetite, dissolution, surface comp. and morphology 4-7783
 Fe₈₀P₂₀ amorphous alloy, electrochem. props. and passivation 4-57444
 GaAs, self-dissolution mechanism in oxidising electrolyte solns. 4-57576
 GaAs-Pt interface anal. by Rutherford backscatt. and AES (*Chinese*) 4-39692
 Ge (111), deposition of and reaction with Si, RHEED study 4-45473
 HFH, dissoln. by H₂ release at elevated temps. 4-6666
 HfO₂ optical coating resistance to alkaline solns. and sea water 4-55167
 InAs, in In-As melt, kinetics, 823-973K 4-56014
 La dissolution in La-Sn melt at high temp., enthalpy (*French*) 4-50511
 LiFe₂O₄ single crystal spheres, dissoln. forms 4-50527
 MgO, dissolution mechanisms of H₂O and CO₂, O⁻ state 4-34647
 NH₄H₂PO₄, dissolution and growth studies 4-11324
 NaCl, γ -irrad., aqualuminesc. spectrum in presence of xanthene dyes 4-12377
 NaCl:Pb²⁺, precipitation, light scatt. study 4-46508
 Ni, transpassive films, appl. of angle-resolved XPS and AES depth profiling 4-57422
 Si 4-12021
 Si (111), deposition of and reaction with Ge, RHEED study 4-45473
 SiO₂ optical coating resistance to alkaline solns. and sea water 4-55167
 SiO₂, vitreous, dissolution in molten NaCO₃, corrosion rate, solid reaction products form. 4-41023
 α -TeO₃, paratellurite, single crystal, etching in aq. KOH, RbOH and CsOH 4-57367
 Ti in molten Pb, cavitation erosion, ultrasonic field effects 4-41042
 Ti-Al-V, electrochem. behaviour in HCl, influence of alloying elements 4-51847
 Ti-Cu, electrochem. behaviour in HCl, influence of alloying elements 4-51847
 TiH, dissoln. by H₂ release at elevated temps. 4-6666
 TiO₂ optical coating resistance to alkaline solns. and sea water 4-55167
 UO₂, anodic oxidation in carbonate soln., electrochem. studies 4-57376
 YIG, LPE films, growth and dissolution in orthoferrite primary phase melt 4-46457
 Zn, corrosion inhibitors, use of phenothiazines in NH₄Cl soln. 4-12228
 p-ZnTe(Se), interface processes induced by dissolved oxidising species 4-26214
 ZrH, dissoln. by H₂ release at elevated temps. 4-6666
 ZrO₂ optical coating resistance to alkaline solns. and sea water 4-55167

distance measurement

- altimeter readings, wet path length correction, use of two-freq. radiometer, optimum config. 4-17315
 Australian geodetic VLBI expt. 4-17042
 cardiovascular monitoring, US sonomicrometry, microprocessor-controlled system 4-52416
 Cepheid variables, distances determ. by means of Wesenheit function 4-13331
 2CG 195+04 (Geminga), upper limit for parallax and proper motion of optical counterpart 4-17611
 equipment for crustal movement, instrumental offsets 4-42189
 eye-safe laser rangefinders, IR detector types, materials and performance 4-10405
 fast-moving object dynamics anal. using pulsed laser diode 4-48073
 fibre optic distance sensor based on speckle velocity detect. 4-44225
 Moon-Earth distance measurement, design of lidar system 4-27005
 optical range finder for 1.5-10 m distances 4-1467
 phototachymeter, SM5 small system, pulsed distance meas. method 4-10408
 planetary nebulae, distance scale from Galaxy rot. curve 4-13434
 radio ranging of planets, appl. to testing of Strong Equivalence Principle 4-47727
 solar parallax, determ. from transits of Mercury (1970 and 1973) 4-31779
 split lens stadimeter for submarine periscope 4-33737
 stellar parallaxes, expected results from advance in astrometry 4-22307
 vernier instruments, improved readout device 4-53677
 VHF tracking transponder onboard Bhaskara II 4-42921

distillation

- see also isotope separation*
 ethanol from sugar beet in pilot plant with direct digital control 4-35975
 non-equilibrium thermodynamics appl. in chem. engineering, distillation in wetted-wall column 4-32216
 recent solar distillation developments 4-12450
 solar energy combining with freezing and distillation equipment, new desalting techniques 4-52094
 solar still, double-basin, effect of dye on performance 4-21575
 synthesis of distillation trains with heat integration by a combined fuzzy and graphical approach 4-44345

distortion measurement, electric *see electric distortion measurement***distortive transformations** *see solid-state phase transformations***distributed Bragg reflector lasers**

- semiconductor single longitudinal mode lasers, spectral dynamics 4-23990

distributed Bragg reflector lasers continued

- GaAlAs, Bragg heterojunction injection laser with stable output wavelength 4-49402
 Pb_{1-x}Sn_xTe/PbSe_{1-y}Te_y distributed Bragg reflector diode lasers, LPE growth 4-38469
distributed control
 nuclear power station, distributed monitoring and control system 4-53435
distributed feedback lasers
 book, waves and fields in optoelectronics 4-27261
 dye DFB laser, N₂ laser pumped, 6 psec. pulse generation 4-10316
 dye DFB laser, tuning by divergent pumping beams 4-38459
 dye doped microporous quartz glass as tunable DFB laser 4-44098
 dye helical DFB laser, internal DFB using cholesteric liq. cryst. 4-44115
 fluoromethane optically pumped 496 μm laser, helical and linear DFB, mode selectivity 4-44115
 gyroanisotropic resonator, design from thin magneto-optical film 4-33689
 helical and linear DFB gas lasers, group theory and expts. 4-44115
 helical DFB laser realisation, group theoretical anal. 4-24048
 mode separation, theory based on effective refractive index 4-24044
 mode stability under high data rate modulation 4-55030
 non-CW operation theory, effective Q factor model 4-28656
 nonuniform stripe width for complete single-mode oscillation 4-28719
 phase-shifted lasers for single-mode operation, 1.5 μm 4-28718
 rhodamine 6G thin-film quasiwaveguide tunable dye laser with DFB 4-44101
 semiconductor lasers, 1.3 μm , 100Mbit/s ASK heterodyne detect. expt. 4-49560
 semiconductor single longitudinal mode lasers, spectral dynamics 4-23990
 fluoromethane helical DFB laser realisation 4-24048
 GaInAsP/InP high quality 1.3 μm BH-DFB lasers with first-order gratings 4-5615
 InGaAsP DFB, double channel, planar buried heterostruct. laser diode, modulation characts. 4-55031
 InGaAsP DFB lasers, ageing characts. 4-23993
 InGaAsP/InP, double-channel planar BH laser diode, 1.3 μm single-longit. mode operation 4-1407
 InGaAsP-InP DFB ridge-waveguide lasers, 1.5 μm , CW operation 4-49395
 InGaAsP-InP DFB double-channel planar BH laser diodes, antireflection-coated, CW single longit. mode operation 4-49396
 InP diffraction grating profiles for DFB lasers and integrated optics, bivelev processing technique 4-24243
distributed parameter networks
 dielectric waveguide filters, band-stop/band-pass, coupled grating struct. and characts. 4-14775
distributed parameter systems
 engineering sciences and mechanics, conf., Tainan, Taiwan (Dec. 1981) 4-13484
 fluid amplifier, freq. response anal. using unsteady flow characts. 4-10803
 heat conduction, nonlinear optimal control 4-33909
 Tokamak and solar power satellite comparison 4-14227
 vibroacoustic field reproduction via solution of constrained inverse linear problem 4-33843
distributed processing
see also computer networks; multiprocessing systems
 Brookhaven large neutrino detector, data acquisition system 4-28326
 distributed laboratory data collection and management 4-8882
 ICAMS, automated emulsion data acquisition and anal. 4-28325
 image-analytic cytometry slide analyser design 4-26548
 LSI-IV23 with SKYMNK-Q array processor as data acquisition front end processor 4-23535
 mass spectrometer automated control by distributed microprocessors 4-27623
 multi-processor data acquisition and monitoring systems for particle physics 4-23547
 virtual memory based data acquisition system at CERN 4-28316
distribution networks
see also underground residential distribution systems
 AC/DC circuit induced electromagnetic interference, models, physiological effects (*German*) 4-41565
distributions, statistical *see statistical analysis; statistics*
district heating
 autonomous manoeuvrable low-power center of nuclear heat and power generation with heat storage 4-57692
 combined nuclear heat and power generation centres, technical and economic prerequisites 4-57691
 Danish villages alternative future energy supplies, pilot project 4-57752
 geothermal district heating, pilot scheme in Southampton, technical and economic analysis 4-57655
 geothermal district heating using existing potable water piping systems 4-3451
 Kerava solar village, Finland, simulation of expected performance 4-21576
 long term heat accumulator for district heat supply in West Berlin (*German*) 4-41381
 low enthalpy geothermal district heating, economic analysis for northern France and UK 4-57654
 low-temperature reactors for space heating 4-54351
 Oslofjord energy extraction by heat pumps (*Norwegian*) 4-41361
 solar pond performance improvement using heat pumps and district heating, computer analysis 4-52194
 Summary of the report: heat storage in district heating water systems (*German*) 4-16800
 Wolfsburg earth storage ponds for long term heat storage, utilisation for district heating in winter (*German*) 4-21588
 worldwide experience 4-16766
diversity reception
see also fading
 satellite links, MM-wave beacons, Allen variances rain attenuated (*Japanese*) 4-3813
dividers, voltage *see voltage dividers*
dividing circuits
 synchronous ECL divider for reduced jitter in laser pulse studies 4-24054
DLTS *see deep level transient spectroscopy*
DNA
¹²⁵I, incorporated in DNA, decay effects (*German*) 4-46944
 ataxia telangiectasia cells, actively growing, deficient repair of pot. lethal damage after X-irrad. 4-57964

DNA continued

- B-DNA → A-DNA EM induced transition, insulin synthesis 4-41446
 B-to-Z transition, energetics 4-21618
 bacteriophage λ , packing of dye-binding DNA portions 4-52258
 Balbiani ring, in situ transcription units, electron microscope tomography 4-58060
 benz[a]anthracene metabolite models, stereoelectronic aspects of intercalative binding to DNA 4-41416
 bleomycin-DNA interaction, hyperthermic modification, ESR obs. 4-41425
 cellular automata, DNA sequence modelling 4-52256
 cellular content and incorporated bromodeoxyuridine, flow cytometric meas. 4-3537
 chromatin structure and function, role of nucleosome 4-12548
 chromosomal stains, interaction with DNA, electrofluoresc. study 4-31156
 computer analysis and manipulation of DNA sequences 4-46932
 conformational dynamics, intercalated ethidium effect, ^{31}P and ^{13}C NMR study 4-49200
 defects in DNA molecule (*Japanese*) 4-3521
 dielectric dispersions, low mol. wt., effect of ions on counterion fluctuation 4-57821
 DNA-dye complexes, laser fluorescence spectroscopy of biomolecules 4-7936
 double helical crystals, X-ray anal. 4-36064
 double helix, quasi-momentum conservation and motion 4-12526
 double strand, phys. stability map, correl. with genetic map 4-31166
 E. coli B and its S-30 and DNA-plus-membrane fractions, radiation-induced mol. changes 4-31291
 E. coli DNA synthesized after UV irradi., degradation obs. 4-47040
 electric dichroism orientation function 4-38363
 electrophoretic mobility, low freq. dispersion 4-7919
 ethidium-DNA complex, ps fluoresc. anisotropy decay 4-1303
 fibroblasts, skin, from cancer prone individuals, chromatid damage after G_2 phase X-irrad. 4-3538
 fluorescence and ultrafiltration by membranes 4-43911
 heat capacity at low temp., moisture content depend. 4-12544
 HeLa cells, stimulation of DNA and RNA synthesis by low-intensity visible light 4-57942
 HeLa plateau phase cells, stimulation of nucleic-acid synthesis by low-intensity visible light 4-57943
 imaging by photoelectron microscopy 4-46933
 imidazole ring of adenine in DNA, opening by ionising radiation, dose-response study 4-8038
 immobile junctions design 4-21616
 incorporated radiation injuries, freeze-thaw mechanism, dielectric and hydrodynamic meas. 4-31172
 ions, monovalent and divalent, about DNA determ. of distrib. and elec. fields 4-41410
 isoelectric characteristics and secondary struct. 4-52262
 lac repressor DNA-binding domain, secondary struct. determ. by 2D ^1H NMR in soln. 4-16837
 leukemia cells, mouse, covalent DNA-protein crosslinking after hyperthermia and radiation 4-3599
 leukocytes, mononuclear, human, effects of γ -radiation and hyperthermia on DNA repair and NAD^+ level 4-41586
 ligand distribution rel. to base pair content 4-12531
 lymphocytes, human, irradi. at G_1 stage, DNA unscheduled synthesis (*Russian*) 4-12536
 microchemical robot for DNA sequence analysis 4-21870
 mononucleosomes, electrophoretic mobility, low freq. dispersion 4-7919
 mutation by [^3H]cytosine decay in DNA of E. coli 4-41581
 native molecular conform. in aq. solns. of acrylamide and semicarbazide (*Russian*) 4-38366
 nucleotides mean content determ., method based on melting curves 4-31152
 palindromic, cruciform transitions rel. to supercooling 4-3519
 photoionisation spectra of D-DNA and Z-DNA 4-41438
 polycyclic aromatic carcinogen-DNA adducts, fluoresc.-line-narrowed spectra 4-46943
 polymorphism of DNA rel. to RNA 4-41432
 pyrimidine bases, hydration in small water clusters, Monte Carlo study 4-41417
 pyrimidine bases of nucleic acids, in Ar matrices, vibratory structure, UV absorpt. spectra 4-9785
 pyrimidine dimers, cyclobutane-type, prod. and excision repair in DNA of *Turbatrix aceti* 4-57957
 quantum biology and quantum pharmacology, conf., Palm Coast, FL, USA (March 1983) 4-36770
 quantum mechanical investigation of DNA, some new results 4-41411
 radiation damage, mouse liver and transplanted tumours expts. (*Russian*) 4-36170
 radiation energy, localisation 4-7937
 radiosensitivity of animal organism rel. to reassociation kinetics of DNA (*Russian*) 4-12535
 Raman spectra, collective vibr. 4-36055
 RecA-DNA filaments, electron microscope visualisation, evidence for cyclic extension of duplex DNA 4-57828
 recombinant, use of radioisotopes in research (*Japanese*) 4-52541
 single-stranded, irradiated in a bacterial extract, heat-sensitive radiation damage 4-16842
 solutions, light scatt. and struct. 4-21619
 sperm, mouse, radiation-induced DNA content variability 4-3595
 strand breaks repair in NHK 3025 cells after combined electron radiation and hyperthermia 4-8048
 structure dynamics mutation theory 4-36054
 superhelical, thermodynamics of the B-Z transition 4-36062
 surface enhanced Raman scatt. short-range component 4-57849
 synthesis in developing rat brain, effects of low γ -radiation doses 4-31288
 tumour cells, nucleic acid and protein synthesis, impulse laser radiation effect (*Russian*) 4-12628
 tumour DNA preparations, γ -irrad., EPR spectra features 4-41572
 water-DNA interaction in temp. range 90-300K, microwave dielec. meas. 4-41414
 yeast cells, dose and LET dependence of RBE values for lethal lesions 4-57961
 ^{125}I -DNA, preparation using thallium oxide for biomedical appl. (*Chinese*) 4-26522

document retrieval *see information retrieval*documentation *see information science*

domain boundaries

- for boundaries between magnetic domains and electric domains *see magnetic domain walls and electric domain walls respectively*
see also antiphase boundaries
 adsorbate system, commensurate melting, domain walls, and dislocations 4-29788
 commensurate phase melting and new universality classes 4-11252
 damping materials, mechanisms and appls. 4-40850
 ferroelastics, domain struct., interpretation method 4-29640
 graphite adsorbed monolayer, weakly incommensurate phase, soliton theory 4-20467
 incommensurate-commensurate transition, impurity pinning and interface roughening of domain walls 4-2305
 laminar cholesteric twist cells, domain wall tension and bistability 4-50186
 steel, dual-phase, Barkhausen jumps, effect of heat treatment in intercrit. temp. range 4-56694
 α -FeOOH, domain boundaries, high-resolution electron microscopy study 4-11154
 $\text{KFe}(\text{MoO}_4)_2$, ferroelastics, features of domain struct. 4-29641
 Kr adsorbed layer on graphite, incommensurate phase, mol. dynamics method anal. 4-34788
 Kr adsorbed monolayer, weakly incommensurate phase, soliton theory 4-20467
 $\text{Na}_{3-x}\text{A}_x\text{W}_2\text{O}_{10}\text{F}_2$ (A=Li, K), Bridgman grown crystals, ferroelastic domains, polarisation microscopy (*French*) 4-45039
 $\text{NaFe}(\text{MoO}_4)_2$, ferroelastics, features of domain struct. 4-29641
 $\text{Na}_2\text{K}_{1-x}\text{Fe}(\text{MoO}_4)_2$ solid solns., ferroelastics, features of domain struct. 4-29641
 Nb_2O_5 , long-period displacement superlattice struct., electron diffraction patterns 4-24792
 NbSe_3/Fe , transient nonlinear conduction and switching due to CDWs 4-25328

domains

- see also antiphase domains; crystal microstructure; domain boundaries; electric domains; magnetic domains*
 Ashkin-Teller like model Hamiltonian with four-spin interactions, phase diagram, domain and wall form. 4-204
 1,2-dipalmitoyl-sn-phosphatidylcholine, single domains, X-ray study 4-15449
 exfoliation, X-ray diffraction study 4-46463
 ferrites, perovskites, nonstoichiometric, Fe mixed valences stabilisation by microdomain formation (*French*) 4-39260
 ferroelastic and martensitic phase transforms, domain structure form., influence of mech. stress 4-30698
 ferroelastic domains, scanning reflection acoustic microscopy study 4-24896
 graphite intercalation cpds., stage order, disorder, and phase transitions 4-34636
 graphite-Br intercalation cpd., intercalate struct., melting, and commensurate-incommensurate transition 4-20174
 Ising model, 3-D, surface roughening, Monte Carlo studies 4-20439
 MBBA-p-methoxy benzylidene p'-cyano aniline mixtures, nematic, domain form., mol. alignment 4-39103
 quartz, domain structs., and associated defects in incommensurate phase 4-20371
 random interface dynamics, temp. depend. 4-20500
 Rochelle salt, ferroelectric, ferroelastic domains, light deflection 4-51211
 spinodal decomposition, local degrees of freedom, domain form. and scaling behaviour 4-20364
 two-dimensional sine-Gordon lattice, mol. dynamics study, adsorbed monolayer model 4-187
 Wolfram's red salt, mobile valence alternation domain walls 4-56296
 Al_2O_3 , microstructure of metastable phases, TEM obs. 4-25044
 $\text{Bi}_{12}\text{SiO}_{20}$, monocrystalline plates grown from melt by Stepanov method 4-25871
 $\text{Bi}_4\text{Ti}_3\text{O}_{12}$, ferroelectric, ferroelastic domains, light deflection 4-51211
 $\text{Ca}(\text{VO}_4)_2$, monocrystalline plates grown from melt by Stepanov method 4-25871
 $\text{CaZrTi}_2\text{O}_7$, zirconolite, polytypic behaviour 4-50271
 CdInGaS_4 , ordered phase struct. and domain struct., electron microscopy and electron diffraction study 4-39529
 Cu-Sn-Zn, cold worked, X-ray diffraction study of microstruct., role of Sn addition 4-16410
 $\text{Cu}_{0.75}\text{VS}_2$, phase transition with temp. hysteresis, long period superstructures, electron diffraction, microscopy studies 4-6489
 $\text{Gd}_2(\text{MoO}_4)_3$, ferroelectric, ferroelastic domains, light deflection 4-51211
 $\text{Na}_{3-x}\text{A}_x\text{W}_2\text{O}_{10}\text{F}_2$ (A=Li, K), Bridgman grown crystals, ferroelastic domains, polarisation microscopy (*French*) 4-45039
 NaCN, first order martensite transformation, domains and surface morphology 4-29596
 $\text{NaH}_2(\text{SeO}_3)_2$, ferroelec., ferroelastic domain struct. and Barkhausen effect 4-30416
 $\text{Na}_8\text{Si}_6\text{Al}_6\text{O}_{24}(\text{OH})_2 \cdot 2\text{H}_2\text{O}$, hydrosodalite, struct., X-ray diffraction study 4-24791
 $\text{Na}_{0.5-x}\text{Y}_{0.5+x}\text{F}_{2+2x}$, F atom local arrangement, neutron diffuse scattering studies 4-45108
 $\text{Nb-H}(\text{D})$, twin related domains, X-ray diffraction topography study 4-15491
 Nb_2O_5 , long-period displacement superlattice struct., electron diffraction patterns 4-24792
 NiSi_2/Si (001) 4-39695
 PdH_x , thermal expansion, elec. resist., influence of 50K phase transition 4-56055
 SbCl_3 -graphite intercalation cpd., second stage, discommensuration struct. 4-15634
 TaSe_2 (2H), CDW state, nucleation processes 4-15830
 $\text{W}(110)\text{p}(2\times 1)\text{-O}$ overlayer, fourfold degenerate ground state, 2D ordering dynamics 4-2446
 ZrO_2/CaO , stabilised, defect struct., models 4-20188

domestic appliances

- see also ovens; refrigerators*
 microwaves applications in industry, science, medicine and consumer services, critical review 4-21768
 solar domestic water heating with salt hydrate heat-of-fusion storage unit, expt. 4-3480
 water-heater, with heat exchanger and two flat solar collectors (*Bulgarian*) 4-52198

donor levels *see* impurity electron states

doping, semiconductors *see* semiconductor doping

doping profiles

Bridgman growth, vertical, radial segregation induced by natural convection and melt/solid interface shape 4-20132
 dopant conc., SIMS anal. 4-45173
 MOS structure, linearly graded impurity profiles, surface depletion region 4-35078
 n^+p shallow base emitter junctions, reverse-biased, tunnelling phenomena, theoretical and expt. study 4-30058
 polyacetylene: AsF₅(I), semiconductor-metal transition and homogeneous doping 4-29888
 Rutherford backscattering, Bragg-profiling technique, metal and optical surface layers 4-46395
 semiconductor, ion implanted dopant distrib., laser annealing (*German*) 4-15530
 semiconductor impurity profile determ., electrochemical C-V method 4-40039
 SOS films, ion implanted, elec. chars. 4-35072
 Ag implanted low energy N₂⁺, depth profiles 4-11172
 AgBr(Cl):Mn, near-surface ionic space charge study 4-16149
 AlGaAs, open tube diffusion of Zn, rel. to ohmic contact form. 4-6559
 Al_{0.48}Ga_{0.52}As Si epitaxial film, dopant conc., SIMS anal. 4-45173
 Al_{0.48}In_{0.52}As LPE layers, undoped and Si-doped, elec. props. 4-20745
 CdTe:In(Al) epitaxial layers, LPE growth and doping chars. 4-34820
 CdTe:P, doping by laser annealing, photoluminesc. and SIMS studies (*French*) 4-15527
 Cu implanted low energy N₂⁺, depth profiles 4-11172
 GaAs, ion implanted, spectroscopic ellipsometry anal. 4-39327
 GaAs, open tube diffusion of Zn, rel. to ohmic contact form. 4-6559
 GaAs, optical refr. index dispersion, doping depend. 4-35404
 GaAs p-n junction, nonuniform doping profile, avalanche breakdown voltage, orientation depend. 4-35053
 GaAs, selective Si²⁺ and Be²⁺ implantation using 100 kV mass-separating ion beam system with Au-Si-Be ion source 4-34503
 GaAs:Cr, interstitial Cr diffusion coeff. and Cr complexes 4-6560
 GaAs:Cr, single crystal growth by gradient freeze method 4-46431
 GaAs:Cr,Mn, semi-insulating, dopant redistribution during annealing 4-39330
 GaAs:Mg, ion implantation, cathodoluminesc. study and computer simulation 4-21047
 GaAs:Mn, ion implanted, Mn accumulation, Fermi energy and annealing studies 4-34648
 GaAs:Se, grown by MBE, growth conditions influence on Se incorporation 4-50323
 GaAs:Si(Se)(S), shallow ion implantation, elec. and structural props. 4-45166
 GaAs:Zn, elec. props. rel. to implantation conditions 4-34980
 GaAs:Zn, implanted, IR rapid annealing 4-20217
 GaAs:Zn, implanted p⁺ layers, electron beam annealing, profile broadening control 4-30355
 GaAs:Zn, ion implanted, heavy doping, enhanced activation 4-39316
 GaAs:Zn, ion implanted with minimised annealing redistribution 4-15498
 GaAs-Si₃N₄, ion implantation through dielectric layers, recoil profile 4-50329
 Ge, rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
 In Sb:Te crystals, solidification in zero gravity, morphology, struct., solute distrib. 4-57090
 In_{1-x}Ga_xAl_{1-y}As_y:Mn, MBE growth, doping and elec. chars. 4-30636
 In_{0.5}Ga_{0.47}As, of Cd, exam. rel. to device fabrication 4-34713
 InP, diffusion of Cd, exam. rel. to device fabrication 4-34713
 InP ingots, LEC, Ge doping conc. local variations, SEM cathodolum. spectra 4-34520
 InP, optical refr. index dispersion, doping depend. 4-35404
 InP:Ag, out-diffusion of radioactive Ag, comparison with Fick's law 4-39599
 InP:Cd LPE layers, impurity concentration meas. by ionized impurity scatt. anal. 4-20231
 InP:Co, LEC single crystals, precip. identification 4-35563
 InP:Ge LEC ingots, dopant inhomogeneity, segregation nature and minimisation 4-35562
 InP:Si, elec. and photolum. obs. of Si implantation and damage, residual impurities 4-34511
 InP:Si, n-type doping in MBE growth, elec. and optical props. 4-2219
 InSb:Ge, impurity distrib. and p-n conversion under heat treatment 4-6390
 Nb₃Al_{1-x}B_x(C_x), A15 phase, ion implanted, cryst. struct. and supercond. transition temp. 4-34444
 NiSi₂ layer formation and study 4-39725
 Si, cryst. growth from melt, mechanisms and doping striations 4-24751
 Si, doping profiles, electroreflectance technique 4-11864
 Si, impurity profiles, meas. and calcs. 4-15513
 Si, ion implantation, Boltzmann transport equation based 2D model for impurity distrib. determ. 4-29454
 Si, ion implanted, excimer laser annealing 4-45183
 Si, liquid phase transient laser annealing, point defect origins 4-15460
 Si MBE, recent developments in Japan, review 4-16331
 Si, polycrystalline, effectiveness of diffusion sources 4-20404
 Si, preamorphised, BF₃⁺ implanted, rapid thermal annealing 4-15514
 Si, rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
 Si:As, As retarded diffusion by thermal oxidation 4-11344
 Si:As, ion implanted, controlled diffusion by electron beam heating 4-15699
 Si:As⁺, extremely shallow n⁺-p junctions, low temp. process for annealing 4-50324
 Si:As(B), implanted, rapid thermal annealing 4-20218
 Si:As(Br)(P), high conc. diffusion, profile estimation using unified analytic approx. 4-50333
 Si:B, carrier profiles meas. by IR ellipsometry 4-45175
 Si:B, ion implanted, multiple scan electron beam annealing (*French*) 4-15538
 Si:B, ion implanted, rapid thermal annealing using ultrahigh power arc lamp 4-50318
 Si:B, laser implanted, AES and SIMS study 4-34519
 Si:B (P) film on sapphire, dopant profiling, spreading resist. studies 4-50331
 p-Si:B(P), implanted sheet resist. and junction depth relationships 4-34516

doping profiles continued

Si:Ga, ion irradiation effects from liq. metal ion source, SIMS anal. conditions simulation 4-45164
 Si:H, B, amorphous, simultaneous depth profiling by elastic recoil detection anal. 4-29460
 a-Si:H p-i-n solar cells, effect of B₂H₆ profile on photovoltaic performance 4-52156
 a-Si:H p-i-n solar cells with graded B-doped active layers 4-16780
 Si:P, crystal growth by vertical mag. field-applied Czochralski method, homogeneous dopant distribution 4-40627
 Si:P, ion implanted, damage-dependent atom and carrier profiles 4-20227
 Si:P, low temp. diffusivity and precipitation of P 4-45415
 Si:P, shallow diffusion profile anal. by four-point probe meas. 4-15697
 Si:P/TaSi₂ system, P dopant redistrib. during high temp. sintering 4-2223
 Si:P(B), impurity profiles, anodic oxidation and chemical polishing study 4-34517
 Si:Sb, ion implanted, dopant conc., electron and ion channelling studies 4-50332
 Si:Sb, solid-phase epitaxially grown, point defect trapping 4-50322
 Si:Sb(Bi)(Ga)(In), laser-induced diffusion, TEM studies (*French*) 4-15698
 Si-SiO₂ structure formed by 200 keV O ion implantation, O depth distrib. 4-45167
 SiSiO₂, oxidised SOS structures, ¹¹B dopant implants, SIMS study 4-20226
 TiO₂ semiconductor electrodes, effect of noble metal doping 4-57733
 ZnSe, MOCVD, donor spatial distrib., cathodolum. study 4-34521

Doppler broadening *see* Doppler effect

Doppler effect

see also atomic spectra; red shift; spectral line breadth
 aortic flow, foetal and maternal, Doppler-velocimetry and US multiple array obs. 4-31304
 autoregressive time series, use in modelling of Doppler signals for diagnostic purposes 4-21752
 Bell's inequalities, photon scatt. with Doppler shift in atomic cascade 4-54886
 blood flow measurement indices using Doppler US, computerised evaluation 4-31307
 blood velocity meas., software analysis of 20 MHz pulsed Doppler quadrature data 4-31306
 burst correlation laser Doppler velocimetry results 4-24507
 carotid Doppler spectral broadening, in vitro model 4-12660
 cerebral blood flow studies in neonates using Doppler US, microcomputer evaluation 4-26486
 differential laser Doppler interferometer for surface vel. meas. 4-13670
 Doppler technology physical principles, application to haemodynamics study (*German*) 4-41593
 Doublet III Tokamak, ion temp. and rotation vel. meas. by He III 4686 Å line 4-20026
 dual diode transducer for laser Doppler skin blood velocimeter 4-31314
 ethane, liq., electronic stopping cross-sections 4-20273
 femoral artery, Doppler US waveforms quantification, comparative study of methods 4-41597
 fibre optics use in flow meas. instruments 4-44212
 fishing sonar, inverse problem (*French*) 4-55261
 flow visualization with Doppler-pictures 4-24509
 fluid motion meas. by laser methods using Doppler effect, appls. (*French*) 4-34210
 four-wave light mixing spectroscopy of atoms, Doppler narrowing and collision-induced Zeeman coherence 4-19516
 gamma-ray stimulated emission using Mossbauer isotopes, quasiclassical model 4-1378
 homonuclear diatomic mols., photodissociation, interference in at. fluoresc. 4-1226
 immersed jet, hydrodynamic chars. meas. by laser Doppler anemometer (*Russian*) 4-15010
 internal combustion engine cylinder/turbulent air flow meas. by laser Doppler anemometer 4-19899
 laser Doppler anemometer, for two-phase flow meas. 4-15049
 laser Doppler anemometer, rapidly scanning design 4-34208
 laser Doppler anemometer, simultaneous particle size and velocity meas. appl. 4-24505
 laser Doppler anemometer, with automatic traversing system, wind tunnels and jets appl. 4-24503
 laser Doppler anemometer study of turbulent struct. of non-Newtonian fluids 4-49861
 laser Doppler anemometry, errors due to voltage level trigger effects 4-24502
 laser Doppler anemometry, macroparticle dynamics obs. in vacuum arc 4-24667
 laser Doppler anemometry, threshold method for processing Doppler signal (*Russian*) 4-1852
 laser Doppler anemometry in turbulent flow, mean vel. shift (*Russian*) 4-10795
 laser Doppler frequency track speedometer (*Chinese*) 4-42930
 laser Doppler velocity meas., in low-speed wind tunnel 4-24504
 laser principle, configuration and equipment selection 4-34213
 laser tachometer, high-precision, based on Doppler velocimetry, for shaft RPM meas. (*German*) 4-48090
 laser-based Doppler vel. meter, influence of scattered-wave polarisation (*Russian*) 4-44134
 light Doppler formulas, 'relativistic' 4-92
 lower hybrid current drive, Cerenkov and Doppler reson. in tokamaks 4-49985
 macromolecule rates of motion measured by laser methods using Doppler effect, appls. (*French*) 4-34210
 micrometer, revolving starting characteristics meas. by laser Doppler velocimeter (*Chinese*) 4-13623
 moving tissue-equivalent phantom for US real-time scanning and Doppler techniques 4-12664
 neurosurgery, intraoperative Doppler sonography, book 4-31977
 pipe flow velocity meas. at high temp., using laser Doppler anemometry 4-24506
 polymer melt flow measurements by laser Doppler velocimetry 4-15040
 propynenitrile, supersonic mol. beams, single and double reson., microwave spectra 4-33428
 PWR core fuel elements thermohydraulic flow measurement by laser Doppler anemometry (*German*) 4-37826

Doppler effect continued

- radiosondes, Doppler-freq. meas. by zero cross-overs count, meas. errors (*Russian*) 4-13082
- radiowave propagation, ionospheric sounder, flexible waveform generator 4-47472
- resonant fast beam-laser spectroscopy, saturated absorpt. and 2-photon absorpt. 4-17960
- rod, bending vibr., elastic wave radiation 4-29000
- sonographical examination of arteries, clinical applications (*German*) 4-41594
- stenoses, presymptomatic, detect. with Doppler US, minipig expts. (*German*) 4-47049
- stratified gas medium under gravity, Doppler effect 4-42662
- Sun, Doppler meas. at 525.02 nm, recalibration of spectrograph at Mt. Wilson Solar Tower Telescope 4-53142
- three-dimensional laser Doppler anemometer, accuracy assessment 4-55454
- two-level mol., Doppler-broadened index of refraction, saturated dispersion 4-54811
- two-phase flow, Doppler effect 4-10732
- US blood flow signals, spectral anal. by personal computer 4-26487
- US cardiology, basic techniques, review 4-12670
- US Doppler CW spectrum, beam profile and insonation effects 4-44314
- US flowmeters, based on Doppler and time-of-flight principles 4-5983
- US flowmeters, CW, anal. of PLL system as analogue processor 4-16931
- velocimeter operating in Fresnel zone, mechanical vibrations effect on accuracy 4-48091
- velocity meter, theory of EM wavefront structure 4-1324
- velocity-dependent systems, Doppler frequency shifts in EM scatt. 4-44022
- zero-crossing density for US Doppler signals obtained from computer simulations, blood flow appl. 4-31308
- Ag ion stopping in solids, X-ray Doppler shift investig. 4-20274
- Al-Ag, dil., positron annihilation Doppler-broadened lineshapes, thermal equilb. meas 4-57027
- Al-Ge, dil., positron annihilation Doppler-broadened lineshapes, thermal equilb. meas 4-57027
- Al-Si, dil., positron annihilation Doppler-broadened lineshapes, thermal equilb. meas 4-57027
- Ar II three level system, weak nonlinear resonances 4-18943
- Ar¹⁷⁺ + H₂, Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
- Ar¹⁷⁺ + He(N₂), Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
- Cd, ultrasound reson. absorption, Doppler-shifted cyclotron reson. (*Russian*) 4-25203
- Co complex, solid, positron annihilation and Mossbauer effect studies 4-30363
- D₂, electron impact excitation/dissociation, atomic Balmer line shape 4-5494
- Fe complex, solid, positron annihilation and Mossbauer effect studies 4-30363
- α -Fe₂O₃ microcrystals, Mossbauer effect, particle motion influence 4-46163
- α -FeOOH microcrystals, Mossbauer effect, particle motion influence 4-46163
- H Balmer- β polarisation line shape from H₂ electron impact dissociation 4-54873
- H-like ions in dense plasma, X-ray emission profile calcs. (*French*) 4-48971
- H₂, electron impact excitation/dissociation, atomic Balmer line shape 4-5494
- He-like ions in dense plasma, X-ray emission profile calcs. (*French*) 4-48971
- MgO:⁵⁷Co, Mossbauer second order Doppler shift 4-2851
- Na, degenerate four-wave mixing, saturation effects, sub-Doppler resolution 4-28774
- O I airglow, Doppler shift meas. rel. to spatial mapping of thermospheric neutral wind field 4-58329
- OCS, supersonic mol. beams, single and double reson., microwave spectra 4-33428
- UO₂, positron annihilation study 4-35513
- ²³⁸U(n,x) Doppler broadening of resonances 4-37636
- Zn, ultrasound reson. absorption, Doppler-shifted cyclotron reson. (*Russian*) 4-25203
- Zr, electron irradiation damage, recovery, positron annihilation study 4-16267

Doppler shift *see Doppler effect***dopplers**

- metals, cyclotron doppler transmission (*Russian*) 4-25252
- Cd, ultrasound reson. absorption, Doppler-shifted cyclotron reson. (*Russian*) 4-25203

dosemeters *see dosimeters***dosimeters**

- see also dosimetry; thermoluminescent dosimeters*
- alpha dosimeter, personal, for Rn daughters using a diffused-junction detector 4-43653
- automatic TLD reader for personnel monitoring 4-54431
- CMOS dosimeters responses, dose enhancement effects 4-48801
- CR 39 compound nuclear track detector for fast neutrons 4-48769
- diagnostic X-ray examinations, dosimeter (*Dutch*) 4-58009
- diamond ionising radiation detector, dosimetry appl. for β , γ or X-radiation 4-54442
- electret ionisation chamber, dosimeter for mixed gamma rays and fast neutrons (*Czech*) 4-23504
- electret ionisation chamber for X- and γ -rays, energy response 4-43654
- electrets for passive Rn daughter dosimetry 4-43659
- energy response, fluoresc. X-rays use in metrology 4-58016
- environmental monitoring using solid state dosimeters, review 4-21607
- ETB dosimeter, a passive integrating Rn dosimeter combining activated charcoal and TLD 4-52482
- fast neutron dosimeter, response based on track detect. 4-47073
- fast neutron dosimeter based on electrochemically etched SSNTD 4-18801
- graphite ionisation chamber, central electrode diameter and material rel. to response to 60 Co γ -rays 4-5105
- ionisation chamber, response to sudden change of ambient temp., medical phantom expts. 4-8117
- luminometers as lyoluminescence dosimetry readers 4-52496
- lyoluminescence dosimetry, progress at Aberdeen Univ. 4-54436
- neutron dosimeters, suitability of superheated drop detectors 4-54455

dosimeters continued

- p-type Si detectors, effects of radiation damage, dosimeter appl. 4-5104
- passive dosimeters for RF and microwave fields 4-58012
- phosphate glass:Ag, electron and photon dose meas. 4-48798
- photoacoustical radiation dosimeter 4-41634
- photon energy fluence calorimeter for absorbed dose determ. of orthovoltage X-rays 4-41629
- radiochromic dye film dosimeter, expt. and calc. response to high-LET radiations 4-37856
- scanning film densitometers, automated, used in electron and photon beam therapy dosimetry, acceptance testing and quality assurance 4-8119
- solid state dosimetry, conf., Ottawa, Ont., Canada (September 1983) 4-47738
- tissue-equivalent ionisation chambers, over-response at low energies, effect of high-Z surface contamination 4-41633
- track etch dosimeters; performance for neutron personnel monitoring 4-48772
- Al₂O₃ film, plasma-sputtered, for exoelectronic dosimeters 4-25854
- Al₂O₃, TSEE dosimeters, photon energy depend. of dose response 4-3620
- BeO thin film, TSEE dosimeters, photon energy depend. of dose response 4-3620
- BeO thin film dosimeters, TSEE yield rel. to grain size, SEM obs. 4-7322
- BeO thin film dosimeter, energy depend. of TSEE on monoenergetic electrons 4-48771
- LiF dosimetry by EPR meas. of paramagnetic centres 4-48761
- LiF thin layer detectors for TLDs and TSEE readable dosimeters 4-54444
- LiF, vacuum deposited thin film, integrating radiation dosimetry by exoelectron emission 4-48759
- Ni-NaF thin film dosimeters, energy distrib. of thermo- and photo-thermo-stimulated exoelectrons 4-3624

dosimetry

see also dosimeters; radiation detection and measurement; radiation monitoring

- γ -ray shielding anal. in EBT fusion reactor 4-9436
- absorbed dose determination with a water calorimeter in comparison with an ionisation chamber 4-21817
- absorbed dose in mice injected with ²¹¹At, comparison between X-irrad. and ²¹¹At-treated mice 4-52489
- accidents involving whole body exposure, relevance of LD_{50/60} for man, review 4-12709
- air activation by high-energy medical accelerators, ¹⁵O and ¹³N prod. 4-26525
- air-over-ground, validated deep-penetration, neutron/gamma-ray transport 4-14233
- alpha-emitting bone seekers, microdosimetry 4-8125
- annual limits of intake of radionuclides by workers, calc., significance of breast 4-52485
- apatites, powdered biological, simultaneous exoelectron emission and thermoluminesc. meas. 4-3626
- area monitoring, radiation protection instrumentation 4-18826
- astrocytoma cells, rat, dose-rate dependence of heat radiosensitisation 4-8045
- automated systems for collection, processing and storage of individual dosimetric control data (*Russian*) 4-8111
- benchmark dosimetry meas., uncertainty anal. 4-43669
- beta radiation standards at NRPB 4-58019
- bibliographic index of inventions in radionuclide diagnosis, radiotherapy, dosimetry and radiation protection (*Russian*) 4-13494
- biological background, ICRP recommendations 4-43668
- biological dosimetry in radiological protection, recent developments 4-48748
- breast radiography: phantom, equipment performance and radiation dosage comparisons 4-21805
- Burlin and Horowitz-Burlin general cavity theories, comparison 4-31341
- calibration of high energy electron beams for medical appls. (*Chinese*) 4-58011
- calibration of radionuclide calibrators 4-16992
- cavity theories for electrons, absorbed dose conversion factor derivation, radiotherapy appl. 4-31340
- chest radiography, exposure factors and resultant doses 4-41612
- chest roentgen examination, radiation exposure and estimate of late effects in children 4-12684
- chromosome aberrations induced by radiation, weighted identity test for dose-response functions comparison 4-8056
- circular waveguide irradiation system for nonhuman primates: design and dosimetry 4-58048
- Clinac 4, beam data requirements for 3D treatment planning with wedged fields 4-21810
- complex valley meteorology, off-site dose assessment for emergency preparedness, ZPS-1 4-18806
- conference on phys. in medicine and biology, Trieste, Italy (Mar.-April, 1982) 4-53355
- conference on radiology, Bordeaux, France (Sept. 1983) 4-8645
- cotton fibres, electron emission optical thermal stimulation, accident dosimetry 4-3622
- cotton fibres, use in accident dosimetry 4-54439
- CR-39 and cellulose nitrate plastic track detectors for thermal neutron dosimetry 4-927
- CT, dose reduction through variable dose CT scanning 4-31338
- cumulated activities determined from biodistrib. data in pregnant rats, ^{99m}Tc pertechnetate 4-26527
- D-7 phosphate glass dosimeter, perforated energy compensation filters 4-48786
- Dardanelle Reservoir sediments, radionuclides distrib. rel. to dose 4-52225
- dipole antenna near field, power absorbed distribution inside sphere simulating human head (*Japanese*) 4-21732
- dose rates from induced radioactivity outside Engineering Test Facility neutral beam injector shield 4-28202
- Dynaray 18 linear accelerator, operating characts. 4-21808
- effective dose equivalent, meas. in nuclear reactor environment with personal TLD 4-43655
- electron depth-dose dependence on energy spectral quality 4-21818
- electron linear accelerator LUE-15M, dosimetric characts. of inhibitory radiation beam (*Russian*) 4-8110
- electron stopping power values in S and Ca, dosimetry appl. 4-55895
- electron therapy, energy spectra calc. from depth-dose curves 4-21819
- electrons, high energy dosimetry standards research (*Japanese*) 4-28207

dosimetry continued

electrons, low energy, radiation quality calc. 4-48800
 EM, using computer-based scanning systems 4-21820
 EM dosimetry, computer-based scanning system 4-52549
 energy imparted, energy transferred and net energy transferred 4-21816
 environmental dose rate meas. around nuclear installations, choice of detectors (*German*) 4-54430
 environmental dosimeters, international intercomparison 4-48781
 environmental radiation monitoring system in Tokai and Oarai areas (*Japanese*) 4-33180
 environmental research for radionuclide distrib. and behaviour, future requirements 4-28209
 ESR spectroscopy, dosimetry following a radiation accident 4-21813
 exoelectron emission, conference, Strasbourg, France (Mar. 1983) 4-5
 exposure rel. to absorbed dose 4-41628
 exposure standard for medium energy X-rays (*Japanese*) 4-28204
 fallout caused by multiple, nonsimultaneous, upwind ground bursts radiation exposure forecasting 4-52487
 fast neutron radiation therapy beam, activation of major constituents of tissue and air, dosimetric considerations 4-8088
 fast reactor dosimetry, neutron spectrum estimation code (*Japanese*) 4-23132
 flexure dose: the low-dose limit of effective fractionation 4-8112
 fluoroscopic exposure reduction for air-contrast Ba enema 4-12708
 fluoroscopic X-ray facilities, personnel radiation exposures evaluation 4-21814
 fluoroscopy systems, air kerma rate rel. to threshold contrast 4-8104
 foetal dose from megavoltage irradiation of knee, neonate follow up 4-26528
 gamma radiation from camera lenses due to ^{232}Th , annual dose assessment 4-47075
 gamma ray absorbed dose rates, high accuracy absolute meas. using organic scintillator (*Japanese*) 4-28208
 gamma ray exposure rate, absolute determ. incident angle depend. in cylindrical cavity chambers (*Japanese*) 4-28206
 gamma-ray brachytherapy, errors in line source dosimetry 4-26529
 Geiger counting system for registration of TSEE or OSEE 4-979
 genetically significant dose to Turkish population from X-ray exam. 4-47076
 gonadal dose during brain, thyroid and bone scintigraphy 4-58010
 high energy neutron cross sections, 14-60 MeV, tissue kerma computations, review 4-41611
 high intensity γ -ray exposure standard (*Japanese*) 4-28205
 high-energy and photon and electron beams, protocol for absorbed dose determ. 4-26524
 high-energy photon beam dosimetry, revised Code of Practice 4-8122
 HTGR decommissioning, dose levels for activation, component and structure contact 4-18812
 human exposure to Rn decay products inside UK dwellings, Royal Commission memorandum 4-26538
 human internal contamination, routine monitoring results interpretation 4-31339
 humerus, proximal, of growing beagles injected with ^{239}Pu , radiation dose rates 4-58015
 ICRP publication 32, inhalation limits of Ra daughters by workers, comments 4-3629
 IMO-1 irradiation facility, calc. and meas. dose, evaluation 4-41630
 indoor occupancy factors, UK national radiation survey 4-52479
 indoor pollutants, dose assessment 4-58022
 inhomogeneity correction in photon beam, differential method 4-41631
 interface dosimetry, comparison of TSEE and conventional methods 4-3625
 intracavitary therapy, dose calc., computer simulation of radionuclide γ -energy spectra 4-16959
 intracranial targets, small, use of narrow photon beams for irradiation, dose distrib. (*Russian*) 4-8079
 ionising radiation exposure, dose effect relationship simulation: for cell populations (*Russian*) 4-12634
 Isomatrix X-ray therapy machine; exposure rate calcs. 4-3612
 kerma and charged particle spectra from 25-60 MeV neutrons 4-41590
 low threshold energy neutron dosimetry using ^{199}Hg , ^{107}Ag and ^{93}Nb 4-54454
 low-level waste packages, dose rate-to-curve conversion calc. 4-18551
 low-level waste storage building, dose rates calc. 4-18552
 luminometers as lyoluminescence dosimetry readers 4-52496
 lung tumour induction in Syrian hamsters by Pu, microscopic dose distrib. 4-26483
 LWR, characterisation of pressure vessel environment 4-14142
 lyoluminescence dosimetry, progress at Aberdeen Univ. 4-54436
 lyoluminescence materials, low radiation dosimetry meas. 4-48763
 magna-field irradiation, phys. considerations 4-47062
 Makrofol E detectors, alpha and deuterium dosimetry 4-28213
 mammography, dosage evaluation 4-52493
 mass stopping power ratio calc., conversion factors, dosimetry appl. 4-36239
 methane-based tissue-equivalent gas, W_N/e meas. for d(4)-Be neutron field 4-8123
 microdose spectra for intermediate energy neutrons 4-47072
 microdosimetric considerations for the Q-factor of ^3H 4-3631
 microdosimetric parameters determ. in time-varying radiation fields, variance-covariance method 4-58013
 mixed γ /neutron field, dosimetric and radiobiological characts. of field prod. by d-Be reaction (*Russian*) 4-12642
 mixed radiation fields, neutron and γ personnel dosimeter response 4-21812
 molecular system perturbation from radiation effects 4-36242
 monoenergetic high-purity neutron beams prod. technique for nucl. research 4-14259
 MONTEC program for population radiation dose and dose rate response simulation 4-9605
 MOS sensors for radiation dosimetry 4-54438
 multineedle counter with cathodic focusing for fast TSEE dosimeter readout 4-980
 natural radiation survey by NRPB, pilot study report 4-26536
 neutron absorbed dose in lineal energy, microdosimetric determ. method (*Czech*) 4-43665
 neutron dose equivalent rates due to heavy ion beams 4-23434
 neutron dosimetry, gamma-rays sensitivity, exposure factor of ionisation chamber (*Chinese*) 4-28290
 neutron dosimetry, neutron cross section and spectra, uncertainty anal., covariance formulation 4-43670
 neutron dosimetry, review 4-58017

dosimetry continued

neutron dosimetry standards, integral reaction rate meas. in ^{252}Cf and ^{235}U fission spectra 4-43474
 neutron dosimetry system, track etch detector 4-48773
 neutron dosimetry with ionisation chambers 4-33182
 neutron skyshine from proton accelerators, simple procedure for estimation based on neutron diffusion 4-43657
 neutron spectrum unfolding with adjusted dosimetry cross sections 4-28228
 neutron therapy facilities, personnel exposures anal. 4-52490
 neutron-photon flux codes using XSDOSE code 4-37736
 nominal standard dose concept, validity 4-21811
 non-ionising radiation dosimetry, radiowaves, microwaves, US, lasers and UV 4-54435
 nonlinear dose-response relationships for later health effects, sensitivity analysis 4-26481
 nuclear medicine personnel working with ^{99m}Tc preparations, local doses (*Hungarian*) 4-52492
 nuclear plant emergency exercises, problems in scenario development 4-23398
 nuclear power plants, USSR, radiation safety, dose limits, emissions, γ -doses 4-37857
 nuclear research reactor buildings, air radioactivity due to gaseous wastes (*Hungarian*) 4-52504
 occupational radiation exposure at nuclear power plants in Japan and the United States 4-33178
 organ doses in diagnostic X-ray procedures 4-47079
 PAKS nuclear power station environment, preoperational in situ dose field determ. (*Hungarian*) 4-52491
 pelvimetry, low-dose CT 4-52476
 personnel 4-36240
 personnel monitoring services in Australia, intercomparison 4-21823
 phantom designs for radiation dosimetry, CT appls. 4-26531
 phosphors for dosimetry, thermoluminescence at elevated irradiation temps. 4-52483
 plastic scintillator counter, high-energy neutron spectra meas. 4-5109
 polymer film, dosimetry of soft X-ray and VUV radiation using photo-etching effect 4-9603
 population dose due to nucleon decay 4-53408
 pulsed ionizing radiation dosimetry based on microwave probing 4-14231
 pulsed radiation dosimetry 4-18825
 PWR, flux and dose rate level prediction from 1-dimens. representation (*Chinese*) 4-54225
 PWR, neutron dosimetry in pressure vessel cavities 4-28217
 PWR steam generator, γ -exposure rate distrib., maintenance personnel dose appl. 4-928
 quality assurance of radiation dosage: usefulness of redundancy 4-36243
 quartz equivalent thermoluminescence phosphor for fallout reassessment 4-18811
 radiation protection, basic safety standards and dose limitation 4-14228
 radioactive materials, safe transportation, IAEA coordinated research programme 4-37873
 radioactive materials transportation by rail in UK, radiological impact 4-28210
 radioisotope transportation in Argentina, radiation protection optimisation, collective effective dose 4-33204
 radiolabelled blood cells, dosimetry 4-16993
 radionuclide assay using dose calibrator ionisation chambers, calibration standard 4-14229
 radionuclide calibrator, National Physical Laboratory, construction and performance 4-14230
 radionuclide metrology in life sciences, conf., Paris, France (Sept. 1982) 4-13473
 radionuclide metrology in whole-body counting 4-16997
 radionuclide releases to rivers, exposure error anal. 4-21598
 radionuclides release limits for ^3H , ^{14}C , ^{85}Kr and ^{129}I from nucl. fuel cycle 4-18815
 radiotherapy, broad electron beams, model for depth dose distrib. calc. 4-8114
 radiotherapy, cranio-spinal axis tumours treatment, dosimetry of a single 'hockey stick' portal 4-8116
 radiotherapy, dose field deform. during opening and closing of valve (*Russian*) 4-47070
 radiotherapy, equivalent squares template 4-26532
 radiotherapy, high-energy accelerator depth dose data 4-26530
 radiotherapy, linear accelerator monitor unit totaliser 4-26533
 radiotherapy, peripheral dose from megavolt beams 4-26526
 radiotherapy, single fraction high dose total body irradiation, TLD meas. 4-8113
 radiotherapy, skin tolerance dose, reconsideration of area correction factor for CRE and TDF models 4-36214
 radiotherapy, surface dose for megavoltage photon beams outside the treatment field 4-26534
 radiotherapy, total body irradiation, dose calc. and prescription 4-47080
 radiowaste, transport analyses, man-rem dose rates, transport, routing and packaging effects 4-33042
 radiowaste surface disposal, safety procedure computer anal., integrated dosages (*German*) 4-4968
 reciprocal dose principle, heterogeneous phantoms appl., Monte Carlo studies 4-8124
 review of 40 years of development 4-42676
 SI units and their use, radiological dosimetry appl. 4-42908
 sintered TLD, dosimetric characts. 4-37943
 skeleton, rat, comparative retention of bone-seeking radionuclides 4-3610
 SKFU system for telemetric dose surveillance of nuclear power plants (*German*) 4-54427
 skin dose from electrons in ^{60}Co γ -ray beams, calc. methods for estimation 4-8115
 skin tumours in mice, radiation induction, dose-response models 4-16925
 solid state dosimetry, conf., Ottawa, Ont., Canada (September 1983) 4-47738
 spacecraft, radiation dosimetry, depend on inclination, altitude and spacecraft type 4-16995
 spectrum-averaged cross section data for reactor neutron metrology 4-37860
 spinal cord, rat, effect of small radiation doses, partial tolerance concept 4-12644
 superheated drop detectors for neutron dosimetry 4-54557
 supraglottic laryngeal carcinoma, dose-response relationship 4-16965
 surveillance dosimetry anal., time-depend. core source variations 4-28218
 temporary personnel in nuclear industry, exposure reports 4-28224

dosimetry continued

- Therac-20 linear accelerator, dose output variation with atm. press. and ambient temp. 4-8121
 thermoluminescence dose response curves, alpha particle, ionisation density track, intersection model 4-48751
 thermoluminescence dose response supralinearity, ionisation density depend., models 4-48750
 thermoluminescence response as a function of irradiation temperature for TLD 200, 600, 700 and $\text{CaSO}_4\cdot\text{Dy}$ 4-9601
 thermoluminescent clinical dosimetry, medical appls. and physical mechanism (Italian) 4-16986
 thyroid carcinoma, treatment by ^{131}I , dosimetric model 4-47071
 tissue dose deposition from low-energy photon beams, rel. to coherent scatt. and electron binding 4-21821
 TLD, heavy charged particle dosimetry 4-37942
 TLD, Ispra course, Ispra, Italy (May 1982) 4-36769
 TLD environmental monitoring programme for Palo Verde Nuclear Power Station 4-18810
 treatment planning and dosimetry for the π^- meson therapy facility at SIN 4-57998
 TSEE dosimeter readout using gas flow proportional counter 4-978
 TSEE reader, commercial, design and appls. 4-981
 US induced transient cavitation, measurement by chem. dosimetry 4-44664
 US-CEC personnel dosimetry intercomparison study, 1982, summary and anal. of neutron meas. 4-52481
 USSR nuclear power plants, safety standards, siting, dose limits 4-37842
 vapour nucleation of superheated drops detection, instrument design and appl. 4-5107
 Varian Clinac 4 model to generate beam profile for 3D dose calc., open fields 4-41632
 whole-body and local dosimetry in rats exposed to 2.45-GHz microwave radiation 4-52486
 wrist watch jewels, use in accident gamma dosimetry 4-54440
 X-ray generators, medium-freq., medical and technical aspects 4-21788
 X-rays, high energy dosimetry standards research (Japanese) 4-28207
 YAYOI biomedical irradiation facility, dose rates in air and water phantom 4-48802
 (n, x), ^{252}Cf neutron spectrum averaged cross section meas. 4-43472
 $\alpha\text{-Al}_2\text{O}_3$ layers, TSEE detection of α and β radiation 4-3618
 ^{241}Am , exposed skin, elastic degeneration, 1976 Hanford exposure incident 4-16991
 ^{241}Am , haematologic effects in 1976 Hanford exposure incident 4-16990
 ^{241}Am , internal deposition in exposure accident at Hanford, 1976 4-16988
 ^{241}Am , organ burden and dose estimates, 1976 Hanford exposure incident 4-16989
 BaS:Cu,Bi, new X-ray TLD phosphors 4-21051
 BeO automated routine personnel dosimetry 4-48792
 BeO thin film, TSEE dosimeters, sensitivity for T beta particles 4-3621
 $\text{Bi}_4\text{Ge}_2\text{O}_{12}$, pulse height distrib. unfolding for γ -ray flux spectra and dose rates 4-54555
 $^{12}\text{C}(\text{n},\text{n}'\alpha)$, kerma factors at $E_n=10\text{-}35$ MeV, therapy appl. 4-58014
 $\text{CaF}_2\text{:Tm}$, thermoluminesc. glow curve shape prod. by α and β radiations 4-21050
 $\text{CaSO}_4\cdot\text{Dy}$, thermoluminescence response as a function of irradiation temperature 4-9601
 $\text{CaSO}_4\cdot\text{Dy}$ embedded polyethylene discs, phosphoresc. and photostimulated luminesc. at elevated temp., fast neutron dosimetry appl. 4-43652
 $\text{CaSO}_4\cdot\text{Dy}$ thin film, two-dimens. dosimetry, X-ray imaging method 4-48797
 Cf neutron source for radiation therapy, dosimetric characts. (Russian) 4-16987
 ^{252}Cf calibration facility, D_2O -moderated, spectral and dosimetric characts. 4-43656
 ^{60}Co radioactive aerosols, inhaled, metabolic parameter estimation 4-26523
 ^{137}Cs source, buildup factors and dose around in presence of inhomogeneities, therapy, appl. 4-8120
 $^{63}\text{Cu}(\text{n},\alpha)^{60}\text{Co}$, spectrum average cross section relative to $^{27}\text{Al}(\text{n},\alpha)^{24}\text{Na}$, data for dosimetry 4-43469
 DT neutron generator for tumour treatment in Hamburg Eppendorf 4-57991
 $^{\text{A}}\text{Fe}$, A=52, 55, 59, used to study ferrokinetics, radiation absorbed dose calcs. 4-21815
 $\text{n}^+\text{-GaAs/n-ZnSe}$, rectifier photoelectric effect in heterogeneous transitions on X-ray excitation 4-54559
 ^{125}I intakes in radiopharmaceutical prod. workers, determ. by thyroid radioactivity meas. 4-52480
 ^{125}I seeds of new design, for interstitial implant, phys. dosimetry 4-36241
 ^{192}Ir implants, dose distrib. calc. 4-21809
 ^{81}mKr generator development for clinical ventilation and perfusion 4-31335
 $\text{Li}_2\text{B}_2\text{O}_5$ sintered crystal and thin evaporated layer, TSEE, dosimetric appl. 4-3024
 LiF (TLD-700), field fading, environmental monitoring 4-18802
 LiF, TSEE for beta and gamma dosimetry 4-3619
 LiF, vacuum deposited thin film, integrating radiation dosimetry by exoelectron emission 4-48759
 $^{\text{LiF}}$, thermoluminesc. glow curve shape prod. by α and β radiations 4-21050
 MgS:Eu,Sm phosphors, optically stimulated luminesc. dosimetry 4-48753
 $\text{Na}_2^{35}\text{SO}_4$, radiation dose to man following intravenous injection 4-3630
 Ni-NaF thin film system, dosimetric props. rel. to external factors 4-3623
 ^{15}O -labelled O_2 , CO_2 and CO gases administered continuously by administration, biological anal. and dosimetry 4-16994
 $^{\text{A}}\text{Pu}$, A=239, 240, fallout meas. and dose estimation for Tokaimura, Japan 4-47078
 Rn atmospheric concentration over Oviedo, Spain, 1975-80, absorbed doses (Spanish) 4-42021
 ^{222}Rn , atmospheric conc. over Oviedo, Spain (Spanish) 4-42022
 Si detector, radiation damage and dose rate linearity response in 70 MeV protons 4-23493
 $^{\text{Sr}}$, annual dose equivalents from varying annual intakes 4-47077
 T β -rays, RBE w.r.t. dose rate 4-3628
 $^{99\text{m}}\text{Tc}$ -labelled radiopharmaceutical drugs, dose exposures to staff members during administration (Russian) 4-8109

double heterostructure lasers see semiconductor junction lasers

double layers (electric) see electrochemistry; liquid theory

double nuclear magnetic resonance

see also INDOR

- amino groups, interproton distance determ. using NMR-NQR double reson. 4-49070
 AX spin system, longitudinal relax. theory 4-25652
 4,7-dimethyl-5,6-benzo-2-oxo-1,3,2-dioxathiepin, stereoisomers, mol. conform. and dynamic props. 4-9804
 guanidine, amino group interproton distance determ. using NMR-NQR double reson. 4-49070
 spin systems, scalar-coupled, NMR, use of single-spin operator basis sets 4-11780
 squaric acid, order-disorder transform., ^2H quadrupole coupling 4-46146
 stereoisomers, mol. conform. and dynamic props. 4-9804
 thiourea, amino group interproton distance determ. using NMR-NQR double reson. 4-49070
 triethylammonium ions in ion-exchange resins, mol. motion and mag. relax. (Russian) 4-14451
 urea, amino group interproton distance determ. using NMR-NQR double reson. 4-49070
 $\text{B}_3\text{N}_3\text{H}_6$, ^{10}B nuclear quadrupole double reson. spectra line intensities 4-7055
 CsPbF_3 , ^{207}Pb chemical shift meas., mag. shielding study 4-11783
 KH_2PO_4 , ferroelectric phase transition, D nucl. quadrupole double reson. study 4-30361
 $\text{NaF:Al}^{3+}(\text{Ca}^{2+})$, point defects, ^{23}Na double NMR study 4-11800
 $\text{PbF}_2\text{-CaF}_2$, ^{207}Pb chemical shift meas., mag. shielding study 4-11783
 PbFCl , ^{207}Pb chemical shift meas., mag. shielding study 4-11783
 ^{181}Ta nuclear gamma resonance spectra, high-frequency magnetic fields effects obs. 4-22888

double refraction see birefringence

double refraction, electric see electro-optical effects

double refraction, magnetic see magneto-optical effects

double resonance, electron nuclear see ENDOR

doublet antennas see dipole antennas

DP industry

He-Cd laser for high speed high resolution data recording 4-24006

DPPH, diphenylpicrylhydrazyl see organic compounds

drag reduction

- bluff objects, tumbling and burning effects on drag 4-10711
 boundary layer hydrodynamics, integral characts. (Russian) 4-10648
 cones in cavitation flow, drag 4-1791
 fibre-polymer mixed suspensions, frictional resistance study 4-15005
 film thickness and shear stress meas., drag coeff. 4-10736
 heated ellipsoid, delayed laminar-turbulent transition surface roughness effect 4-10641
 injected semi-bounded jet impingement on boundary layer, laser anemometer meas. (Russian) 4-29142
 micropolar incompressible fluid, Flaxen's laws 4-55389
 polymer sols., dilute, drag reducing in rectangular open channel flow, turbulence struct. 4-10649
 star-shaped body in flow field parametric study 4-29125
 swirling hypersonic flow, minimal wave drag bodies 4-5912
 turbulent flow, heat and mass transfer 4-19859
 turbulent skin friction, wall mass transfer and pressure gradient effects 4-44542
 turbulent skin friction reduction by microbubbles 4-44544
 viscoelastic flow, drag reduction parameter with polymer additives 4-44660
 water, polymeric additive effect on turbulence damping and convection 4-19797

drawability see ductility

drawing (mechanical)

- chalcogenide glass optical fibre prep. (Japanese) 4-49591
 deep drawability, intrinsic criterion, formulation and appls. (French) 4-46525
 fibres formation, generation of auto-oscillations 4-44513
 glass fibre drawing process, finite element method simulation 4-30675
 glass optical fibres, γ -ray induced loss characts., drawing effects 4-33787
 metal, electroplastic deform., review 4-57304
 multicomponent glass fibres, drawing induced absorption losses 4-7218
 optical fibres, drawing techniques for high strength long length fibres (Japanese) 4-14818
 optical fibres, high speed techniques (Japanese) 4-49587
 PET, semicrystalline, thermal diffusivity as function of drawing, photoacoustic effect meas. 4-45433
 phosphate glass optical fibre fabricated by continuous drawing 4-24263
 plastic optical fibre fabrication (Japanese) 4-49592
 plastics, deep drawn sheet, limit drawing ratio prediction (Japanese) 4-21278
 polyethylene, elec. breakdown and morphology 4-20911
 polyethylene, high-density, density changes on drawing by solid-state extensions 4-12321
 polyethylene, low density, environmental stress cracking, effects of uniaxial orientation (Japanese) 4-3271
 polyethylene, minimum draw ratio rel. to chain extension 4-35669
 polyethylene, oriented, mech. behaviour 4-46544
 polyethylene, semicrystalline, thermal diffusivity as function of drawing, photoacoustic effect meas. 4-45433
 polyethylene, single crystal mats drawing, dynamic props. DSC obs. 4-30678
 polymer fibres, ultra-high tenacity, processing, review 4-16369
 polyoxymethylene, ultrahigh modulus, prod. by drawing under dielec. heating 4-35643
 polypropylene, ultra-drawing, mech. props., wide angle X-ray scatt. 4-46485
 polypropylene fibres, mol. mobility, drawing influence, NMR 4-46116
 polypropylene films, isotactic highly redrawn, struct. 4-39168
 polypropylene-polyethylene blends, heat treated, drawn, morphology 4-45030
 porous materials extrusion, FORTRAN IV program for investigation (Russian) 4-25971
 single mode graded index dispersion shifted fibres with ultra low loss, fabrication in long lengths 4-24271
 slipline field solutions for drawing through circular dies 4-10563
 steel, austenitic stainless, cold drawing, deform. and transform. textures (Japanese) 4-35628

drawing (mechanical) continued

- steel, deep-drawing, Al-killed recrystn. texture, orientation distrib. function anal. 4-40812
 steel, galvanized wires, drawing, surface elevations form. at interface 4-40890
 steel, low C, dislocation microstruct. during deep drawing 4-24825
 steel, low-C and Solder 28 types, deep drawability criterion appls. (French) 4-46525
 steel, rolled wire, torn during drawing, fractographic analysis 4-51802
 steel, stainless, Cr-Ni-Ti, wire, electroplastic drawing, phase composition and struct. 4-12086
 steel, stainless, reinforcing filaments, cold drawn 4-3190
 strain hardening material, plane strain drawing through circular dies 4-51740
 wire, drawn, combined electrochem. cleaning and surface layer removal method (Russian) 4-41055
 Al, A5 type, deep drawability criterion appls. (French) 4-46525
 Al-Fe (0.6 wt.%), cold drawn wire, dynamic recrystallisation 4-12079
 Cu-Zn, thin-walled tubing, L80, annealing effect on struct. and props. 4-3150
 Fe-Cr-Co-Ni, cold drawn, strain gauge factor, elec. props. (Japanese) 4-6763
 Ni-Fe bars, ferromagnetic memory effect 4-20837
 $Pd_{75}Cu_{25}Si_{16.5}$ amorphous wire, struct. relax. and Young's modulus 4-44961
 polystyrene, isotactic films, cold drawing, craze fibrils, TEM obs. 4-30782
 SiO_2 and SiO_2 - GeO_2 glasses, optical fiber drawing, E'-centers, ESR study 4-38604
 ZrF_4 - BaF_2 - LaF_3 - AlF_3 -NaF optical fibres, improved crucible fabrication technique 4-33819

drift chambers see position sensitive particle detectors; proportional counters drives

- see also electric drives; propulsion
 bellows drive for translational motion 4-42974

drop model (nuclear) see nuclear liquid drop model**droplets** see drops**drops**

- aerosol droplets, diffusion interaction, EM control 4-24464
 annular-mist two-phase flow in tube bends, gas vel. profiles and press. distrib. 4-44707
 benzene in supersonic flow through Laval nozzle, cluster form., electron diff. 4-43985
 bubble in drop, eccentrically placed, slow axisymmetric thermocapillary migration in zero gravity 4-1814
 cloud, streamers propagation through large population of neutral droplets 4-42127
 cloud droplet growth by condensation in cumulus (Chinese) 4-58246
 clouds, radio emission rel. to microstruct. 4-42132
 coalescence and break-up of drops in two-phase flows 4-44703
 condensation, supersaturation effects on homogeneous condensation kinetics, theory 4-39449
 condensing binary vapours, droplet form. and growth 4-44693
 current change during the formation of liquid drops by an electric field 4-34198
 decomposition in reactive atmosphere, large activation energy effects 4-21477
 dielectrophoretic and magnetohydrostatic levitation of particles, droplets and bubbles 4-57569
 diffusion controlled droplet coarsening, statistical mechanical theory 4-47993
 droplet deposition and interchange in annular two-phase flow 4-10743
 droplet generation and size distrib. in annular two-phase flow 4-10749
 droplet population above quench front during reflow, heat transfer 4-55403
 droplet transfer in two-phase annular flow 4-10744
 dropwise condensation, heat transfer, microscopic study 4-44690
 EHD jet, nonlinear breakup 4-34200
 electrostatic spray atomizers, charged droplets, periodic convulsive disruption during evaporation, analytical model 4-31030
 electrostatic spray atomizers, droplet size and self-dispersal properties, plume modeling 4-31029
 eye cone oil droplets, light intensification, EM considerations 4-26388
 ferrofluid mag. drops, bistability under mag. field 4-29190
 ferromagnetic emulsions, hydrodynamics and effective viscosity, appl. to elongational flow 4-38894
 film form. in two-phase turbulent flow over plate 4-10735
 flame spread through fuel droplets under zero gravity condition 4-35905
 fluid motion and transport, for assemblage of drops in elec. field 4-1845
 forced flow, laminar condensation, numerical solns. 4-49872
 forced flow, laminar condensation, singular perturbation technique 4-49871
 freely suspended droplets, contact and immersion freezing by bacterial ice nuclei 4-47368
 growth rates in quenched unstable states, intermittence effect 4-6469
 heterogeneous systems with spherical interfaces, free energy 4-29731
 hydrocarbon fuel drops, steady state evaporation characts. 4-10525
 hydrodynamics of small tubular pumps 4-49874
 immiscible liq. drops, direct contact evaporation, parametric studies 4-38702
 kerosene atomised vaporising spray, droplet size and vel. meas. 4-34159
 leidenfrost point for subheated drops 4-34085
 levitated metal droplet, heat and fluid flow under zero gravity conditions 4-57094
 liquid, simulated microscopic, surface thickness 4-20435
 liquid, surface of tension 4-25122
 liquid spheres in linear flow field, hydrodynamic interaction 4-44682
 liquid-liquid dispersions, drop coalescence by flow through glass fibre beds 4-44712
 nonhorizontal solid surfaces, sticking ability 4-34152
 nozzle wall two-phase flow heat exchange with droplet removal from condensed film 4-1727
 nucleation, nonequilibrium bistable reaction systems 4-6466
 Ostwald ripening theory, competitive growth and vol. fraction depend. 4-34165
 pendant drops in capillary tube 4-19861
 phase separating unmixing mixtures, dynamic scaling theory, droplet growth rates 4-49918
 PWR LOCA, core reflow, droplet generation and droplet size determ. 4-28173

drops continued

- rain droplet distribution parameters from combined radar dual-wavelength/polarisation meas. 4-8327
 rain droplet shapes, estimation from backscattered radar polarisation meas. 4-8326
 rain drops, size distrib., analytical form natural var. 4-47358
 rain drops distribution in warm stratocumulus cloud (Chinese) 4-47331
 rain shower supernumerary bows 4-26798
 raindrops, size distrib. rel. to atmospheric temp. profiles determ. from microwave radiation 4-42040
 sessile drops, small, profile and contact angle, general approx. 4-56123
 sizing of droplets using top-hat laser beam technique 4-32233
 small particle in liq. state, freq. spectrum, liq. drop model 4-45296
 spherical particle motion in viscous nonisothermal fluid 4-5891
 spray flames, alternative model comparison 4-1820
 spray nozzle characterisation, simultaneous particle size and velocity meas. by laser anemometer 4-24505
 spreading and break-up in gas stream 4-49868
 stratocumulus clouds in Africa and Europe, liq. water content rel. to radiative props. 4-42166
 thin drop spreading by gravity and capillarity 4-34154
 toroidal drop moving in viscous fluid, form. and expansion 4-34153
 transient droplet heating at high Peclet number 4-10674
 two phase liquid-liquid dispersions, mass transfer, Monte-Carlo simulation 4-29153
 vapour droplet flow in postburnout zone, nonequilib. 4-10791
 vapour gas behaviour around its spherical droplet 4-44657
 Venus clouds, props. of S-coated H_2SO_4 drops 4-53072
 viscous shear unsteady-state flow, moment of forces acting on drop (Russian) 4-44709
 viscous stream, drop deform., equilb. form conditions of existence 4-19867
 water aerosol, laser radiation propag. under breakup conditions 4-1449
 water drop condensation and evaporation in air, particle flow rate determ. (Russian) 4-50477
 water droplets, absorbing, heating and vaporisation by pulsed light beams 4-28624
 water droplets, absorbing, propag. effects on pulsed light beams 4-28625
 water droplets, frozen on ice surface, cryst. struct. and orientation 4-29578
 water drops, charged submicron particle collection, particle wettability effects 4-29733
 water drops, explosion under intense laser radiation 4-1582
 water drops, heating and destruction on exposure to radiation with inhomogeneous internal heat evolution 4-1581
 water drops in stratocumulus and cumulus clouds, bimodal size spectra (French) 4-58238
 water spray in a condensable environment (steam), laminar flow 4-44692
 water spray in noncondensable air, modelling 4-44691
 Ar nucleating droplets, free energy via cluster-integral series 4-2307
 Ar-Kr mixtures, multiple nucleation pathways near triple points 4-50458
 Cu vacuum arc, macroparticle velocities determ. 4-24657
 $(NH_4)_2SO_4$ aerosol droplet, IR absorpt. spectrum, 970-1280 cm^{-1} range, molecular spectroscopy 4-35949

drying

- air dehumidifier using solar-assisted regenerator 4-57670
 biological materials, freeze drying, thermal deform. effect 4-21857
 cross-cooled desiccant dehumidifier 4-21533
 desiccant film flowing over roof, heat flux red. 4-21586
 dispersed materials, variable mass particle dynamics during drying in pneumatic dryer 4-33926
 fluidised bed composed of coarse dielectric particles, elec. charge neutralisation 4-35852
 fruit drying in solar installations 4-16760
 fruit solar drying method (French) 4-3453
 granular materials in packed bed, convective drying, heat and mass transfer 4-34074
 hay drying with barn roof acting as a solar collector, performance simulation 4-57663
 heat sensitive material, vacuum freeze drying, heat & mass transfer 4-19799
 hybrid systems for drying tobacco, cost analysis 4-52108
 matrix solar collector fabricated from broken glass pieces, anal. 4-21571
 silk cocoon drying through solar energy 4-57669
 spouted-bed dryer, heat and mass transfer 4-33903
 CaCl₂ desiccant soln. regeneration, solar regenerator theory and expt. 4-26273
 LiBr desiccant soln. regeneration, solar regenerator theory and expt. 4-26273
 Pb-acid accumulators, thermopassivated dry-charge positive electrodes, depassivation, expt. 4-7849

DSC see thermal analysis**DTA** see thermal analysis**dual resonance model** see duality and dual models**duality (mathematics)**

- absorptive systems, wave packets and solitary waves, duality 4-53494

duality and dual models

see also Veneziano model

- baryon-meson interaction, string-breaking description in QCD 4-13911
 charge-monopole system, duality with massless particles, $SO(4,2)$ unitary representation 4-4659
 closed relativistic string, conserved quantities from collective words 4-465
 conference on fundamental interaction theory, Varenna, Italy (Jul. 1980) 4-8646
 confining potentials, two-point functions, duality 4-37357
 confining string between 2 heavy quarks in lattice gauge theory, string tension, roughening transition 4-9088
 continuous symmetries in field theory 4-13752
 d=3 supersymmetric model, self-duality in odd dims. 4-47985
 duality transformations, Yang-Mills groups and general-coordinate-transformed field reps. 4-27713
 Euclidean $SU(2)$ gauge theory solns. 4-48342
 geometrical models, gauge field formulation 4-53851
 gluon condensation, QCD bag model, Wilson loop, hadron stringlike props. 4-43307
 Hamiltonian lattice field theory, connected diagram expansions, gauge model axial string tension 4-53828
 Hamiltonian lattice gauge theory, Z_2 and $U(1)$, string tension, linked cluster expansion 4-53829
 lattice action for $SU(2)$ gauge theory and Monte Carlo calc. 4-359

duality and dual models continued

- lattice QCD, glueball mass calc. from SU(3) gauge fields 4-48428
 local field theory describing intrinsically extended objects, Nambu-Goto strings 4-23436
 loop equations, $1/N$ expansion, strings, model appls., review 4-53931
 massive charged vector particles, dual invariant theory, renormalisation 4-427
 massive gauge invariant QCD, phases and duality 4-48415
 massless relativistic string, group theoretical basis 4-4658
 Migdal-Kadanoff transformations on dual lattice and bounds on free energies 4-361
 monopole annihilation, no constraints from causality, strings 4-48459
 nonintersecting string model, diagonalisation of transfer matrix 4-22999
 nonlinear σ supersymmetric model in $1+1$ dims., supergravity coupling, spinning string 4-43163
 open superstring theory, hexagon anomaly cancellation 4-13784
 planar random surface model, critical props. 4-53854
 Polyakov string theory, diagrammatic interpretation 4-4657
 QCD, Monte Carlo calcs. with Symanzik's improved action 4-13861
 QCD, string variables in partition function, gluon field 4-9070
 QCD, vanishing bare coupling surfaces, half-dualised action, lattice version 4-9069
 quantised string, static potential in Polyakov's theorem 4-9090
 quark-hadron duality for orbital excitations 4-4638
 radiative meson decays, extended vector meson dominance dual model 4-4663
 relativistic string model, rigidly rotating solns. 4-43342
 self-dual Yang-Mills eqns., complex string solns. 4-37275
 string hadronisation, topological jet universality in pionisation region 4-48458
 SU(2) gauge theory on body centred hypercubic lattice, improved scaling, string tension 4-32423
 SU(2) lattice gauge theory, instantons and string tension, Monte Carlo method 4-48313
 SU(2) lattice gauge theory with action including six-link loops, string tension meas. 4-358
 SU(3) lattice gauge theory, heavy-quark pot. 4-48461
 SU(3) lattice gauge theory, Monte Carlo simulation, string tension and deconfinement temp. 4-53857
 SU(5) gauge theory in four dims., Monte Carlo studies of Wilson loops 4-4565
 superstrings, 10-D supersymmetry, covariant description 4-48460
 supersymmetrical dual string theories, field theory limits 4-32493
 U(1) lattice gauge theory, mass gap and string tension in QED₃ 4-13747
 Yang-Mills theory, functional integral representation 4-13774
 hh, low- p_T collision, charge distrib. and correl. in Lund fragmentation models 4-43334
 K⁺p, strangeness fragmentation and production, Lund string model 4-27761
 τ , semileptonic decay, duality in QCD 4-37378
 e⁺e⁻ annihilation, fire string theory 4-43376

ductile-brittle transition

- see also embrittlement*
 linear elastic fracture toughness mechanisms (Japanese) 4-55916
 LWR pressure vessel materials, neutron irradiation prediction of brittle-ductile transition temp. shift 4-730
 metallic glasses, ductile-brittle transition, kinetics (Chinese) 4-57311
 metals, dynamic fracture, spalling, review 4-12170
 metals, weld, plastic deform. mode, effect of globular silicates (Slovak) 4-46569
 polycrystals, intercryst. cracking, grain-boundary sliding and delayed elasticity at high temps. 4-34570
 steel, alloy, intergranular embrittlement, small punch test evaluation 4-41161
 steel, Cr-Mo, pressure vessel, fracture toughness rel. to loading rate 4-51797
 steel, ferritic-pearlitic, failure surface struct. in ductile-brittle transition zone 4-30817
 steel, high speed, M2, carbide cracking, fracture mechanism 4-21325
 steel, high strength, fatigue fracture morphology after exposure to various rel. humidities 4-30826
 steel, HSLA, fracture toughness, effects of microstruct. 4-7562
 steel, low alloy, brittle to ductile transition temp., fracture toughness 4-26031
 steel, low alloy, fatigue crack growth in torsion, fracture transition model 4-7579
 steel, low alloy, V, dispersion hardening, brittle fracture resist. 4-51680
 steel, Mn-Nb, impact fracture at low temps. (Chinese) 4-16471
 steel, pressure vessel, A533 B, irradiated, dynamic fracture toughness 4-57334
 steel, structural, fracture toughness, appl. of fracture mechanics concepts (French) 4-46623
 steel, structural, heat treatment to reduce temper brittleness 4-40839
 steel, warm-rolled, impact-tested, cleavage delaminations 4-26052
 Al₂O₃, plastic deform. under compression, 200-1800°C (French) 4-21288
 Be-Co system alloys, struct. and physicochem. props., Co influence 4-57254
 Fe, cast ductile, austempered, SEM study rel. to impact toughness 4-35702
 Fe, fracture, computer simulation using long-range pair potentials 4-50416
 Fe-Mn alloy G29, ductile-brittle transition temp., purity influence 4-21318
 Fe-Ni-Mo-Ti (13, 3, 0.2 wt.%), fracture toughness at 4K 4-30822
 Fe₄₀Ni₄₀B₂₀, amorphous, neutron-irrad., ductility and swelling 4-45195
 W-Ni-Fe (3.5, 1.5 wt.%), liq. phase sintered, variation of toughness with test temp. and cooling rate 4-40965

ductile fracture

- see also ductile-brittle transition; notch ductility*
 HSLA, martensitic, high temp. ductility, effects of austenite grain size and grain boundary segregation 4-16452
 metal, ductile fracture, cavity nucleation at interface, dislocation mechanism 4-20286
 metal, failure geometry and strength macro-criteria (Russian) 4-11221
 metals, body-centred cubic, screw dislocation core structure 4-39296
 metals, ductile, deform. at crack tips 4-46621
 metals, ductile, flow instabilities at crack tips 4-12172
 metals, ductile failure, struct. parameters if continuum model 4-34574
 metals, fracture surface micro-roughness 4-46614

ductile fracture continued

- metals, tensile testing, heat treatment and prestrain effects, ductility indices 4-25991
 microcrack formation under conditions of developed plastic strain 4-11224
 rotating disc with fatigue cracks or sharp notch, unstable fracture strength (Japanese) 4-21305
 rubber blends, ductile fracture, J-integral analysis 4-38758
 steel, austenitic stainless, hot ductility and NbC precip. 4-57305
 steel, C, fracture toughness, ductility, temp. depend. 4-26030
 steel, Cr-Mo, ultrahigh strength, heat treatment, mech. props. 4-16495
 steel, ferritic, plane strain crack propag. and arrest, effect of restraining ligaments 4-30785
 steel, high speed, AISI M2, hot deformability, impurity effects, AES studies 4-51731
 steel, high speed, M2, carbide cracking, fracture mechanism 4-21325
 steel, HSLA, ductile fracture, influence of P segregation to particle/matrix interface 4-7538
 steel, initiation toughness, prior to ductile tearing during rapid loading 4-3216
 steel, low alloy, low C martensite, hot tensile props., effect of rare earth metal additions 4-30805
 steel, low C, cast components, strengthened by elastoplastic deform., failure mechanism 4-35700
 steel, Ni-Cr-Mo, ductile tearing, use of scale models 4-7547
 steel, Si, duplex ferrite-martensite microstruct., fatigue crack growth 4-30800
 steel, spheroidised, void growth 4-40906
 steel, structural, ductile tearing resistance curves 4-12161
 steel, warm-rolled, impact-tested, cleavage delaminations 4-26052
 stress wave emission during fracture 4-44489
 surface flaws, crit. parameters for ductile fracture 4-12155
 topography of ductile fracture, rel. to ductility, control by microvoid nucleation 4-11220
 Al-Al₂O₃-MgO cast particle composite, fracture ductility, SEM obs. 4-21299
 Al-Cu, high strength, creep crack growth, study using computerised testing system 4-40964
 Cu-Co, averaged, void form. during ductile fracture 4-21300
 Fe, Armco, spalling failure character, -196 to 800°C 4-30816
 Fe, cast, spheroidal graphite, ferritic, embrittlement at 673K, influence of microstruct. 4-26065
 Fe, cast spheroidal graphite, three-point bending fatigue, macrostruct. (Japanese) 4-3231
 Fe, ductile cast, fracture toughness at low temps., X-ray fractographic study (Japanese) 4-57321
 Mo, ductile fracture and dislocation glide, HVEM study 4-30810
 Nb, mechanical properties, room temp., effects of H plasma irradiation (Russian) 4-40934
 Nb₃Sn, laboratory extrusion, effect of hydrostatic press. on ductile fracture 4-16445
 steel, austenitic stainless, hot ductility and NbC precipitation, intergranular microvoids coalescence fracture mode (Japanese) 4-46566
 Ti-Al-Mo, spalling failure character, -196 to 800°C 4-30816
 V, mechanical properties, room temp., effects of H plasma irradiation (Russian) 4-40934
 W, failure in zone affected by electric discharge 4-35695
- ductility**
see also ductile fracture; notch ductility
 alloys, amorphous, strength ductility and toughness, model mechanics study 4-57308
 brass, 65/35, work hardening mechanisms, 77 to 673K 4-30720
 brittle matrix-ductile particle composites, fracture toughening 4-16500
 cellulose fibre reinforced cement, slow crack growth 4-35687
 Cr-Mo-V, turbine rotor, creep embrittlement 4-35707
 deep drawability, intrinsic criterion, formulation and appls. (French) 4-46525
 dispersion strengthened, optimisation of mech. props. by suitable heat treatment 4-46522
 dispersion strengthened condensates, struct., microhardness and mech. props. 4-40991
 fibre reinforced Ni, effect of TiC and TiN on tensile and fatigue props. 4-40937
 glass, microplasticity, ductile behaviour mechanism indentation test obs. 4-12105
 glass fibre reinforced polyester, mech. strength, temp. depend., effect of fibre-matrix interfacial bond strength (Japanese) 4-57264
 Hastelloy X, high temp. ductility loss due to thermal neutron irradiation 4-43584
 Kevlar-glass fibre reinforced polymer, intermingled hybrid composites, elastic props. 4-40846
 metal shells with weakened sections, load carrying capacity 4-5814
 metals, amorphous, ductile vs. brittle behaviour 4-10566
 metals, grain boundaries, growth of sub-critical bubbles 4-55844
 metals, neutron irradiation, improvement in mech. props. 4-45196
 metals, tensile testing, heat treatment and prestrain effects, ductility indices 4-25991
 metals, weld, plastic deform. mode, effect of globular silicates (Slovak) 4-46569
 phenolic fibre reinforced polypropylene, mech. and phys. props. 4-46576
 plastic flow localization due to non-uniform void distribution 4-28987
 slow frictionless ring forming in rigid-perfectly plastic material 4-55348
 spatially reinforced hybrid composite, deform. characts. (Russian) 4-7516
 steel, alloy, diffusion layer failure formation after chemicothermal treatments 4-3235
 steel, alloy, high-strength, yielding and strength limiting states, block cycling effect 4-30772
 steel, alloy, high-strength weldable, comp. optimisation 4-40980
 steel, austenitic, precipitation-hardening, with Pb impurity, thermocyclic treatment effect on props. 4-40845
 steel, austenitic precipitation hardening, heat treatment effect on struct. and props. 4-21245
 steel, austenitic stainless, 800H, ductility rel. to high temp. carburisation 4-16437
 steel, austenitic stainless, deformed, heat resist., struct. fineness influence 4-57272
 steel, austenitic stainless, hot ductility and NbC precip. 4-57305
 steel, boiler type 15 YuA, mech. props. and struct. 4-51692
 steel, C, fracture toughness, ductility, temp. depend. 4-26030
 steel, C, heat treated, failure mechanism in abrasive wear 4-41001

ductility continued

steel, Co-Mo-Ni-Ti, maraging, mech. props., heat treatment effect 4-21253

steel, cold formability, microstruct. effect (*French*) 4-46533

steel, Cr, thermite rail welds, mech. props. and microstruct. 4-51752

steel, Cr type, high-strength, sintered, struct. and mech. props. after thermomech. treatment 4-51811

steel, Cr-Mn-(Ni)-(V), high N, struct. and mech. props., heat treatment effect 4-30732

steel, Cr-Mn-Ni, low C, martensitic, strength props. 4-30771

steel, Cr-Mo, ultrahigh strength, heat treatment, mech. props. 4-16495

steel, Cr-Mo-V, mech. props., deform. and tempering effect 4-21283

steel, Cr-Ni-Mo, economically alloyed, for large forgings 4-40919

steel, ferrite-pearlite, crack tip plasticity, monotonic and cyclic 4-30792

steel, heat treated, erosion behaviour rel. to mech. props. 4-7607

steel, high speed, W-Cr-V-Mn, hot plasticity, effect of trace S (*Chinese*) 4-16435

steel, high strength, cast and forged, comparative study of fracture and fatigue 4-57325

steel, high strength, sintered, machinability rel. to additives, drill life test 4-7390

steel, hypoeutectoid graphitic, tensile props. rel. to microstruct. (*Japanese*) 4-35664

steel, low alloy, low C martensite, hot tensile props., effect of rare earth metal additions 4-30805

steel, low C, deform. mechanism close to inclusions under compression 4-40917

steel, low C, hot ductility, AlN and NbC precipitation 4-30703

steel, low-alloy, continuously cast, mech. props. and struct. changes during hot deform. 4-40920

steel, low-C and Solder 28 types, deep drawability criterion appls. (*French*) 4-46525

steel, mild, low C, neutron irradiated, beneficial effect on mech. props. in blue-brittle range 4-45197

steel, Ni-Co-Mo-Ti, maraging, strengthening during cold plastic deform. and heat treatment 4-21254

steel, Ni-Co-W-Mo, maraging, mech. props., heat treatment effect 4-21253

steel, powder metallurgical, produced by hot forging, struct. and physico-mech. props. 4-7529

steel, quenched and tempered, precip. induced voids 4-7461

steel, sheet type, plastic deform. influence on struct. and mech. props. 4-51693

steel, Si, duplex ferrite-martensite microstruct., fatigue crack growth 4-30800

steel, spheroidised, void growth 4-40906

steel, stainless, austenitic, interstitial N content influence on low-cycle fatigue behaviour (*French*) 4-40983

steel, stainless, ferritic Cr-Mo, thermomechanical transform., stabilisation, formability 4-3154

steel, stainless, Ni-Cr, ductility and struct. transforms. 4-3188

steel, structural, nuclear, A203D, dynamic strain ageing 4-30727

steel, structural, plastic deform. in mixed $\gamma+\alpha$ range (*French*) 4-7535

steel, thermite welds, normalising, struct. and ductility 4-51753

steel, HSLA, martensitic, high temp. ductility, effects of austenite grain size and grain boundary segregation 4-16452

steel, St.3, ductility and H absorpt., cyclic amine condensation products influence 4-57406

superplasticity, physics, industrial fabrication methods and appls. 4-30767

topography of ductile fracture, rel. to ductility, control by microvoid nucleation 4-11220

void growth in ductile materials, sensitivity of macroscopic consequences to various mech. and geometrical micro-parameters 4-14895

Ag-Ni₂Ti composites, erosion and contact resist. 4-26068

Al, A5 type, deep drawability criterion appls. (*French*) 4-46525

Al-Cu-Mg, heat-resistance, electroslag refined, hot workability and hot deform. 4-7494

Al-Cu-Mg-Mu-Si-Fe, yielding and strength limiting states, block cycling effect 4-30772

Al-Cu-Ti, SCC, strain rate sensitivity, effect of Ti additions 4-41037

Al-Li, rapidly solidified, deform. rel. to second phase dispersoids 4-7524

Al-Si, crystn. under pressure, struct. and mech. props. 4-3191

Al-Si, thermal cycling treatment, effect on struct. and props. 4-40840

Al-Si alloy a-S13, spheroidizing by heat treatment of Si (*French*) 4-40822

Al-Zn-Mg (6.0, 2.6 wt.%), cold working, ageing, ductility, 4-2-293K 4-51748

Al-Zn-Ti, SCC, strain rate sensitivity, effect of Ti additions 4-41037

Co-Cr-Mo-C implant alloy, ageing behaviour 4-7485

Cr, crystal purification by floating zone refining, residual resist. and ductility props. 4-40643

Cr/Cu microlaminate composites, struct.-prop. relationships 4-50650

Cu-Al-Ni-Ti(Zr), shape memory alloy ribbons, melt spun, improvement of ductility by Ti or Zr addition 4-21271

Cu-Ti binary alloys, age-hardening, effect of rapid solidification 4-16408

Cu-Zn, thin-walled tubing, L80, annealing effect on struct. and props. 4-3150

Fe, Armco, heat treated, failure mechanism in abrasive wear 4-41001

Fe, cast, ductile, ferrite-bainite matrix, tensile props. (*Korean*) 4-16442

Fe, cast, high Cr, wear technological parameters 4-35733

Fe, cast, spheroidal graphite, ferritic, embrittlement at 673K, influence of microstruct. 4-26065

Fe, white cast, rapidly solidified powder compacts, room temp. strength and ductility 4-7528

Fe-Co-V, heat treatment, ductility and structure 4-7509

Fe-Cr-Co-M (M=Mo, Ti, Zr) permanent mag. additions effect on ductility and mag. props. 4-11749

Fe-Ni base superalloys, fatigue crack propag. at elevated temps., overload effects (*Chinese*) 4-16468

Fe-Ni-Cr austenitic alloys, He embrittlement, effect of pre-injection thermomech. treatment 4-16481

Fe-Ni-Mo microduplex semihard magnet alloys, processing and mag. props. 4-57359

Fe₈₀Ni₂₀B₂₀, amorphous, neutron-irrad., ductility and swelling 4-45195

In-Sn eutectic difference in cryogenic tensile props. of constituent phases 4-46581

$\gamma/\gamma'-\alpha$ -Mo, directionally solidified eutectic, off-axis tensile props. (*Chinese*) 4-16434

Mo, polycrystalline, vacuum annealing, O desorption from grain boundaries, ductility recovery (*Japanese*) 4-35639

ductility continued

Mo single crystal sheets, secondary recrystn. and bend props. 4-46564

Mo-Hf (0.2 wt.%), nitriding, plastic deform. effects 4-30858

Mo-Ta-Ti-C, phase comp., Ti and Ta effects 4-30685

Mo-V-C alloy, polycryst., deform. and fracture governing relationships in high-temp. cyclic creep 4-12178

Mo-V-C alloy, polycryst., deform. and fracture governing relationships in high-temp. cyclic creep, struct. changes 4-12179

Mo-W (5 wt.%), creep ductility, effect of thermomech. processing 4-40909

Nb alloy, VN2AE, heated in low vac., heater materials effect on mech. props. 4-41137

Nb-Ti-(Ta) multifilamentary superconductors, fabrication 4-45968

Ni, intermediate temp. embrittlement 4-40955

Ni screens, ductility and struct. strength 4-12130

Ni-Cr-Al-Co-W-Mo-Ti, struct. and phase comp., Y additions effect 4-21221

Ni-Cr-Co, Udimet 520 superalloy, γ' strengthened, mech. props. rel. to protective coatings 4-40971

Ni-Cr-Fe-Al-C, austenitic, deformed, heat resist., struct. fineness influence 4-57272

Ni-Cr-W-Co-Ti, ZrN modified, ductility 4-3193

Ni-Mo, sintered, struct. and mech. props. after hot plastic working and heat treatment 4-26014

Ni₃Al-B, rapid solidification, strength and ductility rel. to B content 4-40915

Pb-Sn eutectic, superplastic, influence of prestrain on ductility 4-21275

steel, austenitic stainless, hot ductility and NbC precipitation, intergranular microvoids coalescence fracture mode (*Japanese*) 4-46566

Ta-V (0-60 at %) alloys, fabrication and mech. props. 4-40813

Ti/Ni microlaminate composites, struct.-prop. relationships 4-50650

Ti-Al-V, yielding and strength limiting states, block cycling effect 4-30772

α - β Ti-Mn, tensile ductility and fracture 4-7521

Ti-V-Cr-Al (13, 11, 3 wt.%), β -solution treated, microstruct.-prop. relationships 4-30735

TiC hard metal with TiN additions, fracture characts. 4-7574

W-Ni-Fe, heavy alloys, liq. phase sintered, fracture behaviour 4-40972

WC composites, electroerosion resist. in electric-spark machining 4-46627

Zn, pure single crystals, fast neutron irradiation, 77K, ductility, fracture stress, dose depend. 4-51724

ducts, cable see electric conduits

duplicating see reproduction (copying)

Duralumin see aluminium alloys

dusk see twilight

dust

see also cosmic dust

atmosphere, elemental composition of particles rel. to particle density 4-26757

atmosphere, global consequences of multiple nucl. explosions 4-46911

atmosphere, sunlight extinction after nucl. war, long-term biological consequences 4-46912

atmosphere, volcanic aerosol and ash in stratosphere, from El Chichon eruption 4-31598

atmosphere, volcanic ash and aerosol from AD 1982 El Chichon eruption 4-31602

atmosphere, volcanic ash in stratosphere from El Chichon eruption 4-31600

atmosphere of E Canada, turbidity in AD 1968 to 1978 period 4-26744

atmosphere of E equatorial Pacific, airborne dust chem. composition 4-42109

atmosphere of eastern Arizona, USA, aerosol chem. composition 4-17210

atmosphere of N Pacific, continental dust blown from Asia 4-42108

atmospheric dust dry-fall onto sea surface, theory 4-42071

charge measurement of dust particles in motion 4-53700

diamond smoothing, analytical evaluation of micro-roughness height (*Russian*) 4-12207

electric charge carried by airborne dust determ. using semiautomatic method 4-31149

Mount St. Helens, 1980 eruptions, air-fall ash characts. 4-12882

Mount St. Helens, 1980 eruptions, ash thickness effect on snow ablation 4-12891

Mount St. Helens, 1980 eruptions effect on glaciers, role of ash 4-12890

Mount St. Helens, 1980 March 27-May 14 premagmatic ash, comp./mass/volume 4-12881

Mount St. Helens, 1980 May 18-August 7 eruptions, air-fall ash comp. var. 4-12888

Mount St. Helens, air-fall deposits of May 24-August 7 1980 eruptions, stratigraphy 4-12884

Mount St. Helens, May 18 1980 eruption air-fall deposits, stratigraphy/field sedimentology 4-12883

northern Nigeria, Saharan dust rel. to solar radiation obs. 4-26770

Sahara dust investigation using network of Italian Sun photometers, extinction models 4-8298

Sahara dust program, vertical particle mass loading determ. using extinction models 4-8299

solar photovoltaic power system behaviour under environmental and climatic conditions 4-57687

stratosphere over Spain, El Chichon dust layers, balloon obs. from France 4-26760

stratosphere volcanic dust cloud of AD 536, cloud optical and physical characts. 4-41848

volcanic cloud from El Chichon eruption, cloud optical props. 4-42171

dust storms see storms

DVM see digital voltmeters

dwarf stars

see also white dwarfs

active chromosome stars, spectroscopic and photometric obs. 4-31856

BX Andromedae, W UMa star, photoelectric times of minima (August and September 1982) 4-13366

V417 Aquilae, W UMa star, photoelectric obs. and improved period 4-22428

B335, Bok globule, far-IR detect. of low-luminosity star form. 4-8452

BD-10°62 (Borely's star), obs. in support of non-variability 4-27072

close binary stars, late-type, period-activity relations from IUE obs. 4-8523

AZ Cancri (=LP 425-140), flare star, parallax and absolute magnitude 4-8486

dwarf stars continued

- YZ Canis Minoris, UV Cet star, chromosphere emission lines response to flares 4-47619
 OY Carinae, eclipsing dwarf nova, spectroscopy and photometry during quiescence 4-22379
 OY Carinae, outburst and quiescent luminosities of eclipsing dwarf nova 4-22378
 ω Centauri, finite width of main sequence from photon-counting area photometry 4-47666
 VW Cephei, W UMa star, new photoelectric times of minimum (1981 and 1983) 4-36714
 VW Cephei, W UMa star, starspot hypothesis for long period var. of light curve 4-27119
 UV Ceti, five flares in 1983 October, B-obs. 4-53188
 UV Ceti, flare star, photoelectric obs. (1981 and 1982) 4-27091
 UV Ceti stars, chromosphere energetics and flare radiation anal. 4-13320
 chromospheric active regions in late-type dwarf stars, radioactive loss rates and surface distrib. 4-47602
 coronae of late-type dwarfs, microwave emission, VLA obs. 4-13303
 V1331 Cygni, peculiar T Tauri star, photoelectric UB_V photometry (*Russian*) 4-13316
 16 and 61 Cygni, visual binary stars, photographic measures (1977-81) 4-53220
 BY Draconis, brightness oscils. on 1-3 hour timescale 4-47626
 dwarf novae, accretion disc outbursts and mass transfer 4-53179
 dwarf novae, orbital period-colour relation, accretion disc models 4-42479
 dwarf novae, outbursts, disc instability model 4-31845
 dwarf novae, outbursts 4-58446
 dwarf novae collective relaxation oscils. accretion disk flow evolution 4-8496
 F-type, coronal activity and dynamo onset rel. to rotation 4-13305
 faint red dwarf stars, proper motion surveys rel. to luminosity function 4-22375
 new flare star in Bootes, discovery, spectrum and magnitudes 4-22391
 flare stars, discovery in quiescent state 4-17532
 flare stars, laboratory expts. on magnetic reconnection in current sheets (*Russian*) 4-53123
 flare stars, X-ray variability 4-58535
 flare stars in Taurus dark cloud complex, new discoveries from photographic monitoring 4-8485
 G-K dwarfs, IUE UV high-dispersion spectra of chromospheres 4-13304
 in globular clusters, main-sequence photometry for three clusters 4-47664
 halo subdwarfs, effect on faint stars luminosity function derived from proper motion surveys 4-22375
 HD 10476, 17925 and 37394, K-type dwarf stars, fine anal. 4-27066
 HD 140283 and 19445, extreme metal poor stars, model atm. and comp. 4-53163
 HD 19445, 140283, halo stars, Al/Mg abundance ratio 4-8465
 HR 1614 moving group, evidence for CN-rich stars from DDO photometry 4-31872
 HZ 193 and 303, X-ray variable stars in Pleiades, Einstein obs. 4-31874
 IR search for very low mass stars, luminosity function 4-8457
 JHK photometry, IR search for very low mass stars and composites 4-27071
 K-type dwarf stars in Pleiades, rapid rot. meas. 4-8481
 EV Lacertae, flare star, photoelectric obs. (July to October 1980) 4-4015
 late-type stars, periods of mag. activity cycles 4-3978
 T Leonis, dwarf nova, orbit, components masses, energy distrib. and accretion 4-47621
 AD Leonis, flare star, near-UV photometric monitoring (March to April 1982) 4-17516
 XY Leonis, W UMa star, BV photometry rel. to cause of W-subclass light curves 4-8521
 LHS 2924, cool low-luminosity star with peculiar energy distrib. 4-8458
 very low mass red dwarfs, IR photometry and H-R diagram 4-22376
 lower main sequence stars, saturation effects in surface activity 4-31833
 LP 630-1, Z 4-58479
 M-type dwarf stars, low luminosity, limit on contrib. to galactic missing mass 4-22471
 M-type stars, X-ray emitters, origins and ages 4-3996
 main-sequence stars in globular cluster NGC 6809 (M55), automated star counts 4-53230
 TU Mensae, SU UMa star, components masses, orbit anal., visible obs. anal. 4-53180
 V2051 Ophiuchi, eclipsing Gem star B and V photoelectric sequences 4-17528
 70 Ophiuchi A, effect of visual companion on spectral line bisectors 4-36676
 V1005 Orionis (Gliese 182), BY Dra star, rot. vel. and flare energy output 4-42478
 PG 1012-029, eclipsing cataclysmic binary, components masses, orbit, evolutionary status 4-47617
 Population II halo dwarf stars, D abundance, role of convection, spectral obs. 4-22373
 R 825, Z 4-58479
 red dwarfs, flares, and star spots 4-58431
 red dwarfs, parallaxes and proper motions 4-3976
 solar type stars, spectral energy distrib. and synthetic UB_V photometry of Sun 4-53165
 solar-type stars, mag. dynamos and surface activity rel. to Sun 4-3988
 transition waves in accretion disks rel. to dwarf novae outbursts 4-53177
 trigonometric parallaxes, results from KPNO CCD astrometry 4-3974
 36 Ursae Majoris A, astrometric detect. of unseen companion 4-22438
 SU Ursae Majoris stars, mass transfer and elliptical accretion rings form. 4-47633
 SU Ursae Majoris stars, outburst types and superhump origin, mass transfer effects 4-42455
 V 2051 Ophiuchi, cataclysmic binary, nature of outbursts 4-58439
 W 1082, common proper motion pair with large proper motion, positional obs. 4-58479
 X-ray and cataclysmic binaries, tidal distortion of secondary rel. to phases of eclipses 4-47656

dye lasers

- active medium anisotropy induced by const. elec. field, effect on laser characts. 4-49348
 amplification frequency shift on light reflection from inverse medium 4-55025

dye lasers continued

- amplifier, relations between amplified pulse and amplified spontaneous emission 4-19436
 automated calibration using microprocessor control and optogalvanic detection 4-24016
 binary dye solutions, induced lasing 4-38464
 1,4-bis β -(substituted phenyl)ethenyl benzene derivatives, conversion efficiency and tuning range meas. (*Chinese*) 4-49343
 cavity optics, high angle of incidence antireflection coating use 4-10332
 coloured noise driven dye laser, statistical props. 4-38460
 COMEDY: a microcomputer based system for controlling pulsed dye-laser experiments 4-28720
 coumarin 102 dye laser, mode locking by cyanine dye 4-19523
 coumarin 1-acriflavine-urarine-rhodamine 6G dye mixture laser system, continuously tunable energy transfer operation (*Japanese*) 4-33647
 coumarin 47 dye alcohol solns., solvation influence on lasing characts. 4-28681
 CW, chirped pulses in colliding pulse mode-locking regime 4-24036
 CW dye laser, passive mode-locking, tunable ultrashort light pulse generation 4-19468
 DFB dye laser, N₂ laser pumped, 6 psec. pulse generation 4-10316
 DFB dye laser tuning by divergent pumping beams 4-38459
 4-dicyanomethylene-2-methyl-6-p-dimethylaminoethyl-4H pyran oscillator/amplifier configured dye lasers, solvent effects 4-49341
 1,4-diphenyl-naphthalene, dye, lasing ability, rel. to fluoresc. state symmetry 4-44099
 double synchronously pumped mode-locked dye laser system, continuous cross-correlation meas. 4-55104
 double-beam tunable dye laser, design and expt. results (*Chinese*) 4-49391
 double-cavity CW multimode dye laser, intracavity absorpt. investigation 4-23968
 dual picosecond dye lasers synchronously pumped by mode locked CW YAG laser 4-1413
 flash lamp, vortex gas flow stabilised high power, for dye laser pumping (*Chinese*) 4-55062
 flash lamp pumped dye laser system with oscillator and amplifier (*Chinese*) 4-55071
 frequency locking CW dye lasers by at. absorpt. lines 4-28683
 frequency stabilisation to an at. transition 4-28738
 frequency tuned, intracavity freq. selection by Fabry-Perot interferometer (*Russian*) 4-38507
 gas phase complex molcs., laser action 4-5584
 helical DFB laser, internal DFB using cholesteric liq. cryst. 4-44115
 high-efficiency high-energy slab dye laser for photobiological experiments 4-10317
 imitrite class new laser compounds in 482-618 nm range 4-10292
 induced absorption exam. using spectrophotometer 4-44124
 IR dye lasers, N₂ laser pumped, efficiency rel. to energy transfer excitation (*Japanese*) 4-33690
 IR switching dye 9860 as amplifying medium in synchronously pumped CW dye laser 4-23971
 jet stream nozzles invest., CW dye laser appls. (*German*) 4-34207
 lamp-pumped, with active Q-switching, ultrashort pulse form. analysis 4-10291
 LD700 dye IR laser, CW operation in 685 to 880 nm range 4-49342
 low-cost tunable laser systems, chemical anal. appls. 4-28714
 microsecond-pulsed dye laser transient injection freq.-locking, atm. meas. appls. 4-44102
 mirror, broadband high refl., for tunable dye lasers (*Chinese*) 4-55063
 mixture solutions, energy transfer mechanisms and amplified spontaneous emission 4-19437
 mode locking degradation via diffuse refl. feedback 4-19483
 mode synchronisation analysis, high speed (*Russian*) 4-24050
 mode synchronisation analysis, high-speed (*Russian*) 4-24049
 mode-locked, tunable near IR picosecond pulses using Nd:YAG laser pumping 4-38462
 mode-locked laser, tunable picosecond IR pulse generation by difference freq. generation 4-24086
 naphthalene dye, lasing ability, rel. to fluoresc. state symmetry 4-44099
 optical pumping source using array of plasma pinches 4-14684
 oxazine dye solution, induced absorpt., chem. impurities effect on laser props. 4-9788
 oxazole dyes, long-lived flashlamp-pumpable, fluoresc. and lasing characts. 4-28680
 pentacarbo-cyanine polymethine dye no.3955, ground state recovery meas. 4-5580
 10-phenyl-9-acetoxanthracene derivatives, luminesc. and laser props. 4-14469
 2-phenyl-naphthalene, dye, lasing ability, rel. to fluoresc. state symmetry 4-44099
 photon statistics, non-Marcovian analytical model 4-5582
 picosecond duration laser pulse generation by simultaneous active-passive mode-locking in Ar⁺ ion and dye lasers 4-10334
 picosecond light source, tunable, highly monochromatic 4-55026
 picosecond pulse generation, tuning up to 1.425 μ m 4-14686
 picosecond pulse generation and detect. in 1200 to 1600 nm wavelength range 4-44149
 picosecond pulse shortening by travelling wave amplified spontaneous emission 4-5630
 polarisation coherence of externally initiated dye laser radiation (*Russian*) 4-38515
 polychromatic laser light source 4-5616
 polymethine dyes of different struct., irreversible photodecomp. yields and lasing 4-7738
 POPOP laser dye, photostability increase 4-19439
 POPOP vapour laser with 42% efficiency in 395 nm range, nonmonochromatically pumped 4-14685
 POPOP/TOPOP vapour laser, nonmonochromatically pumped 4-14685
 pulse generation, high-power, picosec. tunable 4-24085
 pulsed dye laser design, reln. between output power, spectral linewidth and cavity (*Chinese*) 4-44097
 pulsed dye laser freq. locking near a Na reson. transition 4-28744
 pulsed tunable lasers based on organic dye solns., possibility of obtaining single-freq. lasing regime 4-5609
 quartz glass, microporous, dye doped, as tunable DFB laser 4-44098
 radiometric characterisation facility, dye laser based, spectrophotometric tests 4-37140
 rapid frequency scan dye laser metallic atom velocity distrib. determ. in plasma devices 4-44856

dye lasers continued

- red dye (type LD688) laser operation in 690-700 nm region, Ar pumped 4-49347
- rhodamine 640 synthesis, spectral and lasing behaviour (*Chinese*) 4-49346
- rhodamine 69, solns., salt props., spectral manifestations 4-38465
- rhodamine 6G, flash lamp pumped dye laser system with oscillator and amplifier (*Chinese*) 4-55071
- rhodamine 6G aqueous soln. laser, emission characts., thiourea influence 4-28684
- rhodamine 6G CW laser freq. locking by at. absorpt. lines 4-28683
- rhodamine 6G double prism dye laser cavities, thermal effects 4-24024
- rhodamine 6G in microporous glass laser, output characts. 4-23972
- rhodamine 6G laser based broadband source for optical processing 4-55097
- rhodamine 6G laser high-speed mode synchronisation (*Russian*) 4-24050
- rhodamine 6G laser photon statistics far below threshold 4-33646
- rhodamine 6G laser radiation spectrum control by laser phase anisotropy induced in amplifying or absorptive media by external mag. field 4-5629
- rhodamine 6G laser self-scanning due to feedback from BaTiO₃ phase-conjugate reflector 4-44130
- rhodamine 6G picosecond dye laser, excimer laser pumped 4-38494
- rhodamine 6G pulsed dye laser investigation under various pumping conditions 4-28682
- rhodamine 6G solution laser, radiation coherence under intense laser pumping 4-5581
- rhodamine 6G thin-film quasiwaveguide tunable laser with DFB 4-44101
- rhodamine 6G-Safrain T-cresyl violet-nile blue dye mixture laser system, continuously tunable energy transfer operation (*Japanese*) 4-33647
- rhodamine B, alcoholic soln. props. rel. to dye lasers 4-28679
- rhodamine B, aq. solns. containing β -cyclodextrin, lasing 4-44100
- rhodamine dye alcohol solns., solvation influence on lasing characts. 4-28681
- ring cavity, anal. using ray matrix and equivalent thick lens sequence (*Chinese*) 4-55086
- ring dye commercial laser resonator with two foci, stability calcs. 4-28733
- ring dye laser, mode-locked, chirping 4-24025
- ring laser frequency stabilisation using optical resonators 4-44116
- single-mode evanescent-field-pumped dye amplifier using fibre with active cladding 4-23969
- solid-matrix dye lasers; flash-pumped, with laser-induced permanent periodic concs. 4-25065
- solution concentration influence on dye laser efficiency 4-19440
- spatial-angle characts. of dye soln. emission under lamp excitation, Fresnel refl. effect 4-55027
- stabilisation and tuning of emission freq. using Fabry-Perot interferometer 4-28728
- stabilising and tuning CW dye lasers using optical reference resonator (*German*) 4-1404
- stimulated emission kinetics study using four-photon parametric interaction, CARS spectroscopy 4-28770
- subpicosecond dye lasers, synchronously pumped linear and ring cavity using Nd:YAG laser pump source 4-10325
- synchronously pumped psec. laser, for excitation of spectrofluorimetric single-photon counting system 4-27604
- synthesized subpicosecond pulse holographic reconstruction 4-44073
- p-terphenyl tunable laser UV emission, KrF excimer laser pumping (*Chinese*) 4-49344
- thodamine B, transverse optically pumped soln., amplification by enhanced internal refl. 4-23970
- transversely pumped laser mode selection by induced gain grating 4-28741
- tunable single mode high power pulse laser for spectroscopy appl. (*French*) 4-5583
- tunable subnanosecond pulses from short cavity system, pumped with N₂-TEA laser 4-55077
- tuning using acoustooptic filter 4-49386
- vapour-phase dye lasers, review 4-38461
- visible, DC discharge cell for laser optogalvanic spectroscopy 4-13679
- wideband frequency-offset-locked dye laser spectrometer using a Schottky barrier mixer 4-27603
- xanthene dye solution, induced absorpt., chem. impurities effect on laser props. 4-9788

dye penetrant tests see *nondestructive testing*

dynamic braking see *braking*

dynamic nuclear polarisation

- see also *CIDNP; Overhauser effect; solid effect*
- diamonds, natural and synthetic, ¹³C NMR spectroscopy using dynamic nuclear polarisation 4-16124
- multispin transitions for system containing two kinds of nuclei 4-30359
- H-containing compounds, quadrupole double resonance at high radiofrequencies 4-30358

dynamic programming

- fracture mechanics problems, two-dimens., dynamic program, boundary integral eqn. method considerations 4-1686

dynamic response

- numerical simulation of the performance of a salt-gradient solar pond 4-46897

dynamic stability see *stability*

dynamic testing

- see also *fatigue testing*
- alloy, solidifying, permeability coeff. of two-phase zone, determ. method using oscillations 4-41130
- burst random excitation applications 4-46705
- concrete, strength inspection impact amplitude-time method 4-3354
- Dupont 982 dynamic mechanical analyser and 1090 thermal analysis system 4-3311
- graphite, synthetic, loading rate effect on strength and strain characts. 4-41138
- impact-abrasive wear test method and equipment for materials at subzero temps. 4-41135
- metals, dynamic stress/strain diagrams measuring equipment 4-46686
- metals, tensile testing, heat treatment and prestrain effects, ductility indices 4-25991
- piezoelectric accelerometer, installation verification techniques 4-32250
- steel strip, dissolved C and N interstitials, Snoek effect, automatic bending oscill. pendulum 4-3304

dynamic testing continued

- tubes, thin walled, axial load and press., high strain biaxial testing rig 4-35790
- C fibre, glass fibre reinforced polyester hybrid composite, flexural and impact properties (*Japanese*) 4-26041
- C fibre reinforced plastics, dynamic testing, damage growth, acoustic emission (*German*) 4-51924
- dynamical symmetry**
- chiral preon model for quarks and leptons, generation and mass spectrum 4-13891
- continuum QCD, dynamical masses 4-53940
- dynamical-group formulation of the scaling variational method 4-53900
- Euler-Lagrange eqn., dynamical symms. determ. 4-22586
- hypercolour low energy implications with dynamical breaking of weak symmetries 4-9063
- Jackiw-Johnson model, dynamical symmetry breaking 4-43196
- O(n) invariant integrable model, dynamical symmetry breaking and factorisation 4-27644
- QCD, renormalisation group anal. of dynamical symmetry breaking 4-27700
- quantum mechanics, dynamical supersymmetry breaking 4-27346
- SL(3,C) group representations, extension formulae, baryon mag. moments 4-37302
- SO(10)XU(1)_{PQ} supersymmetric, geometric gauge hierarchy 4-9048
- stability of a chiral breaking vacuum 4-53905
- supersymmetry in nuclei 4-43414
- U_{6/2} dynamical supersymmetry in baryons with odd parity 4-395
- unified gauge theories phenomenology 4-32536

dynamics

- see also *ballistics; fluid dynamics; force; friction; haemodynamics; impact (mechanical); kinematics; resonance; rotating bodies; rotation; vibrating bodies; vibrations*
- algebraic integrability of dynamical systems, necessary condition for existence of algebraic first integrals 4-58364
- barred galaxies, bifurcations, gaps and stochasticity in stellar dynamics 4-31906
- beam, rigid-plastic, under action of travelling conc. force dynamics (*Russian*) 4-1584
- billiards with analytic boundaries 4-8733
- constrained systems, dynamics and symm., geometrical anal. 4-4217
- continuous dynamical systems, equivalent linearisation 4-98
- continuous systems subjected to distributed, moving load, dynamics and stability 4-5793
- cylinder cluster, flexibility interconnected, dynamics in vac. 4-87
- cylinder cluster, flexibly interconnected, dynamics in axial flow 4-88
- elastodynamics problems with friction, numerical anal. 4-14925
- elliptical galaxies, anisotropic models for case of circular isophotes 4-27173
- formulation of dynamical equations of motion 4-8672
- galactic dynamics, review 4-31925
- galaxies, colliding, stellar vel. perturbations theory 4-58504
- galaxies, self-consistent response of stellar discs to bar forcing 4-47695
- galaxy clusters, effects of relaxation and tidal stripping in rich clusters on luminosity distrib. 4-47713
- galaxy clusters and superclusters, dynamics and internal substructure 4-47715
- galaxy superclusters, nonlinear dynamical evolution 4-13440
- globular clusters, effects of binary stars on dynamical evolution 4-22448
- Hamiltonian, Dirac-Bergmann generalised, formulation on Whitney sum 4-8736
- Hamiltonian, time-depend. formalism for gauge transformations 4-8737
- inverse problem, theory for two-parameter families of planar orbits 4-42296
- Lagrangian, tangent bundle geometry 4-4209
- linear elastodynamic systems, boundary stabilisation 4-32050
- N-body problems, Kowalevski's exponents rel. to necessary condition for existence of algebraic first integrals 4-58363
- NGC 936, barred galaxy, stellar kinematics and dynamics 4-31907
- nonconservative systems, asymmetric, dynamics, stability and instability 4-4218
- rigid body with elastic and dissipative elements, dynamics, small perturbation asymptotic behaviour 4-49665
- rolling system dynamic investigation, multibody approach 4-53459
- solid collision in spherical movement using dual vectors (*Rumanian*) 4-27287
- spherical stellar system, effect of addition of point mass on vel. dispersion 4-58488
- trajectory problems 4-22560

dynamometers

- see also *force measurement*
- calibration characts., interpolation criteria comparison (*Rumanian*) 4-42955
- interpolation deviation of dynamometer characts., hysteresis influence obs. (*Rumanian*) 4-8894
- lower leg extension torque meas. during contractions of quadriceps femoris 4-31381
- microdynamometer for thin plastic specimen stretching 4-48194
- spark-proof tension meter for impregnated strip (*Russian*) 4-22777
- standard direct-loading dynamometer machine 4-32260

dysprosium

- see also *nuclei with*
- electric field gradient at Cd-impurities, press. depend. of elec. field gradient 4-39847
- HFS and isotope shift study by collinear fast-beam laser spectroscopy 4-34923
- magnetic cycling, mag. transitions, energy conversion 4-36020
- magnetic props. and cryst. struct. (*Russian*) 4-51094
- nuclear reactions induced by heavy ions, recoil atoms ionisation 4-4896
- piezoreflectance spectra of polycryst. film meas. 4-20942
- planar helical-paramagnetic transition, critical behaviour, neutron scatt. study 4-30164
- specific heat meas. near Neel temp. 4-11727
- CaF₂:Dy, (TLD-200), thermolum. behaviour for low up to high doses 4-2973
- CaF₂:Dy, light sensitivity obs. 4-47074
- CaF₂:Dy, thermoluminesc. phosphor, nonlinear response mechanism, trap distrib. model 4-51366
- CaF₂:Dy, thermoluminescent emission spectra 4-51381
- CaF₂:Dy thermoluminescent dosimeters, response to β -rays 4-48762

dysprosium continued

- CaO:Dy, thermoluminescent phosphors, X-ray excited optical luminescence 4-51380
 CaSO₄:Dy, growth and thermoluminescence 4-21117
 CaSO₄:Dy, light sensitivity obs. 4-47074
 CaSO₄:Dy, sintered TL dosimeter pellets 4-33179
 CaSO₄:Dy, TL response as particle size and photon energy function 4-48794
 CaSO₄:Dy, TLD, short term fading 4-54447
 CaSO₄:Dy, thermoluminescent detectors, neutron response (*Czech*) 4-48803
 CaSO₄:Dy, thermoluminesc. phosphor, distrib. of activation energies and freq. factors 4-51365
 CaSO₄:Dy, thermoluminesc. phosphor, nonlinear response mechanism, trap distrib. model 4-51366
 CaSO₄:Dy, thermoluminescent phosphors, X-ray excited optical luminescence 4-51380
 CaSO₄:Dy, thermoluminescent emission spectra 4-51381
 CaSO₄:Dy (TLD-900), appl. to diagnostic X-ray exposures 4-8118
 CaSO₄:Dy embedded polyethylene discs, phosphoresc. and photostimulated luminesc. at elevated temp., fast neutron dosimetry appl. 4-43652
 CaSO₄:Dy in Teflon discs used for personnel γ -ray monitoring, effect of UV and visible radiation 4-52495
 CaSO₄:Dy neutron thermoluminescent dosimetry by laser heating 4-48760
 CaSO₄:Dy sintered dosimeters, props. 4-51374
 CaSO₄:Dy TLD, highly sensitive, prep. and dosimetric props. 4-52484
 CaSO₄:Dy teflon disc, environmental monitoring of Rn and daughters 4-48754
 CaSO₄:Dy thin film, two-dimens. dosimetry, X-ray imaging method 4-48797
 CaSO₄:Dy-Teflon TLD personal monitoring badge development 4-48787
 Dy I, ground term isotope shift J depend. 4-48982
 Dy+He⁺, ionisation, ang. correl., L X-ray and α particle scatt. 4-28546
 Dy⁹⁺+H collisions, total electron capture cross sections charge depend., nonmonotonic behaviour 4-19233
 DyF₃, heat capacity, 5 to 350K, calorimetric meas. 4-29650
¹⁶¹Dy, 4f⁹6s² config. hyperfine struct. 4-49173
¹⁶³Dy, 4f⁹6s² config. hyperfine struct. 4-49173
¹⁶³Dy, quadrupole moments and Sternheimer effect, muonic atom meas. 4-4754
(⁶Li,⁴Ca)SO₄:Dy, thermal neutron dosimeter 4-48793
MgB₄O₇:Dy, graphite mixed, TLDs for β -dosimetry 4-54441
MgB₄O₇:Dy, thermoluminesc. dosimeter, machine readable plaque, system performance 4-48755
MgB₄O₇:Dy, thermoluminescent emission spectra 4-51381
MgF₂:Dy, thermoluminescent phosphors, X-ray excited optical luminescence 4-51380
Sr_{1-x}Er_xF_{2+x}:Dy, ionic thermocurrent and dielectric losses 4-20898
- dysprosium alloys**
 Dy-Fe-B system, phase equilib. diagrams, phase comp. 4-51632
 Dy-Sn, phase diagram and solubility (*Chinese*) 4-3120
 DyAgPb, lattice parameters, X-ray diff. study 4-2144
 DyCo₂Si₂, antiferromag. ordering, mag. moments, neutron diff. study 4-2734
 DyCo₂Si₂, Mossbauer hyperfine spectra 4-35286
 DyCo₂Si₂, crystal structure 4-45058
 DyFe₂, mag. domain struct. obs. 4-35195
 DyFe₃, mag. props. and domain struct. 4-51089
 Dy(Fe_{1-x}Al_x)₂, mag., elec. and thermal props., local disorder effects 4-51056
 DyFe₄Al₈, mag. struct., neutron diff. study 4-6953
 DyFe₅Al₇, ferromagnetism and hyperfine studies 4-7010
 DyFe_{17-x}Al_x, Mossbauer study 4-35316
 DyFe_{17-x}Al_xH_x, X-ray and Mossbauer study, hydrogenation effect on hyperfine field 4-35303
 DyRh₂Si₂, mag. struct., neutron diff. study 4-56551
 DySb, paramag. susceptibility and antiferromag. phase transition, stress effects 4-56535
 DyZn, indirect multipolar interactions, ab initio calc. 4-56302
 Gd-Dy, dil., ¹⁶¹Dy nucl. spin relax. near Curie temp., Mossbauer effect obs. 4-40288
 Gd_{1-x}Dy_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd-Dy, paramag. susceptibility temp. depend. (*Ukrainian*) 4-25513
 Tb_{0.2}Dy_{0.3}Fe₂ single cryst. magnetostriction and low temp. transition 4-30258
 Y-Dy dil. alloy, transport props., temp. depend. 4-29959

dysprosium compounds

- see also dysprosium alloys*
 CsDy(MoO₄)₂, ferroelastic transition 4-29592
 CsDy(MoO₄)₂, heat capacity anomalies 30 to 250K (*Russian*) 4-29648
 CsDy(MoO₄)₂, phase transition and electron spectrum of Dy³⁺ ion (*Russian*) 4-29594
 (Dy, Sm, Lu, Bi, Ca)₂(Fe, Ge)₂O₁₂ bubble garnet disc devices 4-56742
 Dy complexes, Dy(TTHA)³⁺, aq. shift reagents for high resolution cationic NMR 4-41442
 DyAsO₄, Ising systems, with strain interactions, phase transitions, appl. of correlated effective-field approx. 4-29571
 DyAsO₄, Jahn-Teller phase transitions, elec. susceptibility and order parameter meas. 4-29599
 DyFeO₃ orthoferrites, resonance absorption in domain walls, mag. field sign effects 4-56782
 Dy₂Fe₂O₁₂, garnet, electric field gradient calcs. 4-50779
 Dy₂Gd_{1-x}VO₄, mag. and crystallographic phase transitions 4-25009
 Dy₂, evaporation, Knudsen cell mass spectra 4-50480
 Dy₂-CsI system, vapour phase complex formation, Knudsen cell mass spectra 4-51978
 Dy₂-NaI system, vapour phase complex formation, Knudsen cell mass spectra 4-51978
 DyI₃, magneto-optical props., 1.1-1.7 μ m 4-51244
 DyMo₂S₈, mag. supercond., small angle neutron scatt. study 4-56510
 DyNbF₇, mag. props., 4.2 to 200K 4-6943
 Dy₂O₃:B, thin films amorphisation, forbidden gap 4-55725
 DyPO₄, mag. relax. and mag. props. 4-7090
 DyS, mixed valence, optical reflectivity and X-ray diff. studies 4-11497
 Dy₂S₃, Schottky levels and thermodynamic contribs., calorimetric and optical studies 4-6518
 DyVO₄, irreversible effects in paramagnetic state in crystallographic distorted phase 4-30143

dysprosium compounds continued

- DyVO₄, Jahn-Teller phase transitions, elec. susceptibility and order parameter meas. 4-29599
 DyVO₄, specific heat with applied mag. field 4-11314
 SiO₂-DyF₃ thin films, electrolum. characts. 4-51353
 (Sm, Dy, Lu, Ca)₂(Fe, Si)₂O₁₂, bubble garnets, mag. props. study 4-56743
 Sr_{1-x}Dy_xF_{2+x}:Yb(Er), ionic thermocurrent and dielectric losses 4-20898
- E-layer** *see E-region*
E-region
see also sporadic-E layer
 directional electric currents due to wind shear 4-3870
 drift turbulence and radar backscatter depend. on ionospheric parameters 4-13140
 Dynasonde meas., estimation of turbulent energy dissipation, wind, and struct. 4-22245
 E/F₂-layers, critical frequency ratio, HF radiowaves reflection from ionospheric F-region, simplified estimation of ray-path mirroring height 4-52983
 electric current flow between equatorial E- and F-regions 4-22222
 electron energy balance cooling due to O fine struct. excitation by electron collisions 4-31717
 electron temperature empirical model 100 to 200 km altitude 4-17333
 equatorial anomaly of TEC and relation to dynamo electric currents 4-26927
 high-latitude ionospheric irregularities, radar results 4-22250
 high-latitude ionospheric irregularities, review of theories 4-22249
 MF night-time sky wave, field strength and fading for south-north propagation in Japan (*Japanese*) 4-36536
 radio scintillation of transionospheric VHF signals due to equatorial electrojet 4-17342
 solar cycle and seasonal vars., Chatanika incoherent scatter radar obs. 4-22239
 temperature distrib. rel. to field-aligned currents in quiet plasmasphere 4-8344

ear

- see also hearing*
 canal, spontaneous oto-acoustic emissions and threshold in quiet 4-3564
 cardiac pulse measuring portable electronic apparatus using ear tip optical transmission 4-31318
 cochlea, hydraulic model 4-3563
 cochlea, mechanical stress during exposure to shock waves (*French*) 4-3565
 cochlea in cat, histological evaluation of damage, basilar membrane mechanics meas. 4-47003
 cochlear inner hair cells, intracellular recordings, crossed olivocochlear efferents stimulation effects 4-16888
 cochlear nerve fibers, response to acoustic stimuli 4-16886
 cochlear potentials, acoustic trauma effects 4-21674
 cochlear tuning, microchem. contrib., tonotopic organisation 4-26450
 eardrum sound press., alteration by AC stimulation of scala media, gerbil obs. 4-26451
 electroacupuncture And auricular Electrical Stimulation, treatment and diagnosis appl. 4-41646
 electrocochleography, ear canal electrode 4-58026
 extracochlear electrical stimulation 4-52527
 guinea pig cochlea, basilar membrane and inner hair cell potential input-output functions 4-21673
 middle-ear conditions, automatic classification using struct. simulation 4-57969
 probe earmold system for measuring eardrum SPL under hearing-aid conditions 4-52412
 research in sensory aids, present state 4-52529
 speech recognition systems, state-of-the-art and ergonomic aspects (*German*) 4-31230
 stereocilia of sensory cells in normal and hearing impaired ears 4-36137
 tissue repair after irradi., conf., London, England (May 1983) 4-8633

ear microphones *see microphones***earphones**

- see also hearing aids*
 electret earphone, edge-supported circular membrane, response meas. 4-55305
 electret earphone, edge-supported circular membrane response, theory 4-55304
 noise attenuating characteristics of TDH-39 earphones with MX-41/AR ear cushions 4-19655

Earth

- see also Earth composition; Earth orbit; Earth rotation; Earth structure; earthquakes; geochemistry; geochronology; geodesy; geomagnetic variations; geomagnetism; terrestrial atmosphere; terrestrial electricity; terrestrial heat*
 accretion from solar nebula, importance of iron-water reactions 4-47551
 cometary impact probability calc. for long-period comets 4-58409
 Earth-Moon system, past and future evolution 4-13213
 free oscillations, radial vibrs. of sphere of general viscoelastic solid 4-8182
 gravitational field, point mass system representation (*Russian*) 4-47554
 mass determination, use of sextant 4-8681
 microwave emission, remote sensing appls. of polarisation meas. 4-21931
 Moon origin models, siderophile element geochem. constraints 4-13214
 planetary aspects 4-52553
 reflectivity sequence, optimal smoothed estimates using seismic signal processing 4-58311
 rigid body motions, normal mode study 4-41755
 thermal evolution of the Earth, review (*German*) 4-47808
 tides, correction to lunar laser ranging (*Chinese*) 4-58064
 volatile inventories of Venus, Earth and Mars, rel. to origin and evolution of Venus atmosphere 4-36626

earth (electric) *see earthing***earth (soil)** *see soil***Earth age** *see geochronology***Earth atmosphere** *see terrestrial atmosphere***Earth composition***see also Earth structure*

- 670 km discontinuity, phase transition and comp. change models, refl. props. 4-41812
 Archaean rocks near Wawa, Ontario, comps. rel. to greenschist facies metamorphism 4-12909

Earth composition continued

- Argo Tunnel water, Idaho Springs, Colorado, dissolved species chemistry 4-41997
- Atlantic Ocean sediments, C isotopic comp. rel. to reduced advection during last glacial max. 4-21988
- E Australia, S Highlands Province, REE and isotopic study 4-21901
- Australian shale Nd isotopic anal. and continent growth anal. 4-36314
- book on rare earth elements geochemistry 4-22539
- late Caledonian granites, Scotland, coupled Sm-Nd and U-Pb systematics 4-41819
- chemical differentiation of mantle rel. to geodynamics, book 4-27255
- chemical elements anal. by X-ray fluoresc. and induction coupled plasma spectroscopy 4-13087
- chemical variation in granulites of the Hesperian massif, Spain 4-36359
- continental tholeiites, trace element geochemistry, crustal contamination of mantle material 4-36315
- Cortlandt complex, New York State, differentiation and contamination in alkali basalt plutons 4-41905
- Cretaceous-Tertiary boundary, trace element patterns in non-marine sediments 4-41818
- crust composition from loess geochemical anal. 4-31454
- diamonds, N admixture rel. to distribution in kimberlite pipes 4-3767
- Dokhan Volcanic Formation, Eastern Desert, Egypt, tectonic setting and chem. comp. 4-31467
- El Chichon volcano, comp. of plume gases and particles 4-36338
- Ezhmalia igneous complex, Kerala, India, petrochemistry of granite and granophyres 4-52706
- ferrodioritic liquids in magma mixing processes 4-17112
- Galapagos spreading centre, Nd isotopic evidence for hotspot-spreading centre system evolution 4-21905
- Glacier Peak, volcano, tephra in Montana, age and comp. 4-47221
- N Gobi ultrabasic belt, plutons struct., comp., petrography, ore potential 4-17149
- groundwaters of deep origin near Mount St. Helens, isotopic comps. 4-12956
- Hawaii and Loihi Seamount rocks, He isotopic anal. and hotspot volcanism implications 4-41845
- Hawaii and Loihi Seamount volcanoes, rock He isotopic anal. and volcanic plume model 4-41844
- Icelandic volcanics, mantle implications of He, O, Nd and Sr isotopic anal. 4-41797
- N Illinois deep drill hole granite, Pb content, implications for Mississippi Valley ore deposits 4-41810
- Illinois deep drill hole granites, minerals O isotopic comp. 4-41808
- intrusive rocks of S British Columbia, Canada, $^{87}\text{Sr}/^{86}\text{Sr}$ ratios and Rb-Sr ages 4-31451
- Kilauea volcano, Ir enrichment in airborne particles during January 1983 eruption 4-31463
- Loihi Seamount, dunite xenoliths and basalt, coexisting glass and olivine, noble gas systematics 4-41846
- Loihi Seamount, Hawaii, basalt $^{87}\text{Sr}/^{86}\text{Sr}$ ratios, mantle hot spot implications 4-41843
- Loihi Seamount basalt, Hawaii, geochemistry and mantle comp. 4-41840
- Loihi Seamount basalts, Hawaii, petrology, geochem. anal. and mantle source characts. 4-41841
- Maine, granitic magma source regions characts., isotopic anal. and Palaeozoic microplates characts. 4-41864
- upper mantle, comp. determ. from komatiites 4-3765
- mantle and continents, chemical structure and evolution, isotopic data inversion 4-41798
- upper mantle of British Columbia, comp. and rheology inferred from peridotite xenoliths 4-58129
- mantle/continents evolution and chem. struct., Nd/Sr isotopic data inversion 4-42194
- Mount St. Helens, 1980 eruptions, fumarole encrustations, occurrence/mineralogy/chemistry 4-12862
- Mount St. Helens, 1980 eruptions, gas emission monitoring by ash leachates 4-12863
- Mount St. Helens, 1980 magmatic deposits, comps. var. 4-12885
- Mount St. Helens, 1980 May 18-August 7 eruptions, air-fall ash comp. var. 4-12888
- Mount St. Helens, chemical anal. of gas samples from summit crater 4-12861
- Mount St. Helens, chemistry of emitted gases (May to September 1980) 4-12860
- Mount St. Helens, CO_2 emission rates from plume meas. 4-12858
- Mount St. Helens, continuous monitoring of ground H_2 on south flank of mountain 4-12859
- Mount St. Helens, SO_2 emission rates (1980 March 29 through December) 4-12857
- natural gas deep in Earth, chemical composition 4-41816
- oceanic tholeiites from East Pacific Rise, $^{230}\text{Th}/^{238}\text{U}$ disequilib. systematics 4-8229
- Pliocene-Pleistocene volcanic rocks, Tengchong, China, origin, isotopic/geochemical anal. 4-21910
- plutonic intrusions of central Sierra Nevada, California, geochemistry rel. to origin 4-8233
- Proterozoic mantle, isotopic evidence from E Canadian shield for geochemical discontinuity 4-21906
- Rhum intrusion, NW Scotland, isotopic and geochemical evidence for evolution of cyclic unit 4-47262
- rhyolite, H isotopic evidence of magma degassing during shallow intrusion and eruption 4-21912
- sedimentary basins of marginal type, oil and gas geochemical characts. 4-17121
- central Sierra Nevada granitic rock, California, magma mixing 4-41800
- specimen isolated secondary ion mass spectrometry for rare earths in accessory minerals 4-42229
- Tunisia Early Mesozoic basalts, geochemistry and tectonics 4-31468
- volcanic glass from Mount St. Helens 1980-2 eruptions, comp. and abundances 4-17127
- Walvis Ridge basalts, rare earths geochemistry, implications for volcanic origin and mantle characts. 4-41799
- Wild Wave Granodiorite, Silurian I-type intrusive from New South Wales, Rb/Sr age and comp. 4-26692
- ^{10}Be concentrations in soil profiles from California rel. to fate of particle-reactive nuclides 4-8235
- CO_2 of deep origin near Mount St. Helens, isotopic comp. rel. to mantle derivation 4-12956
- He isotopes in nature and measurement methods (book) 4-47799
- $^3\text{He}/^4\text{He}$ ratios in diamond, implications for early Earth history 4-36322

Earth composition continued

- Ir abundance anomalies at Late Cambrian biotite boundaries, unsuccessful search 4-47263
- La-Ce systematics, anal. of meteoritic $^{138}\text{Ce}/^{142}\text{Ce}$ ratio and its evolution 4-42387
- $^{18}\text{O}/^{16}\text{O}$ in Illinois Precambrian granites, depth var. 4-41807
- $^{187}\text{Os}/^{186}\text{Os}$ in Mn nodules and Cretaceous-Tertiary boundary clay, implications for meteorite impact 4-31457
- Pb from Shasta (California) palaeo-island arc, isotopic comp. 4-31450
- Pb, radiogenic, in Earth crust, dynamic model of continuous isotopic evolution 4-8192
- $^{208}\text{Pb}/^{206}\text{Pb}$ var. in ore deposits, ocean sediments and volcanic rocks 4-21902
- Th in crystalline rock, isotopic comp. 4-41809
- $^{230}\text{Th}/^{238}\text{U}$ disequilibrium in island arcs, evidence from Aleutians and Marianas 4-52636
- U concentrations in ore determ., ^{252}Cf neutron source, appl. (Russian) 4-47454
- U distribution and conc. in Chinese sedimentary carbonates, silicalites and pelitic rocks 4-41817
- U in crystalline rock, mobility and isotopic comp. 4-41809

Earth core

- convection in Earth interior, review of recent work 4-8219
- cooling of Earth core, constraints placed by geomagnetic dynamo 4-41804
- coupling with mantle, effect on ecliptic obliquity var. (Chinese) 4-8172
- dynamo and Taylor's constraint 4-26593
- dynamo problem and core fluid thermal and mag. instabilities 4-26594
- external layers body drift and geomag. field westward drift rate var. 4-58069
- fluid motion, laboratory expts. with liq. filled cavities 4-52627
- geomagnetic dynamo, field generation in anisotropically conducting fluid 4-47535
- geomagnetic secular variation and liq. core radial hydromagnetic oscills. 4-26584
- high-pressure phenomena and measurement techniques, review 4-8227
- magnetic dynamo model with 2 rotations, calc. of Joule dissipation and drift rate 4-17058
- MHD waves in differentially rotating annulus, stability anal., appl. to Earth core 4-24480
- N Norway and Sweden, seismic study of crust and mantle struct. 4-17085
- oscillations of fluid core, differential eqn. solns. 4-17074
- seismic studies of Earth interior, review 4-8184
- shear wave velocity gradient at core-mantle boundary 4-41813
- structure, seismic anal. (Russian) 4-36326
- tidal velocity rel. to mag. moment (Czech) 4-31775
- unstable dynamo model 4-52571
- very high temperature Earth core model involving gaseous state 4-52657
- FeO polymorphism at Earth core conditions 4-52628

Earth crust

- see also *geology; oceanic crust*
- Abitibi Belt, Quebec, plutonic and metamorphic evolution and geotectonic model 4-12907
- Abitibi Belt, Quebec, tectonic evolution and geomechanical model 4-12906
- active fault zones structure models and seismic anisotropy 4-26680
- Adak Island inclusions, geochemistry implications for Aleutian Arc crust/mantle evolution 4-47176
- W Africa continental margin, struct. and evolution, gravity, seismic, geomag. obs. 4-58130
- West African Rift System, anal. of rift system 4-52624
- Aguilón fold-nappe, Betic Cordilleras, SE Spain, struct. and tectonic evolution 4-17101
- Aldan shield, USSR, apatite-carbonate ore prospecting 4-52967
- Alice Springs Orogeny, mechanical model of buckling 4-3749
- alkali basalts of Massif Central, France, Nd-Sr isotope and REE geochemistry 4-47182
- Western Alpine Arc, rel. between longitudinal and transverse struct. (French) 4-52619
- Alpine deform. in northeastern part of Iberian and Catalan coastal chains (French) 4-41854
- Alpine fault, New Zealand, deformation micro-mechanisms in brittle-ductile transition zone 4-31447
- Alpine-Mediterranean geodynamics (book) 4-42609
- W Alps, passive margin to continental collision tectonics 4-47224
- North America west margin, interaction with Kula plate during Mesozoic 4-52681
- Andean Piedmont, Chile, Upper Cretaceous devel., role of tectonics and climate (French) 4-52618
- Angara overthrust, Siberia, structure of crust 4-52658
- Antalya Complex, SW Turkey, strike-slip related sedimentation 4-58135
- W Antarctic, crust/mantle struct. from deep seismic sounding 4-3739
- Antarctica, deglaciated crust elevation, tectonics and ice volume 4-58143
- Antarctica, metamorphic history (Russian) 4-47259
- Antarctica, Rayleigh wave dispersion meas. and comparison with eastern Europe 4-8181
- Appalachian orogeny, Georgia Piedmont, deep crustal EM sounding 4-41711
- S Appalachians, geomag. var. studies 4-12760
- Arabian-Nubian Shield, wrench faults and collision tectonics, strain anal. 4-47227
- arc volcanism (book) 4-47800
- Archaean greenstone belts, rel. to ore deposits form. in early Earth history (Russian) 4-3762
- Asia, Gansu-Qinghai-Sichuan seismo-genetic block, earthquake activities 4-36306
- Central Asian folded belt, relation of Hercynides to Caledonides of Baikal mountain region 4-3763
- NE Australia, deep seismic refl. study of crust struct. 4-36299
- Australia, digital terrain model and computer representation techniques 4-58066
- Australia, digital terrain models for crustal lineament exploration 4-58112
- Australia, elevation and gravity profiles rel. to tectonism 4-58065
- S Australia, lower crust xenolith seismic velocities 4-36310
- Avalonian plate, geological and tectonic evolution 4-58151
- Baikal mega-arch, crust struct. with Mesozoic interdomo depressions 4-52643

Earth crust continued

- Baikal mountain region, relation of Caledonides to Hercynides of Central Asian folded belt 4-3763
 Baikal Rift lithosphere, transient temp. field model 4-47209
 Baikal rift zone, anisotropic model 4-26667
 Baikal-Aldan belt, Siberia, potassic-alkalic magmatism 4-52654
 Baikal-Patom highlands, deep crust struct. from gravity anomalies 4-52652
 Baja California, Mexico, hydrothermal mineralization, IR remote sensing obs. 4-12916
 Baja California, Mexico, pluton spacing rel. to crustal layer thickness 4-36329
 N Baja California, Mexico, Q_g calc. using spectral ratio method 4-58083
 Baltic Shield area, telluric EM field distortion calculation 4-3678
 Baltic Shield crust and upper mantle struct. from seismic studies 4-17118
 Baltic Shield region, crust struct. from seismic data 4-17117
 basic plutons, model of magma crystallisation differentiation dynamics 4-52639
 Bay of Islands ophiolite complex, Newfoundland, Canada, tectonic history 4-41861
 Beijing-Tianjin-Tangshan region, China, laboratory seismic model of crust struct. (*Chinese*) 4-31411
 Bel'skaya depression, USSR, tectonic features from gravity and mag. prospecting anal. (*Russian*) 4-52670
 Belousovskii pyrite-metal deposit at Rudnyi Altai, USSR, geology 4-52649
 blocks dimensions 4-17156
 book on continental and oceanic rifts and assoc. processes 4-27248
 book on plate tectonics and crust evolution 4-22540
 Brabant Massif, Belgium, interpretation of gravity anomalies 4-26570
 W Brabant Massif, Belgium, two structural models from Bouguer anomalies 4-41693
 British Columbia, Cordilleran tectonics rel. to upper mantle rheology 4-58129
 SE British Columbia, geochronology and tectonic implications of magmatism and metamorphism in Kootenay Arc 4-58115
 British Isles igneous rock geology, book 4-36825
 broad forearc ridges, uplift by deep-seated flow 4-17135
 S Calabria, Italy, crust uplift and cooling, rock petrology anal. 4-47177
 California, Phanerozoic continental accretion and metamorphic evolution 4-58152
 N California, wrench faulting and tectonic implications 4-41795
 S California earthquakes, rupture duration and stress drop determ. method 4-31661
 Camp Hill, Canberra, Australia, stratigraphy and geochronology from Monograptus fossil study 4-58113
 Cantabrian Mountains, N Spain, deposits assoc. with Hercynian strike-slip system 4-58134
 Carpathians of central Romania, crust struct. from seismic studies 4-17120
 Carpathians of USSR, 2-D interpretation of geomag. anomaly 4-26585
 Cascade Range, USA, linear feature identification by remote sensing 4-21909
 Caucasus region, seismic struct. of crust 4-17089
 Cement oil field, Oklahoma, USA, study of combination of geologic, geochemical and geophysical data 4-26832
 Cerro Prieto geothermal area, Mexico, C and O isotope geochemistry 4-12822
 Cerro Prieto geothermal area, Mexico, elec. resistivity obs. 4-12764
 Chara basin, USSR, basement complex comp., mag. anomaly anal. 4-17060
 characteristics, planetary aspects 4-52553
 Charlevoix astrolome, Quebec, effect on crustal struct. and recent seismicity (*French*) 4-31433
 Charlotte and Carolina slate belts, Georgia and South Carolina, seismic struct. 4-3724
 Chateaulauden metagabbro, Brittany, France, shear zone softening and mylonitization 4-17100
 Chichiku zone, SW Japan, tangential tectonics, alpinotype model 4-8213
 Chile and W Argentina between 25 and 33°S, geomag. anomalies rel. to geology and tectonics 4-36293
 China, free air gravity field rel. to seismology, tectonics and isostasy (*Chinese*) 4-12751
 Chios autochthon, Greece, tectonics and crust structure (*French*) 4-41856
 Coast Mountains, British Columbia, Canada, uplift tectonics 4-41862
 Colorado Plateau interior, deep heat flow meas. rel. to crustal radioactivity 4-12821
 Columbia Plateau, Washington and Oregon, structural evolution 4-26691
 composition from loess geochemical anal. 4-31454
 Conception Bay, Newfoundland, geophysical interpretation of geology 4-12910
 conference, Newcastle-upon-Tyne, England (April 1984) 4-47743
 conference on offshore North Sea region seismicity and risk, at Utrecht, Netherlands (June 1982) 4-36791
 Constantine, Algeria, post-Oligocene displacement of ultra-Tellian allochthonous units (*French*) 4-52617
 continental crust growth rate, implications of continental freeboard and sedimentation rates 4-8195
 continental crust subsidence in fold belts, evidence from Urals, Appalachians and Scandinavian Caledonides 4-58147
 continental displacement atlas (200 million yrs BP to present), book 4-27253
 continental lithosphere deform., strain rates, crustal thickening, palaeomag., finite strain and fault movements 4-8226
 continental margins, geology, book 4-42638
 continental rifts, geodynamics 4-12898
 continental tectonics (book) 4-27251
 continental tholeiites, trace element geochemistry, crustal contamination of mantle material 4-36315
 continents, chemical structure and evolution, isotopic data inversion 4-41798
 continents, evolution and chemical struct. from Nd and Sr isotopic data inversion method 4-42194
 continents growth anal., Australian shale Nd isotopic study 4-36314
 controlled source EM exploration 4-13107
 Corsica, heat flow and prod. (*French*) 4-36313
 Cortlandt complex, New York State, differentiation and contamination in alkali basalt plutons 4-41905
 Coyote Lake region, California, three-dimens. crust struct. and earthquake locations 4-41815

Earth crust continued

- crack in infinite elastic medium, forces on lateral surfaces, displacement and stresses 4-36297
 Cyprus, crust struct. from seismic refraction study 4-17071
 Czechoslovakia-Poland seismic profile, theoretical dispersion curves 4-41745
 Daldyn-Alakit region of Yakutiya, Siberia, biostratigraphy of Ordovician and Silurian 4-52645
 Dalradian of Angus region, Scotland, uplift history of metamorphic terrain 4-26676
 Dalradian Supergroup slides, origin as extensional faults 4-41821
 deep EM exploration, controlled source electrical methods 4-36286
 deformation due to gravity acting on density anomalies 4-17122
 deformations estimation from baseline meas./geophysical models 4-13037
 dip-slip fault propag., Rayleigh waves 4-3709
 dipping lithospheric plate under Aegean island arc and Aegean Sea, gravity field 4-36275
 dislocation field in epicentral zone, dislocation model 4-47156
 distance measuring equipment for crustal movements, instrumental offsets 4-42189
 Dokhan Volcanic Formation, Eastern Desert, Egypt, tectonic setting and chem. comp. 4-31467
 ductile shear zone termination, study of displacement and strain patterns 4-17099
 earthquake precursory indicators, preparation processes 4-47157
 East Coast Deformed Belt, Marlborough, New Zealand, Cainozoic sedimentation and tectonics 4-58138
 East Lothian volcanics, Scotland, lava bed thickness rel. to gravity and mag. anomalies 4-52561
 Eastern Alps, tectonics, seismicity and crust structure 4-17087
 Eastern Meseta, Morocco, Hercynian history, Devonian age of Deboud and Mekam schists (*French*) 4-8191
 electrical conductivity, temps. and fluids in lower crust 4-41712
 electrical prospecting using mise-a-la-masse method at Canadian test site 4-12762
 Ellesmere-Greenland Fold Belt, structural evidence for left-lateral shearing 4-58149
 EM sounding methods appl. 4-13084
 northern England, geomagnetic variation anomalies 4-3677
 Southern England, geomorphology, book 4-17658
 epeirogenic uplift of continental crust, role of intrusion of basic magma 4-47228
 central Eromanga Basin, Australia, deep crustal refl. results 4-58179
 central Eromanga Basin, Australia, geological and geophysical studies 4-58177
 Eromanga Basin, Australia, mid-crustal seismic horizon 4-58128
 Eromanga Basin, Australia, seismic refr. study of Quilpie Trough and adjacent basement highs 4-58181
 Eromanga basin, E. Australia, crust seismic velocity struct. 4-36312
 central Eromanga Basin, Queensland, seismic refl. results rel. to tectonic evolution 4-58178
 central Eromanga Basin, Queensland, vel. depth modelling using seismic refl. and refr. data 4-58180
 estimation of strong ground motions from analogous seismic regions using combined teleseismic and near field data sets 4-41769
 E Eurasia, tectonic stress field 4-41882
 southern Europe, lithosphere lateral variations rel. to seismic activity 4-36325
 Europe, mag. field sources in crust or upper mantle rel. to secular var. anomalies 4-8178
 Europe tidal tilts meas., tide effects, tectonic interpretation (*Russian*) 4-26579
 Faeroe-Shetland Channel, crustal structure 4-36318
 fault opening and slip due to fluid injection for geothermal heat extraction 4-41879
 fault rupture and earthquake source spectra 4-26660
 fault stress state determ. from multiple focal mechanisms 4-12794
 normal fault system geometrical evolution 4-17097
 minor fault trace displacement distrib. 4-17098
 Fenton Hill geothermal site, New Mexico, USA, seismic study of rock features 4-47435
 Fergana Basin, USSR, crust struct. from seismic obs. (*Russian*) 4-21891
 folds in large amplitude longitudinal flexure, form. and stress, rock creep effect 4-52630
 fracture type classification 4-52651
 Franciscan Complex, California, blueschist exotic rock, metamorphic history, tectonic implications 4-42757
 Friuli, Italy, crustal attenuation of earthquake excited waves 4-17083
 Fukuzo Fault, Japan, turning assoc. with Mikawa Earthquake, Japan (1945) (*Japanese*) 4-47168
 Garm polygon, USSR, elec. sounding of crust by single current phases, noise prediction 4-21904
 Gauribidanur Array, India, seismic corrections due to crust and mantle inhomogeneities 4-58084
 geochronological evolution of crust and mantle, review 4-8197
 geodynamics of crust and mantle, book 4-27255
 geodynamics principles (book) 4-8663
 geologic high level radwaste repository siting and licensing, tectonic stability aspects 4-28022
 geologic mapping method using calibrated remote sensing multispectral data 4-22165
 geological hydrothermal alteration mapping, MSS method with hue-saturation-intensity transform 4-22164
 geothermal regions, EM studies 4-36288
 glaciogenic geology and climates of pre-Pleistocene times, book 4-36824
 glaciogenic waterlain sediments of Pleistocene, Late Palaeozoic and Late Precambrian, review 4-53387
 global seismic phase of $M_s \geq 8$ great earthquakes and stress fields 4-41758
 global tectonic plates velocities, continuous or discontinuous motions 4-58146
 global tectonics and artificial satellite laser tracking 4-42226
 Gondwanaland fracturing 4-58155
 grabens, horsts and upthrusts, study of rhomb structs. acute angles 4-31465
 N Grande Kabylie, Algeria, allochthonous sedimentary formations, ages and tectonic settings (*French*) 4-52616
 granitic massifs rel. to surface water presence 4-31774
 NW Great Basin, USA, evolution of back-arc fold and thrust belt 4-47238
 Great Tolbachik Fissure Eruption (book) 4-53365

Earth crust continued

- W Greece, geological and tectonic interpretation of SIR-A radar images (*French*) 4-41907
- NW Greece, microearthquake seismicity and active tectonics 4-41733
- NE Greenland, early Palaeozoic carbonate shelf history 4-26671
- N Greenland, mapped at 1:100000 scale by aerial photography 4-31399
- greenstone belts as indicators of upper mantle chem. inhomogeneity 4-3735
- Grenville Province, W Labrador, tectonic implications of bathozone 6 assemblages in metamorphic rocks 4-58175
- Gueret Massif, western part, France, lithology, struct. and mineralisation (*French*) 4-8190
- Gulf of Corinth, tectonics and geological struct. from seismic refl. obs. 4-36350
- hashemite, Ba(Cr,S)O₄, lattice parameters, refractive index, from Jordan 4-47256
- Hawaii and Loihi Seamount hotspot volcanism and He isotopic anal. of volatiles 4-41845
- Hawaii and Loihi Seamount volcanoes, rock He isotopic anal. and volcanic plume model 4-41844
- heat generation, density and seismic vel. rel. to rock type 4-47216
- heat transfer in horizontal direction, due to radioactivity contrasts 4-3725
- heavy industrial facilities, earthquake hazard component in postquake performance assessments 4-41771
- Hida mountain range, Japan, tectonic stress estimate 4-17134
- Hikurangi Trough and transform margin New Zealand, sedimentation during Quaternary 4-58136
- Great Himalaya, Kumaun, India, lithological subdivision and petrology of Vaikrita Group rocks 4-52707
- Himalaya, struct. constraints, gravity anomalies and lithosphere flexural model anal. 4-41814
- Himalaya-Tibet orogenic belt, structure and evolution 4-26672
- N Himalayas region, deep seismic sounding results (*Chinese*) 4-31410
- Hokkaido and N Honshu, Japan, seismic struct. and earthquakes distrib. 4-26657
- Hokkaido Central Belt, Japan, formation of pile of polyphased nappes (*French*) 4-47225
- hot spot heat transfer and tectonics, comparison with Venus 4-42330
- Hula Basin, Israel, Pleistocene subsidence and sedimentation rates 4-8231
- Hungary, regional Bouguer gravity maps 4-26568
- Hungary geological model and tectonic disturbances (*Hungarian*) 4-3727
- northern Iceland, vertical ground deformation observations 4-12896
- Icelandic hot spot, seismic image from P-wave travel times 4-58126
- Idaho batholith, USA, IR remote sensing of hydrothermal chemical alteration 4-12830
- N Illinois, Precambrian granite, stress state, permeability and fractures 4-41871
- Illinois-Wisconsin region, gravity anomaly geological interpretation 4-41697
- Imperial Valley, California, USA, strong motion response at El Centro accelerograph array 4-3708
- In'yali-Debin synclinorium, USSR, Upper Triassic folding and olisthostromes 4-52637
- S India, Precambrian tectonics and crustal evolution 4-47226
- N Indian Ocean area, crust and upper mantle struct. from geophys. data 4-36327
- Indian Shield, crust and upper mantle struct. from geophys. data 4-36327
- Indus and Shyok suture zones in eastern Ladakh, NW Himalaya 4-36354
- intracratonic basin formation, mechanical model of buckling 4-3749
- Ireland, magnetic deep structural geology interpretation 4-17046
- island arc magma genesis, role of subducted sediments, isotopic evidence from lesser Antilles 4-12897
- isostatic compensation of continental crust and crust thickness 4-52669
- Isparta, Turkey, Pliocene volcanic rocks, leucitite mineral occurrence (*French*) 4-17104
- Israel, crust struct. from seismic refraction study 4-17071
- S Italy, crust and upper mantle struct. from seismic data 4-17119
- janhaugite, Na₃Mn₃Ti₂Si₄O₁₃(OH,F,O)₃, lamellar aggregates, Norway 4-47255
- central Japan, gravity anomalies rel. to topography, seismicity, tectonic lines, faulting 4-26583
- Japan JMA standard crust and mantle model, seismic travel-time tables 4-41788
- Japan southern Volcano Arc, tectonic evolution 4-47234
- Japan Trench, seismic activity, 1972 to 1976, rel. to tectonic stress fields 4-31430
- Kaapvaal craton, Swaziland, crustal evolution and ancient gneiss complex dating 4-3728
- Kanto Plain, Japan, active fault anal. by prospecting and gravity (*Japanese*) 4-47217
- S Kanto-N Izu region, Japan, crustal structure and Rayleigh waves anal. (*Japanese*) 4-41789
- Karakoram region, Kashmir stress field struct. from seismic anal. (*Chinese*) 4-17129
- Karasuisk overthrust, USSR, seismic vel. and period depend. on rock stress 4-26669
- E Kenya, Miocene to Quaternary volcanism 4-36339
- Khan-Khukhei Range, W Mongolia, stratigraphy of Vendian and Lower Cambrian rocks 4-52638
- Kii Peninsula, Honshu, Japan, microearthquakes focal mechanisms and three-layer distrib. 4-41726
- Kilauea Volcano, Hawaii, seismic detect. of summit magma complex 4-47222
- kimberlite pipe remote sensing in Wyoming-Colorado, USA, by multispectral method 4-21907
- kimberlite pipes, multistage filling processes 4-52655
- Kinki district, Japan, P_v velocity and Moho-offset 4-26644
- Klamath Mountains, California Oregon, USA, Late Jurassic orogeny (*French*) 4-41853
- Kohistan sequence (Pakistan) metamorphism of obducted island arc 4-8232
- Kola Peninsular, USSR, magnetism and mineralogy of Pechenya rocks 4-12827
- Kurai fault zone, Gornyi Altai, USSR, discovery of Jurassic deposits 4-3734
- Kuril-Kamchatka transitional area, classification of tectonic elements 4-3740

Earth crust continued

- Kuznetsk Alatau, USSR, stratified phosphorite deposits 4-26678
- Kyushu, Japan, displacement distrib. along minor fault traces 4-17098
- Lake Bonneville, Utah, USA, isostatic rebound study 4-52668
- Lanvaux Massif, Central Brittany, superposed Variscan shears (*French*) 4-41785
- large-scale accretionary wedge, deform. modelling 4-41878
- lateral deformation effect on heat flow-heat production relations 4-41791
- lateral heterogeneities of lithosphere, conf., Aug. 1982, Leeds, England 4-31961
- Lhasa block and bordering sutures, Moho. traverse through Tibet 4-26674
- linear feature identification by remote sensing method 4-21909
- lithosphere properties, reviews 4-12831
- lithosphere unstable extension, mechanical model for basin and range struct. 4-41875
- lithospheric doubling and shifting, thermal and magmatic consequences 4-21913
- Lorca, Spain, regional tectonics from earthquakes anal. 4-58141
- lower continental crust evolution deduced from granulite rock Nd-Sr isotope ratios 4-41822
- Luanhe River Delta, China, alluvial fans form. ages, stratigraphy and tectonics (*Chinese*) 4-12941
- Luhuo earthquake, China, 1973 February 6, rupture complexity and surface faulting 4-31415
- magnetotelluric field above narrow conducting layers (*Russian*) 4-26600
- Maine, Palaeozoic microplates and granitic magma source regions charact., isotopic anal. 4-41864
- Makara Basin, northern New Zealand, geology and tectonic development 4-58137
- Mansiisk syncline, Siberia, oil prospects and regional tectonic struct. 4-26677
- Marche dislocation zone, France, ductile and fracturing deform. (*French*) 4-52663
- Mariana forearc, seismicity and tectonics 4-31426
- Matsuyama Observatory, Japan, tilt change and crustal movements (1949 to 1982) 4-41790
- Mesa de Andrade, Mexico, 1976 December 7 earthquake, seismicity and fault plane soln. 4-58091
- Messina Strait area, crustal deformations and tectonics 4-36344
- metababbro shear zone softening and mylonitization 4-17100
- metamorphic petrology, book 4-42631
- metamorphic petrology, review of recent work 4-8200
- Trans-Mexico Volcanic Belt, due to incompletely developed micro-plate 4-36352
- Michigan sedimentary basin, USA, thermal contraction and flexure tectonics 4-41866
- microplate boundary ruptures, dislocation model with viscoelastic asthenosphere 4-36345
- Middle American Trench off Guatemala, convergent-extensional active continental margin 4-52664
- Minas Gerais, Brazil, crust/upper mantle mag. struct. 4-41719
- Miocene Great Basin of western N America, tectonics of extending back-arc region 4-47239
- Mississippi embayment, crustal fractures detect. via airborne microwave radiometry 4-31703
- Mongolia ophiolite complexes, geology of dyke series and basic and ultrabasic rocks 4-52644
- Mont Dore volcano, France, 3-D structure and basement blocks 4-36336
- Monte-Rosa nappe cover rocks, microstruct. evidence for major ductile simple shear (*French*) 4-41858
- Monte-Rosa nappe granite, Saas Valley, Switzerland, heterogeneous shear (*French*) 4-41850
- Monticello, South Carolina, source parameters and stress var. 4-31423
- mountain building at mid-plate sites, mechanical model of buckling 4-3749
- mountain range gravity anomalies, crust struct. and tectonics 4-58144
- mountains and Earth interior, book 4-31997
- movements and geodesy (book) 4-42608
- Mozambique Belt, West Pokot, Kenya, dismembered ophiolite anal. and tectonics 4-31480
- Nagoya area, microtremors and seismic waves rel. to ground structure (*Japanese*) 4-41741
- Nakaminato City, Japan, stress measuring by hydrofracturing 4-26684
- Nares Strait dilemma, clue from palaeomagnetism of Esayoo Formation (Permian) of N Ellesmere Island 4-58077
- Nares Strait problem, diffuse oblique-slip plate boundary between Greenland and Canadian Arctic Islands 4-58150
- Nepa arch, Siberian platform, seismic sounding obs. of crust basement structure 4-52653
- Nera Valley earthquake, Italy, fault plane soln. and seismic features 4-58101
- southern New Mexico, USA, localised heat flow rel. to geological struct. 4-12819
- N New Zealand, Late Cainozoic rifts and intra-plate volcanism 4-36330
- New Zealand, offshore sedimentary basins at Alpine Fault southern end 4-58140
- New Zealand, tectonic development and role of oblique slip movements 4-58159
- Mid Niger Valley, Nigeria, rift struct. 4-31469
- W North America, Lower Palaeozoic miogeoclinal, thermal subsidence and eustasy 4-26681
- North America, stress province boundary and plate tractions 4-3750
- North America, subduction at W margin rel. to eclogite from central Yukon 4-12908
- North American plate, stress orientations from oil well breakouts in Alberta 4-12817
- North Sea, geomagnetic anomalies, crust struct. and tectonics 4-41715
- North Sea, normal incidence/wide-angle seismic recording of Moho 4-47193
- W Norway, strike-slip tectonics of Late Caledonian basins 4-58133
- N Norway and Sweden, seismic study of crust and mantle struct. 4-17085
- Nova Scotia continental margin, shallow crustal structure 4-41793
- Nuevo Leon magnetic anomaly, near Cerro Prieto geothermal area, Mexico 4-12763
- Osakayama tunnel, Japan, tidal components and crust vertical deflection 4-26582
- P-wave velocity anisotropy in crystalline rocks 4-26629
- Palaeozoic Pangaea, reconstruction of Devonian palaeogeography 4-31472

Earth crust continued

- Pangea structure rel. to geoid and mantle convection 4-36343
 Pannonian Basin, tectonics, seismicity and crust structure 4-17087
 Paris basin, south western part, synsedimentary events (*French*) 4-8221
 Parkfield, California, 1977 to 1982 small earthquakes, source dimensions and stress drops 4-58079
 passive continental margins, review 4-8203
 Penjwin area, NE Iraq, tectonic struct. of collisional orogen area 4-36351
 central Pennsylvania, USA, crust thickness from P-wave anal. 4-3723
 Petermann Ranges Orogeny, Australia, mechanical model of buckling 4-3749
 petrological evolution of crust and mantle, review 4-8198
 Philippine Sea subducted plate, interaction with overriding continental crust 4-41726
 Phlegrean Fields pyroclastic deposits in S Italy, magnetic fabric studies 4-17115
 Pierre Shale, Colorado, USA, study of in situ seismic anisotropy 4-3699
 Pilbara Block, Australia, stabilisation and tectonic evolution 4-47190
 Pisgah Crater, CA, USA, radar remote sensing obs. of surface roughness 4-22151
 plate dynamics and isostasy in dynamic system 4-31470
 plate motion rates rel. to kimberlite emplacement ages 4-36342
 plate motions, mantle temperature distrib. as driving force 4-52676
 Poland Permian basin, crust struct. from seismic sounding obs. 4-41720
 Polochic fault as segment of North America-Caribbean plate boundary across Neogene N America 4-52683
 Promontorio silver deposits, Sonora, Mexico, geoelec. survey of breccia pipes 4-26663
 pull-apart basins, tectonic development 4-8211
 quartz gash vein formation process in sandstone of New South Wales, Australia 4-31446
 regional seismic phases, geometrical attenuation, spectral characts. and excitation 4-58082
 Rehanna Mountains, Morocco, allochthonous units tectonics (*French*) 4-41851
 reservoir induced earthquakes rel. to tectonic parameters in China (*Chinese*) 4-12791
 Rhinegraben, palaeostress fields, palaeogene tectonic evolution (*French*) 4-8209
 ring zones of subvertical nonuniformities, identification from gravimetric method, appl. to Veselov platform (*Russian*) 4-12756
 Robertson Bay Group, Antarctica, tectonic reappraisal, Cambrian and Ordovician conodonts anal. 4-47229
 SW Rockall Plateau, deep crustal structure 4-58125
 Romania, crust struct. from deep seismic sounding obs. 4-17088
 N Sakhalin, mantle and crust geoelectric model 4-52566
 Sakhalin, USSR, heat flow distrib. rel. to tectonics/volcanism/crust thickness 4-3738
 San Andreas fault, California, elec. cond. struct. rel. to seismic and gravity data 4-41713
 San Andreas fault, California, episodic creep rel. to seismicity and rainfall 4-41811
 San Andreas fault, Cholame valley, CA, USA, deformation study 4-12895
 San Andreas fault, San Mateo County, California, holocene history 4-58094
 San Andreas fault near San Juan Bautista, creeping-locked transition and microearthquakes 4-58108
 San Andreas fault zone, California, crustal struct. from seismic refl. profiling 4-31448
 San Just mountain Spain, form., polyphase Alpine tectonics interpretation (*French*) 4-41855
 East Sayan, USSR, volcanic eruptions in Late Quaternary 4-52662
 East Sayan ore province, USSR, location of rare metal mineralisation 4-52650
 E Sayan region, age of Mangatgol and Dabanzhalga suites and Oka series 4-52656
 Scotland, coupled Sm-Nd and U-Pb systematics in late Caledonian granites rel. to nature of basement 4-41819
 Scotland Midland Valley, evolution of strike-slip, fault-controlled basin 4-58132
 sedimentary basins devel., effects of finite rifting times and heat transfer 4-41865
 sedimentary basins evolution, two-layer extensional models 4-41877
 sedimentary basins of marginal type, oil and gas geochemical characts. 4-17121
 seismic anisotropy 4-26621
 seismic anisotropy in lithosphere, origin, role of anomalous mantle 4-26665
 seismic structural map precision, errors and choice of profile density (*Russian*) 4-21893
 seismic studies of crust structure, review 4-8189
 seismic velocity distribution in Hokkaido and Tohoku regions seismic dipping zone (*Japanese*) 4-47174
 seismic velocity-depth profile for Central Europe 4-17092
 seismogenic layer, non-nucleation of large earthquakes at shallow depths 4-3711
 Serra de Tramuntana, Mallorca, Spain, thrust and vertical faulting tectonics, and gravity slips (*French*) 4-41857
 Sesia Zone, W Alps, high-press. metamorphism and deform., thermal-tectonic model 4-41787
 Shasta (California) palaeo-island arc, implications of Pb isotopic comps. 4-31450
 central Shikoku, Japan, seismic activity rel. to compressional and shear wave vel. (*Japanese*) 4-47173
 NE Shikoku District, Japan, crustal struct. and geomag. total force (*Japanese*) 4-47218
 Shu-lu graben, N China Plain, earthquakes and tectonic significance 4-17084
 S Siberia, regional crust struct. from mag. and gravity anomalies 4-3731
 Siberia, regional seismic studies anal. 4-12811
 West Siberian Plate, deep crust struct. from seismic sounding profile 4-52642
 West Siberian Plate, geomag. anomalies due to metallogenic zones 4-52575
 W Siberian Plate, gravity and mag. fields of Ob-Irtysh region 4-3768
 West Siberian plate, seismic study of basement complex struct. 4-41829
 Siberian platform, geoelectric structure 4-52577
 W Siberian platform, southern region, gravity anomalies nature, topography effects (*Russian*) 4-12755

Earth crust continued

- Sierra Nevada, California, geochemistry rel. to origin of granodiorite plutons 4-8233
 Sino-Korean plate, features of Palaeozoic and Mesozoic reactivation 4-58127
 South China Sea, N region, structural features and oceanisation (*Chinese*) 4-17096
 South Shetland Islands, Lesser Antarctica, island arc magmatism migration 4-41839
 Soviet Central Asia, morphostructured zoning rel. to earthquake zones location (*Russian*) 4-3713
 splitting and Pyrenean lherzolites and granulites emplacement 4-36316
 St. John's Island, Red Sea, ultramafic rocks emplacement at fracture zones/continental margins 4-21903
 St-Brieuc, Bay of, Brittany, cadomian thrusting (*French*) 4-17133
 Stillwater seismic gap, Nevada, Late Quaternary history 4-58095
 stress determinations from earthquake focal mechanisms var. with depth 4-41757
 stress state calc. from gravity anomaly data 4-52671
 stress state of lithosphere, review of recent work 4-8218
 strike-slip large-scale fault system tectonics and geology 4-53380
 structure, seismic anal. (*Russian*) 4-36326
 subduction zones, plate rupture by hydraulic fracture resulting in overthrusting 4-21916
 subduction zones, thermal and volcanic activity, role of mantle wedge heat transport 4-41874
 subduction zones, thermal stress distrib. in descending plate rel. to intermediate and deep earthquakes 4-31466
 subsiding troughs, patterns of total and incremental strain rel. to interdiapir synclines 4-58114
 E Sunda arc, Indonesia, back-arc thrusting, consequence of arc-continent collision 4-41873
 Suruga subduction zone, tectonic stress field, direction of convergence (*French*) 4-41852
 Swabian Jura, Germany, regional stress field from borehole breakout obs. 4-41825
 Sweden, seismic travel times for crust 4-17086
 Synmyr and Sakun massifs, USSR, geochemistry and geology of high-K and Al-rich melt rocks 4-52646
 Tanna and Ukihashi faults in Japan, elec. resistivity struct. (*Japanese*) 4-12759
 tectonic stress fields inversion, linear and nonlinear theory 4-58153
 teleseismic wave method for crust fine structure 4-17090
 evolution of crust and upper mantle, calc. by downward continuation of surface obs. 4-47200
 Tengchong, China, tectonic volcanism rel. to plate tectonics 4-21910
 thermal diffusivity near Conrad discontinuity 4-52696
 Thessaloniki area, N Greece, active faults and regional stress 4-41796
 thickening of variable viscosity lithosphere, role in thermal effects of continental collisions 4-58148
 thickness of global lithosphere deduced from Earth rotation variations 4-36276
 thin skin tectonics at large scale, review 4-8220
 Thor-Odin gneiss dome, USA, structural evolution 4-36328
 Tibet, crustal structure and var. of Himalayan border 4-26673
 S Tibet, heat flow meas. in lake sediments 4-26675
 tides (book) 4-8659
 Tien Shan, upper mantle vel. inhomogeneities rel. to surface struct. 4-17111
 Tien Shan, USSR, isostatic compensation, lithospheric anomalies 4-17137
 Tien Shan, USSR, isostatic compensation model 4-36346
 Tohoku district, NE Japan arc, crust seismic-velocity struct. 4-36311
 Tokai coastal region, Japan, crust struct., seismicity and wave propag. (*Japanese*) 4-47175
 Tokai region, Japan, electro-optical distance meas. and strain var., seismic activity correl. 4-26683
 Tonghai earthquake, China, 1970 January 4, rupture complexity and surface faulting 4-31415
 topographic mapping through tropical forest, VHF radar technique 4-22152
 Transbaikalian alkaline granitoid province, two-stage form. 4-3766
 Transhimalaya plutonic belt in Ladakh region, geochronology and crust development 4-58117
 Tunisia Early Mesozoic basalts, geochemistry and tectonics 4-31468
 SW Tuscany, Italy, upper crust structure and evolution 4-36332
 NE United States, continental margin, Mesozoic-Cainozoic regression and assoc. tectonics 4-58166
 E United States, crust elec. cond., rock laboratory anal. 4-12833
 W United States, crust resist. from magnetotelluric data 4-12832
 NE United States, crust struct. from group vel. and Rayleigh wave phase inversion 4-41802
 northwestern USSR, geomagnetic and geoelectric anomaly struct. of crust 4-12766
 SW USSR, heat flow, radiogenic heat and crust thickness 4-47207
 eastern USSR, phosphorite rock distribution and geology 4-41828
 USSR crustal heterogeneity and vel. anisotropy 4-26666
 USSR Far East, magnetotelluric depth sounding of crust and mantle 4-17051
 Valley of Mexico, seismic failure elastic models and stress characts. 4-41763
 vein-type ore bodies, structural control in Leucamp, France (*French*) 4-47258
 Velay Oriental volcanic suite, Massif Central, France, geochem. study (*French*) 4-31449
 Verkhoysansk Mts., USSR, tectonic setting 4-3737
 Middle Vitim highlands, Siberia, crustal struct. and geology 4-3732
 Volx mountain, French Alps, tectonic interpretation (*French*) 4-17103
 Vrancea, Romania, earthquakes prediction, mechanisms, time var. and tectonic implications (*Rumanian*) 4-47163
 Vrancea region, Romania, crest and mantle struct., arrival times anal. 4-58116
 SE Wellington Province, New Zealand, crust and upper mantle seismic vel. ratio 4-41826
 Wellington region of New Zealand, seismic vel. struct. and plate subduction 4-3701
 West African shield, magnetotelluric obs. of crust structure 4-58075
 Wild Wave Granodiorite, Silurian I-type intrusive from New South Wales, source rock comp. 4-26692
 Wind River thrust, Wyoming, fault-related folding on footwall 4-8194

Earth crust continued

- Yenisei-Khatanga trough, tectonic struct. determ. using remote sensing 4-3764
 Zakynthos and Kefallinia Channels, tectonics and geological struct. from seismic refl. obs. 4-36350
 Cu-Ni ores in Noril'sk trough region of USSR 4-52640
 He isotopes in nature and measurement methods (book) 4-47799
 Pb, radiogenic, dynamic model of continuous isotopic evolution 4-8192
 U deposits in Copper Mountain, Wyoming, USA, mapped using multispectral data 4-21908

Earth electricity *see terrestrial electricity***Earth heat** *see terrestrial heat***Earth interior**

- see also Earth core; Earth crust; Earth mantle; tectonics; volcanology*
 book on Earth in relation to Universe 4-27260
 chemical stratification of silicate Earth, model for 650 km discontinuity 4-52625
 core model involving gaseous high-pressure very high temperature state 4-52657
 EM induction in Earth and Moon, 6th IAGA workshop, Victoria, British Columbia (1982 August 15 to 22) 4-31959
 equations of state for metals, halides and oxides 4-52694
 fayalite (Fe₂SiO₄), martensitic olivine-spinel transition at Earth interior conditions 4-52700
 free oscillations of Earth interior, coupling of spheroidal and toroidal modes 4-52595
 high-pressure experimental data reduction methods 4-26689
 inertial waves energy intensity 4-8300
 inhomogeneity parameterization in Preliminary Reference Earth Model 4-52629
 Love numbers of long period, freq. depend. of Earth anelastic response 4-3669
 lower mantle, bulk thermoelastic attenuation for composite material 4-52633
 mineral physical properties at high pressure, review 4-8228
 mountains and Earth interior, book 4-31997
 natural gas deep in Earth, chemical composition 4-41816
 neutrino beam method for remote probing of Earth interior struct. 4-31702
 nonrotating, viscoelastic Earth model, transient force, periodic and eigen solns. of eqn. 4-31443
 rheology of lithosphere and asthenosphere rel. to geodynamics, book 4-27255
 rutile, high-pressure and -temp. phase transitions 4-3758
 seismic free oscillations, synthetic seismogram theory 4-52590
 seismic transfer functions, synthetic P-wave seismograms from Longshot, Milrow and Cannikin explosions 4-52607
 thermodynamic model of interior structure 4-17116
 toroidal and spheroidal oscillations, ray theory for intrinsic and apparent dissipation factors 4-36303
 transformation plasticity, anisothermal, of Co, geophysical implications 4-25995
 viscoelasticity rel. to free oscillations, radial vibrs. of sphere of general viscoelastic solid 4-8182
 viscous effects in replenished magma chambers 4-21911
 He in mantle, rel. to radiogenic heat and convection processes 4-17113
 Mg₂GeO₄, high-press. elastic moduli expts., as analogue of Mg₂SiO₄ behaviour 4-41903
 Mg₂SiO₄ elastic moduli at high-press., analogue expts. on Mg₂GeO₄ 4-41903

Earth lower mantle *see Earth mantle***Earth magnetic field** *see geomagnetism***Earth magnetic field variations** *see geomagnetic variations***Earth mantle**

- 670 km discontinuity, phase transition and comp. change models, refl. props. 4-41812
 active fault zones structure models and seismic anisotropy 4-26680
 Adak Island inclusions, geochemistry implications for Aleutian Arc crust/mantle evolution 4-47176
 Aegean Sea region, seismic wave attenuation in upper mantle 4-41827
 Agulhas Plateau, geoid and depth anomalies correl. rel. to low-density mantle layer 4-58163
 Aleutians, island arc volcanics, genesis and geochemistry, mantle struct. implications 4-31455
 anisotropy of upper mantle in oceanic regions, teleseismic evidence 4-3707
 W Antarctic, crust/mantle struct. from deep seismic sounding 4-3739
 Archaean komatiites, geothermal gradients and mantle convection 4-47180
 asthenosphere, flow due to Stokeslets 4-36324
 asthenosphere beneath oceanic spreading centres, struct. and kinematics 4-36317
 E Australia, S Highlands Province, REE and isotopic study 4-21901
 back-arc spreading, secondary flow model 4-52679
 Baltic Shield crust and upper mantle struct. from seismic studies 4-17118
 Barents Sea-East Alps Geotraverse, mantle and crust heat flow 4-47208
 book on plate tectonics and crust evolution 4-22540
 British Columbia, nature and rheology of Cordilleran upper mantle 4-58129
 bulk thermoelastic attenuation for composite material lower mantle 4-52633
 Carpathians of central Romania, crust struct. from seismic studies 4-17120
 characteristics, planetary aspects 4-52553
 chemical stratification of silicate Earth, model for 650 km discontinuity 4-52625
 chemical structure and evolution, isotopic data inversion 4-41798
 Colorado Plateau interior, deep heat flow meas. rel. to mantle temp. 4-18221
 composition of upper mantle, determ. from komatiites 4-3765
 composition of upper mantle and magmatic formations origin 4-3736
 conductivity of lower mantle rel. to 30-60 year period geomagnetic vars. 4-47137
 conference, Newcastle-upon-Tyne, England (April 1984) 4-47743
 continental tholeiites, trace element geochemistry, crustal contamination of mantle material 4-36315
 continents growth anal., Australian shale Nd isotopic study 4-36314
 convection and Pangea struct. rel. to geoid 4-36343

Earth mantle continued

- convection currents, rel. to magma intrusion and epeirogenic uplift of continental crust 4-47228
 convection in Earth interior, review of recent work 4-8219
 convection in large aspect ratio cells, numerical model 4-3747
 convection in upper mantle, plate dynamics and isostasy 4-31470
 convection induced by subduction, rel. to thermal effects of continental collisions and lithospheric thickening 4-58148
 convection plume mid-plane rise velocity and temp. 4-36347
 convection plume thermal and mechanical lateral struct. 4-36348
 convective cell broadening and convection in upper mantle 4-17109
 coupling with core, effect on ecliptic obliquity var. (*Chinese*) 4-8172
 D" layer of lower mantle, S-wave triplication and velocity struct. 4-17076
 density inhomogeneities in oceanic regions 4-47185
 diamonds genesis, N admixture rel. to distribution in kimberlite pipes 4-3767
 electrical conductivity inhomogeneities in upper mantle, EM evidence 4-36290
 EM exploration of upper mantle, controlled source electrical methods 4-36286
 central Eromanga Basin, Australia, seismic evidence for asthenospheric intrusion 4-58179
 northern Eurasia, upper mantle heterogeneity from seismic data 4-36309
 Europe, mag. field sources in crust or upper mantle rel. to secular var. anomalies 4-8178
 evolution and chemical struct. from Nd and Sr isotopic data inversion method 4-42194
 Ezhimala igneous complex, Kerala, India, mantle magma model for granite and granophyres 4-52706
 flow in upper mantle and subducted oceanic crust melting 4-52678
 Galapagos spreading centre, subcrustal flow channel rel. to Nd isotopic comps. 4-21905
 Gauribidanur Array, India, seismic corrections due to crust and mantle inhomogeneities 4-58084
 geochemical evolution of crust and mantle, review 4-8197
 geodynamics of crust and mantle, book 4-27255
 gravitational differentiation in deep upper mantle 4-52626
 greenstone belts as indicators of upper mantle chem. inhomogeneity 4-3735
 Gulf of California, upper mantle P-wave struct. 4-41748
 Hawaii and Loihi Seamount hotspot volcanism and He isotopic anal. of volatiles 4-41845
 Hawaii and Loihi Seamount volcanoes, rock He isotopic anal. and volcanic plume model 4-41844
 Hawaiian hotspot role in Pacific Ocean tectonic evolution 4-52680
 heat supply to lithosphere plate motion rates effect on kimberlites emplacement ages 4-36342
 high-pressure experimental data reduction methods 4-26689
 high-pressure phenomena and measurement techniques, review 4-8227
 Himalaya-Tibet orogenic belt, structure and evolution 4-26672
 N Himalayas region, deep seismic sounding results (*Chinese*) 4-31410
 Icelandic hot spot, seismic image from P-wave travel times 4-58126
 Icelandic volcanics, mantle implications of He, O, Nd and Sr isotopic anal. 4-41797
 N Indian Ocean area, crust and upper mantle struct. from geophys. data 4-36327
 Indian Shield, crust and upper mantle struct. from geophys. data 4-36327
 S Italy, crust and upper mantle struct. from seismic data 4-17119
 Japan JMA standard crust and mantle model, seismic travel-time tables 4-41788
 W Japan Sea, asthenosphere seismic velocity model 4-52599
 Kilauaea volcano, mantle magma contrib. to Ir enrichment in airborne particles 4-31463
 Kinki district, Japan, uppermost mantle struct. 4-26645
 komatiite magma generation in upper mantle 4-52626
 Lake Bonneville, Utah, USA, isostatic rebound study 4-52668
 lateral heterogeneities of lithosphere, conf., Aug. 1982, Leeds, England 4-31961
 lateral heterogeneity and anisotropy from great circle surface seismic wave obs. 4-52594
 Loihi Seamount, dunite xenoliths and basalt, coexisting glass and olivine, noble gas systematics 4-41846
 Loihi Seamount, Hawaii, basalt ⁸⁷Sr/⁸⁶Sr ratios, mantle hot spot implications 4-41843
 Loihi Seamount basalt, Hawaii, geochemistry and mantle comp. 4-41840
 Loihi Seamount basalts, Hawaii, petrology, geochem. anal. and mantle source characts. 4-41841
 Loihi Seamount ultramafic xenoliths, olivine CO₂ inclusions, geobarometry 4-41842
 lowermost mantle D" region, thermal boundary layer and mantle plumes 4-3730
 Massif Central, France, mantle diapir responsible for high heat flow obs. 4-47203
 melting temp. distrib. and fractionation in lower mantle 4-3729
 Minas Gerais, Brazil, crust/upper mantle mag. struct. 4-41719
 Moho traverse through Tibet, Lhasa block and bordering sutures 4-26674
 Mongolian observations of teleseismic P-waves from Nevada, USA, rel. to mantle struct. 4-52613
 W North America, P-wave travel times and amplitudes 4-21886
 North America, upper mantle shear vel. structures 4-36319
 North America upper mantle anisotropy from Love wave overtone data 4-36308
 North Sea, normal incidence/wide-angle seismic recording of Moho 4-47193
 N Norway and Sweden, seismic study of crust and mantle struct. 4-17085
 South Okhotsk deep-sea basin, crust struct. and tectonics 4-47237
 S Okhotsk Sea, asthenosphere seismic velocity model 4-52599
 P-wave velocity anisotropy in crystalline rocks 4-26629
 NE Pacific, crust and mantle S-wave velocity struct. 4-52587
 Pacific density inhomogeneities from DSS data 4-47185
 Pacific upper mantle anisotropy from Love wave overtone data 4-36308
 peridotite nodules in Neogene alkali-basalts from China, thermobarochromism (*French*) 4-41786
 petrological evolution of crust and mantle, review 4-8198
 plate motions, mantle temperature distrib. as driving force 4-52676
 plate motions and assoc. global mantle flow 4-52677
 deep plumes in mantle, model of dynamics and thermal struct. 4-41881

Earth mantle continued

- Proterozoic mantle, isotopic evidence from E Canadian shield for geochemical discontinuity 4-21906
 Pyrenean lherzolites and granulites emplacement and crustal splitting 4-36316
 radiogenic heat production in mantle, deduced from midocean ridge basalt geochem. 4-17114
 radiogenic heat production in mantle, rel. to He composition and convection 4-17113
 refracted P-phase in W Pacific, separation from HF-Pn phase 4-31442
 rutile, high-pressure and -temp. phase transitions 4-3758
 N Sakhalin, mantle and crust geoelectric model 4-52566
 seafloor flattening at old age, role of lithosphere phase transform. and thermal effects 4-41801
 seismic anisotropy 4-26621
 seismic anisotropy determ. method, use of P to S converted waves 4-26845
 seismic anisotropy in lithosphere, origin, role of anomalous mantle 4-26665
 seismic anisotropy of upper mantle, minerals and ultramafic tectonites anal. 4-26664
 seismic studies of Earth interior, review 4-8184
 seismic wave peculiarities from long-range profiles 4-31445
 shear wave velocity gradient at core-mantle boundary 4-41813
 central Shikoku, Japan, seismic activity rel. to compressional and shear wave vel. (*Japanese*) 4-47173
 Siberia, regional seismic studies anal. 4-12811
 structure, seismic anal. (*Russian*) 4-36326
 subduction zones, thermal and volcanic activity, role of mantle wedge heat transport 4-41874
 subduction zones, thermal stress distrib. in descending plate rel. to intermediate and deep earthquakes 4-31466
 teleseismic mantle wave propagation along a laterally heterogeneous spherical surface 4-47153
 temperature gradient in lower mantle 4-17110
 temperature of crust and upper mantle, calc. by downward continuation of surface obs. 4-47200
 temperature variations in upper mantle, calc. from heat flow and plate velocities 4-52632
 Tien Shan, upper mantle vel. inhomogeneities rel. to surface struct. 4-17111
 trace element data inversion for batch melting models 4-58124
 transformation plasticity, anisothermal, of Co, geophysical implications 4-25995
 transition zone heterogeneities deduced from seismic wave conversion data 4-36307
 uppermost mantle worldwide lateral heterogeneities from seismic velocity data 4-26647
 USSR Far East, magnetotelluric depth sounding of crust and mantle 4-17051
 viscoelastic asthenosphere, microplate boundary ruptures, dislocation model 4-36345
 viscosity minimum of accreting Earth 4-12820
 volcanic gases from Mount St. Helens summit crater, isotopic evidence for mantle origin 4-12861
 Vrancea region, Romania, crust and mantle struct., arrival times anal. 4-58116
 wadsleyite ($(\text{Mg}, \text{Fe})_2\text{SiO}_4$), significance of stacking faults to martensitic transformation 4-17472
 Walvis Ridge basalts, rare earths geochemistry, implications for volcanic origin and mantle characts. 4-41799
 SE Wellington Province, New Zealand, crust and upper mantle seismic vel. ratio 4-41826
 West African shield, magnetotelluric obs. of crust structure 4-58075
 CO₂ of deep origin near Mount St. Helens, isotopic comp. rel. to mantle derivation 4-12956
 He isotopes in nature and measurement methods (book) 4-47799
 MgO-FeO-SiO₂ system, phase relations at lower mantle conditions 4-52693
 Sr, Pb, Nd isotope ratios in French Polynesia and mantle heterogeneity 4-41823

Earth orbit

- ecliptic, definition 4-58361
 ice ages and orbital vars., simple climate models with periodic and stochastic forcing 4-47400
 interplanetary scatterers in terrestrial orbit, photopolarimetry and Doppler spectrometry of zodiacal light 4-27045
 Milankovitch theory of ice ages, ice-sheet linkage between regional insolation and global climate 4-17177
 motion of Earth-Moon system in modern tabular ephemerides 4-42289
 periodic variations and ice ages 4-52877
 planetary perturbations on Earth orbit, effect on nutation 4-8174
 seasons, meteorological and astron. definitions 4-31562
 variations, effect on insolation 4-12978

Earth rotation

- see also time and latitude*
 angular momentum, vars. rel. to past and future of Earth-Moon system 4-13213
 atmosphere angular momentum changes causing day length variations 4-41696
 atmosphere boundary layer flows over obstacles, laboratory simulation Earth rot. effect 4-12996
 ecliptic obliquity, secular var. due to core-mantle coupling (*Chinese*) 4-8172
 ellipsoid of inertia, axes direction var. due to tidal deform./centrifugal forces 4-31393
 ellipsoid of inertia of Earth, axes direction determ. possibility 4-41692
 geodynamics principles (book) 4-8663
 latitude var. anal. 4-8176
 Love numbers of long period rel. to rotational variations 4-3669
 MERIT campaigns 4-52889
 Moon, meridian observations (1963-1977) 4-13216
 nutation due to planetary perturbations on Earth orbit 4-8174
 palaeopoles, geoid and Pangea struct. 4-36343
 Pleistocene deglaciation process responsible for rotation changes 4-41694
 polar motion and Universal Time from lunar laser ranging data 4-26569
 polar motion behaviour, autoregressive harmonic anal. of ILS data 4-52557
 pole of rotation for Antarctic and South American plates 4-41876
 rigid body motions, normal mode study 4-41755

Earth rotation continued

- spin axis changes due to tectonic processes 4-36276
 tidal friction effects, conference, Sept.-Oct. 1981, Bielefeld, Germany 4-31972
 Tokyo Astronomical Obs., Time and Latitude Bulletins (April to June 1983) 4-31744
 Tokyo Astronomical Obs., Time and Latitude Bulletins (January to March 1983) 4-22305
 Tokyo Astronomical Obs., Time and Latitude Bulletins (July-September 1983) 4-47528
 transit instruments, azimuth absolute determ. from prime vertical/meridian obs. of stars (*Chinese*) 4-8389

Earth satellites *see artificial satellites; Moon***Earth structure**

- see also Earth composition; Earth interior*
 670 km discontinuity, phase transition and comp. change models, refl. props. 4-41812
 Aleutians, island arc volcanics, genesis and geochemistry, mantle struct. implications 4-31455
 S Appalachians, geomag. var. studies 4-12760
 W Brabant Massif, Belgium, two structural models from Bouguer anomalies 4-41693
 depth nonuniformities, seismic anal. (*Russian*) 4-36326
 Faeroe-Shetland Channel, crustal structure 4-36318
 Himalaya-Tibet orogenic belt, structure and evolution 4-26672
 Mont Dore volcano, France, 3-D structure from explosion seismic studies 4-36336
 North America, upper mantle shear vel. structures 4-36319
 Nova Scotia continental margin, shallow crustal structure 4-41793
 P-wave structure below Santa Barbara, California, refraction expt. 4-12798
 SW Rockall Plateau, deep crustal structure 4-58125
 seismic Love and Rayleigh waves' dispersion, inversion, implications for Earth struct. 4-26638
 Tibet, crustal structure and var. of Himalayan border 4-26673

earth surface processes *see geomorphology***Earth third layer *see Earth mantle*****Earth upper layer *see Earth mantle*****earthling**

- instrumentation systems (*Dutch*) 4-42978

earthquake recorders *see seismometers***earthquakes**

- see also seismology*
 1883 February 4, events of Michigan/Indiana/Illinois 4-3693
 Aizu, Japan, 1433 November 7, earthquake non-event 4-26658
 E Aleutian Arc, earthquakes, plate subduction, and stress reversals 4-41754
 central Aleutian island arc, foreshocks anal. 4-58089
 central Andes, tectonics, seismicity and earthquake parameters 4-52667
 Aomori Prefecture, Japan, 1981 December 2, report (*Japanese*) 4-21885
 Arctic Ocean basin, excitation of underwater noise in Arctic Ocean 4-58198
 arrival times use for hypocentres and station corrections 4-31662
 Asama Volcano, Japan, 1982 explosive eruption, seismic characts. 4-41837
 Asama Volcano, Japan, model for 1973 eruptive activity and implosion earthquakes 4-41836
 Asia, Gansu-Qinghai-Sichuan seismo-genetic block, earthquake activities 4-36306
 Baja California-California region, earthquakes local magnitudes and sediment amplification 4-58085
 Baltic Shield region, focal depths and distributions 4-17117
 Banda Sea, 1963 November 4, continental-scale felt effects 4-58098
 body waves of short period, excitation by recent great earthquakes 4-26661
 Britain, earthquakes occurrence and damage 4-12805
 Busch, California, 1974 November 28, precursory geomagnetic field changes 4-41710
 S California earthquakes, rupture duration and stress drop determ. method 4-31661
 E Canada, 1979 earthquakes and seismic activity 4-3686
 catalog of worldwide accelerogram data for seismic analysis 4-41778
 Caucasus Mts., USSR, deep earthquake foci characts. 4-52592
 centroid-moment tensor solns. for Jan.-March 1983 global earthquakes 4-17080
 Chelmsford-Lowell, Massachusetts, 1938 June and 1980 November, source parameters 4-3683
 Chinese research in solid Earth physics and seismology 4-52720
 continental deform. zone, fault movements rel. to strain rates and crustal thickening 4-8226
 continental earthquakes, fault slippage and folding on Wind River thrust, Wyoming 4-8194
 Coyote Lake, California, 1979 August 6, precursory geomagnetic field changes 4-41710
 Coyote Lake region, California, three-dimens. crust struct. and earthquake locations 4-41815
 crack in infinite elastic medium, forces on lateral surfaces, displacement and stresses 4-36297
 Crimean-Black Sea region, earthquake temporal and spatial grouping 4-12801
 Czechoslovakia, earthquake hazard (*Czech*) 4-31431
 Czechoslovakia, seismicity and earthquakes since 1200 AD 4-52578
 deep ocean earthquakes sensing by moored systems 4-21898
 dip-slip fault propag., Rayleigh waves 4-3709
 dislocation field in epicentral zone, dislocation model 4-47156
 Duwamish River Valley, Seattle, USA, strong ground motion, struct. geometry effects 4-31428
 Erdmellek earthquake, Hungary, 15th October 1834 event 4-26605
 estimation of strong ground motions from analogous seismic regions using combined teleseismic and near field data sets 4-41769
 fault slip instability and state variable friction laws 4-52597
 fault stress state determ. from multiple focal mechanisms 4-12794
 Fenton Hill geothermal site, New Mexico, USA, induced micro-earthquake mechanisms 4-47151
 Fiji Plateau, Pacific, tectonic movements and earthquake focal mechanisms 4-47164
 focal mechanism var. with depth, stress determ. 4-41757
 focal parameter determination method using 2-D model 4-26655
 forecasting of repeated very strong earthquake 4-12799

earthquakes continued

- France, earthquake focal mechanisms and neotectonics 4-12795
 frequency and prediction 4-58092
 frequency distrib. and faulting mechanisms in Japan 4-41753
 frequency-magnitude relations for homogeneous series of earthquakes 4-41764
 Friuli, Italy, crustal attenuation of earthquake excited waves 4-17083
 Friuli earthquake sequence, Italy, 1976 May, seismicity, moments and magnitudes 4-58100
 Garlock fault, California, 1932 to 1981 earthquake relocations and seismicity 4-31422
 Gazli, USSR, 1976 May 17, focal mechanism and displacements 4-52591
 general characteristics (book) 4-42637
 Gilbert Islands, intraplate earthquake swarm 4-41762
 global earthquakes in 1982, centroid-moment tensor solns. 4-17081
 global earthquakes in April-June 1983 period, centroid-moment tensor solns. 4-41761
 global seismic phase of $M_s \geq 8$ great earthquakes and stress fields 4-41758
 Great Tolbachik Fissure Eruption (book) 4-53365
 NW Greece, microearthquake seismicity and active tectonics 4-41733
 ground motion, seismic props. of standard soils 4-3719
 Hakodate earthquake swarm, Japan, (1978-1980) hypocentre locations and seismic activity (*Japanese*) 4-47167
 heavy industrial facilities, earthquake hazard component in postquake performance assessments 4-41771
 HF ground motions, stochastic simulation based on radiated spectra seismological models 4-31429
 Hida mountain range, Japan, earthquake focal mechanisms rel. to tectonic stress 4-17134
 Hokkaido and N Honshu, Japan, seismic struct. and earthquakes distrib. 4-26657
 Hsingtai, China, source modelling of March 1966 events 4-17084
 eastern Hungary, earthquakes, faults and gravity obs. 4-26604
 hypocentre determination techniques using velocity models at subduction zones 4-17091
 Ibaraki Prefecture earthquake, Honshu, Japan, migration of seismicity 4-12785
 Icy Cape, Alaska, 1899, shoreline uplift, tree ring evidence 4-41751
 Imperial Valley, California, 1979 October 15, teleseismic waveform and strong ground motion data inversion 4-31414
 ionospheric disturbances due to upward propagating sound waves 4-58340
 Izu Peninsula, 1980 earthquake swarm, Japan, seismicity and spectrum var. 4-58090
 Izu Peninsula, Japan, AD 1980 earthquake sequence 4-26646
 Japan, 1975 March 1 to 1982 July 31, resist. var. as precursors 4-41729
 Japan, hypocentres relocation and aftershocks anal. (*Japanese*) 4-21883
 Japan Trench, anal. of seismic activity, 1972-6, from Kitakami seismic array data 4-31430
 Kansas, 1979 earthquakes, characts. 4-3688
 Kii Peninsula, Honshu, Japan, focal mechanisms and three-layer distrib. 4-41726
 Kurile-NE Japan arc region, shallow quakes, focal mechanisms and hypocentral relocation (*Japanese*) 4-47172
 large shallow earthquakes in AD 1897 to 1912 period, corrected M_s magnitudes 4-3712
 Lau Basin, Pacific, tectonic movements and earthquake focal mechanisms 4-47164
 Lesser Antilles, earthquake focal mechanisms and neotectonics 4-12795
 Lesser Antilles, focal mechanisms and seismicity rel. to old lithosphere subduction 4-52675
 Liege, Belgium, 8 Nov. 1983 event, magnitude and mechanism (*French*) 4-58099
 Long Island Sound, New York, 1981 October 21, source parameters 4-3695
 Longling, Yunnan Province, China, precursory behaviour of small shocks (*Chinese*) 4-31412
 Lorca, Spain, 1977 June 6, earthquake and aftershocks, mechanism and region tectonics 4-58141
 low-frequency earthquakes, scaling model, source spectra anal. (*Japanese*) 4-47166
 Luhuo, China, 1970 January 4, source processes and body waves anal. 4-31415
 magnitude, correl. with crustal blocks dimensions 4-17156
 magnitude estimation by 'instantaneous amplitudes' method 4-13035
 magnitude-freq. relations, time-normalization problem 4-31435
 magnitudes, physical significance (*Chinese*) 4-17067
 Mariana forearc, seismicity and tectonics 4-31426
 Mariana Trough, earthquake focal mechanisms and tectonics 4-47230
 maximum feasible magnitude for a particular region, estimation procedure 4-17082
 maximum magnitudes, empirical distributions 4-58097
 Mesa de Andrade, Mexico, 1976 December 7 earthquake, seismicity and fault plane soln. 4-58091
 Mexicali Valley, Baja California, Mexico, strong motion obs. 4-13036
 Mexican subduction zone, large earthquakes occurrence freq. and small earthquakes statistics 4-31424
 Mexico, seismicity, earthquake swarms, mags. and depths (1964-80) 4-36300
 Mexico earthquake catalogue (1900 to 1981) and magnitudes 4-58093
 microplate boundary ruptures, dislocation model with viscoelastic asthenosphere 4-36345
 Mikawa, Japan, 1945, assoc. turning of Fukujo Fault (*Japanese*) 4-47168
 Minnesota, 1979 earthquakes, nature and locations 4-3690
 central Mississippi Valley, 1979 events 4-3685
 Mississippi Valley earthquake sequence, 1811 to 1812, contrib. to documentation 4-3697
 Miyakejima-Kinkai, Japan, 1982 December 28, generated tsunami characts. 4-41728
 moment tensor and depth from Rayleigh waves amplitude spectra 4-31660
 Monticello, South Carolina, source parameters and stress var. 4-31423
 Mount St. Helens, earthquakes role as possible precursors and hazard assessment use 4-12892
 Mount St. Helens, eruption prediction, earthquakes as precursors 4-12893
 Mount St. Helens, locations, magnitudes and statistics of earthquake sequence (1980 March 20 to May 18) 4-12848

earthquakes continued

- Mount St. Helens, magmatic gas transport; deep earthquake evidence 4-12840
 Mount St. Helens, seismicity after 1980 May 18, volcanic and tectonic implications 4-12849
 Mount St. Helens, Washington, earthquake swarm rel. to 1980 eruptive activity 4-12844
 Mount St. Helens, Washington, seismic signals preceding May 18 1980 eruption and earthquake 4-31459
 N Muisik region, Baikal seismic zone, earthquake swarm parameters, previous seismic activity 4-17093
 Nagoya area, microtremors and seismic waves rel. to ground structure (*Japanese*) 4-41741
 near surface motion, temporal and spatial variation, validation of current analytical procedures for site response analysis 4-41772
 Nebraska, seismicity history and earthquake parameters (1877 to 1979) 4-3691
 Nera Valley, Italy, 1976 September 19, fault plane soln. and seismic features 4-58101
 nests, micro-earthquake analysis 4-36302
 New Hebrides, October 1980, earthquake sequence and aftershocks 4-47150
 New Hebrides island arc, seismic struct. of crust 4-3726
 New Hebrides Island arc, shallow earthquake depths and mechanisms 4-41732
 New York State, earthquake statistics (1720 to 1980) 4-3696
 occurrence model for large earthquakes, using first Gumbel distrib. 4-41722
 oceanic intraplate bending earthquakes, moment tensors and depths 4-41752
 Oklahoma earthquakes in 1979, characts. and distrib. 4-3689
 Orozco transform zone, seismicity, source mechanisms and tectonics 4-41756
 Parkfield, California, 1977 to 1982 small earthquakes, source dimensions and stress drops 4-58079
 pattern recognition of the relation between seismicity and gravity anomalies in Italy 4-36294
 piezomagnetic anomaly, earthquake induced, numerical model (*French*) 4-17068
 precursor driving mechanism, rock subcritical crack growth 4-26633
 precursory indicators, preparation processes 4-47157
 precursory phenomena and meas. techniques (*Italian*) 4-3698
 precursory surface deformation before great plate boundary earthquakes 4-12781
 prediction, tectonic structs. rel. to location of earthquake zones (*Russian*) 4-3713
 prediction as inverse problem 4-31685
 prediction of dam earthquakes 4-12812
 prediction of earthquakes, based on seismicity waveforms and foreshocks 4-12786
 prediction of earthquakes, review of recent research in USA 4-8186
 prediction of earthquakes in Japan, seismic network for short-term forecasts (*Japanese*) 4-47146
 probabilistic model of earthquakes prediction 4-41759
 probabilistic seismic exposure analysis for nuclear power plant seismic loading specification 4-41777
 Qp 3-D inversion, low magnitude earthquake analysis 4-31434
 Quebec, connections between recent microseismicity and Charlevoix astrobleme (*French*) 4-31433
 regional magnitude values, saturation 4-41739
 regional seismic networks, relevance for siting critical facilities 4-41740
 reservoir induced earthquakes rel. to tectonic parameters in China (*Chinese*) 4-12791
 resilient medium displacement parameters in presence of harmonic action, determ. method (*Russian*) 4-12810
 Richter local magnitude and peak vel. from seismoscope records 4-58290
 robust detection of earthquake signals 4-41781
 rock fracture, crack propagation velocity and seismic radiation 4-41892
 Rosenbluth's rule for combining modes of systems with closely spaced natural freq. 4-58096
 San Andreas fault near San Juan Bautista, creeping-locked transition and microearthquakes 4-58108
 San Francisco area, seasonal occurrence of earthquakes 4-26648
 Scottsville, Virginia, 1981 February 11, mechanisms and occurrences 4-3694
 sediment filled valley, earthquake motion var., effect of sediments 4-58087
 sediment-filled valleys, response to earthquakes 4-58088
 seismic gaps as earthquake predictors 4-31425
 seismic risk and heavy industrial facilities, conference, San Francisco, California, USA (1983) 4-36788
 seismicity, focal mechanisms and tectonics, review of recent work 4-8185
 Shikoku District, Japan, 1977 September 8 event, nature (*Japanese*) 4-47171
 SIMQUAKE-II explosive test for nuclear power plant earthquake analysis 4-33146
 Sleepy Hollow Oil Field, Nebraska, USA, induced seismicity possibility 4-12778
 soil liquefaction assessment during earthquakes 4-36502
 soil liquefaction prediction (*Chinese*) 4-12792
 source effects, effect on m_{bl} magnitude definition 4-31427
 source mechanisms, non-nucleation of large earthquakes at shallow depths 4-3711
 source parameter determ. at Kasperske Hory seismic station, Czechoslovakia 4-26820
 source spectrum from coherent/incoherent rupture on fault 4-26660
 W South America, shallow earthquake depths and mechanisms 4-41732
 St. Helens seismic zone, Washington, USA, regional tectonics and earthquake hazard 4-52598
 state of the art of aseismicity of sub-surface grounds for industrial areas 4-41773
 stick-slip earthquake, source parameters and radiation pattern 4-41744
 stress variations and recurrence freqs., rel. to global tectonic plates velocities 4-58146
 strike-slip Somigliana dislocations in layered half-space 4-17079
 subduction zones, earthquake characts. rel. to asperities, stress, convergence rate and age 4-52673
 subduction zones, thermal stress distrib. in descending plate rel. to intermediate and deep earthquakes 4-31466
 Swabian Jura, 1978 September 3, aftershock analysis using Qp 3-D inversion 4-31434

earthquakes continued

- Swabian Jura earthquake, SW Germany, aftershocks to 1978 event 4-12777
 tensile crack earthquake, source parameters and radiation pattern 4-41744
 Teton-Southern Yellowstone region of Wyoming, USA, seismicity obs. 4-12779
 Tokai coastal region, Japan, crust struct., seismicity and wave propág. (Japanese) 4-47175
 Tokai region, Japan, electro-optical distance meas. and strain var., seismic activity correl. 4-26683
 Tokyo region, micro-earthquake analysis using nests 4-36302
 Tonga subduction zone, tectonic deformation and deep seismicity 4-41880
 Tonghai, China, 1970 January 4, source processes and body waves anal. 4-31415
 W Transbaikal, USSR, 1980 October 2, source characts. 4-3714
 transient analysis of large frame structures by simple models 4-44460
 tsunami seismic source spectrum study 4-41731
 NE United States, 1979 events 4-3684
 SE United States, 1979 events 4-3687
 Urakawa-Oki, 1982 March 21, report (Japanese) 4-21884
 Urakawa-Oki, Japan, ionospheric disturbances due to upward propagating sound waves 4-58340
 Victoria, Baja California, Mexico, stress drops of March 1978 events 4-41749
 Vrancea, Romania, earthquakes prediction, mechanisms, time var. and tectonic implications (Rumanian) 4-47163
 Wanganui, New Zealand, continuous swarm-like seismicity 4-3703
 weak earthquakes, automatic online detection at Graefenberg Array 4-41780
 Yugawara Station, Sagami Bay, Japan, microseismicity, focal depths and locations 4-26659

EAS see cosmic ray showers and bursts

Eberhard effect see photographic materials

ebullition see boiling

e.c.g. see electrocardiography

echelles see diffraction gratings

echelons see diffraction gratings

echo

- see also anechoic chambers; architectural acoustics; clutter; reverberation; sonar
 gas bubbles in liq., exciting acoustic pulse interaction, coherent, echo-like phenomenon 4-24291
 holographic filtering for echo structure anal. 4-38417
 metallic powders, acoustic polarisation echo (Russian) 4-24286
 US attenuation coeff. meas. using echo signals 4-14857
 US attenuation estimation by spectral smoothing of backscattered echo signals 4-49635
 US field and echoes in fluid, numerical calc. 4-14823
 US phase echo method for defect discrimination 4-51948
 US pulse echo system, scattered signal spectrum calc. in focused sound field 4-14822
 US sensor system for tracking moving human body 4-44329
 US stress measurement, two-dimens. acoustoelasticity using pulse echo overlap technique 4-14854

echolocation (physiological) see bioacoustics; mechanoreception

ECL see emitter-coupled logic

eclipses

see also solar eclipses

- 1982 December 30 abnormally dark lunar eclipse, obs. 4-31743
 V1343 Aquilae (SS 433), Ha photometry rel. to eclipses of accretion disc (Russian) 4-13335
 ε Aurigae, 1982-4 eclipse, UV obs. and secondary nature 4-42494
 ε Aurigae, α(16)A(9) photometry during 1982-84 eclipse 4-22430
 CI Cygni, symbiotic star, spectrophotometric study during 1980 eclipse 4-42452
 Galilean satellites, 1975-82 eclipse timings 4-27036
 Galilean satellites, 1984 eclipse ephemeris 4-27037
 Galilean satellites phenomena, theory using Chebyshev polynomials (French) 4-8423
 SW Lacertae, displaces secondary eclipse, BV photometry 4-47648
 lunar, 1982 January 9 and December 30, photometry from Tokyo Astronomical Observatory Dodaia Station 4-13217
 lunar eclipse of 1982 December 30, craters brightness and photometry (Japanese) 4-31773
 lunar eclipses 4-36491
 FT Lupi, short-period eclipsing binary, times of minima and light curve from UVB photometry 4-13365
 RU Monocerotis, eclipsing binary, photoelectric times of minima rel. to vars. in apsidal motion and orbital period 4-8529
 AR Pavoris, IUE obs. of 1982 UV eclipse of symbiotic binary 4-17514
 VZ Piscium, EW-variable, photoelectric obs., time of minimum, and light curve 4-58470
 X-ray and cataclysmic binaries, tidal distortion of secondary rel. to phases of eclipses 4-47656

eclipsing binary stars

- 0139-68, AM Herculis star, photometric and spectroscopic obs. during optical low state 4-17555
 absolute dimensions from spectra and uvby light curves 4-42491
 ADS 9019, visual binary, B-component identification as W UMa star, UVB obs. 4-58469
 Algol type stars, characts. correl. with Be stars 4-17517
 Algol-type non-cluster eclipsing binaries, spectral classification 4-58477
 DS Andromedae, photometric elements 4-13361
 BX Andromedae, W UMa star, photoelectric times of minima (August and September 1982) 4-13366
 CN Andromedae, W UMa star, photoelectric UVB photometry, new times of light min., and ephemeris 4-47649
 CN Andromedae, W UMa system in poor thermal contact, UVB obs. and light curve soln. 4-42489
 R Aquarii, circumstellar reddening charge, recombination spectra 4-58451
 V417 Aquilae, W UMa star, photoelectric obs. and improved period 4-22428
 V1343 Aquilae (SS 433), accretion disc models rel. to changing precession period 4-47629
 V1343 Aquilae (SS 433), compact object mass-black hole evidence 4-42480

eclipsing binary stars continued

- V1343 Aquilae (SS 433), gamma ray emission origin 4-47623
 V1343 Aquilae (SS 433), Ha photometry (Russian) 4-13335
 1343 Aquilae (SS 433), light curve and accretion disc model (Russian) 4-53190
 V1343 Aquilae (SS 433), neutron star magnetopause as cauldron at core 4-22403
 V1343 Aquilae (SS 433), precession effects rel. to HZ Her (Russian) 4-17529
 V1343 Aquilae (SS 433), short timescale IR vars. 4-4007
 V1343 Aquilae (SS 433), visual magnitude estimates (1983 September 24 to October 8) 4-36692
 ε Aurigae, 1982-4 eclipse, UV obs. and secondary nature 4-42494
 ε Aurigae, α(16)A(9) photometry during 1982-84 eclipse 4-22430
 TT Aurigae, β Lyr star, photometric soln. 4-17551
 IU Aurigae, B-type eclipsing binary, light min. times and eclipse depths 4-4044
 IU Aurigae, eclipsing binary in triple system, orbit, ephemeris, mass and UVB photometry 4-31866
 ZZ Aurigae, ephemerides, mass ratio, evolutionary status, visible obs. (Chinese) 4-58467
 IM Aurigae, period change and new photoelectric minima 4-47647
 ε Aurigae, possible flare activity during eclipse 4-4043
 ε Aurigae, UV spectroscopy during eclipse ingress and totality (1982 to 1983) 4-47659
 ‡ Aurigae red supergiant eclipsing system, chromosphere pulsation obs. 4-42500
 TZ Bootis, W UMa star, evolutionary status and corona/chromosphere X-ray emission 4-47643
 Boss 1985, VV Cep star, mass loss, spectra anal. 4-8526
 AC Cancri, nova-like variable, accretion disc model, spectral/photometric obs. 4-31846
 R Canis Majoris, photoelectric H α N and H α W obs. 4-17549
 RS Canum Venaticorum stars, IR photometry anal. 4-8533
 GG Carina, β Lyr Bep star, photometric anal. 4-53217
 ST Carina, lightcurve anal. 4-31868
 OY Carinae, eclipsing dwarf nova, spectroscopy and photometry during quiescence 4-22379
 OY Carinae, outburst and quiescent luminosities of eclipsing dwarf nova 4-22378
 TV Cassiopeiae, Algol-type binary, photoelectric obs. 4-8522
 QX Cassiopeiae, BVRI photometry (1979 to 1982) 4-8528
 TV and YZ Cassiopeiae, comp., temp. and microturbulence, UV spectra 4-13357
 BH Centauri, β Lyr star, orbit and BV photometry 4-53222
 Centaurus X-3, eclipsing X-ray binary, light curve anal. 4-13372
 Centaurus X-3, neutron star and Of star, X-ray obs. and period anal. 4-4030
 AH Cephei, B-type eclipsing binary, light min. times 4-4044
 CQ Cephei, eclipsing Wolf-Rayet star, light curves obs. rel. to orbital period var. 4-27079
 CQ Cephei, eclipsing Wolf-Rayet system period var. and mass loss/transfer 4-31838
 U Cephei, far-UV emission lines rel. to circumstellar envelope 4-17542
 U Cephei, photometric solns. and mean geometrical elements 4-58480
 EK Cephei, relativistic orbit rot. 4-13373
 GT Cephei, UVB light curves anal. 4-53216
 VW Cephei, W UMa star, new photoelectric times of minimum (1981 and 1983) 4-36714
 VW Cephei, W UMa star, starspot hypothesis for long period var. of light curve 4-27119
 BD Circini, Algol-type eclipsing binary, orbital period, ephemeris, and light curve 4-22427
 CoD-30°5135 (PW Puppis), F-type eclipsing supergiant binary, uvby β photometry 4-17546
 CC Comae Berenicens, W Ursae Majoris star, V-band light curve 4-8530
 ε coronae Austrinae, period of W UMa system, uvby obs. 4-58468
 θ Coronae Borealis, possible triple star, Be component and eclipses nature 4-31865
 Cox 38, Ap star in NGC 2516, light curve and period 4-42464
 V367 Cygni, β Lyr star, shell, luminosity and atm. parameters 4-42495
 V726 Cygni, Algol-type binary, anal. of period changes 4-27129
 SS Cygni, discovery of eclipses, orbit parameters determ., UVB obs. (Russian) 4-17530
 V388 Cygni, short-period eclipsing binary, photoelectric times of minima (September 1982) 4-42497
 CI Cygni, symbiotic star, periodogram study of light curve 4-27096
 CI Cygni, symbiotic star, spectrophotometric study during 1980 eclipse 4-42452
 CI Cygni, symbiotic star, UVBRI photometry during 1982 eclipse 4-53189
 detached eclipsing binary systems, error anal. of light curves 4-53209
 double-lined binaries, new objects, TV and CCD detector obs. 4-58471
 BW Draconis, BV photometry 4-47644
 E2003+225, AM Herculis star, photometric study (Russian) 4-13337
 GR 312, new eclipsing binary in field of NGC 6946, photometric obs. 4-13329
 RV Gruis, W UMa star, BV obs. 4-27125
 H 0139-68, linear polarization meas. of AM Her object 4-31858
 HD 104901B, F-type supergiant eclipsing binary, photometric obs. 4-36713
 HD 153919 (=4U 1700-37), eclipsing X-ray binary, struct. model and light curve 4-36720
 AM Herculis, atm. parameters from soft X-ray spectrum anal. 4-58487
 HZ Herculis, clock mechanism and precessing accretion disc 4-4031
 HZ Herculis, eclipsing X-ray binary, B-obs. 4-13356
 AK Herculis, W UMa star in multiple system, light-time effect and masses 4-17550
 AM Herculis (3U 1809+50), long term photometric behaviour (March to November 1983) 4-42467
 AM Herculis (3U 1809+50), new optical low state, visual magnitude estimates and BV photometry (August to November 1983) 4-17533
 HZ herculis (Hercules X-1), hard X-ray emission obs. during 'mid-ON' phase 4-53211
 HZ Herculis (Hercules X-1), new photometric obs., (August to September 1983) 4-22425
 HZ Herculis (Hercules X-1), optical pulsations and 35-day period 4-17543
 HZ Herculis (Hercules X-1), precession effects characts. rel. to V1343 Aquilae (SS 433) (Russian) 4-17529
 DQ Herculis (Nova 1934), 71 second oscils. ephemeris 4-17527

eclipsing binary stars continued

- HR 362 (f Piscium B), possible double-line eclipsing binary, orbital elements 4-58482
 KT Hydrae, Algol type star, elements from V-obs. 4-17560
 KM Hydrae, Am star, uvby photometry 4-27083
 x^2 Hydrae, B-type eclipsing binary, Lick radial vels. and orbital elements 4-22436
 EX Hydrae, eclipsing cataclysmic binary, B and V photoelectric sequences 4-17528
 RY Indi, lightcurve anal. 4-31868
 interacting binary stars, nature and observational problems 4-47651
 SW Lacertae, displaces secondary eclipse, BV photometry 4-47648
 A.W. Lacertae, early-type contact binary, photoelectric photometry 4-17547
 RT Lacertae, periodic light curve of RS Canum Venaticorum star 4-47650
 AR Lacertae, RS CVn star, obs. of flare-like activity from UVB photometry 4-31864
 AR Lacertae, RS CVn star, orbital period var. and BV photometry 4-13354
 XY Leonis, W UMa star, BV photometry rel. to cause of W-subclass light curves 4-8521
 light synthesis program for binary stars, new package 4-53054
 FT Lupi, short-period eclipsing binary, orbital period and light curve from photoelectric UVB photometry 4-13365
 β Lyrae, He I emission line obs. rel. to stellar wind(s) model 4-36719
 V505 Monocerotis, massive eclipsing binary star, spectral types, radii and evolutionary states 4-4033
 BX Monocerotis, symbiotic star, evidence for eclipse from emission line spectrum vars. 4-58442
 RU Monocerotis, vars. in apsidal motion and orbital period 4-8529
 NGC 2346, planetary nebula, central star, photometric obs. (January to May 1983) 4-42447
 UZ Octantis, W UMa star, differential corrections anal. of UVB photometry 4-42490
 V2051 Ophiuchi, eclipsing Gem star B and V photoelectric sequences 4-17528
 V508 Ophiuchi, W UMa star, BV obs. 4-27117
 V566 Ophiuchi, W UMa star, photoelectric times of minima (July 1981) 4-42497
 V2051 Ophiuchi, white dwarf eclipsing cataclysmic variable, spectra and UVB photometry 4-8495
 ER Orionis, W UMa star in multiple system, light-time effect and masses 4-17550
 AR Pavoris, IUE obs. of 1982 UV eclipse of symbiotic binary 4-17514
 DM Persei, Algol-type binary, photometric obs. and light curve anal. 4-13362
 339 Persei, light curve, orbital period and ephemeris 4-47646
 LX Persei, RS CVn star, light var. between eclipses 4-13355
 β Persei (=Algol), eclipse polarisation discovery and orbit orientations 4-4037
 β Persei (Algol), anal. of IR photometry 4-53212
 β Persei (Algol), high rot. vel. of region around primary star 4-27121
 PG 1012-029, eclipsing cataclysmic binary, components masses, orbit, evolutionary status 4-47617
 PG 7- in Cygnus, elements and light curve of W UMa-type system 4-58472
 photoelectric times of min. light, obs. by computer-controlled telescope 4-27128
 photometric perturbations in close binaries due to tidal distortion 4-36707
 VZ Piscium, EW-variable, photoelectric obs., time of minimum, and light curve 4-58470
 UV Piscium, light curve distortion wave of RS CVn binary 4-36709
 UV Piscium, short period RS CVn type binary, UVB photometry and period study 4-4046
 PV Puppis, A-type eclipsing binary, four-colour photometry and light curves 4-13364
 PV Puppis, AM Her star, B and V photoelectric sequences 4-17528
 VV Puppis, characts. from visible spectra and photometry obs. 4-53214
 V Puppis, early-type semidetached system, absolute dims. 4-22424
 V1343 Quilae (SS 433), optical broad band photometric characts. and models 4-42474
 RZ Comae, period change and new ephemeris for eclipsing contact binary star 4-53223
 SAO 072799, probable eclipsing binary, UVB photometry, times of minima, and light curve 4-22426
 SAO 072799 (HD 216429), revised photometric results, light curves, and ephemerides 4-42499
 V884 Scorpii (=HD 153919=4U 1700-37), Of binary, photometry and orbit 4-36708
 V861 Scorpii (HD 152667), C II abundance and wind struct., UV spectra anal. 4-36716
 VZ Sculptoris, VY Scl star, luminosity, mass transfer and accretion disc nature 4-42476
 SMC X-1, eclipsing X-ray binary, light curve anal. 4-13372
 statistics of light curve shapes, orbital periods and spectral types, implications for struct. and evolution 4-13363
 synchronisation of rotation and revolution 4-42496
 λ Tauri, angular momentum loss in Algol binary/triple system 4-13352
 V781 Tauri, W UMa star, photometric obs. and improved ephemeris 4-22429
 X Trianguli, obs. of flare-like phenomenon 4-31863
 TX Ursae Majoris, photometric study 4-53208
 UX Ursae Majoris, time-resolved spectrophotometry of nova-like variable 4-27088
 W Ursae Majoris stars, origin, role of Case B mass transfer and orbital evolution 4-42493
 W Ursae Majoris stars, violet and UV continua from uvby obs. 4-8524
 V 1073 Cygni, period change and new ephemeris for eclipsing contact binary star 4-53223
 V 2051 Ophiuchi, cataclysmic binary, nature of outbursts 4-58439
 IQ Velorum, times of minima and improved light-curve parameters 4-4042
 BH Virginis, lightcurve anal. 4-31868
 X-ray and cataclysmic binaries, tidal distortion of secondary rel. to phases of eclipses 4-47656

ecology

- aquatic pollution, book 4-42639
 Chesapeake Bay, ecological effects of annual anoxia 4-47301

ecology continued

- conference, energy and the environment, Zurich-Derlikon, Switzerland, (May, 1983) (*German*) 4-18
 conference on ecological indicators for pollution assessment, at Utrecht, Netherlands (October 1982) 4-36772
 ecosystem energetics (book) 4-8665
 ecosystem hydrodynamics and water at Earth surface 4-4176
 energy production as a problem of space planning (*German*) 4-3496
 environment politics, conflicting objectives with energy requirements (*German*) 4-3491
 environmental conservation, electricity demand, soln. of conflicting aims (*German*) 4-3497
 environmental protection role in industrial policy of electricity supply company (*German*) 4-3499
 global deforestation, contrib. to atmospheric CO₂ 4-31125
 government duty to protect the environment, energy conflicts (*German*) 4-3489
 heat pollution from energy production (*German*) 4-3492
 hydroelectric power generation and the environment 4-36042
 Ispra, ecological aspects of reactor site (*Italian*) 4-13010
 model identification using parameter and partitioning estimation 4-57817
 natural ecosystem exploitation for energy, economic vs. ecological considerations 4-21594
 nuclear power station, pollutant emission in normal and accident conditions (*German*) 4-3494
 size optimisation in power stations, economical, ecological, political, social aspects (*German*) 4-3498
 Swiss energy policy, environment and energy consumption relationships (*German*) 4-3490
 thermal power stations, cooling possibilities (*German*) 4-3493
 waste management of conventional and nuclear thermal power plants (*German*) 4-3495
econometrics see *economic cybernetics*
economic and sociologic effects
 see also *personnel*
 Bangladesh, role of physics in socio-economic development 4-27278
 Belleville nuclear power plant construction social and economic impact (*French*) 4-12498
 energy 2000-2020: world equilibrium and regional tensions (*French*) 4-46851
 Indonesia energy resources and influence on world markets 4-16730
 LMFBL, technical feasibility, safety 4-18771
 natural ecosystem exploitation for energy, economic vs. ecological considerations 4-21594
 nuclear arms race, physics and technology, conf., Baltimore, MD, USA (Apr. 1983) 4-8630
 nuclear arms race, physics and technology 4-8704
 nuclear power economics, comparison with coal 4-17674
 nuclear war, effects 4-8703
 physics, role of economics and social welfare, energy system 4-27279
 physics and development 4-27280
 risk aversion in energy production and conservation 4-17673
 role of physics in development, conf., Dhaka, Bangladesh, (Jan. 1982) 4-27244
 seismic risk for commercial buildings in Memphis, Tennessee, USA 4-12782
 solar energy research in India 4-27281
 solar power technology in India 4-41318
 synthetic fuel development: potential socioeconomic impacts of single and multiple projects, United States 4-16728
 tsunami warnings and social responses, Japanese study (*Japanese*) 4-12790
economic cybernetics
 European economic development and energy consumption, Explor model data bank restructuring 4-26264
economics
 4-54418
 Asclepias speciosa, possibilities for conversion to fuel and chemicals 4-52181
 biogas production, by anaerobic digestion of waste 4-52182
 cattle dung energy and economic returns as manure and fuel 4-41309
 coal liquefaction, the Australian scene, replacement liquid fuels 4-35976
 concentrating photovoltaic systems, various types, economics 4-7884
 Danish villages alternative future energy supplies, pilot project 4-57752
 design consideration and economic analysis of a community size biogas unit 4-57738
 direct-illumination-drive inertial fusion reactors, design considerations 4-14184
 economic viability of biogas technology 4-57740
 electric power generation from fusion reactors, DT fusion and Tokamak device methods 4-54417
 electrical energy from the wind 4-52087
 energy resources comparative economic development factors (*French*) 4-31058
 energy technology R&D, pursuing methods in Japan (*Japanese*) 4-3445
 engineered maintenance concept for cost reduction and unit performance improvement 4-23281
 ethanol versus petroleum, energy and economic anal. for New Zealand 4-35977
 European energy supply, 12D model structure and results 4-21516
 European energy system, candidate technologies for relief 4-21517
 fibre optic angular rotation sensor market forecast 4-44219
 fission reactors, safety props., design specification and cost reduction (*German*) 4-9258
 fossil energy and its alternatives—a problem which goes beyond costs and prices (*French*) 4-31057
 French energy planning economics (*French*) 4-31059
 fusion breeder/fission client and fission breeder/fission client systems comparison for elec. energy prod. 4-9306
 fusion reactor power generation, fission reactor comparison for investments, construction and maintenance 4-54419
 geopressed gas resources in US Gulf Coast Region, net energy anal. 4-41308
 geothermal district heating, pilot scheme in Southampton, technical and economic analysis 4-57655
 geothermal energy technology economic evaluation models 4-21525
 geothermal power, drilling cost estimation, financial model for UK and EEC wells 4-57653
 geothermal power stations, directly cooled systems, economic temperature differential analysis 4-57656

economics continued

- geothermic energy, cost anal. (*French*) 4-52090
 H_2 potential as energy vector, future supply and demand uncertainties anal. 4-3481
 heat pump systems for residential/commercial space and water heating 4-7891
 heat pumps, economical application, preparation and implementation (*German*) 4-57749
 heat pumps, vapour compression type, economic comparison of fixed speed, two speed and variable speed pump 4-52186
 high level nuclear waste management system, economics methodology 4-23257
 hybrid systems for drying tobacco, cost analysis 4-52108
 Indian medical electronics industry, economic forecast, demand trends and growth 4-8132
 irrigation pumping using wind energy on Hawaiian sugar plantations 4-57643
 large energy-economics models, sensitivity theory appl. 4-31055
 laser fusion, USA developments, 1987 deadline for funding 4-43643
 liquid fuel, H-coal and coal-to-methanol liquefaction, technical and economic analysis 4-41312
 low enthalpy geothermal district heating, economic analysis for northern France and UK 4-57654
 low level radwaste, packaging, transportation and disposal costs, sensitivity studies 4-23238
 low-level radioactive waste disposal facilities, economics 4-18574
 low-level waste disposal costs sensitivity to vol. reduction scenarios 4-18577
 LWR low-level radwaste vol. reduction installations for disposal planning, capital and operating costs 4-18576
 metal/plastic-compound electrodes for alkaline batteries 4-7857
 modular HTGR for industrial energy, design and economic eval. 4-23146
 necessary use of all available energy sources (*French*) 4-31056
 nuclear waste disposal in space between Venus and Earth, economics 4-27963
 occupational radiation exposure reduction in nuclear power plants, cost effectiveness of ALARA principle 4-33177
 optical design, analysis and production economics 4-49479
 optical scanners in production, reduced cost 4-24125
 photovoltaic application in Greece and market development on a short and long term basis 4-57686
 photovoltaic power systems, appls. and economics 4-21526
 photovoltaic water pumping system in Egypt 4-57682
 photovoltaics prospects assessment for Europe 4-21549
 pollution abatement expenditures allocation and distribution effects on US economy 4-26330
 polygon mirror scanners, multifaceted, fabrication technology rel. to cost reduction 4-24126
 prospects for cost reductions in photovoltaic modules 4-52169
 Puerto Rico wind energy resource assessment project 4-57642
 PWR auxiliary feedwater system, design anal., value impact methodology appl. 4-54363
 radioactive waste disposal economics, life cycle cost model 4-28021
 radioactive waste volume reduction and packaging options, operating cost estimate 4-18642
 radwaste, advanced volume reduction technologies, economic impact of regional waste disposal 4-18643
 radwaste disposal regulations impact on vol. reduction economics 4-18578
 radwaste vol. reduction system retrofit, economic incentives to combine on-site storage 4-18575
 radwaste volume reduction systems, computer economic modelling 4-23232
 reactor spent fuel storage economics 4-54296
 refuse incineration, environmental and energy aspects (*Italian*) 4-41304
 role of physics in economic growth 4-27277
 shredder/compactor for reducing dry radwaste volumes at nuclear power stations 4-18641
 small multi-source power systems using solar or wind energy 4-52112
 socio-economics of solar energy 4-7829
 solar cells as cost-competitive energy sources, photovoltaics progress 4-12472
 solar central receiver tower systems, characts. (*French*) 4-7905
 solar chimney power plants, pilot plant principles and construction 4-21568
 solar domestic hot water preparation economics 4-12461
 solar electricity generation economics 4-7887
 Solar energy '82, conf. Igls, Austria (July-Aug. 1982) 4-4152
 solar energy installations, technoeconomic criteria for choosing optimum variant (*Rumanian*) 4-12448
 solar energy process heat generation, life cycle costing methodology 4-41370
 solar hot water systems, straight through and recirculation-types, comparative economic anal. 4-41369
 solar ponds, potential applications, methods of improving performance 4-57772
 solar power in Greece, utilisation through photovoltaic energy systems 4-57688
 solar systems economic evaluation and optimisation for space/domestic heating 4-21572
 solar thermal technology development forecasting using concepts of learning and experience 4-26278
 solar-powered groundwater pumping: present and future prospects 4-35983
 solar/wind hybrid system for residential heat and electrical supply 4-52205
 transuranic waste impact on disposal, incentives for vol. reduction 4-18584
 utility radwaste operations, 10 CFR 61 impact, waste classification, packaging, labelling, costs 4-23237
 viable stand-alone photovoltaic systems applied to the Greek environment 4-57728
 water heating by solar flat collector systems (*Croatian*) 4-12458
 water hyacinth for methanol production (*French*) 4-52179
 water/water heat pump, space heating appl. (*German*) 4-16792
 wind energy conversion, future prospects 4-26266
 wind turbine economic assessment in electricity supply system 4-57647
 world review of wind energy developments 4-57645
 H_2 , electrolytically produced, economics and potential in Canada 4-36036

economics continued

- H_2 production, electrolytic and thermochemical, using central receiver solar systems, assessment 4-41386
 H_2 production from fossil fuels, economic feasibility of advanced technology 4-3486
 H_2 /diesel/ H_2 fuel cell powered, techno-economic comparison 4-36038
 H_2 -fuel cells for electric cars, H_2 being produced by electrolysis in nuclear power plants, economics 4-3487
 O_3 production in cold plasma reactor, solid dielectric influence 4-19991
 P_2O_5 fuel cells, utilising co-product hydrogen, DC power applications economics 4-36003
 Pu recycling in LWRs, economic aspects 4-33046
 SO_2 reduction in flue gases of thermal power stations, cost evaluation 4-16806
 Si amorphous photovoltaic modules; manufacture rel. to prod. cost components 4-16778
 Si solar cell active layers, cost estimates for amorphous deposition processes 4-21149
 T assisted D-D based fusion breeders 4-9509
 U, fuel, for European nuclear power stations, economics and security of supply (*French*) 4-41322
 U $_2$ transportation in France, safety measures, cost effectiveness 4-33210
 U(IV) in Purex, testing and economical evaluation of Pu reductant 4-28025
- eddy current losses**
 DC motor cryostat excitation winding eddy currents an heat production calculation (*Russian*) 4-48139
 skin effect in cylindrical segments placed in a harmonical transverse magnetic field 4-28597
 steel, electrical sheets, anomalous eddy current losses 4-16058
 steel sheet, with arbitrary number of domains, eddy-current losses in arched bend (*Polish*) 4-25585
 Fe-B-Si-Cr-C amorphous ribbons, high freq. mag. props., Cr and C addition effects 4-56688
 $Fe_{67}Co_{18}B_{15}$ metallic glass, mag. props., tensile stress effect (*French*) 4-35202
 Nb $_3$ Sn superconductors, temp. depend. AC losses, 4.2-1.8K 4-45949
 NbTi superconductors, temp. depend. AC losses, 4.2-1.8K 4-45949
 SiFe, domain wall eddy-current limited ruckling initiated at maximum shear stress points on bracket wall 4-51090
- eddy current testing** see eddy currents; nondestructive testing
- eddy currents**
 see also induction heating
 band lines, mag. field establishment time, eddy current effects 4-44017
 boundary integral equation approach for eddy current calcs. 4-54916
 circular cylinder in rotating alternating plane-parallel electromagnetic field 4-46710
 coating thickness measurement, comparison of methods 4-22759
 computer program for eddy current calc. and struct. loading 4-54918
 conducting half space, flawed, eddy current coil impedance 4-21403
 cylindrical cond. bars using Fourier transforms 4-54926
 defect characterisation of multifreq. eddy current system 4-46725
 defect detection, cross correlation analysis (*German*) 4-51922
 defect signal separation using eddy current inspection unit 4-46711
 diffusion, transmission line model method, consistency and accuracy 4-4352
 EM field computation, COMPUMAG, conf., Genoa, Italy (May-June 1983) 4-47744
 EM fields, three-dimensional finite element computation, boundary Galerkin method 4-49229
 ferromagnetic components, EM nondestructive inspection, oscills. of harmonics of induced EMF 4-16593
 ferromagnetic components, EM nondestructive inspection, oscills. of harmonics of induced EMF 4-16594
 flaw detection, eddy current meas. system, anal. and design 4-26160
 flaw reconstruction and eddy current data inversion, development of system 4-46726
 flow detection, eddy current probe design and matched filtering 4-26159
 forces and torques, numerical soln. in 2-D magnetostatic and stationary eddy current problems 4-54900
 halfpenny cracks, elec. current perturbation calcs. 4-35834
 imaging method for defect characterisation 4-46724
 IN600, steam generator tubing, eddy current probe detection of defects, temp. effects 4-16584
 inversion of eddy current signals in nonuniform probe field 4-46723
 linear eddy current problems in thin plates, integro-differential approach 4-54907
 low frequency eddy current solns., finite-element methods 4-54914
 metal cylinder, conducting bar of infinite length, electrodynamic forces, generation by s/c current 4-28596
 metals, electromagnetic fields around surface cracks, math. anal. 4-35835
 metals, fatigue damage development exam. by eddy current method 4-3359
 multilayer induction problems with rot. symm., boundary element anal. 4-54906
 NDE, conf., San Diego CA, USA (Aug. 1982) 4-22525
 NDT, computing EM fields 4-46731
 NDT, eddy current determ. using Fredholm integral equation soln. (*German*) 4-3346
 NDT, eddy current probe design using finite element analysis 4-16583
 NDT, EM structures theory 4-46707
 NDT appl., EM techniques survey and developments 4-26132
 NDT limitations 4-35798
 NMR imaging, whole body, appl. to study of eddy currents in human tissues 4-36209
 nonlinear magnetic analysis, enhancements to PE2D package 4-54919
 parametric approach to eddy current NDT signal processing 4-3314
 probe design 4-26158
 probes with ferrite cores, model 4-35830
 pulsed eddy current probes, optimisation 4-35829
 PWR fuel rod absolute pressure measurements in a thermal transient environment 4-14124
 quasi-stationary field problem: soln. by means of mag. scalar pot. 4-54911
 remote field eddy current inspection technique 4-51918
 semiconductor, thermoelectric power meas., accuracy, thermoelec. eddy current effects 4-50854
 sensor for liquid Na flow meas. 4-15047
 shell, nonuniform loading with ponderomotive forces 4-5539

eddy currents continued

- single-turn coil, impedance change due to flaw in coaxial conducting cylinder 4-35833
- steady state harmonic current computation in flat plates, efficient numerical procedure 4-54908
- steady-state eddy current calcs. in plane and axisymm. multiconductor systems 4-54905
- steel, austenitic, components, corrosion defect detection by pulsed eddy currents (*German*) 4-30873
- steel, JBK-75 alloy, sheath for internally cooled supercond., nondestructive testing 4-9469
- steel, low-alloy, applied and residual stresses, eddy current characterisation 4-35836
- steel, structural, applied and residual stresses, eddy current characterisation 4-35836
- steel rods, eddy current inspection, local mag. props., end effect 4-46713
- tape-head probes, for crack detection at holes 4-35831
- three-dimensional, network method 4-49228
- three-dimensional eddy current model 4-53498
- three-dimensional eddy currents, optimal method 4-54915
- three-dimensional eddy-current distrib., finite difference soln. 4-54904
- three-dimensional eddy-current problem soln. using H as state variable, TRIFOU code 4-54917
- three-dimensional formulation using mag. vector pot. and total mag. scalar pot. 4-49226
- Tokamak, Tore Supra, eddy current calcs. 4-55586
- Tokamak vacuum vessel eddy current computation 4-55649
- transducer with conical core, localization parameters 4-46708
- transient, three-dimensional problem, integro-differential formulation (*Russian*) 4-33588
- two-dimensional eddy current problem calc. using boundary element method 4-54912
- ultrasonic electromagnetic testing device, using eddy current/magnetic field interaction (*Japanese*) 4-26139
- vertical magnetic field diffusion study in toroidal stabilising shell and plasma of ZT-40M reversed field pinch device 4-55587
- welding, kinetic bonding, eddy current nondestructive testing 4-57498
- Fe-Si (3 wt.%), domain struct. during magnetisation switching (*Russian*) 4-6999
- Ti complex geometry parts, fatigue crack detection, elec. current perturbation method appl. 4-35832
- Ti, eddy current inspection of gas saturated surface layer 4-46709

edge-defined film fed growth *see crystal growth from melt***edge dislocations**

- alkali halide single crystals, plastic flow stress, press. depend. 4-45253
- anisotropic solid, edge dislocation nonuniform motion 4-45135
- dipole annihilation by glide mechanism 4-39306
- elastostatic interaction of multiple arbitrarily shaped cracks in plane inhomogeneous regions 4-29019
- energy barriers to point defect migration in dislocation cores (*Russian*) 4-6393
- fibre reinforced composites, flat inclusion, partially debonded surface, crack initiation 4-34568
- HCP cryst., dislocations elastic interaction with {100} monoclinic point defects 4-34533
- heavily decorated, contrast in optical birefringence micrographs 4-55836
- ice, electric currents associated with dislocation motion 4-29443
- inclusion-dislocation interactions, at elevated temps. 4-20190
- interaction with semicircular cut on straight boundary 4-39293
- Lennard-Jones amorphous solid, dislocationlike motion, computer simulation 4-2080
- local density of states in dislocation and impurity cages 4-45688
- metals, plastic deform. by shock loading, microwave excitation 4-6431
- nematic layered structures, elliptical shear instability, dislocation motion 4-15378
- nematic layers, edge dislocations in roll hydrodynamic instability, static limit 4-15377
- p-n-nonyloxybenzoic acid nematic films, smectic C layer undulations and smectic C edge dislocations 4-10972
- pinning by impurity cloud (*Russian*) 4-6394
- point defect absorption by edge dislocation under irradiation 4-34485
- radiation annealing, radiation creep (*Russian*) 4-50285
- semiconductor, photogalvanic effect in crystal with dislocations 4-6827
- smectic liq. crystal, layered structures, dislocation motion 4-15378
- solid solution, BCC, activation vol. for plastic flow, conc. and stress depend., kink pair model 4-11216
- solute drag by dislocations, differential eqn., asymptotic solns. 4-34491
- solute drag on moving edge dislocations in low vel. limit 4-39607
- Ag-Al alloys, solid-soln. hardening, stress-equivalence 4-30710
- Ag-Zn alloys, solid-soln. hardening, stress-equivalence 4-30710
- Al₂O₃, electron irradi. damage in cation sublattice, HVEM and optical meas. 4-20255
- CdS, strain induced effects of dislocations, excitonic shift, photovoltaic effect 4-15911
- CdTe, defect study by SEM/EBIC 4-15480
- CdTe-Au Schottky diode, defect study by SEM/EBIC 4-15480
- GaAs, electron irradiated, mech. of dislocation climb, electron microscopy study 4-20198
- Ge:P, transient elec. props. of low angle tilt boundaries 4-15847
- Hg_{1-x}Cd_xTe heterojunctions, misfit dislocations, dangling bond densities, epitaxial growth theory 4-39706
- InP:Sn(Si)(Zn) crystal, liq. encapsulation Czochralski grown, defect struct., synchrotron X-ray topography 4-45137
- InSb, plastically deformed, galvanomagnetic props. 4-15891
- KCl, bent, dislocation photocond. and deform. mechanism 4-15917
- KCl:Ca²⁺, dislocation charges, effects of impurities 4-55835
- KCl:Ca²⁺, edge dislocation charges, 82 to 294K 4-15487
- KCl:CaCl₂, dislocation charge meas. 4-55834
- LiF, deformed in contact with external medium, dislocation distrib. in surface layers 4-11149
- LiF, edge components of dislocations, sign of deformation effects 4-24819
- NaCl crystal, stress relax., current carried by dislocations (*Japanese*) 4-20669
- Nb-Mo solid soln., activation vol. for plastic flow, conc. and stress depend., kink pair model 4-11216
- Ni, electron irradi. induced creep 4-46575
- Ni₂Si₂B₁₇ metallic glass ribbons, plastic deform., slip bands, mech. tests, SEM obs. 4-16455

edge dislocations continued

- Si, orientation of straight edge dislocation, impurity atmosphere form. effect 4-2203
 - Si, photothermostimulated exoelectron emission, effect of edge dislocations and point defects 4-25856
 - Si, plastically deformed, lattice nuclei optical polarisation, NMR study 4-2832
 - Si, struct. defects effect on etching rate 4-57364
 - TiO₂, resolution of atomic steps on dislocations 4-55833
 - Zn, slip, nonbasal, anomalous temp. depend. 4-15489
- education**
- see also computer science education; educational aids; educational courses; teaching; training*
 - acoustics education in Japan, current status (*Japanese*) 4-39
 - Bangladesh, role of physics in socio-economic development 4-27278
 - biomedical engineering at the University of Technology Twente, Enschede, The Netherlands, review 4-17005
 - biomedical engineering for Japanese engineering students 4-13495
 - cognitive development, acculturation effects 4-13498
 - computing teaching in undergraduate physics course 4-47822
 - disc rotation dynamics on shaft, accel. vel. and movement in inertia, bicycle appl. (*Italian*) 4-42649
 - economic growth, role of physics 4-27277
 - electric power engineering in solar energy use, pedagogical activity at Slovak university (*Czech*) 4-4178
 - interactive simulation in engineering courses using DARE P and VAX 4-14036
 - Newton's third law, rule governed approach to physics 4-47815
 - operator training through cooperative education 4-14236
 - physics, role of economics and social welfare, energy system 4-27279
 - physics and development 4-27280
 - physics as an educational challenge (*Norwegian*) 4-38
 - physics education in China 4-8670
 - potential barriers in wave mechanics, teaching, importance of diagram accuracy 4-47816
 - PWR power plant simulation on a microcomputer 4-14035
 - role of physics in development, conf., Dhaka, Bangladesh, (Jan. 1982) 4-27244
 - science curriculum development, school-based 4-13502
 - science education, understanding, experience, language and knowledge 4-13496
 - staff education/training, for instrumentation and measurement field, in developing countries 4-47817
 - thermal imaging demonstration, Count Rumford's expt. 4-47821
 - thermodynamics, a practical subject 4-47813
 - thin lens combinations, image formation calc. method 4-47814
- educational aids**
- see also student laboratory apparatus*
 - audio and video signal recording and reprod. method improvement of instructional use 4-47820
 - crack-defect demonstrator, paper devices for classroom demonstration 4-8697
 - microprocessors, construction of central processing unit 4-32004
 - nuclear arms race, films 4-8708
 - videodisc technology appl. in education and training 4-8698
- educational computing**
- see also computer-aided instruction*
 - BBC microcomputer, TCR meas. 4-36875
 - laboratory instruments interfacing with microcomputers 4-53433
 - standard CP/M-86 hardware system in lab. 4-53663
- educational courses**
- film and video: options for production 4-22541
 - instrumentation engineer degree course development experience 4-47818
 - microscopy course for young people, Kohler illumination as a central theme 4-47812
 - optics course for nonscience students using take-home apparatus 4-53392
- e.e.g.** *see electroencephalography*
- EELS** *see electron energy loss spectra*
- effective mass (band structure)**
- alkali halide cryst., delocalised positronium effective mass 4-11492
 - antiferromagnetic semiconductor, low temp. carriers 4-2574
 - CdTe thin films, size quantisation, fine struct. due to exciton transitions in transmission spectra 4-30540
 - core excitons in electronic polaron model 4-56221
 - diamagnetism, free-electron reactive induction props. 4-56530
 - direct-gap, radiative decay of bound exciton, correlation effect 4-20571
 - ferromagnets, HF eqn. with screening potential, effective mass discontinuity at Curie temp. 4-6974
 - Frohlich polaron, effective mass 4-56244
 - graphite intercalation compounds, intralayer screening, self-consistent effective-mass theory 4-45587
 - graphite-SbCl₅, C₃₆SbCl₅ and C₆₀SbCl₅, cyclotron resonance studies 4-39758
 - III-V semiconductors, effective masses of carriers, temp. depend. 4-25204
 - n-InP epitaxial, far IR photocond. from shallow donors 4-39954
 - interface, impurity states, effective mass approx. 4-56405
 - ionic crystal, bipolaron states, anisotropic effective mass 4-34888
 - magnetic dilute alloys, longitudinal static dielectric const. (*Russian*) 4-25673
 - many-valley semiconductors, spherically averaged effective mass 4-45586
 - metals, electron lifetime and elec. resist. at room temp., systematic trends 4-56322
 - metals, mag., low density electron gas props., collective excitations, quasiparticles 4-25508
 - metals, normal, tunneling from normal cylindrical conductor in weak magnetic field 4-30054
 - polaron energy and effective mass in thin slab 4-11456
 - polareons, Feynman theory, path integral variational method translation to Hamiltonian formalism 4-2525
 - polareons, free energy and effective mass, second-order cumulant expansion, at finite temps. 4-15829
 - semiconductor, ternary chalcopyrite lattice, anisotropic electron scatt. by acoustic phonons 4-34965
 - semiconductor narrow superlattice, shallow impurity states 4-30038
 - semiconductor surface layer parameter effects on Josephson junction props. 4-30122
 - semiconductors, degenerate, differential eqns. for excitons 4-45643
 - semiconductors, density of electron states, Fourier series calc. 4-20532
 - semiconductors, exciton-exciton inelastic collision processes 4-50731
 - semiconductors, narrow gap, band mixing calcs. 4-50717

effective mass (band structure) continued

- semiconductors, two-dimensional mag. polaron theory 4-50742
- Cd, effective masses, de Haas-van Alphen effect study 4-34866
- CdS, polariton wave-packet, group vel. and dispersion relation 4-11454
- p-CdSb, Shubnikov-de Haas effect and cyclotron reson. meas. 4-39775
- Cs, spin susceptibility and conduction electron dynamical props. 4-15810
- Cu₂-sSe, electronic and lattice thermal cond. meas. 4-6570
- GaAs, band struct., Auger recombination 4-39772
- GaAs n-p superlattice, electron and hole subband energies, self-consistent calcs. 4-6870
- GaAs, polarons, cyclotron resonance study under hot electron conditions 4-6717
- Ge, effective masses for impurity states 4-45670
- Ge, laser-generated plasmas, picosecond time-resolved reflectivity and transmission 4-39333
- Ge/Ga, deform. potential consts., intensity parameters, optically induced transitions 4-25285
- n-Ge/Sb, negative magnetoresistance theory 4-25380
- GeSe, anisotropic elec. props. 4-39911
- (GeTe)_{1-x}(AgSbTe₂)_x, density of states effective mass, Kane model anal. 4-2503
- p-Hg_{0.9}Cd_{0.09}Te, semimetal-semicond. transition under press., Shubnikov-de Haas effect study 4-34879
- n-Hg_{0.96}Cd_{0.04}Te, Shubnikov-de Haas effect under pressure 4-29871
- InBi₃, Fermi surface, de Haas-van Alphen meas. 4-11431
- InGaAsP, absorpt. coeff., band struct., IR spectra 4-35403
- InP, band struct., Auger recombination 4-39772
- InP, nonequilibrium electron system, cond. electrons and donors, far IR magnetoabsorpt. study 4-16099
- InSb, free carrier Faraday rotation investig. using tunable CW CO₂ laser (Chinese) 4-20948
- α -MnSe:1, elec. resist., Hall effect and thermoelec. power 4-39908
- Na₂WO₃ bronze, electronic struct., UPS and EELS studies 4-11433
- NbSe₃, polarised reflectance spectra and band struct. 4-40477
- P, black, far IR cyclotron reson. absorpt. meas. 4-7067
- PbSe, energy band struct, meas. 4-56190
- p-PbTe/Tl epitaxial films, refl. and transmittance meas. 1 to 15 μ m 4-40547
- Si, crystal defect classification by g-values 4-11139
- Si, effective masses for impurity states 4-45670
- Si, intervalley effective mass eqn. and deep chalcogen donors 4-39824
- Si, laser-generated plasmas, picosecond time-resolved reflectivity and transmission 4-39333
- Si, optical effective mass of high density carriers, pseudopot. calc. 4-50705
- Si:C, acceptor ground state problems 4-15852
- TiN, de Haas-van Alphen effect and Fermi surface 4-34861
- U₃As₄, Fermi surface, de Haas-van Alphen meas. 4-6693
- U₃P₄, Fermi surface, de Haas-van Alphen meas. 4-6693

effusion

No entries

EFG *see crystal growth from melt*EHD *see electrohydrodynamics***EHT calculations**

- chemisorption on metal surfaces, EHT and empirical force field calcs. 4-43813
- 1,1-diphosphaferrrocene, electronic struct., reactivity, EHT and X α calcs., UPS 4-48944
- lactate dehydrogenase, pyruvate substrate behaviour in active centre, semiempirical MO study 4-14329
- metal bis(dioximates), elec. cond. of partially oxidised stacks, symmetry constraints, band struct. calcs. 4-56217
- periodic mols. electronic states, expanded Huckel calc. 4-54610
- polyacetylenes, cis and trans, ¹³C NMR chem. shift and electronic struct., tight binding MO theory 4-23847
- polyethylene, ¹³C NMR chem. shift and electronic struct., tight binding MO theory 4-23847
- selenophenes, 2-substituted, electronic and vibr. struct. studies, by PES, comparison with thiophene 4-49093
- transition metal complexes, rel. shifts of ligand and metal orbitals 4-28379
- transition metal surfaces, chemisorb. atomic monolayers, orbital population and polarisation effects 4-15769
- Cr₃Si, electronic struct. study 4-25219
- Fe complexes, Fe(I) and Fe(II), η^5 -C₅H₅Fe₃/ η^6 -C₆(Me)₆ electron reservoir sandwiches, Mossbauer studies and IEHT MO calcs. 4-16127
- GaAs_{1-x}P_x (110) surface, electronic and atomic struct. calcs. 4-6851
- 1+1, spin-orbit excitation, relativistic parameterised extended Huckel calcs. 4-33326
- I₃⁻, correl. between NQR freq. and bond length, EHT calcs. 4-28467
- Ir(CO)₃Cl chains, band struct., geometry and partial oxidation 4-20536
- O₂⁻ adsorbed on Ti ions on oxide supports, MO calcs. 4-2432
- Sn compounds, isomer shift, mol. orbital calcs. appl. 4-14333

eigenfunctions - see eigenvalues and eigenfunctions**eigenvalues and eigenfunctions**

- ϵ Lie algebra, Casimir elements 4-9041
- accurate eigenvalues and oscillator strengths for the exponential-cosine screened Coulomb potential 4-11426
- angular momentum eigenfunctions, manifest rot. symmetric expressions 4-22632
- anharmonic oscillator, eigenvalues by series soln. method 4-27329
- anharmonic oscillators, analytical expressions for eigenvalues 4-22620
- anharmonic oscillators, vibr. spectroscopy, isotopic substitution as symmetry operation 4-38251
- anharmonic oscillators and double wells, closed-form global approximants for eigenvalues 4-47923
- antisoliton-soliton systems, fractional charge fluctuations, fractional eigenvalues 4-9010
- arbitrary shaped container containing liq., liq. natural freq. and mode determ. 4-10535
- atomic radiative transitions, Hartree-Fock and random phase approximations 4-43835
- atoms, 1/Z perturbation theory, first-order pair functions, in 1-separated Hylleraas basis set 4-18891
- ballooning mode spectrum in general toroidal systems 4-6059
- ballooning modes in quadrupole tandem mirrors 4-6060
- band-matrix Hamiltonians for Schrodinger eigenvalue problem, doubly anharmonic oscillators 4-8772
- baryon mass spectrum from Born reciprocity principle, Regge trajectories from internal SU(3) symm. 4-23000

eigenvalues and eigenfunctions continued

- beams, nonlinear vibrs., Ritz finite element approach 4-44450
- Bennett equilib., Vlasov stability 4-15215
- bivariational SCF method as zeroth order dilated electron propagator, eigenvalues 4-23588
- Borel summability of unequal double well 4-32065
- bound-state eigenvalues, calc. method 4-9670
- Brownian motion, eigenvalues' rel. to transition rates in inclined cosine pot. 4-175
- Casimir invariants, Adler-Bell-Jackiw anomalies, representation theory 4-53893
- characteristic modes and fundamental singularities of partial differential equations 4-4231
- charged spinless particle in presence of long-range mag. flux, ang. momentum spectra 4-13540
- charged vector particle in external EM field 4-53917
- circular orbitals and Wannier functions 4-29859
- classical reson. zones, wave functions, nodal breakup 4-32071
- complex elastic vibrating systems, generalised Dunkerley-Graeffe procedure 4-33983
- composite straight fin, transient response 4-33910
- compressible two-dimensional vortex stability under three-dimensional perturbation 4-49827
- coupled oscillators, eigenvalues for Schrodinger eqn. 4-36920
- critical multiple well problem, 1/r expans. 4-114
- D(k,0) killing spinors 4-36973
- diatomic mols., development of accurate numerical Dirac-Fock-Slater program 4-9674
- diatomic mols., vibr. eigenfunctions for oscillator model, approx. method 4-1146
- diatomic rotation-vibration partition functions evaluated using semiclassical phase integrals 4-14378
- Dirac eqn., even power potential soln., eigenenergies and Regge trajectories, heavy quark composite spectroscopy 4-4531
- discrete quasiperiodic Schrodinger eqn., renormalisation group anal. 4-42759
- disordered systems, eigenstates, fractal character 4-45701
- Einstein-Maxwell eqns., null orbit type D electrovac solns., with cosmological const. 4-4284
- elastic continua nonconservative stability problems, appl. of integral eqn. method for non-self-adjoint eigenvalue problems 4-33967
- electromagnetic dyadic Green's function, eigenfunction expansion 4-28598
- electron eigenstates in incommensurate systems, critical props. 4-36957
- electron spectroscopy, review 4-18021
- ellipsoidal inhomogeneity embedded in an infinite elastic matrix subjected to plane time-harmonic waves, elastodynamic field determ. 4-1613
- EM toroidal resonators with circular cross-section, eigenmode and eigenfreqs. calc. 4-38369
- EM waves in scale-invariant systems, free waves, general wave eqn., dispersion 4-28606
- enclosed central field quantum systems, physical props.; approx. calcs. 4-42747
- energy levels outside Wigner's semicircle 4-22680
- excited Wannier excitons in half-space geometry, finite element anal. 4-20570
- field-theoretic non-polynomial interaction 4-42765
- Fock space effective Hamiltonians 4-8768
- Fokker-Planck eqn., one dimensional, eigenfunction half-range completeness 4-4356
- fractal structures, nature of eigenstates 4-8840
- generalised anharmonic oscillators, perturbative soln. 4-36936
- generalised eigenvalue problem, Lanczos-type algorithm 4-32073
- generalised Hirota's eqn. with linear inhomogeneities, equiv. forms 4-20778
- gravity-capillary waves with edge constraints, eigenvalue calc. 4-5904
- Hamiltonian lattice gauge theories, residual gauge invariance 4-43213
- Hamiltonian operators with maximal eigenvalues 4-36944
- hard sphere gas, discrete vs. continuum relax. modes 4-55471
- harmonic oscillator, energy eigenstates, coherent states and squeezed coherent states 4-47922
- heat equation, Chebyshev collocation operator spectrum 4-10673
- high-order phase integral eigenvalues reliability for single and double min. pots. 4-8769
- Hilbert space representation of resonance wavefunctions 4-5314
- hollow bar, ringshaped, vibrational behaviour (German) 4-91
- Hubbard Hamiltonian, pair theory 4-6688
- hydrogenic atom in semi-infinite space, energy levels, variational method 4-5140
- incompressible Navier-Stokes eqns., appl. of mixed finite element methods 4-29049
- insulators, energy band gap, density functional theory anal. 4-11465
- integrable one-dimensional completely degenerate many-body system 4-47917
- interpolation, differentiation and solution of eigenvalue problems in more than one dimension 4-17675
- inverse pot. scatt., Gelfand-Levitan eqn., eigenvalues and eigenfunctions 4-36970
- inverse scatt. theory, transmutation as minimising procedure 4-36948
- inverse scatt. transform, expansion over squared solns. and difference evolution eqns. 4-36969
- inverse scattering transform and regular Riemann-Hilbert problem (Chinese) 4-53551
- ionic-covalent collision interactions, pot. energy curves 4-33520
- J-matrix scatt. wave funct., reproducing kernel at positive Harris energy eigenvalues 4-42750
- kinetic energy as perturbation, convergent algorithm 4-53509
- Klein-Gordon eqn., two-channel, perturbative solns. 4-47908
- laminar premixed supersonic free shear, with chem. reactions, stability 4-44638
- Laplacian eigenvalues in region with randomly distributed small obstacles, Kac's theorem 4-17825
- Lennard-Jones pot., resonance energies, complex energy eigenvalues, quantum complex rot. 4-33483
- Lie superalgebras, linear and orthosymplectic, Casimir operator eigenvalues 4-9040
- linear stability in flow between two concentric rotating spheres 4-34048
- many-electron bound states, relativistic theory foundations 4-32556
- many-state quantum dynamics, recursive residue generation method 4-22628
- mass-eigenvalue problem for spinors in de Sitter space 4-37280

eigenvalues and eigenfunctions continued

mechanics of continuous media, spectral relationships for integral operators 4-19775
 membrane eigenvalues ratio from isoperimetric inequality for Laplacian eigenfuncts. 4-10587
 MIT bag model, multi-quark colour-hyperfine spectra, P-matrix anal. 4-4646
 model potential theory, nonadiabatic correction 4-8783
 modified Coulomb potential, Borel summation method and first order perturbation formula 4-43820
 molecular Dirac eigenfunctions symmetrisation 4-38031
 Monte Carlo eigenvalue calcs., bias determ. 4-18504
 multicell resonant structure EM field computation, particle accel. appls. 4-54910
 multiparticle Schrodinger operators, bound on resonance eigenvalues 4-17732
 multiparticle Schrodinger operators, bracketing of energy eigenvalues 4-17733
 neutron transport, eigenvalue eqns., invariant props. (*Spanish*) 4-43553
 nonintersecting string model, diagonalisation of transfer matrix 4-22999
 nonlinear integro-differential evolution eqns., linear operator and conservation laws 4-8777
 nonlinear vibrational systems, eigenfunctions phase space delocalisation 4-49007
 nonrotating, viscoelastic Earth model, transient force, periodic and eigen solns. of eqn. 4-31443
 nonseparable system multidimensional wave eqn., asymptotic-perturbational eigenvalues 4-104
 nuclear isospin symmetry, constraints in nuclear mean field (*Korean*) 4-37444
 Ohmic heating effects on stable radiation and mag. tearing 4-6114
 one dimensional systems, temperature depend. cond., eigenstates tunnelling theory 4-45760
 one-dimensional random systems, localised eigenstates at zero temp. 4-6739
 one-dimensional system with incommensurate lattice distortion, electronic struct. 4-45663
 optical fibre, transversely anisotropic, variational anal. of nonstandard eigenproblem 4-10434
 optical fibres, mode calculation using finite element method and EISPACK 4-28840
 parabolic basin, nonhydrostatic standing waves 4-49837
 particles interacting by oscillator law, Sturm representation of Green's function 4-53549
 percolation, quantum, $1/\epsilon$ expansion and Cayley trees 4-48037
 periodic Lamé functions and applications to the diffraction by a plane angular sector 4-49235
 plate, circular, nonlinear periodic vibrs., algorithm 4-44474
 plate bending and free vibrs., numerical soln. 4-19750
 plates, constrained, Lagrange multipliers with polynomial series for dynamic anal. 4-33978
 plates, constrained, Lagrange multipliers with polynomial series for dynamic anal. 4-33979
 pointwise kinetic energy estimate and appl. to Schrodinger theory 4-36925
 Poiseuille flow, stationary perturbation, eigenvalue calcs. 4-55447
 prolate angular spheroidal wave functions 4-8763
 QCD modelling theory, eigenvalue problem 4-4640
 quantum phase factors accompanying adiabatic changes 4-36959
 quantisation through wave-packet coupling between classically allowed and forbidden regions 4-32085
 quantum chaos in generic family of billiards with analytical boundaries 4-53512
 quantum mechanics, inverse problem for linear potential 4-53538
 quantum mechanics, potential function for multiparticle nonrelativistic bound states 4-53520
 quantum mechanics, probabilistic interpretation and eigenvalue of energy theory, anal. (*Chinese*) 4-42741
 quantum systems with variable boundary conditions, var. calcs. 4-48916
 quark mass matrices, rein. to Kobayashi-Maskawa mixing matrices 4-32616
 quarks in constant self-dual euclidean background field, influence on stability of background field 4-432
 quartic anharmonic oscillator and Zeeman effect, scaling, renormalisation and accuracy of perturbation calculations 4-54588
 quasi-isotropic laser, eigenstates dynamics, vectorial bistabilities 4-49321
 radial diffusion in hollow cylinder, eigenvalues 4-48610
 Rayleigh variational principle appl. 4-44537
 real symmetric eigensystems and symm. indefinite linear systems, numerical soln. 4-32982
 relativistic canonical commutation relations and harmonic oscillator model of elementary particles 4-18213
 resonant states, adiabatic stability, Hamiltonian eigenvectors 4-111
 rod, elastic, forced vibrs., non-selfadjoint diff. eqns., fundamental integrals 4-44444
 Schrodinger eqn., eigenvalues calc. using alpha-interpolation method 4-42762
 Schrodinger eqn., exactly solvable potentials solns., eigenvalues, eigenfuncts. and scatt. funct. determ. 4-27316
 Schrodinger eqn., two-channel, perturbative solns. 4-47908
 Schrodinger eqn. for interaction $x^2 + \lambda x^2/(1 + gx^2)$, even and odd-parity exact soln. 4-13533
 Schrodinger eqn. with Gaussian pot. 4-36932
 Schrodinger operators, N-body, exponential bounds and semi-finiteness of point spectrum 4-36921
 shell, cylindrical, rib-reinforced, intrinsic oscillations analysis 4-44471
 six-vertex model, eigenvectors of multicomponent generalisation 4-22720
 slab transport eqn., error estimates for combined spatial and ang. approx. 4-8851
 sloshing frequencies for cross section of cylindrical tank or canal, 2-dimens. problems 4-10694
 soliton bag model, boundary-eigenvalue solns. 4-27709
 soliton eqns., isospectral eigenvalue problems 4-53451
 solute dispersion from time-depend. releases in parallel flow 4-29185
 spacing distributions for some Gaussian ensembles of Hermitian matrices 4-4193
 spin glasses, condensed modes, mean field theory and time depend. 4-11720
 squashed seven-sphere, scalar and Dirac eigenfunctions in Kaluza-Klein theory 4-17804
 static disorder systems, diffusion, hopping models 4-45380

eigenvalues and eigenfunctions continued

stochastic electrodynamics, perturbed harmonic oscillator-zero-point field system transitions 4-37325
 Sturm-Liouville eigenvalue problems, soln. by Lagrangian differentiation and integration 4-4205
 SU(1,1) coherent states, large-N phase-integral approx. 4-4264
 superalgebras, linear and orthosymplectic, Casimir operator eigenvalues 4-9042
 thin wire in mag. field, electron energy levels 4-15807
 three charged particle system, eigenvalue asymptotics 4-36952
 time dependent Coulomb problem, var. soln. 4-9880
 time operator in quantum mechanics 4-4244
 Toda lattice, real normal matrices, global convergence, appl. to eigenvalue problem 4-42887
 tokamak plasmas, second stability region against high-n ballooning modes (*Chinese*) 4-49963
 triple-well anharmonic oscillators, eigenvalues for Schrodinger eqn. middle well 4-32075
 tube bundle in incompressible fluid, natural freqs. 4-19885
 twisted Eguchi-Kawai model, Langevin eqn. anal., eigenvalue distrib. in plaquette matrix 4-32577
 two-dimensional ϕ^4 model, Ginzburg-Landau free energy 4-25475
 two-dimensional box, eigenvalue depend. on small pseudointegrable perturbation 4-36934
 two-electron system, correl., diabatic states 4-38082
 unstable states decay, scaling theory 4-27337
 unstable states-eigenvector association, non-Hermitean operator appls. 4-43187
 upper and lower bounds to eigenvalues by weighting function approximations 4-13508
 virial theorem generalisation for strongly singular pots., Schrodinger Hamiltonian eigenfunctions 4-36962
 viscous flow, two dimens., with arbitrary random forcing, equilib. statistics 4-24399
 wire-plate electrostatic precipitator, voltage and space charge distrib. calc. 4-54902
 XXX Heisenberg exactly soluble quantum system, functional eqn. method 4-25505
 Yang-Mills and Yang-Mills-Higgs eqns., critical point index 4-4515
 Al, liquid, elec. resist., Harrison's first principle method, eigenvalue choice 4-2581
 Be, appls. of bivariational SCF method as zeroth order dilated electron propagator, eigenvalues 4-23588
 C₂H₂, 3D Hamiltonian, semiclassical vibr. eigenvalues 4-43792
 H atom, near surface of semi-infinite substrate, physisorption, var. calcs. 4-48916
 H atom, Zeeman effect, eigenenergies and expectation values 4-36964
 H, error estimates for complex eigenvalues of dilated Schrodinger operators for DC Stark effect 4-9720
 H, relativistic, 1D, energy eigenvalues and eigenfunctions 4-8687
 H-like systems, stable variational calculations with the Dirac Hamiltonian 4-1050
 H₂⁺, photoionisation cross sections and eigenphases calc. using finite-vol. variational method 4-49104
 H₃⁺, vibr. spectrum, model hamiltonian CI calcs. 4-33385
 H₂O, freq. depend. polarisability calc. from CI matrix 4-23610
 He isoelectronic sequence, ground states, ang. eigenfunctions 4-54579
 He liquid, quasiparticle scatt. amplitude, parametrisation 4-6579
 Li⁺+Ca, charge transfer cross-sections, perturbed stationary state calcs. 4-10062
 RbUF₆, electronic struct., cryst. field splitting model (*German*) 4-25305
eigenvectors see *eigenvalues and eigenfunctions*
eightfold way see *SU₃ theory*
Einstein-de Haas effect
 see also *gyromagnetic ratio*
 No entries
einsteinium
 see also *nuclei with*
 No entries
einsteinium compounds
 EsPO₄, vibr. props. (*German*) 4-2277
elastic aftereffect
 reverse mechanical aftereffect, computer modelling (*Russian*) 4-50404
 Au-Ni (30 at.%), internal friction rel. to short-range directional order (*French*) 4-40864
elastic constants
 see also *elastic moduli*
 alkali metal alloys, binding energy, heat of soln., bulk modulus and shear elastic const. 4-50716
 alkali metal halides, third-order elastic const., temp. depend. calc. 4-55905
 alloys, shape memory, martensitic transformation, atomic order effects 4-7456
 anisotropic materials, interactive program for anal. of US modulus data 4-11214
 azoxybenzenes, nematic liq. crystals, viscoelastic twist props. 4-10959
 camphene, ultrasonic meas., elastic stiffness const. determ. (*German*) 4-15591
 carbon tetraiodide, adiabatic elastic const., Brillouin scatt. study 4-7210
 cholesteric blue phases, lattice symmetry of BP I and BP II phases, elastic and lattice const. 4-20100
 cholesteryl chloride-cholesteryl alkanoates mixtures, electro-optic and dielec. studies 4-39114
 cholesteryl oleate liq. cryst. blue phase, elastic constants 4-24891
 composite material, effective elastic moduli, improved rigorous bounds 4-28973
 cubic crystal, Eshelby factor for anisotropic elastic anisotropy 4-39288
 cubic crystals, direct spin-lattice relax. process, effect of elastic anisotropy 4-2804
 cyclohexane, ultrasonic meas., elastic stiffness const. determ. (*German*) 4-15591
 disc of wood laminate, vibr. modes 4-5832
 discrete Frenkel-Kontorova model, elastic const. and critical behaviour 4-39437
 glass, density fluctuations, thermodynamic quantities at transition 4-11292
 glass fibre reinforced thermoplastics, short fibre, deform. design 4-51705
 graphite intercalation compound with SbCl₅, stage 4, US studies of phase transitions 4-34592

elastic constants continued

- graphite-Br intercalation cpd., C₇Br, phonons and elastic consts., neutron scatt. meas. 4-45280
- III-V semiconductors, phonon spectra calc. for long wavelength optical phonons (*Russian*) 4-6449
- materials characterisation by acoustic microscope, Fourier transform approach 4-28943
- MBBA, twisted, elastic const. K₂ determ. 4-24716
- metallic glass, elastic and inelastic properties 4-50209
- metallic glasses, mechanical props., review, book contrib. 4-40887
- metallic glasses, structural relax. irreversibility and mag. props. 4-55739
- metals, asymptotic elastic energy calcs. 4-45149
- metals, isotropic tube shaped, elastic consts., ultrasonic vel. meas. 4-45241
- micellar nematics, struct. and phys. props 4-50182
- modal stiffness of pretensioned cable net 4-50395
- nematic liquid crystal films, optically-induced phase gratings 4-19500
- nematic liquid crystals, elastic consts., correlation with smectic-like ordering 4-29502
- nematic liquid crystals, elastic consts. in external elec. field 4-20092
- nematic polar-nonpolar mixtures, dielectric, diamagnetic and elastic props. 4-20087
- 4-n-pentyl-4'-cyanobiphenyl, nematic liq. cryst., elastic consts., birefr. meas. 4-55714
- physics of amorphous metals 4-29326
- piezoceramic multilayer plates, elasticity relations (*Ukrainian*) 4-25684
- piezoelectric ceramics, elastic and dielec. nonlinearities 4-30398
- polycrystalline aggregates, anisotropic, subjected to external stress field, strain distrib. 4-45248
- polycrystalline materials, acoustoelasticity, texture effect 4-34562
- polymer solutions, nematic, longitudinal flow, mean field theory 4-39122
- polymers, crystalline, struct. and props., review 4-55759
- polyoctamethylcyclotetrasiloxane, plasma polymerised thin films, elastic consts., determ. 4-45237
- potassium decanoate-water-decanol-KCl, type II nematic lyomesophase, surface and mag. orientation 4-39113
- pseudolloys, skeletal struct., elastic constants calc. 4-45250
- quantum statistical formulation 4-29505
- α -quartz, cryst. pots., elastic and dielec. consts., cohesive energy and phonon freq. 4-20304
- rare earth metals, thermal and elastic props., review 4-56044
- scanning acoustic microscope contrast, elastic anisotropy effect 4-44317
- semiconductors, diamond-like, amorphisability and mech. props. 4-29492
- smectic liquid crystal, bend and splay elastic constants on approaching injected smectic phase 4-6262
- solid electric materials elastic coefficient meas. using electrical method (*Korean*) 4-51907
- solids, force theorem and elastic constants 4-39365
- steel, hot rolled sheet, elastic deform., X-ray elastic const. and stress meas. 4-3163
- steel, low alloy, radiocrystallographic elastic constants of 0.35C-1Cr steel (*French*) 4-3162
- steel, type 30KhGSN2A with brittle inclusions, fracture characts. (*Russian*) 4-51783
- tetramethylammonium tetrachlorozincate, elastic props. near commensurate-incommensurate transition, Brillouin scatt., US absorpt. meas. 4-40467
- tetramethylammonium tetrachlorozincate, elastic stiffness coeffs. in incommensurate and commensurate phases, Brillouin scatt. meas. 4-15567
- toluene, liq. and plastic phases, ultrasonic meas., elastic stiffness const. determ. (*German*) 4-15591
- transition metals, BCC, elastic constants, tight binding recursion method calc. 4-30739
- transition metals, interionic interactions, total energy and elastic and bonding props. calc. 4-6726
- s-triazine, per-deuterated, lattice dynamics, neutron scatt. study 4-11237
- twisted nematic cells, multiplexing under nonrigid boundary conditions 4-29311
- volumetric component distribution of forces (*Bulgarian*) 4-28992
- woven fabric composite, elastic consts. micromechanical anal. 4-51703
- AgCl-AgBr mixed crystals, anharmonic elastic props. 4-55900
- AgCl(Br), third- and second-order elastic consts. calc. 4-24894
- AgGaS₂, anisotropy of Gruneisen parameters from thermal expansion data and elastic stiffnesses 4-11247
- Al, acoustoelasticity, texture effect 4-34562
- Al reinforced with B fibre, internal friction study 4-39395
- Al-Si(0.5 wt.%), with brittle inclusions, fracture characts. (*Russian*) 4-51783
- Ar, solid state props. near OK from [n(r)]-6 pot. 4-29383
- Ar₂O₂ alloy, single cryst., elastic constants, rotation-translation coupling effect on intermolecular forces 4-50398
- Ba₂NaNb₂O₁₅, acoustic phonon dispersion at incommensurate transition, Brillouin scatt. study 4-25770
- Bi, third order elastic consts. and acoustic mode vibr. anharmonicity 4-6420
- C fibre reinforced polycarbonate, fracture toughness of short fibre thermoplastics 4-46612
- CaF₂, gradient elastic const., NMR quadrupole press. broadening 4-25643
- CdGeAs₂, anisotropy of Gruneisen parameters from thermal expansion data and elastic stiffnesses 4-11247
- Co, phonon dispersion, role of Van der Waals forces 4-2287
- CoCO₃, elastic consts. determ., sound vel. anisotropy, Mandelstam-Brillouin light scatt. by phonons 4-35461
- CoF₂, optical and elastic props. 4-16206
- Cu, acoustoelasticity, texture effect 4-34562
- Cu-Al-Ni (14.3 wt.%), single crystals, elastic consts., shear deform. for martensitic transformation 4-3167
- CuGeP₃ ternary semicond., elastic behaviour, US pulse echo study 4-45242
- 2,3-dimethylbutane, ultrasonic meas., elastic stiffness const. determ. (*German*) 4-15591
- Fe, BCC, state and habit of Fe₁₆N₂ precipitate, elastic theory 4-39527
- FeF₂, optical and elastic props. 4-16206
- Fe_{1-x}O, elastic props. near antiferromag. phase transition 4-2803
- GaAs, elastic constants, third-order, Keating's theory 4-2248
- GaS(Se), elastic consts., press. depend., lattice dynamic model 4-34560
- GaS(Se) lamellar cpd., elastic consts., press. depend. 4-2254
- Ge, elastic constants, third-order, Keating's theory 4-2248
- ³He, BCC unordered, elastic const., Debye temp. and exchange parameters 4-6609

elastic constants continued

- INP, lattice dynamics, phenomenological parameter model anal. 4-55941
- InSb, elastic constants, third-order, Keating's theory 4-2248
- InSe, elastic consts., press. depend., lattice dynamic model 4-34560
- InSe lamellar cpd., elastic consts., press. depend. 4-2254
- K halides, zero-point vibr. contrib. towards static and thermodynamical props. 4-56050
- K_{0.20}Na_{0.20}Sr_{0.60}Ba_{0.20}Nb₂O₆, electroelastic const. determ. (*Chinese*) 4-2856
- Kr, solid state props. near OK from [n(r)]-6 pot. 4-29383
- (La_{1-x}Nd_x)₂Ga₂SiO₁₄, spectral laser and electromech. props. 4-30516
- (La₂Nd_{0.3}Lu_{0.7})Lu₂Ga₂O₁₂ garnet, elastic and photoelastic consts. 4-11212
- Li₂SO₄, ionic cond. and elastic const. studies 4-15685
- MgF₂, optical and elastic props. 4-16206
- Mn-Ni antiferromag. alloys, internal friction and elastic const. anomalies 4-40870
- MnCO₃, elastic consts. determ., sound vel. anisotropy, Mandelstam-Brillouin light scatt. by phonons 4-35461
- MnF₂, optical and elastic props. 4-16206
- Mo, lattice equilib. and phonons 4-34602
- NH₄B₂O₅·4H₂O, shear and compressional wave vel. meas. 4-2250
- NH₄Br, third order elastic consts. near λ point, anomalous temp. depend. 4-55907
- NH₄Cl crystals, third order elastic consts. 4-45239
- NH₄Cl, third order elastic consts. near λ point, anomalous temp. depend. 4-55907
- (NH₄)_{1-x}K_xAl(SO₄)₂·12H₂O, mixed alum, photoelasticity 4-56886
- NH₄LISO₄, ferroelec., Brillouin scatt. study, relaxation and anomalous temp. depend. of elastic constants 4-25769
- NaCl-NaBr mixed crystals, anharmonic elastic props. 4-55900
- NaNO₂, antiferromagnetic, elastic stiffness consts. at normal-to-incommensurate phase transition, US study 4-50497
- Nb-H system, hydride phase transition at H/Nb=0.78, US study 4-12063
- Nb-O-H, elastic consts., US attenuation and velocity of trapped H 4-45591
- NbD₃, α -phase, lattice dynamics and ordering effects, elastic consts. determ. 4-11235
- NiF₂, optical and elastic props. 4-16206
- PbF₂, perfect cryst. and intrinsic defect props., quasiharmonic calc. 4-45127
- Se-Ge-As system chalcogenide glass form. 4-28799
- Si, elastic constants, third-order, Keating's theory 4-2248
- SmS, elastic behaviour, press. depend. 4-50399
- W, lattice equilib. and phonons 4-34602
- Xe, solid state props. near OK from [n(r)]-6 pot. 4-29383
- ZnF₂, optical and elastic props. 4-16206
- ZnTe, lattice dynamics, phenomenological parameter model anal. 4-55941

elastic deformation

- see also bending; elasticity; electrostriction; stress/strain relations; torsion
- alkali silicate glass, deformation kinetics, -120 to +350°C 4-51722
- artificial hip joint's femur, long stem, strain and stiffness coeff. meas. (*Chinese*) 4-47099
- bar bent through frictionless supports, large deflections 4-49707
- bars, thin walled, of open cross-section, energy eqns., nonlinear analysis 4-1606
- bone, tubular, surface growth, load effect 4-12620
- contact problems, mixed finite element method 4-49769
- cylinder, traction-free, subjected to arbitrary axisymm. heat flux, distortion 4-14889
- digital simulation, finite element method (*German*) 4-42721
- energy of deformation and fracture by solid indentation (*Japanese*) 4-50409
- epoxy resin, softening temp., mech. characts. (*Russian*) 4-29614
- erythrocyte deformability, blood viscosity, effect of high osmotic media 4-21696
- erythrocyte suspension, nonNewtonian viscosity theory, erythrocyte deform. effect 4-21684
- facet reflectors, variable-geometry, formed by elastic deformation 4-31073
- finite element deformation, contact and limit-point behaviour 4-49679
- hardening material creep theory 4-49721
- hot rolling investigation by caustics, roll-press. distrib. and coeff. of friction 4-10623
- inhomogeneous elastic medium, elastic deformation expression by dislocations distrib. 4-15573
- ion in deformable matrix, water droplet adsorption, thermodynamic properties 4-25146
- laminar composite, two-phase, creep effect on elastic deform. 4-44415
- large elastoplastic deform. theory, elastic and plastic components (*Ukrainian*) 4-24357
- light-weight mirror deformations, refined math. model of deform. mechs. 4-10393
- magnetostrictive hollow circular cylinder, torsional deformation under tangential tractions 4-10543
- mass with toroidal cavity, nonaxisymmetric deform. 4-19731
- membrane, plane rectangular, deform., strained state evaluation (*Russian*) 4-10542
- plane contact problem, half-space with Poisson ratio varying with depth 4-38768
- plate, isotropic, triangular, flat, elastic buckling, finite element soln. 4-19745
- plate, thin elastic, deform. to deep parabolic cylinder 4-5800
- plates, elastic, static deform., two dims. eqns., asymptotic theory 4-33929
- plates, homogeneous, bending and stretching, Reissner's eqns. 4-44397
- plates, orthotropic, in flexure, deflection and stress analysis 4-49680
- plates, shear deformable, one-dimens. formulation of torsion and flexure 4-5801
- plates, three-layer, design by iteration method 4-33957
- polymer solid, rupture, pseudo cross-link theory 4-3237
- polymer solutions, elastic deformation model for withdrawal description 4-29043
- PVC, development of microcracks 4-11222
- rubber, crosslinked natural, small-strain behaviour in tension and compression 4-12120

elastic deformation continued

- rubber, crosslinked natural, small-strain behaviour in torsion, ageing effect 4-12119
- sheared elements, loading conditions exam. 4-28980
- sheet, thin elastic on liq. foundation, nonlinear deflection 4-44501
- shell theory, soln. of geometrically nonlinear problems 4-44361
- shells, flexible, laminated, statics problems, nonlinear boundary-value problem soln. in supercritical region 4-19732
- shells, flexible noncircular cylindrical, stressed state, numerical soln. (Ukrainian) 4-38718
- shells, thin, finite deform. description by coordinates of reference and actual configs. 4-49773
- shells of revolution, elastic, nonhollow, nonaxisymmetric bulging 4-10576
- solid body, elasticity, eqns. of motion (Bulgarian) 4-44378
- steel, hot rolled sheet, elastic deform., X-ray elastic const. and stress meas. 4-3163
- stiff bendable elastic rods in an elastic matrix, constitutive eqn. 4-10556
- strip, bending and stretching anal., narrow cylindrical drum 4-49684
- tube, elastic circular with nonconvex stored energy, helical shear 4-38713
- two-phase deformations of elastic solids 4-38712
- uniaxial deformation and stress, Baker-Ericksen inequalities interpretation 4-36910
- urinary bladder, elastic behaviour for large deform. 4-21717
- viscoelastic body, stress concentration around circular hole 4-44419
- viscoelastic body at large deform., model 4-55353
- welded structures, strain meas. by moire photography 4-49793
- woven fabric composite, elastic const. micromechanical anal. 4-51703
- Young's modulus, new meas. method using high speed moire topography 4-22776
- Ag halides, photoelastic const., strain derivative, of static dielectric const. 4-56887
- Ag precipitates, X-ray topograph intensities, quantitative anal. using enhanced microfluorescence 4-15347
- Au (111) surface elastic and plastic deform. obs. 4-39653
- Co-Pt, ordering in elastic stress field 4-21204
- Cu crystals, deformation-induced work funct. changes, models comparison 4-56412
- Cu crystals, tensile deformation-induced work funct. change expts. 4-56411
- Cu, polycrystals, indentation damages, work hardening, residual stress, elastic-plastic analysis 4-16450
- Cu, rolled plate, acousto-elastic effect (Japanese) 4-25990
- Cu-Al-Ni shape memory alloys, 4-7588
- Cu-Au, ordering in elastic stress field 4-21204
- Fe, white cast 4-41000
- KCl coloured crystals, mechanoluminescence 4-16260
- Mn-Cu-Zn, damping capacity, effect of static tensile stresses, allowance for temp. 4-12098
- Si plate, bent, X-ray topograph intensities, quantitative anal. using enhanced microfluorescence 4-15347
- n-Si:P, magnetopiezoresistance in range of strong elastic deform., carrier scatt. mechanisms 4-20677
- α -SiC, sintered, elevated temp. Charpy impact test 4-51776
- Tl halides, photoelastic const., strain derivative, of static dielectric const. 4-56887
- WC-Co composites, fracture stress, elastic limit, microstruct. 4-51732

elastic hysteresis

- discrete memory constitutive eqn., hereditary type, simple geometry appls. 4-33947
- random excitation, non-white, of system with bilinear hysteresis, non-stationary response 4-19648
- rubber, elasticity, pseudo cross-link theory 4-3166
- shape-memory alloys, relation between temp. jump across a propagating phase boundary and solid state stability 4-14897

elastic limit

- elliptical contact with friction, elastic and shakedown limits 4-38765
- steel, dual phase, initial yielding, austenite to martensite transform. 4-46579
- steel, low alloy, mechanical props., α - γ transition and thermomech. treatment effects (Russian) 4-35659
- steel, stainless, austenitic, interstitial N content influence on low-cycle fatigue behaviour (French) 4-40983
- CaF₂, shock compression and shocked-induced radiation, phase transitions obs. 4-39399
- WC-Co composites, fracture stress, elastic limit, microstruct. 4-51732

elastic moduli

- see also Poisson ratio; shear modulus; Young's modulus
- adiabatic bulk modulus, temp. depend. 4-15569
- aggregates, polycrystalline, thermal expansion, exact anal. 4-50547
- aggregates, polycrystalline, thermal expansion, self-consistent approx. 4-50548
- alkali halides, cohesive props. in local density formalism 4-6311
- alkali halides, elastic and thermal props., compressible ion theory 4-15605
- alkali metals, melting, adiabats and Grüneisen parameter 4-45308
- alkali metals and binary alloys, liq., Helmholtz free energies, variational calc. 4-55702
- alkaline earth oxides, cohesive props. in local density formalism 4-6311
- Aramide fibre microplastics, strength realisation calc. models anal. 4-46572
- Aramide fibre threads, strength realisation calc. models anal. 4-46572
- bimolecular composite laminates, transverse shear effects 4-1621
- bone, microdeformation in tension, moisture content effect 4-52378
- cancellous bone, mech. characts. at upper femoral region 4-31253
- ceramics, rel. to melting point, effects of impurities on sintering 4-51708
- chalcogenide crystals with NaCl struct., interionic pot. anal., binding energies, bulk moduli, press. derivatives 4-39201
- coatings, electrolytically and chemically deposited, mech. props. (German) 4-51553
- composite, elastic, boundary-value problems soln., static and dynamic problems, thermal cond. 4-44386
- composite material, effective elastic moduli, improved rigorous bounds 4-28973
- composites, non-local effective elastic property bounds 4-28972
- compositionally modulated struct., supermodulus effect (Chinese) 4-2536
- cubic solids, elastic moduli, temp. dependence calc. (French) 4-2251
- Earth interior, eqns. of state for metals, halides and oxides 4-52694
- elastic networks, bond percolation, exponent and threshold 4-29507
- elastomers, for artificial cardiac ventricles, mech. props. 4-51800

elastic moduli continued

- epoxy polymers, hybrid particulate filled, fracture energy, flexural modulus 4-30783
- epoxy resin based optically sensitive material for stress investigation of models 4-3118
- fibre reinforced composite, design models, analysis and optimisation on basis of multicriterial approach 4-44387
- fibre reinforced composites, directionally reinforced plates, stress conc. near holes 4-49690
- fibre reinforced composites, inelasticity, development under repeated static loading 4-46574
- fibre reinforced metal layer composites, thermoelasticity, thermal cond. and strength 4-45367
- garnet, elasticity and thermal expansion at high temp. 4-47253
- glass, low freq. internal friction and dynamical modulus meas. at low temp. (French) 4-39389
- glass ceramic, machinable, elastic moduli, second-order press. derivatives 4-51709
- glass fibre reinforced polyester, filament wound pipes, wind angle effects 4-51733
- graphite, artificial, mech. props. anisotropy rel. to texture 4-35673
- graphite fibre reinforced epoxy unidirectional laminates, mech. props. rel. to high temp. welding exposure 4-3183
- half-space, inhomogeneous, contact problems 4-34012
- hexagonal cryst., loading behaviour, struct. and equilib. states 4-24899
- ice, elastic moduli determ. by Brillouin spectroscopy 4-29511
- II-VI semiconductors, cohesive energy and bulk modulus 4-2137
- II-VI semiconductors, local Heine-Abarenkov model pot. 4-6315
- III-V semiconductors, cohesive energy and bulk modulus 4-2137
- III-V semiconductors, local Heine-Abarenkov model pot. 4-6315
- infinite elastic body, cylindrical inclusion with const. transverse eigenstrains 4-5799
- layered composite beams, loss factor, fibre content ratio effects 4-46551
- lithium formate, elastic moduli, acoustic props. 4-34594
- matrix composites, mechanics, multipolar expansion method appl. 4-44389
- metallic glass foil produced by melt spinning, US material characterisation 4-55908
- metallic glasses, internal friction and other rheological functions in glass transition region (French) 4-39379
- metals, cyclic microplasticity, internal friction and elasticity modulus defect meas. 4-7517
- metals, equation of state, binding energy and bulk modulus 4-55954
- metals, lattice const. and bulk moduli depend. on pseudopotential parameters 4-39204
- multiphase composites, elastic moduli, thermal cond., differential scheme 4-15571
- nematic liq. cryst. mixtures 4-39102
- oxide glasses, internal friction and other rheological functions in glass transition region (French) 4-39379
- PET, glass, secondary relax. transition, 310K (Russian) 4-30736
- phenol-urethane foam plastic with distorted cells, elastic and strength props. 4-12114
- plane arch, effective moduli 4-1603
- plastics, flexural modulus, effect of test variables 4-46671
- poly- β -trichloromethyl- β -propiolactone, cryst. regions, elastic modulus 4-50397
- polyamic acid solutions, viscoelastic props., precursors of polyimides 4-14899
- polyamide-6, thermal treatment effects on mech. props. (Polish) 4-57269
- polycarbonate, equilibrium elastic modulus impulse technique 4-46545
- polycarbonate, relax. transition rel. to oligomer additives, elasticity dynamic modulus, dielec. loss tangent (Russian) 4-30737
- polycarbonate urethanesiloxane block copolymers, glass transition temp., mech. and dielec. props. (Russian) 4-29613
- polydimethyl phenylene oxide-polystyrene glassy mixture, dynamical elastic modulus meas. near and below T_g (French) 4-39362
- polyetherimide, thermoplastic resin, mech., elec. and phys. props. 4-30754
- polyethylene, minimum draw ratio rel. to chain extension 4-35669
- polyethylene, single crystal mats drawing, dynamic props. DSC obs. 4-30678
- polyethylene films, filled, paper-like, fabrication 4-51617
- polyheteroarylene based high-modulus fibres, inelastic deform. 4-46573
- polymer composite melts, bulk moduli and thermal expansivity, statistical vs. macro-mechanics 4-50393
- polymer fibre reinforced cement, stress transfer between fibrillated film and matrix 4-51707
- polymer fibres, ultra-high tenacity, processing, review 4-16369
- polymer film, liquid penetration, case II diffusion kinetics, swelling stress model 4-45379
- polymer molecular composite fibres and films, solution processing 4-46486
- polyoxymethylene, uniaxially drawn, elastic moduli rel. to orientation struct. 4-40885
- polyparaphenylene terephthalamide based high-modulus fibres, inelastic deform. 4-46573
- polypropylene, mica-filled, factors affecting mech. props. 4-46552
- polystyrene, equilibrium elastic modulus impulse technique 4-46545
- polytrioxane, thermal treatment effects on mech. props. (Polish) 4-57269
- polyurethane, heat treatment effect on struct., elec. and mech. props. (Russian) 4-40823
- polyurethane elastomers, struct., mech. props. rel. to diamine additive 4-30741
- polyurethane-PMMA interpenetrating polymer networks, transition behaviour, phase separation 4-11014
- PVC gels, dil., in phthalate plasticiser solns., gelation and rigidity modulus 4-16693
- quartz, fibre based ceramic material, acoustic props. and test methods 4-12297
- rare earth metals, thermal and elastic props., review 4-56044
- rate dependent solids, tangent modulus method 4-49701
- Rochelle salt, ferroelectric phase transition, elastic, dielectric and electromechanical nonlinearities 4-35386
- rock, cracks and joints, elastic props., moduli and wave vel. (German) 4-41895
- rock under pressure, elastic moduli, stress-strain curves and seismic vel. in rock under press. 4-26690
- rubber, crosslinked natural, small-strain behaviour in tension and compression 4-12120

elastic moduli continued

rubber, crosslinked natural, small-strain behaviour in torsion, ageing effect 4-12119
sapphire resonators, elastic vibr. damping, elastic moduli, temp. depend. 4-34595
SBR-ground asbestos system, mech. props., filler shape effect 4-3330
silk fibre reinforced nitrile rubber composites, mech. props. rel. to fibre-matrix bonding 4-51747
silk threads from cocoons of *Bombyx mori* L., dynamic elastic moduli comparison 4-21683
sintered materials, modelling of physical and morphological props. (French) 4-51721
solids, splitting damage, finite element anal. 4-49763
steel, austenitic, Fe-Mn-Al, cryogenic structural materials appl. 4-51720
steel, austenitic stainless, type AISI 304, 310, 316, elastic moduli, press. depend. study 4-51710
TGS, adiabatic elastic stiffness moduli, US wave vel. meas., hydrostatic press. depend. 4-24895
thermoplastic composites, use of wood fibres 4-40741
tibial trabecular bone, human, mech. props. rel. to metaphyseal location 4-31252
transition metals, BCC, elastic constants, tight binding recursion method calc. 4-30739
transition metals, interionic interactions, total energy and elastic and bonding props. calc. 4-6726
two-dimensional elasticity theory, bipolar equation (German) 4-36905
two-dimensional solid near melting, size depend. props. 4-15612
Young's modulus, new meas. method using high speed moiré topography 4-22776
Ag₃AsS₃, proustite, photoinduced phase transition, Brillouin scatt. study 4-25018
Ag₃SbS₃, pyrrargyrite, piezoelec., elastic and sound wave props. 4-34590
Al dynamic modulus and dislocation segment distributions during deformation 4-3161
Al, internal friction, dynamic modulus meas., dislocation segment distrib. effects 4-50304
Al thin film, elastic moduli and thermal expansion coeff. 4-50400
Al-Mn(Cr), dil., precipitation rel. to recryst. behaviour, internal friction and dynamic elastic moduli meas. 4-40794
Al-Zn, damping capacity, influence of cold-working 4-7498
 β -Al₂O₃-Na₂O, fracture toughness anisotropy 4-26039
Ar, solid, low temp. props., pair and many-body pots. 4-29380
Ar, solid state props. near OK from $[n(r)]$ -6 pot. 4-29383
B fibre reinforced Al, physico-chem. interaction 4-57275
Be, structural and electronic props., ab initio study 4-6318
BiVO₄, ferroelastic, acoustic soft mode study 4-39418
Ca-Si-Al-O-N glass, elastic moduli, refractive indices (French) 4-45247
CaS, cohesive props. in local density formalism 4-6311
Cd₃Nb₂O₇, electromechanical props. and thermal expansion, temp. depend. 4-11844
CeTe, high press. effects and phase transform. 4-29604
CoF₂, rutile struct., elastic moduli, press. derivatives 4-45249
Cu-Zr alloy foil produced by melt spinning, US material characterisation 4-55908
CuGeP₃, ternary semicond., elastic behaviour, US pulse echo study 4-45242
D₂, solid, equation of state, bulk modulus and thermal expansion 4-45446
D₂, solid, thermodynamic props. in premelting region (Russian) 4-45444
Fe, cast, elastic modulus, var. on heating 4-40883
Fe, cast, microstruct.-prop. relationships 4-30882
Fe powder, strength and contact growth kinetics rel. to pressing and sintering parameters 4-40710
Fe-al (39.8 at.%), Bailey-Orowan creep model 4-35662
Fe-Mn (22.6 at.%), HCP-BCC transition, elastic moduli softening, US rel. meas. 4-15570
Fe-W, amorphous, radical distribution function and bulk moduli at high press. 4-6275
FeCoNiCrBSi metallic glasses, internal friction, dynamic elastic modulus, microhardness meas. 4-40854
Fe₄₀Ni₃₈Mo₂B₁₈, amorphous, quenching, structural relax., internal friction, dynamic elastic modulus, elec. resist. meas. 4-40855
GaAs, doped with group VI elements, lattice parameters, pseudopot. approach 4-2179
Ge-Sb-Se glasses, elastic props., US vel. meas. 4-2252
H₂, solid, equation of state, bulk modulus and thermal expansion 4-45446
InSb, deformation mechanism map 4-55911
K, compression, equations of state, and thermal expansion 4-20325
K halides, zero-point vibr. contrib. towards static and thermodynamical props. 4-56050
K₂CD₂(SO₄), elastic moduli determ., ferroelastic transition 4-29508
K₂ZnCl₄ crystal, ferroelec., LF internal friction and elastic props. 4-11227
Kr, solid state props. near OK from $[n(r)]$ -6 pot. 4-29383
(La_{1-x}Nd_x)₂Ga₂SiO₄, spectral laser and electromech. props. 4-30516
Mg, internal friction and modulus meas. at low temp., electron irradi. effect (French) 4-39388
MgF₂, static loading and impact indentations, elastic recovery 4-24387
Mg₂GeO₄, high-press. elastic moduli expts., as analogue of Mg₂SiO₄ behaviour 4-41903
Mg_{1-x}Li_xSc₂O₇Si₂O₇, protoenstatite, elastic props. compared to orthoenstatite, Brillouin scatt. 4-39364
Mg₂SiO₄ elastic moduli at high-press., analogue expts. on Mg₂GeO₄ 4-41903
Mg₂SiO₄ single cryst., forsterite, elastic props. up to 1200K 4-6421
 γ -Mn-Cu alloys, elastic moduli 4-45240
Mn-Ni antiferromag. alloys, internal friction and elastic const. anomalies 4-40870
MnF₂, rutile struct., elastic moduli, press. derivatives 4-45249
Mo, equilibrium ground state props., self-consistent pseudopot. calc. 4-20139
Na, compression, equations of state, and thermal expansion 4-20325
Na₂O-Al₂O₃-SiO₂ glass, acoustic, elastic and elec. props. 4-11233
Nb, equilibrium ground state props., self-consistent pseudopot. calc. 4-20139
Nb single cryst., elastic props. and RMS dynamic displacement of Nb atoms 4-2255
Ni film, polycryst., 9 GHz hypersound phase rel. and attenuation 4-11229
Ni-Mo-Al, γ/γ' -Bailey-Orowan creep model 4-35662

elastic moduli continued

Ni-P, amorphous, radical distribution function and bulk moduli at high press. 4-6275
Ni₂₄Zr₇₆, amorphous, short-range order, reversible and nonreversible effects 4-44998
Pd-Cu-Si alloy foil produced by melt spinning, US material characterisation 4-55908
Rb, compression, equations of state, and thermal expansion 4-20325
Se, glassy, dynamical elastic modulus meas. near and below T_g (French) 4-39362
Se-based chalcogenide glasses, internal friction background below T_g (French) 4-39383
SiC fibre, coreless, tensile strength, effect of oxidation curing polycarbosilane fibre 4-21224
Si₃N₄-Y₂O₃, hot isostatic pressing, effect of Y₂O₃ additions 4-51597
SiO₂-Al₂O₃-CaO-MgO, vitreous-crystalline material, elasticity, strength props. 4-57276
Sn, pure, struct. relax. by interphase boundary migration, internal friction, elastic modulus and creep 4-12094
Sn-Bi alloy aggregates, elastic moduli, temp. variation up to eutectic temp., US study 4-35650
T₂, solid molecular, high press. eqn. of state, semiempirical calc. 4-45447
TiS, high press. phase transform. study 4-6500
TiC whiskers, growth and mech. props. (Japanese) 4-39738
Ti_{1-x}M_xC₂N₂ (M=Zr, Hf, V, Nb), solid solns., Debye temp., elastic moduli 4-55903
TmCd single cryst. isotropic magnetoelastic props. 4-46084
TmCu single cryst. isotropic magnetoelastic props. 4-46084
TmZn single cryst. isotropic magnetoelastic props. 4-46084
UAs, electronic struct., lattice parameters, bulk moduli 4-45621
UC, electronic struct., self-consistent LMTD calcs. 4-45620
UN, electronic struct., self-consistent LMTD calcs. 4-45620
UO, electronic struct., self-consistent LMTD calcs. 4-45620
UP, electronic struct., lattice parameters, bulk moduli 4-45621
US, high press. X-ray diff. studies 4-6499
US(Se)(Te), electronic struct., lattice parameters, bulk moduli 4-45621
USb, electronic struct., lattice parameters, bulk moduli 4-45621
W, energy bands and cohesive energy, self-consistent relativistic calc. 4-45609
WC-Co, high temp. deform. and fracture (French) 4-16504
Xe, solid state props. near OK from $[n(r)]$ -6 pot. 4-29383
YbH₂, first order phase transition, high press. X-ray diff. studies 4-56004
ZnSe, Brillouin resonance scatt. of light by thermal acoustic phonons 4-25775

elastic moduli measurement
coal, anisotropic elastic moduli determ. 4-52697
fibre, elastic props. determ. method using lasers 4-41139
ice flexural properties measurement by cantilever beam method 4-22109
metal disks, natural vibrations excited by laser pulses, mech. props. meas. 4-29003
metals, isotropic tube shaped, elastic consts., ultrasonic vel. meas. 4-45241
microcomputer-controlled device using sonic reson. techniques 4-19779
polymers, Poisson ratio, meas. under compression 4-46684
semiautomatic meas. using adiabatic cryostat, between 1.6 and 400K 4-17893
solid electric materials elastic coefficient meas. using electrical method (Korean) 4-51907
step hologram method for elastic coeff. determ. 4-44507
three-point bend specimens, crack length calc. formula 4-44509
Al₂O₃, Young's modulus, high temp. meas. using precision bending apparatus 4-41125

elastic scattering of atoms and molecules
alkali atom+molecule, differential cross-sections, vibr. interference structs. 4-9907
atomic collision experiments at border line between classical and quantum mechanics 4-33500
complex coordinate rotation method, atomic collision appl., review 4-19128
gases, spectra, vibr.-rot. band form, influence of mol. interactions, correl. function 4-33392
Lennard-Jones pot., resonance energies, complex energy eigenvalues, quantum complex rot. 4-33483
resonant state dynamics, paradoxical prop. analysis 4-18950
Rydberg atom+rare gas atom quasi elastic state changing collisions 4-19148
Ar+methane, collisions, rainbow scatt. 4-43946
Ar⁺+He, electron capture energy loss spectra 4-14547
Ar⁺+Ar collisions at thermal energies, time-of-flight spectra 4-38274
H, elastic scatt. on ions with large impulse transfer 4-9876
H isotope collision systems, elastic scatt. differential cross sections, momentum transfer scaling 4-19260
H+H⁺, elastic differential cross sections meas. 4-9877
H+H⁺, small-angle scatt., elastic differential cross-sections calcs. 4-38276
H⁺+He(Ar)(Xe)(N₂)(O₂)(SF₆) collisions, elastic scatt. differential cross sections 4-9968
H⁺+H, elastic scatt. cross sections at high energies 4-33489
H⁺+H(I_s), charge transfer, variational continuum distorted waves 4-14533
H⁺+Kr(Xe), elastic scatt. and charge exchange at E_{cm}=0.5-30 eV 4-9879
H₂, positronium scatt., elastic and vibr. excitation cross-sections, perturbative calc. 4-10185
He+He, differential cross section meas. 4-14574
He+He, elastic and inelastic collision kinetics with spin-orientation 4-28535
He+Rb, elastic and inelastic collision kinetics with spin-orientation 4-28535
He⁺+He, elastic scatt. and charge exchange at E_{cm}=0.5-30 eV 4-9879
Na⁺+Na, low energy differential scatt. 4-43956
Yb+Xe, dissimilar state superposition, total scatt. cross section vel. depend. 4-23777

elastic scattering of electrons by atoms and molecules
see also gas phase electron diffraction
absolute measurements of small angle elastic scattering of electrons by atoms 4-5367
alkali atoms, electron elastic and inelastic collisions in presence of nonresonant laser field 4-14575

elastic scattering of electrons by atoms and molecules continued

- atom-electron collisions, ang. correls. 4-54866
 atom-electron collisions, polarisation phenomena 4-54862
 atomic, mol. and solid state theory conf., Flagler Beach, USA, March 1983 4-31952
 atoms, electron scatt. amplitudes, including relativistic effects, using SCATTAMPREL program 4-28561
 bonding and correlation in atoms and mols., high energy electron elastic scatt. investig. 4-10101
 boomerang model for reson. electron-molecule scatt., wave packet formulation 4-5394
 Born reactance matrix for cross section calc. 4-33472
 electron atom scattering in the field of a CO₂ laser 4-14576
 electron elastic scatt. and excitation, ang. distrib. 4-10136
 electron scatt. from pot. in radiation field 4-23813
 electron scattering, local energy-depend. optical pots. calcs. 4-19256
 ethane, electron elastic scatt. and vibr. excitation cross-sections 4-10151
 ethylene, and halogen substituted, elastic electron cross sections, overlapping sphere continuum multiple-scatt. X α calcs. 4-33317
 gas, neg. differential cond. from electron scatt. models 4-44791
 inert gas atoms, electron and positron electron scatt., polarised orbital method 4-19259
 limit set to the density of the scattering target by double collisions 4-5357
 methane, electron and positron elastic scatt., intermediate energy 4-10096
 methane, electron and positron total scatt. cross section meas. 4-5403
 methane, electron elastic scatt., inner-shell resons. 4-43982
 methane, electron elastic scatt. and vibr. excitation cross-sections 4-10151
 methane, electron energy loss spectra, elastic and inelastic scatt. 4-10090
 methane, total electron scatt. cross section in energy range 4 to 300 eV 4-5375
 molecular electron elastic scatt., adiabatic partial wave method 4-5396
 molecular electron scatt., independent united atom model 4-5395
 molecular electron scatt., low energy, ab initio optical pots. calcs. algebraic approach 4-5354
 molecular electron scattering, linear algebraic approach calcs. 4-5355
 molecular scatt., expl. methods and data 4-1273
 molecule, electron impact, vibr. rot. excitation and elastic scatt. 4-5481
 molecule-electron scatt., review 4-33536
 MS-X α calcs. of elastic scatt. cross section and XAS of CX₄ and SiX₄ 4-33488
 neutral gas, neg. differential cond. from charged particles transport., generalised Einstein relation determ. 4-44792
 one-electron atom (ion), electron scatt., momentum space coupled channels optical method 4-10091
 polar molecule electron scatt., spherically symm. calcs. 4-10098
 resonance energies and widths, calcs. from poles of multichannel T matrix 4-38330
 triatomic molecules, electron scatt., absolute total cross-sections in low-energy region 4-10149
 1,3,5-trifluorobenzene, elastic electron cross sections, overlapping sphere continuum multiple-scatt. X α calcs. 4-33317
 variable phase method, low freq. radiation, coordinate rot. method 4-28560
 Al, low-energy electron elastic multiple scatt. 4-50386
 Ar, differential cross sections, 50 MeV to 2 eV 4-10093
 Ar, electron elastic scatt. free-free radiative absorpt. cross sections 4-10092
 Ar, electron elastic scatt., spatial angular distrib. 4-23815
 Ar, electron scatt., optical model, charge polarisation, adiabatic model 4-33535
 Ar, electron scatt. total cross sections 4-5373
 Ar, electron scatt. total cross sections in intermediate energy range 4-5376
 Ar, electrons elastic scatt., polarisation and exchange effects 4-5358
 Ar, Ramsauer minima in electron total cross sections, precision meas. with TOF spectra 4-5372
 Ar, total electron scatt. cross section in energy range 4 to 300 eV 4-5375
 Ba laser-excited, superelastic electron scatt. 4-5386
 Be, elastic electron scatt., critical points 4-1269
 Be⁺, elastic electron scatt. cross section (Russian) 4-23816
 C, n 4-5377
 CO, electron elastic scatt. integral cross-sections calcs. 4-5393
 CO₂, electron elastic scatt., intermediate and high energies, two-pot. calcs. 4-23810
 CO₂, electron scatt. cross-section, threshold behaviour 4-5400
 CO₂, electrons elastic scatt. in intermediate energy range 4-54863
 CO₂, positron scatt., integrated elastic cross section, model pot. description 4-5359
 CO₂, total electron scatt. cross section in energy range 4 to 300 eV 4-5375
 Cs, electrons low energy scatt., elastic and inelastic cross sections, reson. struct. 4-54864
 CsBr, electron scatt., 1-25 eV 4-10097
 CsBr, electron scatt., integral of differential cross section meas. 4-5363
 H atoms, electron scatt. above ionisation threshold 4-43989
 H atoms 4-19261
 H, electron and positron electron scatt., polarised orbital method 4-19259
 H, electron collisions, laser polarisation effect 4-19264
 H, electron elastic collisions, functional anal. 4-5380
 H, electron elastic exchange collisions in laser field presence 4-19262
 H, electron elastic scatt., Fock expansion inclusion in hyperspherical coord. calcs. 4-5381
 H, electron elastic scatt., second Born forward scatt. amplitude calcs. 4-23809
 H, electron elastic scatt. using hyperspherical coords. and incorporating the Fock expansion 4-5379
 H, electron scatt., local energy-depend. optical pots. calcs. 4-19256
 H, electron scatt. using polarised electron and at. beams, spin-depend. effects 4-5388
 H, metastable 2s state, electrons elastic scatt. at intermediate energies 4-1271
 H, pseudostate model of electron shadow scattering 4-5365
 H⁺, electronic correlations, hyperspherical description in bound and continuum states 4-5413
 H-like atoms, electron elastic and inelastic collisions in presence of nonresonant laser field 4-14575
 H₂ and D₂, energy unresolved electron scatt., vibr. effect 4-43984
 H₂, electron and positron total cross section study 4-5401

elastic scattering of electrons by atoms and molecules continued

- H₂, electron scatt. at 40 eV, use of two-pot. theory 4-23812
 H₂, electron scatt., independent united atom model 4-5395
 H₂, electron scatt., low energy, model exchange pot. calcs. 4-5392
 H₂, electron scatt. variational R-matrix calcs. 4-5391
 H₂, low energy electron thermalisation, nonequilibrium electron vel. distrib. 4-1282
 H₂, molecular X-ray- and electron-scattering intensities, directional elastic intensities 4-49163
 H₂, positron elastic low energy scatt. cross sections, Kohn variational method 4-5404
 H₂, positron impact, elastic and rot. excitation, positronium form. 4-49164
 H₂, subexcitation electron energy distrib., stopping cross sections 4-10102
 H₂, total electron scatt. cross section in energy range 4 to 300 eV 4-5375
 HCN, electron elastic scatt., 21.6 to 700 eV, two-pot. hybrid method calcs. 4-23811
 H₂S, electron scatt., low-energy, fixed-nuclei approx. calcs. 4-10153
 H₂S, low energy elastic scatt., rot. and vibr. excitation 4-38331
 H(2S), e⁻ elastic scatt. in two-potential eikonal approx. 4-23814
 He, elastic electron collisions in elec. field 4-19263
 He, elastic electron scatt., two pot. high energy higher order Born approx. 4-43983
 He, elastic scatt. of positrons 4-1272
 He, elastic small angle electron scatt. 4-5364
 He, electron elastic scatt., eikonal exchange amplitude calc. 4-5382
 He, electron scattered wave functions using extended Numerov algorithm 4-5378
 He, electron scattering, quasifree scatt. model for the imaginary part of the optical pot. 4-10103
 He, electronic correlations, hyperspherical description in bound and continuum states 4-5413
 He, eleven state electron scatt. calc. 4-5384
 He, resonant electron elastic collisions, average energy variations 4-14573
 He subexcitation electron energy distrib., stopping cross sections 4-10102
 He, total electron scatt. cross section in energy range 4 to 300 eV 4-5375
 He⁺, electron elastic scatt. using hyperspherical coords. and incorporating the Fock expansion 4-5379
 He-like ions, electron scatt. cross-sections, reson. effect 4-5469
 He+H⁺, elastic scatt., excitation and ionisation 4-9878
 Hg, electron elastic and inelastic, 656p^o resonances 4-5383
 Hg, electron scatt., polaris. effects in one-photon free-free absorpt. 4-38332
 Hg, Franck-Hertz expt., elastic electron-atom collision effects 4-22545
 Hg, polarised electron elastic scatt., absolute differential cross sections 4-54865
 Hg, triple electron scatt., scatt. amplitudes determ. 4-5389
 K, electron and positron total scatt. cross sections 4-5402
 Kr, differential cross sections, 50 MeV to 2 eV 4-10093
 Kr, electron scatt. total cross sections 4-5373
 Kr, low energy electron scatt. 4-5371
 Kr, slow electron superelastic collisions, impact deexcitation 4-38275
 Kr, total electron scatt. cross section in energy range 4 to 300 eV 4-5375
 Li, elastic scatt. of positrons 4-1272
 Li, electron and positron collisional cross sections, modified Glauber approx. 4-1270
 Li, electron and positron total collision cross section using the modified Glauber approx. 4-5374
 Li, electron elastic scatt., spin exchange scatt. amplitudes determ. 4-5387
 Li, electron scattering total cross sections 4-54861
 Li, positron elastic scatt. at intermediate energies 4-5405
 Li, slow electron scatt., elastic and inelastic, cross-sections calcs. 4-5426
 Mg, electron and positron elastic scatt. cross sections, optical pot. method 4-19258
 Mg⁺, elastic electron scatt. cross section (Russian) 4-23816
 Mg⁺, electron scatt., elastic cross-section, electron capture effects 4-19265
 N, fast electron scatt., theoretical cross-sections 4-5377
 N₂, directional elastic intensities 4-49163
 N₂, elastic electron cross sections, overlapping sphere continuum multiple-scatt. X α calcs. 4-33317
 N₂, electron elastic scatt., integral cross-sections calcs. 4-5393
 N₂, electron elastic scatt., inner-shell reson. obs. 4-5399
 N₂, electron elastic scatt., intermediate and high energies, two-pot. calcs. 4-23810
 N₂, electron elastic scatt., inner-shell resons. 4-43982
 N₂, electron scatt. MCSCF target wavefunction calcs. 4-5398
 N₂, electron scatt. optical pot. calcs. beyond second order 4-5397
 N₂, electron scatt. total cross sections 4-5373
 N₂, electrons scatt., reson., boomerang model, wave packet formulation 4-5394
 N₂, positron scatt., close-coupling study 4-5406
 NH₃, electron elastic scatt., small angle, 300, 400 and 500 eV 4-10099
 N₂O, electron and positron total scatt. cross section meas. 4-5403
 Na, electron elastic scatt., Glauber approx. 4-5369
 Na, electron small-angle scatt., elastic and inelastic 4-5366
 Na, superelastic electron scatt. DWBA calcs. 4-5385
 Ne, 16 eV region, compound state form., model 4-10094
 Ne, electron scattered wave functions using extended Numerov algorithm 4-5378
 Ne, electron scattering, quasifree scatt. model for the imaginary part of the optical pot. 4-10103
 Ne, electrons elastic scatt., polarisation and exchange effects 4-5358
 Ne, intermediate energies, opt. pot. calcs. of cross sections 4-10095
 O, fast electron scatt., theoretical cross-sections 4-5377
 Rb, elastic electron scatt., appl. of Rb Rydberg state quenching 4-19214
 SF₆, electron and positron total scatt. cross section meas. 4-5403
 SF₆, electron elastic scatt. cross-section, ab initio SCF calcs. 4-10100
 SO₂, total electron scatt. cross section in energy range 4 to 300 eV 4-5375
 UF₆, electrons elastic scatt. cross sections 4-23827
 Xe, differential cross sections, 50 MeV to 2 eV 4-10093
 Xe, electron elastic and inelastic scatt., relative differential cross sections in energy range 15 to 80 eV 4-5368
 Xe, electron elastic scatt. below first inelastic threshold, relativistic phase shift anal. 4-5370
 Xe, electron scatt. total cross sections 4-5373
 Xe, low energy electron scatt. 4-5371

elastic scattering of electrons by atoms and molecules continued

- Xe, polarised electron elastic scatt., absolute differential cross sections 4-54865
- Xe, slow electron superelastic collisions, impact deexcitation 4-38275
- Xe, total electron scatt. cross section in energy range 4 to 300 eV 4-5375
- Xe, triple electron scatt., scatt. amplitudes determ. 4-5389
- ZnII, electron elastic scatt. and excitation, ang. distrib. 4-10136

elastic waves

see also *acoustic waves; Love waves; magnetoelastic waves; Rayleigh waves; seismic waves; vibrations*

- AE signal evaluation, rise time effect of dynamic source 4-41152
- alloys, residual stresses evaluation, horizontally polarised shear waves appl. 4-35839
- anisotropic semi-infinite space torsional oscils. by impulsive twist in presence of mag. field 4-5831
- attenuation, effects of microstruct. 4-29524
- axisymmetric wave mode propag. vels. along an orthotropic hollow cylinder 4-19764
- bar, high-freq. longit. wave propag., theory 4-44464
- bars, cylindrical, elastic-plastic wave propag. 4-24368
- beam, response to transient pressure wave load 4-44455
- bimaterial composite, penny shaped crack interaction with torsional wave 4-38760
- body in lubricated contact, low-freq. scatt., second correction 4-33994
- body in lubricated contact, low-freq. scatt. 4-33992
- bulk waves near acoustic axes, external influences effects 4-34577
- cavity, spherical, wave propag. by sudden impulse on boundary 4-1642
- circular rigid disc at interface of two bonded dissimilar elastic solids, torsional wave diffr. 4-5794
- composite, elastic, boundary-value problems soln., static and dynamic problems, thermal cond. 4-44386
- composites, laminated, steady-state point source excitation 4-1663
- contact flexural waves in thin plates 4-2266
- contact problem for finite elastic region in contact with half-plane, soln. method 4-38767
- crack, stationary, semi-infinite, dynamic stress intensity factor due to arbitrary screw dislocation motion 4-1682
- crack mapping by ray methods 4-35825
- cracks, elastic wave diffraction, appl. to TOF inspection 4-3364
- crystalline solid under shock loading, deformation mechanisms, elastic waves 4-5813
- cylinder, infinitely long, bonded to infinite medium, diffraction of torsional waves by penny-shaped crack 4-10592
- cylinder, noncircular, with initial stresses, flexural wave propagation 4-44465
- cylinder-fluid prestressed compressible system, initial stress influence on the backward wave 4-19766
- cylindrical cavities, elastic wave, HF scatt. 4-55365
- deformation trapping due to thermoplastic instability in one-dimens. wave propag. 4-49745
- diffraction, by penny shaped cracks 4-1658
- diffraction by deformable obstacles, general method 4-10586
- diffraction by three-dimens. surface irregularities 4-31417
- diffraction problems, transcendental eqn. soln. 4-44438
- disc rigid, in infinite elastic cylinder, torsional wave diffr. 4-24366
- dispersed systems, conc., of fluidised layer type, elastic press. waves, acoustic effects 4-34169
- effective anisotropic elastic constants for wave propagation through cracked solids 4-26632
- elastic solid with spherical cavity, elastic pulse generation by applied tractions 4-24364
- elastic spherical structure, multilayered, factorisation interpretation of resonances (French) 4-5758
- electrodes, wave excitation by pulse elec. discharges 4-44880
- ellipsoidal inhomogeneity embedded in an infinite elastic matrix subjected to plane time-harmonic waves, elastodynamic field theory. 4-1613
- energy distribution of surface source in inhomogeneous half-space 4-42725
- ferroelectric-ferroelastics, polycrystalline, elastic wave props. 4-35373
- ferromagnet, disordered, elastic wave-spin wave three-freq. interaction (Russian) 4-35152
- flaws near surfaces, elastic wave scattering, Fourier elastodynamics, US inspection appl. 4-30903
- frequency response extrapolation applied to wave scatterers 4-12816
- half space torsional response to nonuniformly expanding ring source 4-28982
- half-space, layered anisotropic elastic, moving stress discontinuity, SH-type wave generation 4-24365
- hexagonal cryst. plate, surface and exceptional body elastic waves 4-34770
- inclusion boundary estimation from elastic waves scattering data 4-35820
- inverse Born approximation, exact determ. of convex voids 4-29426
- inversion transformation 4-28950
- linear viscoelasticity, wave propag., dynamic response models comparison 4-55355
- liquid layer sandwiched between two thermoelastic half spaces, wave propagation 4-38753
- long-range correlated random pot. wave propag. and localisation 4-20607
- matrix methods for elastic wave scatt., flaw detection appl. 4-24395
- metal, planar stress wave, dislocation dynamics and viscosity effects 4-2267
- metal/electrolyte interface, surface elastic wave propag. 4-39650
- metals, stress analysis, scanned shear wave meas. 4-35837
- moving sources, wave front propag. 4-47878
- multilayer media, thermal elastoplastic wave damping (Ukrainian) 4-38749
- multiply-connected solids with piezocryst. inclusions, elastic wave diffr. (Ukrainian) 4-38751
- non-stationary stress wave refl. problem generated in semi-infinite body by moving linear load 4-1654
- percussive machine, axial shocked body elastic wave shape meas. problem (German) 4-49791
- periodic surface profile, elastic wave reflection, beam splitting 4-19629
- periodically layered elastic composites, stress pulses propagation 4-19753
- phase, diffraction of horizontally polarized shear waves by normal edge cracks 4-24393
- photoelastic fringe analysis in wave propag. problems 4-1614
- photothermal excitation of elastic waves by 10 ns laser pulses and detection by photoelastic laser-beam deflection 4-33990

elastic waves continued

- piezoceramic half-space boundary, electroelastic wave refl., energy analysis (Ukrainian) 4-38750
- plane waves, dispersion by slender body with free boundary (Russian) 4-5828
- plate, elastic, waves generation by vertical force and moment in vertical plane 4-1653
- plate, fluid-loaded, elastic waves, dispersion rel., complex root-finding technique appl. 4-33995
- plate, thin transversely isotropic, propag. of flexural waves, math. model 4-33998
- plate response to transient pressure wave load 4-44456
- plates, plane impact, wave propag., modified characts. method 4-49753
- PMMA, intense impulsive loads, stress waves 4-34540
- polarisation control by elec. field creating helical anisotropy 4-1522
- polycrystalline materials, acoustoelasticity, texture effect 4-34562
- polycrystalline materials, elastic wave propag., unified theory 4-55918
- polymeric rod, viscoelastic props., relax. kernels parameters determ. from wave expt. results 4-28988
- polyurethane, heat treatment effect on struct., elec. and mech. props. (Russian) 4-40823
- porosity, elastic wave scatt. from multiple voids, US meas. technique 4-30908
- prestressed elastic medium, plane waves propag. 4-19631
- propagation along an inhomogeneous elastic layer bounded by a liquid (Russian) 4-10581
- propagation along rough surface (Russian) 4-25141
- propagation anisotropic inhomogeneous media for half space and sphere 4-26625
- propagation spatial pattern restoration in elastic medium, seismic appl. 4-55360
- propagator matrix for continuously layered porous seabeds 4-31416
- Rayleigh wave scattering at various wedge corners 4-58080
- reflection at free surface, initially stressed, P and SV motion 4-19630
- reflection at free surface, initially stressed, P and SV motion 4-19632
- residual stress characterisation, by elastic wave scattering meas. 4-35838
- reverberator period in arbitrary model of active medium, cardiac arrhythmias appl. 4-12603
- rigid curved tunnel-type insert in elastic half-space, longit. shear wave diffr. 4-34006
- rock, cracks and joints, elastic props., moduli and wave vel. (German) 4-41895
- rock under pressure, elastic moduli, stress-strain curves and seismic vel. in rock under press. 4-26690
- rod, bending vibr., elastic wave radiation 4-29000
- rods with nonstationary fastenings, parametric instability of longit. vibrs. 4-55362
- scattering, by inclined surface void, T-matrix approach 4-1662
- scattering, transition matrix for prolate spheroidal coordinates 4-33831
- scattering from rough surfaces and cracks 4-29005
- seismic waves, book 4-36
- seismic waves, propag. in inhomogeneous media 4-26626
- seismic waves in anisotropic media 4-26622
- seismic waves propag. in elastic media with stress induced anisotropy 4-26631
- SH waves in anisotropic layer with irregular boundary 4-1639
- shaft with rotor having time-depend. moment of inertia, torsional deform. anal. 4-1657
- short elastic pulse excitation by capacitative method 4-3355
- solid layer, elastic wave excitation and reception by piston type transducer 4-3352
- spherical inhomogeneity in half-space, refl. of longit. elastic waves, flaw detection appl. 4-16604
- steel rolled plate, acousto-elastic effect meas. using US transverse waves 4-2273
- stress wave emission during fracture 4-44489
- stress waves in elastic half-space, single and multiple surface sources 4-33984
- surface breaking and sub-surface cracks, elastic wave scattering, wavefront fields 4-24394
- surface breaking crack, interaction with surface elastic wave, expt. study 4-33972
- surface waves of discontinuities in finitely strained elastic materials 4-55363
- textured materials, absolute determ. of stress, elastic wave propag. theory 4-29035
- thermoelastic harmonic waves, integral representation and uniqueness theorem 4-3827
- thermoelastic wave geometry, propagation in solid half-space 4-38747
- thermoelastic wave propagation in elastic medium, relaxation time effects 4-33989
- torsional waves, diffr. by flat annular crack at interface of two bonded dissimilar elastic solids 4-29015
- transient response of an elastic medium to torsional loads on a cylindrical cavity 4-1589
- transmission and scattering by simple inhomogeneity 4-29004
- transversely isotropic medium, infinite, interaction of SH waves by Grif-fiths crack 4-1669
- two contacting solids, fractional slip and separation in transonic range from plane stress pulse 4-49746
- underground explosions, elastic wave emission, porous saturated medium deform. 4-31444
- uniqueness theorem in elastodynamics, harmonic elastic wave scatt. 4-44463
- US flaw detection, wave scattering by obstacles in joined fluid-solid half spaces 4-30904
- US scattering by flaws in a slab or a half-space 4-30906
- velocities in quartz monzonite at different levels of water saturation, laboratory meas. 4-52699
- viscoelastic layered composite plates, higher order dynamic theory 4-38755
- weak and short waves in one-dimens. inhomogeneous nonlinear elastic materials 4-19640
- Al, acoustoelasticity, texture effect 4-34562
- Al, rolled plates, stress analysis, scanned shear wave meas. 4-35837
- Cu, acoustoelasticity, texture effect 4-34562
- Cu alloys, internally oxidized, shock loading microstresses 4-45261
- FeBO₃, domain walls, oscils., elastic wave interference 4-35219
- Nb single cryst., elastic props. and RMS dynamic displacement of Nb atoms 4-2255

elastic waves continued

- Ti alloys, elastic wave scattering from irregular voids 4-16579
 YFeO₃, domain walls, oscills., elastic wave interference 4-35219

elasticity

- for crack problems in elasticity see crack-edge stress field analysis
 see also elastic constants; elastic moduli; elasticity of liquids; elastoplasticity; photoelasticity; rheology; thermoelasticity
 acoustoelastic evaluation of residual stresses in nonhomogeneous anisotropy plates by US vel. meas. 4-3363
 acoustoelastic measurement of stress using US waves 4-41108
 acoustoelasticity, two-dimens., using pulse echo overlap technique 4-14854
 adhesive-bonded single-lap joints, anal. 4-1610
 alloys, elastic stabilization of precipitates against applied load coarsening 4-51661
 amorphous structure local elasticity props., evidences for typical sites and shell struct., dynamic stability 4-39360
 anisotropic materials, US IDT for underwater measurements of elastic anisotropy 4-14856
 anisotropic solid whose deformation characts. depend on form of stressed state, elasticity relation 4-49675
 ankle dynamic stiffness, invariance during fatiguing muscle contractions 4-31254
 annular disc inclusion problems in elasticity 4-34011
 aorta, descending thoracic, pig, positional variations in fracture toughness, stiffness and strength 4-21720
 associated path independent J-integrals for separating mixed modes 4-14919
 axisymmetric problems, Hankel transform in boundary integral methods 4-32047
 axisymmetric three-dimens. elasticity problems, integral eqn. soln. 4-47875
 bar, with circular holes elastic torsion anal. by boundary integral method 4-1609
 bars, linear, elastic, orthotropic, with multicircuit closed section, static computation using semi-momentless theory of shells (Polish) 4-49672
 beam, elastic, with nonlinear boundary conditions, chaotic vibrs. 4-24370
 beam, nonlinear elastic, large lateral buckling 4-49726
 beam, plane, stiffness matrix, computer subroutine (Croatian) 4-55340
 beam on elastic base, bending, asymptotically precise eqn. (Russian) 4-44395
 beam plate oscillations on elastic base covered by liq. layer under non-stationary load action (Russian) 4-10582
 beams, elastic, spatially curved, of thin-walled open cross section with local deforms., elastic theory 4-14883
 beams, point-forced elastic, acoustic radiation, acoustic power 4-33840
 beams, thick, of multimodular material, deflection, transfer-matrix anal. 4-55346
 beams, unilateral contract, dynamic anal. by time-stepping quadratic programming procedure 4-38766
 bicrystal, anisotropic, elastic fields of dislocations piercing interface 4-6369
 bielastic medium, cracks, elasticity theory anal. (Russian) 4-44488
 Bilby-Cottrell crack initiation mechanism theory in metals 4-55375
 bimaterial composite, penny shaped crack interaction with torsional wave 4-38760
 bonded anisotropic materials, stress singularities 4-34003
 bonded elastic beams with single lap viscoelastic adhesive joint, vibrs. 4-33988
 boundary integral equation solutions, for three dimens. stress conc. problems 4-1607
 boundary layer width determ. from condition of min. energy 4-47876
 boundary value problems, quasiperiodic, in elasticity theory 4-4226
 boundary-element method for elastostatics in a plane region bounded by a smooth curve 4-17696
 cable, heavy elastic, planar nonlinear free vibrations, eqns. of motion 4-49741
 cancellous bone strength at the proximal human tibia 4-52374
 canonical decomposition of fourth rank tensors of elasticity (French) 4-47872
 cholesteric liq.-crysts., blue phase I, elasticity, normal shear modes determ. 4-44944
 circular cylinder, finite strength, symm. loading, stress anal. (Japanese) 4-24350
 classical and moment theory of elasticity, relationship between intensity coeffs. 4-53488
 column, elastic, post-buckling shape, max. deflection estimates 4-38740
 column, Timoshenko type, supported by elastic half space, forced flexural vibrs., Timoshenko theory 4-5830
 complex elastic vibrating systems, generalised Dunkerley-Graeffe procedure 4-33983
 composite, dispersely filled, influence of adhesion on elastic props. 4-44502
 composite, elastic, boundary-value problems soln., static and dynamic problems, thermal cond. 4-44386
 composite material anisotropic plates, boundary-value problems, finite element approx. 4-10546
 composite material mechanics with a small-scale structural flexure 4-44368
 composite material plate, interaction with bonded stiffener 4-49771
 composite materials, vibration theory, geometrically linear formulation 4-44367
 composite theory, Green tensor of equilib. eqn., relations for operators 4-49692
 composite with small-scale curvatures in struct., quasiuniform states analysis 4-44392
 composites, film reinforced, elasticity and thermoelasticity relationships 4-49689
 composites, non-local effective elastic property bounds 4-28972
 compressible medium, linear elastic equilibrium eqns. 4-22589
 cone-shaped optical elements, monolayer and multilayer, deform. calc. 4-28990
 contact problem, elasticity theory, soln. by finite element anal. 4-34014
 contact problem of orthotropic nonhomogeneous elastic half-space 4-44500
 contact problems, two-dimens. elastic and plastic, modified finite element method 4-55383
 contact problems in elasticity and elastoplasticity theory, iteration soln. 4-14926

elasticity continued

- contact stress of an elastic layer pressed on a rigid base with a smooth protrusion 4-14924
 continuous elastic medium with large number of small absolutely solid inclusions, averaged description 4-10548
 continuous elastic space, displacement gaps (Ukrainian) 4-4227
 continuum mechanics, Eulerian and Lagrangian descriptions, canonical maps between Poisson brackets, examples 4-17699
 convergence of finite element methods (German) 4-36907
 coordinate descent method, theory of elasticity problems soln. 4-10551
 crack forces in mixed-mode loading, acoustoelastic determ. 4-1690
 crack stress anal., dynamic punch problems, closed form solutions 4-49768
 crack tip location in plane elastic media using pseudocaustic method 4-5848
 critical imperfection territory 4-38725
 curved dislocation in two phase medium, elastic stress field 4-50289
 cylinder, laminar inhomogeneous hollow, bending problem soln. 4-38728
 cylinder, square section, near vortex reson., aeroelastic instability, forced-vibr. study 4-29001
 cylinder, three-layer transversely corrugated thick-walled, axisymmetric elastic equil. 4-44394
 cylinder-fluid prestressed compressible system, initial stress influence on the backward wave 4-19766
 cylinders, corrugated, finite size, elastic equilb. investigation 4-44369
 cylinders, elastic, longitudinally corrugated, three-dimens. stressed state anal. 4-49674
 cylinders, isotropic, torsion problem and micropolar elasticity 4-47869
 cylinders, square, hydroelastic instabilities 4-33981
 cylindrical cavity in elastic medium, singularities due to concentrated pressure loading 4-49686
 cylindrical tubes, hyperelastic, simultaneous gyroscopic and radials oscillations 4-44446
 dielectric, elastic, EM depend. of stress intensity coeffs. 4-28975
 dielectric, elastic, stress intensity coeffs. determ. 4-28976
 dielectric, stress intensity coefficients, determ. of K_I and K_{III} 4-47868
 dielectric, stress intensity coefficients, first auxiliary solution 4-47866
 dielectric, stress intensity coefficients, second auxiliary solution 4-47867
 Dirichlet problem for vibrating string eqn., solvability (Russian) 4-8746
 Earth interior, eqns. of state for metals, halides and oxides 4-52694
 edge of cut moving at transonic speed in elastic medium, dynamic problem soln. 4-49762
 elastic finite elements, quadrature and singular finite elements 4-53484
 elastic layer indented by concave rigid punch, contact stresses 4-10611
 elastic-electrostatic analogy, implications on certain path-indep. integrals 4-4229
 elastodynamical problems, integral eqn. appls. (Japanese) 4-53487
 elastodynamics problems with friction, numerical anal. 4-14925
 elastohydrodynamic lubrication theory, Grubin's film thickness formula 4-34015
 elastoplastic, linear and nonlinear viscoelastic systems, elasticity theory (Russian) 4-44385
 elemental cell analogue of elastic element 4-5797
 ellipsoidal inhomogeneity embedded in an infinite elastic matrix subjected to plane time-harmonic waves, elastodynamic field determ. 4-1613
 elliptic plane problems, equilibrium finite element method appl. 4-28965
 equations of applied elasticity, soln. by variational iteration method 4-53489
 fibre reinforced composite, transverse stiffness, model of couple stress effect 4-49682
 fibre reinforced composites, elasticity and thermoelasticity relationships 4-49689
 fibre reinforced composites, hybrid unidirectional, elasticity characts. 4-12095
 fibre reinforced plate with equally stressed fibres of const. cross section, design problem 4-44388
 finite deformation anal., rate constitutive eqn. numerical integration 4-1617
 finite plane elasticity harmonic materials, buckling problems 4-44430
 fluid layer, semi-infinite, steady-state, harmonic vibrs., discrete radiation boundary conditions 4-15037
 garnet, elasticity and thermal expansion at high temp. 4-47253
 graphite, radiation induced changes in properties 4-54273
 half space torsional response to nonuniformly expanding ring source 4-28982
 half-body, semiinfinite elastic laminated, stress and couple stress anal. 4-24349
 half-plane, elastic, under dynamic load, stress intensity factors calc. for crack (Russian) 4-44494
 half-plane isotropic, with linear inclusions, elastic equilb. 4-10555
 half-space, stress wave interaction with periodic system of shear cracks 4-19772
 half-space bounded by vertical perfectly smooth plane, elastokinetics problem 4-1654
 half-space containing cavity, steady-state oscills. 4-44437
 half-space containing disc-like inclusion, axisymmetric twisting 4-55319
 half-space problems, soln. of Fredholm integral eqn. of the first kind 4-33943
 HCP cryst., dislocations elastic interaction with (100) monoclinic point defects 4-34533
 helicoidal system, strip method for stress analysis 4-38727
 heterogeneous elastic medium, stress concs. around circular hole (Russian) 4-44396
 homogeneous elastic plate model, nonunique solns. approx. 4-28981
 hydroelastic system vibration, bubble gas saturation and dynamics influence (Ukrainian) 4-24369
 hydroelastic vibrational modes of tanks or immersed structures, added mass computations by integral eqn. methods 4-1641
 hyperelastic incompressible body anal. by finite element method 4-19718
 hyperelastic materials, uniformity 4-49685
 incompressible medium, linear elastic equilibrium eqns. 4-22588
 infinite elastic body, cylindrical inclusion with const. transverse eigenstrains 4-5799
 infinite plane elastic surface, acoustic and struct. fields, fluid loading, compliant coating effects 4-33839
 infinite strip, elastic, diff. of stress wave by cylindrical cavity 4-44449
 infinitely long elastic layer under shear, closed form soln. for external cracks 4-10606
 inhomogeneous elastic media, separation of vector wave eqn. 4-13516
 inhomogeneous nonlinear elastic materials, weak and short wave displacement 4-19640

elasticity continued

- instability elastic column structures studied using catastrophe theory 4-19748
 integral equation soln. of mixed problems of elasticity theory 4-4225
 interaction of two precipitates subjected to applied stress field 4-16371
 intersecting equal diameter cylindrical shells under internal pressure, creep 4-28993
 inverse problem of three-dimensional elasticity 4-53490
 isotropic elastic half-space, quantisation of phonons 4-6455
 isotropic elastic materials, strong ellipticity, copositive matrices 4-38714
 joining and contact of elastic bodies, matching discrepancies of displacements and stresses 4-10549
 Kurpsai hydroelectric station seismic loads, elastic and inertial forces consideration 4-57650
 laminated hollow sphere, radial vibrs. 4-10585
 laminated plates with layers with differing elastic characts., bending theory 4-28991
 layer contact with semispace, thermodiffusion anal. (*Polish*) 4-48046
 layered composites, effective dispersion theory 4-1611
 linear, plane problems, boundary element technique 4-32045
 linear elastodynamic systems, boundary stabilisation 4-32050
 linear elastodynamics, symm. primal-dual coupled variational principles (*French*) 4-42719
 linear porous-elasticity, boundary integral eqn. method, fracture propag. appls. 4-44384
 linear porous-elasticity, boundary integral eqn. method, soil consolidation appls. 4-44383
 loading discontinuities, elasticity, singular integral eqn. validity 4-32043
 longitudinal collisions by stratified subspace (*Russian*) 4-44411
 lung, blood flow anal. with detailed anatomical and elasticity data, cat 4-21715
 lung, dog, sensitivity of freq. depend. of compliance in uneven time constants detect. 4-21702
 lung, elastic characteristics of perivascular interstitial space 4-3583
 magnetic sphere rheometer for viscosity and elasticity meas. (*French*) 4-55468
 magnetostrictive hollow circular cylinder, torsional deformation under tangential tractions 4-10543
 mass with toroidal cavity, nonaxisymmetric deform. 4-19731
 material interface, tear-shear crack dynamics 4-49694
 materials with fading memory, nonlinear functional differential eqn. in Banach space 4-27297
 mechanical boundary value problems, approx. solns. (*Polish*) 4-47873
 mechanical structures, linear elastic, frequency response meas. 4-49792
 metals, polycrystalline, stress calc. in half space, random walk method 4-38721
 metals, stress analysis, scanned shear wave meas. 4-35837
 microelastic half plane, couple stresses influence on singular stress conc. 4-99
 micropolar elasticity, boundary integral eqn. method 4-32044
 micropolar elastostatics, fundamental solutions 4-36906
 mixture of two elastic solids occupying an unbounded domain, static equilibrium. eqn. boundary-value problem uniqueness 4-4228
 momentum current concept, static problem soln. 4-42657
 moving sources, wave front propag. 4-47878
 multiple contacts, plane theory of elasticity, interaction between asperities (*French*) 4-49770
 multiply twinned particles, elastic strains and energy balance 4-39312
 nematic liquid crystals, molecular alignment in oblique mag. field, optical study 4-39097
 nonlinear aeroelasticity 4-14912
 nonlinear antiplane deformation of a body weakened by a cut in the shape of a lune 4-49695
 nonlinear circular membrane under vertical force 4-33956
 nonlinear couple stress theory of elastic dielectrics, with appl. to dynamic deformations 4-14886
 nonlinear elastic materials, solns. for a system of eqns. 4-1598
 nonlinear elastic solid, symmetric stress tensor 4-47871
 nonlinear elastic structures, acoustic excitation 4-44442
 nonlocal interaction of electromagnetic fields with elastic body 4-1317
 nontensile thread dynamics in a liq. (*Russian*) 4-10530
 notch stress analysis using boundary and finite element methods, economy and convergence 4-53486
 Oldroyd fluids, two dims. time depend. flows, numerical simulation 4-34144
 Oldroyd liq. flow in a continuous-flow squeeze film 4-34148
 optical fibres, elastic profiles meas. using reflection acoustic microscopy 4-10433
 orthotropic elastic media, positive, negative and neutral shear moduli, material tests 4-2249
 orthotropic micropolar elastic material, finite element stress analysis 4-38722
 orthotropic panels with infinite width, hydroelastic instability under shear load 4-33985
 oxidation of curved surfaces, elastic and viscoelastic stresses 4-16522
 panels, elastic, stability in supersonic gas flow, effect of elastically suspended masses 4-55358
 parallelepiped, free rectangular, vibrations 4-1661
 parameter estimation for distributed systems 4-13517
 Pascal's limaçon hole under uniform normal pressure, second order elastic effects 4-10544
 piezoelectric shells, var. stiffness, design 4-33959
 piping elbows, stress analysis 4-49678
 plane elastic problem with arbitrary shape boundary crack (*Chinese*) 4-10591
 plane stresses, eigensolution space dimensions problem (*Italian*) 4-28974
 plane with thin cut of arbitrary shape, dynamic problem of brittle destruction (*Russian*) 4-44493
 plate, anisotropic, with sharp-ended anisotropic inclusion, plane problem 4-49765
 plate, circular cracked, Fredholm integral equation 4-5841
 plate; infinite, with cracks and holes, two-dimensional theory of elasticity 4-49767
 plate, piecewise-homogeneous with an elastic inclusion, stressed state 4-44373
 plate, thick elastic, stability under thrust, flexural buckling critical state 4-38738
 plate, thin orthotropic linear elastic, bending, boundary integral eqn. 4-49713
 plate, vibr. in inhomogeneous elastic half space 4-28977
 plate and rod discrete interaction, plane contact problems 4-49774

elasticity continued

- plate equations, corrected, systematic development (*German*) 4-53483
 plate orthotropic, optimal orientation of axes of elastic symm. 4-55325
 plate with circular plug and rectilinear thin elastic inclusion, elastic state 4-19728
 plates, constrained, Lagrange multipliers with polynomial series. for dynamic anal. 4-33978
 plates, constrained, Lagrange multipliers with polynomial series for dynamic anal. 4-33979
 plates, corrugated cylindrical, continuation method rel. to integration segment length 4-49693
 plates, elastic, circular, moderately thick postbuckling anal. 4-1638
 plates, elastic, contact problem 4-44496
 plates, elastic, static deform., two dims. eqns., asymptotic theory 4-33929
 plates, heated, nonlinear free vibrs. and thermal buckling 4-14906
 plates, layered, dynamical theory construction, finite element method 4-49681
 plates, multilayered, stress anal. around circular holes 4-5792
 plates, perforated, plane problem of elasticity, soln. method 4-55334
 plates, rectangular, loaded beyond elastic limit, soln. calcs. (*Rumanian*) 4-19729
 plates, rectangular anisotropic, in flexure with free edges, numerical soln. 4-55341
 PMMA, ultrasonic velocity softening due to uniaxial tensile stress 4-24911
 polycrystalline cubic materials, elasticity anisotropy invariants from axial textures (*Russian*) 4-49683
 polycrystalline materials, acoustoelasticity, texture effect 4-34562
 polycrystalline materials, dispersion of elastic props., quasihomogeneity parameter (*Russian*) 4-45251
 polycrystals, intercryst. cracking, grain-boundary sliding and delayed elasticity at high temps. 4-34570
 polydimethylsiloxane, unimodal networks, rubberlike elasticity, non-Gaussian theory 4-21259
 polyethylene, unimodal networks, rubberlike elasticity, non-Gaussian theory 4-21259
 polymers, glassy, stress and displacement fields at tip of crazes 4-40984
 poroelasticity, inertial effects 4-1612
 pressure indicator in elastic and plastic media 4-11217
 prestressed elastic medium, shock adiabat of quasitransverse shock waves 4-5826
 psos fibres, glycerinated, rabbit, compliance in rigor state 4-57925
 psos fibres, glycerinated, rabbit, stiffness in the rigor state, filament-overlap relation 4-57924
 pulmonary veins, patency and compliance when airway press. exceeds blood press., cat expts. 4-3576
 relaxation problem in continuum elasticity theory 4-19721
 rheological model of nonlinear viscoplastic solids 4-14898
 rod, elastic, forced vibrs., non-selfadjoint diff. eqns., fundamental integrals 4-44444
 rod, with variable cross-section, elastic stability when subjected to distributed load 4-10552
 rod-wall elastoinimpact stress anal., two-dimens., dynamic substructuring method 4-10612
 rodlike polymer behaviour in conc. solns., polydispersity effect 4-34026
 rods, elastic, torsion and weakening by radial cracks 4-49764
 rods, flexible, elastic, static problems, numerical methods 4-44374
 rods with nonstationary fastenings, parametric instability of longit. vibrs. 4-55362
 rotating disc stress analysis with FEM 4-44403
 rubber, elasticity, pseudo cross-link theory 4-3166
 sandwich shell theory validity 4-14888
 shallow shell problem, formulation and soln. using integral eqns. (*Rumanian*) 4-38719
 shallow shell with attached mass distrib. over surface segment, vibrs. 4-24371
 shape design sensitivity analysis of elastic structures 4-19720
 sheet, uniform, periodic problem soln. of elasticity theory by method of singularities (*Russian*) 4-5802
 shell or rod, heavy elastic, lifting from incline 4-19730
 shell, circular cylindrical, optimisation under action of external stepped press. (*Russian*) 4-44381
 shell, circular cylindrical, with hole, stress conc. calcs. 4-44390
 shell, cylindrical, eqns. of engng. theory of elasticity, periodic and aperiodic solns. 4-38730
 shell, cylindrical, orthotropic, with nonuniform boundary conditions, stress state investig. 4-44393
 shell, cylindrical, three-layer, induction coeffs. calc. under axisymmetric load (*Russian*) 4-44363
 shell, elastic, acoustic wave diff. soln. (*Ukrainian*) 4-24275
 shell, elastic, interaction with compressible fluid, stability of explicit difference schemes 4-19776
 shell, elliptical, nonsteady interaction with liq., radiation press. and transfer functions 4-44473
 shell, impulsively loaded, nonlinear dynamics, explicit algorithm 4-49660
 shell, linear cylindrical, stochastic stability and instability 4-38739
 shell, nonstationary hydroelasticity, interior problems, transfer functions computation 4-44472
 shell, prestressed orthotropic thick cylindrical, response to step pressure pulse 4-49748
 shell, spherical, deform. under wind load soln. 4-55335
 shell, stability eqns. soln. using method of orthogonal trial run 4-38744
 shell, thin elastic cylindrical, local buckling under axial compression (*Russian*) 4-44435
 shell of revolution, hydroelasticity matrix eqns. solns. (*Russian*) 4-44445
 shells, anisotropic, reliability calc. random-field excursions appl. 4-10547
 shells, flexible, laminated, static problems, nonlinear boundary-value problem soln. in supercritical region 4-19732
 shells, linearly elastic and physical nonlinear shallow, contact problem variational formulation 4-5844
 shells, momentum-free, displacement, differential operator calcs. (*Russian*) 4-32051
 shells, multilayer, piezoceramic, with layer thickness polarisation, electroelasticity relations 4-55333
 shells, spherical with initial imperfections, dynamic elastic buckling 4-38741
 shells, thick-walled cylindrical, with non-rigid layer contact, statics problem soln. (*Ukrainian*) 4-24386
 shells, three-layer cylindrical, with dissymmetry and nonrigid filler, stability under axial compression 4-49735

elasticity continued

- shells—governing equation, computerised analysis 4—19727
 shells of revolution, nonaxisymmetrical moment free state 4—28978
 singularity problems, uniform finite element refinements 4—32048
 solid electric materials elastic coefficient meas. using electrical method (Korean) 4—51907
 spatially reinforced hybrid composite, deform. characts. (Russian) 4—7516
 sphere elastic, thick-walled interaction with acoustic medium, soln. using Chebyshev-Laguerre polynomials 4—10537
 St.-Venant's torsion problem, integral eqns. (German) 4—38723
 stability assessment of elastic systems considering small vibrs. 4—38754
 stamp impression into elastic half-space, spectral relationships for integral operators 4—19775
 stamp motion with friction, three-dimens. contact problem 4—19774
 static elastic boundary value problems, integral eqn. methods 4—13513
 statistical problems of elasticity theory, finite element method soln. (Russian) 4—8747
 steady frictional slipping stability 4—1627
 stiff bendable elastic rods in an elastic matrix, constitutive eqn. 4—10556
 stochastic boundary-value problems soln. using iteration method 4—36911
 Stokes and elasticity theory eqns., asymptotic resolution (Russian) 4—32055
 strained cryst., elastic dipole model (Chinese) 4—50401
 stress intensity factors, evaluation by R-functions method 4—42722
 stress surfaces of elastic body, calc. 4—10553
 stress tensor, Piola-Kirchhoff, variational method for non-potential loadings 4—47870
 stress waves in elastic half-space, single and multiple surface sources 4—33984
 stretched elastic plate with hole, instantaneous plugging, unloading, wave 4—1602
 string circular, rotating under fixed elastic restraint, vibr. study 4—33974
 strip, bending and stretching anal., narrow cylindrical drum 4—49684
 strip, tensioned, with submerged circular inclusion, elastic interaction 4—10616
 strip partially coupled to rigid base, mixed problems 4—44495
 strongly anisotropic elastic plane with parabolic notch, stress distrib. 4—24351
 strongly anisotropic media, plane contact problems of elasticity theory 4—44497
 surface waves of discontinuities in finitely strained elastic materials 4—55363
 theological laws comparison in rotational kinematics (French) 4—38733
 thermal spring, energy storage 4—8691
 three-convolution circular arc corrugated diaphragm design (Chinese) 4—44377
 three-dimensional, symm. and bifurcation 4—5795
 three-dimensional, symmetry, bifurcation and stressed reference configs. 4—27298
 three-dimensional state of stress, Kolosov-Muskhelishvili analogue 4—42718
 transient response of an elastic medium to torsional loads on a cylindrical cavity 4—1589
 transient response to moving torsional ring load in cylindrical bore 4—38720
 transition metals, BCC, elastic constants, tight binding recursion method calc. 4—30739
 trapezoidal plate, anisotropic, stability due to large deflections 4—47877
 tube, elastic circular with nonconvex stored energy, helical shear 4—38713
 two-dimensional elastic-viscoplastic bars, numerical expts. 4—44402
 two-dimensional elasticity theory, bipolar equation (German) 4—36905
 two-element link with point mass, natural oscils. 4—55317
 two-phase deformations of elastic solids 4—38712
 unified thermodynamic theory of elasticity and plasticity 4—13514
 unilateral problems, numerical method 4—44382
 uniqueness theorem in elastodynamics, harmonic elastic wave scatt. 4—44463
 variational principles, generalised, problem of equivalent theorem (Chinese) 4—1601
 virtual work principles for two elastoimpact contact bodies 4—29029
 zero-dimensional elastic bodies with directors, invariant manifolds 4—47865
 Al, acoustoelasticity, texture effect 4—34562
 Al, rolled plates, stress analysis, scanned shear wave meas. 4—35837
 Be, relaxation problem in continuum elasticity theory 4—19721
 Cd, relaxation problem in continuum elasticity theory 4—19721
 Co, relaxation problem in continuum elasticity theory 4—19721
 Cu, acoustoelasticity, texture effect 4—34562
 In, relaxation problem in continuum elasticity theory 4—19721
 Mg, elastic properties and multivalued local pseudopotentials (Russian) 4—24893
 Mg, relaxation problem in continuum elasticity theory 4—19721
 Mn-Fe-Cu (26, 4 at%), pseudoelasticity and stress-strain curves (Russian) 4—25988
 SiO₂-Al₂O₃-CaO-MgO, vitreous-crystalline material, elasticity, strength props. 4—57276
 β-Sn, relaxation problem in continuum elasticity theory 4—19721
 Zn, relaxation problem in continuum elasticity theory 4—19721
 Zr sheets, crystallographic texture, neutron and X-ray diffr. (Russian) 4—25967

elasticity of liquids

- see also compressibility of liquids
 aggregating particles in finite tube under gravity, sedimentation 4—45334
 alkali metals and binary alloys, liq., Helmholtz free energies, variational calc. 4—55702
 azoxybenzenes, nematic liq. crystals, viscoelastic twist props. 4—10959
 CBOOA, smectic A-nematic transition point, curvature-induced reduction 4—11283
 MBBA, twisted, elastic const. K₂ determ. 4—24716
 micellar nematics, struct. and phys. props 4—50182
 nematic layers, edge dislocations in roll hydrodynamic instability, static limit 4—15377
 nematic liq. cryst. mixtures 4—39102
 p-n-nonyloxybenzoic acid nematic films, smectic C layer undulations and smectic C edge dislocations 4—10972
 p-n-octyloxy-p'-cyanobiphenyl, smectic A-nematic transition point, curvature-induced reduction 4—11283
 4-n-pentyl-4'-cyanobiphenyl, nematic liq. cryst., elastic const., birefr. meas. 4—55714
 polymethylsiloxane liq. films, shear elasticity meas. 4—15566

elasticity of liquids continued

- potassium decanoate-water-decanol-KCl, type II nematic lyomesophase, surface and mag. orientation 4—39113
 PVC gels, dil., in phthalate plasticiser solns., gelation and rigidity modulus 4—16693
 PVC melt, elastic behaviour under processing conditions 4—38779
 tube bundles in crossflow, fluid-elastic instability, effect of tube layout 4—38694
elasto-optical effects see photoelasticity; piezo-optical effects
elastomers
 see also rubber
 artificial leaflet heart valves, mech. props. and testing 4—12728
 copoly(esterethers), soft segments, chem. struct., mol.wt. effect (Polish) 4—19314
 filled elastomers, relaxation processes and filler particles thermal mobility 4—35649
 librational entropy mechanism for elastomers with repeating peptide sequences in helical array 4—4142
 mechanical properties for artificial cardiac ventricles 4—51800
 nonlinearly elastic body, longit. shear crack 4—34008
 perforated, dynamic props., matrix viscosity and cavity-size distribution effects 4—35651
 Poisson ratio, meas. under compression 4—46684
 poly(ether ester) thermoplastic elastomers, dielec. props. and secondary relax. 4—30372
 polychloroprene-polybutadiene blends, shear induced coalescence, small angle neutron scatt. obs. 4—29038
 polydimethylsiloxane networks with junctions of high functionality, elasticity 4—30740
 (polyethylene oxide)₁₀NaI, ionic cond., NMR and DSC meas. 4—6556
 (polyethylene oxide)₈LiCF₃SO₃, ionic cond., NMR and DSC meas. 4—6556
 polyethylene polyamine modified by liq. elastomer additions, shrinkage and internal stresses (German) 4—51673
 polyurethane elastomer, hard segment struct., single crystal X-ray diffr. 4—45027
 polyurethane elastomer substrate, ice adhesion, failure energy, thickness effect 4—26170
 polyurethane elastomers, appls. in artificial hearts 4—36258
 polyurethane elastomers, MDI/diol, hard segment domain sizes, wide angle X-ray obs. 4—11008
 polyurethane elastomers, segmented, diffuse phase boundary thicknesses, SAXS obs. 4—11009
 polyurethane elastomers, struct., mech. props. rel. to diamine additive 4—30741
 polyurethane-PMMA interpenetrating polymer networks, comp. parameters influence on synthesis, phys. props. 4—12055
 polyurethane-PMMA interpenetrating polymer networks, transition behaviour, phase separation 4—11014
 polyurethane-urea elastomers, segmented, IR dichroism and orientation 4—51234
 polyurethanes, photochem. reversible crosslinking 4—35923
 raw gum, capillary rheometry, end correction factor, flow induced crystallisation effect 4—5854
 vulcanised elastomers, surface modification by chlorination, adhesive bonding improvement 4—16524
elastoplasticity
 arch model under multiple loads, stability anal. 4—14903
 bars, cylindrical, elastic-plastic wave propag. 4—24368
 bifurcation and postbifurcation anal. of elastic-plastic solids under general prebifurcation conditions 4—14904
 buckling and ratchetting interaction under cyclic additional loading, progressive deform. 4—787
 ceramics, elastic-plastic fracture, evaluation of plastic fracture energy (Japanese) 4—38761
 ceramics, macrocrack trajectory in orthogonal cutting by finite element method (Japanese) 4—55915
 compact specimen, elasto-plastic stress analysis 4—3256
 composite, dispersely filled, elastoplastic deform. modelling 4—44424
 composite, elastoviscoplastic, deform. under complex stress 4—44414
 composite material elastoplastic behaviour, engineering mechanics 4—24355
 concrete, multiaxial behaviour when exposed to high temps., fracture, stress-strain 4—3236
 conference on structural mechanics in reactor technology, Chicago, USA (Aug. 1983) 4—11
 conical tube, elastic-plastic state under normal and tangential forces 4—55351
 constitutive equations of elasto-plastic materials with saturating work-hardening (Japanese) 4—2259
 constructional material, block cyclic loading influence on deform. and strength character, plane stressed conditions 4—12125
 contact problems, elasto-plastic 4—49739
 contact problems, two-dimens. elastic and plastic, modified finite element method 4—55383
 contact problems in elasticity and elastoplasticity theory, iteration soln. 4—14926
 crack end small neighbourhood, plane-plastic deform. 4—49722
 crack growth under plane stress conditions in elastic perfectly-plastic material 4—49758
 crack tip growth in elastic-perfectly-plastic solid, mode II dynamic fields 4—29024
 crack yielding extension on two slip planes under antiplane conditions (Japanese) 4—2264
 cracked bend specimens subjected to mixed mode loading, fracture behaviour 4—29007
 curved surface elastic-plastic strain meas. by moire effect (German) 4—34023
 cyclically unstable materials, structural models extension to complex loading processes 4—38737
 cylinder, thick-walled, cracked, elastic-plastic stress anal. using boundary integral eqn. 4—1623
 defect assessment in struct. of strain hardening material 4—28986
 diaphragm theory for elastoplastic damping with single loading (Russian) 4—10559
 die indentation into elastic-plastic foundation under conditions of plane deform. 4—49772
 disc, anisotropic rotating, elasto-plastic anal. 4—5803
 discrete memory constitutive eqn., hereditary type, simple geometry appls. 4—33947

elastoplasticity continued

- disk, elastic-plastic, subjected to circular heat source, stress distrib. 4-49716
- ductile materials, void growth, sensitivity of macroscopic consequences to various mech. and geometrical micro-parameters 4-14895
- dynamically loaded plates and shells, large elastic-plastic strain meas. 4-49790
- elastic-plastic media, formulation of initial and boundary value problem 4-44366
- energy principle of elastic-plastic fracture, appl. to fracture mechanics of graphite 4-38773
- extrusion and complex loading of elastoplastic material with saturating work hardening (*Japanese*) 4-2260
- fatigue crack growth and crack closure effect, cumulative model 4-29518
- fibre reinforced composites, inelasticity, development under repeated static loading 4-46574
- finite deformation anal., rate constitutive eqn. numerical integration 4-1617
- flat-plated structures, low energy impacts by rigid body, strip model simulation, ship collision appls. 4-5809
- fracture, cup-cone, in round tensile bar, anal. 4-21296
- fracture mechanics, J-integral, definition and props. (*Japanese*) 4-49760
- frame analysis with generalised yield function and finite displacements 4-49703
- frames at plastic collapse, displacement analysis, linear programming method 4-38732
- half-space, elastoplastic, quasi-static normal indentation by a rigid sphere 4-34010
- half-space indentation with rigid indenter 4-5847
- inelastic materials, delayed fracture, temp. effect 4-10608
- intersecting equal diameter cylindrical shells under internal pressure, creep 4-28993
- large elastoplastic deform. theory, elastic and plastic components (*Ukrainian*) 4-24357
- metal shells with weakened sections, load carrying capacity 4-5814
- multilayer media, thermal elastoplastic wave damping (*Ukrainian*) 4-38749
- nonisothermal thermoplasticity, algorithm based on finite element method 4-49723
- nuclear structures, elastic-plastic analysis, asymptotic techniques 4-784
- phase transformations; thermoelastoplastic stress anal. 4-50410
- planar frames, elastoplastic geometrically nonlinear analysis (*Rumanian*) 4-38707
- plastic flow localization due to non-uniform void distribution 4-28987
- plate, centre-cracked, elastic-plastic anal. on stable crack growth, benchmark study 4-29014
- plate, crack extension force distrib., three dims. elastic-plastic analysis 4-5837
- plate, elastic-plastic quadratic programming problem, finite element soln. 4-17698
- plate with circular hole, finite element anal. 4-44422
- plates, elastic-plastic, simple model using sandwich of four layers and two-dims. quadrilateral elements 4-33951
- plates, elastoplastic, bending problem soln. 4-44427
- plates, stress-state min. principle, plate model systematic generation 4-49671
- plates with circular holes, thermal elastoplastic anal. 4-49717
- prismatic flat-walled structures, inelastic buckling anal. 4-1633
- PWR primary loop cold leg with circumferential crack, dynamic elastic-plastic behaviour anal. 4-28183
- quasistatic elastoviscoplasticity, implicit-explicit time integration using finite and infinite elements 4-49704
- rate dependent solids, tangent modulus method 4-49701
- reactor components, mech. failure concepts using elasto-plastic finite element anal. (*German*) 4-9286
- rotating circular rings, elastic-plastic deformation (*German*) 4-19742
- shear band computation using new variational approach theory and elementary examples 4-55344
- sheet metal, failure region stress-strain state during steady motion of a crack (*Russian*) 4-5807
- shell, cylindrical, axisymmetric contact problems 4-55384
- shell, cylindrical, elastoplastic buckling under axial impact 4-44433
- shell, impulsively loaded, nonlinear dynamics, explicit algorithm 4-49660
- small deformations superposed on large deformations of an elastic-plastic material 4-14896
- steel, alloy, elastic-plastic fracture toughness and fracture resistance (*Japanese*) 4-57320
- steel, Cr-Mo-V, acoustic emission from pop-in cracking and elastic-plastic fracture toughness 4-3345
- strain localisation below root of yielding notch 4-28985
- strength-differential effect in plasticity 4-49715
- stress wave propagation produced by moving body force in elastic-plastic conductor subject to mag. field (*Polish*) 4-49751
- surface crack propagation in elastic-plastic region (*Czech*) 4-38764
- theological laws comparison in rotational kinematics (*French*) 4-38733
- tube, elastic-plastic, rot., stress distrib., flow rule, strain hardening 4-33928
- viscoelastoplastic bodies, of fibres, dynamic spreading simulation (*French*) 4-55350
- void containing material, necking type bifurcations, numerical analysis 4-49712
- Zircaloy-4 tubing, I₂ induced crack growth between 500 and 700°C, fracture mech. anal. 4-3289
- Al alloy 1201, mech. characs. at low temps., preliminary elastoplastic cyclic deform. influence 4-30776
- Al alloy plates containing defects, elastic-plastic stress-strain field meas. (*Chinese*) 4-49785
- Al disc, anisotropic rotating, elasto-plastic anal. 4-5803
- Al-Cu-Mg, 2024, elasto-plastic work hardening 4-30764
- Al-Mg, 5083-O, stable crack growth, fractographic approach (*Japanese*) 4-57322
- Al-Mg alloy shells, elastic-plastic, cylindrical, failure under combined loading 4-44426
- Cu, polycrystals, indentation damages, work hardening, residual stress, elastic-plastic analysis 4-16450

elastoresistance

- Bi thin film, elastoresist. relax., surface state density (*French*) 4-40097

ELDR

- spin echoes and slow motions 4-2845

electrets

- see also dielectric devices; electrostatics; photoelectrets; thermoelectrets*
- copper phthalocyanine electrets, TSC studies 4-25676
- earphone, edge-supported circular membrane, response meas. 4-55305
- earphone, edge-supported circular membrane response, theory 4-55304
- electroacoustic transducers, stability anal. 4-28959
- fluoropolymer electrets, charge relax. at high surface potential 4-51182
- ionisation chamber; dosimeter for mixed gamma rays and fast neutrons (*Czech*) 4-23504
- naphthalene, thermomagnetically treated, TSC 4-11828
- PET, electret behaviour, phys. mechanisms 4-35339
- polyvinylidene fluoride electrets, polarisation distribs., electrode material effects, thermal pulse method, pyroelectric coeff. meas. 4-2866
- polyethylene electret, charged by corona effect, TSC obs., 293-373K (*Korean*) 4-25674
- polyethylene film electrodes, charge magnitude strain effect (*Russian*) 4-7115
- polyethyleneterephthalate, electron beam charged, elec. field effects 4-11829
- polyfluoroethylene propylene, electron beam charged, elec. field effects 4-11829
- polymer, X-ray irradi. induced foil electret 4-35338
- polymer electrets, radiation-induced charge transport, Teflon FEP, Hostaphan PETP and Solef PVDF 4-16142
- polyvinylidene fluoride electret, poling behavior at room temp. 4-40330
- PTFE film electrodes, charge magnitude strain effect (*Russian*) 4-7115
- radiation-induced foil electret chamber for electret charging 4-7118
- thin film transducers, heat and strain sensitive 4-22778
- wood electret, charges contributed to thermally stimulated current (*Japanese*) 4-16860
- Rn daughter dosimetry, passive, use of electrets 4-43659
- Se amorphous layer, electret state, AC field effects (*Russian*) 4-46175
- electric admittance**
- EM wave diff. by admittance boundary condition surface 4-54932
- Si:P disordered insulator, critical scaling of conductance 4-11523
- Si_{1-x}Ge_x:H, amorphous, density of states by space-charge limited currents and admittance 4-20663
- electric admittance measurement**
- amorphous semiconductor films, apparatus for isothermal annealing and crystallisation obs. 4-2078
- frequency depend. impedance/admittance meas. in solid ionics, microcomputer system 4-42992
- electric amplifiers** *see amplifiers*
- electric arc furnaces** *see arc furnaces*
- electric arc welding** *see arc welding*
- electric arcs** *see arcs (electric)*
- electric breakdown**
- see also electric breakdown of gases; electric breakdown of liquids; electric breakdown of solids*
- dielectric breakdown characterisation, Weibull statistical analysis 4-16159
- insulating materials, discharge damage, breakdown partial discharge mechanism and failure study 4-16158
- polymer laminate structs., props., HV appl., review 4-2876
- Van de Graaff accelerator, spark breakdown, secondary, voltage calcs. 4-5054
- electric breakdown of gases**
- see also electron avalanches*
- air, breakdown plasma production by mm-wave free electron maser 4-19415
- air gaps, discharge propag., barrier effects, voltage-time characs. (*Japanese*) 4-2028
- dichlorodifluoromethane-N₂ binary mixtures, breakdown strength and synergism factor 4-34226
- fractal dimension 4-50116
- gas-filled gaps, wave breakdown, rapid stages study 4-44875
- gaseous mixture, Townsend first ionisation coeff. theory 4-34365
- glow discharges, thermal and electrical characteristics 4-15322
- laser produced gas breakdown on surface of metallic mirrors 4-6120
- microwave discharge, gasdynamic propag., plasma heating 4-34357
- Paschen's law study in AC breakdown of gases under transverse mag. field 4-44877
- rarefied air, steady discharge elec. breakdown, electrode elastic wave excitation 4-44880
- thermal energy absorption in electrodes at breakdown of air in superimposed fields 4-10915
- tokamaks, gas breakdown conditions, plasma form. (*Korean*) 4-39000
- CO-SF₆-air mixtures, breakdown, attachment and ionisation 4-34225
- He, laser breakdown from single-mode ruby laser irradi. 4-55478
- N₂ positive and negative lightning impulse breakdown of rod-plane gaps 4-34227
- Ne, electrodeless discharges at 60 Hz, wall charges meas. probe 4-22799
- O₂ production in cold plasma reactor, solid dielectric influence 4-19991
- SF₆ breakdown product contamination in electrostatic accelerators 4-23441
- SF₆ gas, conical spacer, charge accumulation at DC stress 4-35045
- SF₆ preionisation effect on the time lag to breakdown (*German*) 4-20052
- SF₆-air (CO₂) mixtures, DV voltage breakdown in rod-plane gaps 4-24646
- SF₆-CO₂ mixtures, breakdown potential, ionisation and attachment meas. 4-24647
- SF₆-N₂ binary mixtures, breakdown strength and synergism factor 4-34226
- SF₆-N₂ mixtures, crit. press. for positive point plane systems with impulse voltages 4-50112
- SF₆-N₂ mixtures, positive and negative lightning impulse breakdown of rod-plane gaps 4-34227
- SF₆-N₂ mixtures, positive point plane discharge development, photomultiplier and field probe stresses 4-50113
- electric breakdown of liquids**
- dielectric liq., prebreakdown phenomena, elec. fields, Kerr effect study 4-46183
- dielectric liquids, breakdown, using holographic interferometry 4-35355
- dielectrics, simultaneous meas. of optical and current pulses 4-34963
- electrical insulation and dielec. phenomena, conf., Buck Hill Falls, USA (Oct. 1983) 4-31963
- n-hexane, liq., positive streamer propag., impurity effects 4-35353
- HV underwater discharge, mech. vibrations of metallic barrier, energy conversion efficiency (*Russian*) 4-20048

electric breakdown of liquids continued

- insulating materials, breakdown processes, similarities and differences with solids 4-16162
- insulators, low-mobility condensed, electric discharge and breakdown 4-40340
- mineral oil, electric discharge, gas-filled cavity energy characts. (Russian) 4-6218
- positive streamer propag. velocity, volt. and gap position effects 4-35352
- silicone fluids, treeing behaviour due to submicrosec. voltage pulses, comparison with polyethylene 4-16157
- transport properties of liquid dielectric materials in crossed electric and magnetic field with photographic observation 4-25681
- underwater spark discharge, channel internal structure, computer calc. (Russian) 4-20049
- water, breakdown strength under long term elec. stress 4-35356
- water, electric discharge, gas-filled cavity energy characts. (Russian) 4-6218
- water, leader propagation mechanism 4-34361
- He, superfluid, dielectric breakdown strength study 4-39621

electric breakdown of solids

- see also impact ionisation; partial discharges; Zener effect*
- alkali halides, high-current pulsed electron beam bombardment, dielec. breakdown 4-7124
- anodic ceramic films on Al-Mg dielec. breakdown during form. (Russian) 4-7122
- borosilicate charged glasses, laser-induced elec. breakdown 4-7123
- crosslinked polyethylene (XLPE) electrical strength, influence of crosslinking atmosphere (German) 4-30391
- dielectric materials, breakdown, relaxation and life tests, Weibull statistical analysis 4-16160
- dielectric media elec. discharge detect. by electro-optical method, light pulse meas. 4-55675
- dielectrics, breakdown processes, analysis and elec. strength calc. 4-16163
- dielectrics, conduction and breakdown phenomena rel. to electrodes 4-16151
- dielectrics, discharge channel characts. (Russian) 4-20909
- dielectrics, high volt. vacuum breakdown, flashover and arcs (French) 4-51189
- electrical insulation and dielec. phenomena, conf., Buck Hill Falls, USA (Oct. 1983) 4-31963
- electron beam initiated dielectric breakdown, beam charging model anal. 4-35351
- epoxy resin hygrothermal stability 4-20912
- insulating materials, breakdown processes, similarities and differences with liquids 4-16162
- insulating materials, discharge damage and breakdown in gaseous cavities 4-40342
- insulating materials, molecular wt., pulse-mean ϕ -q distribution patterns change due to treeing propagation 4-24644
- insulating thin films, dielectric breakdown, specific field value determ. 4-16167
- insulators, low-mobility condensed, electric discharge and breakdown 4-40340
- mechanical deform., breakdown mechanisms 4-2875
- MOS capacitors, damage caused by charge injection 4-56852
- MOS thin gate oxides, charge build-up prior to breakdown 4-56446
- organic thin films, plasma-polymerised, dielectric relax., breakdown, electrical cond. and photocond. meas. 4-16144
- PET films, elec. and high field cond. 4-20913
- phonon jets: streamer-breakdown channels in crystals 4-56397
- poly(ether ester) thermoplastic elastomers, dielec. props. and secondary relax. 4-30372
- poly-p-phenylenesulfide, elec. transport and breakdown 4-25357
- polyacetylene, dielec. breakdown meas. 4-20908
- polyethylene, elec. breakdown and morphology (Japanese) 4-20910
- polyethylene, elec. breakdown and morphology 4-20911
- polyethylene, high mobility states search by internal photoemission 4-11843
- polyethylene, neutron and γ -ray irradi., elec. props. 4-35354
- polyethylene, space charge accumulation, elec. tree nucleation and growth, ESR study 4-16154
- polyethylene, treeing behaviour due to submicrosec. voltage pulses, comparison with silicone fluids 4-16157
- polyethylene, water tree growth meas. by neutron activation anal. 4-11842
- polyethylene, water tree propag., physico-chemical factors, expt. study 4-16156
- polyethylene surface and internal discharges, deterioration obs. 4-21350
- polymer, water tree growth, rate and phases study 4-16155
- polymer electrical conduction and carrier traps 4-11529
- polymeric insulation films, partial discharge, breakdown tests, voltage-endurance-lines parameter evaluation 4-16161
- polymers, treeing inception, significance of slow charge carriers, expt. study 4-16153
- polypropylene, glass fibre reinforced composite, and drawn, elec. cond. 4-21192
- polypropylene films long-term breakdown 4-20914
- polystyrene, breakdown voltage, effect of ambient temp. and air cavities 4-35357
- polystyrenes, substituted, props. of dielec. materials 4-20904
- polyvinylidene fluoride films, piezoelec. response, poling field effects 4-51197
- PTFE films, deform., mech. and elec. strength (Russian) 4-30390
- solid dielectric breakdown, role of space charge 4-35350
- solid dielectrics, conf., Toulouse, France (July 1983) 4-8647
- space charge role in dielec. breakdown 4-51187
- water tree growth, influencing factors, expt. data 4-25680
- AgN₃ single crystals, dielectric breakdown, cond. current fluctuations and electron microscopy study 4-16164
- Al/octaethylporphyrin/Ag film sandwich cells, UV electroluminescence study 4-21041
- Al/SnO₂-Sb₂O₃/Al mixed oxide sandwich struct., elec. props. 4-50950
- Al-Sb₂O₃-Al MIM struct., I-V characts., elec. breakdown studies 4-11600
- Al₂O₃ anodic film on InP and In_{0.53}Ga_{0.47}As, prep. and props. 4-25465
- BaTiO₃, elec. degradation, composition and microstruct. effects 4-35349
- Ge, microwave breakdown of exciton gas 4-15827
- MgO film, thermally grown, MIM capacitor, elec. pulse breakdown 4-2878
- MgO, single cryst., electrolytic coloration and elec. breakdown 4-40343

electric breakdown of solids continued

- polyvinyl chloride, breakdown voltage, effect of ambient temp. and air cavities 4-35357
- Si, n⁺-p junctions, mesoplasma formation, space distrib. of radiation in impulse regime (Russian) 4-30541
- Si ohmic and Schottky contacts elec. breakdown over Si surface 4-25445
- a-Si:H thin films, high field breakdown 4-40341
- Si/Ta₂O₅/Al MIS capacitors, elec. props. 4-15964
- Si-SiO₂ boundary in MOSFET, intrinsic oxide breakdown at near zero elec. fields 4-56853
- Si-SiO₂ interface in MIS struct., elec. breakdown over surface of Si and in SiO₂ 4-25445
- n-SiC, impurity conc. determ. from local breakdown of metal-semicond. contact 4-24844
- SiO₂, current induced dielec. breakdown 4-56854
- SiO₂ films in MOS struct., tunnelling and high field breakdown 4-6919
- SiO₂ layers on Si, charge build-up influence on breakdown 4-20738
- SiO₂ thermal films, thickness films, thickness depend. of dielectric breakdown failure 4-11612
- SiO₂ thermally grown films on N⁺ polycryst. Si, elec. props. 4-56445
- ZnO varistor ceramic, grain growth and elec. props. rel. to sintering temp. and additives 4-25914

electric cables *see cables (electric)***electric capacity *see capacitance*****electric cells *see cells (electric)*****electric charge***see also space charge*

- circumstellar dust grains, elec. charge on graphite grains (Russian) 4-42431
- fluidised bed composed of coarse dielectric particles, elec. charge neutralisation 4-35852
- ice, deformation and fracture under temp. gradient, elec. charge separation 4-31614
- low-conductivity liquid, charging in pipe flow with surface electrochem. reaction 4-5976

electric coils *see coils***electric condensers *see capacitors*****electric conductance *see electric admittance*****electric conductance measurement *see electric admittance measurement*****electric conduction processes *see electrical conductivity*****electric conductors *see conductors (electric)*****electric conduits***see also cable sheathing; power cables*

- nuclear plants, flexible electrical conduit connections, adequacy during seismic events 4-23402

electric connectors*see also cable jointing*

- C18200/C19000 high strength, high conductivity copper alloy flat strip materials for fuses and electronic connectors at elevated temperatures 4-46556
- connectors and interconnection technology, conf. Philadelphia, PA, USA, Nov. 1983 4-42594
- electrical contacts, solder- and tin-coated, fretting corrosion 4-46667
- thermoplastic connector, polyester resin material, mech. and high. temp. props. 4-11003
- transducers in the nuclear industry, types and requirements 4-772
- Be-Cu C17510 alloy strip, mechanical, thermal and electrical props. for electrical and electronic applications 4-46516
- Be-Ni 3620 alloy strip, mill hardened, considerations for connector design 4-46624
- Cu base alloys, stress relax. characts., 20-200°C, cold rolling effect 4-46555
- Cu-Ni-Sn alloy, Pfinodal C72900, for burn-in test sockets 4-46557
- Pd connector contacts and inlay coupons, HCl and Cl₂ effects 4-30048
- Pd, electroplated layers, wear, corrosion and contact resistance comparison to roll milled Pd and Pd alloys 4-46666
- Pd-Ag DGR 156 contact alloy, assessment of lower levels of composition 4-46634
- Pd-Ni electrodeposits, properties, comparison with AuCo and Pd+AuCo-flash 4-46665

electric control equipment*see also controllers; electric sensing devices; switches; telecontrol equipment; telemetering equipment*

- effusion cell for accurate control of material evaporation under vacuum conditions 4-51500

film camera, dynamic characteristics control (Russian) 4-17982**electric control gear *see electric control equipment*****electric current***see also arcs (electric); corona; critical currents; current density; current distribution; current fluctuations; eddy currents; electrojets; fault currents; leakage currents; short-circuit currents; sparks*

- DC flow through sphere with multipoint supply, potential distribution and conductivity determ. (Polish) 4-19318
- flash lamp voltage and light-pulse shifts caused by gas heating 4-38543
- generation of low-frequency alternating current in MHD conduction generators 4-41356
- heliosphere, equatorially-fluctuating current sheet rel. to solar flare-produced disturbances 4-53002
- shell vortex currents, use of vector potential for boundary-value problems 4-23860
- solar flares, electrodynamic effects in beam/current return systems rel. to impulsive radio bursts 4-53111
- steel, Ni-Cr-Mo, H embrittlement, heat treatment, elec. current effect 4-46615

electric current control*see also energy homogeniser and automatic meas. of excitation functions*

- 4-943
- electrodeposition equipment current density meas. and control instruments (Rumanian) 4-48155
- low-inductance high-current grazing discharge switches, control methods 4-2018
- monocrystal growth control techniques using Czochralski method (Czech) 4-25876
- pulsed NMR, millidegree temperature control 4-4389
- AlGaAs laser, high-speed freq. stabilization using servo-system 4-24034

electric current measurement*see also ammeters; galvanometers*

- comparator of pA currents, using dual JFET convertor 4-42989

electric current measurement continued

- corrosion testing, current distribution, microcomputer controlled meas. system (*Japanese*) 4-46689
 DC instruments, high-sensitivity, comparison 4-4420
 digital high-temp. thermometer, 0-1500°C, design and characts. 4-4404
 electrodeposition equipment current density meas. and control instruments (*Rumanian*) 4-48155
 electrosurgical currents measurement, miniature probe 4-3644
 Faraday magnetooptical transducer utilisation, performance limitations 4-32254
 fibre optic current meters, sensor design using $(Y_{0.81}Tb_{0.19})_2Fe_2O_{12}$ and ZnSe crystals (*Japanese*) 4-27539
 fibre optic sensor, single-mode, current meas. by Faraday rotation in mag. fusion devices 4-19583
 fibre sensors development and appl. (*Czech*) 4-244
 Langmuir probe currents from 1 μA to 400 mA, using sweep cct. 4-24629
 megampere current meas. with fibre optic sensors 4-17898
 metal-semiconductor contacts, ohmic character monitoring by one-probe technique 4-32272
 MNOS structure charge transport region determ., using automatic system 4-8921
 nanoammeter, circuit design using LF 355 differential amplifier (*Spanish*) 4-4422
 nanosecond current probe for high-voltage experiments 4-32280
 optical fibre current measurement 4-5719
 optical fibre sensors, sensors, giving optical output for nonoptical quantities meas. (*German*) 4-4388
 superconductors characts. recording, using semiautomated system 4-8919
 transformer error calc. for sinusoidal and nonsinusoidal primary currents 4-13654
 Mg-AgCl battery cell, reaction distribution, effect of gas evolution 4-52129

electric discharge machining *see spark machining***electric discharges** *see discharges (electric)***electric distortion measurement**

- broadband optical transmission systems, baseband spectra coloured noise and signal distortions meas. 4-28841

electric domain walls

- equilibrium orientation in external field 4-30201
 ferroelectrics, tricritical phase transitions 4-20924
 uniaxial ferroelectrics, kink model, domain wall contrib. to dielec. response 4-7140
 BaTiO₃ coarse grained ceramics, dielec. const. 4-7111
 CsH₂PO₄, polarisation reversal, switching characts. 4-35389
 KH₂PO₄:KH₂AsO₄(NH₄H₂PO₄), dielec. behaviour, effect of impurities 4-2885
 KNbO₃, (100) ferroelectric domain walls, high resolution electron microscopy studies 4-25699
 PLZT ceramics, domain determ. by Ag photodeposition 4-35397

electric domains*see also electric domain walls; ferroelectric materials*

- TGS:AC(AB), ferroelectric, dielec. hysteresis loops and domain struct. 4-35395
 TGS:Cr³⁺(VO²⁺), γ -irrad., permitt. relax., rel. to domain struct. 4-11838
 TGS:Mn²⁺(Li), cryst. growth from soln., growth habit, domains config., dielec. props. 4-2125
 Ba₂NaNb₅O₁₅, second harmonic generation during ferroelectric transition 4-10375
 BaTiO₃, illumination influence on polarisation changes 4-25677
 Cd₂Nb₂O₇, elec. polarisation characts., dielec. props. meas. 4-11833
 Cd₂Nb₂O₇, electromechanical props. and thermal expansion, temp. depend. 4-11844
 CsRbSeO₄, ferroelectric and thermal props. 4-25693
 KD₂PO₄:SeO₄, domain nucleation near ferroelec. transition, elec. field effects 4-35396
 KD₂PO₄:KH₂AsO₄, ferroelectric domain switching, ESR studies 4-11849
 KH₂PO₄, ferroelec. domain form. 4-46207
 KH₂PO₄-type ferroelectrics, growth and characts. of coloured monodomain crystals. 4-30417
 K₂H(SeO₄)₂, dielectric study of phase transitions 4-20922
 KNbO₃, dislocation interactions with ferroelec. domains 4-24818
 LiNbO₃ cryst. with laminar ferroelec. domains, second harmonic generation (*Chinese*) 4-55123
 NH₄H₂PO₄-type antiferroelectrics, growth and characts. of coloured monodomain crystals. 4-30417
 Na₃Bi₂TiO₃, ferroelec., phys. props. 4-35325
 NaNbO₃, antiferroelectric, phase fronts at P-R transitions 4-51199
 PLZT ceramics, domain determ. by Ag photodeposition 4-35397
 PLZT electro-optic ceramic depolarisation at low temps. 4-44165
 PLZT, space-charge-limited current study 4-34991
 PZT, electrically excitable mech. resonance, effects of domain struct. 4-35398
 (Pb, La)TiO₃ ceramics, mech. props., ageing changes 4-35678
 PbHfO₃, antiferroelectric twins 4-24830
 Pb(Se_{1-x}Ta_x)O₃ ceramics, depolarisation and reversible pyroelectricity 4-40359
 PbSnTe-piezoelec. ceramic interface, channelled acoustic wave propag. vel. meas. in polydomain ferroelec. 4-2421
 RbHSeO₄, domain struct. and light deflection at domain walls 4-25698
 Rb₂(NH₄)_{1-x}HSeO₄ mixed crystals, high temp. phase transition, domain struct. 4-46194

electric double layers *see electrochemistry; liquid theory***electric double refraction** *see electro-optical effects***electric drives***see also electric propulsion*

- film camera, dynamic characteristics control (*Russian*) 4-17982
 magnetically coupled digital motor for producing vortical motion in liquids in tubes 4-19902
 polarized EM drive system, blood pump development for artificial heart 4-3655
 stepping motor, motorised slide with micrometre resolution appl. 4-235

electric field effects

- see also acoustoelectric effects; discharges (electric); electrical conductivity; electro-optical effects; electrochemistry; electrostatics; electrokinetic effects; electroluminescence; electromechanical effects; electromigration; electron field emission; electrophoresis; field emission ion micro-*

electric field effects continued

- scopy; field evaporation; field ion emission; field ionisation; high field effects; magnetoelectric effects; particle optics*
 alkali halide crystals, evaporation in electrostatic field, surface ledge configurations 4-15753
 amphibian neural crest cells, perpendicular orientation and directional migration in DC elec. fields 4-57866
 artificial acoustic activity materials fabrication 4-29541
 cells, rotation in nonuniform alternating fields 4-3587
 cellular spin resonance: theory and expt. 4-31190
 cellular spinning in rot. elec. fields 4-3588
 chlorophylls a and b in nematic liq. crystals, effect of elec. field on polarized absorpt. spectra 4-36066
 cyclotron maser, longitudinal and helical wiggler configs., self-elec. and self-mag. field effects 4-55058
 electron lateral diffusion coeff. and vel. distrib. function under elect. field effect 4-33605
 EM dosimetry using computer-based scanning systems 4-21820
 force on an ion in solution due to an oscillating electric field 4-39553
 insects behaviour in electrostatic fields obs. 4-3545
 ionic melts, convection buildup, thermo-EMF electric field effect 4-38903
 isotropic media, electroinduced anisotropy of acoustical props. 4-55265
 metal, recrystn. during elec. current passage, orienting effect 4-57259
 metals, crack healing, by crossed elec. and mag. fields 4-35777
 mitotic index of onion roots, 60 Hz ultra-HV elec. field effect 4-16919
 molecular gases, nonuniform, kinetic theory of field effects 4-19907
 molecules adsorbed on metal surfaces, Raman optical activity, electric field effect 4-14484
 particle dispersion in turbulent flow, crossing trajectories effects 4-29065
 perylene, in amorphous solids, elec. field induced level shifts, persistent hole-burning spectrosc. 4-14466
 phase-kink soliton in weak elec. field, excitation energy 4-45656
 physiological effects of high intensity electric-fields caused by UHV power transmission systems (*Spanish*) 4-21726
 plant development rel. to weak elec. fields, sunflower germination expts. 4-41560
 polymers, positronium form., elec. field effect 4-11490
 polyurethane resins, hardening under pulsed microwave elec. field (*French*) 4-40740
 prenatal and postnatal development in rats exposed to 60 Hz elec. fields 4-57936
 roots, garden pea, mechanism of 60 Hz elec. field induced effects 4-26472
 Rydberg atom+inert gas atom, elec. field effects, hydrogenic wave functions, parabolic coordinates 4-19149
 Rydberg atoms in external fields, ion detect. technique appls. 4-18944
 saturated field effects, matrix expression 4-38926
 semiconductors resistance changes meas. in strong electric fields 4-42982
 separation processes in beam-plasma discharges, mag. field effects 4-15068
 steel, nitriding in electrostatic field 4-21243
 suspended particles, spinning in a 2-pulsed, 3-electrode system 4-3589
 symmetric top molcs., viscosity in presence of mag. and elec. fields 4-19908
 transport properties of liquid dielectric materials in crossed electric and magnetic field with photographic observation 4-25681
 trifluoromethane-d₉(d₁), elec. and mag. field effects, IR multiphoton disc. 4-14490
 uniform DC electric field exposure systems for mice and cats 4-31373
 visual evoked response, rat, effect of perinatal exposure to 60 Hz elec. fields 4-31274
 waves, chemical, in Belousov-Zhabotinski medium with applied electric field 4-21449
 Fe, Armco, crack healing, by crossed elec. and mag. fields 4-35777
 H atom, ground state behaviour in weak electric and mag. fields 4-33358
 Mg²⁺, dielectronic recomb. cross-section, extrinsic elec. field effect 4-5467
 (NH₄)₂BeF₄, incommensurate phase in applied mag. field 4-25011
 Si, microstructural changes in high elec. fields, high resolution X-ray diff. study 4-39528
 Zn crystals, effect of electric pulses on deformation behaviour and dislocations (*Russian*) 4-51734

electric field gradient (condensed matter) *see crystal hyperfine field interactions; hyperfine field interactions (condensed matter)***electric field measurement***see also field plotting*

- 300 MHz EM radiation, lightning discharges electrostatic field meas. (*French*) 4-44027
 atmospheric electric field vector meas. using spherical field meter 4-8332
 computer-based scanning systems for EM dosimetry 4-21820
 COPT 81 experiment (tropical Deep Convection), lightning meas. (*French*) 4-47394
 electrostatic fieldmeter instrumentation, developments 4-32276
 EM field magnitudes at surface of irradiated dielectrics, IR detection 4-17901
 EMI, meas. and data acquisition (*French*) 4-44018
 fibre sensors development and appl. (*Czech*) 4-244
 field measurement of conducting plate using electro-optic field probe 4-32245
 HV equipment, electric field vector measuring instrument 4-4419
 implantable electric-field probe of submillimeter dimensions 4-12736
 lightning radiation, VHF-UHF spectral anal. (*French*) 4-47396
 microwave radiations visualisation with liquid crystals 4-17946
 MOSFET sensor for tracking HV surface fields 4-42988
 nonuniform power freq. elec. field meas. using free-body field meters 4-22792
 optical point sensors for process control, conf., London, England (Jan. 1984) 4-36805
 resonant cavities, computer-controlled system 4-27538
 RFI, radiated power and ambient field meas. (*French*) 4-42934
 Stark effect, elec. field meas. using Fabry-Perot interferometer, Na D line appl. 4-42931
 thunderstorms, sub-microsecond structure meas. (*French*) 4-47395
 TM₀₁₀ cavity tuning and matching 4-26254
 VHF EM field, automatic system appl. (*French*) 4-42935
 VHF-UHF lightning radiation physical mechanism hypothesis (*French*) 4-47397

- electric field measurement continued**
VLF monochromatic wave characs., atmospheric plasma parameters, amplitude wave meas. 4-36541
LiNbO₃/Ti linear Mach-Zehnder interferometric modulators for EM field sensing 4-33751
- electric field strength measurement** *see electric field measurement*
- electric fields**
see also electric field effects; electric field measurement; electromagnetic fields; electromagnetic waves; field plotting
astropause boundary layer, stationary plasma-field equilib. states 4-8456
biloc. approx. in strong fluctuation theory 4-19320
Boersch effect and resolution in optoelectronic systems 4-33609
COMPUMAG, conf., Genoa, Italy (May-June 1983) 4-47744
cylindrically symmetric lenses, electrostatic potentials calc. 4-23879
O,O-dimethyl phosphoramidate, electrostatic field, conform. states effects 4-23638
dispersive dielectric, EM field near propagating crack tip 4-29006
electric/magnetic field effects on human body (*German*) 4-41559
electrostatic field computation, complementary energy methods 4-49210
electrostatic problems, multiple multipole method 4-49220
electrostatics, multiple multipole method, automatic computation of optimum origins of the poles 4-49221
EM field and force computation, recent developments 4-54921
equatorial electrojet, Type I irregularities, nonlinear theory 4-13123
ferroelectric media, thermally-generated electric fields and linear transient pyroelec. response 4-40363
fluctuation fields effect on force-free field, local expansion 4-47532
KdV solitons in EHD, theory 4-3917
Laplace and Poisson eqns., numerical soln., appl. of Green integral formula (*Polish*) 4-23855
latent xerographic image, luminesc. effect 4-40529
longitudinal waves of elec. field in turbulent plasma stream 4-15119
magnetospheric convection at ionospheric altitudes, obs. 4-31719
magnetospheric plasma, magnetic-field-aligned electric fields, physical mechanisms 4-36539
multilayer coatings for laser mirrors and lenses, optical parameters and elec. field distrib. optimisation 4-28809
multiple conductors, symmetrical, electric field, equipotentials (*Rumanian*) 4-23856
n₁-n₂ abrupt homojunctions, exact calc. of elec. field and potential at metallurgical boundary 4-20714
noncontact moving charge meas., mathematical model 4-53701
nonuniform electric field system optimisation for optical radiation deflection 4-10413
nonuniform electric fields, electrode system optimisation 4-49231
phosphoramidic acid, electrostatic field, conform. states effects 4-23638
rectangle, elec. field props. study 4-28594
scalar potential problems, boundary integral eqn. methods, axisymmetric formulation 4-49219
skew conductors, elec. field computation 4-33587
solar flares, electrodynamic effects in beam/current return systems rel. to impulsive radio bursts 4-53111
solar wind field, interaction with magnetospheric-ionospheric fluxes 4-22265
spherical segment inside infinite cylinder, electrostatic fields calc. 4-49224
static field computation, spectral method 4-49212
stationary fields, continuation problems finite element technique 4-49218
three-dimensional static field problems, finite element computations 4-49214
thundercloud electric fields, dynamic interactive computer model 4-58234
unequal spheres using symmetric and asymmetric applied voltages 4-10207
unified approach to problems in electromagnetism 4-23859
uniform-field electrodes with min. width 4-55065
variational formulations, dual and complementary energy methods 4-49227
- electric filters** *see filters*
- electric furnaces**
see also arc furnaces
CVD thin film growth in conveyor furnaces 4-35577
fatigue testing rig, heating device for use to 1800°C 4-41140
high-temperature, high-pressure dilatometer, for Si₃N₄ sintering obs. 4-263
- electric fuses**
C18200/C19000 high strength, high conductivity copper alloy flat spring materials for fuses and electronic connectors at elevated temperatures 4-46556
explosive-driven magnetic flux compression generators 4-36022
- electric generators**
see also magnetohydrodynamic converters; turbogenerators; Van de Graaff generators
explosive-driven magnetic flux compression generators 4-36022
local power generator production using fuel cells 4-57716
magnetic field calc., Fourier element method 4-49211
retaining rings, using corrosion resistant materials, design and economic anal. 4-3303
- electric glow** *see corona*
- electric heaters** *see electric heating*
- electric heating**
see also dielectric heating; domestic appliances; drying; electric furnaces; induction heating; ovens; radiofrequency heating; space heating
domestic water-heater, with heat exchanger and two flat solar collectors (*Bulgarian*) 4-52198
hot water production with solar energy or electricity, costs comparison (*German*) 4-52096
optical fibres, splicing using electric arc fusion technique 4-55243
wire production, elec. heat treatment 4-12093
- electric ignition**
H₂-air-steam mixtures, combustion for various concentrations 4-57562
- electric immittance**
see also electric admittance; electric impedance
parallel conductor system, initial transients of generated quasistationary EM field (*Rumanian*) 4-23857
- electric impedance**
see also electric reactance; electric resistance
eddy current single-turn coil, impedance change due to flaw in coaxial conducting cylinder 4-35833
- electric impedance continued**
metals, anomalous skin effect, surface impedance calcs. (*Russian*) 4-50893
photovoltaic array output voltage/current characteristic simulator 4-26284
piezoelectric transducer disc, mech. reson. rel. elec. impedance characs. 4-19694
plasma diagnostic using ring aperture antenna, input impedance, longitudinal wave effects 4-15293
pulsed power technology, supercoherent phenomena 4-34368
skin, human, elec. phenomenology of keratins 4-36097
skin impedance and electro-osmosis in the human epidermis 4-12559
wound-healing process, elec. impedance monitoring, sheep expts. 4-3549
Ag/Ag₂RbI₃/Ag solid-state cell with solid electrolyte, impedance parameters of reversible interface 4-57708
Ag-Ag₂RbI₃, solid-state struct., response to action of potentiostatic pulse 4-50577
β-Al₂O₃-Na₂O, solid electrolyte, impedance and modulus spectroscopy 4-6554
PbF₂, rare earth doped, elec. relax., complex impedance meas. 4-16146
α-Ta₂O₃-Sc₂O₃, defects and ionic transport 4-15693
α-Zr(APO₄)₂ (A=Li,Na,K), ionic cond. and dielec. props. 4-6551
- electric impedance measurement**
see also electric reactance measurement; electric resistance measurement
armoured two-wire cable, perturbing induced voltage anal. (*French*) 4-49207
biological impedance variations at microwave freqs., interferometer systems for monitoring 4-16941
biomedical impedance cardiograph, high-sensitivity, high-linearity, low-leak, self-balanced 4-3641
bone impedance measurement, factors affecting 4-47116
frequency depend. impedance/admittance meas. in solid ionics, microcomputer system 4-42992
liquid absorption dynamics in tissue, meas. apparatus 4-3657
lock-in analyser operating at very low frequencies, using personal computer 4-22800
medical impedance plethysmography, electrode impedance changes, negligible errors 4-31352
skin surface electrodes, individual, impedance meas. technique 4-12715
steel, austenitic stainless, dissolution and passivation kinetics in organic media, H₂O effect 4-57465
steel, ferritic stainless, passivity and passivity breakdown 4-57470
two-phase system, AC elec. transport props., complex dielec. const., loss angle, percolation 4-16138
Al electrodes, corrosion rate determ. using Faradaic rectification and AC impedance meas. 4-52019
Li/SOCl₂, BrCl primary cell, electrical impedance 4-52130
NaPO₃-ZrSiO₄ sintered mixtures, humidity sensor based on impedance at 100 Hz (*Japanese*) 4-53692
- electric load** *see load (electric)*
- electric locomotives**
flywheels, storage of energy from electric locomotive regenerative braking systems 4-57782
- electric machine analysis computing**
three-dimensional static field problems, finite element computations 4-49214
- electric machines**
see also electric generators; machine bearings; machine insulation; machine windings; rotors; small electric machines; stators; superconducting machines
EM field computation, COMPUMAG, conf., Genoa, Italy (May-June 1983) 4-47744
- electric moments**
see also atomic electric moment; molecular moments; nuclear electric moment
atomic system, dipole moment, induced by neighbourhood of surface (*French*) 4-38269
N,N-dimethylacetamide, dil. soln., dielectric relax., loss and const. meas. 4-46172
3,3'-dinitro-4,4'-dimethylbiphenyl, in p-xylene, intramolecular motion, dielectric relax. 4-30386
leptonic CP violation and left-right symmetry 4-32494
neutron, electric dipole moment, Higgs boson-exchange model, CP nonconservation 4-18255
neutron dipole moment, short distance effects relics 4-4682
neutron electric dipole moment in gauge theory 4-32707
neutron electric dipole moment in left-right symmetric gauge models 4-32702
neutron electric dipole moment meas. 4-48477
neutrons electric dipole moment, relevance to CP-violation models 4-32496
NQR elec. and dynamic second moments 4-30350
unknown interference source based on power and phase meas., radiation parameters extracting 4-33603
γ[±], pol. γ, weak boson photoprod. charged weak boson coupling gauge struct. 4-48464
H₂O, electric dipole transitions Einstein A-values for rot. transitions for vibr. ground state 4-33382
- electric noise measurement**
atmospheric, techniques and instruments 4-47455
atmospheric noise meas., Aiya noise meter versus ARN-2 recorder 4-31694
bolometric transducers of through type as multifunctional microwave comparison meters 4-32277
broadband optical transmission systems, baseband spectra coloured noise and signal distortions meas. 4-28841
noise meas. as parameters, LaCrO₃ ceramic for high temp. noise resistor 4-13643
(AlGa)As-GaAs 2-D electron gas devices, deep-level anal. by low-freq. noise measurement 4-50909
GaAs MESFET, cryogenically cooled, noise characs. obs. at 4 MHz 4-42990
- electric potential**
see also contact potential; surface potential; voltage control; voltage measurement
circuits, role of induced electromotive forces 4-53395
DC flow through sphere with multipoint supply, potential distribution and conductivity determ. (*Polish*) 4-19318
dielectrics, homogeneous anisotropic nonlinear, pot. distrib. calc. 4-16139
flash lamp voltage and light-pulse shifts caused by gas heating 4-38543

electric potential continued

- low-temperature thermocouples, magnetic field effect determ. 4-8908
- multiple conductors, symmetrical, electric field, equipotentials (*Rumanian*) 4-23856
- strip with pair of V or U notches, pot. soln. 4-33585
- AgI, thermodynamic props. and phase transitions, EMF meas. 4-6528
- Na-Bi dilute molten alloys, Na activity and struct. implications, EMF meas. 4-29304
- Na-Sn dilute molten alloys, Na activity and struct. implications, EMF meas. 4-29304
- Pb-acid battery, role of the macrostructure of industrial tubular type positive electrodes 4-7848
- TiO, nonstoichiometric, thermodynamics, EMF meas. 4-6525

electric power generation

- see also *direct energy conversion; ocean thermal energy conversion; power stations; wave power generation*
- applying Pius to power generation: the Secure-P LWR 4-23333
- feasibility of electricity generation from medium enthalpy geothermal resources 4-52091
- fusion reactor power generation, fission reactor comparison for investments, construction and maintenance 4-54419
- fusion reactor power generation research and development, economic probabilistic decision analysis 4-54418
- fusion reactors for electric power generation, DT fusion and Tokamak device methods 4-54417
- halo-thermal simulation of the dead sea for application to solar energy projects 4-46883
- heat and electricity prod. (*Dutch*) 4-32212
- high temperature energy storage, applications 4-57790
- iceberg uses, applications and characts., conf., Cambridge, England (conf. 1980) 4-36776
- JET project, summary of European nuclear fusion research programme 4-54416
- MHD electrical power generation from ionised gas or plasma 4-29266
- MHD power generation by electrodeless inductive generator in fission gas flow 4-41357
- nuclear energy programmes in developed and developing countries (*Hungarian*) 4-26279
- photovoltaic applications activities in the Netherlands 4-52111
- solar energy for electricity generation, present trends 4-52109
- status update of EPRI research project (1983) 4-35973

electric propulsion

- see also *electric drives; electric vehicles; traction*
- Pb-acid batteries, light weight and high performance, development 4-7850

electric reactance

- see also *capacitance; inductance*
- No entries

electric reactance measurement

- see also *capacitance measurement; inductance measurement*
- No entries

electric resistance

- alga *Hydrodictyon reticulatum*, ohmic resistance of intercellular junctions 4-36078
- photovoltaic concentrators, performance degradation due to surface dust, equiv. series resist. study 4-41343
- postmortem resistivity studies at 60 Hz 4-31206
- soil on Venus, characteristics determination with Venera 13 and 14 spacecraft 4-47555
- solar cell distributed series resistance, diagnosis, experimental verification using Cu₂S-CdS cell 4-12483
- Cu/Pb-Bi, resist. of supercond.-normal metal interfaces at OK 4-40120
- Cu-Cr polycr. structures, electrophysical props., low temp. diffusion effects 4-2662
- FeCr₂S₄ preparation, by chem. transport method, phys. props., 120-300K 4-57095

electric resistance measurement

- see also *ohmmeters*
- alloys, shape memory effect, martensite determ. 4-3316
- anisotropy in specific resistance meas., metallic on semiconductor films, during condensation 4-37116
- charge transfer resistance estimation by graphical anal. of semicircular complex impedance diagrams 4-13627
- Earth resistance meas. in Berlin suburb (*German*) 4-17047
- metals, structural integrity monitoring, elec. resistance signature appl. 4-7688
- metals, up to 40 GPa, in diamond-anvil cell 4-22798
- semiconductor thin films, combined four probe method, Hall mobility, elec. resist. determ. 4-4423
- semiconductors resistance changes meas. in strong electric fields 4-42982
- spreading resistance measurements, correction factor and local slope method 4-8923
- temperature coeff. of resistance, meas. using BBC microcomputer 4-48151
- transformer bridge with automatic balancing for elec. variables meas., design and error analysis (*Czech*) 4-42991
- GaAs-AlGaAs heterostruc., quantized Hall effect device, resistance std. 4-45871
- SnO₂/Pd sensor characts. determ., resistivity and work function meas. 4-53669

electric resistors see resistors**electric sensing devices**

- see also *instruments; measurement*
- 'A vibrating quartz force sensor' 4-4394
- accelerometer functional and design principles and characteristics (*French*) 4-4390
- air mass flowmeter for test cell instrumentation 4-49909
- air-fireable Ni-P inks for thick-film resist. temp. sensors 4-27520
- blood/lymph vessels, area/dia.meas., image sensor and signal processing equipment (*Japanese*) 4-8170
- capacitance sensor for cryogenic liquid level meas. (*Chinese*) 4-13645
- capacitive humidity sensor characts. and expt. results 4-27535
- capacitor gauge with feedback, dimensional noncontacting comparator design 4-48078
- carrier-domain magnetometer, with zero threshold field 4-22804
- ceramic humidity sensors, ionic and electronic types 4-27534
- chemical sensors, ISFET, piezo- and pyroelectric, SAW devices, design, construction and characts. (*Italian*) 4-13629

electric sensing devices continued

- chemically sensitive FET sensors, operation as function of insulator-electrolyte interface 4-27507
- CMOS magnetic field sensor 4-13657
- cylindrical form errors meas. by noncontact gap sensor, electrostatic-capacitance sensor (*Japanese*) 4-8869
- design of biochips and biosensors (*Dutch*) 4-36244
- dew-point sensors, solid-state 4-53693
- dual crystal gas density sensor 4-32247
- eddy current sensor for liquid Na flow meas. 4-15047
- electrolytic gas detectors, protecting the sensors 4-52044
- electronic thermometers, developments and types available 4-4406
- film-type thermoelectric and thermomagnetic thermal radiation sensors and their output parameters 4-22779
- fluorides, F⁻ ion conductors, props. and appl. 4-6555
- free-body field meters for nonuniform power freq. elec. field meas. 4-22792
- Gardon-type, convective heat flux meas. appl. 4-252
- gas detectors, copper phthalocyanine Langmuir-Blodgett films appl. 4-243
- Hall sensor using rare earth transition metal amorphous film 4-27540
- Hall-plate meas. of magnetic build-up, in PWR steam generator 4-28090
- HV equipment, electric field vector measuring instrument 4-4419
- ion sensitive FETs, with electrostatic protection 4-37084
- ISFET in analytical chemistry, pH sensitive mechanism 4-31041
- ISFET sensors, electrochemical aspects and appl. 4-26235
- magnetic field sensor, offset reduction using sensitivity variation method 4-27542
- magnetic US vibration detector, ring type 4-48108
- magnetometers using two amorphous core multivibrator bridge 4-22807
- magnetoresistive sensors using ferromagnetic thin films 4-22770
- measuring-data acquisition using displacement sensors, principles, design, application 4-48086
- micromechanical capacitive accelerometer with a two-point inertial-mass suspension 4-22768
- miniature-electrode probe for conductivity meas. of electrolytic solutions and colloidal sols 4-22796
- MOSFET sensor for tracking HV surface fields 4-42988
- multi-microelectrode and interface cts. integration, neural systems organisation and function obs. 4-36261
- multi-species microprobe using extended gate dynamically sensitive FET 4-26237
- nanosecond current probe for high-voltage experiments 4-32280
- nuclear reactor instrumentation, review 4-32367
- optical fibre loss measurement system, sensor unit design for multiple fibres (*Japanese*) 4-33784
- Permalloy film magnetoresistive vector magnetometers with optimised cond. and anisotropy axis angles 4-22806
- polyvinylidene fluoride for underwater shock-wave sensor appl. 4-55259
- position sensor, inductive noncontact, using relax. oscillator (*German*) 4-22756
- pyroelectric detector based sensor, for liquefied natural gas spills meas. 4-7785
- pyroelectric thin-film detector for photothermal spectroscopy 4-37187
- SAW voltage sensor response obs., using LiNbO₃ and Bi₁₂GeO₂₀ substrates 4-27501
- SEM, environmental, gaseous detector device 4-43140
- semiconducting gas sensors, surface cond. method 4-22775
- semiconductor gas sensors, additives effects obs. 4-31042
- semiconductor oxides appl. as pH sensors 4-42942
- semiconductor sensors for mechanical variables meas., temp. compensation (*Czech*) 4-48103
- sensor definition and technology, device vs. system (*German*) 4-17889
- sensors/transducers survey, calibration and testing for pressure measurement 4-48113
- SnO₂ gas sensor and its appl. 4-37081
- snow cover, liquid water content meas., microwave sensor for dielec. const. meas. 4-26890
- solid state ionic, conf., Grenoble, France (July 1983) 4-31962
- SQUID toroidal sensor design and fabrication 4-22773
- strain gauges, foil and thin film type (*German*) 4-37094
- surface-accessible FET for gas sensing 4-26236
- synchronous sensor, measurement of instantaneous angular speed (*Polish*) 4-37074
- temperature digital sensor system, using quartz crystals 4-37102
- temperature sensors/transducers principles, design and application for temp. meas. 4-48133
- tensoresistor with Te-Au point contact 4-38771
- thin-film resistance humidity sensor, using crosslinked polymer 4-58289
- ultrasonic electromagnetic testing device, using eddy current/magnetic field interaction (*Japanese*) 4-26139
- Fe-Cr-Ni alloys with square hysteresis loops, mag. sensors 4-53712
- GaAs-Al_{0.1}Ga_{0.9}As micromechanical elements, fabrication and vibration monitoring appl. 4-53667
- H₂ gas sensing using YIG sample resistivity changes 4-20646
- IrOx thin film electrodes for high-temp., corrosive environment pH sensing 4-57612
- K₂CO₃ solid electrolyte as CO₂ gas probe 4-37091
- NO₂ sensor based on electrical conductivity changes in phthalocyanine films 4-32248
- NaPO₃-ZrSiO₄ sintered mixtures, humidity sensor based on impedance at 100 Hz (*Japanese*) 4-53692
- O₂ monitoring in flue gases 4-27503
- Pd MOS structures with increased NH₃ gas sensitivity 4-8887
- Si capacitive press. sensor with linear sensitivity 4-42952
- Si, carrier domain magnetometer, with high sensitivity 4-37119
- Si diode thermometer, miniature, for cryogenics 4-8898
- Si pressure sensors using four-terminal gauge, optimum design 4-22769
- Si temperature sensors 4-48126
- Si tensometer, abdominal tokography appl. (*Czech*) 4-58027
- Si:H, F films, amorphous-microcryst. mixed phase, elec. props., appl. to power sensors and strain gauges 4-50855
- a-Si:H:F high cond. film, performance for power sensor and strain gauge 4-50813
- SnO₂ gas sensor, effects of tetraethyl orthosilicate binder (*Japanese*) 4-42946
- SnO₂ sensor for selective detection of gas 4-37082
- SnO₂/Pd sensor characts. determ., resistivity and work function meas. 4-53669
- SnO₂-based combustion monitor sensor 4-37086
- SnO₂-based thick film CO sensors, oscill. waveforms 4-32253

electric sensing devices continued

- SnO₂-TiO₂ ceramic gas-sensitive resistor device (*Japanese*) 4-27505
 SrFeO_{3-x} gas sensor, elec. resist. rel. to O₂ partial press. 4-11520
 ZnO electrical conductivity obs., methane CO and H₂O effects, sensor appl. 4-34967
 ZnO films, Pd salt impregnated, H₂ sensitivity rel. to heat treatment 4-42945
 ZnO on Si integrated acoustic sensor 4-53668
 ZnO sensor for CO detection and meas. 4-32249
 ZrO electrolyte sensors for O₂ concentration measurement and control in combustion processes (*German*) 4-48102

electric sheet *see iron alloys; silicon alloys***electric shielding, nuclear** *see nuclear screening***electric shocks**

- see also electrical faults; protection; safety*
 human body behaviour to electric shocks, standards (*Portuguese*) 4-36090

electric spark machining *see spark machining***electric sparks** *see sparks***electric steel** *see iron alloys; silicon alloys***electric strain gauges** *see strain gauges***electric strength**

- see also electric breakdown*
 crosslinked polyethylene (XLPE) electrical strength, influence of crosslinking atmosphere (*German*) 4-30391
 decline with time, general eqn. for combined thermal and elec. stresses 4-51188
 dielectric surface discharges, effects of combined low- and high-energy electrons 4-10903
 glass, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 piezoelectric medium weakened by tunnel notch, longit. shear problem 4-51196
 polycarbonate, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 polyethylene, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 polyethylene, struct. and dielec. prop. changes 4-35333
 polymer laminate struct., props., HV appl., review 4-2876
 polyvinylchloride, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
 solid dielectrics, breakdown processes, analysis and elec. strength calc. 4-16163
 vacuum gap dielectric strength and predischage phenomena (*Polish*) 4-10913
 water tree growth, influencing factors, expt. data 4-25680
 Al/SnO₂-Sb₂O₃/Al mixed oxide sandwich struct., elec. props. 4-50950
 Al-Sb₂O₃-Al MIM struct., I-V characts., elec. breakdown studies 4-11600
 MgO film, thermally grown, MIM capacitor, elec. pulse breakdown 4-2878
 Si₃N₄ film, photo-CVD by direct pyrolysis, elec. and optical props. 4-40661
 SiO₂, CW CO₂ laser grown, dielec. strength 4-40345
 SiO₂ layer growth on metal silicides, VLSI appls. 4-35750

electric susceptance *see electric admittance***electric susceptibility** *see optical susceptibility***electric transformers** *see transformers***electric utilities** *see electricity supply industry***electric variables measurement**

- see also attenuation measurement; capacitance measurement; charge measurement; dielectric measurement; electric admittance measurement; electric current measurement; electric distortion measurement; electric field measurement; electric impedance measurement; electric noise measurement; electric reactance measurement; electric resistance measurement; electrical conductivity measurement; frequency measurement; gain measurement; inductance measurement; phase measurement; power factor measurement; power measurement; voltage measurement*
 optical waveguide transmission system, performance test (*German*) 4-5725
 thermoelectric power meas., accuracy, thermoelec. eddy current effects 4-50854
 transportable thermostat for standards of the electricity measuring techniques (*German*) 4-37087
 units, corrections of SI system of units, theoretical system constitution 4-4373

electric vehicles

- see also electric drives; electric locomotives; electric propulsion*
 Fe-air secondary battery: improvements in the air electrode 4-7856
 fuel cells as electric vehicle power sources, electrochemistry 4-41335
 Pb-acid batteries for electric road vehicles, European development trends 4-7852
 Na/S cells, thermal props. during charge and discharge 4-52133
 Pb-acid batteries, light weight and high performance, development 4-7850

electric welding

- see also arc welding; electron beam welding; resistance welding*
 steel, mild, cylinders, DC flash welded, heat affected zone size, hardness, failure map 4-16512

electrical conduction in condensed matter

- see also carrier density; carrier lifetime; carrier mean free path; carrier mobility; carrier relaxation time; dislocation scattering; electrical conductivity of liquids; electrical conductivity of solids; electrical conductivity transitions; electron density (metals); electron mean free path (metals); electron mobility (metals); electron-phonon interactions; electron relaxation time (metals); high field effects; hopping conduction; impurity scattering; Lorenz number; minimum metallic conductivity; minority carriers; mixed conductivity; negative resistance effects; one-dimensional conductivity; photoconductivity; point defect scattering; size effect; skin effect; small polaron conduction; space-charge-limited conduction; spin disorder resistivity; surface conductivity; surface scattering; thermally stimulated currents; tunnelling*
 bipolar conduction theory with AC excitation 4-34943
 Cayley tree, cond. near localisation threshold 4-20616
 conducting-insulating phase mixture, struct. and cond. mechanism, computer simulation (*Polish*) 4-35034
 conductors with mirror-isomeric struct., elec. cond. and mag. fields 4-39865

electrical conduction in condensed matter continued

- dislocation scatt., Aharonov-Bohm problem, extended, solution 4-25314
 electron diffusion in a quantizing magnetic field 4-20618
 ferrofluids, optical and elec. oscill. induced by const. electric field 4-45845
 metastable ohmic cond., characteristic field 4-2575
 porphyrin Langmuir-Blodgett films, elec. conductivity meas. 4-56450
 random media with uncorrelated bonds, conductivity, recursive model anal. 4-208
 substitutional alloys, transport coeffs. in multiorbital models 4-20617
 two-dimensional anisotropic media, effective cond. theory 4-25315
 two-dimensional degenerate electron gas, elec. cond. during charged impurity scatt. (*Russian*) 4-50784

electrical conductivity

- see also electrical conduction in condensed matter; electrical conductivity of gases; electron mobility; ion mobility; space-charge-limited conduction*
 effective characteristics of media containing foreign inclusions 4-39745
 percolating 'cluster, conductivity exponent and spectral dimension 4-17846

electrical conductivity measurement

- air conductivity probe transducer 4-58304
 Ce₂Pr_{1-x}O₂ electrical conductivity and oxide ion transference number 4-50880
 charge carriers lifetime meas. in semiconductors, microwave photomodulation phase method 4-37115
 chlorophyll-A, surface conductance in ambient gases, I(V) characts., dielec. loss, capacitance 4-16829
 conductivity measurements of phosphorus-doped potassium-seeded MHD plasmas 4-49937
 electrolytic solutions and colloidal sols, miniature-electrode probe for small samples 4-22796
 haemoglobin, Langmuir-Blodgett films, dielec. props. 4-16830
 Hall effect apparatus, use of van der Pauw method 4-32279
 Hall effect measurement techniques in metallic thin films 4-22794
 high-density discharge conductivity meas., optical method and Kerr cell 4-34319
 HV pulse electro-optical bridge, using Kerr cells 4-22793
 ice, DC conductivity meas., ageing effects, climatological appls. 4-29967
 ion mobility meas. of electrolytes and solutions, by moving-boundary method 4-39549
 metals and alloys, elec. resistivity meas. by contactless method using skin effect 4-27537
 periclase, elec. resist. meas. method 4-11525
 polymer electrolytes, conductivity cell for temp. cycling 4-45409
 semiconductor wafers, carrier lifetime meas. using photomagnetolectric contactless method 4-4421
 semiconductors, bulk and surface conductance, simultaneous meas. 4-42979
 semiconductors, electrical characterisation using carrier transport phenomena, thin film resistivity meas. 4-25336
 semiconductors, heterogeneous, conductivity and dielectric relaxation parameter determ. using isolation layers 4-37118
 surface microwave conductivity spectroscopy 4-50856
 thermoelectric cooler thermoelectric props. measurement 4-21562
 thin films, bath type metal cryostat design 4-27532
 thin films, thermal conductivity, thermal diffusivity, and other transport coeffs. meas. 4-53682
 p-GaAs surface recombination rate meas., using cathodoluminescence 4-8922
 Ga_{0.47}In_{0.53}As, proton bombardment in n- and p-type material, resist. increase 4-2222

electrical conductivity of amorphous metals and alloys

- see also dislocation scattering; electron density (metals); electron mean free path (metals); electron mobility (metals); electron relaxation time (metals); electronic conduction in metallic thin films; impurity scattering; point defect scattering; surface scattering*
 alloys, elec. resist., temp. depend., diffraction model anal. 4-45723
 alloys, ferromagnetic, elec. cond. with s-f exchange interaction (*Russian*) 4-34944
 alloys, resist., Hall effect, magnetoresist. and thermopower 4-56312
 disordered high-resistivity conductors, transport theory 4-45700
 disordered metals, low-freq. 1/f resistivity fluctuations 4-50787
 electronic props., pair distribution function, Monte Carlo calc. 4-45596
 glassy alloys, electrical resist. and Hall coeff. 4-45713
 glassy alloys, electrical resist. at high press. 4-45714
 glassy metals, electronic struct. and elec. resist., recursive calc. 4-45716
 metallic glasses, elastic electron scatt. and elec. cond. 4-39870
 metallic glasses, elec. resist., cond., incipient localisation and electron-electron correl. effects 4-45729
 metallic glasses, electron transport, low temp., review, book contrib. 4-39874
 metallic glasses, electronic struct., review 4-34869
 noble metal-nontransition element alloys, amorphous, evidence for Hume-Rothery phase, struct. and Hall coeff. 4-10989
 nonsimple metals, electronic transport, tight-binding calc., effective medium approx. 4-45721
 Permalloys, ordering kinetics during annealing, elec. resist. and permeability studies 4-15380
 physics of amorphous metals 4-29326
 rare earth metallic glasses, R-Al, thermal stability, mag. and elec. props. 4-45727
 scaling behaviour in amorphous and disordered metals 4-39871
 struct. and crystallisation, Mossbauer study 4-55729
 transition metal alloys, disordered, effect of electron-phonon interaction on elec. cond. 4-45730
 transition metal alloys, M₂Sn_{1-x} (M=V, Cr, Mn, Fe, Co, Ni, Cu), amorphous, forming ability, stability and elec. transport 4-44962
 transition metal amorphous binary alloys, sputtered, elec. resistance, Kondo effect 4-45715
 Ag-Cu-Mg metallic glasses, electron transport and density of states 4-45724
 Au-Bi amorphous alloys prod. by laser quenching and ion irradi. 4-15382
 Be-Nb-Zr alloys, amorphous, supercond. and thermal relaxation 4-45955
 Ca-Al metallic glasses, elec. resist. and transverse magnetoresist. 4-45728
 Co-Gd amorphous ribbons and films, crystn. kinetics 4-45003
 Co-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Cu-Zr liquid and glassy alloys, elec. resist., conc. depend. 4-45726
 CuAg amorphous thin films, atomic diffusion and structural relax., resist. meas. 4-45385

electrical conductivity of amorphous metals and alloys continued

- $\text{Cu}_{90}\text{Ti}_{10}$, elec. resist., cond., incipient localisation and electron-electron correl. effects 4-45729
 $\text{Cu}_{92}\text{Zr}_{8}$ metallic glasses, phase separation kinetics, elec. resist. study 4-45013
 $\text{Cu}_{92}\text{Zr}_{8}$, amorphous-crystalline transition, DC elec. resist. study 4-44963
 Fe-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Fe-Ni-B amorphous alloys, crystn. 4-2081
 Fe-V-B-Si amorphous alloys, N-bearing, crystn. processes, mag., thermal, and transport props. 4-45006
 $\text{Fe}_{80}\text{B}_{20}$, amorphous to cryst. transform. under press., thermoelec. power meas. 4-6766
 $\text{Fe}_{86}\text{B}_{14}$ metallic glasses, short range ordering, elec. resist. studies 4-45017
 $\text{Fe}_{80}\text{B}_{20-x}\text{Al}_x$ (Ga_x) metallic glass ribbons, elec. and mag. props. 4-30202
 $(\text{Fe}_{1-x}\text{Cr}_x)_{84}\text{B}_{16}$ amorphous, elec. cond. and mag. props. (*Chinese*) 4-2578
 $\text{Fe}_{75}\text{M}_{25}$ ($\text{M}=\text{Ti}, \text{V}, \text{Cr}, \text{Mn}, \text{Co}, \text{Ni}$), amorphous alloys, elec. resist., structural relax. 4-39873
 $\text{Fe}_{20}\text{Ni}_{60}\text{B}_{20}$, amorphous, elec. cond. critical behaviour 4-11507
 $\text{Fe}_{20}\text{Ni}_{80-x}\text{B}_{10}\text{Si}_x$ amorphous, elec. cond. critical behaviour 4-11507
 $\text{Fe}_{30}\text{Ni}_{36}\text{Cr}_{14}\text{P}_{14}\text{B}_6$ metallic glasses, short range ordering, elec. resist. studies 4-45017
 $\text{Fe}_{40}\text{Ni}_{38}\text{Mo}_{18}$, amorphous, quenching, structural relax., internal friction, dynamic elastic modulus, elec. resist. meas. 4-40855
 $\text{Fe}_{38}\text{Ni}_{38}\text{Mo}_{18}\text{Si}_{12}$, metallic glass, mag., elec. and thermoelec. studies 4-46158
 $\text{Fe}_{40}\text{Ni}_{40}\text{P}_{14}\text{B}_6$, press.-induced struct. relax. 4-45265
 $\text{Fe}_{1-x}\text{Zr}_x$ metallic glasses, ferromagnets, magnetoresist. meas. 4-56318
 Gd-Ge amorphous alloy, mag. and transport props., conc. depend. 4-30210
 $\text{Gd}_x\text{Fe}_{1-x}\text{H}$ amorphous film, mag. and elec. props 4-46027
 La-Al metallic glasses, elec. resist. and transverse magnetoresist. 4-45728
 La-Al metallic glasses, electronic transport props. 4-56310
 Mg-Zn, amorphous, electron transport, diff. model 4-45717
 Mg-Zn, amorphous, resist. and thermopower, diffraction model 4-6759
 $(\text{Mo}_{0.6}\text{Ru}_{0.4})_{82}\text{B}_{18}$ amorphous films, supercond. props., elec. resist., and irradi. props., effect of annealing 4-2665
 Ni-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Ni-P amorphous electrodeposits, Hall effect and IR reflectivity studies 4-45740
 Ni-Zr glasses, temp. coeff. of resist. and electron-phonon coupling 4-45718
 $\text{Ni}_{66}\text{B}_{34}$ amorphous alloys, struct., crystallisation and elec. cond. 4-10999
 $\text{Ni}_{80-x}\text{Fe}_{20}$ glassy alloys, thermal relax., phys. props. meas. 4-45244
 $\text{Ni}_{24}\text{Zr}_{76}$, amorphous, short-range order, reversible and nonreversible effects 4-44998
 $\text{Ni}_{24}\text{Zr}_{76}$, amorphous, structural relax. kinetics, elec. resist., shear modulus, internal friction meas. (*French*) 4-39145
 $\text{Ti}_{90}\text{Be}_{10}$, resist., cond., incipient localisation and electron-electron correl. effects 4-45729
 Zr-Si(Ge), supercond. props. and normal elec. resist. in metastable BCC and amorphous phases 4-20751
 $\text{Zr}_{100-x}\text{Cu}_x$ alloys, amorphous, elec. and mag. props. 4-25316
 $(\text{Zr}_{0.667}\text{Ni}_{0.333})_{1-x}\text{B}_x$, amorphous, density, elec. resist., supercond. props. 4-6287

electrical conductivity of amorphous semiconductors and insulators

- see also carrier density; carrier lifetime; carrier mean free path; carrier mobility; carrier relaxation time; dislocation scattering; electrical conductivity transitions; electronic conduction in insulating thin films; high field effects; hopping conduction; impurity scattering; minority carriers; negative resistance effects; photoconductivity; point defect scattering; small polaron conduction; surface scattering
 chalcogenide glasses, DC transport mechanism, correlation with amorphous Si:H 4-45765
 chalcogenide glasses, doping, transport and optical props 4-45160
 disordered systems, hopping transport, electronic correl. effects 4-45776
 electrical insulation and dielec. phenomena, conf., Buck Hill Falls, USA (Oct. 1983) 4-31963
 epoxy resin hydrothermal stability 4-20912
 ethylene propylene fluorinated copolymer, radiation-induced conductivity 4-6786
 ethylene propylene rubber, DC cond., effect of crosslinking agent, clay conc., and devolatilisation 4-34988
 glassy semiconductors, modified, extrinsic conduction and band gap 4-29976
 hopping systems, energy-depend., Hall effect, thermopower, and AC and DC cond. 4-45813
 Kapton, pyrolysed, ponderomotive force depend. on conductivity 4-39920
 localisation, deep states in gap, and hopping transport 4-45685
 metallophilalocyanines, cofacially joined, collective props., dopant and architectural effects 4-29968
 non-crystalline materials, electronic props. 4-2606
 oligonaphthols, elec. cond., naphthoxyl type paramag. centre contrib. 4-6787
 periclase, elec., particle size comp. rel. to elec. insulation props. 4-57360
 $3,4,9,10$ -perylene-tetracarboxylic dianhydride thin films, ion irradi., elec. resist. 4-40100
 PET films, elec. and high field cond. 4-20913
 PET treated by corona discharge struct. and dielec. props. 4-11017
 plasma-polymerised thin films, photoinjection from metal electrodes 4-11595
 plastics, conductive injection moulded, microstruct. and props. 4-15407
 poly(3-methylthienylene)-film, electro-chemical prep. and elec. cond. 4-20659
 poly(2-vinylpyridine-CO-styrene) film, metal-phthalocyanine bound, elec. cond. mech. (*Japanese*) 4-56349
 poly-p-phenylenesulfide, elec. transport and breakdown 4-25357
 polyacetylene- $\text{I}_2(\text{HSO}_3\text{F})$ heavily doped, elec. and optical props. 4-50802
 polyacetylene- $\text{IrCl}_6\cdot 6\text{H}_2\text{O}$, characterisations, stability determ. 4-29969
 trans-polyacetylene, doped, electronic and geometric struct., cond. mechanisms, quantum-chemical calcs. 4-45589
 polyacrylonitrile films, vacuum deposition, elec. and optical props. 4-57103
 polycarbonate:1 films, elec. cond. and carrier mobility 4-25355
 polydiacetylenes, single cryst., semicond. props. 4-35560
 polyene, prep. by dehydrochlorination of PVC, elec. and phys. props. 4-20658
 polyetherimide, thermoplastic resin, mech., elec. and phys. props. 4-30754
 polyethylene, cond. activation energy, influence of elec. field 4-34987
 polyethylene, elec. conduction, effect of polar groups 4-39896
 polyethylene, elec. props., strong gamma-ray field effects (*Rumanian*) 4-29963
 polyethylene, neutron and γ -ray irradi., elec. props. 4-35354
 polyethylene-(ethylene-vinyl acetate) copolymer composites, TSC and cond. meas., interface effects 4-35007
 polyethylene-ethylene vinyl acetate laminates, elec. cond. interface effects 4-34986
 polyethyleneterephthalate, electron irradi. induced conductivity 4-6788
 polymer electrical conduction and carrier traps 4-11529
 polymers, conductive, low temp. coeff. of resist. by reticulate doping 4-34989
 polymers, conjugated, elec. cond., compensation effects 4-45793
 polymers, semiconducting, elec. props., review 4-2607
 polymers and organic mol. solids, thin films, ion beam irradi., optical and electrical props. 4-45801
 polymethylpentene, elec. cond. and photoconductivity 4-34990
 polyolefin films, chemical modification of near-surface charge trapping, SEM, ATR, TSC meas. 4-56364
 polyparaphenylene, doped, electronic and geometric struct., cond. mechanisms, quantum-chemical calcs. 4-45589
 polypyrrole film containing AsF_6 group, electrochemical prep. and elec. cond. 4-20660
 polypyrrole films, electrochemically prepared, mech. prop. 4-46769
 polySchiff bases, elect. conductivity, PPP calc. 4-39915
 polystyrene, electron irradi. induced conductivity 4-6788
 polystyrene films, low energy electron transport, electron beam induced cond. effect 4-34984
 polythienylene film containing AsF_6 group, electrochemical prep. and elec. cond. 4-20660
 polyvinylfluoride film, elec. cond. and switching behaviour 4-45843
 PVC dielectric losses around glass transition, freq. and temp. depend. 4-20906
 semiconductor, amorphous, carrier diffusion, review 4-6791
 semiconductor inhomogeneous amorphous and polycryst. films, elec. and optical props. 4-30093
 semiconductors, conf., Tokyo, Japan (August 1983) 4-42584
 serum albumin powder, bovine, elec. cond. under press., adsorption effects 4-56356
 styrene butadiene rubber, carbon-black-loaded, electrical cond., effect of S 4-34992
 Teflon FEP foils, negative charge transport, const. current method 4-34985
 tetrabenzofulvalene films, drift mobility, anomalous field depend. 4-29974
 transition metal oxide glasses, elec. transport and struct. props., small polaron theory 4-6783
 triarylmethane-bisphenol-A-polycarbonate solid soln., hole transport 4-25344
 unsaturated polymers, synthesis and charact. 4-52006
 9-vinylcarbazole-9-propenylcarbazole thin films, electrocond., temp. depend. (*Russian*) 4-35090
 $\text{As}_{30}\text{Ge}_{70-x}\text{Se}_{10-x}$ chalcogenide glasses and melts, thermal and elec. cond. 4-11528
 $\text{As}_4\text{Ge}_{15}\text{Te}_{81}$ glassy semicond., elec. transport props., influence of cryst. inclusions 4-15904
 As_2S_3 Fe chalcogenide glasses, optical and electronic props. 4-45782
 As_2Se_3 amorphous films, elec. and photoelec. props. controllability 4-45790
 $\text{As}_2\text{Se}_3/\text{Ni}$, Fe glassy films, carrier transport 4-15973
 $\text{As}_2\text{Se}_3/\text{Cu}(\text{Cd})$ amorphous film, elec. props., impurity effects 4-45783
 $(\text{As}_2\text{Se}_3)_{1-x}(\text{Te}_2\text{Se})_x$ chalcogenide glasses, elec. cond. and activation energy 4-45795
 As_2Te_3 amorphous, dispersive transport, TOF and transient field effect meas. 4-45784
 $\text{BaO-B}_2\text{O}_3\text{-Fe}_2\text{O}_3$ glass, EPR and DC resistivity studies 4-51128
 $\text{BaO-V}_2\text{O}_5$ glass, elec. cond. 4-6780
 $\text{BaO-V}_2\text{O}_5\text{-Fe}_2\text{O}_3$ semicond. glasses, Fe and V ion interactions 4-6281
 Bi films, 2D and 3D, weak localisation, spin-orbit and electro-electron interactions 4-25348
 $\text{Bi}_2\text{O}_3\text{-V}_2\text{O}_5\text{-CaO}$ glasses, elec. cond. temp. depend. 4-39891
 C:H films, amorphous, DC cond. and ESR meas. 4-56353
 $(\text{Cd}_x\text{GeAs}_{4-x})_{1-x}(\text{TiAs}_2)_x$ system, glass formation and elec. props. 4-45020
 CdIn_2S_4 thin films, switching phenomena 4-30028
 $\text{CdO-ZnO-P}_2\text{O}_5$ glasses, high field cond. 4-39919
 CdTe, amorphised, hopping and band transport 4-25338
 $\text{Cu}_x(\text{As}_{0.4}\text{Se}_{0.6})_{100-x}$ system glasses, elec. and optical props. for $x=5$ to 30 4-45788
 CuS amorphous thin films, preparation and optical props. 4-11420
 GaAs, amorphised, hopping and band transport 4-25338
 Ge, amorphous, low temp. AC loss meas., evidence for two loss mechanisms 4-50812
 a-Ge, heavily doped, Coulomb gap, disorder effect, cond. study 4-45781
 a-Ge, hopping transport, extended theory 4-45778
 Ge thin film, amorphous, annealing and oxygenation effects on conductivity 4-40085
 a-Ge:H sputtered film, AC and DC conduction, H effects 4-25347
 Ge-Bi-Sb-Se and Ge-Bi-S system glasses, optical and elec. props. 4-45785
 Ge-Se-Te films, amorphous, elec. props., electrode effects 4-2613
 GeSe:Fe amorphous semicond., conduction mechanism, Mossbauer studies 4-25353
 $(\text{GeSe}_3)_{100-x}\text{Bi}_x$, amorphous, elec. transport props. under high press. 4-45786
 $\text{HfO}_2\text{-PrO}_3$ refractories, electron cond. 4-56358
 InP, amorphised, hopping and band transport 4-25338
 InP films, electronic props. and struct., electron diff., optical and elec. cond. meas. 4-39143
 $\text{K}_2\text{O-Li}_2\text{O-B}_2\text{O}_3$ glasses, elec. cond. mixed alkali effect and opt. absorpt. of Ni (II) 4-11907
 $\text{MgO-Al}_2\text{O}_3$ refractories, electron cond. 4-56359
 $\text{Na}_2\text{O-Al}_2\text{O}_3\text{-SiO}_2$ glass, acoustic, elastic and elec. props. 4-11233
 $\text{Na}_2\text{O-GeO}_2$ glass, alkali conc. depend. 4-34975
 $\text{Na}_2\text{O-SiO}_2\text{-CaO}$ glasses, γ -ray irradi. and rare earth additives effects on insulation 4-11521

electrical conductivity of amorphous semiconductors and insulators continued $\text{Na}_2\text{Si}_2\text{O}_7\text{-Cs}_2\text{Si}_2\text{O}_7$, glass, struct. and props. rel. to phase diagram 4-50211

- Sb_2S_3 films, growth by soln.-gas interface technique, optical and electrical props. 4-29838
 Se, amorphous, AC cond., photoinduced changes 4-45787
 Se, amorphous films, elec. and photoelec. props. controllability 4-45790
 a-Se film, mol. doping and transport props. 4-45159
 Se-Te amorphous semiconductors, phys. props. and crystallisation 4-2082
 $\text{Se}_{60}\text{Te}_{20}$ chalcogenide glass, crystallisation kinetics 4-44974
 $\text{Se}_{60}\text{Te}_{20}$ amorphous mixture, semicond.-metal transition and crystallisation 4-45631
 Si, amorphised, hopping and band transport 4-25338
 Si amorphous film, halogenated and hydrogenated, transport props. rel. to deposition parameters 4-6824
 a-Si evaporated film, hydrogenation and direct substitutional doping, elec. props. 4-24837
 a-Si film, photo-electronic props. 4-15972
 a-Si, hopping transport, extended theory 4-45778
 a-Si, p-type, sputtered, elec. and optical props. 4-6779
 Si, preamorphised, BF_3^+ implanted, rapid thermal annealing 4-15514
 Si thin film, RF sputtered, electronic and optical props., conditions depend. 4-6784
 a-Si, transport and related props., transient expts. 4-45775
 a-Si:Al films, transport props., metal-insulator transition and supercond. 4-39995
 a-Si:B(P) CVD film, crystallisation growth rate, doping depend. 4-44948
 a-Si:F films, deposition, elec. and optical props. 4-51541
 a-Si:H, AC cond., photoinduced changes 4-45787
 Si:H, B, Hall effect and hole transport 4-20673
 a-Si:H, B films, photoinduced metastable surface effects 4-15908
 a-Si:H, Cl film, photoluminescence spectra 4-40507
 a-Si:H, conduction mechanism and photocond. 4-25350
 a-Si:H, density of gap states determ., const. photocurrent method, transient current spectroscopy 4-39762
 a-Si:H, dispersive transport, Monte Carlo study 4-45779
 a-Si:H, elec. cond. study 4-39905
 a-Si:H, film deposition by glow discharge, bias effects on props. 4-51497
 a-Si:H, P(B), film, surface states study 4-30036
 a-Si:H, phys. props. and imaging appl. (French) 4-39984
 a-Si:H, RF glow discharge deposited, optoelectronic and photovoltaic props. meas. 4-50864
 a-Si:H, RF sputtered, light induced Si-H bond (Chinese) 4-11413
 a-Si:H, RF sputtered, props., effects of RF power and total gas press. 4-2981
 Si:H, Staebler-Wronski effect meas., appl. of Meyer-Neldel rule 4-15910
 Si:H,B amorphous films, glow discharge deposition, BF_3 doping, elec. and optical props. 4-29456
 a-Si:H,B(P) film, doping efficiency, crystallisation effects 4-44949
 Si:H,B(P) microcryst. film, preferential dopant segregation 4-45340
 a-Si:H,Cl, doping in RF glow discharge 4-45158
 Si:H,F, amorphous film, glow discharge deposition and high resistive props. 4-16342
 a-Si:H,F,P alloys, high conductivity, percolation process, effect of P-doping 4-39907
 a-Si:H,F high cond. film, performance for power sensor and strain gauge 4-50813
 a-Si:H,N films, plasma deposition, optical and elec. props. 4-39716
 Si:H,P microcrystalline films, struct. and elec. props. 4-45551
 a-Si:H,P(B) film, optically induced excess cond. 4-40088
 a-Si:H evaporated film, IR vibr. spectroscopy studies 4-21059
 a-Si:H film, electric field induced conduction drift (Chinese) 4-20746
 a-Si:H film, plasma deposited, field effect conductance; temp. depend. 4-39903
 a-Si:H films; doped, elec. cond., kink in high temp. depend. 4-39904
 a-Si:H films, glow discharge deposited, H incorporation, doping and thickness depend. conductivity 4-40089
 a-Si:H films, IR photocond. and dark cond., annealing effects 4-35025
 a-Si:H films, local states in band gap, photocond. and dark cond. studies 4-25403
 a-Si:H films, photochem. CVD prep., struct., optical, and electronic props. 4-3078
 a-Si:H films, RF glow discharge deposition and solar cell appls. 4-45825
 a-Si:H RF sputtered coatings, microcryst. struct. 4-45550
 a-Si:H sputtered film, preparation, elec. props. 4-51490
 a-Si:H sputtered films, thickness depend. props., Raman and DC cond. meas. 4-39714
 a-Si:H(F) film, ion implanted, elec. cond. study 4-15969
 Si:N,H amorphous glow discharge films, elec. props. 4-6792
 Si:P, H microcrystalline films, ESR and elec. cond. 4-16095
 a-Si:P films, plasma deposition, doping, cond. meas. 4-39717
 a-Si:Se, films, optical gap, elec. resist. meas., stability reduction by microvoids 4-40395
 $\text{Si}_{100-x}\text{Al}_x\text{H}$ amorphous films, reactive co-sputtering, high p-type conductivity and optical props. 4-40647
 $\text{a-Si}_{1-x}\text{Au}_x\text{H}$ films, metal-insulator transition, DC cond. and photoemission meas. 4-39994
 $\text{Si}_3\text{Ge}_{1-x}\text{H}$ amorphous films, reactively sputtered, compositional gradients obs. 4-51487
 SiN_xH , ion irradi., dark cond. meas., defect states 4-39837
 $\text{SiN}_x\text{H,P(B)}$, amorphous, glow-discharge deposition, doping effects on elec. props. 4-39314
 Si_3N_4 , amorphous, defect states energy levels, trap states 4-50750
 Si_3N_4 low-pressure CVD layers, electron and hole conduction 4-11532
 SiSn:H amorphous alloy films, RF glow discharge fabrication, conductivity transition 4-45839
 $\text{a-Si}_{1-x}\text{Sn}_x\text{H}$, sputter assisted plasma CVD films, props. 4-40439
 $\text{TeO}_2\text{-V}_2\text{O}_5\text{-Fe}_2\text{O}_3$ glasses, elec. cond. and ESR 4-50814
 TiN film, amorphous ion plated, elec. cond. mechanism 4-11609
 $\text{V}_2\text{O}_5\text{-B}_2\text{O}_3$ glass, elec. cond. 4-6780
 $\text{V}_2\text{O}_5\text{-Bi}_2\text{O}_3$ glasses, adiabatic hopping cond. 4-56345
 $\text{V}_2\text{O}_5\text{-GeO}_2$ semiconductor glasses, elec. conductivity 4-56338
 $\text{V}_2\text{O}_5\text{-P}_2\text{O}_5$, vitreous, Hall effect, elec. cond. and thermopower 4-45814
 ZnS:Al film, amorphous, low resist., optical and elec. props. 4-40514
 $\text{ZrO}_2\text{-PrO}_3\text{-SrO}$ refractories, electron cond. 4-56358

electrical conductivity of crystalline metals and alloys continued

- alloys, shape memory effect, martensite determ. 4-3316
 austenitic stainless steel, low temp. resistivity study (Chinese) 4-2584
 graphite fibre reinforced Al wires, nondestructive evaluation of thermal cycling, US torsional vel. obs. 4-30899
 Kondo alloys, cryst. field effect on resist. maximum 4-25330
 Matthiessen's rule, deviation at high temps. (Japanese) 4-39889
 measurement by contactless method using skin effect 4-27537
 metals, electrical conductivity tensor, effect of defects prod. by irradiation 4-39872
 metals, electron lifetime and elec. resist. at room temp., systematic trends 4-56322
 metals, high freq. EM phenomena, de Haas-van Alphen effects 4-20683
 metals, high purity, residual elec. resist. and Debye temp. (Russian) 4-56313
 metals, pure and with given distrib. of impurities, vacancies, and dislocations, elec. resist. theory 4-39875
 metals, universal high temp. saturation 4-56105
 metals electrical resistivity and normal integral coeff. of radiation 4-45733
 oscillations near mag. transitions due to electrothermal instabilities 4-20620
 porous fibre materials, contact phenomena 4-25923
 quenched-in resist., appl. of size effect correction 4-20625
 rare earth alloys, RInAg_2 , Heusler alloys, elec. and mag. props. 4-45732
 rare earth binary alloys, $\text{R}_{1-x}\text{R}_x\text{Al}_2$, high temp. spin disorder resist., CPA calc. 4-29947
 rare earth rhodium silicides, R_2RhSi_3 , cryst. struct., elec. and mag. props. 4-50272
 sintered materials, modelling of physical and morphological props. (French) 4-51721
 steel, low C, tempering processes, quenching temp. effects, elec. resist. and thermal expansion studies (Russian) 4-35641
 steel, low-C, controlled decarburisation in N_2 -based atm. 4-30721
 steel, maraging, Ni-Co-Mo-Ti, precipitation rel. to ageing temp., elec. resist. obs. (Japanese) 4-46509
 steel, stainless, Cr-Ni-Ti, wire, electroplastic drawing, phase composition and struct. 4-12086
 steel, stainless, irradiation effects on electrophysical props. (Russian) 4-45736
 steel, stainless, precipitation hardening, precip. processes (Korean) 4-40793
 strongly disordered metallic alloys, cond. 4-45735
 transition metal alloys, residual resistivity, deviations from Kurnakov-Nordheim rule (Russian) 4-25319
 transition metals, electron-phonon coupling const. and resist. 4-29958
 wires, thin, negative temp. coeff. of resist. 4-20621
 Ag, electrical resistivity, low temp., and electron-electron scatt. 4-34947
 Ag, electron-phonon coupling const. and resist. 4-29958
 $\alpha\text{-Ag-Al}$ (3.5-15.5 at.%), short-range order kinetics, resistometric study 4-12090
 AgAl two phase alloy, short range ordering and annealing, elec. cond. studies 4-34660
 Al, commercial purity, anal. of AlFeSi particles 4-46496
 Al dilute alloy, electronic struct. calcs. 4-2505
 Al dilute alloys, residual resistivity, charge transfer and band effects 4-2586
 Al, electrical transport props., quantum oscils. 4-25320
 Al, muffin-tin Green's function theory of H defects 4-45675
 Al, thermal cond. deviation from Matthiessen's rule 4-39876
 Al-Cu, 2011, microstruct. charact. using DSC 4-30870
 Al-Cu, 2219, rel. between microstruct., hardness and elec. cond. 4-7550
 Al-Cu, 2219, thermal history, hardness, NDE by elec. cond. 4-30916
 Al-Zn-Si (12.6 wt.%), kinetics of phase transitions after deformation by quenching 4-30750
 Au/Co bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
 Au/Cu bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
 Au-Ag (15 at.%), short-range order form. and quenched-in vacancy annihilation by resistivity meas. 4-7482
 Au-Co (2 at.%), precipitation kinetics, elec. resist. and magnetisation meas. 4-7472
 Au-Co metastable solid solns., electrodeposition and growth from melt, elec. cond. meas. 4-40689
 AuNi dilute alloys, elec. resist., free electron scatt. by localised pot. 4-29957
 Be-Co system alloys, struct. and physicomech. props., Co influence 4-57254
 Bi, quantum cond. oscils. near surface 4-40014
 CeAg, magnetic and struct. props. at high press., elec. resist. study 4-30162
 CeAl₃, thermal and elec. cond. meas. at low temps. 4-56315
 CeCu_2Si_2 , elec. resist., thermopower, and thermal cond., 60 mK to 300K 4-20629
 CeCu_2Si_2 , magnetism and supercond. 4-56543
 CeNi, intermediate valence compounds, physical props. 4-2555
 $\text{Ce}(\text{Ni}_{1-x}\text{Co}_x)_2$, X-ray L_{III} absorpt., elec. resist., mag. susceptibility studies, spin fluctuations 4-57032
 CeNi_2Ge_2 , elec. resist., thermopower, and thermal cond., 60 mK to 300K 4-20629
 $\text{Ce}(\text{Rh}_{1-x}\text{Ru}_x)_2$, mixed valent, elec. resist., mag. susceptibility, supercond. transition temps. 4-56290
 $\text{Ce}_{1-x}\text{Y}_x\text{In}_3$, mag. ordering, Kondo lattice, mixed valence, Neel temps., susceptibility, resist. meas. 4-56289
 $\text{Co}_2\text{Re}_5\text{As}_{12}$, preparation, cryst. struct., elec. and mag. props. 4-29387
 $\text{Co}_2\text{Re}_5\text{P}_{12}$, preparation, cryst. struct., elec. and mag. props. 4-29387
 Cr, crystal purification by floating zone refining, residual resist. and ductility props. 4-40643
 Cr-Ga (0.92 at.%), elec. resist. anomaly at incommensurate-commensurate SDW transition under hydrostatic press. 4-20624
 Cr-Mn dilute alloy, elec. resist. and mag. phase transitions 4-51055
 Cr-Ni, elec. and mag. props. 4-2585
 CrBe_{12} , paramagnetic-ferromag. transition, elec. resist. study 4-11511
 Cu, cold worked, softening temp. and elec. resist., effect of additions of In, Pb, Sb or Sn 4-40815
 Cu dilute alloys, residual resistivity, charge transfer and band effects 4-2586
 Cu, electrical resistivity, low temp., and electron-electron scatt. 4-34947
 Cu foil, He ions implantation effects 4-45168
 Cu, porous fibre material, contact phenomena 4-25923

electrical conductivity of crystalline metals and alloys

see also dislocation scattering; electron density (metals); electron mean free path (metals); electron mobility (metals); electron relaxation time (metals); electronic conduction in metallic thin films; impurity scattering; point defect scattering; surface scattering

electrical conductivity of crystalline metals and alloys continued

- Cu, quenched-in resist., effects of O impurity 4-20626
 Cu-Ag, dil., electron-electron scatt. resist., strain depend. 4-20623
 Cu-Ag, dil., strained, high precision resist. meas. below 1K 4-20627
 Cu-Al (>16 at.%), short range order, DTA, elec. resist., selected area diff. 4-34441
 Cu-Al (15 wt.%), short-range order during annealing (*Russian*) 4-6320
 Cu-Be (13 at.%), elec. props., influence of initial stages of precip. 4-12067
 Cu-Ni, transport props. at high temp. 4-20628
 Cu-Ni-Mn-Fe alloys, elec. resist. and Kondo effect at Fe impurities (*Russian*) 4-25329
 Cu-Ni-Si, thermomech. treatment, elec. resist. obs. (*Japanese*) 4-25982
 Cu-Sn-Au bulk alloys and thin films, microstruct. and elec. props. 4-34821
 Cu-Ti explosive welded zone, intermetallic growth on heating 4-21373
 Cu-Ti with disperse oxides, ageing and hardening (*Russian*) 4-51678
 Cu-Zn alloys, elec. resist. at low temps. (*Japanese*) 4-34946
 Cu₁₀Mo₈S₈, neutron irradi., superconductivity and elec. resist. (*Russian*) 4-25469
 Cu₆₀Zr₄₀, amorphous-crystalline transition, DC elec. resist. study 4-44963
 ErNi, ferromagnetic, thermal cond. and elec. resist. 4-50791
 Fe-Al multilayers, ion beam mixing, elec. resist. study 4-34549
 Fe-Co-Ta, Recalloy, mag. props., thermal expansion, elec. resist., hardness (*Japanese*) 4-46069
 Fe-Co-X (X=Mn,V,Ti), low temp. fission neutron disordering, Frenkel pairs, elec. resist. obs., 22K 4-15545
 Fe-Cr-Co-Ni, cold drawn, strain gauge factor, elec. props. (*Japanese*) 4-6763
 Fe-Cr-Ni, austenitic, electron irradi., defect props., elec. resist. meas., comp. depend. 4-55877
 Fe-Cr-Ni, elec. and mag. props. at low temp. 4-56627
 Fe-Mn-Al-C (25.5,0.2 wt.%), resistivity negative temp. coeff. (*Chinese*) 4-2583
 Fe-Ni, elec. resist., Hall effect, magnetoresist. meas., martensitic transform. 4-56316
 Fe-Ta(Mo)(W), semihard mag. alloys, mag. and mech. props. 4-41012
 Fe-Ti system, retrograde solubility and equilib. phase diagrams (*French*) 4-11309
 Fe-V, σ phase form. mechanisms, elec. resist., acoustic emission obs. (*Japanese*) 4-25953
 (Fe_{1-x}Al_x)₂Gd (Dy), mag., elec. and thermal props., local disorder effects 4-51056
 Fe₂Re₂As₂, preparation, cryst. struct., elec. and mag. props. 4-29387
 Fe₉₀V₁₀ alloy, coupling between mag. and chem. interactions 4-30180
 IrSn₄, high press. form., crystallisation and supercond. transition temp. 4-50472
 K, electrical resist., effect of plastic deform., scatt. mechanisms 4-20622
 K, low-temp. elec. resist. and local density of states. 4-56314
 K wires, resistivity, negative temp. derivative, Gurzhi effect 4-34948
 K-Rb, elec. resist., effect of plastic deform., scatt. mechanisms 4-20622
 La_{1-x}Ce_x(Pb_{1-x}Sn_x)₃, mag.-nonmag. transition of Ce impurities, elec. resist., supercond. transition temp. 4-56333
 La_{1-x}Ce_xRh₃, mixed valent Kondo system, elec. resist. saturation, mag. susceptibility meas. 4-56332
 La_{1-x}Gd_xAl₂, electronic and mag. props., bremsstrahlung isochromat spectra 4-21063
 La_{1-x}U_xSn₃, elec. resist., supercond. transition temp. meas. 4-56474
 LiAl(Ga)In, doping effect on elec. transport props. 4-45742
 Li₂Al₂, elec. resist. defect struct., temp. comp. depend. 4-2587
 Mg-Mn(1.58 wt.%), precipitation, TEM and elec. resist. obs. 4-12070
 Mn₁₈Cr₁₂Sb, thermal cond., elec. resist. meas. near antiferro-ferromagnetic transition temp. 4-56618
 Mo, electrical resistivity, influence of grain boundaries 4-25318
 Mu₂MnAl alloy, decomposition kinetics, elec. resist. studies 4-45343
 Nb and alloys, phonon thermal cond., elec. cond. and thermopower, 80 to 400K 4-20424
 Nb-Mo, elec. props. and band struct. calcs. 4-11512
 Nd-Fe-B permanent magnets, anisotropy, magnetisation and Curie temp. 4-56703
 NdAl₃, cryst. field splitting, neutron scatt. study 4-6751
 Ni, electronic props., refractive index and absorption coeff. studies (*Russian*) 4-40405
 Ni foil, He ions implantation effects 4-45168
 Ni_{1-x}Ni_x implanted contact on n⁺-Si, thermal stability and elec. resistivity 4-2655
 Ni-Al(Si)(Ge), elec. cond. and mag. transition temp. 4-34945
 Ni-H, dil., elec. resist. and solubility meas. 4-6764
 Ni-Ti, shape memory alloy, phase transform., internal friction, elec. resist. (*Chinese*) 4-57223
 Ni₃Al, itinerant electron ferromag., magnetisation and elec. resist. 4-45731
 Ni₃(Fe_{1-x}Ta_x), transport and elec. props. (*Russian*) 4-6761
 Ni₃(Fe_{1-x}V_x), transport and elec. props. (*Russian*) 4-6761
 Ni₂Re₂As₂, preparation, cryst. struct., elec. and mag. props. 4-29387
 Pb, elec. resist., pre-melting effects 4-50793
 Pd-W-H system, mag. and elec. props. (*Russian*) 4-51033
 PdAu₂Fe₂, mag. transition and props. (*Chinese*) 4-2753
 PdAu₂Fe₂Al₄, mag. transition and props. (*Chinese*) 4-2753
 Pd,Cu_{1-x}-Fe, high press. elec. cond. study 4-39877
 PdH₂, thermal expansion, elec. resist., influence of 50K phase transition 4-56055
 Pd₂V, elec. resist., magnetoresist. and AC susceptibility 4-11510
 PrCu₂(Cu₂), elec. resist., crystalline elec. field effects 4-50792
 Pr_{0.25}La_{0.75}Al₃, elec. resist., Kondo-like behaviour 4-56334
 Pt₉₀Ni₁₀-Cu₈₀, ordering during annealing, X-ray diff., elec. resist. meas. (*Russian*) 4-25968
 Re, purity influence on thermal expansion coeff. (*Russian*) 4-50544
 RhGe₄, high press. form., crystallisation and supercond. transition temp. 4-50472
 SmCo₅ permanent magnets, ageing, positron annihilation, electron microscopy, elec. resist., mag. meas. 4-7019
 Ta, electrical resistivity temp. depend. at low temp. (*Russian*) 4-6762
 Ti, polymorphic α - ω transformation, press. induced, elec. resist. study 4-6486
 Ti-Al-Mo-Cr (7.5, 2.5, 1.8 wt.%), decomp. of metastable β -phase, effect of thermal treatment 4-40744
 Ti-V (23 at.%), incommensurate struct. and resist., ageing effects (*Russian*) 4-50790
 Ti-V(Mo) alloys, struct. and elec. resist. props. 4-29948

electrical conductivity of crystalline metals and alloys continued

- TiNi, cryst. struct. instability, elec. resist. and mag. susceptibility studies (*Russian*) 4-34443
 Ti₅₀Ni₄₇Fe₃, phase changes on cooling to -196°C 4-25955
 UB₁₃, heavy fermion supercond., effect of impurities on supercond. and normal state props. 4-56475
 UPt₃, coexistence of superconductivity and spin fluctuations 4-40107
 V₅₀+Ru₅₀, struct. transformation and superconductivity 4-50972
 V₂Si, creep rate, direct current and temp. gradient effects 4-35670
 V₅₀Ti₅₀, struct. transformation and superconductivity 4-50972
 W, resistive size effects, influence of surface scatt. 4-6770
 W-Re solid solns., elec. resist. and thermal expansion, conc. depend. 4-11509
 Y-Ce(Sm)(Dy)(Tb) dil. alloys, transport props., temp. depend. 4-29959
 Y₂Co₃, magnetism and supercond., thermal expansion, sp. ht., forced magnetostriiction meas. 4-46083
 Y(Ni_{1-x}Co_x)₂, X-ray L_{III} absorpt., elec. resist., mag. susceptibility studies, spin fluctuations 4-57032
 Zr, dislocation struct. and strain hardening during creep at 77K (*Russian*) 4-24817
 Zr, foil, electron irradiation, 14 and 38 MeV, 4.2°K, isochronous annealing (*Russian*) 4-39343
 Zr-Si(Ge), supercond. props. and normal elec. resist. in metastable BCC and amorphous phases 4-20751
 Zr-Sn, solubility of Sn in α and β Zr below 1000°C 4-15645

electrical conductivity of crystalline semiconductors and insulators

- see also carrier density; carrier lifetime; carrier mean free path; carrier mobility; carrier relaxation time; dislocation scattering; electronic conduction in crystalline semiconductor thin films; electronic conduction in insulating thin films; high field effects; hopping conduction; impurity scattering; minority carriers; negative resistance effects; photoconductivity; point defect scattering; small polaron conduction; surface scattering; acetylcholine perchlorate polycrystalline electrolyte, radiation damage induced spectral and elec. props. 4-11186
 benzidine complexes, methyl substitution effects on elec. cond. 4-2609
 composite powder materials, consolidated, struct., elec. cond., percolation theory approach 4-51569
 4-cyano-1,3,6-triazacyclo[3.3.3]azine, homomolecular organic semicond., cryst. struct. and elec. cond. 4-50815
 degenerate semiconductors, photon-drag current, hole intervalley scatt. effect 4-39895
 di(dimethylphenylammonium) complex with SnCl₄, elec. cond. meas. (*Russian*) 4-50819
 doped, many-valley, low temp. cond., mass anisotropy and intervalley effects 4-11519
 dynamical phase recording of signals in semicond. self-wave medium, thermal-elec. instability 4-11534
 ferricyanides with interstitial water, p-type semiconductor 4-20647
 Ga_{1-x}Al_xAs, elec. resist. var., deep levels, band struct. 4-34974
 graphite, nuclear drag, Young's modulus, elec. cond., thermal oxidation effect 4-15568
 graphite, pyrolytic, C⁺(Ne⁺) ion implanted, elec. props. 4-20223
 graphite fibre, intercalated and ion implanted, struct. and elec. cond. 4-24759
 graphite intercalation cpd. with FeCl₃, basal elec. cond. meas. 4-45771
 graphite intercalation cpd. with SbS₅, basal elec. cond. meas. 4-45771
 graphite-Eu intercalation cpd., C₆Eu, mag. props. study 4-40195
 guanidinium sulphate tris-fluorine antimonate crystals, dielec. anomalies 4-7114
 ice thin films, elec. meas. near cubic-hexagonal phase transform. 4-50503
 III-V compounds, dislocation energy states, exptl. studies review 4-15843
 III-V semiconductors, optical and electronic properties (*French*) 4-45768
 inhomogeneous semiconductors subjected to alternating elec. fields, cond. and Hall effect, theory 4-25375
 ionic crystals, radiative-tunnel hopping diffusion of electrons over system of F-centres 4-11530
 macrocyclic radical ions in columnar stacks, π -electron open-shell cryst. orbital calcs. 4-20642
 metal bis(dioximates), elec. cond. of partially oxidised stacks, symmetry constraints, band struct. calcs. 4-56217
 mica, electrical cond., dehydroxylation effect, ¹H and ²⁷Al NMR studies 4-45797
 microcontacts, hot electrons relax. time, energy depend. 4-34995
 MISS structures, surface states and elec. cond. theory 4-20737
 β -nickel phthalocyanine, elec. props., 293 to 450K, effect of O₂ 4-15873
 nonmetal-metal transition, elec. resist. and dynamical cond. 4-20566
 organic polyiodide chain complexes, elec. cond. under high press. 4-39914
 perovskite struct., elec. and mag. props. 4-50806
 polar semiconductors, interelectronic collisions and electron-optical phonon interactions, criterion for electron temp. model 4-25333
 polycrystalline material, transport props. at grain boundaries under illumination 4-15874
 polyurethane, dielec.-semicond. type transition on heating (*Russian*) 4-39993
 polyurethane, heat treatment effect on struct., elec. and mech. props. (*Russian*) 4-40823
 rare earth ceramics, prep., elec. cond. meas. 4-2611
 rare earth ferrocyanides with interstitial water, n-type semiconductor 4-20647
 rare earth monosulphides, thermodynamic props. in homogeneity range 4-39537
 rare earth ternary silicides, RZnSi, prep., elec. and mag. props. 4-30144
 semiconductor, point defects, exptl. studies, book 4-33
 semiconductor alloys, electron scatt., Boltzmann eqn. 4-20641
 semiconductor bicrystal, grain boundary tunnelling cond. 4-40025
 semiconductor selectively doped heterostructure, dynamic negative differential cond. 4-50919
 semiconductors, electron motion, nonlinear transit resonance with strong inelastic scatt., theory 4-35000
 semiconductors, p-type, dielec. function and DC cond. 4-34893
 semiconductors, stable nonequilibrium states theory (*Russian*) 4-56337
 semimetals, electrical cond. and thermopower, effects of phonon drag 4-11527
 sintered materials, modelling of physical and morphological props. (*French*) 4-51721
 spreading resistance measurements, correction factor and local slope method 4-8923
 superlattices, electronic properties, review (*French*) 4-25424

electrical conductivity of crystalline semiconductors and insulators continued

- TCNQ salt, 1,2-bis(4-pyridinium)ethane(TCNQ)₂, elec., mag., structural characterisation 4-6359
 TCNQ salt, 1,2-bis(4-pyridinium)ethane(TCNQ)₃, elec., mag., structural characterisation 4-6359
 TCNQ salt, (DPPE)(TCNQ)₂(H₂O), optical phonon assisted hopping 4-56352
 TCNQ salt, N-methyl, 2,4-dimethylpyridinium (TCNQ)₂, low temp. cryst. struct. and phys. props. 4-11128
 TCNQ salt, PMHT(TCNQ)₂, highly cond., elec. props. 4-20640
 TCNQ salt, TMA-1-TCNQ, intrinsic semicond., elec. props. and phase transitions 4-2617
 TCNQ-based charge transfer complexes, struct. and elec. anisotropy 4-2184
 TEA⁺(TCNQ)₂⁻, order-disorder phase transition 4-24754
 ternary magnetic semiconductors, prep. and charact. 4-29964
 o-tolidine complexes, methyl substitution effects on elec. cond. 4-2609
 transition metal oxides, solid solns. with spinel structure, elec. cond. and cation ordering 4-2618
 TTF-TCNQ, far-IR spectra and elec. cond. 4-25759
 AgGaS₂-TiGaS₂ system, phase diagram and elec. resist 4-7432
 AgGaTe₂, high press. struct. phase transition and resist., X-ray studies 4-29595
 Ag₃MoSe₁₁, cryst. struct. determ. and elec. cond. (French) 4-50265
 AgN₃, light stimulated charge carrier transfer, photocurrent and dark current studies 4-35024
 n-Al_{1-x}Ga_{1-x}As/GaAs heterostruc., electron gas for FET 4-50821
 AlN-Y₂O₃ sintered compacts, thermophys. props., high temp., elec. resist., strength props., oxidation resist. 4-50541
 As₂Se₃ synthetic cryst., photoluminescence, optical transmission and elec. cond. 4-7236
 B,C, transport and mag. props., free C effects 4-45774
 BP, stoichiometry deviations, elec. cond. study, vacancies and anti-site defects obs. 4-39902
 (Ba,Pb)SnO₃ solid solns., posistor effect 4-50818
 BaPbO₃(I)-BaBiO₃(II) solid solns., dielec. props. and superconductivity 4-25473
 BaTiO₃ ceramic, BaZrO₃ modified, elec. resist. and dielec. characts. temp. depend. 4-15871
 BaTiO₃ ceramics, positive temp. coeff. of resist. with Curie points between 60 and 360°C 4-25383
 BaTiO₃, ferroelec., computer modelling of defect struct., rel. to resist. 4-20189
 BaTiO₃, ferroelectric, point defect chemistry, nonstoichiometry and elec. cond. anal. 4-7132
 BaTiO₃:Fe, and undoped, cond. and photocond. meas. (French) 4-56346
 BaTiO₃:Fe, cond., photocond. meas. 4-25341
 BaTiO₃:Y₂O₃, electrophysical and magnetochemical props. 4-56857
 Bi, transport coeffs., generalised Thomson-Voigt relations 4-39913
 BiFeO₃, ferroelec., elec. cond. reduction using TiO₂ and ZrO₂ additions 4-56343
 (Bi_{1-x}Se_x)₂Te₃, Seebeck coeff. and elec. cond. at room temp. 4-39944
 Bi_{1-x}Sb_xTe₃, elec. cond. and electron mobility, elongation effects 4-34982
 Bi₂Se₃:Ga, point defects, elec. cond., Hall effect and reflectivity studies 4-2196
 Bi₂Se₃(Te₃):Cu, Cu electromigration, carrier conc. and effective ion charge 4-34727
 Bi_{1-x}Te_{1-x}Si₁₀, conductance modification by gas adsorption, 2D scaling theory 4-39910
 CaFe₂²⁺Fe³⁺Si₂O₈(OH), ilvaite, elec., mag. props., Mossbauer spectra 4-56565
 p-CdCrSe₄, mag. ordering influence on photoconductivity 4-15909
 CdFe:Gd insulating crystals, low-applied fields, electron conduction, 80-170K 4-15881
 Cd,Hg_{1-x}Te, γ-irrad. effect on elec. props. (Russian) 4-56372
 CdS biccystal interface, localised charge density depend. on Fermi level position 4-6861
 CdS, piezoelec. semicond., Bleustein-Gulyaev wave amplification, carrier diffusion effects 4-29756
 CdS single cryst., photocond. and dark cond. at high temps. 4-45828
 CdS:In(Cl), impurity cond., two band approach 4-25343
 CdS:Te, electroluminescence and current flow mechanism (Russian) 4-56998
 CdSb-NiSb, eutectic composition, interaction in system 4-3127
 n-CdSbAs₂, heavily doped, elec. resist. and Hall coeff., press. depend. 4-20657
 Cd₂SnO₂ reactively deposited films, ion bombardment effect on composition 4-50694
 CdTe, plastic deform., thermopower and elec. props. 4-39943
 CdTe, single crystals, growth from melt, elec. and optical props. 4-35564
 CdTe thin films, elec. props. study 4-25461
 CdWO₄, electron transfer, effect of point defects 4-50807
 CeFeP₂, mag. and elec. props., Mossbauer spectra 4-11684
 CeRh₃B₂, itinerant ferromagnet, elec. resist., temp. dependence 4-2612
 CeSb_{1-x}Te_x solid soln., mag. props. and cryst. field splitting energy 4-56600
 CeTe, transport props. and cryst. field energy 4-34973
 CoAl₂O₄, elec. cond. in S containing atmosphere 4-20656
 CoCO₃:Cd, thermal decomposition, elec. cond., thermogravimetry 4-3401
 Co,Cr_{1-x}S, elec. and mag. props., anomalies 4-34976
 CoO:(Cr), elec. props. and defect struct. 4-39901
 Cr₂O₃, nonstoichiometric, elec. cond. anomaly 4-56347
 Cr₂O₃:MgO spinel, elec. cond. during synthesis 4-40717
 Cr₂Se₃, charge carrier localisation and delocalisation, transport props. study 4-11564
 Cu₂Cd_{1-x}Fe_xO₄ ferrosinels, thermopower and resist., B site mag. ordering correlation 4-56354
 Cu₂Cr₂Se_{4-x}Br_x, ferromag. spinel-single cryst., transport phenomena and mag. ion exchange 4-29988
 (CuCr₂Se₄)(Cu_{0.5}Me_{0.5}Cr₂Se₄)_{1-x} (Me=In,Ga) spin glass state suppression by indirect exchange, elec. resist. study 4-35182
 CuFe₂O₄-Cu_{0.5}Fe_{2.5}O₄-Fe₂O₄, ferrites, effect of composition on nature of carriers and elec. cond. mechanism 4-56399
 CuIn_{1-x}Fe_xTe₂, crystal growth and elec. and mag. props. 4-25875
 Cu₂Ni_{1-x}Fe_xO₄ ferrosinels, thermopower and resist., B site mag. ordering correlation 4-56354
 Cu₂O, prep. of bulk single crystals, by plastic flow method, elec. props. 4-51484
 p-Cu₂O single cryst., resist. depend. of minority carrier diffusion length, Schottky solar cells 4-11588

electrical conductivity of crystalline semiconductors and insulators continued

- Cu_{2-x}Se, thermal and elec. field effects on Cu redistribution 4-50592
 Cu₂Si₂S₇, single cryst., elec. props. study (French) 4-34969
 Cu₂Si₂S₆, single crystal, elec. resist., Hall const., 77-400K (French) 4-34969
 Cu_{2-x}Te_{0.68}Se_{0.32}, stoichiometry, rel. to elec. props. and equilib. transformations 4-50252
 CuWO₄, single cryst., AC and DC cond., 300 to 1000K, cond. mechanism, band gap 4-2608
 EuCl₃, anhydrous non-stoichiometric phase, Mossbauer studies 4-20890
 EuMo₂Se₈, struct. phase transition, X-ray, elec. resist. and Hall effect studies 4-2331
 EuS, growth from vapour phase, sublimation 4-51465
 EuTe, growth from vapour phase, sublimation 4-51465
 (Fe,Mg):SiO₂ olivines, high-press. spinel polymorphs, elec. cond. meas. (French) 4-41890
 γ-Fe₂O₃:Co(Ni)(Gd)(Tb), DC cond., Seebeck voltage, X-ray diffr., IR spectra 4-6782
 Fe₂O₄, isotope and press. effects on Verwey temp. 4-2615
 Fe₃O₄, polycrystalline, elec. cond. near Verwey temp. (Korean) 4-15924
 Fe_{1-x}S, pyrrhotite, impurity band conduction and Hall coeff. 4-45769
 FeWO₄, elec. transport props. as function of temp. 4-20681
 FeWO₄, elec. transport props. 4-56344
 Ga chalcogenide layer compounds, growth and characterisation 4-7344
 Ga_{1-x}Al_xAs, Hall mobility, electron conc. and resistivity meas. at 300K 4-11544
 GaAs, current fluctuation phenomena, irreversible thermodynamics 4-50823
 n-GaAs ingots, electrical props. (French) 4-25337
 GaAs, ion-implanted, study following electron-beam annealing 4-20230
 GaAs, LEC grown, undoped, semi-insulating, 0.8 eV deep level photoluminescence 4-20592
 GaAs, LEC grown semi-insulating, cryst. homogeneity improvement by annealing 4-51470
 n-GaAs, magnetoresistance hysteresis, current instabilities, in strong mag. fields 4-15895
 GaAs, radiation defect energy levels, light absorption and Hall effect studies 4-20602
 GaAs, semi-insulating, elec. transport parameters, three band model anal. 4-39899
 GaAs triscrystal, injection currents 4-25349
 GaAs, white noise, 1/f noise, elec. cond. spectral features, mag. field effects, hot electrons (Dutch) 4-15925
 GaAs, wires of rectangular cross sections, 1D and 2D quantum localisation, resistance, thermal behaviour 4-25332
 GaAs:Cr, single crystal growth by gradient freeze method 4-46431
 GaAs:Ge, neutron transmutation doping elec. and optical characterisation 4-34507
 GaAs:Si, annealing effect on elec. and optical props. 4-25339
 GaAs:Se encapsulated in Si₃N₄, free carrier conc. and Hall mobility 4-50693
 GaAs-ZnSiAs₂ solid soln., H ion irradi., elec. props. 4-29977
 Ga_{0.47}In_{0.53}As, proton bombardment in n- and p-type material, resist. increase 4-2222
 GaP, elec. and photoelectrical props. 4-35015
 GaP single cryst., heat-treated, electrophys. props. and photolum. 4-25808
 GaS₂Se_{1-x} solid solns., elec. props. study, rel. to struct. and optical props. 4-29987
 GaSb:Se, impurity donor states, galvanomag. and oscillatory effect meas. 4-11481
 GaSe, γ-irrad., elec. props. 4-50808
 GaSe:Ni single cryst., local levels, TSC studies 4-25368
 GaSe(S), isothermal currents and TSC 4-39912
 GdIn₂S₄ single cryst., thermally stimulated cond., external factor influences 4-35010
 Gd₂S₃ mag. semicond., metal-insulator transition and magnetoresist. 4-56218
 Ge, biccystals, cond. and magnetoresistance 4-35013
 Ge, conductance modification by O chemisorption, 2D scaling theory 4-39910
 Ge, electrical resist. under shear stresses and high press. 4-29978
 n-Ge, fast neutron irradiated, electrophys. props. 4-56351
 n-Ge, magnetoresist. and band struct. (Chinese) 4-39936
 Ge many-valley semicond., even magnetocon. effect 4-29994
 p-Ge, phonon limited cond. and Hall mobility calcs. 4-20653
 Ge, rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
 Ge, transverse photovoltaic effect meas. (Russian) 4-50873
 Ge:Ga, O and Ge:Sb, O, thermal donors, charge state and energy level spectrum 4-20600
 Ge:P, transient elec. props. of low angle tilt boundaries 4-15847
 GeAs, homogeneity region, electrophysical props. 4-56339
 GeSe, anisotropic elec. props. 4-39911
 GeTe-AgSbTe₂, electrophysical props. of solid solutions 4-56374
 (GeTe)_{1-x}(AgSbTe₂)_x solid solns., thermoelec. power, temp. depend. 4-35018
 HgCr₂Se₄, ferromag. semicond., high press. elec. resist. 4-50809
 Hg_{1-x}Mn_xTe, low temp. elec. and mag. props. 4-25381
 HgTe, hole mobility and Hall effect 4-45802
 HgTe-type semiconductors, conductivity tensor components 4-2616
 Hg_{1-x}Zn_xCr₂Se₄, ferromag. semicond., elec. props. and stoichiometry, heat treatment effects 4-6777
 In chalcogenide layer compounds, growth and characterisation 4-7344
 InAs:Te(Sn)(S), Hall coeff., elec. cond., hydrostatic press. effect 4-6813
 In₂Mo₂Se₆, pseudo-one-dimensional cpd., thermoelectricity 4-30000
 InP, electron irradi. induced defects, minority carrier injection annealing 4-50828
 InP, transient electronic transport under condition of high-energy injection 4-50822
 InP:Co(Fe), Hall effect, elec. resist. and DLTS studies 4-25374
 InP:Mn, elec. resist., Hall effect and impurity ionisation energy 4-25352
 InP:Mn, X-ray irradi., negative conductance study 4-50827
 InSb, conductivity transients under intense laser excitation 4-15875
 InSb, crystallisation, influence of elec. current 4-51481
 InSb, lattice relaxation controlled free carrier conc., transport props. study (French) 4-56357
 n-InSb, metal-insulator transition under high hydrostatic press. 4-56219
 InSb, nonlinear elec. cond. meas. 4-25356
 n-InSb, plastic deform. effect on elec. transport props. 4-56348
 n-InSb:Te, negative magnetoresistance study 4-6812

electrical conductivity of crystalline semiconductors and insulators continued

- InSe high quality single crystals, growth and characterisation 4-7345
 InSe, isothermal currents and TSC 4-39912
 InSe single crystals, trapping centres, elec. and photoelectronic meas. 4-6799
 InSe_{1-x}S_x single cryst., residual cond. and lasting relaxations 4-56355
 In_{2-x}Sn_xO_{3-y} films, plasma deposition, cond. and transparency props. (French) 4-35584
 In_{2-x}Sn_xO_{3-y} single crystals, elec. props. 4-39897
 KBr: Cd(Pb), X-ray elec. cond. study 4-25354
 KCl:S²⁻, TSC meas. and optical spectra 4-16141
 KCl(Br), vacancy breakdown during elec. cond. 4-25361
 KMnO₄, water mol. interstitial impurity-induced electronic cond. 4-39906
 KNbO₃ doped ferroelec. semicond., phase transitions and props. 4-46205
 KNbO₃ ferroelectric ceramics, positive temp. coeff. of resistivity 4-45767
 K(Nb_{1-x}Ta_x)O₃ ferroelec. semicond., elec. cond. 4-25340
 La_{1-x}Ba_xF_{3-y} solid soln., elec. cond. study 4-15877
 (La_{0.8}Ca_{0.2})MnO₃ homogeneous ionic distrib., elec. cond. 4-29972
 LaErO₃ ceramic, microstructure, elec. cond. meas. 4-56035
 La_{2-x}M_xCuO₄ (M=Mg, Ca, Sr, Ba), elec. props. 4-56340
 LaMnO₃ decomposition, O partial press., elec. cond. and heat of form. 4-55988
 La_{2/3-x}TiO_{3+y}, perovskite struct., elec. and mag. props. 4-50806
 LaYbO₃ ceramic, microstructure, elec. cond. meas. 4-56035
 Li_{0.476}Cu_{0.030}Co_{0.004}Fe_{2.495}O₄, ferrite, prep., physicochemical props. 4-57144
 LiNbO₃, ageing and elec. props. 4-35646
 LiNbO₃, defect chemistry and elec. props. 4-34479
 Li₂S-Sb₂S₃ solid solutions, cryst. struct. and phys. props. (French) 4-34704
 Li_{1-x}Ti_x-yMyS₂ (M=V, Cr, Fe), prep., chem. and phys. props. 4-20175
 Li₂V₂O₇, small polaron mobility, elec. cond. meas., EPR spectra 4-56350
 Lu₂Y_{1-x}Sc_xO₃:Nd(Er)(Eu), electrophysical props. 4-56341
 Mg₂Bi₂ semicond., electronic struct., X-ray spectra and Huckel technique studies 4-29882
 Mg₂Sb₂ semicond., electronic struct., X-ray spectra and Huckel technique studies 4-29882
 Mn-Zn ferrites, phys. props. and structural imperfection 4-11678
 MnAl₂O₄, elec. cond. in S containing atmosphere 4-20656
 Mn_{1-x}Cr_x(Fe_{1-x})S antiferromag. semicond., elec. props., stoichiometry and cation substitution effects 4-34978
 MnFe₂O_{4+y}, elec. cond. study of phase equilibrium 4-29971
 α-MnSeI, elec. resist., Hall effect and thermoelec. power 4-39908
 Mn₂Si₂Te₆, cryst. struct., elec. and mag. props. 4-11091
 (Mn_{1-x}Ta_x)₂B₄ ferromag. solid soln., exchange striction 4-30260
 MoO₃:H, optical absorption and elec. cond., band model anal. 4-50816
 Mo₂S₃(Br₂), upper critical field and elec. cond. temp. depend. 4-20772
 Mo₂Se₃(Br₂), upper critical field and elec. cond. temp. depend. 4-20772
 MoS₂ single crystals, semiconducting props. and band struct. 4-50851
 NH₄(_{1-x})D₄H₂(_{1-x})D₂AsO₄, dielectric and elec. props. 4-35329
 NH₄HSeO₄, ferroelectric phase transition study 4-51206
 NaCl vacancy breakdown during elec. cond. 4-25361
 NaCl:S²⁻, TSC meas. and optical spectra 4-16141
 Na₂Co_{2-y}electrolyte-Na cell, elec. props. study 4-52125
 NaF:O²⁻, TSC meas. and optical spectra 4-16141
 NaNO₂, electrical conductivity meas. during heating and cooling, thermal hysteresis 4-34979
 NaNO₂:Mn²⁺, electrical conductivity meas. during heating and cooling, thermal hysteresis 4-34979
 Na₂SO₄:Nd³⁺, cryst. growth and elec. cond. 4-25878
 NbSe₃, polarised reflectance spectra and band struct. 4-40477
 NdMnO₃, O dissociation press., 1173-1473K, enthalpy and entropy of reaction 4-51971
 Nd_{2/3+x}TiO_{3+y}, perovskite struct., elec. and mag. props. 4-50806
 Ni-NiO two phase mixtures, elec. cond. at Ni-NiO phase boundary 4-15928
 Ni-Zn ferrite, thermopower and cond., composition depend. 4-29998
 NiAl₂O₄, elec. cond. in S containing atmosphere 4-20656
 Ni₃B₂S₂ (B=Pb,Ti,Bi,Sn) and Ni₃Pb₂Se₂, elec. resist., Hall effect and paramag. susceptibilities (French) 4-45773
 NiO, optical absorption coeff., Green's function anal. 4-25711
 NiO-Mn₂O₄ powder-mixtures, prep., resistivity temp. coeff., thermistor appl. 4-40723
 OSi₂, crystal growth, thermopower, elec. cond., IR reflectivity 4-3041
 P, black, high press. phase transition, elec. study 4-39456
 Pb-Ga-Te, containing PbTe, homogeneity region, solid solubility 4-57217
 Pb_{1-x}Ge_xTe, anomalous resistivity near ferroelectric phase transition 4-46204
 Pb₂, layered cryst., struct. behaviour and phys. props., review 4-40325
 Pb₂KNb₂O₁₅, SAW substrate material, cryst. growth and dielec. characts. 4-30617
 Pb(Mg_{1/3}Nb_{2/3})O₃, dielec. props. rel. to ceramic processing 4-51174
 PbS, electrical cond. and thermoelectric power coeff. as press. and temp. functions (French) 4-39941
 Pb_{1-x}Sn_xSe, struct. phase transition, elec. cond. and Hall effect studies 4-11272
 Pb_{1-x}Sn_xTe, multiply doped, electrophysical props. 4-29993
 n-PbTe, dynamic elec. cond. 4-20654
 PbTe heterogeneous layer, current percolation and photosensitivity 4-45794
 PbTe narrow-gap semicond., high press. phase transition, X-ray diffr. study 4-29605
 PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
 PbTe:Ti,Na, influence of resonant states on Hall effect 4-56371
 (PbTe)_{1-x}(Cr,Fe,Ni)_xTe₃ solid solns., thermoelec. props. 4-6815
 PbTiO₃, elec. cond., optical absorpt., lattice disorder 4-51294
 PbTiO₃ single cryst., photocond. and current-volt. characts. 4-11560
 PbZrO₃-Pb₂FeNbO₆-PbTiO₃:U pyroelec. ceramic, elec. cond. 4-39898
 PbZr_{1-x}Ti_xO₃ ceramic, elec. cond. and ageing 4-34970
 Pr_{0.12}: meas. of elec. cond., O₂ press. and composition 4-20648
 Pt oxides, structural and electronic props. 4-45080
 ReS₂(Se₂), photoelectronic and optical props. 4-50865
 Re₂Se₂Cl₂, synthesis, cryst. struct. and elec. resist. (French) 4-20165
 Rh oxides, double, electronic struct. and elec. cond., X-ray emission study 4-50718
 RuS₂, single cryst., growth and phys. props. 4-29970
 Sb_{2-x}Bi_xTe₃, extruded melt, thermoelectric props. 4-56373
 Sc-S system, comp., phase relationships, elec. resist., thermoelec. power meas. 4-2626

electrical conductivity of crystalline semiconductors and insulators continued

- Si, amorphous films, epitaxial recrystn. on sapphire, elec. cond. studies 4-25185
 Si, conductivity transients under intense laser excitation 4-15875
 Si, Czochralski grown, donor-related microdefects at surface of denuded zone 4-2226
 Si, dark-probe pulse method studies (Russian) 4-25405
 Si, dense dislocation arrays, elec. props. 4-25351
 Si, doped metal-insulator transition, renormalisation group theory appl. 4-45628
 Si, doping with organic colloidal dopants by laser irradiation, electrical and optoelectrical characts. 4-39319
 Si, electrical resist. and carrier conc., grain size and doping effects 4-29973
 Si, electrical resist. under shear stresses and high press. 4-29978
 Si inversion layers, use of investigating electron states localisation, conductance oscills., quantised Hall resist. 4-45853
 Si, microcrystalline, elec. cond., EPR and gas adsorption effects 4-11522
 p-Si, phonon limited cond. and Hall mobility calcs. 4-20653
 Si, polycrystalline, elec. cond., modelling and numerical analysis 4-50805
 Si, proton and gamma irradi., dislocation effects on impurity-defect agglomeration interaction processes 4-6404
 Si, proton and γ-ray irradi., point defect-group radiation defect interactions 4-34531
 Si, rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
 Si structural defects and electronic effect in devices and unprocessed material 4-39935
 n-Si, surface inversion channels, elec. cond., field and temp. depend. 4-50894
 Si, thermal processing, effect on thermophysical props. and structural perfection 4-50836
 Si, ultra high purity cryst. growth by floating zone method for radiation detectors 4-3066
 Si:As, implanted, struct. modification during annealing 4-50328
 Si:As, ion implanted, controlled diffusion by electron beam heating 4-15699
 Si:As⁺, high dose ion implanted, annealing behaviour 4-15500
 Si:Au, Au diffusion and solubility, neutron-activation anal. and spreading resist. meas. 4-34710
 Si:B, focused ion beam implanted, elec. props. 4-15872
 Si:B, ion implanted, multiple scan electron beam annealing (French) 4-15538
 Si:B,H, neutralisation of shallow acceptor levels by atomic H, resist. increase 4-25286
 p-Si:B(P), implanted, sheet resist. and junction depth relationships 4-34516
 Si:Er, γ-ray irradi. defects, Hall effect, elec. cond. and photocond. studies 4-34543
 Si:H,P (B), post hydrogenated, elec. cond. and ESR, doping effects 4-39900
 Si:Mn, γ-irrad., elec. and photoelec. props. 4-29975
 Si:Sb, low temp. resist., log-T depend. 4-34981
 Si₃N₄ films, hollow cathode discharge in plating, props. 4-16344
 SiO₂:Ti, structural and electrophysical characteristics 4-55794
 SmB₆, energy gap suppression under press., elec. resist., semicond. and metallic behaviour 4-25409
 SmS, elec. props. in strong elec. field 4-25362
 SnO₂:V, needle crystals, vapour phase growth, elec. resist. 4-21116
 SnTe:In, influence of In on SnTe props., rel. to stoichiometry 4-55858
 SrCeO₃ solid electrolytes, relation between proton and hole cond. 4-25087
 SrFeO_{3-x}, gas sensor, elec. resist. rel. to O₂ partial press. 4-11520
 TaC, optical and elec. props. meas. 4-40476
 Ta₂O₅, effect of oxide additions on elec. cond. 4-50810
 TaS₂ (1T), Anderson localisation, effect of cryst. defects 4-6738
 Tb-Pb-S system, PbS based solid solns., elec. cond. study 4-50524
 Te, drift mobility, elec. cond. temp. depend. calcs. 4-39917
 TiNiO photoelectrochem. electrodes, struct. and elec. props. 4-15443
 TiO₂, anatase, elec. cond. 300-400°C 4-50820
 TiO₂ films, DC cond. meas. and mechanisms 4-56458
 Ti_{1-x}Zr_xO₃, semiconductor-metal transition, structural and mag. characts. 4-56560
 Ti₂ OCl₂, pressed pellets, electrical transport, 300-580K 4-6781
 Ti₂Cl₆, pressed pellets, electrical transport, 300-580K 4-6781
 TiGaSe₂-TiGaTe₂, phase equilibria, microhardness, density, dark cond. 4-51641
 TiGaSe₂-TiInS₂, phase equilibria, microhardness, density, dark cond. 4-51641
 TiInTe₂-InGaTe₂, electrophysical props. 4-56367
 Ti_{1-x}Mo_xSe₆, pseudo-one-dimensional cpd., thermoelectricity 4-30000
 UO₂+x, electronic contributions to high temp. thermophysical props. 4-15899
 VO₂:Ti(Cr)(Al), low freq. dielectric relax. meas. 4-46177
 V₂O₅, electron density, 1/f noise meas., temp. depend. 4-45805
 YCrO₃, sintered refractory, heat treatment, physical props., MHD electrode appl. 4-3112
 YIG, elec. resistivity, H₂ gas effects, H₂ sensor appl. 4-20646
 Zn_{1-x}Ga_{0.677}Cr_{0.323}Se₄ single cryst., synthesis, elec. and mag. props. (German) 4-39909
 ZnIn₂S₄ (III), volt. depend. conductivity along c-axis 4-6785
 ZnMn_{2-x}Ni_xTi_xO₄, struct., elec. and reflectance spectrosc. investig. 4-50853
 ZnO, annealed in Zn atm., elec. cond., Hall coeff. meas. 4-2605
 ZnO, elec. cond. and thermoelec. power, temp. and O₂ partial press. effects (French) 4-15870
 ZnO, methane CO and H₂O effects, sensor appl. 4-34967
 ZnP₂ single cryst., γ-irrad. defects and elec. resist. 4-55814
 ZnSe:Al, MOS struct., bistable conduction state 4-40069
 (ZnSe)_{1-x}(CdTe)_x single crystals, vapour phase growth, surface topography, elec. cond. rel. to comp. 4-16302
 ZnTe, filiform crystals, effects of pulsed laser radiation on electrophysical props. 4-55867
 ZnTe, single crystal growth, characterisation (Korean) 4-40640
 ZnWO₄, electron transfer, effect of point defects 4-50807
 ZrTe₃, transport and elastic anomalies, CDW transitions 4-55906
 Zr_{1-x}Ti_xS₃, cryst. growth, characterisation and photoelectrochem. props. 4-40616

electrical conductivity of electrolytic liquids

- see also *electrochemical analysis; electrolytic ion mobility; Wien effect*
alkali halide solutions in methanol (ethanol), elec. conductance meas. (German) 4-34680
biopolyelectrolytes-salt mixtures, ionic activity, Poisson-Boltzmann treatment 4-52253
electrolyte solns., bimorphic lattice theory, conductivity data 4-24707
electrolytes, 1:1, in DMF-acetonitrile mixtures, elec. cond. and viscosity meas. 4-34683
1-1 electrolytes, dilute aqueous soln., Hall effect meas. (French) 4-50551
glycerin gas-liq. suspensions, elec. cond., acoustic disturbance effects 4-20386
heterogeneous systems, elec. cond. of electrolyte solns. 4-11587
homogeneous electrolytes, elec. cond. up to conc. 1 mol/l and high elec. fields 4-29661
hypernetted chain approx. for transport processes 4-20385
ion mobility measurement by moving-boundary method 4-39549
measurement of small samples, using miniature-electrode probe 4-22796
microemulsions, ultrasonic absorpt. and flow birefringence, salinity effect 4-41270
molten salt systems, electrical cond., density, viscosity and surface tension data 4-4167
molten salts, elec. cond. meas. at current freq. 0.1-200 MHz 4-39551
oleum solution on-line analysis using electrodeless conductivity 4-12422
 α -picolinium $\text{FeCl}_3(\text{CrCl}_3)$ binary salt solns., tetrahedral and octahedral complexing of trivalent cations 4-29663
polyelectrolyte solns., counterion self-diffusion coeff. 4-34676
spherical colloidal particles, electrophoretic mobility in dilute suspensions, elec. cond. calcs. 4-26215
tetraalkylammonium salt solutions in methanol (ethanol), elec. conductance meas. (German) 4-34681
tetrabutylammonium ion, D_2O soln., hydrophobic hydration and mol. struct. 4-10950
transformer oil, cond., I addition influence (Russian) 4-6534
Co (II) tri-n-octylammonium chloro complex, benzene soln., IR spectrosc. and elec. cond. meas. 4-30452
CsF-ThF₄, binary melted mixtures, elec. cond. 4-56060
Cu (II) tri-n-octylammonium chloro complex, benzene soln., IR spectrosc. and elec. cond. meas. 4-30452
CuSO₄ conductivity in aq. and aq. sucrose solns. 4-2359
KF-ThF₄, binary melted mixtures, elec. cond. 4-56060
Li-Pb-H(N) ternary solutions, solubility of hydrides and nitrides, elec. resist. obs. 4-54402
LiAsF₆ in 1,2-dimethoxyethane soln., mol. relax. investig. 4-2360
LiI-tetraalkylammonium iodide melts and glasses, glass transition temps. and elec. cond. 4-39586
MgSO₄ conductivity in aq. and aq. sucrose solns. 4-2359
Na₃AlF₆-Al₂O₃ melts, elec. cond., effects of fluoride additions 4-39550
NaCl electrolyte, elec. cond., acoustic disturbance effects 4-20386
NaCl melts, elec. cond. meas. at current freq. 0.1-200 MHz 4-39551
NaCl_{0.5}Br_{0.5} melts, elec. cond. meas. at current freq. 0.1-200 MHz 4-39551
Na₂O-SiO₂ melts, elec. cond. meas. at current freq. 0.1-200 MHz 4-39551
RbF-ThF₄, binary melted mixtures, elec. cond. 4-56060
UO₂(NO₃)₂ aq. solns., ionic conductance meas. (German) 4-34682
Zn (II) tri-n-octylammonium chloro complex, benzene soln., IR spectrosc. and elec. cond. meas. 4-30452

electrical conductivity of gases

- see also *space-charge-limited conduction*
air, ionisation by pulse relativistic electron beam action, conductivity, ion form. rate and light flash 4-38933
anisotropic scatterers, disordered medium, electron cond., quantum corrections 4-5991
electron or light ion swarm diffusion tensor in elec. field 4-55669
ionised gas flow, ion current calcs. (French) 4-38932
negative differential conductivity, charged particles transport anal., generalised Einstein relation determ. 4-44792
negative differential conductivity electron scatt. models calc. 4-44791
negative differential conductivity in gases 4-38937
quantum corrections to the Boltzmann equation for electrons in a disordered medium 4-5986
Cs, vapour, anomalous electrical cond. in transition region 4-38927
K, vapour, anomalous electrical cond. in transition region 4-38927
N₂ gas diodes, influence of electrode surface on electrical breakdown 4-38931
Na, vapour, anomalous electrical cond. in transition region 4-38927
SF₆ (-N₂) mixtures, electron transport coeffs. 4-34215
SF₆, elec. cond., thermal cond., viscosity, 1000-5000K 0.1-1.4 MPa, numerical calcs. 4-19912

electrical conductivity of liquids

- see also *electrical conductivity of electrolytic liquids*
alkali metal-group IV liq. alloys, neutron diff., Knight shift and elec. resist. studies 4-45710
alkali metals, electrical resistivity calcs. 4-2579
4-n-alkyloxybenzoic acid nematic phases, elec. cond. 4-34977
alloys, electrical resist. and Hall coeff. 4-45713
bromobenzene, cond. mechanism, elec. field strength distrib. (Russian) 4-20384
caesium perfluorooctanoate-water system, nematic and lamellar mesophases, electrical cond. meas. 4-50552
2-cyano-4-heptylphenyl-4'-pentyl-4-biphenyl carboxylate-4-n-heptyl-4'-cyanobiphenyl mixture, nematic phase, dielec. consts., conductivities, skewed cybotactic struct. effect 4-39108
dielectric fluids, electron thermalisation ranges and free-ion yields, density and mol. shape effects 4-25411
dielectrics, simultaneous meas. of optical and current pulses 4-34963
dimethyl siloxane, dielectric fluid, current response 4-35002
dispersion, conductivity, struct. effect 4-2386
foam, aq., liq. distrib. and elec. cond. 4-11565
glass, molten, elec. cond., composition and temp. depend., review 4-15880
hydrocarbons, liquid, elec. cond. in DC divergent fields, bubble generation 4-39918
inhomogeneous liquid metal-vapour interface, elec. cond. theory 4-20619
insulating expansion filled with dielectric liquid, charge accumulation and filtration 4-35003
insulating liquids, conductive colloidal particles, induced dipole moment calc. 4-15670
ionic melts, convection buildup, thermo-EMF electric field effect 4-38903

electrical conductivity of liquids continued

- metal-ammonia solutions, metal-nonmetal transitions and critical phenomena, quantum percolation calc. 4-45634
metal-molten salt solutions, metal-nonmetal transitions and critical phenomena, quantum percolation calc. 4-45634
metals, electrical resist., Edwards' cancellation theorem and effective mass correction 4-29943
metals, electronic props., pair distribution function, Monte Carlo calc. 4-45596
metals, high-resistivity conductors, transport theory 4-45700
metals, liq., elec. resist., Rubio-Ashcroft-Schaich and Rousseau-Stoddart-March formulae, comparison using multiple scatt. theory 4-56311
metals, nonsimple, electronic transport, tight-binding calc., effective medium approx. 4-45721
metals, viscosity and elec. resist. meas. (German) 4-6541
methane-d₄ liquid, electron transport, unbalancing effect by deuteration 4-35036
methanol-cyclohexane critical liq. mixture, elec. resist. and dielectric constant anomaly 4-2320
partition technique and generalized master equations 4-39781
petroleum oils, elec. cond. mechanism 4-34962
rare earth dilute alloys, M-R (M=Ag, In, Sn, Sb, R=rare earth), liquid, electrical resistivities meas. 4-45722
semiconductors, conf., Tokyo, Japan (August 1983) 4-42584
semiconductors, ionic screening and acceptor band cond. 4-45796
silicone oil, current response threshold parameter variation 4-35004
stellar interior dense high temp. liquid metal phase matter, elec./thermal cond. 4-3973
transformer oil, aged, DC cond. in non-uniform high fields 4-35001
transition metals, electronic conduction, s-d band hybridisation, theory 4-45719
transition metals, molten, static electroconductivity (Russian) 4-6760
two-phase stream, permittivity calc. 4-25669
Ag-Au liq. alloys, elec. resist., pseudopot. calcs. 4-50788
Ag-Te, electronic props., cond. and susceptibility meas. 4-6758
Al, elec. resist., Harrison's first principle method, eigenvalue choice 4-2581
Al hot expanded liquid, vol., enthalpy, temp. and elec. resist. 4-45707
Al, struct. and elec. resist., self-consistent calc. 4-44927
Al-Ge evaporated films, percolation of liquid eutectic 4-29945
As₂Ge₃Se_{70-x} chalcogenide glasses and melts, thermal and elec. cond. 4-11528
As₂Se₃, charged defects, elec. cond. study 4-45792
Au-Te, electronic props., cond. and susceptibility meas. 4-6758
Au₃₅Pb_{22.5}Sb_{22.5}, molten, kinematic viscosity and elec. cond. anomalies rel. to glass form. 4-2365
Be(II) complexes, N-aralkylsalicylaldimine Schiff bases, struct. investig. 4-14424
Bi, liquid semimetal, elec. resist. meas. 4-45720
Bi-BiBr₃ liquid mixtures, nonmetal-metal transition and elec. cond. under press. 4-45636
Bi-Ge, liquid semimetal, elec. resist. meas. 4-45720
Cd-Zn, X-ray struct. study and elec. props. 4-6246
Cr, liquid, elec. resist. and melting point 4-45712
Cs-Csl liq. mixtures, elec. cond., conc. depend. 4-45708
Cs₃(CsCl)_{1-x} molten alloys, optical reflectance and metal-nonmetal transition 4-46218
Cu, liq., density of states and elec. resist. calc. 4-45579
Cu-Te, electronic props., cond. and susceptibility meas. 4-6758
Cu-Zr liquid and glassy alloys, elec. resist., conc. depend. 4-45726
Fe-Co, liquid, elec. resist. meas. 4-45711
Fe-Cr, liq. alloy, elec. resistivity, conc. depend. 4-2582
Fe-Cu melt, elec. cond. study (Russian) 4-50789
Fe-Mn, liq. alloy, elec. resistivity, conc. depend. 4-2582
Fe-Ni, liquid, elec. resist. meas. 4-45711
Fe-V, liq. alloy, elec. resistivity, conc. depend. 4-2582
Ga-In-Sn, liq., viscosity and elec. resist., temp. depend. 4-29665
Hg, elec. resist., nearly free electron calc., comparison with expt. 4-2580
Hg, thermodynamic and elec. props. 4-25317
Hg-based alloys, thermodynamic and electronic props., higher order correlation effects 4-45709
Hg-Li, dil., liq., thermoelec. power minimum, elec. resist. meas. 4-34952
La, liquid, electronic conduction, s-d band hybridisation, theory 4-45719
Li-Bi(Pb)(Sn)(Si), liq., electron localisation and epd. form., ⁶Li spin relax. study 4-40261
Li-Pb liquid dilute alloy, elec. resist. and chem. short range order 4-50785
Li-Si, liquid alloys, ⁶Li spin-lattice relax. times, mag. field and temp. depend. 4-46138
Li-Sn liquid alloys, ⁶Li spin-lattice relax. times, mag. field and temp. depend. 4-46138
Li-Sn liquid dilute alloy, elec. resist. and chem. short range order 4-50785
Mn, Te_{1-x}, liq., elec. cond. meas., struct., neutron diff. 4-6789
Ni-Co, liquid, elec. resist. meas. 4-45711
Pb-Te, liq. alloys, elec. resist., compound forming effect 4-50786
Pd-Te, electronic props., cond. and susceptibility meas. 4-6758
Sb_{2-x}Bi_xTe₃, extruded melt, thermoelectric props. 4-56373
Se, charged defects, elec. cond. study 4-45792
Se, electronic and thermodynamic props. 4-45791
Se-Na (Ti)(Cl), liq., cond. and thermopower, charged additives effects 4-50811
Se-Te, electronic and thermodynamic props. 4-45791
Se-Te liquid semiconductors, acceptor band transport, semiconductor-metal transition 4-45842
(Se_{0.5}Te_{0.5})_{1-x}M_x (M=Ti, Ag, Cu, Na) liquid semicond., electronic behaviour 4-25345
Sn, struct. and elec. resist., self-consistent calc. 4-44927
Sn-Te, liq. alloys, elec. resist., compound forming effect 4-50786
Ti-CuTiTe₂, molten system, electron transport props. and mag. susceptibility 4-25342
Xe, liquid, electron swarm drift. meas. 4-35037

electrical conductivity of one-dimensional systems see *one-dimensional conductivity*

electrical conductivity of plasmas see *plasma transport processes*

electrical conductivity of solids

see also *electrical conductivity of amorphous metals and alloys; electrical conductivity of amorphous semiconductors and insulators; electrical conductivity of crystalline metals and alloys; electrical conductivity of*

electrical conductivity of solids continued

- crystalline semiconductors and insulators; electronic conduction in crystalline semiconductor thin films; electronic conduction in insulating thin films; electronic conduction in metallic thin films; ionic conduction in solids; recovery; superconductivity
- alloys, binary, with random transfer, local spin fluctuations 4-25568
- Anderson localisation transition, second-quantised theory in $d=2+t$ 4-20608
- antiferromagnetic semiconductor, low temp. carriers 4-2574
- binary solid particle system, degree of mixing, elec. resist. meas., edge effect (*Japanese*) 4-21177
- boride film thick, AC cond., freq. depend. of resist., cond. mechanisms 4-6850
- C fibres, intercalated with CuCl_2 , elec. resist. and Shubnikov-de Haas oscillations 4-40003
- CDW, nonlinear cond. with strong impurity pinning 4-29909
- classical CDW model above threshold, harmonic mixing 4-20636
- copper phthalocyanine Langmuir-Blodgett films, gas detector appls. 4-243
- crystall, bath-type, for thin film electron transport props. 4-27532
- DC flow through sphere with multipoint supply, potential distribution and conductivity determ. (*Polish*) 4-19318
- dirty superconductors, inelastic scatt. and freq.-depend. cond. 4-56492
- disordered media, Anderson localisation and electron-electron interactions 4-50726
- disordered solids, scaling theory of electrons 4-11483
- disordered system, DC cond., tight-binding approx. study 4-2567
- Ekono-metal composite thin films, RF sputtering and elec. props. 4-21140
- electron gas in LF elec. field, cond. due to large-scale fluctuations 4-56304
- electronic cond. and metal-insulator transition, bound state effects 4-45699
- excitons in N mols., partition technique and generalized master equations 4-39781
- fibre reinforced plastic, mag. polarisation influence on electrophys. props. in wide temp. range 4-46174
- granular systems, Coulomb quasigap and metal-insulator transition 4-39777
- graphite, precipitation of intercalants onto dislocations 4-15654
- graphite fibre intercalation compound with acceptors, struct., elec. and optical props. 4-45703
- graphite fibre intercalation compound with $\text{ICl}(\text{Br}_2)(\text{CuCl}_2)$, elec. resist. and Shubnikov-de Haas oscillations 4-45706
- graphite intercalation compound with acceptors, fibrous, elec. resist. meas., current aging 4-45705
- graphite intercalation compound with K, fibrous, synthesis and elec. props. 4-45704
- graphite intercalation compounds, conf., Pont-a-Mousson, France (May 1983) 4-42591
- graphite intercalation compounds, ideal conductivity calc., electron-phonon scatt. 4-45761
- graphite intercalation cpds., electronic props., review 4-50703
- graphite intercalation cpds. with CuF_2 and MgF_2 , elec. cond. and chem. bond 4-6757
- graphite-Ba intercalation cpd., C_6Ba , elec. resist., contactless inductive method anal. 4-39868
- graphite-Li-F intercalation cpd., elec. cond. and intercalation reaction study 4-41200
- graphite- GaCl_3 intercalation cpd., elec. resist. studies 4-39869
- graphite- SbCl_5 intercalation cpd., struct. and cond., TEM obs. (*Chinese*) 4-50248
- graphite- SO_2F intercalation compound, elec. cond. meas. 4-20651
- graphite- XeOF_4 intercalation cpd., struct., basal plane cond. 4-50270
- heat and elec. cond., thermodynamic approach 4-17864
- heterogeneous conducting media, field conc., current and Joule heat evolution 4-50783
- Hubbard model, magnetic ordering effect on thermodynamic and elec. props. 4-25569
- ice, DC conductivity meas., ageing effects, climatological appls. 4-29967
- ice, electric currents associated with dislocation motion 4-29443
- ideally conducting phases in quasi two-dimensional conductors 4-6755
- incommensurate chain, CDW sliding dynamics 4-25327
- incommensurate systems, electron conductivity near localisation threshold 4-34942
- inhomogeneous semiconductors, electron transport and Einstein rel. 4-56335
- ionomeric materials, TSC study of dielec. props. and cond. 4-11836
- linear chain lattices, tight binding models and quantum transport 4-20615
- metal phthalocyanine polymers, electrical cond., role of phthalocyanine ring carbon π -orbitals 4-15802
- metal-insulator transition, phonon model and static cond. (*Russian*) 4-34877
- metals, giant quantum oscils. in cond. tensor components 4-56308
- metals, thermoelectric power, correl. function method 4-25324
- one-dimensional disordered systems, Brownian motion 4-32168
- organic thin films, plasma-polymerised, dielectric relax., breakdown, electrical cond. and photocond. meas. 4-16144
- parallel resistors, quantum oscils. and Aharonov-Bohm effect 4-29941
- percolation conductivity in anisotropic system 4-2566
- plasma polymerised matrices, Au clusters, crystallographic and elec. props. 4-35035
- polyacetylene- FeCl_4 , semiconductor-metal transition, cond., thermopower meas. 4-11562
- trans-polyacetylene- HSO_3F , DC cond. and optical absorption spectra 4-7213
- polyacetylene, FeCl_3 -doped, mag. phase transition, aggregate form. and elec. cond. 4-25556
- polybithiophenes, film, chem., electronic and struct. props., XPS study 4-34812
- polycarbonate, C black filled, elec. conductivity 4-46487
- polycrystalline medium with dielectric inclusions, percolation threshold (*Russian*) 4-6753
- polycrystals, effective conductivity, qualitative theory 4-34941
- polyethylene, dispersive hopping transport cond. mech. 4-11531
- polyfluorocarbons, synthesis and elec. cond. 4-56342
- poly-L-proline II, hydrated, dielec. relaxation mechanisms, conductivity 4-16148
- polymers, electrical props. control by chem. modification 4-39983

electrical conductivity of solids continued

- polyphenylene fluoride-asbestos composite, hot alkali stable with low elec. resist. 4-7411
- polypyrrole film, chem., electronic and struct. props., XPS study 4-34812
- polypyrrole-paper composites, elec. cond. props. 4-34972
- probability density function and elec. cond., temp. depend. 4-6752
- pseudo-one-dimensional cpds., elec. cond., coherent and diffusive cases 4-11514
- PTFE-metal composite thin films, RF sputtering and elec. props. 4-21140
- random impedance-capacitance network, elec. cond. theory 4-34940
- regular conducting channelling textures, effective cond. calcs. 4-29960
- semiconductor, electron passage through pot. barrier, tunnelling and thermal transfer 4-50902
- semiconductors, bulk and surface conductance, simultaneous meas. 4-42979
- semiconductors, dielectric relax. of dislocations and elec. cond. 4-46180
- semiconductors, electron gas, a.c. conductivity study 4-11581
- semiconductors, many-valley, hopping elec. cond. under AC conditions 4-50817
- sliding charge density waves, AC props. 4-34960
- sliding charge density waves, DC props. and electrostatic interactions 4-34959
- solid dielectrics, conf., Toulouse, France (July 1983) 4-8647
- stratified medium, permittivity and conductivity determ. with buried dipole, inversion theory (*French*) 4-56306
- Talys alkali-basaltic rocks, elastic and elec. props., depend. on chem. comp. (*Russian*) 4-41894
- temperature dependence of the conductivity near the localization threshold 4-25335
- thin films with anisotropic topological struct., cond. and galvanomag. props. 4-6907
- transition metal silicides, review of form. and phys. props., book contrib. 4-6483
- two-dimensional anisotropic system of conducting sticks, percolation threshold, computer study 4-2573
- two-phase system, AC elec. transport props., complex dielec. const., loss angle, percolation 4-16138
- ultrafine filament metallic matrix composites, prep. and props., book contrib. 4-7401
- Ag halide complexes with dithioformamminium halides, struct., IR spectra, conductometry meas. 4-7204
- AgN_3 single crystals, dielectric breakdown, cond. current fluctuations and electron microscopy study 4-16164
- Ag_2TaS_7 (2H), elec. resist. meas., CDW anomaly, temp. depend. 4-6756
- Al_2O_3 -W cermets, phys. props., effect of W spatial distrib. 4-51610
- AsSbS_3 -CdSe heterostructure, EBIC study 4-50918
- $\text{As}_2\text{Se}_3\text{GeO}_5$ heterostructure, EBIC study 4-50918
- Au halide complexes with dithioformamminium halides, struct., IR spectra, conductometry meas. 4-7204
- C fibre reinforced plastics, strength, moulding pressure influence 4-12117
- C films, ion beam deposition, structural, elec. and optical props. 4-29841
- C, glassy, elec. cond. and Hall effect 4-6754
- C_{60}ICl intercalation cpds., $N=1-4$, supermetallic cond. 4-2577
- CsCl structure composites, effective transport coeffs. calc. 4-50780
- Cu halide complexes with dithioformamminium halides, struct., IR spectra, conductometry meas. 4-7204
- CuCrS_4 , elec. and galvanomagnetic props. 4-56454
- $\text{Cu}_3\text{Mo}_6\text{S}_8\text{-ySe}_y$, $y=0-8$, Chevrel-phase supercond., normal state elec. resist. meas. 4-45702
- D, high density, thermal props. 4-54408
- EuFeP_{12} , mag. and elec. props., Mossbauer spectra 4-11684
- EuMoSe_3 cluster cpd., structural phase transitions, elec. resist. meas., X-ray diffr. study 4-6495
- Gd_2CCl_3 , cryst. struct. and metallic conductivity (*German*) 4-39251
- H_2O and D_2O ice, cond. band electrons, mobility and trapping 4-29966
- ^4He crystals, positive charges velocity in strong fields 4-29725
- $\text{HfO}_2\text{-La}_2\text{O}_3$, elec. cond., ion transport number, defect struct. 4-11561
- LaFeP_{12} , mag. and elec. props., Mossbauer spectra 4-11684
- $\eta\text{-MoO}_{11}$, quasi-2D metal, CDW instabilities and elec. props. 4-25325
- Nb-Si thin films, resist. anomaly 4-20740
- NbSe $_3$, nearly commensurate CDW, AC conduction 4-29955
- NbSe $_3$ -Fe, transient nonlinear conduction and switching due to CDWs 4-25328
- Ni powders, ultrafine, elec. cond. meas. (*Russian*) 4-56309
- SrMo_6S_8 cluster cpd., structural phase transitions, elec. resist. meas., X-ray diffr. study 4-6495
- TaS_3 , nearly commensurate CDW, AC conduction 4-29955
- $\text{Ti}_{1-x}\text{Sb}_x$, normal state resist. and supercond. transition temp. studies 4-45914
- $\text{U}_2\text{Y}_{1-x}\text{Sb}_x$, valence transition, elec., optical and lattice const. meas. 4-56295
- $\text{Yb}_{1-x}\text{TM}_x\text{S}_2$, mag. and elec. transport props. 4-56541

electrical conductivity transitions

see also metal-insulator transition

- alkali metal-rare gas films, metal-insulator-transition, model 4-45637
- alkali metals, expanded fluid, metal-insulator-transition, model 4-45637
- amorphous thin films, atomic and electronic processes of switching 4-56401
- amorphous thin films, dynamic switching 4-56402
- amorphous thin films, stability, switching voltage and transient ON-characteristics 4-25408
- CDW conduction, theory of onset 4-39884
- chalcogenide amorphous semicond. film, bias-induced switching 4-50878
- chalcogenide glass thick films threshold and memory switching, thermophonic investigations 4-45901
- chalcogenide semiconductors, amorphous, threshold-switching voltage stability, γ -irrad. and elec. forming effects 4-6841
- disordered media, Anderson localisation and electron-electron interactions 4-50726
- metal-insulator transition, conductivity freq. and temp. depend. 4-20564
- MNOS structs., switching and elec. instability 4-45893
- permalloy/SiO/permalloy sandwich struct., magnetoresistive switching 4-40075
- polyacetylene- FeCl_4 , semiconductor-metal transition, cond., thermopower meas. 4-11562
- trans-polyacetylene, struct., morphology and electronic props. 4-20127
- polyurethane, dielec.-semicond. type transition on heating (*Russian*) 4-39993
- polyvinylfluoride film, elec. cond. and switching behaviour 4-45843

electrical conductivity transitions continued

- potassium hydrogen maleate crystals, pure and Cu^{2+} doped, transport props. and thermal studies 4-39567
 rare earth compounds, nonmetal-metal transition, elec. resist. and dynamical cond. 4-20566
 semiconductors, generation-recombination induced dissipative struct. stability 4-6793
 semiconductors, thermal and electrothermal instabilities, review, book contrib. 4-20698
 TCNQ salts of ionenes with PEO segments, thermoswitching 4-15923
 $(\text{TMTSF})_2\text{F}_2\text{PO}_2$, resist. meas., metal-insulator transition obs. 4-30031
 $(\text{TMTTF})_2\text{BF}_4$, metal-insulator transition under press. 4-45841
 Ag electroformed thin films, reversible humidity-sensitive switching (*Japanese*) 4-35032
 Ag_3AsS_3 MSM systems, switching effect, resist., capacitance meas., I-V characs. 4-15966
 Ag_3AsS_3 , proustite anomalous switching in metal-proustite-metal system 4-11563
 Ag_3SbS_3 MSM systems, switching effect, resist., capacitance meas., I-V characs. 4-15966
 Ag_3SbS_3 , pyrrargyrite, anomalous switching in metal-pyrrargyrite-metal system 4-11563
 Al-As-Te glass system, elec. switching phenomena 4-6843
 Al- CeO_2 -Si MIS struct., cond. switching with memory 4-50936
 n- CdCr_2Se_4 , In, switching effect based on N-shaped negative differential resist. 4-34993
 CdGa_2Te_4 amorphous Z 4-50688
 CdIn_2S_4 thin films, switching phenomena 4-30028
 $\text{CdO-ZnO-P}_2\text{O}_5$ glass, thin film samples, memory switching effects 4-30030
 $\text{CdO-ZnO-P}_2\text{O}_5$ glasses, memory switching 4-45840
 $\text{CdSe}_x\text{Te}_{1-x}$ solid soln. films, elec. cond. characs. 4-30091
 CeH_3 , proton spin-lattice relax. and metal-insulator transition 4-30313
 $\text{Co}_2\text{Cr}_{1-x}\text{S}_x$, elec. and mag. props., anomalies 4-34976
 $\text{Fe}_2\text{Nb}_2\text{Se}_5$, thermoelec. power and elec. resist. 4-56324
 Fe_3O_4 , polycrystalline, elec. cond. near Verwey temp. (*Korean*) 4-15924
 GaAs heterostructures, dissipation and dynamic nonlinear behaviour in quantum Hall regime 4-2644
 n-Ge:As, elec. cond. near Anderson transition 4-15922
 Ge:Zn, electrophysical props. near semicond.-metal transition, Lifshitz impurity band model 4-6844
 Ge-Te amorphous thin films, struct. transforms. induced by elec. nanosecond switching 4-50688
 $(\text{GeSe}_{0.5})_{100-x}\text{Bi}_x$, amorphous, elec. transport props. under high press. 4-45786
 In-Te amorphous thin films, struct. transforms. induced by elec. nanosecond switching 4-50688
 InSb film, low temp. transitions, superconductivities 4-40106
 $\text{Mn}_{1-x}\text{Sb}_x$, mag., elec., and struct. props. after high press. high temp. treatment 4-11753
 $\text{Mo}_2\text{W}_{1-x}\text{Se}_2$ single crystals, elec. threshold switching 4-20695
 NbO_2 , threshold switching, decay and recovery of on-state, trapping effects 4-6842
 NiNaTeX zeolites switching effects and S-type I-V characs. 4-11536
 Pb-Cu proximity Josephson junction, resistive transition 4-45944
 Pb-Te, liq. alloys, elec. resist., compound forming effect 4-50786
 PbS, electrical cond. and thermoelectric power coeff. as press. and temp. functions (*French*) 4-39941
 Se/Al struct., elec. switching phenomena (*Russian*) 4-45880
 Se-Te liquid semiconductors, acceptor band transport, semiconductor-metal transition 4-45842
 Si, doped metal-insulator transition, renormalisation group theory appl. 4-46528
 a-Si p^+-n i structs., high-speed memory switching 4-50879
 Si polycrystalline thin film, threshold and memory switching effects, deep levels 4-50881
 Si submicrometer inversion layer in MOSFET, discrete resist. switching and interface traps 4-30079
 Si:P,As, double-donor system, metal-insulator transition, elec. cond. meas. 4-15824
 Si:P disordered insulator, critical scaling of conductance 4-11523
 Si:Sb, low temp. resist., log-T depend. 4-34981
 Si-Te amorphous thin films, struct. transforms. induced by elec. nanosecond switching 4-50688
 Si:Sn:H amorphous alloy films, RF glow discharge fabrication, conductivity transition 4-45839
 Smb_6 , energy gap suppression under press., elec. resist., semicond. and metallic behaviour 4-25409
 Sn-Te, liq. alloys, elec. resist., compound forming effect 4-50786
 SnO_2 films, highly doped, Hall effect anal. 4-39996
 $\text{Ti}_{1-x}\text{Zr}_x\text{O}_5$, semiconductor-metal transition, structural and mag. characs. 4-36560
 VO_2 films, undoped and doped, spectral and resist. switching 4-35031
 VO_2 thin films, DC magnetron-reactive sputtering, struct., elec. and optical props. study (*Japanese*) 4-21141
 V_2O_5 based alloys, metal-antiferromag. insulator transition, elec. resist. meas. 4-20696
 V_2O_5 thin films, DC magnetron-reactive sputtering, struct., elec. and optical props. study (*Japanese*) 4-21141
 $\text{ZnIn}_2\text{S}_4:\text{K}(\text{Na})(\text{s})$, photocond. after switching effects 4-20691

electrical contacts

- see also contact potential; contact resistance; ohmic contacts; point contacts
 connectors and interconnection technology, conf. Philadelphia, PA, USA, Nov. 1983 4-42594
 electroplated deposit distribution control using modulated pulse periodic reverse current 4-46460
 fusion reactor first wall contact material screening tests, coaxial test fixture, pulsed power supply 4-9486
 injecting contact with limited emissivity, space-charge-limited currents 4-24979
 material transfer and erosion in vacuum 4-46626
 materials, W and precious metals reduction, review 4-3105
 semiconductor microcontacts, hot electrons relax. time, energy depend. 4-34995
 sliding, static contact resist. of solid lubricant composite 4-25422
 sliding spark, well-controlled, circuit development 4-20046
 solder- and tin-coated, fretting corrosion 4-46667
 Ag contact composites, erosion depend. on second phase particle melting pts. 4-7595

electrical contacts continued

- Ag contact composites, TEM obs. WRT optimum antifriction and elec. erosion characs. 4-7596
 Ag-CdO contact material, manufacturing processes 4-40714
 Ag- $\text{CdO}(\text{SnO}_2)$ contacts manufacture from oxidized alloy powders, press-sinter-repress 4-40699
 Au electroplate, failure mechanisms study 4-12436
 CdTe/Au, ohmic and rectifying contacts, elec. and struct. props. 4-2656
 Cu-Ru mechanically alloyed composite, elec. contact resist. and phys. metallurgy 4-40713
 $\text{Cu}_2\text{S-CdS}$ solar cells, thin film, front grid contact fabrication laboratory method 4-36011
 Ge/Sn contacts, photoelec. props. 4-6893
 Nb₃Ge supercond. film bridge and tunnel contacts 4-25488
 Ni:¹⁴N implanted contact on $n^+-\text{Si}$, thermal stability and elec. resistivity 4-2655
 Ni-Si contacts, chemically deposited, struct. and elec. meas. 4-35064
 $\text{PbS}_{1-x}\text{Se}_x$ diode lasers, low resistance contacts 4-44112
 Pd connector contacts and inlay coupons, HCl and Cl_2 effects 4-30048
 Pd-Ag DGR 156 contact alloy, assessment of lower levels of composition 4-46634
 Ru contacts, resistance to chem. attack and contact resist. 4-56415
 Si microcontacts, electronic Knudsen flow, thermovoltaic evidence 4-11580
 Ti-Pd-Ag solar cell contacts degradation mechanism determ. by accelerated electrochemical technique 4-52168
electrical double layers see electrochemistry; liquid theory
electrical engineering
 see also high-voltage engineering
 NDT, conference, London, England (Jan. 1984) 4-42606
 US nondestructive testing 4-46730
electrical engineering applications of computers see electrical engineering computing
electrical engineering computing
 see also computerised control; computerised instrumentation; electric machine analysis computing; power system analysis computing; power system CAD
 conductors, curved, mag. field routines, search for faster packages 4-49213
 eddy current calc. and structural loading, computer programs 4-54918
 EM field computation, COMPUMAG, conf., Genoa, Italy (May-June 1983) 4-47744
 nonlinear magnetic analysis, enhancements to PE2D package 4-54919
 overhead conductor system EMP disturbances from nuclear explosions at ground level (*French*) 4-48746
 Puerto Rico wind energy resource assessment project 4-57642
electrical fault location see fault location
electrical faults
 see also accidents; discharges (electric); fault currents; fault location; flashover; insulation; losses; protection; testing; transients
 MHD Faraday channel, fault currents bulk distribution 4-57734
 MHD generator-inverter system transient characteristics and fault protection 4-26303
electrical forming see electroforming
electrical insulation see insulation
electrical noise see noise
electrical power systems see power systems
electrical properties of substances
 see also dielectric properties of substances; discharges (electric); electrical conductivity; flexoelectricity; thermoelectricity
 ceramics, conf., Saint-Vincent, Italy (June 1983) 4-47759
 Ti glass fibre reinforced plastics, elec. and mech. tests (*Polish*) 4-57240
electrical resistance measurement see electric resistance measurement
electrical resistivity see electrical conductivity
electrical transport processes see electrical conductivity
electricity
 see also atmospheric electricity; electric charge; electric current; electrical properties of substances; electromagnetism; terrestrial electricity
 No entries
electricity supply industry
 alternative energy sources for electricity generation 4-26263
 EPRI Fuel Supply Seminars, St Louis, MO, USA (Oct. 1982) 4-12442
 fusion-fission hybrids, evaluation by electric utility planners 4-54422
 R&D at ETL (*Japanese*) 4-3446
 Super Phenix 1200 MW ultra fast breeder reactors in French Atomic Energy programme 4-33067
 utility solid waste physical-chemical characteristics and leachate composition 4-31133
 NO_x emission control technology for utility and other combustion plants 4-12507
 ZnCl₂ battery development for utility energy storage 4-12467
electro-oculography see bioelectric potentials; eye
electro-optical devices
 see also electrochromic devices; liquid crystal devices; optical modulation
 A/D conversion, performance criteria of components 4-49501
 accelerometer design, fibre optic and laser diode approaches 4-13624
 advanced optical system design and anal. using SYSCAP 2.5 computer anal. program 4-38560
 book, waves and fields in optoelectronics 4-27261
 computer aided optical testing 4-49582
 contactless optical measuring techniques in real time (*German*) 4-28887
 cryogenically cooled sensors and Fourier transform spectrometers, conf., San Diego, CA, USA (Aug. 1982) 4-4142
 data link for EM sensor using integrated optical channel waveguide modulator and polarisation preserving fibres 4-38599
 Fabry-Perot electrooptical bistable devices, bistability anal. 4-37156
 fibre optic current meters, sensor design using $(\text{Y}_{0.81}\text{Tb}_{0.19})_3\text{Fe}_2\text{O}_{12}$ and ZnSe crystals (*Japanese*) 4-27539
 fibre optics, conf., London, England (Apr. 1983) 4-4143
 fibre optics and laser sensors, conf., Arlington, VA, USA (Apr. 1983) 4-31954
 filter, tunable electrooptic RF, using multichannel total internal refl. modulator 4-28813
 glass thermooptic waveguide interferometric modulator/switch 4-33749
 heterostructure waveguides, light intensity modulation based on guided-to-radiation mode coupling 4-28821
 HV pulse electro-optical bridge 4-22793

electro-optical devices continued

- III-V semiconductor, two-dimensional electro-optic polarization modulator for integrated optics 4-55180
 incoherent electro-optic image correlator 4-48175
 integrated electro-optic deflectors, parameters optimisation 4-5740
 integrated electro-optic digital-analogue converter 4-19602
 integrated optic chips and components for fibre optic sensor appls. 4-33804
 integrated optical modulation and switching 4-55228
 integrated optics, conf., Florence, Italy (Oct. 1983) 4-22519
 interferometric method for mask alignment precision checking in lithographic process 4-42910
 intracavity electrooptical modulator, laser generation, photorefractive effects (*Russian*) 4-38506
 Kerr cell HV transducer characteristics rel. to elec. field inhomogeneities 4-53703
 leaky anisotropic waveguides using nematic liq. cryst. overlayer 4-28886
 linear array total internal refl. electrooptical spatial light modulator for optical information processing 4-24157
 linear TIR spatial light modulator for laser printing 4-55184
 liquid crystal-photosemiconductor optically addressed light modulator, light scatt. 4-38570
 Mach-Zehnder interferometer, integrated optical modulator, tuning with Ta_2O_5 film loading 4-24240
 Mach-Zehnder interferometric modulator, high-speed integrated optics, design and fabrication 4-49503
 Mach-Zehnder modulator, high-speed operation and 17 GHz bandwidth 4-19554
 microchannel spatial light modulator, operating modes 4-24161
 modulated laser polarimeter, principles and accuracy anal. (*Chinese*) 4-13668
 modulator, appl. of PLZT-10 ferroelectric ceramic (*Russian*) 4-28822
 modulator, based on diffusion strip waveguides, theory 4-10418
 modulator, electro-optic mode extinction, using weakly guided channel waveguide 4-49502
 modulators, high speed, integration 4-28825
 multibeam acoustooptic and electrooptic modulators for laser printer 4-55182
 nonuniform electric field system optimisation for optical radiation deflection 4-10413
 optical information processing, ferroelectric device appls., review 4-33623
 optical systems engineering, conf., Los Angeles, CA, USA (Jan. 1983) 4-31955
 photoelastic and electro-optic sensors 4-32242
 PLZT thin-film TIR optical switch, very high speed appls. 4-49523
 Pockels cell for Nd:YAG picosecond laser, HV subnanosecond risetime electrical pulse generator 4-33679
 point sensors for process control, conf., London, England (Jan. 1984) 4-36805
 PRIZ modulator, Hilbert transform. appls. 4-28638
 PRIZ space-time light modulators, transverse electrooptic effect, light pulse response 4-44205
 PROM spatial light modulator, charact. evaluation 4-55178
 semiconductor lasers, Q switching method by electro-optic intracavity phase modulation 4-49407
 shutter, cylindrical electrooptical, with large aperture, radial transmission distrib. 4-5689
 shutter for pulsed-periodic laser, using tacitron 4-33678
 sintered carbide inserts visual inspection, electro-optical computerised system 4-35787
 space-time light modulator design for laser radiation spatial charact. control using electrooptical effect in crystals 4-5621
 spatial light modulator, multichannel addressing, coherent optical processor of antenna array signals 4-14781
 switches with plasma electrodes 4-44195
 testing, multispectral collimators 4-49595
 $\text{Bi}_2\text{SiO}_{20}$ optical image correlator, degenerate four-wave mixing technique, OCR appl. 4-28629
 $\text{Bi}_2\text{SiO}_{20}$, PRIZ modulator, role of electron injection in optical image formation 4-49471
 GaAlAs p-i-n junction waveguide modulators using Pockels effect 4-55179
 GaAs directional coupler switches, strain-induced refractive index changes 4-14784
 GaAs electroabsorptive CCD spatial light modulator, Fourier transform. appls. 4-24155
 GaAs high-voltage electro-optical switch for streak camera triggering 4-53779
 GaAs n-i-p-i doping superlattices, electrooptical device aspects 4-15946
 GaAs waveguide modulators and directional couplers with low losses for high speed operation at $1.3 \mu\text{m}$ 4-33761
 $\text{GaAs-AlGa}_{1-x}\text{As}$ DH rib waveguide electro-optic directional coupler switch 4-24254
 InGaAsP-InP DH rib waveguides, electrooptical modulation 4-24255
 KD_2PO_4 crystal based cathode-ray space-time light modulator, adaptive optics 4-5692
 KH_2PO_4 electro-optically tuned SHG cell switch using plasma electrodes 4-44195
 LiNbO_3 :Ti microwave modulated waveguide interferometer for picosec. pulse prod. from He-Ne laser CW output 4-49576
 LiNbO_3 modulator contrast, influence of pyroelectric effect 4-7131
 LiNbO_3 , planar electrooptic beam splitter with a zig-zag electrode 4-44193
 LiNbO_3 :Ti diffused waveguide deflector 4-55173
 LiNbO_3 :Ti channel waveguides, electro-optical control of photoinduced polarisation conversion 4-49525
 LiNbO_3 :Ti electrically induced strip-waveguide modulator 4-33748
 LiNbO_3 :Ti high-speed travelling-wave directional coupler switch/modulator for $1.32 \mu\text{m}$ 4-24168
 LiNbO_3 :Ti integrated-optics Bragg coupler with charact. grating 4-10425
 LiNbO_3 :Ti linear Mach-Zehnder interferometric modulators for EM field sensing 4-33751
 LiNbO_3 :Ti low-loss polarisation-indep. electro-optical switch design for $1.3 \mu\text{m}$ 4-33812
 LiNbO_3 :Ti low-loss polarisation-indep. electrooptical switches at $1.3 \mu\text{m}$ 4-55225
 LiNbO_3 :Ti M-type electrode planar guided-wave beam splitter 4-5682
 LiNbO_3 :Ti Mach-Zehnder interferometric high-speed travelling-wave integrated-optics modulator 4-33747
 LiNbO_3 :Ti microwave integrated optical modulator 4-49500

electro-optical devices continued

- LiNbO_3 :Ti single-mode electrooptic X-switch for integrated optic switching networks 4-33810
 LiNbO_3 :Ti stepped beta directional coupler having a high extinction ratio 4-33762
 LiNbO_3 :Ti total-internal-reflection electrooptic thin-film modulator, characteristics 4-1474
 LiNbO_3 :Ti guided light interferometric modulators 4-33746
 Nb_2O_5 - LiTaO_3 heterostructure waveguides, light intensity modulation based on guided-to-radiation mode coupling 4-28821
 Nd^{3+} :YAG, Q-switched laser with active mode locking Q-switched laser with active mode locking 4-49403
 PLZT electro-optical ceramic as light-gate array for non-impact printer 4-55185
- electro-optical effects**
 see also *electroabsorption; electrochromism; electroluminescence; electrorefraction; Kerr electro-optical effect; photorefractive effect; Pockels effect; Stark effect*
 N-acetyloxypyridinium cation and its deuteroanalogues, IR spectra, force field, electrooptic parameters 4-54712
 betaine 2-N-pyridinium indandione-1,3, evaporated layer, electrooptical effects (*Russian*) 4-30441
 cadmium thiogallate crystal optical activity near the isotropic point, effect of external mag. and elec. fields 4-25714
 ceramics, electrooptic, cryst. microstruct., piezoelec. and optical props. 4-35414
 cholesteryl chloride-cholesteryl alkanooates mixtures, electro-optic and dielec. studies 4-39114
 cholesteryl chloride-laurate mixture, optical and EHD effects 4-40417
 coherent CW image amplifier and oscillator using two-wave interaction in a BaTiO_3 -crystal 4-5641
 cyanobiphenyls, liq. crystals, orientational kinetics, polarisation effect 4-34405
 indihalobenzene⁺ crystal, absolute intensity of phonon Raman bands, electro-optic parameters 4-11888
 electrolyration effect in crystals, magnitude 4-46227
 ethane, electrooptic parameter calc. 4-33391
 ethers, IR spectra calcs., electro-optic field modelling 4-38179
 ferroelectric appls. conference, Gaithersburg, USA (June 1983) 4-31956
 field probe meas. of conducting plate 4-32245
 4-n-Hexyloxy-4'-n-amyloxy- α -cyanstilbene, nematic, optical SHG induced by an elec. field 4-20101
 IV-VI semiconductors, dielectric props. and band struct. calcs. 4-35331
 liquid crystal, cholesteric, nonlinear gyrotropy 4-11865
 liquid crystal binary mixture with induced smectic-A mesophase, dielectric and electrooptic props. 4-55720
 liquid crystal cell, focusing by elec. modulation of refr. 4-38568
 liquid crystalline polymers, thermo-recording with laser beam 4-39092
 lyotropic mesophases, optical props., review 4-51217
 MBBA, nematic, optical SHG induced by an elec. field 4-20101
 molecular solutions, characterisation using electro-optical effects 4-1300
 molecule, structure and charge distrib., electro-optical parameters used for interpretation vibr. intensities 4-54667
 nematic liq. cryst., quasihomotropic reversely pretitled, electrooptical effects 4-7162
 nematic liquid crystal, director orientational deformations and optical props. in elec. field, boundary effects 4-6259
 nematic liquid crystal irreversible molecular reorientation during charge transfer in a twist cell 4-20098
 nematic-smectic transition, electro-optical and dynamo-optical effects 4-25725
 parametric effects near optic axis of electro-optical materials 4-35410
 photosemiconductor-liq. cryst. struct., optical nonlinearity 4-44141
 PLZT transparent materials, electro-optical effects and appls. 4-51240
 polyesters, thermotropic nematic, elec. field effects and miscibility 4-40416
 semiconductor, multiphoton edge optical absorption 4-16226
 semiconductor superlattices with nonspherical carrier energy bands, electro-optical props. 4-30442
 subpicosecond electro-optic shock waves 4-2899
 TGS, optical gyration and electrogyration 4-35415
 TGS, pure and X-irradiated, electrogyration 4-46228
 thermotropic liquid-crystalline polymers in electric and magnetic fields (*Russian*) 4-29319
 trichloromethane-(d₃), IR intensity analysis without sign ambiguity 4-33401
 Ag, electric field induced light reflection and second harmonic generation 4-40415
 $\text{Ba}_{0.1-1.5}\text{La}_{1-x}\text{Nb}_2\text{Ti}_2\text{O}_{30}$ transparent ceramics for electro-optical appls. 4-33375
 $\text{Ba}_0.5\text{Sr}_{0.5}\text{Nb}_2\text{O}_6$ ferroelectric thin film, pulse electrooptical light modulation (*Russian*) 4-20944
 BaTiO_3 photorefractive materials for optical data processing 4-24117
 BeO crystals, linear electrooptical props. 4-7161
 $\text{Bi}_{12}\text{GeO}_{20}$, linear and circular, electrooptic phenomena, separation on Poincare sphere 4-56891
 $\text{Bi}_{12}\text{GeO}_{20}$, optical excitation of traps, charge transfer, electro-optic study 4-30443
 $\text{Bi}_{12}\text{GeO}_{20}(\text{SiO}_{20})$, refractive index, adsorpt. and electro-optical coeff. meas. 4-40386
 $\text{Bi}_{12}\text{SiO}_{20}$ crystals, two-wave mixing expts., energy transfer spatial freq. depend. 4-23926
 $\text{Bi}_{12}\text{SiO}_{20}$ crystals with optical activity, electro-optical coeff. 4-25719
 $\text{Bi}_{12}\text{SiO}_{20}$, linear and circular, electrooptic phenomena, separation on Poincare sphere 4-56891
 $\text{Bi}_{12}\text{SiO}_{20}$ photorefractive materials for optical data processing 4-24117
 $\text{Bi}_{12}\text{SiO}_{20}$, photorefractive crystals, elec. field distrib., light absorpt. effects 4-45837
 CdS , Raman light scatt. and electrooptic effect 4-20946
 CdSe liquid junction solar cells, elec. field modulated photoluminesc. 4-16789
 GaAs , electrolyte elec. field modulated ellipsometric spectrum (*Chinese*) 4-40414
 $\text{GaAs-AlGa}_{1-x}\text{As}$ quantum well heterostruct., p-doped, photolum. effects of longitudinal elec. field 4-21002
 GaP , electro-optical studies 4-11867
 GaP-V , Raman light scatt. and electrooptic effect 4-20946
 GaSe , electrooptical prop. dispersion 4-35417
 p-Ge, population inversion for direct optical transitions, in crossed E.B. fields 4-16181

electro-optical effects continued

- In_2O_3 films, prod. by PYROSOL process, transparency, cond., IR refl. props., appls. (*French*) 4-34836
 KLiEu^{2+} , X-irrad., luminesc. and cond. meas., impurity cluster effects 4-16241
 K_2SeO_4 , optical gyration and electrogyration 4-35415
 $\alpha\text{-LiIO}_3$, light diff. due to space charge (*Chinese*) 4-2900
 $\alpha\text{-LiIO}_3$, light diff. due to space charge (*Chinese*) 4-2901
 LiNbO_3 , linear electro-optical effect anisotropy 4-35410
 $\text{LiNbO}_3\text{:Ti(Mg)}$, optical and ferroelec. props., electro-optical device appl. 4-30440
 $\text{LiNbO}_3(\text{TiO}_3)$, refractive index, adsorpt. and electro-optical coeff. meas. 4-40386
 $(\text{NH}_4)_2\text{BeF}_4$, optical gyration and electrogyration 4-35415
PLTZ electro-optical ceramic depolarisation at low temps. 4-44165
PLTZ films, RF diode sputtering prep., dielec. and optical props. 4-30394
 $(\text{Pb, Ba, La})\text{Nb}_2\text{O}_6$ ceramics, hot-pressed, transparent, anisotropies 4-20945
 $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$, ferroelec., with diffuse phase transition, phys. phenomena, review 4-35413
 $\text{Pb(Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
 PbMoO_4 , centrosymmetric cryst., electrogyration, temp. depend. 4-25723
 PbTiO_3 , optical gyration and electrogyration 4-35415
 $\text{Pb(Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3$, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
 RbI:Ag^+ , elasto- and elasto-optical dipole props. of off-centre defects 4-11911
 Rb_2ZnCl_4 , optical and electro-optical study 4-2897
 Rb_2ZnCl_4 , optical gyration and electrogyration 4-35415
 SnO_2 films, prod. by PYROSOL process, transparency, cond., IR refl. props., appls. (*French*) 4-34836
 $\text{Sr}_0.5\text{Ba}_{0.5}\text{Nb}_2\text{O}_6$:La dislocation-free cryst., dielec., SAW, and electro-optical props. 4-30400
 $(\text{Sr,Ba})_{1-x}(\text{Nb}_2\text{O}_6)_x$, CeO_2 , dynamic hologram recording 4-49304
 TeO_2 , linear electro-optical effect, bond orbital model 4-25721
 TiO_2 , refractive index, adsorpt. and electro-optical coeff. meas. 4-40386

electroabsorption

- polyethylene, low density, IR absorption rel. to current injection in high elec. field 4-16208
semiconductor interband light absorpt. in pulsing elec. field 4-25722
GaAs electroabsorptive CCD spatial light modulator, Fourier transform. appls. 4-24155
 InP:Fe , pure and doped, deep centres, optical studies 4-11479
 $\text{InSe}_{1-x}\text{S}_x$ single cryst., optical absorption, electroabsorption and photoluminesc. studies 4-2959
 ZnSe:Ni , luminescence and electroabsorption studies 4-35496

electroacoustic effects *see acoustoelectric effects***electroacoustic generators** *see acoustic generators***electrocaloric effects** *see pyroelectricity***electrocardiogram** *see electrocardiography***electrocardiography**

- see also bioelectric potentials; biomagnetism; cardiology*
advanced foetal monitoring system, report 4-12718
amplifier of bioelectric potentials with RC-circuit, recovery time reduction 4-16999
Arrhythmcomp arrhythmia monitor, appl. (*Dutch*) 4-16998
arrhythmia, real time mapping method using microprocessor-based systems 4-47094
arrhythmia monitor, portable, microcomputer-based: design, implementation and evaluation 4-47093
coronary cine-angiograms, model-guided segmentation 4-41643
diagnostic decisions in myocardial infarction (*Russian*) 4-8137
digital heart rate meter with wide range, instantaneous response 4-17007
electrocardiographs, comparative evaluation, hospital trials 4-31349
heart potential mapping, approximation method of local type 4-47088
Holter tapes, automated high-speed anal. with microcomputers 4-21831
informative element selectors, noise immunity, criterion and meas. method choice 4-58029
intraoesophageal monitoring of ECG and respiration in anaesthetised animals 4-21867
inverse problem, limitation in body surface pot. mapping 4-41487
inverse solution using spheroidal harmonics (*Japanese*) 4-8134
ischemic ECG records, machine classification for automated diagnosis 4-52522
liquid-crystal hand-held electrocardiograph 4-58033
NMR imaging of the heart, ECG-triggered 4-52431
P-wave detection and synchronisation of artificial heart, digital system 4-21849
physiological monitoring during NMR measurements of animals 4-8159
potential maps, acquisition and processing 4-26381
PQRST complex of normal ECG, freq. anal. 4-52513
suction electrode net for precordial ECG mapping 4-31348
telemetry equipment for ECG and temp. meas. in lab. animals 4-47107
telemetry monitoring systems, review 4-31350
waveforms, baseline drift correction expt. 4-52521

electrocataphoresis *see electrophoresis***electrochemical analysis**

- see also electrochemistry; polarography; voltammetry (chemical analysis)*
electrochemical prep. chamber for Kratos ES 300 electron spectrometer 4-53799
fluorescence photometrical techniques for ionic strength and H ion activities meas. 4-57613
geochemical analytical methods (book) 4-8657
glass membrane electrode system, ion selective electrodes (*Dutch*) 4-52065
graphite, rotating pyrolytic electrode for Raman spectroelectrochemistry 4-51260
ion selective electrodes CRYTUR with a plastic membrane (*Czech*) 4-26247
ion sensitive FETs, with electrostatic protection 4-37084
ion-selective electrode potentiometry, double known addition method precision 4-12400
ISFET in analytical chemistry, pH sensitive mechanism 4-31041
ISFET sensors, electrochemical aspects and appl. 4-26235
low-conductivity liquid, charging in pipe flow with surface electrochem. reaction 4-5976
measurement cell, improved accuracy (*Hungarian*) 4-46843

electrochemical analysis continued

- multi-species microprobe using extended gate dynamically sensitive FET 4-26237
oleum solution on-line analysis using electrodeless conductivity 4-12422
point-electrode conductivity salinometer development, with high spatial resolution 4-26256
polarographic and voltammetric methods of environmental analysis 4-57813
ruminal fluids analysis using ammonia electrode 4-26565
semiconductor gas sensors, additives effects obs. 4-31042
sensors for gas analysis (*German*) 4-21510
spot recorder (*Russian*) 4-46846
surface-accessible FET for gas sensing 4-26236
 $\text{Ce}_2\text{O}_3\text{S}$, standard free energy of form. determ. 4-3423
 $\text{Cu}_2\text{-SSe, Cu}$ distrib. in a thermal field, electrochemical cell method 4-12423
Li-Fe-S, phase equilib., thermodynamics, electrochemical meas. 4-12437
 $\text{LiTaS}_2\text{-2H}$, Li order-disorder transitions, electrochemical data 4-2133
 O_2 gas analyser, electrochemical (*Russian*) 4-31049
 $\text{Y}_2\text{O}_3\text{S}$, standard free energy of form. determ. 4-3423

electrochemical batteries *see cells (electric)***electrochemical electrodes***see also electrochemistry*

- alkaline water electrolysis, advanced-stage, developments, for H_2 production 4-35911
alkaline water electrolysis, at forced convection, ohmic potential drop 4-57579
 $\text{Ce}_x\text{Pr}_{1-x}\text{O}_2$ electrical conductivity and oxide ion transference number 4-50880
corrosion and polarization characteristics of zinc in concentrated alkaline solution and the effect of amalgamation 4-7656
ESCA appls. to electrode surface film studies 4-7765
flow transducer, cerebrospinal fluid flow meas. 4-17040
fluorides, F^- ion conductors, props. and appl. 4-6555
glasses, electrochem. behaviour, absolute pot. value of vitreous, liq. and cryst. electrodes and EMF of respective galvanic cells (*German*) 4-3454
graphite anodes in Li secondary cells, charge-discharge characts. 4-46863
graphite electrodes, electrodes, polymer bound, reversible electrochemical intercalation of anions from aqueous soln. 4-46773
graphite fibre as positive electrode in rechargeable Li cell 4-41332
graphite fibre-Br intercalation cpd., electrode appl. in thermocell 4-46861
graphite intercalation cpds, with FeCl_3 , CuCl_2 , MnCl_2 and CoCl_2 , for Li batteries (*French*) 4-46865
graphite- BF_4^- intercalation cpd., $\text{C}_{24}\text{BF}_4^-$, electrochem. energy storage appls. (*French*) 4-46902
graphite-K intercalation cpd., KC_8 , electrochem. energy storage appls. (*French*) 4-46902
graphite- NiCl_2 intercalation cpd., C_7NiCl_2 , electrochem. energy storage appls. (*French*) 4-46902
ion selective electrodes CRYTUR with a plastic membrane (*Czech*) 4-26247
melts, undercooled, electrochem. behaviour, absolute pot. value of vitreous, liq. and cryst. electrodes and EMF of respective galvanic cells (*German*) 4-3454
metal deposit growth at nonequipot. electrodes, transient model 4-57571
metal electrodes, photocorrosion and electrochem. props., Mirage effect studies 4-41225
nickel hydroxide electrode: structural and thermodynamic aspects 4-7858
noble metal electrodes, clean and oxide-covered, soln. interface, photoacoustic spectrosc. obs. 4-33884
Pb-acid cells, reactions at Pb electrodes in H_2SO_4 near equilibrium potential 4-52020
porous, electrochemical reactions, electrolyte conc. and electrode pot. variation effect, diffusion role 4-16662
porous gas diffusion, fuel cells, dynamic behaviour 4-16770
reactors with gas evolving mesh electrodes, mass transfer characts. 4-52021
semiconductor electrodes, photocorrosion and electrochem. props., Mirage effect studies 4-41225
studies of the performance and life-limiting processes in alkaline fuel cell electrodes 4-7865
Ti-supported PbO_2 electrode, T- SnO_2 layer functional mechanism (*Chinese*) 4-46768
Ag, adsorpt. of H_2O , high salt conc. effects, SERS investig. 4-45488
Ag-C overlayered, adsorpt. of NH_3 , Raman spectrosc. obs. 4-50632
 $\text{AgI-Ag}_2\text{MoO}_4$ /metal interface, electrode processes 4-41227
 Ag_2IWO_4 solid electrolyte- TaS_2 insertion electrode interface, chemical diffusion, SEM and X-ray study 4-39614
Al electrodes, corrosion rate determ. using Faradaic rectification and AC impedance meas. 4-52019
Au, adsorpt. of Fe phthalocyanine, laser Raman spectra 4-2434
Au electrode-electrolyte interface, difference photoacoustic and difference reflectance spectra 4-41223
Au electrodes, elec. field penetration depth, ellipsometry 4-40402
Au plating, high speed, anodic bath degradation and search for stable low polarisation anodes 4-25901
Au polycrystalline film, specific adsorption of Br^- and I^- , electrode resist. in electrochem. cell, size effect anal. 4-34799
C electrode, porous, oxygen reducing, fabrication and performance, for fuel cells and metal/air batteries 4-36004
CdS thin film photoelectrodes formed by tarnishing reaction, possibilities for photoelectrochemical cells 4-36018
CdSe polycrystalline electrode for improved conversion efficiency of photoelectrochemical cells 4-31107
CdSe thin film photoelectrodes formed by tarnishing reaction, possibilities for photoelectrochemical cells 4-36018
 $\text{Cr}_0.5\text{V}_{0.5}\text{S}_2$ rechargeable positive electrode for ambient temp. Li cell 4-35996
Cu, adsorpt. of Fe phthalocyanine, laser Raman spectra 4-2434
n-CuInS $_2(\text{Se}_2)$, as photoelectrodes in wet solar cells 4-31092
 $\alpha\text{-Fe}_2\text{O}_3$ electrode for H_2 production 4-57800
 Fe_2O_3 electrodes, photoelectrochemical props., effects of substitutional and defect doping 4-57732
n-GaAs electrodes, photoanodic dissolution, surface charging effects 4-35063
GaAs electrodes, photoluminescent props. appl. to dead layer model of photoelectrochem. cells 4-7225
n-GaAs photoanodes, protection by photoelectrochem. grafting of polymer films 4-46880

electrochemical electrodes continued

- H₂O₂ alkaline fuel cells, Ti-doped Raney Ni catalytic props. improvement by Ni(OH)₂ surface coating 4-21540
 H₂O₂ alkaline fuel cells, Ti-containing Raney-Ni catalysts long term perform. 4-57715
 H₂O₂ fuel cells, Ti-containing Raney-Ni catalytic props. improvement for hydrogen anodes 4-57714
 HfN, thermochemical cathodes in air, discharge, temp. in arc spot 4-41221
 IrOx thin film electrodes for high-temp., corrosive environment pH sensing 4-57612
 K₂SO₄ seed electrode mass balance in arc-mode MHD channel 4-26300
 LaNiO₃ preparation and oxygen reduction performance, application as catalyst in fuel cells 4-35888
 Li/SOCl₂ high rate cells positive electrode characteristics 4-35994
 Li-SO₂ high power chemical current source electrochemical processes 4-35993
 LiF-Li₂O-Al(PO₃)₃ system, Li⁺ conducting glassy solid electrolytes 4-54501
 n-MoSe₂ electrodes used in photoelectrochem. solar cells, surface defects, photocatalytic process 4-41347
 NH₃, ruminal fluids analysis appl. 4-26565
 NiO, sintered, in Ni-Zn battery, poisoning effect of zincate electrolyte 4-57711
 Ni_{0.33}Ti_{0.67}, amorphous, cathodes for H₂O electrolysis, acid surface treatment, ESCA studies 4-41069
 Ni_{0.33}Zr_{0.67}, amorphous, cathodes for H₂O electrolysis, acid surface treatment, ESCA studies 4-41069
 Pb acid cell for traction appls., prep. of high porosity PbO₂ 4-16661
 Pb-acid accumulators, thermopassivated dry-charge positive electrodes, depassivation, expt. 4-7849
 Pb-acid battery electrodes, containing trace Te, Sb, As, Co, and Ni, linear pot. sweep 4-26281
 Pb-acid cells, electrode design, current density distrib., math. model 4-41329
 Pt electrode surface, oxidized, vibr. spectra, EELS and XPS study 4-46384
 Pt electrode-electrolyte interface, difference photoacoustic and difference reflectance spectra 4-41223
 Ru coated Ti and stainless steel electrodes for electrodialysis 4-26223
 Sn_{1-x}Pb_xO₂ sputtered thin films, photoanode for photoelectrochem. cells 4-41354
 TiNiO photoelectrochem. electrodes, struct. and elec. props. 4-15443
 TiO₂ electrodes, photoelectrochemical props., effects of substitutional and defect doping 4-57732
 TiO₂ semiconductor electrodes, effect of noble metal doping 4-57733
 TiS₂ cathode prepared directly on Ti plate for Li secondary cells 4-46864
 V₂O₅-P₂O₅ semiconductive glasses, electrochemical props. 4-41226
 W electrodes in molten nitrates, formed film charact. by XPS and electrochemical studies 4-26091
 WSe₂ electrodes, photoelectrochemistry of stepped and smooth surfaces 4-45874
 n-WSe₂ electrodes for photoelectrosynthetic cells, hydriodic acid photodecomp. 4-41348
 Zn/Ni, thermochemical cathodes in air, discharge, temp. in arc spot 4-41221

electrochemical machining *see electrolytic machining*

electrochemical polishing *see electrolytic polishing*

electrochemistry

- see also Debye-Huckel theory; electrical conductivity of electrolytic liquids; electrochemical analysis; electrochemical electrodes; electrolysis; electrolytic devices; electrophoresis*
 charged surfaces with intervening electrolyte soln., electrical double layer forces, Monte Carlo study 4-57566
 colloid science, interparticle forces, review 4-52062
 Debye-Huckel theory of electrolyte solns. 4-57568
 differential scanning coulometric titrimetry 4-21482
 double layer, galvanomag. effects 4-57578
 double layer electrical field influence on convection (*Russian*) 4-38890
 electric double layer, structure at uncharged surface, dielec. step model 4-35044
 electrical double layer, finite length dipole model 4-50160
 electrochemical reactors with gas evolving mesh electrodes, mass transfer characts. 4-52021
 electrodes, electrochem. and photochem. processes, Mirage effect studies 4-41225
 electrodes, porous, electrochemical reactions, electrolyte conc. and electrode pot. variation effect, diffusion rate 4-16662
 European Community solar programme, photochemical and photobiological research 4-57747
 fixing solution regeneration, cathodic process investigation (*Russian*) 4-16665
 fuel cells as electric vehicle power sources, electrochemistry 4-41335
 gallium phthalocyanine electrodes, photoelectrochem. response using two-photon photocurrent spectroscopy 4-45877
 graphite, rotating pyrolytic electrode for Raman spectroelectrochemistry 4-51260
 graphite electrodes, electrodes, polymer bound, reversible electrochemical intercalation of anions from aqueous soln. 4-46773
 graphite intercalation compounds, conf., Pont-a-Mousson, France (May 1983) 4-42591
 III-V semiconductors, electrochemical selective etching and photoelectrochem. behaviour in H₂O₂ redox system 4-40040
 industrial appl. (*Italian*) 4-57564
 intercalation and semicond. intercalation cpds., photo-electrochemical studies 4-35924
 LF EM current induction in biological systems electrochem. and elec. aspects 4-35991
 low-conductivity liquid, charging in pipe flow with surface electrochem. reaction 4-5976
 metal/electrolyte interface, surface elastic wave propag. 4-39650
 metallic glasses, corrosion resist. and catalytic behaviour 4-46637
 metals, fatigue measurement and imaging, electrochem. method 4-35824
 methanol, photoinduced oxidation reaction on TiO₂ semiconductor electrodes 4-57581
 organic vapours, electrochem. transform. for CO₂ laser 4-49323
 passivity of metals and semiconductors, conf., Bombannes, France (May 1983) 4-53390

electrochemistry continued

- Pb-acid cells, reactions at Pb electrodes in H₂SO₄ near equilibrium potential 4-52020
 poly(3-methylthiophenylene)-film, electro-chemical prep. and elec. cond. 4-20659
 poly(p-phenylene sulphide) films, photoelectrochemical effect 4-36016
 polyacetylene, electrochem. oxidation, battery appl. 4-41330
 polyacetylene electrodes in Li cells, electrochemical study 4-52127
 polymers, conducting, stability, electrochem. studies 4-12374
 polypyrrole film containing AsF₆ group, electrochemical prep. and elec. cond. 4-20660
 polypyrrole polymers, electro-generated, phys. and electrochemical props., appl. to photoelectrochemical cells 4-3470
 polyselenophene, conducting polymer, electrochem. polymerisation 4-15866
 polythiophene film containing AsF₆ group, electrochemical prep. and elec. cond. 4-20660
 porphyrin/semiconductor or insulator oxide interfaces, electron exchange, photoacoustic spectroscopy, mirage effect detection 4-41224
 radwaste treatment by electrochemistry 4-32987
 semiconductor surfaces, photoelectrochemical etching, photoelectrochemical solar cells appl. 4-41030
 slow discharge theory, conc. variable 4-57573
 solar energy storage and utilisation 4-7828
 solid-electrolyte interface phys. phenomena in surface science language 4-30994
 spectroellipsometer, microprocessor controlled, for electrochem. system study 4-43018
 spongy electrodeposits form. on inert substrate at low overpotentials, mechanism 4-16346
 steel, austenitic stainless, corrosion fatigue, electrochem. aspects 4-21392
 steel, austenitic stainless, passive behaviour in H₂SO₄ by corrosion under friction 4-57454
 steel, C, and metal coated, corrosion fatigue, electrochem. aspects 4-21392
 steel, structural, corrosion fatigue, seawater effects 4-21395
 steel fatigue failure in aggressive environments, adsorpt., dissoln., and H embrittlement processes 4-21393
 technological advances (*Italian*) 4-57563
 transformer oil, cond., I addition influence (*Russian*) 4-6534
 water, dielectrically nonhomogeneous boundary layer, standard chem. potential calc. 4-15356
 Ag electrodes, surface enhanced Raman scatt. enhancement by addition of pyridine to electrolyte 4-40425
 AgI-Ag₂MoO₄/metal interface, electrode processes 4-41227
 AgI-Ag₂O-B₂O₃-P₂O₅ glasses, ionic transport, thermal stability and electrochemical behaviour 4-39585
 Al alloys, fatigue measurement and imaging, electrochem. method 4-35824
 Al strips, phase slip centres, energy gap and electrochem. pot. study 4-15989
 Au electrode, photoelectron and photohole emission processes in aqs. soln. 4-52017
 Bi₂Sb₂-S₂ solid solns. use as photoelectrodes (*French*) 4-30018
 Cd dendrites form. during electrodeposition on Ni and Cd substrates in alkali media, morphology 4-16304
 Cd dendrites form. during electrodeposition on Cd substrates in acidic media, morphology 4-16305
 n-CdIn₂S₄/aqueous electrolyte interface, photoelectrochem. characts. (*French*) 4-40041
 p-Cd_{1-x}Zn_xTe electrolyte junction, photoelectrochem. studies 4-45872
 Co-Ni-O system, study by differential scanning coulometric titrimetry 4-21482
 Cu (100) face, elec. double layer with specific chloride ion adsorpt., quasi-mol. model 4-57572
 Cu, adsorption of haloacetic acids, anodic polarisation obs. 4-51863
 Cu, adsorption of O₂, electrochem. determ. and AES study 4-34798
 Cu/Rb₂Cu₁₆Cl₁₃/Cu₂MoS₈-y/Pt electrochem. cell for Cu conc. determ. 4-45110
 Cu-Zr(Ti), amorphous and microcryst., corrosion behaviour, electrochem. characts. 4-46650
 Cu₂MoS₈-y, (0 ≤ y ≤ 0.4), electrochemical investig. influence of S deficit (*Japanese*) 4-26213
 CuS_x, oxidation levels, paste-electrode voltammetric study 4-52071
 Fe, Armo, corrosion fatigue, electrochem. aspects 4-21392
 Fe electrodes, electrochemical kinetics in aq. electrolytes 4-57413
 Fe passivation study using spectrophotoelectrochem. and Raman spectroscopy 4-46770
 Fe, passive films formed in borate solutions, electrochem. and ellipsometric study 4-57418
 Fe₂O₃ electrodes, prep. by spray pyrolysis, photoelectrochemical behaviour 4-46771
 α-Fe₂O₃, passivity in neutral solns., spectrophotoelectrochemistry study 4-57462
 α-Fe₂O₃, polycrystalline, photo-oxidation, diffusion controlled and transient photocurrents 4-45873
 α-Fe₂O₃ sintered electrodes, photoelectrochem. behaviour 4-15959
 α-Fe₂O₃:TiO₂ sintered electrodes, photoelectrochem. behaviour 4-15959
 Fe₃O₄, passivity in neutral solns., spectrophotoelectrochemistry study 4-57462
 Fe₉₀P₁₀ amorphous alloy, electrochem. props. and passivation 4-57444
 FeS₂-H₂O, photoelectrochemical reactions, anodic photocurrents obs. 4-16663
 GaAs, self-dissolution mechanism in oxidising electrolyte solns. 4-57576
 H₂ evolution from p-type semiconductors with small metal aggregates on surface 4-41353
 HgI₂, red, insulator-electrolyte interface, photoelectrochemistry 4-40019
 InP/electrolyte interface, hot carrier injection of photogenerated carriers 4-15956
 IrO₂ films, voltammetric anal. and open-circuit pH response 4-7732
 Li battery, use of transition metal trichalcogenides as cathodes 4-31084
 Li-SO₂ high power chemical current source electrochemical processes 4-35993
 Li₂Ti_{1-y}MyS₂ (M = V, Cr, Fe), prep., chem. and phys. props. 4-20175
 Mn, electrodeposition from electrolyte with impurities, effect of (NH₄)₂SeO₄ addition (*Russian*) 4-57116
 MoSe₂ (0001) Van der Waals surface struct., LEED, AES, and electrochem. meas. 4-34765
 NH₃, plasma chemical synthesis, electrode material effect 4-16660
 Nb low pressure plasma sprayed coatings, electrochemical behaviour 4-21168

electrochemistry continued

- NiOOH layers, form., ion and electron transfer, inhibitor effect 4-57415
 Pb/acid cells discharge performance, influence of acid diffusion into electrodes 4-35999
 Ru complex, Ru(II) bipyridyl complexes, spectro-electrochem. studies 4-25776
 S deposition and reaction on Ag electrodes 4-16347
 Sn electrode in aqs., soln. of acetone, photoemission currents meas. 4-30992
 2H-TaS₂ crystals, electrointercalation, in situ dilatometry and supercond. props. 4-25467
 TaS₂-2H, electrochem. intercalation of K⁺, TDPAC studies 4-11821
 TiO₂ film surface modification by oxalic acid, influence on photographic, photoelec. and electrochem. characts. (*Russian*) 4-48236
 V₂O₅-P₂O₅ semiconductive glasses, electrochemical props. 4-41226
 W electrodes in molten nitrates, formed film charact. by XPS and electrochemical studies 4-26091
 WSe₂ electrodes, photoelectrochemistry of stepped and smooth surfaces 4-45874
 Zn-Br battery, electrical energy storage 4-57712
 ZrS₂ intercalation cpd. with Li, electrochemical and X-ray diff. studies 4-55806
 Zr_{1-x}Ti_xS₂ cryst. growth, characterisation and photoelectrochem. props. 4-40616

electrochromic devices

- fluorides, F⁻ ion conductors, props. and appl. 4-6555
 WO₃, colloidal, electrochromism, reversible display device appl. 4-40419

electrochromism

- p-amino-nitrobenzene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 anodic oxide films, electrostriction and electrochromism, ellipsometric study 4-46352
 anthracene derivatives, solvatochromic data, excited electronic states, polarisability, solute cavity radii 4-14462
 aromatic hydrocarbons, solvatochromic data, excited electronic states, polarisability, solute cavity radii 4-14462
 2,2'-bithiophene, electrochemically polymerized heterocycles as electrochromic materials 4-24114
 p-dimethyl-amino-nitrosobenzene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 p-dimethylamino-nitrosilbene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 pyrrole, electrochemically polymerized heterocycles as electrochromic materials 4-24114
 solid state ionics, conf., Grenoble, France (July 1983) 4-31962
 Fe complex, iron(1,3-diketone)₃ charge transfer transitions, electrochromism spectra 4-1190
 IrO₃ films, voltammetric anal. and open-circuit pH response 4-7732
 Li₂O-Bi₂O₃-P₂O₅ glass, conduction bands 4-51241
 WO₃ amorphous films, electrochromism, impedance measurements (*French*) 4-40418
 WO₃, colloidal, electrochromism, reversible display device appl. 4-40419
 WO₃ polycrystalline electrochromic films, near-IR reflectivity modulation 4-30439
 WO₃·xH₂O, electrochem. props., influences of water adsorption and hydroxylation 4-25720

electrodeposited coatings *see electrodeposits***electrodeposited films** *see electrodeposits***electrodeposited layers** *see electrodeposits***electrodeposition**

- see also electrodeposits; electroplating*
 equipment, current density meas. and control instruments (*Rumanian*) 4-48155
 galvanostatic deposition, nonsteady, morphological instability, adatom diffusion effects 4-40683
 galvanostatic electrodeposition, nonsteady, morphological instabilities, adatom diffusion effects 4-40682
 layer formation kinetics, overpot. time depend. 4-57575
 metal deposit growth at nonequipot. electrodes, transient model 4-57571
 metal particles and films, electrodeposition by reducing redox polymer 4-25902
 metal powder, very fine, continuous electrolytic methods 4-51577
 metals and alloys, electrochemical method for visual detection of surface inclusions 4-16581
 poly 3-methylthiophene film, electrochemical growth for photovoltaic cell 4-40077
 polymers, electrically conducting, electrochemical synthesis 4-46763
 polypyrrole films, electrochemically prepared, mech. prop. 4-46769
 thiophene film, electrochemical growth for photovoltaic cell 4-40077
 selective absorbing surfaces in practice, review 4-41380
 solar cells, electrochemical, with layer type semicond. anodes, selective polyindole electrodeposition on electrode 4-26285
 spongy electrodeposits form. on inert substrate at low overpotentials, mechanism 4-16346
 Ag electrodeposition from ammonium complex salt solns., morphological aspects 4-16350
 Au plating, high speed, anodic bath degradation and search for stable low polarisation anodes 4-25901
 Au-Co metastable solid solns., electrodeposition and growth from melt 4-40689
 Cd dendrites form. during electrodeposition on Ni and Cd substrates in alkali media, morphology 4-16304
 Cd dendrites form. during electrodeposition on Cd substrates in acidic media, morphology 4-16305
 Cd, electrodeposition from acidic bath, demetalisation, specific anion adsorpt. 4-16348
 Cd, obtained with periodic currents under different soln. stirring conditions, surface morphology 4-57577
 CdS thin films, electrodeposition from aq. diethylene glycol solns. 4-21172
 CdTe, electrochemical deposition of photosensitive films 4-40686
 CdTe thin-film polycryst. solar cells, film prep. techniques 4-21543
 Cr, nucleation and growth characts. on amorphous substrates 4-50690
 Cr₂O₃-Cr (black chrome) selective solar absorber coating electrode position, Periodic Current Reversal effects 4-36028
 Cu powder, mixture prep. from optimised and electrolytic powders, characts. 4-7395
 Mn, electrodeposition from electrolytes with impurities, effect of (NH₄)₂SeO₄ addition (*Russian*) 4-57116

electrodeposition continued

- Ni film, galvanoplastic X-ray lenses fabrication, props. and appl. (*Czech*) 4-53812
 Ni-Co-Zn, electrodeposition, current density, pH effect 4-40692
 Ni-Fe, electrolytic codeposition, comp. rel. to cathodic potential 4-40691
 Ni-P electroless deposits for solar energy appl., blackening 4-41379
 Pb, electrodeposition from sulphamate soln., optimum parameters 4-3092
 Pt, nucleation and growth characts. on amorphous substrates 4-50690
 S deposition and reaction on Ag electrodes 4-16347
 W, C electrodeposited coatings for wear appl. 4-12038
 Zn, electrodeposition under pulsed current electrolysis, dissolved O, effects 4-57113
 ZnTe, electrochemical deposition of photosensitive films 4-40686

electrodeposits

- see also electroplated coatings*
 black nickel selective absorber, optimization of parameters 4-57763
 paint electrodeposition, glass flake coatings, review (*Japanese*) 4-51876
 solar selective absorber coatings development for high temp. applications 4-36030
 Ag electrodeposition from ammonium complex salt solns., morphological aspects 4-16350
 Ag-Co electrodeposits, Auger anal. for light elements 4-45174
 Au, mech. props. 4-3213
 Bi₂S₃ film, cathodic electrodeposition, struct. and composition charact. 4-34816
 Cd, obtained with periodic currents under different soln. stirring conditions, surface morphology 4-57577
 CdS polycrystalline films, bath deposited, photosensitivity and optical props. (*Korean*) 4-16262
 CdS-CdTe heterojunction, electrochem. deposited, current transport mechanisms 4-35051
 CdTe thin films, electrodeposited, hole traps, SCL current meas. 4-56462
 Cr-P amorphous electrodeposits, positron lifetime studies 4-51404
 Cr electrodeposits, positron lifetime studies 4-51404
 Cr-V-Mo electrolytic coatings, microhardness, internal stresses, comp. depend. 4-3285
 CrN film on Cu substrate, high performance low cost solar-selective absorber, development 4-31120
 Cu, on polycryst. W filaments, effect on deform. characts. 4-57391
 Cu-Cd (2 wt.%) thin layers, internal friction and shear modulus studies 4-40872
 Cu-Pb alloy films electrodeposited on single-cryst. Cu (111), structure 4-25183
 Fe electrolytic coating on steel, fatigue limit reduction 4-3234
 Ni on anodized Al alloys, relation between film microhardness and metallic coating adhesion 4-3291
 Ni thin layers, internal friction and shear modulus studies 4-40872
 Ni-B composite electrolytic coatings, struct. and phase comp. 4-3288
 Ni-Co-Zn, electrodeposition, current density, pH effect 4-40692
 Ni-Fe, electrolytic codeposition, comp. rel. to cathodic potential 4-40691
 Ni-P amorphous electrodeposits, Hall effect and IR reflectivity studies 4-45740
 Ni-P electroless deposits for solar energy appl., blackening 4-41379
 Ni-P films, crystn., electron diff. study 4-24735
 Ni-Si C, codeposited composite coatings, bond strength, surface roughness rel. to heat treatment 4-46659
 Pd, adsorpt. of Ag atoms, tracer atom investig. 4-50641
 Pd, sorption props., effect of Bi 4-57574
 Pd-Ni electrodeposits on electric connectors, properties, comparison with AuCo and Pd+AuCo-flash 4-46665
 Zn, electrodeposition under pulsed current electrolysis, dissolved O, effects 4-57113

electrodes

- see also anodes; cathodes; electrochemical electrodes; electron tube components; microelectrodes*
 p-amino-nitrobenzene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 anthracene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 bioelectric signal recording rel. to electrode noise 4-31353
 calculation of the corona discharge field for axially symmetric electrode systems (*Russian*) 4-20047
 ceramic, design for ion mobility spectrometer 4-3433
 dielectrics, conduction and breakdown phenomena rel. to electrodes 4-16151
 p-dimethyl-amino-nitrosobenzene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 p-dimethylamino-nitrosilbene adsorbed on polished Pt electrode, struct. and prop. anal. using modulation reflectance spectroscopy 4-45493
 ear canal electrode for electrocochleography 4-58026
 elastic wave excitation by pulse elec. discharges 4-44880
 electron biprism central electrode prod. using ion beam thinning technique 4-48267
 electrosurgical dispersive electrodes, use for ventricular defibrillation 4-52526
 endocardial electrodes for continuous electrostimulation, improvements 4-3648
 Fe-air secondary battery: improvements in the air electrode 4-7856
 fibre structure, for secondary batteries (*German*) 4-12464
 graphite, rotating pyrolytic electrode, Raman spectra 4-51260
 graphite electrodes, spark source mass spectrometry 4-35958
 HF bipolar discharge burning on autoemission and thermoemission electrodes 4-10916
 Inconel 718, vacuum consumable arc remelting in sustained high-current arcs 4-24663
 interaction of electric arc discharge with surface of electrodes made from multiphase silver-based materials 4-39036
 ion selective electrodes, problems in measurement (*Dutch*) 4-37114
 ion-selective electrode system, AM 721, for Na and K estimation in plasma, urine and whole blood 4-47096
 mass transfer in electrospray alloying (*Russian*) 4-7628
 metal/plastic-compound electrodes for alkaline batteries 4-7857
 nonuniform electric fields, electrode system optimisation 4-49231
 oxide and passive layers on electrodes, model for electron transfer reactions 4-56466
 passivated, voltage meas. with SEM 4-32281
 performance of CMG nickel hydroxide electrodes as a function of their structure 4-7860
 plasma electrodes for electro-optical switch appl. 4-44195

electrodes continued

- polyvinylidene fluoride electrets, polarisation distribs., electrode material effects, thermal pulse method, pyroelectric coeff. meas. 4-2866
- polyacetylene electrode in Na-polyacetylene cells 4-52126
- polyacetylene electrodes in Li cells, electrochemical study 4-52127
- single-chip programmable pacemakers, new range, technical details (*Swedish*) 4-17023
- skin surface electrodes, individual, impedance meas. technique 4-12715
- speech, surface electromyography, miniature electrode 4-17012
- suction electrode net for precordial ECG mapping 4-31348
- superconductor-normal-superconductor variable-thickness bridges, stationary props., influence of proximity effect in electrodes 4-50999
- system for determination of electrical characteristics of solid dielectrics with irregular surfaces (*Russian*) 4-4417
- uniform-field electrodes with min. width 4-55065
- vacuum chamber, electrodes installation; sealing, dopant source chambers for semiconductor industry 4-13651
- water on immersed electrodes, ATR studies 4-45492
- Ag, adsorbed layers, charge transfer excitation, surface enhanced Raman scatt. 4-46239
- Ag, adsorbed quinoxaline, surface enhanced Raman spectra 4-35423
- Ag, electrode surface, laser damage, intense Raman scatt. from Ag-KCN-Na₂SO₄ system 4-31024
- Ag electrodes, surface enhanced Raman scatt. enhancement by addition of pyridine to electrolyte 4-40425
- Au electrode, photoelectron and photohole emission processes in aqs. soln. 4-52017
- Au strongly adhesive electrodes on Melinex, phys. props. and microstruct. 4-15794
- Fe electrode with passive film, capacity and photocurrent meas. 4-56431
- Fe electrodes, electrochemical kinetics in aq. electrolytes 4-57413
- α -Fe₂O₃ electrodes, photodecomposition of water, surface studies (*Chinese*) 4-57589
- Fe₂O₃ electrodes, prep. by spray pyrolysis, photoelectrochemical behaviour 4-46771
- α -Fe₂O₃ sintered electrodes, photoelectrochem. behaviour 4-15959
- α -Fe₂O₃/TiO₂ sintered electrodes, photoelectrochem. behaviour 4-15959
- HfO₂ passive electrodes, Xe⁺(Pd⁺) ion implantation effect on electrochem. behaviour 4-55855
- Li-NbS₂ battery with oxide-based electrodes, rechargeable, cycling behaviour evaluation 4-7864
- Li, TiS₂ electrodes in secondary batteries 4-52134
- β -Li₂V₂O₇ electrodes for Li cells 4-52124
- Li₂V₆O₁₃ electrodes in secondary batteries 4-52134
- Ni, vacuum consumable arc remelting in sustained high-current arcs 4-24663
- Pb electrode, potentiodynamic and cyclic voltammetrics in H₂SO₄ solns. 4-46656
- Pb-acid battery, deltapore non-woven battery separators and electrodepack assembly technique 4-7851
- Pb-acid battery, role of the macrostructure of industrial tubular type positive electrodes 4-7848
- a-Si solar cells, optical confinement by MIS tunnelling back surface electrode 4-52154
- Sn electrode in aqs., soln. of acetone, photoemission currents meas. 4-30992
- TiO₂ passive electrodes, Xe⁺(Pd⁺) ion implantation effect on electrochem. behaviour 4-55855
- TiO₂ semiconductor electrode, photoinduced methanol oxidation 4-57581
- YCrO₃ sintered refractory, heat treatment, physical props., MHD electrode appl. 4-3112
- ZnO transparent electrodes fabricated by RF magnetron sputtering, stability study 4-40095

electrodynamics

- see also electron beams; electron optics; electron tubes; ion beams; ion optics; ion sources; quantum electrodynamics*
- Birkhoff's theorem in electrodynamics, proof 4-53412
- blackbody radiation spectrum from equivalence principle in classical phys. and EM zero-point radiation 4-47887
- bound states of electrons in a light field 4-1327
- boundary-value problems digital solution (*Polish*) 4-19344
- Brownian charged particle in alternating elec. field, harmonic mixing 4-23874
- charged particle diffusion and acceleration in turbulent elec. fields 4-49251
- charged particle in EM field, relativistic motion, Lorentz group, Thomas precession 4-47863
- charged particle motion in an elec. field 4-19348
- charged particle trajectory in RF electromag. field, higher-order approx. 4-44033
- charged particles, lightlike contractions on Minkowski space-time 4-54942
- charged particles in longitudinal electrostatic wave and static mag. field, large-scale chaotic motion 4-33597
- classical dipole oscillator in classical EM zero-point radiation, thermal effects of accel. 4-47886
- classical model of electron 4-4242
- classical scalar electrodynamics, instability of strongly charged sources 4-4241
- crystals, Hamiltonian with multipole transitions, theory 4-27313
- differential forms as basis for vector anal. appl. 4-22559
- elastic dielectric dynamics, Lagrangian density 4-24346
- electric and mag. charges energy loss in matter 4-23525
- electron, light scatt. in mag. and microwave fields 4-38377
- electron beams, transition to chaos in EM field 4-14632
- electron in mag. field constrained by electrostatic central force 4-32011
- electron motion in longitudinal wiggler and radiation wave fields, detraping stochastic particle instability 4-44030
- electron movement in accelerating electrical and rotating magnetic fields (*Russian*) 4-33229
- fiber gyrometer in a gravitational field 4-28857
- invariant EM and energy-momentum tensors under Weyl transformations 4-36986
- isotropic sphere, variable toroidal current, EM field, Maxwell eqn. soln. 4-38374
- isotropically averaged polarisation and magnetisation fields 4-23875
- macroscopic Maxwell eqns. derivation from classical electrodynamics formulation 4-54898
- mass renormalization in classical electrodynamics 4-22553

electrodynamics continued

- metal cylinder, conducting bar of infinite length, electrodynamic forces, generation by s/c current 4-28596
- moving point charge, radiation rel. to instantaneous development of gyration in medium 4-38379
- multipole expansions and intense fields 4-38378
- nonlinearity problems in electrodynamics 4-10219
- nonlocal equations of nonlinear electrodynamics 4-108
- nonlocal interaction of electromagnetic fields with elastic body 4-1317
- nonrelativistic charged particles, radiation friction force, 'relativistic' effects 4-44031
- phase gratings, 3D, electrodynamic perturbation theory of light diff., second and third approx. 4-55177
- quasiclassical trajectory-coherent states of particle in arbitrary EM field 4-27335
- quasistatics, Ollendorff-Cerenkov electrodynamics and moving media 4-28587
- radiation processes in a constant homogeneous field and a plane wave 4-17717
- random, radiation from moving mirror, QED analogy 4-4239
- random electrodynamics, derivation of intrinsic spin 1/2 4-110
- relativistic particle radiation spectrum in EM field (*Russian*) 4-23878
- relativity and geometry, book 4-31995
- review of M.A. Leontovich's researches in electrodynamics 4-32015
- rotating electron beam in crossed fields: space charge and nonlinear effects 4-28610
- skin effect in cylindrical segments placed in a harmonical transverse magnetic field 4-28597
- solar flares, electrodynamic effects in beam/current return systems rel. to impulsive radio bursts 4-53111
- spacedispersive crystal optic electrodynamics multipole expansions and generalised F-sum rules 4-28588
- speed of light barrier in classical electrodynamics 4-27312
- static field interactions 4-10218
- stochastic, harmonic oscillator zero-point field system 4-13525
- stochastic, zero-point field 4-13524
- stochastic electrodynamics for free particle 4-27310
- three-dimensional magnetic binary problem, symplectic nature 4-27116
- transcendental equations solution, differential equations solution 4-49250
- transient problems solution using finite element anal. (*Polish*) 4-33600
- transition radiation of acoustic gravity waves for vertically moving point mass source 4-14830
- ultrarelativistic electrons, stimulated emission in elec. and mag. fields 4-23877
- uniformly accelerating charge, EM field 4-32061
- zitterbewegung in stochastic electrodynamics, implications on zero-point field acceleration 4-17356
- H, classical random electrodynamics 4-43790
- electrodynamometers** *see dynamometers*
- electroencephalograms** *see electroencephalography*
- electroencephalography**
 - see also bioelectric potentials; biomagnetism; brain*
 - alpha wave, cardiac hypothesis for origin 4-41489
 - amplifier of bioelectric potentials with RC-circuit, recovery time reduction 4-16999
 - analysis methods, comparison (*Russian*) 4-36250
 - auditory brainstem potentials and EEG spectra, simultaneous meas. 4-26543
 - brain tumour, compressed spectrum array, digital spectral anal. (*Chinese*) 4-31342
 - channels, small time differences between, meas., method and epileptic seizure propag. appl. 4-26541
 - digital signal processing system for EEG frequency analysis 4-26554
 - dynamic imaging freq. anal. in clinical EEG 4-58024
 - epileptiform spikes in human brain, underlying spatially distrib. sources, neuromag. evidence 4-47014
 - frequency components of short duration, Fourier anal. resolution 4-31345
 - minicomputer assisted audiometry system, signal processing based design 4-41640
 - paraxysmal spike and wave activity in drowsiness in young children 4-26374
 - practical aspects of EEG monitoring during carotid endarterectomies 4-52507
 - signal processing, identification and spectral estimation 4-41639
 - spectral content topography, alterations in schizophrenia 4-16852
 - synchronisation of an EEG average by real-time detect. of precise EMG onset 4-58025
 - topogram, an aid in describing EEG to the clinician 4-26540
- electroendosmosis** *see electrophoresis*
- electroerosive machining** *see spark machining*
- electrofluidynamics** *see electrohydrodynamics*
- electrofluorescence** *see electroluminescence*
- electroforming**
 - chalcogenide semiconductors, amorphous, threshold-switching voltage stability, γ -irrad. and elec. forming effects 4-6841
 - hydro spark forming, wave form and discharged energy through spark gap (*Japanese*) 4-25904
 - metal, electroplastic deform., review 4-57304
 - metal fabrication applications 4-3094
 - surface forming, electrochem., by sectional tool with current switching during treatment, precision (*Russian*) 4-41019
 - video discs, process factors 4-57129
 - Ag electroformed thin films, reversible humidity-sensitive switching (*Japanese*) 4-35032
 - Ni electroplating, engineering and electroforming appl. 4-51559
- electrogasdynamics** *see electrohydrodynamics*
- electrohydrodynamics**
 - p-n-alkyloxy-benzylidene-p-aminobenzonitrile nematic, EHD instability 4-39129
 - p-azoxy-anisole, nematic, low-freq. EHD instability 4-24722
 - chaotic regime of convective systems, strange attractors 4-10670
 - chiral smectic C phase, macroscopic dynamics 4-55710
 - cholesteryl chloride-laurate mixture, optical and EHD effects 4-40417
 - convective instabilities, strange attractor dimensions in chaotic regimes (*French*) 4-14948
 - dielectric in horizontal slots, boiling, heat transfer 4-19801
 - dielectric liquids, linear and nonlinear waves 4-5969
 - double layer electrical field influence on convection (*Russian*) 4-38890
 - drops, assemblage in elec. field, fluid motion and transport 4-1845

electrohydrodynamics continued

- electrorheological suspensions, temp. effect on dynamics 4-19868
- EM stirring in coreless induction furnace 4-44608
- energy stability anal. incorporating charge-diffusion effects 4-34196
- ferrofluid, jet flow in elec. and mag. fields 4-38858
- fibrous filters with electrical enhancement, internal collection efficiency, perturbation method 4-5952
- gas-filled thermal tube, elec. wind influence on heat transfer characts. (*Russian*) 4-38706
- 4-hexyloxyphenyl-4'-butylbenzoate-4-nitrophenyl-4'-heptylbenzoate, induced smectic A mesophase 4-34403
- highly purified, charge injection and transport anal. 4-35012
- insulating liq. under arbitrary unipolar injection, electrohydrodynamic stability (*French*) 4-15034
- ion source, EHD introduction of liquids into mass spectrometer, working characteristics 4-13714
- ionic melts, convection buildup, thermo-EMF electric field effect 4-38903
- jet, nonlinear breakup 4-34200
- KdV solitons in EHD, theory 4-3917
- liquid crystal binary mixture with induced smectic-A mesophase, dielectric and electrooptic props. 4-55720
- liquid drops, current change by electric field 4-34198
- liquid-metal columns confined by external parallel conductors and surface tension, 2D theory 4-44757
- liquid-metal columns confined by external parallel conductors and surface tension, shaping devices 4-44758
- liquid-solid separation in a molten metal by a stationary electromagnetic field 4-44755
- low-resistance fluid dispersion and transport in elec. field, aerosol stream characts. (*Russian*) 4-38891
- MBBA-p-methoxy benzylidene p'-cyano aniline mixtures, nematic, domain form., mol. alignment 4-39103
- nematic liq. cryst., electrohydrodynamic instabilities in inclined elec. field (*Chinese*) 4-55704
- nematic liq. cryst. flow, transverse viscous forces in Carr walls, EHD instabilities 4-39119
- nematic liquid crystal, EHD instability in mag. field, theory 4-50191
- nematic liquid crystals, EHD instability, external noise effect 4-24715
- nematic liquid crystals, electrohydrodynamic instability and dielectric anisotropy 4-20090
- nematic liquid crystals, freely suspended layers, vortex-EHD instability 4-15374
- organic liquid flow in pipes, electrification, electrohydrodynamic anal. 4-55450
- pentyl-cyano-biphenyl, electrohydrodynamic instability 4-20089
- periodic electrovortical flow in longit. mag. field 4-38839
- plasma flow, subsonic, probe elec. characts. 4-6022
- polar mol. immersed in fluid, electrohydrodynamic effects in dielectric relaxation 4-46179
- polyester, thermotropic nematic liq. cryst., electrohydrodynamic instabilities, molar mass depend. 4-55716
- pressure and velocity distribution around an obstacle immersed in liquid metal subjected to electromagnetic forces 4-44756
- pumps, EM 4-44752
- reciprocity in EHD 4-29200
- single-phase electromagnetic stirring in coreless induction furnaces 4-44754
- suspensions, heat and mass transfer control by elec. and mag. fields 4-34163
- thermal EHD induction pump with harmonics and inhomogeneous fluids 4-44750
- vaporisation and condensation in electric field, heat transfer 4-34195
- vapour-gas mixture, heat exchange during condensation, electrohydrodynamic action (*Russian*) 4-19793
- water-oil emulsions, behavior in high-freq. electromag. field (*Russian*) 4-5967
- waves generation on a running stream 4-5966
- Hg columns confined by external parallel conductors and surface tension, shaping devices 4-44758
- Si floating zones, electrodynamic convection 4-51482

electrojets

- see also ionosphere*
- auroral electrojet activity index and O I nightglow intensity covariations 4-58331
- auroral electrojet during geomag. disturbance, dynamical response of thermosphere 4-42235
- auroral electrojets, contribution of ionospheric conductivity and elec. field 4-13138
- auroral electrojets, rel. to struct. and morphology of F-region irregularities 4-22254
- equatorial anomaly of TEC and relation to dynamo electric currents 4-26927
- equatorial electrojet, due to quiet-day dynamo and solar disturbances 4-26916
- equatorial electrojet, Type I irregularities, nonlinear theory 4-13123
- ionosphere electric current densities, ground magnetometer and rocket sounding obs. 4-8351
- one metre irregularities in auroral electrojet, radar backscatter study 4-8350
- radio scintillation of transionospheric VHF signals due to equatorial electrojet 4-17342
- westward electrojet due to nearly pure Hall current 4-8351

electrokinetic effects

- see also electrodynamic; electrophoresis*
- cellulose aq. electrolyte soln. systems, streaming pot. and electrokinetic coeffs. 4-21483
- quartz, mechanically activated, electrokinetic props. 4-16659

electroluminescence

- see also phosphors*
- AC powder electroluminescence maintenance improvement 4-35491
- alkali-halide crystals in high electric fields 4-20665
- dislocations, theory of external electroluminescence 4-51347
- electrophotoluminescence and elec. props. of photosynthetic membranes 4-41452
- galvanoluminescence, nature and mechanism 4-2968
- LEDs, electroluminesc. delays, nanosec. time range 4-40535
- PET, electroluminescence for AC voltages 4-25812
- poly-p-xylylene films, vapor phase polymerised, thermally deactivated high field cond. and electroluminesc. 4-20662
- rare earth complex excitation mechanism 4-51356

electroluminescence continued

- rhodamine 610 dye, matrix isolated, dipole moments, polarisability, field modulated fluoresc. 4-33434
- ZnS:R, R=rare earth, DC electrolum. devices 4-51355
- Al/octaethylporphyrin/Ag film sandwich cells, UV electroluminescence study 4-21041
- Al-Al₂O₃-Mg(Ag) structures, investigation of visible emitted radiation 4-11602
- Al-Al₂O₃-metal tunnel junctions, light emission, role of multiple scatt. of surface polaritons 4-7250
- Al_{0.5}Ga_{0.5}As LED materials, organometallic VPE, growth temp. depend. 4-51522
- Al_{0.5}Ga_{0.5}P, high excitation photo-and electroluminesc. 4-21008
- Ar, liquid, current injection and light emission in divergent elec. field 4-50111
- CaS phosphors, electroluminesc. and photoluminesc. 4-51349
- CdF₂:Mn,Y electroluminescent MIS struts., degradation process 4-51348
- CdS:Te, electroluminescence and current flow mechanism (*Russian*) 4-56998
- GaAs bicrystals, impact ionisation near grain boundaries, electroluminesc. study 4-20661
- GaN, deep centre emission anisotropy 4-35492
- GaP p-n struts., nonclassical thermal injection currents, luminesc. study 4-11585
- GaP reverse biased diodes, electroluminescence spectra (*Russian*) 4-40537
- n-GaP/Langmuir-Blodgett film/Au electroluminescent structures 4-21043
- He, resonant electron elastic collisions, average energy variations 4-14573
- p-InAs/metal struct., elec., photoelec. and luminesc. props. 4-30072
- InGaP and InGaAlP, MBE grown, doping studies, elec. and optical meas. 4-15510
- n-InP semiconductor-liquid junction with dil. HNO₃ injection electroluminesc. 4-30510
- Mg-MgO-Au structures, investigation of visible emitted radiation 4-11602
- Si p-n junction, forward-biased, electroluminesc. by radiative recomb., leakage current study 4-30060
- a-Si:H p⁺-i-n⁺ cells, electroluminesc. detected ODMR 4-40281
- a-Si:H p-i-n junctions, luminescence phenomena 4-40508
- SiC diodes, prebreakdown electroluminescence emission (*Russian*) 4-40536
- SiC, neutron irradi., D₁ centres, vibr. struct., absorpt. and luminesc. spectra 4-30494
- SiC:Al, 6H polytype, CVD epitaxial growth, Al doping using metalorganics and luminesc. props. 4-30644
- a-Si₃-C₆₀H₆ AC electrolum., polarisation effects 4-40534
- SiO₂-RF₃ thin films (R=Ti, Eu, Sm, Tm, Dy), electrolum. characts. 4-51533
- SnO₂-ZnS-Cu₂S-ZnS:Mn-Al thin film structures, electrolum., short pulse excitation 4-30551
- SrTiO₃ single cryst., electroluminesc., at low temps. 4-11943
- Xe, liquid, current injection and light emission in divergent elec. field 4-50111
- ZnO luminophores, grain size effect on photoluminesc. and electroluminesc. 4-30505
- ZnS DC electroluminescent film, Cu electromigration rel. to emission degradation 4-51351
- ZnS electrolumino-phors, aging in presence of moisture 4-21042
- ZnS:Cu, Br(Al), AC powder electrolum. deterioration, ESR and X-ray diff. study 4-25813
- ZnS:Cu,Mn,Cl, electroluminescence in Cu₂S-ZnS:Cu, Mn, Cl-Al structures 4-16254
- ZnS:Cu electrolumino-phors, ageing and restoration processes, moisture effects 4-51350
- ZnS:ErF₃, YbF₃ phosphors, electroluminescence, IR-to-visible conversion (*Japanese*) 4-16253
- ZnS:Mn, heavily doped, electroluminescence study 4-46334
- ZnS:Mn and ZnS:TbF₃ films, RF sputtered, DC electroluminesc. 4-11942
- ZnS:Mn electroluminescent films, growth by atomic layer epitaxy and electron beam evaporation 4-25186
- ZnS:Mn films, electroluminescent, microstructure rel. to deposition method, TEM obs. 4-2468
- ZnS:Mn MISIM thin film electroluminescent display devices, electron impact excited luminesc. 4-16252
- ZnS:Mn thin film struts., electrolum. decay kinetics, conc. and field depends. 4-51354
- ZnS:Mn thin films, with chalcogenide glass control layers, DC electrolum. 4-25814
- ZnS(Se), MOCVD growth rel. to luminesc. props. 4-51352

electroluminescent devices *see luminescent devices***electrolysis**

- see also anodisation; electrical conductivity of electrolytic liquids; electrodeposition; electroforming; electrolytic dissociation; electrolytic ion mobility; electrolytic machining; electrolytic polishing*
- alkaline water electrolysis, advanced-stage, developments, for H₂ production 4-35911
- alkaline water electrolysis, at forced convection, ohmic potential drop 4-57579
- dielectric problems with electrolytic tank 4-8695
- double layer, dielectrically nonuniform, in dil. electrolytes, continuous struct. 4-52024
- electric double layer, temp. jump investig. 4-52023
- flow cell, mag. field effects 4-55449
- functional membranes, review 4-52054
- glass, pyrex, elec. double layer props., thermal and radiation control 4-35913
- heavy water production and electrolysis, new hydrogen technology development 4-32994
- HYFIRE Tokamak thermal energy for electrolysis appl. 4-9510
- large-scale solar energy utilisation by conversion to hydrogen 4-3484
- metalloporphyrins, aq. solns., redox chem. investig. 4-30965
- microgravity research with sounding rockets, materials science expts., review 4-12320
- molten salt chemistry, book 4-4175
- photovoltaic electrolysis of water for H₂ production 4-57731
- silica, vitreous, elec. double layer props., thermal and radiation control 4-35913

electrolysis continued

- steel, electrolytic nitriding preliminary high-temp. thermomech. treatment effect (*Russian*) 4-41056
- steel, low-C, anodic electrolytic heating, surface-active substances influence (*Russian*) 4-7629
- steel wire, switching system of electrolytic descaling (*Russian*) 4-7630
- thioxine, diffusion coeff., voltammetric determ. 4-46849
- water, polymers and copolymers used for separators, preparation and characteristics (*Italian*) 4-7755
- water electrolysis by polyethylene based membranes electrolytes for H prod. (*French*) 4-16805
- wire, drawn, combined electrochem. cleaning and surface layer removal method (*Russian*) 4-41055
- β - Al_2O_3 - Na_2O , deterioration in Na environment, supersaturation model, rel. to Na-S battery 4-36002
- CO_2 laser, OH catalyst control via NbH_x - H_2 equilb. 4-33641
- CaF_2 , investigation of thermodynamic props. of SrAl_2O_9 by EMF method 4-56048
- $2\text{CdO} \cdot \text{CdSO}_4$, thermodynamic props. meas. in high-temp. galvanic cells 4-45363
- H, electrolytic gas generation, heat transfer enhancement mechanism, photographic study 4-44340
- H evolution, intense electrochem. SERS signal 4-43888
- H_2 , electrolytically produced, economics and potential in Canada 4-36036
- H_2 production, electrolytic and thermochemical, using central receiver solar systems, assessment 4-41386
- H_2 production by large scale solar energy utilisation 4-12497
- H_2 production by solar energy water electrolysis 4-3485
- H_2 production from water using solar energy (*German*) 4-31108
- H_2 -fuel cells for electric cars, H_2 being produced by electrolysis in nuclear power plants, economics 4-3487
- H_2O electrolysis, magnetic field effects 4-57565
- H_3PO_4 , electrochemical adsorption on Pt, in situ Fourier transform IR spectroscopic study 4-34784
- KOH electrolytes, electrochemical diffusion coeff. determ. 4-30993
- MgO , single cryst., electrolytic coloration and elec. breakdown 4-40343
- Pt group metal catalyst-semiconductor suspension contacts, photoelectrochem. H_2 evolution 4-31124
- $\text{S}_2\text{O}_8^{2-}$, in ethylene glycol, electroreduction mechanism investig. 4-46772
- Se, electrolyte, Debye length determ. 4-52022
- SnCl_4 aq. soln. electrolysis, SnO_2 colloidal particles struct. changes obs. 4-16689
- SrF_2 , investigation of thermodynamic props. of SrAl_2O_9 by EMF method 4-56048
- $\text{Ti}_2\text{TiO}_x\text{Co}_3\text{O}_4$ pyrolytic films, Auger and vibr. spectrosc., electrochem. and photoelectrochem. meas. 4-46382
- p-ZnTe(Se), interface processes induced by dissolved oxidising species 4-26214

electrolytes

- for solid electrolytes see *superionic conducting materials*
- see also *electrolysis; superionic conducting materials*
- 1:1, in DMF-acetonitrile mixtures, elec. cond. and viscosity meas. 4-34683
- 1:1 electrolyte solns. in tetramethylurea, viscosity investig. 4-34685
- acid electrolyte solns. in ethylenediamine, struct., IR absorpt. spectra 4-39082
- alkali halide solutions in methanol (ethanol), elec. conductance meas. (*German*) 4-34680
- anionic dye trace diffusion coeff. through cationic polyelectrolyte soln., fluoresc. photobleaching study 4-6536
- aqueous soln., absolute ionic partial molal hydration volumes 4-24892
- biopolyelectrolytes-salt mixtures, ionic activity, Poisson-Boltzmann treatment 4-52253
- cellulose aq. electrolyte soln. systems, streaming pot. and electrokinetic coeffs. 4-21483
- charged surfaces with intervening electrolyte soln., electrical double layer forces, Monte Carlo study 4-57566
- conductivity meas. of electrolytic solutions and colloidal sols, using miniature-electrode probe 4-22796
- Debye-Huckel theory of electrolyte solns. 4-57568
- dielectric and struct. props., ion size and charge influence 4-11824
- dielectric decrement calc. 4-46178
- double layer, dielectrically nonuniform, in dil. electrolytes, continuous struct. 4-52024
- electrolyte-solution model, Monte Carlo simulation for divalent charged hard spheres of unequal diameter 4-29291
- equilibrium nonsymmetric Coulomb system, electric double layer theory 4-16664
- ethylenediamine, electrolytes effect, IR spectra 4-7185
- fluid phase equilibrium, conference, Callaway Gardens, GA, USA (April 1983) 4-22510
- glasses, electrochem. behaviour, absolute pot. value of vitreous, liq. and cryst. electrodes and EMF of respective galvanic cells (*German*) 4-3454
- Hall effect in dilute aqueous 1:1 electrolytes soln. (*French*) 4-50551
- 6,6-ionene, transition to counterion condensation study by electrophoretic mobility 4-39556
- ionic crystal, interfacial tension in aq. soln. rel. to solubility 4-3046
- ionic solutions, surface tension, Born-Green-Yvon hierarchy theory 4-2407
- Leclanche type batteries, electrolyte absorption capacity of conducting C blacks 4-52131
- melts, undercooled, electrochem. behaviour, absolute pot. value of vitreous, liq. and cryst. electrodes and EMF of respective galvanic cells (*German*) 4-3454
- metal electrode/electrolyte soln. interface, image forces and permittivity 4-11826
- nonaqueous electrolyte solns., materials for electrochemical technologies, survey 4-7731
- polyacrylic acid-polymeric heterocyclic amine complexes, struct. and props. (*Russian*) 4-14620
- polyelectrolyte, charged, at fluid-fluid interface, mol. configuration calc. 4-34755
- polyelectrolyte soln. dynamics, Debye-Huckel pot. 4-57567
- polyelectrolyte solns., counterion self-diffusion coeff. 4-34676
- polyelectrolyte solutions, salt-free, conc. effects and condensation 4-5525
- polyelectrolytes, cylindrical, dielec. saturation effects 4-2048
- polyelectrolytes, rodlike, electric birefringence and dichroism, orientation function 4-2896

electrolytes continued

- polyelectrolytes soln., Monte Carlo simulation of isolated chair, config. props. 4-34393
- polyethylene based membranes electrolytes for water electrolysis with a view for H prod. (*French*) 4-16805
- propionitrile/water two phase solvent physicochemical props. for Zn- Br_2 batteries 4-35998
- Raman and inelastic neutron scatt., vibr. anal. 4-56915
- solid-electrolyte interface phys. phenomena in surface science language 4-30994
- solubility in homogeneous mixtures of water-miscible organic solvent 4-15641
- solutions, bimorphic lattice theory, conductivity data 4-24707
- solutions, extension of UNIFAC model 4-24967
- solutions, phase equilibrium and thermodynamic props. 4-24966
- solutions, thermooresis through anion-exchange membranes 4-52051
- solutions, vapour-phase equilibria calcs. 4-24981
- tetraalkylammonium salt solutions in methanol (ethanol), elec. conductance meas. (*German*) 4-34681
- tetrabutylammonium ion, D_2O soln., hydrophobic hydration and mol. struct. 4-10950
- zincate, poisoning effect on NiO electrode in Ni-Zn battery 4-57711
- Ag-electrolyte interface, electroreflectance spectroscopic study 4-46232
- Ag-Zn secondary cell electrical discharge, effect of CO_2 absorption by electrolyte 4-16768
- Au-electrolyte interface, electroreflectance spectroscopic study 4-46232
- CdIn_2Se_4 in polysulphide solns., surface state characterisation by electrolyte electroreflectance spectroscopy 4-50922
- CdSe-electrolyte interface characterisation by modulated photoluminesc. 4-45878
- Cr_2O_3 -Cr (black chrome) selective solar absorber coating electrode position, Periodic Current Reversal effects 4-36028
- Cu-electrolyte interface, electroreflectance spectroscopic study 4-46232
- H_2 - O_2 alkaline fuel cells, Ti-doped Raney Ni catalytic props. improvement by $\text{Ni}(\text{OH})_2$ surface coating 4-21540
- H_2O -HCl-Mg Cl_2 conc. electrolyte soln., vapour-liquid equilibrium calcs. 4-24982
- IaG solid electrolyte formed in situ in Ag/ $\text{IaG}\beta$ / $2\text{I}_2\text{Pi}$ battery (*Spanish*) 4-31083
- KOH electrolytes, electrochemical diffusion coeff. determ. 4-30993
- Li-NbS $_5$ battery with oxide-based electrodes, rechargeable, cycling behaviour evaluation 4-7864
- Li-SO $_4$ high power chemical current source electrochemical processes 4-35993
- LiBF_4 -ZZ 4-46863
- LiBr aqueous solns., thermophysical props. correlation 4-24704
- LiCl D_2O , conc. solns., homogeneous nucleation of cubic ice 4-29570
- LiClO_4 -ZZ 4-46863
- LiPF_6 -ZZ 4-46863
- Ni anodic oxidation in KOH electrolyte 4-46351
- Pb acid cell for traction appls., prep. of high porosity PbO_2 4-16661
- Pd, electroplated layers, wear, corrosion and contact resistance comparison to roll milled Pd and Pd alloys 4-46666
- Pt/electrolyte interface, Cu adsorption, Mirage detection and polarisation modulation study 4-39668
- Si-insulator-electrolyte ISFET structures, pH sensitivity, surface potential, interfacial impedance 4-45858
- TiO_2 -aqueous electrolyte interface, surface state characterisation by electrolyte electroreflectance spectroscopy 4-50922
- ZnBr in ethyl acetate, glass forming non aqs. electrolyte, viscosity type study 4-39506
- electrolytes, solid see superionic conducting materials**
- electrolytic capacitors**
- Al foil, chemical composition and thermal processing parameters effect (*Polish*) 4-7780
- electrolytic conductivity of liquids see electrical conductivity of electrolytic liquids**
- electrolytic deposition see electrodeposition**
- electrolytic devices**
- nonaqueous electrolyte solns., materials for electrochemical technologies, survey 4-7731
- electrolytic dissociation**
- see also *electrolytic ions*
- photoelectrochemical H_2 production, water dissociation by electrolysis (*Dutch*) 4-36017
- H_2 production by electrolytic decomposition of water in fused hydroxides 4-3488
- electrolytic ion mobility**
- see also *electrophoresis*
- measurement by moving-boundary method 4-39549
- electrolytic ions**
- see also *electrical conductivity of electrolytic liquids; electrolytic dissociation; electrolytic ion mobility*
- No entries
- electrolytic machining**
- see also *electrolytic polishing*
- metals and alloys, electrochemical-ferromagnetic treatment (*Russian*) 4-7627
- steel, Ni-Mo, permanent mag., surface roughness, mag. props., electrochem. machining, alloying additions effect (*Russian*) 4-21336
- electrolytic polishing**
- see also *electrolytic machining*
- steel, austenitic stainless, coloration by immersion in hot chromic-sulphuric acid solns. 4-7645
- Au, passivation-depassivation behaviour in HCl-glycerol soln., appl. to electropolishing 4-57449
- Cu sphere, kinetics of electropolishing in H_3PO_4 4-3297
- $\text{Pb}_{1-x}\text{Sn}_x\text{Se}/\text{PbSe}$ heterostructure laser fabrication, CW operation 4-24014
- PbTe, electrolytically thinned, defect struct., X-ray transmission topography 4-50292
- electromagnetic absorption see electromagnetic wave absorption**
- electromagnetic compatibility**
- AC/DC circuit induced electromagnetic interference, models, physiological effects (*German*) 4-41565
- aircraft model, SEM parameters determ. from transient surface current 4-49206
- armoured cable industry, EM examinations (*French*) 4-43651

electromagnetic compatibility continued

conference, nuclear space and radiation effects, Gatlinburg, TN, USA (July 1983) 4-42582
 electromagnetic pulse generated by exo-atmospheric nuclear detonations (German) 4-54426
 EM pulses diffraction by wire structures (French) 4-44029
 EMP calc. for high-altitude explosion emitting X and γ photons (French) 4-48744
 EMP caused by ground level nuclear explosion, calc. (French) 4-48743
 ionising radiation EM field calc., at ground level, verification using nucl. explosion (French) 4-49209
 nuclear electromagnetic pulse protection for nuclear power plants 4-48607
 nuclear explosions, ground level, overhead lines/EMP coupling (French) 4-48745
 overhead conductor system EMP disturbances from nuclear explosions at ground level (French) 4-48746
 quasi-static EMP from surface nucl. explosion, numerical calc. 4-48741
 satellite system in SGEMP simulator vacuum tank, EM responses 4-53005

electromagnetic corrections

"electromagnetic corrections" is distinguished in use from "radiative corrections" by application to elementary particle and nuclear interactions
 see also radiative corrections
 $\pi^0 \rightarrow e^+e^- \gamma$, radiative corrections, two photon exchange effects 4-18267
 Cabibbo mixings and radiative corrections 4-13834
 charged Dirac particle in strong mag. field, ground-state energy, radiative corrections 4-43303
 conference on fundamental interaction theory, Varenna, Italy (Jul. 1980) 4-8646
 effective field theory calcs. of weak interaction ρ parameter 4-32717
 electron $(g-2)/2$ in QED, three-loop radiative corrections, analytic evaluation 4-48402
 electroweak theory, effective potential with radiative corrections, phase transition study 4-4590
 hadronic inclusive interactions, QCD radiative corrections to helicity asymms. 4-53951
 hadronic reactions, appl. to (π, π) , (π, p) , (K, K) on nuclei 4-18265
 heavy quarkonium states, decay modes, QCD radiative corrections 4-9103
 lepton-hadron interactions from supersymmetry radiative corrections 4-43373
 locally supersymmetric geometrical hierarchy model 4-4594
 $O(\alpha^2)$ corrections to muon lifetime, m_W and m_Z in $SU(2)_L \times U(1)$ theory 4-32525
 pseudoscalar meson decay to lepton pair, radiative corrections 4-4671
 QED, large loop integrals, reduction formula 4-53920
 quark mass radiative shift in external chromomagnetic field 4-18173
 $\sin^2 \theta$ radiative corrections in $SU(2)_L \times U(1)$ and $SU(5)$ GUT 4-48486
 $SU(2)_L \times U(1)$ weak interactions, decays radiative corrections, W^\pm , Z and Higgs 4-9052
 $SU(n)$ Higgs potentials, symmetry breaking patterns, renormalisation group effects 4-32479
 vector boson in const. mag. field, radiative shift of levels, gauge theory anal. 4-485
 vector meson leptonic widths, pot. model relativistic and radiative corrections 4-471
 weak gauge boson masses, radiative corrections from supersymm. 4-53923
 $e^+e^- \rightarrow e^+e^- \gamma$, QED radiative corrections to Bhabha scatt. 4-23001
 $e^+e^- \rightarrow \gamma, Z^0$, ff, polarisation and radiative corrections 4-43356
 $e^+e^- \rightarrow$ hadrons, 70 GeV, electroweak corrections to 1^-1^- production 4-32620
 $e^+e^- \rightarrow$ Higgs, radiative corrections in Weinberg model 4-43357
 e^+e^- high energy annihilation, energy-energy correlations, EM corrections 4-18266
 $e^+e^- \rightarrow \mu^+\mu^-$ at LEP energies, radiative corrections in standard $SU(2)_L \times U(1)$ electroweak model 4-466
 ep. pol. deep inelastic scatt., radiative corrections, elastic tail, peaking approx. (Chinese) 4-53997
 $\Lambda \rightarrow p e \bar{\nu}$, branching ratio, axial vector/vector form factor ratio, EM corrections 4-18246
 $\mu \rightarrow e \gamma$, EM corrections of order α^2 to asymmetry 4-4680
 νN inclusive deep inelastic scatt., electromagnetic radiative corrections 4-32716
 πN , Compton effect, EM corrections 4-9112
 $Z^0 \rightarrow n e \bar{\nu}$, branching ratio, centre-of-mass distrib., axial vector/vector form factor ratio 4-18247
 $Z^0 \rightarrow \Delta e \bar{\nu}$, branching ratio, axial vector/vector form factor ratio, EM corrections 4-18246
 $Z^0 \rightarrow S^0 e \bar{\nu}$, branching ratio, axial vector/vector form factor ratio, EM corrections 4-18246
 Z^0 mass and width determ. at pp collider radiative corrections 4-54018

electromagnetic decays

$\pi^0 \rightarrow e^+e^- \gamma$, radiative corrections, two photon exchange effects 4-18267
 hadrons M1 radiative transitions and proton charge radii in bag model 4-32622
 hyperon radiative decays, four-quark operators and Hara's theorem 4-4685
 light mesons, mass spectrum and radiative decays, nonrelativistic quark model anal., gluonium existence 4-48485
 meson decays, extended vector meson dominance dual model 4-4663
 pion decay params., constituent-quark model and baryon-loop model anal. 4-48484
 radiation amplitude zeros in radiative processes, null zone 4-53990
 $B \rightarrow \gamma e^+e^-$ search for $\xi(2.2)$ through decay to K^+K^- 4-53995
 $\chi \rightarrow J/\psi \gamma$, decay ang. correl. for J/ψ prod. via intermediate χ states 4-48505
 $\delta \rightarrow \gamma \gamma$, decay in model of mesons with quark loops 4-32713
 $\eta \rightarrow \mu^+\mu^- \gamma$, quark-loop anal. in soft-momentum limit 4-48451
 $\eta \rightarrow \mu^+\mu^- \gamma(\gamma\gamma)$, two-photon form factor, EM decay amplitudes in quark triangle model 4-18228
 $\eta \rightarrow \pi^+\pi^-\gamma$, decay in model of mesons with quark loops 4-32713
 $\eta_c \rightarrow 2\gamma$, power corrections from QCD sum rules 4-9111
 $\eta_c(\eta_b) \rightarrow 2\gamma$, partial widths taking account of spin-spin interaction 4-18264
 $\eta_c \rightarrow \gamma X$, inclusive γ spectrum meas. for gluonium-gluonball props. 4-4684
 $\eta \rightarrow \rho \gamma(\omega \gamma)$, decay in model of mesons with quark loops 4-32713
 f production and radiative width in $\gamma \gamma$ expts. at PETRA 4-48515

electromagnetic decays continued

$\gamma \gamma$ radiative widths for pseudoscalar and tensor mesons, fractional and integer charge quark models 4-32608
 $i(1440) \rightarrow \gamma \gamma$ and anomalous Ward identities for $U(1)$ problem in QCD 4-53950
 $J/\psi \rightarrow \gamma K K$, mass spectrum obs. struct. 4-18233
 $J/\psi \rightarrow \gamma \pi \pi$, mass spectrum obs. struct. 4-18233
 $K \rightarrow e \gamma$, relativistic quark model approach 4-23009
 $K_L \rightarrow \gamma \gamma$, $A_2(1320)$ contribution to decay rate 4-37384
 $K_L \rightarrow \gamma e^+e^-$, nonlocal quark model anal. 4-32712
 $\mu \rightarrow e \gamma$, EM corrections of order α^2 to asymmetry 4-4680
 $n \rightarrow \gamma K^0$, lifetimes and branching ratios from IMB detector 4-13898
 $\nu_i \rightarrow \nu_j \gamma$, Dirac and Majorana neutrino decay rates 4-37377
 $\omega \rightarrow \pi \gamma$, decay in model of mesons with quark loops 4-32713
 Ω^- decays, branching ratios, lifetimes 4-32689
 $\pi \rightarrow e \nu \gamma$, relativistic quark model approach 4-23009
 $\pi^0 \rightarrow e^+e^- \gamma$, quark-loop anal. in soft-momentum limit 4-48451
 $\pi^0 \rightarrow e^+e^- \gamma(\gamma\gamma)$, two-photon form factor, EM decay amplitudes in quark triangle model 4-18228
 $\pi^0 \rightarrow \gamma \gamma$, MIT bag model calc. 4-32710
 $\pi^+ \rightarrow e^+e^-e^+e^- \nu$, γ -param. determ. for radiative pion decay 4-53981
 $\pi^0 \rightarrow e^+e^- \gamma$, form factor for decay into Dalitz pair, invariance mass squared depend. 4-18261
 $\psi \rightarrow \gamma(\eta \gamma)$, partial widths taking account of spin-spin interaction 4-18264
 $\psi \rightarrow \gamma X$, $i(1440)$ obs., theoretical and expt. status 4-53996
 $\psi \rightarrow \gamma \gamma \rightarrow \rho^0 \rho^0$, production explanation 4-32711
 $\psi \rightarrow \eta \gamma$, allowed and hindered mag. dipole transition amplitudes in quarkonia 4-18263
 $\psi \rightarrow \gamma \gamma$, radiative transitions, Crystal Ball detector physics 4-32714
 $q \bar{q} \rightarrow q \bar{q} + \gamma$, Zweig-forbidden in perturbative QCD 4-18232
 $\rho \rightarrow \pi \gamma$, decay in model of mesons with quark loops 4-32713
 tt P-states, energy levels, production and decay calcs. 4-32631
 $T(1s) \rightarrow g \gamma$, direct photon spectrum, gluon self-coupling effect 4-18262
 $T(2S) \rightarrow \chi_{c0} \gamma$, decays obs. at CLEO 4-48482
 T allowed and hindered mag. dipole transition amplitudes in quarkonia 4-18263
 $T \rightarrow \gamma \xi$, search for $\xi(2.2)$ through decay to K^+K^- 4-53995
 T resonances, production, decay and transitions, fine and hyperfine struct. 4-32680
 $T \rightarrow \gamma T$, Crystal Ball meas. at DORIS II 4-32715
 $T \rightarrow \gamma \chi_b \rightarrow \gamma T \rightarrow \gamma e^+e^- (\gamma \mu^+ \mu^-)$, χ_b prod. obs. 4-9110
 $Z_0 \rightarrow e^+e^- \gamma$, anal. in composite weak boson framework. 4-53994
 $Z^0 \rightarrow e^+e^- \gamma$, integrated decay rate in standard $SU(2)_L \times U(1)$ model 4-484
 Z^0 radiative decays, branching ratio, composite scenario 4-48483

electromagnetic energy see electromagnetic waves

electromagnetic field theory

see also electromagnetic waves; electromagnetism
 Abraham-Minkowski controversy and EM momentum in static fields 4-32129
 azimuthally symmetric EM cavity modes, accurate reson. freq. determ. using numerical programs 4-54929
 bilocal approx. in strong fluctuation theory 4-19320
 blackbody radiation spectrum from equivalence principle in classical phys. and EM zero-point radiation 4-47887
 circular cylinder in rotating alternating plane-parallel electromagnetic field 4-46710
 classical dipole oscillator in classical EM zero-point radiation, thermal effects of accel. 4-47886
 computation of EM fields and forces, recent developments 4-54921
 conducting sphere on earthed plane in uniform perpendicular field, total field calc. 4-38370
 currents and fields on surface and interior of cavities, numerical calculation (French) 4-49232
 dielectric tube waveguide standard field generator, electromagnetic field spatial variation 4-10211
 diffraction problem, field representation in terms of sources in complex plane 4-44025
 dyadic Green's function, eigenfunction expansion 4-28598
 empty torus, toroidally uniform modes, perturbation theoretic calc. 4-14624
 energy and linear momentum radiated by two point charges 4-47888
 exact image theory for the Sommerfeld half-space problem with a vertical magnetic dipole 4-19341
 four-dimensional formulation, metric depend. and quantisation 4-47884
 Galerkin's method, comparison with Rayleigh-Ritz variational method and least squares method 4-19323
 generalised gravitational and EM fields, structural symm. and unification 4-42793
 Hermitian-Gaussian beam transformation in square-law medium exhibiting simple astigmatism 4-23871
 ideally conducting body with scattered field, one-to-one relationship, theoretical analysis 4-23861
 induced EMF, trigonometric spiral array field patterns study 4-19321
 inhomogeneous isotropic medium, EM field scalar eqns., coords. systems 4-47139
 integral equation for time domain anal. (French) 4-44020
 integral equations, time domain anal. (French) 4-44019
 least squares method, comparison with Rayleigh-Ritz variational method and Galerkin's method 4-19323
 mag. field, solenoidal condition in numerical calcs. 4-19334
 Maxwell eqns., hexonic, in six-dimens. space time 4-27373
 multilayer resonant structure EM field computation, particle accel. appls. 4-54910
 nonlinear conducting ferromagnetic media, plane EM wave penetration, polarisation 4-33591
 nonlinear two-dimens. field problems with sinusoidal excitation sources, soln. using first-order finite elements 4-54913
 nonlocal hidden variables and nonlocal gauge theories, EM field anal. 4-32117
 nonuniform field type EM-flowmeters (Chinese) 4-29212
 Pappas coordinate transformations from EM field eqns. invariance 4-32038
 Pauli-Fierz wave eqn. propag. in external EM field, causality violation 4-44016
 phased oscillator beam, motion randomness in self-consistent EM field 4-33589
 quasistatics, Ollendorff-Cerenkov electrodynamics and moving media 4-28587

electromagnetic field theory continued

- Rayleigh-Ritz variational method, comparison with Galerkin's method and method of least squares 4-19323
retarded EM fields, continuation of solns., math. formulation of Huygens principle 4-38372
RF EM field three-dimens. anal. by finite element method 4-54909
rotating bodies EM behaviour 4-54925
sea surface, multipath propagation 4-26891
single oscillator in plane EM wave field, motion randomisation 4-33589
squeezed minimum uncertainty states, multimode generalisation 4-47883
three-dimensional finite element computation, boundary Galerkin method 4-49229
toroidal resonators with circular cross-section, eigenmode and eigenfreqs. calc. 4-38369
transient fields in dispersive media, transmitted and scattered fields determ. 4-8758
two-dimensional interface problem in electromagnetics, boundary-element method 4-27311
unbounded field problems, infinite boundary element method combined with finite elements 4-36892
unified approach to problems in electromagnetism 4-23859
unified field theory, geometric foundation from Einstein-Mayer generalisation 4-53557
variational formulations, dual and complementary energy methods 4-49227

electromagnetic fields

- aircraft model, SEM parameters determ. from transient surface current 4-49206
anisotropic semi-infinite space torsional oscills. by impulsive twist in presence of mag. field 4-5831
conducting high permeable elliptical cylinder in the field of double line (German) 4-28595
dispersive medium, constitutive rels. 4-36851
elastic dielectric, EM depend. of stress intensity coeffs. 4-28975
electrostatic fields, computation using finite element and finite difference methods 4-54901
EM scattering by dielectric bodies, arbitrary shape, inhomogeneous, tetrahedral modelling 4-49241
EMI, meas. and data acquisition (French) 4-44018
forces and torques, numerical soln. in 2-D magnetostatic and stationary eddy current problems 4-54900
helical sheath in coaxially layered lossy dielec. medium, EM wave propag. study 4-49243
high-current relativistic electron beam in EM wave field, explosive instability 4-44034
human body, interaction with EM field, 10-1000 MHz, antenna radiation characts. study (German) 4-16920
induced nuclear β decay in an intense EM radiation field 4-27841
interaction between electromagnetic fields and cells: cellular reactivation and clinical applications (Italian) 4-3627
interactive post-processing technique for EM fields 4-28599
ionising radiation EM field calc., at ground level, verification using nucl. explosion (French) 4-49209
isotropic sphere, variable toroidal current, EM field, Maxwell eqn. soln. 4-38374
magnetostatic leakage fields, three-dimens. finite element predictions 4-28592
magnitudes at surface of irradiated dielectrics, IR detection 4-17901
mass accelerator, railgun development status, appl. to impact fusion research 4-37113
Maxwell's stress tensor for ponderomotoric forces determ. (Russian) 4-23858
metals, electromagnetic fields around surface cracks, math. anal. 4-35835
microwave radiations visualisation with liquid crystals 4-17946
monopole energy loss from ang. momentum conservation 4-22551
multimode radiation, second-order coherence lower bounds 4-33582
multivariate random fields, modelling based on parametric representations 4-54923
nonionizing EM radiation, protection of human body (Slovenian) 4-47081
nonlinear magnetic analysis, enhancements to PE2D package 4-54919
parallel conductor system, initial transients of generated quasistationary EM field (Rumanian) 4-23857
perfectly conducting plate and impedance film in rectangular waveguide, surface-current distrib. 4-54937
plane δ -pulse EM wave penetration into cavity of closed metal screens, pulse reaction 4-14628
pumps, EM 4-44752
random quasisynchronous EM radiation, field cross intensity function and directivity study 4-54922
resonant trapping of particles with spin 4-49249
right-angled dielectric wedge scattered EM waves, asymptotic solution 4-49239
scattering by a rotating conducting sphere 4-49242
self-squeezing possibility, almost complete, of strong EM fields 4-38436
shell vortex currents, use of vector potential for boundary-value problems 4-23860
squeezed states of light, quantum states of EM field 4-5565
static field computation, 2- and 3-D, with codes VEPO2 and POFEL3, for cyclotron facilities 4-54494
steady-state, in nonlinear media, solution 4-38373
thunderstorms, sub-microsecond structure meas. (French) 4-47395
ultrasonic electromagnetic testing device, using eddy current/magnetic field interaction (Japanese) 4-26139
VHF meas. using automatic system (French) 4-42935
vibrating magnetometer with extended coils, theory 4-32283
wake force computation for cylindrically symmetric structures 4-54493

electromagnetic induction

- see also inductance*
armoured two-wire cable, perturbing induced voltage anal. (French) 4-49207
conducting strip embedded in dielectric slab, induced current determ. 4-19322
conductive materials, crack detection measuring equipment employing electromagnetic ultrasonic waves 4-55289
Earth, controlled source electrical methods for deep EM exploration 4-36286
Earth, current channelling problem 4-36284
Earth, effect of inhomogeneities in stratified ground on field of circular loop antenna 4-47140

electromagnetic induction continued

- Earth, EM impedance matrix of symmetric buried body 4-47141
Earth, induced polarisation detect. with transient EM system 4-47142
Earth, induction logging problem for concentric layers about borehole 4-47449
Earth, inversion of transient EM data from spherical conductor 4-47447
Earth, magnetometer array studies 4-36287
Earth, magnetotelluric inverse problem 4-36281
Earth, soln. of forward and inverse 3D problems 4-36283
Earth, VLF EM prospecting techniques and field appls. 4-52963
in Earth and Moon, 6th IAGA workshop, Victoria, British Columbia (1982 August 15 to 22) 4-31959
Earth EM induction, three-dimensional modelling 4-36282
Earth inductor recycling, meas. by students 4-53429
Faraday's law, historical reconstruction, special relativity postulate 4-32012
ferromagnetic components, EM nondestructive inspection, oscills. of harmonics of induced EMF 4-16593
ferromagnetic components, EM nondestructive inspection, oscills. of harmonics of induced EMF 4-16594
flowmeter, theory and appl. (Hungarian) 4-24492
guard cable, lightning stroke or phase-to-earth fault induced voltage anal. (French) 4-49208
induced EMF theory, trigonometric spiral array field patterns study 4-19321
multilayer induction problems with rot. symm., boundary element anal. 4-54906
oceanic crust, marine EM research review 4-36285
shallow magnetic induction measurements for delineating near-surface hot groundwater sources in Alaskan geothermal areas 4-272
shell, nonuniform loading with ponderomotive forces 4-5539
vibrating magnetometer with extended coils, theory 4-32283
SmCo₅ magnet support, in field of Armo Fe core 4-37120

electromagnetic interference

- see also radiofrequency interference*
AC/DC circuit induced electromagnetic interference, models, physiological effects (German) 4-41565
armoured cable industry, EM examinations (French) 4-43651
electromagnetic compatibility of nuclear power plants 4-48607
electromagnetic pulse generated by exo-atmospheric nuclear detonations (German) 4-54426
EM pulses diffraction by wire structures (French) 4-44029
EMP calc. for high-altitude explosion emitting X and γ photons (French) 4-48744
EMP caused by ground level nuclear explosion, calc. (French) 4-48743
fibre optic analog video transmission, semicond. laser diode intensity noise 4-24213
ionising radiation EM field calc., at ground level, verification using nucl. explosion (French) 4-49209
meas. and data acquisition (French) 4-44018
nuclear explosions, ground level, overhead lines/EMP coupling (French) 4-48745
nuclear explosions immunity of terrestrial installations (French) 4-48742
overhead conductor system EMP disturbances from nuclear explosions at ground level (French) 4-48746
quasi-static EMP from surface nucl. explosion, numerical calc. 4-48741
satellite system in SGEMP simulator vacuum tank, EM responses 4-53005

electromagnetic lenses *see magnetic lenses***electromagnetic oscillations**

- see also cavity resonators; lasers; masers; ring lasers*
anisotropic media, transition radiation, theory 4-32062
pulsed ionizing radiation dosimetry based on microwave probing 4-14231
three-dimensional two-parameter autonomous oscillatory system with strange attractor, bifurcations 4-14627

electromagnetic pulse *see electromagnetic compatibility; electromagnetic interference; radiofrequency interference***electromagnetic radiation *see electromagnetic waves*****electromagnetic theory of light**

No entries

electromagnetic wave absorption

- see also electromagnetic wave propagation in plasma; gamma-ray absorption; light absorption; spectra; X-ray absorption*
attenuation in borehole fracture, alterant geophysical tomography 4-26874
biological tissue, freq.-dependent absorpt., microwave hyperthermia tumor treatment appl. 4-52434
dielectric mirrors on metallic substrate, spectra props. 4-51213
glass, dielectric, nonresonant absorpt. of acoustic and EM waves, quantum theory 4-2275
HF sky waves at oblique incidence, auroral absorption prediction 4-13009
ionosphere, A1 absorption meas. interpretation using virtual reflection height data 4-52947
ionosphere, anomalous absorption caused by high power radio waves, freq. depend. 4-52987
ionosphere, auroral absorpt. rel. to electron energy distrib. of plasma 4-58343
ionosphere, effect of spread-F on A1 absorpt. meas. 4-13126
ionosphere, ledge effect in A1 absorption measurements 4-52988
ionosphere, MF absorption, winter anomaly obs. over Volgograd 4-52986
metal with rough surface, EM wave damping (Russian) 4-56867
microwave power absorption in elongated biological objects at or beyond resonance 4-31276
OTS propagation tests 4-17221
OTS satellite, 11-14 GHz radio propagation meas. results 4-36476
rain attenuation and depolarization for terrestrial and Earth-space links 4-3810
superconductors, nonlinear EM field absorpt. (Russian) 4-56491
Al film, microwave irr. influence on EM field absorpt. 4-11636
He, liquid surface, RF power absorpt. by electron cryst., effect of optic plasma modes (Russian) 4-29727

electromagnetic wave attenuation *see electromagnetic wave absorption; electromagnetic wave scattering***electromagnetic wave diffraction**

- see also electromagnetic wave propagation in plasma; gamma-ray diffraction; light diffraction; X-ray diffraction*
admittance boundary condition surface 4-54932
conducting body with dielectric coating, EM wave diff. 4-10215

electromagnetic wave diffraction continued

- dielectric rectangular rod array 4-14629
- dielectric wedge, arbitrary angle, EM wave edge diffraction, pattern determ. 4-1338
- diffraction tomography as applied to EM and acoustical imaging, review 4-21765
- EMI, diffraction by wire structures (*French*) 4-44029
- enhanced nonlinear optical process EM theory 4-49444
- field representation in terms of sources in complex plane 4-44025
- finite differences method for diffraction calculation (*French*) 4-44028
- focusing aperture optimum illumination derivation by system-theoretic approach 4-54954
- grating of oblique strips, plane EM wave diffr. (*Ukrainian*) 4-38567
- half-plane diffraction, Sommerfeld soln. derivation 4-19337
- integro-series eqn. class 4-44024
- inverse problem, conf., Paris, France (Jan. 1983) (*French*) 4-53349
- inverse problems, numerical study (*French*) 4-54931
- isotropic semiconductor, acousto-optical excitation of surface EM waves by finite-aperture light beam 4-56888
- laser beams with smooth profile of intensity variation 4-44125
- modified geometrical theory of diffraction 4-19335
- nonorthogonal series in problems of diffraction by dielectric bodies 4-49245
- open cylindrical structures, diffraction of waves by diffraction 4-22166
- open surfaces of revolution, EM wave diffr. problem soln. 4-14631
- perfectly conducting smooth cylinder with large radius, plane EM wave diffr. 4-54933
- perfectly conducting wedge with dielec. coating on one face 4-33593
- periodic Lamé functions and applications to the diffraction by a plane angular sector 4-49235
- plane-wave diffracted by a wedge, spectral domain anal. 4-49238
- semiconductor-metal interfaces, EM wave diffr. resonance effects 4-11854
- shell, thin weakly conducting cylindrical, E-polarised EM wave scatt. (*Ukrainian*) 4-23863
- slit in loss dielectric slab (*Japanese*) 4-1326
- surface wave diffraction by propag. struct. end (*French*) 4-49244
- thick dielectric comb 4-14629
- thick screen with impedance faces, EM plane wave diffr., HF scattering study 4-23872
- time reversal and vector phase conjugation 4-38533
- two-dimensional periodic half space, threshold singularities 4-33592
- wedge diffraction with geometrical theory of diffraction, for propagation path loss prediction 4-49240

electromagnetic wave diffusion see electromagnetic wave scattering**electromagnetic wave interference**

- see also *atmospherics; electromagnetic wave interferometers; electromagnetic wave interferometry; electromagnetic wave propagation in plasma; light interference; Moiré fringes*
- No entries

electromagnetic wave interferometers

- see also *electromagnetic wave interferometry; light interferometers*
- angle-measuring receiver, interferometer performance against non line-of-sight transmitters 4-22831
- biological impedance variations at microwave freqs., interferometer systems for monitoring 4-16941
- microwave, 9-channel, for plasma electron density meas. on EBT-S 4-55642
- microwave interferometer for Doublet III plasma diagnostics 4-50081
- scanning microwave interferometer for ELMO bumpy torus, electron density profile meas. 4-6194
- solid Fabry-Perot etalons for X-rays 4-22893
- spherical mirror F-P interferometer using HCN laser as radiation source (*Chinese*) 4-37155
- stationary VLBI antenna for meas. of tectonic plate movements, stability monitoring 4-31672
- VLBI systems in radioastronomy, review (*Polish*) 4-53057

electromagnetic wave interferometry

- see also *light interferometry; Moiré fringes*
- 300 MHz EM radiation, lightning discharges electrostatic field meas. (*French*) 4-44027
- 1038+528 A and B, quasars, wavelength depend. of peak brightness location from VLBI study 4-47721
- Australian geodetic VLBI expt. 4-17042
- 3C 138, quasar, high resolution obs. of compact radio source 4-53304
- differential VLBI, tracking geosynchronous satellites 4-22334
- digital photon-counting speckle interferometry 4-38400
- Italian VLBI (Very Long Range Interferometry) project (*Italian*) 4-17390
- methanol, mol. dynamics, far IR spectrosc., interferometric and computer simulation investig. 4-20968
- probe position meas. using laser interferometry system 4-27484
- very-long-baseline, coherence loss and delay, observation error, anal. 4-4454
- VLBI, appl. to determ. of gravitational lens parameters (*Russian*) 4-13205
- VLBI measurement of tectonic plate motions stability monitoring of stationary VLBI antenna 4-31672
- Br chemisorbed submonolayer on Si (111), surface registration, X-ray interferometric study 4-34787
- NF₃ discharges, negative ion and electron densities, microwave interferometry 4-39014

electromagnetic wave propagation

- see also *atmospheric electromagnetic wave propagation; atmospheric light propagation; backscatter; electromagnetic wave absorption; electromagnetic wave diffraction; electromagnetic wave interference; electromagnetic wave propagation in plasma; electromagnetic wave reflection; electromagnetic wave refraction; electromagnetic wave scattering; guided electromagnetic wave propagation; light propagation; radiowave propagation*
- aerosol cloud, EM radiation, radiative transfer calcs. 4-26802
- cables in tunnel, EM wave coupling anal. (*French*) 4-49246
- dielectric-metal-dielectric layered struct., coupling between finite EM beam and long-range surface-plasmon mode 4-10213
- direct and inverse wave propag. theories and the factorised Helmholtz eqn., path integral representations 4-17704
- energy flow for inhomogeneous acoustical and optical waves in anisotropic media 4-14824
- entropy of nonequilib. radiation 4-28602

electromagnetic wave propagation continued

- ferries, EM wave propag. with quadrupole magnetisation, device appls. 4-35190
- Fourier transform, and Green's function approach 4-22591
- helical sheath in coaxially layered lossy dielec. medium, EM wave propag. study 4-49243
- Hermitian-Gaussian beam transformation in square-law medium exhibiting simple astigmatism 4-23871
- hoop-type retardation system design (*Russian*) 4-44023
- inverse problem in a random medium 4-19325
- lateral waves in ocean crust, EM sounding 4-12774
- lateral waves in ocean-crust boundary region 4-12773
- metals, high freq. EM phenomena, de Haas-van Alphen effects 4-20683
- metals, weakly damped Reuter-Sondheimer waves under anomalous skin effect conditions (*Russian*) 4-25386
- microwave attenuation in liquid media 4-53397
- nonlinear conducting ferromagnetic media, plane EM wave penetration, polarisation 4-33591
- phase and correlation function uniqueness conditions in wave propag. 4-19359
- physical modeling over nonhomogeneous terrain 4-23873
- piezoelectric conductors, elastoelectromagnetic oscillations 4-25686
- radiowave scattering by ice coatings 4-41976
- scale-invariant systems, free waves, general wave eqn., dispersion 4-28606
- semiconductors, polariton and phonon spectra restructuring in presence of strong EM wave 4-15828
- semiconductors 4-50861
- stationary discrete processes, spectral anal. at finite intervals (*Russian*) 4-10212
- stratified magnetoplasma, 1D, EM wave propag., variational finite element soln. 4-34266
- transient fields in dispersive media, transmitted and scattered fields determ. 4-8758
- uncharged resistive medium, EM wave propag., time-translation invariance in damped wave equations 4-44021
- wireless power transmission, Nikola Tesla's ideas (*Slovenian*) 4-10214
- C black-epoxy resin composites, microwave prop. 4-46376

electromagnetic wave propagation in plasma

- see also *ionospheric electromagnetic wave propagation; light propagation in plasma; magnetospheric electromagnetic wave propagation*
- ablative compressions, X-ray and harmonic imaging studies of illumination uniformity 4-10842
- absolutely unstable stimulated Brillouin scattering and two-plasmon decay 4-6081
- Alfvén waves, stimulated Brillouin scatt. 4-10847
- amplitude and phase change calc. using diffr. theory 4-50012
- antennas in plasmas, performance 4-26981
- back reflected light from homogeneous plasma 4-6100
- capacitor antenna in streaming plasma, theory for impedance 4-19964
- coherent four-photon scatt. and second-order electron density fluctuations (*Chinese*) 4-49951
- cold isotropic homogeneous plasma slotted plate antenna radiation props. 4-1929
- current generation by monochromatic electromagnetic waves 4-24572
- damping in nonequib. aerosol plasma 4-10846
- dispersion functions, continued fraction expansions 4-55551
- double stimulated Mandel'shtam-Brillouin scatt., backward reflection from boundary 4-29250
- electron acceleration in a sequence of localized plasma resonances 4-24636
- electron beam-plasma system, EM wave parametric decay 4-44834
- electron cyclotron absorption and emission in anisotropic plasmas 4-15159
- electron cyclotron reson., geometric optics appl. 4-6087
- electron flux circulation in an inhomogeneous collisionless plasma under the action of SHF-power 4-38967
- electron heating by EM waves 4-19970
- extraordinary wave propag. and absorption near electron cyclotron freq. 4-15160
- fusion plasma, EM ion-cyclotron wave propag. 4-1926
- HF EM pump wave interaction with kinetic drift-Alfvén waves, instabilities 4-24563
- hollow cathode discharge, plasma heating, optogalvanic effect (*French*) 4-24673
- inhomogeneous plasma column, Trivelpiece-Gould wave transform. to EM wave 4-15162
- inhomogeneous plasma penetrated by helical electron beam obliquely propagating whistler instability 4-15111
- intense EM radiation propag. in extraordinary mode, collisional absorpt. in plasma 4-15204
- intensity-induced precessional rotation of a strong electromagnetic wave in unmagnetised plasmas 4-55539
- International Solar Polar Mission, Unified Radio and Plasma wave expt. equipment 4-31738
- invariant eqns. and properties, Maxwell eqns. 4-50007
- inverse Compton reflection from plasma, polarisation and beam pattern, astrophysical appl. 4-13187
- inverse resonance absorption in magnetized plasmas 4-10841
- ion wave harmonics, in stimulated Brillouin scatt. 4-55541
- ionospheric plasma, Bragg resonator with artificial quasiperiodic lattice 4-42265
- laser pulse propagation, nonlinear ion motion 4-44835
- laser-plasma interaction, ion expansion and resonance absorption using SUNDI code 4-55550
- laser-plasma interaction, time resolved Brillouin spectra 4-15157
- lateral energy loss in laser-driven shock wave expts. 4-6125
- linear kinetic transparency induction in an inhomogeneous plasma 4-10849
- longitudinal waves interaction with half-space plasma, ion collision effects 4-29249
- Lorentz lemma for fields in a warm inhomogeneous magnetoplasma (*Russian*) 4-50009
- low-frequency, propag. in inhomogeneous toroidal plasma 4-15161
- magnetosphere waveguides, shortwave propagation and transformation 4-17354
- many-photon absorption of EM wave momentum 4-34267
- microwave-plasma interaction, reson. absorpt., suprathermal electron acceleration 4-50010

electromagnetic wave propagation in plasma continued

- mixed hot-cold electron plasma, whistler wave propag., thermal anisotropy 4-6088
- multiple acceleration of electrons in plasma resonance 4-19963
- nonlinear coupled stationary waves, propagation 4-19954
- nonlinear ionising EM wave field, matching at discontinuity near reson. point 4-1950
- nonlinear scattering from plasma column, special cases 4-1928
- nonlinear scattering from plasma column, theory 4-1927
- nonlinearly enhanced EM radiation excited by steady-state colliding electron beams 4-50008
- oblique incidence of EM wave in cold inhomogeneous electron plasma, relativistic effect 4-55543
- obliquely propagating modes in magnetosphere, temp. anisotropy instabilities 4-13143
- plasma slab, collisional, magnetised and moving, EM wave interaction 4-1924
- ponderomotive force effect due to circularly polarised EM wave 4-10845
- ponderomotive laser driving of plasmas by nonlinear forces, electrostatic fields 4-19962
- radiation from dense hot plasmas 4-55546
- radiation transport in laser-driven microballoon implosions 4-10868
- radiative props., average ion model approach 4-10850
- radio emission, oblique waves propag. in relativistic electron-positron plasma, rel. to pulsar radio emission 4-17538
- radiowave phase fluctuations accompanying circumsolar plasma transillumination 4-58408
- ray tracing in dissipative media 4-54928
- relativistic electron in space- and time-varying EM field, semiclassical theory 4-24584
- relativistic one-dimens. plasma, EM wave propagation along external mag. field 4-34268
- resonance absorption field struct. and density profile steepening (*Chinese*) 4-49950
- resonant absorption in a steep density gradient 4-1892
- RF current drive in Tokamaks and compact tori 4-6150
- RF plasma heating in DRAKON devices 4-19987
- soft X-ray laser construction in dense plasma, transition scatt. and bremsstrahlung 4-49954
- solar flaring loops, stochastic three-wave interaction 4-17476
- stimulated Brillouin backscattering in long-scale-length plasmas 4-6090
- stochastic heating of charged particles during EM wave reflection from inhomogeneous plasma 4-15163
- stratified magnetoplasma, 1D, EM wave propag., variational finite element soln. 4-34266
- strong density fluctuations in laser heated plasma 4-1923
- surface waves, nonlinear interaction at narrow inhomogeneous plasma layer, EM wave amplitude 4-55518
- TE wave propagation in inhomogeneous unmagnetised plasma filled wave guide (*Chinese*) 4-50006
- third harmonic generation efficiency at higher powers in a collisional plasma 4-38966
- time resolved line broadening at 1.05 μm ; 0.53 μm and 0.35 μm 4-1893
- Tokamak, far IR propag., linear birefringence and optical activity 4-10848
- trapping in magnetoplasma (book) 4-53368
- Vlasov simulation of stimulated Raman scattering in one dimension 4-6181
- VLF monochromatic wave characts., atmospheric plasma parameters, amplitude wave meas. 4-36541
- wave energy absorption near lower hybrid resonance 4-15158
- wave-trapped particle interactions in inhomogeneous media, nonlinearity 4-44035
- WT-Q Tokamak, electron cyclotron reson. preionisation 4-44841
- CO₂ laser absorption and transport expts. 4-1883

electromagnetic wave reflection

- see also electromagnetic wave propagation in plasma; light reflection; X-ray reflection*
- densely distributed dielectric scatterers in half space, scattering theory 4-19338
- dielectric with surface monolayer, s-polarised optical props., classical microscopical model 4-40398
- dielectric-metal-dielectric layered struct., coupling between finite EM beam and long-range surface-plasmon mode 4-10213
- exact image theory for the Sommerfeld half-space problem with a vertical magnetic dipole 4-19341
- inhomogeneous media, EM wave reflection and transmission, analysis using Fourier series expansion method (*Japanese*) 4-33594
- ionosphere, effect of spread-F on pulse-reflection (A1) absorpt. meas. 4-13126
- lateral waves in ocean-crust boundary region 4-12773
- lossy dielectric layers, beam reflection 4-23865
- magnetic media, Azzam effect generalisation 4-49259
- mesosphere, seasonally dependent generation mechanisms of radar echoes 4-22050
- multilayer frequency selective surface, design and meas. 4-19342
- nonreciprocal resonant effects when waves propagate in layered gyrotropic media and in periodic structures with a gyrotropic filling 4-54935
- normal incidence EM wave reflectance from dielectric sheet, polarisation 4-42664
- photorefractive layered medium, EM propag. 4-1321
- radiation principles and wave refl. from amplifying media 4-14626
- random condensed media microwave properties, dyadic Greens function in strong fluctuation theory 4-19339
- right-angled dielectric wedge scattered EM waves, asymptotic solution 4-49239
- rough interface between two different media, EM wave refl. and transmission 4-47450
- rough-surface reflection coeff. and sea-wave elevations distrib. derivation 4-52733
- slab, EM wave reflection and transmission in soft X-ray and vacuum UV regions 4-23862
- surface wave, scattering by dielectric spheroid along a duct 4-23870
- thin conducting films, interaction with EM waves, study for radiowave imaging appl. 4-53759
- vector transport eqn., allowance for diffuse reflection 4-54936
- VLF reflection of quiet and disturbed polar ionosphere above N Greenland 4-22240

electromagnetic wave refraction

- see also electromagnetic wave propagation in plasma; light refraction*
 - anomalous microwave propagation through atmospheric ducts 4-3803
 - dielectric interface, curved, EM wave refr., geometrical optics soln. 4-28605
 - ionospheric radiowave refraction effects and TRANET Doppler station apparent height vars. modelling 4-41687
 - radiowave capture by ionospheric waveguide, refraction effects 4-26932
 - radiowave refractivity over Singapore (surface to 500 mb level) 4-42130
 - right-angled dielectric wedge scattered EM waves, asymptotic solution 4-49239
 - troposphere, stratified inhomogeneous medium, perturbation theory for spectrum of normal waves 4-17246
- electromagnetic wave scattering**
- see also backscatter; electromagnetic wave propagation in plasma; gamma-ray scattering; light scattering; X-ray scattering*
 - aerosol, coagulating, radiation transmission, Mie theory 4-49656
 - atmosphere, coherent wideband processing of distributed radar targets 4-22141
 - attenuation in borehole fracture, alternating geophysical tomography 4-26874
 - autocorrelation function of signal scattered by long moving body 4-28609
 - backscatter cross-sections for composite rough surfaces with different mean square slopes 4-49234
 - backscattering techniques for optical fibre cables (*Spanish*) 4-5729
 - bistatic phase measurements 4-49236
 - bistatic rain-scatter experiment at 34.8 GHz 4-8282
 - coherent EM wave scatt. from relativistic electron beam 4-5656
 - conical surface with slit cut along generating line, EM wave scatt. (*Russian*) 4-19340
 - cotton, effect of physical-mechanical props. on electrical characts. of US waves (*Russian*) 4-5745
 - cylinder, circular, anomalous diffr. theory, plane wave scatt. by soft obstacles 4-54947
 - cylinder above ground 4-54940
 - cylindrical scatterer with edge points, incident H-wave scattering, numerical analysis using mode matching method (*Japanese*) 4-33595
 - densely distributed dielectric scatterers in half space, scattering theory 4-19338
 - dielectric bodies, arbitrary shape, inhomogeneous, tetrahedral modelling 4-49241
 - dielectric discs, arbitrarily oriented, EM wave scatt. in physical optics regime 4-1320
 - dielectric objects, low-loss or lossless elongated, scatt. calc. by iterative EBCM 4-54946
 - dielectric slab, homogeneous lossy, transient scatt., singularity expansion method 4-54938
 - diffraction tomography as applied to EM and acoustical imaging, review 4-21765
 - Doppler velocity meter, theory of EM wavefront structure 4-1324
 - dual-polarised communication link expts., data anal. 4-22040
 - ellipsoids of revolution, multiple scatt., recursive relation for spheroidal scalar wave function addition (*French*) 4-23868
 - finite element-boundary integral formulation 4-54939
 - HF radar remote sea-state sensing and ship tracking, propag. and scattering factors 4-22186
 - HF scattering from ocean surface, alternative anal. 4-13114
 - hyperbolic umbilic canonical diffr. integral for semiclassical collision theory and optics 4-22638
 - inhomogeneous scatt. layer, nonlinear spatial-freq. characts. 4-14642
 - inverse methods for electromagnetic waves 4-19329
 - inverse optics, conf., Arlington, VA, USA (Apr. 1983) 4-17625
 - inverse problem in elastic and EM wave scatt., probabilistic approach 4-19328
 - inverse problems, one-dimens., dissipation effects 4-19331
 - inverse problems in elastic and EM wave scatt., effective area function approach 4-19327
 - inverse scattering for stratified media 4-19332
 - inverse scattering in the first Born approximation 4-19326
 - ionospheric, scatt. from F-layer inhomogeneities caused by strong radiosignals 4-17344
 - ionospheric plasma, Bragg resonator with artificial quasiperiodic lattice 4-42265
 - metal rough surface, second- and higher-order scatt. of EM waves 4-23867
 - metallic flakes, randomly oriented, backscatter cross sections at optical frequencies, full wave approach 4-19324
 - microwave satellite communications through precipitation, general scatt. theory 4-42131
 - microwave scattering from random layer with appls. to snow, vegetation and sea ice 4-26749
 - microwaves/MM waves, propag. and scattering in atmospheric precip., review 4-3807
 - Mie scattering phase function, power series expansion 4-1347
 - molecular systems, group theory for description of EM scatt. 4-49237
 - nonlinear scattering from plasma column, special cases 4-1928
 - nonlinear scattering from plasma column, theory 4-1927
 - nonorthogonal series in problems of diffraction by dielectric bodies 4-49245
 - ocean surface, contrib. of wedge scatt. to radar cross section 4-26709
 - open cylindrical structures, diffraction of waves by diffraction 4-22166
 - OTS propagation tests 4-17221
 - OTS satellite, 11-14 GHz radar propagation meas. results 4-36476
 - parallel plate waveguide, periodic wall perturbations, travelling waves 4-54927
 - penetrable cylinders, scattered fields calc. with improved numerical efficiency 4-47451
 - perfectly conducting plate and impedance film in rectangular waveguide, surface-current distrib. 4-54937
 - perfectly conducting rough surfaces in resonance region 4-28604
 - periodic arrays of waveguide type, basic selectivity laws 4-14630
 - periodic broken-wire array in dielec. sheet 4-19343
 - periodic structures, analysis using finite element method 4-38376
 - physical optics approach for scattering by thin helical wires 4-1322
 - plane EM wave scattering by parallel half planes with waveguide interaction region, E and H pol. 4-54934
 - plane wave scattering by a rotating conducting sphere 4-49242
 - plane wave scattering by conducting rectangular cylinders (*Japanese*) 4-1325
 - plane-layered scattering medium, most probable ray trajectories 4-47485

electromagnetic wave scattering continued

- plasma ellipsoid in dielec. shell, dipole resonance, radiation damping 4-28608
- propagation above realistic sea-surface model 4-58202
- radar scattering cross section modulation for rough surface 4-1323
- radiation isotropic scatt. in homogeneous plane parallel medium 4-42298
- radiowaves in ionosphere, aspect-angle scattering by inhomogeneities with total internal reflection 4-47480
- radiowaves in ionosphere, incoherent scattering process, shaping filter design (Russian) 4-22259
- rain attenuation and depolarization for terrestrial and Earth-space links 4-3810
- random condensed media microwave properties, dyadic Greens function in strong fluctuation theory 4-19339
- random discrete scatterers layer, strong fluctuation theory of EM wave scatt. 4-54930
- reciprocity usefulness in approx. anal. 4-19333
- rectangular cylinder, perfectly conducting, EM wave scattering, analysis method 4-1319
- right-angled dielectric wedge scattered EM waves, asymptotic solution 4-49239
- salt mine, scattering of plane wave at a tunnel 4-13112
- semiconductors, polarization and phonon spectra restructuring in presence of strong EM wave 4-15828
- shallow rough surfaces, EM theory for scatt. 4-23869
- shell, thin weakly conducting cylindrical, E-polarised EM wave scatt. (Ukrainian) 4-23863
- thick screen with impedance faces, EM plane wave diffr., HF scattering study 4-23872
- three-dimensional randomly inhomogeneous media, backscatt. problem 4-28607
- vegetation effects on microwave emission from the Earth, mathematical characterisation 4-12919
- velocity-dependent systems, Doppler frequency shifts in EM scatt. 4-44022
- wave splittings, invariant imbedding and inverse scattering 4-19330
- wedge diffraction with geometrical theory of diffraction, for propagation path loss prediction 4-49240
- from zz 4-28603

electromagnetic wave transmission

- see also light transmission
- accelerated continua, EM wave transmission (German) 4-33590
- inhomogeneous media, EM wave reflection and transmission, analysis using Fourier series expansion method (Japanese) 4-33594
- lossy medium boundary EM wave transmission 4-19336
- multilayered plate, transmission coeffs. and transfer matrices calc. 4-24279
- nonreciprocal resonant effects when waves propagate in layered gyrotropic media and in periodic structures with a gyrotropic filling 4-54935
- photorefractive layered medium, EM propag. 4-1321
- rough interface between two different media, EM wave refl. and transmission 4-47450
- slab, EM wave reflection and transmission in soft X-ray and vacuum UV regions 4-23862
- surface wave, scattering by dielectric spheroid along a duct 4-23870
- thin conducting films, interaction with EM waves, study for radiowave imaging appl. 4-53759
- X-rays, transmission formula for antiscatt. grids 4-21799

electromagnetic waves

- see also bremsstrahlung; channelling radiation; Cherenkov radiation; electromagnetic field theory; electromagnetism; gamma-rays; heat radiation; light; microwaves; solar radiofrequency radiation; sunlight; synchrotron radiation; transition radiation; undulator radiation; whistlers; X-rays
- 300 MHz, lightning discharges electrostatic field meas. (French) 4-44027
- amplification of transverse electromagnetic waves in electron beams 4-5540
- classical wave-particle problem for light, quantum theory 4-53505
- COPT 81 experiment (Tropical Deep Convection), lightning meas. (French) 4-47394
- cyclotron radiation including relativistic electron effects, basic conservation laws 4-27309
- electron acceleration by EM wave in undulator 4-48810
- high-current relativistic electron beam in EM wave field, explosive instability 4-44034
- inverse problems of the Fredholm type, information content, analytic method 4-17705
- isotropic sphere, variable toroidal current, EM field, Maxwell eqn. soln. 4-38374
- lightning radiation, VHF-UHF spectral anal. (French) 4-47396
- Marconi, Guglielmo, physics of invisible information 4-17671
- moving point charge, radiation rel. to instantaneous development of gyration in medium 4-38379
- multilayered isotropic media, tractable form of dyadic Green function 4-23864
- nonlinear optical effects in photochem. reactions 4-31005
- optical waveguide theory, book 4-33760
- plane δ -pulse EM wave penetration into cavity of closed metal screens, pulse reaction 4-14628
- polarization renormalization due to nonlinear optical generation 4-44144
- quasistatics, Ollendorff-Cerenkov electrodynamics and moving media 4-28587
- radiation principles and wave refl. from amplifying media 4-14626
- radiation transport and hydrodynamics, in high-density matter, dispersive effects 4-23866
- RF EM field three-dimens. anal. by finite element method 4-54909
- semiconductor thin films, interaction dynamics of dimensionally quantised electrons with intense opposite EM waves 4-57020
- semimetallic thin films, interaction dynamics of dimensionally quantised electrons with intense opposite EM waves 4-57020
- single oscillator in plane EM wave field, motion randomisation 4-33589
- special relativity transformation, use in structure of EM waves 4-22544
- squeezed states of light, quantum states of EM field 4-5565
- surface and quasisundulator radiation 4-44026
- strange EM wave excitation and reson. transform. during irradi. of solid by high-power laser radiation, periodic struct. form. 4-14734
- transverse waves with $\vec{E} \parallel \vec{B}$ and finite energy, Maxwell's solns. 4-49233
- VHF-UHF lightning radiation physical mechanism hypothesis (French) 4-47397
- wave and particle beam coherent interaction mechanism 4-33604

electromagnetism

- see also electric fields; electrodynamics; electromagnetic field theory; electromagnetic induction; electromagnetic oscillations; electromagnetic waves; magnetic fields; magnetism
- accelerated continua, EM wave transmission (German) 4-33590
- book, waves and fields in optoelectronics 4-27261
- circuit calculation using tableau approach, numerical method 4-54899
- current-carrying conductors, three-dimens. skin effect problems 4-28600
- dielectrophoretic and magnetohydrostatic levitation of particles, droplets and bubbles 4-57569
- electric doublet, EM energy calcs., proposed particles (French) 4-23853
- electromagnetic field Maxwell's stress tensor for ponderomotive forces determ. (Russian) 4-23858
- finite element analysis (book) 4-53386
- forces and torques, numerical soln. in 2-D magnetostatic and stationary eddy current problems 4-54900
- inertial and EM forces 4-32010
- isotropic sphere, variable toroidal current, EM field, Maxwell eqn. soln. 4-38374
- layered structures, P-polarised nonlinear surface and guided wave polarizations 4-56236
- macroscopic Maxwell eqns. derivation from classical electrodynamics formulation 4-54898
- metallic conductors, Ampere electrodynamics, longitudinal mag. forces 4-54920
- microwave pulse power converters, limiting parameters anal. 4-5533
- multilayered isotropic media, tractable form of dyadic Green function 4-23864
- near field computation on electromagnetic scattering by moment method 4-14625
- neo-Hertzian electromagnetism, test theory of Einstein-Maxwell physics 4-47880
- nonmetric theories of gravity, weak equivalence principle 4-4302
- nonmetric theories of gravity 4-4303
- particle in an external electromagnetic field 4-19346
- solenoid, magnetic field prod. calc. 4-53414
- spacedispersive crystal optic electrodynamics multipole expansions and generalised F-sum rules 4-28588
- thermomechanical theory of shells and plates, electromagnetic effects 4-5538
- transverse waves with $\vec{E} \parallel \vec{B}$ and finite energy, Maxwell's solns. 4-49233
- unified approach to problems in electromagnetism 4-23859
- units, corrections of SI system of units, theoretical system constitution 4-4373
- virtual-work concept, compatibility with Ampere and Lorentz force laws 4-33581
- GaAs-AlGaAs leaky optical waveguide with four layers, Maxwell eqns. anal. (Chinese) 4-38576

electromagnets

- see also coils; superconducting magnets
- continuous-coil Tokamak reactor magnetics, plasma elongation effects 4-14176
- cyclotron, TRIUMF mag. field stabilisation 4-48819
- cyclotron electromagnet system for GANIL 4-48814
- cyclotron sector magnet construction for RIKEN SSC 4-48816
- cylindrical magic-angle spinners for NMR studies 4-37129
- Eindhoven MHD Blow Down Facility, liquid N₂ cooled magnet 4-52173
- fusion confinement magnets design 4-48717
- GANIL beam complex, pulsed magnets for beam time sharing 4-48848
- high field magnets, recent progress 4-48157
- high frequency magnet for beam separation in high energy pp colliders 4-48849
- highly-irradiated high-performance, design practice and operational experience 4-28266
- hybrid wiggler, tuning and operating, mag. field meas. 4-48160
- JET and TFTR magnet coil systems construction and assembly 4-33161
- JET tokamak magnets, assembly and commissioning 4-48719
- LEP, dipole magnets for orbit correction, design and model meas. 4-48851
- LEP main ring wiggler magnets, 3-pole design and field computations 4-48853
- magnet technology conf., Grenoble, France (Sept. 1983) 4-47745
- magnetic domain observation using electromagnet with built-in optical microscope (Japanese) 4-17903
- microtron sector magnet, three orbit prototype 4-48820
- quadrupole magnets using low C and Si steel as core material 4-48850
- storage rings, LEP main ring magnet system, construction techniques 4-48821
- storage rings, TRISTAN-AR magnet system fabrication and performance 4-48822
- TMX Upgrade magnet system, design characts. and phys. considerations 4-34290
- Tokamak reactors with helical coils, phys. and engineering constraints 4-9458
- Tokamak test reactors, toroidal field resistive magnet design 4-9462
- TRIUMF, magnet installations for high radiation areas, handling techniques 4-48852

electromechanical effects

- alkali halide doped crystal, electroplastic effect, impurity influence 4-24902
- dielectric breakdown during mechanical deformation of solids 4-2875
- electroelasticity with small deformations in dielectrics 4-2261
- pulse discharge in small enclosed liquid volume, electromech. characts. (Russian) 4-6216
- Rochelle salt, ferroelectric phase transition, elastic, dielectric and electromechanical nonlinearities 4-35386
- shell, nonuniform loading with ponderomotive forces 4-5539
- soft piezoelectric materials, dielec. and electromech. parameters, freq. and temp. depend. 4-20915
- La₃Ga₂SiO₁₄, cryst. growth and optical props. 4-34431
- (La_{1-x}Nd_x)₂Ga₂SiO₁₄, cryst. growth and optical props. 4-34431
- Nd₂Ga₂SiO₁₄, cryst. growth and optical props. 4-34431
- PbTiO₃, piezoelectric ceramics, rare earth substituted, SAW and US apps. 4-30397
- Sr₂KNb₂O₁₅, ferroelec., low and high freq. dielec. props. 4-51200

electrometers

- see also charge measurement
- No entries

electrometry *see* **electrometers****electromigration**

- alkali metal alloys, molten, thermal diffusion and thermoelec. powers 4-34678
- polycrystals, surface morphology and electromigration during annealing 4-11394
- quartz, interstitial ions, charge compensating, thermal and radiation induced mobilities 4-20418
- Ag-Au, molten, thermal diffusion and thermoelec. power 4-34678
- Al, meas. using resistometric technique 4-39617
- Al metallisation sputtered films, electromigration of films, multilayers and alloys 4-2385
- Al/Cu conductors for ICs, electromigration induced extrusion, acoustic emission study 4-50593
- Al-Cu sputtered thin films, electromigration, metallisation lifetime monitoring technique 4-11351
- Al-Cu thin film conductors, grain growth as result of rapid annealing, semicond. technological appls. 4-40821
- Al-Si-Cu thin film conductors, grain growth as result of rapid annealing, semicond. technological appls. 4-40821
- Al-Si-Ti metallisation, sputtered, for VLSI circuits, characterisation and props. 4-40925
- Al-SiO₂-Si structure, p-n junction formation in Si by Al electromigration through SiO₂ 4-30081
- AlGaAs/GaAs double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
- Bi₂Se₃(Te₂):Cu, Cu electromigration, carrier conc. and effective ion charge 4-34727
- Co thin film, lateral self-diffusion and electromigration 4-34690
- Cu₂- β -Se, thermal and elec. field effects on Cu redistribution 4-50592
- In thin films, electromigration meas. method (*French*) 4-2384
- InGaAsP/InP double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
- LiNbO₃:Cr, Cr distrib. coeff., growth parameters and elec. fields influence 4-20131
- PbO-B₂O₃ glass, Ag migration 4-11352
- Si/SiO₂/Al capacitors, H migration under electron avalanche injection 4-29711
- Si/TaSi₂(WSi₂) polycide structures, interfacial Al electromigration 4-39616
- Ta:H, D, electromigration of H and D, isotope effect 4-15724
- Ti/Au bimetal films, interdiffusion and elec. resist. changes under annealing 4-35092
- ZnS DC electroluminescent film, Cu electromigration rel. to emission degradation 4-51351

electromotive force *see* **electric potential****electromyography** *see* **bioelectric potentials; muscle****electron absorption***see also* **beta-ray absorption**

- Ni, positron transmission and effective mass absorption coeff. 4-25827

electron accelerators*see also* **betatrons; electron ring accelerators; microtrons**

- autoaccelerator, radial electron beam, for ICF, theory 4-33164
- autoaccelerators, long pulse electron beam effects 4-14256
- conference, physics of high-energy particle accelerators, Stanford, CA, USA (Aug. 1982) 4-27225
- EM wave in undulator, use in electron acceleration 4-48810
- foil-focused relativistic electron beam equilibrium 4-18841
- HERA, EP accelerator, design 4-9607
- industrial particle accelerators, electron paths in nonuniform magnetic field 4-37976
- initiating apparatus for radiation-chemical processes obs. 4-37249
- inverse free electron laser accelerator, design 4-28246
- laser or maser drivers for transverse acceleration of electrons 4-48812
- LEP, 'dipole' magnets for orbit correction, design and model meas. 4-48851
- LEP, status 4-9608
- LEP project, outline of construction, research programme and purpose 4-33227
- linacs, elementary principles, design struct., operation 4-28241
- Michelson Laboratory Synchrotron Radiation Project 4-28258
- neutralised electron beam stability in NAP-M proton storage ring 4-33225
- neutron yields from electron bombardment, E \leq 100 GeV, on Cu 4-6406
- NIKHEF-K annual report July 1982-June 1983 4-9653
- radiation factors in high current accelerators 4-5060
- radiation instability in relativistic electron storage rings, simulation 4-33242
- review of accelerators development 4-54490
- RF linac accelerators for 10 kA electron beams 4-48811
- single-pass e⁺e⁻ linear colliders, colliding ye and $\gamma\gamma$ beams, polarisation effects and monochromatisation 4-54459
- SLAC, evolution and physics program 4-5056
- SLAC electron accelerators, neutron identification from cooling water 4-54446
- soft X-ray laser pumping by synchrotron radiation from electron storage ring 4-33638
- SOR electron storage ring, slow fluctuation of synchrotron radiation and bunch lengthening 4-5064
- SPEAR II, mode-coupling theory and bunch lengthening 4-18834
- storage ring, Landau damping of longitudinal coupled-bunch instability 4-14245
- storage rings, electron-positron, calcs. of depolarising effects of field imperfections 4-14241
- storage rings, luminosity monitor 4-14242
- storage rings, radiative diffusion effects on spin-flip 4-33222
- storage rings, wake force computation for cylindrically symmetric structures 4-54493
- superconducting microwave cavities in particle accelerators 4-28245
- synchrotron radiation sources, characteristics, book contrib. 4-9618
- travelling wave constant impedance accelerating struct., energy doubler anal. and calc. (*Chinese*) 4-54488
- e⁺e⁻ storage ring, design description 4-28252
- e⁺e⁻ storage rings, scaling of luminosity data 4-33223

electron affinity

- 5d-metal hexafluorides, electron affinities and electron struct., X α calc. 4-5515
- allene, electron affinities, ab initio MNDO calcs., electron transmission spectra 4-43808

electron affinity continued

- aromatic hydrocarbon-AlCl₃ complexes, Raman spectrosc. investigation 4-23706
- atoms, total energies and electron affinities, local spin-density approx. exact exchange extension 4-28571
- biphenyl, and methyl derivatives, conformation, electron affinities, electron transmission spectra 4-23749
- 2-carbomethoxy-1,4-benzoquinone, conformation, molar Kerr const., MNDO CND0 Cl calcs. 4-18932
- chlorofluoromethanes, Penning ionis., electron-ion coincidence meas. 4-10008
- conjugated systems, electronic and electrochem. props., chain length depend. 4-33302
- DNA radiation energy, localisation 4-7937
- electron affinities, ab initio MRD-Cl calcs. 4-18935
- ethylene, electron-propagator calculations with a transition-operator reference 4-28574
- fluorene, conformation, electron affinities, electron transmission spectra 4-23749
- fluorocarbons radicals, optical spectra, ionisation pot., electron affinities, DVM X α calcs. 4-33320
- fluoroethylenes, negative ion form. and dissoc., electron attachment spectroscopy 4-54877
- glyoxal, correlated ground state wave function, direct cluster expansion method 4-14344
- 2,4-hexadiyne, vertical electron affinity meas. by electron transmission spectroscopy 4-1291
- hydrocarbons, unsaturated, negative ion states, α and β substitution 4-33528
- methylene anion, bending pot. functions, PES 4-19105
- propyne, electron affinities, ab initio MNDO calcs., electron transmission spectra 4-43808
- proton affinities, gas-phase 4-46746
- pyrene, fluoresce., heavy atom quenching via charge transfer complexes 4-38246
- relative orbital ionis. probabilities of gaseous and condensed phase mols. Penning and photoionis. processes 4-10010
- semiconductor crystallites, ionis. pot., electron affinity, aq. redox pot. calcs. 4-20717
- semiconductor degenerate materials with nonuniform band struct., elec. current, carrier density 4-50839
- semiconductors, resonant emission of slow electrons from materials with a negative electron affinity 4-16290
- small jellium spheres, selfconsistent electronic struct. calcs. 4-39753
- two-point potential model, complex pot. surfaces 4-23635
- vinylpyridines, isomeric, geometry, conformational and electronic struct., nonempirical and HAM/3 study 4-43780
- BH⁺ ions, electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
- B⁺(¹S), electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
- Be₂, adiabatic electron affinities, STO calcs. 4-28382
- Be(¹S), electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
- CCO⁻, electron affinity meas. by photoelectron spectrosc. 4-38248
- CH⁺, electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
- CN⁻, electron-propagator calculations with a transition-operator reference 4-28574
- CN⁻, photodetachment threshold by laser optogalvanic spectroscopy 4-1220
- C₂N₂, vertical electron affinity meas. by electron transmission spectroscopy 4-1291
- Cl⁻ discharges optogalvanic photodetachment spectroscopy 4-23668
- CsI(Br), secondary emission efficiency (*Russian*) 4-51422
- Cu, electron affinity calcs. relativistic effect 4-28355
- FeH, ⁴A ground-state assignment, GVB/MRSD Cl calcs. 4-49005
- GaAs epitaxial layers, photoelectric emission study 4-21105
- HCCO⁻ (DCCO⁻), electron affinity meas. by photoelectron spectrosc. 4-38248
- H₂O, electron-propagator calculations with a transition-operator reference 4-28574
- I⁻, discharge, optogalvanic photodetachment spectroscopy 4-23668
- InGaAsP epitaxial layers, photoelectric emission study 4-21105
- KCl, secondary emission efficiency (*Russian*) 4-51422
- Li₂⁺, low-lying electronic states, ionisation pot. electron affinity, valence config. calcs. 4-43818
- LiF:O crystals, F₂⁺ centre stability (*Chinese*) 4-50282
- LiF:O₂⁻, F₂⁺ centre stability, decay mech., rate constants, activation energy 4-39290
- LiHe⁺, electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
- Li(¹S), electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
- Li(²S), electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
- NH₃⁺, electron-propagator calculations with a transition-operator reference 4-28574
- NaCl, secondary emission efficiency (*Russian*) 4-51422
- (Na₂KSB)Cs films, photoemission and optical const. (*Russian*) 4-51456
- Ne, electron-propagator calculations with a transition-operator reference 4-28574
- PbS, electron impact, dissoc. energy determ. by mass spectrometer meas., electron affinity, appearance pot. 4-14590
- PbSe, electron impact, dissoc. energy determ. by mass spectrometer meas., electron affinity, appearance pot. 4-14590
- PbTe, electron impact, dissoc. energy determ. by mass spectrometer meas., electron affinity, appearance pot. 4-14590
- SO₂, electron affinity, flowing afterglow study 4-33523
- SO₂, electron affinity, electron transfer equilibr. study 4-33524
- Si⁺, electron affinities, ab initio MRD-Cl calcs. 4-18935
- U₂F₆ (8 \leq n \leq 12), electron affinities, ion-molecule reactions, mass spectra 4-51963

electron annihilation *see* **electron-positron interactions****electron attachment**

- dichlorodifluoromethane, dissociative attachment, flowing afterglow-Langmuir probe technique 4-38342
- dichlorodifluoromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534

electron attachment continued

- dichlorodifluoromethane- N_2 binary mixtures, breakdown strength and synergism factor 4-34226
diffuse discharge opening switches, electron drift vel. and ionisation and attachment coeffs. 4-34367
electron swarms in gases and liquids, conf., Innsbruck, Austria (Aug. 1983) 4-31970
ethylene, negative ions, electron transmission and attachment spectroscopy 4-5501
fluoroethylenes, negative ion form. and dissoc., electron attachment spectroscopy 4-54877
fluoroethylenes, negative ions, electron transmission and attachment spectroscopy 4-5501
gases, electron-attachment reactions under NCI conditions, electron energy moderating gas effect 4-49160
hydrocarbons, liquid, elec. cond. in DC divergent fields, bubble generation 4-39918
molecular gases and nonpolar liqs., electron attachment processes 4-33531
perfluorohydrocarbons, negative ion form. and dissoc., low energy electron impact 4-5506
perfluoropropylene, nondissoc. electron attachment, temp. and press. depend. 4-33533
polar mols. dissociative attachment, negative ion ang. distrib. 4-5505
polyatomic mols., slow electron attachment, s wave model 4-54875
tetrachloromethane, dissociative attachment, flowing afterglow-Langmuir probe technique 4-38342
tetrachloromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
trichlorofluoromethane, dissociative attachment, flowing afterglow-Langmuir probe technique 4-38342
trichlorofluoromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
trichloromethane, dissociative attachment, flowing afterglow-Langmuir probe technique 4-38342
trichloromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
CO-SF₆-air mixtures, breakdown, attachment and ionisation 4-34225
CO₂ clusters, electron attachment, mol. beam electron impact mass spectrosc. 4-10205
CO₂, dissociative electron attachment, O⁻ prod. 4-5500
Cl₂, dissociative attachment, flowing afterglow-Langmuir probe technique 4-38342
Cl₂, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
D₂, dissociative attachment, semiclassical calcs. 4-5497
F₂, electron attachment rate coeffs. calc. 4-19255
H₂, dissociative attachment, semiclassical calcs. 4-5497
H₂, electron impact, low energy dissociative attachment 4-5508
H₂, dissoc. attachment, electron-nucl. correls., eigentime anal. 4-5483
HCl-N₂ mixtures, electron attachment coeffs., Monte Carlo simulation 4-14593
HD, dissociative attachment, semiclassical calcs. 4-5497
HgBr₂, dissociative electron attachment processes 4-5503
Kr, slow electron superelastic collisions, impact deexcitation 4-38275
Li₂, pot. energy curves, ab initio CI calcs. 4-48947
Na halides, dissociative electron attachment, negative ion fragment distrib. 4-5504
Na₂, electron impact dissociative attachment Na⁻ form. 4-5502
Na₂, pot. energy curves, ab initio CI calcs. 4-48947
O₂, electron attachment cooling, Boltzmann eqn. eigenvalue anal. 4-23807
O₂, electron attachment in supercritical hydrocarbon fluids 4-10075
O₂, resonant electron attachment freq. 4-54874
O₂, thermal electron attachment, pulse radiolysis microwave cond. tech. 4-5507
O₂, thermal electron diffusion, attachment and cooling 4-28558
O₂-CO₂(N₂) thermal electron diffusion, attachment and cooling 4-28558
O₂-ethane, thermal electron attachment to van der Waals molecules 4-33532
O₂-ethylene, thermal electron attachment to van der Waals molecules 4-33532
SF₆-(N₂) mixtures, electron transport coeffs. 4-34215
SF₆, dissociative attachment, flowing afterglow-Langmuir probe technique 4-38342
SF₆, electron motion in uniform elec. field, Monte Carlo simulation 4-20054
SF₆, slow electron attachment, s wave model 4-54875
SF₆, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
SF₆-N₂ binary mixtures, breakdown strength and synergism factor 4-34226
SF₆-N₂ mixtures, ionisation and attachment coeffs. 4-49922
Xe, slow electron superelastic collisions, impact deexcitation 4-38275

electron avalanches

- avalanche-streamer transition, critical electron density, statistical approach 4-50122
gas breakdown in elec. field, streamer development 4-24518
SF₆, electron avalanches and avalanche-streamer transition 4-39022

electron beam absorption *see electron absorption***electron beam applications**

- see also electron beam deposition; electron beam lithography; electron beam machining; electron beam welding; radiation therapy*
diffuse discharges, electron beam controlled, switching appls. 4-55677
dose calibration of high energy electron beams for medical appls. (Chinese) 4-58011
Dynaray-CH linear accelerator for BBC radiotherapy system 4-36216
electron beam image recording (Chinese) 4-19384
ion source, solid, using electron beam induced vaporisation and ionisation 4-48254
KrF laser, electron-beam pumped, excitation, quenching and absorption kinetics 4-55020
laser discharge cavity, electron beam controlled, discharge confinement 4-28731
radiation-chemical processes initiating apparatus 4-37249
radiotherapy, broad electron beams, model for depth dose distrib. calc. 4-8114
radiotherapy, energy spectra calc. from depth-dose curves 4-21819
radiotherapy, ionisation produced by electron beams beneath curved surfaces 4-8092

electron beam applications continued

- semiconductor doping technique, appl. to P doping (Chinese) 4-39317
semiconductor electron beam annealing by electron gun, uniformity of implant activation 4-6407
Si, polycrystalline, defect-free SOI layer prod. by dual electron beam recrystn. 4-15781
SOI film recrystn. using electron-beam line source 4-34823
therapy, equivalent squares method, appl. to photon and electron beams 4-8102
therapy, simulation applicators 4-26518
welding, electron beam-solid interaction in terms of deep penetration (Polish) 4-29481
whole skin electron beam rotational therapy using a Varian Clinac 18/10 linear accelerator 4-52455
CO laser, electron-beam-controlled laser, submicrosec. pulse emission by Q-switching 4-19474
CO laser, electron-beam-controlled, pulse shape anal. 4-23966
CO laser, pulsed electron-beam-controlled, with intracavity water cell, emission spectrum 4-19432
CO noncooled laser with short-pulse electron beam excitation 4-23956
CO pulsed electron-beam controlled laser, active medium gain 4-14678
CO₂ electron beam controlled atm. pressure laser utilising CO₂-N₂-H₂O mixture, energy characts. 4-28659
CO₂ electron-beam-controlled laser, thermal self-interaction, numerical analysis 4-14667
CO₂ electron-beam-controlled CW laser, energy characts. stabilisation by silica gel 4-19475
CO₂ laser, electron-beam sustained, laser-induced freq. sweeping 4-44085
GaAs, ion-implanted, study following electron-beam annealing 4-20230
GaAs:Se, implanted, electron-beam annealed, electron microscopy study 4-20229
n-GaAs:Si, Be-implanted, p-v-n junction form. by swept line electron beam annealing 4-50359
HF chemical lasers, electron-beam initiated, 250 J output energy 4-14681
KD₂PO₄ crystal based cathode-ray space-time light modulator, adaptive-optics 4-5692
Kr₂Cl⁺ kinetic studies in electron beam excited Kr-carbon tetrachloride mixtures 4-23754
KrF excimer laser, electron beam pumped, with 14 J output power 4-14680
KrF lasers, longitudinally electron-beam excited, 115 J output energy 4-14672
N₂⁺ laser pumped by charge transfer 4-49335
Nb-W-Zr-C alloys, production by carbothermal reduction-electron beam melting method 4-21183
SOS films, Si-implanted and electron beam annealed, high resolution electron microscopy 4-20505
Si, CW beam-annealed, electron microscopy and defect/impurity spectroscopy 4-20604
Si:B, polycryst., ion implanted, time-resolved scanned electron beam annealing 4-50360
Si:Co(Cr), implanted polycryst., electron-beam annealing 4-24870
Si:P solar cells, pulsed electron beam annealing effect on open-circuit voltage 4-16786
Si:P(As), ion implanted, rapid isothermal annealing with electron beam system 4-15539
Si-SiO₂, polycryst., electron beam recrystn. 4-34824
Ta-Zr supersaturated solid soln. films, supercond., pulsed electron beam form. 4-20754
XeCl laser, 100 J, pulsed, electron beam pumped 4-28730
XeCl laser pumped by microsec. electron-beam pulses 4-28671
ZnO UV laser, electron-pumped, output power increase using bulk waveguide resonators 4-10326
ZnSe heteroepitaxial film grown from organoelemental cpds. as electron beam pumped laser 4-14698

electron beam deposition

- composition-modulated struct. prep. using dual electron beam evaporator 4-51499
evaporation characteristics of electron beam gun heated sources 4-46438
high rate electron beam evaporation, process and applications 4-30641
metal foils, unbacked cylindrical, of submicron thickness, production 4-16322
physical vapor deposition by electron beam processes 4-3075
quartz electron beam and HF cathode sputter deposition, influence on GaAs surface comp. (Ukrainian) 4-25130
relativistic electron beam deposition expts. on planar foil and C-diode 4-40659
Ag mirror coatings, highly stable, electron-beam and resistive evaporation 4-10403
Al-SiO₂-Si MOS struct., elec. characts., effect of Al gate deposition process (Russian) 4-40059
Co-Cr-Al-M coatings (M=Si, Y, Hf, Zr), oxide struct., effect of deposition and processing variables 4-15788
Ge, epitaxial growth by electron beam evaporation on Si, elec. characts. (Japanese) 4-29842
Si, recrystallization on thermal SiO₂-coated Si substrates, zone melting, electron beam line source 4-50666
Si₃N₄ films deposited with electron beam created plasma 4-51528
SiO₂ films, electron beam assisted CVD 4-3079
SiO₂-ZrO₂ high-optical-strength thin-film interf. polarisers for high-power lasers 4-55066
SiO₂/N₂O films, electron-beam evaporated, IR optical props. 4-2977
TbF₃, opt. props., thickness and wavelength depend. 4-57012
ZnS film grown by at. layer epitaxy and electron beam evaporation, electrolum. spectra 4-51391
ZnS:Mn electroluminescent films, growth by atomic layer epitaxy and electron beam evaporation 4-25186
Zr overlayers on Pt(100) surface, structural and chemisorptive props., LEED and AES study 4-50616
ZrO₂ bulklike films, ion-assisted electron beam deposition, optical props. 4-3086
ZrO₂ thin films, struct. and optical props. 4-57010

electron beam effects

- see also beta-ray effects; cathodochromism; cathodoluminescence; electron impact; plasma-beam interactions*
acrylate resin coatings, prep. and electron beam radiation curing 4-7721
air, ionisation by pulse relativistic electron beam action, conductivity, ion form. rate and light flash 4-38933

electron beam effects continued

alkali halides, defect formation efficiency, effects of homologous cation impurity (*Russian*) 4-34546
 alkali halides, high-current pulsed electron beam bombardment, dielec. breakdown 4-7124
 alloys, electron irradi., order-disorder transition kinetics 4-39474
 amplification of transverse electromagnetic waves in electron beams 4-5540
 back-surface field solar cell, EBIC characterisation 4-46872
 benzene thin films, luminesc. emission and excitation spectra under slow electron impact at 77K 4-11923
 binary alloy films, HVEM irradi., nonequilib. segregation 4-15646
 borosilicate charged glasses, laser-induced elec. breakdown 4-7123
 ceramic floating target surface pot. meas. with parallel beam technique 4-39066
 channelling, soliton type potential 4-24884
 creep velocity measurement, in electron accelerator, stress relaxation (*Russian*) 4-50413
 crystal plate, light emission by moving fast electron 4-7265
 diamond, band struct. and electron band populations in case of axial channelling 4-25211
 diamond, type-Ia and IIa, relativistic positron and electron channelling radiation, platelet effects 4-34554
 dielectric breakdown, electron beam initiated, beam charging model anal. 4-35351
 dielectric surface discharges, effects of combined low- and high-energy electrons 4-10903
 dielectrics and coatings, space radiation effects, simulated, rel. to Galileo Orbiter 4-45209
 diffusion X-ray scattering, study of radiation point defects (*Russian*) 4-50129
 DNA strand breaks repair in NHK 3025 cells after combined electron radiation and hyperthermia 4-8048
 doped semiconductors, pulsed electron annealing dynamics 4-45191
 E. coli B and its S-30 and DNA-plus-membrane fractions, radiation-induced mol. changes 4-31291
 electron- and photon stimulated desorption, surface chem. information 4-11403
 elemental semiconductors, lattice defect effects in induced current scanning microscopy 4-15481
 epoxy resin, cured, ESR study exposed to high-energy radiation 4-40232
 fibre reinforced polymers 4-34544
 fusion reactor first wall design concepts, ASURF test programme 4-9401
 glass fibre reinforced composites, mech. props. rel. to 2 MeV electron irradi. 4-30757
 glass floating target surface pot. meas. with parallel beam technique 4-39066
 graphite fibre reinforced epoxy composites, electron irradi. effects on interlaminar shear and flexural strength props. 4-2231
 hexatriacontane thin film, electron irradi., secondary electron emission spectra 4-24868
 high-level glass, microstructure and radiation effects, electron microscope irradiation 4-711
 ice, electron irradi. induced amorphous state, anomalous devitrification 4-39344
 ice, polycrystalline, TSEE in vacuum, 190-205K, electron bombardment effect 4-3035
 insulating materials, discharge damage and breakdown in gaseous cavities 4-40342
 insulators, thermally stimulated electron emission 4-30594
 ionosphere, electron beam injection expts., laboratory beam plasma discharge 4-31715
 Kapton H films, current conduction under electron beam 4-45903
 laser generation of electron beam pumped activated crystals. 4-51303
 magnetic confinement inside imploding liners by rotating relativistic electron beams 4-34310
 materials, effect of conc. energy fluxes, review 4-55862
 metal, cascade function at PKA energies near threshold (*Russian*) 4-50356
 metals, electron and γ -irrad., peaking effect model 4-50338
 metals, electron and γ -irrad., peaking effect models 4-50337
 metals, time differential perturbed angular correlation method (*Chinese*) 4-29479
 monocrystal converters, use in radiation damage simulation with gamma radiation beams (*Russian*) 4-24866
 monoenergetic positron-solid surface interaction, review 4-30574
 neutral gas, propagation velocity of an ionization front maintained by a relativistic electron beam 4-1869
 optical fibres, radiation damage 4-14789
 optical fibres, single mode, X-ray and electron induced attenuation 4-55193
 orthoclase feldspar, Al-Si ordering, electron-induced X-ray emission study 4-20144
 oxide insulators, electron stimulated desorption during SIMS profiling, isotope effect 4-45532
 p-n junction, highly-doped emitter, diffusion length and surface recomb. vel. meas. with SEM 4-35052
 p-n junctions, EBIC linescans, computer simulation 4-35060
 p-n junctions under EBIC and EBIV, study by SEM-minicomputer system 4-6886
 PET, contact-injected space charge 4-11596
 piezoelectric ceramic materials, pulsed electron beam damage threshold and props. 4-45190
 PMMA resist exposure with light ions, lithographic appls. 4-35537
 poly(2-chloro-p-xylylene), crystal structure determ., X-ray diffr. and electron bombardment 4-39164
 polydiacetylene crystals, rad. damage, high resolution microscopy study 4-29480
 polyether acrylic isocyanate oligomers, coatings, radiation curing 4-7720
 polyethylene pipes, radiation-induced cross linking effects on props. (*German*) 4-45187
 polyethyleneterephthalate, electron beam charged, elec. field effects 4-11829
 polyethyleneterephthalate, electron irradi. induced conductivity 4-6788
 polyfluoroethylene propylene, electron beam charged, elec. field effects 4-11829
 polymer electrets, radiation-induced charge transport, Teflon FEP, Hostaphan PETP and Solef PVDF 4-16142
 polymethyl methacrylate, electron radiation-stimulated stratification of space charge 4-2877
 polystyrene, electron irradi. induced conductivity 4-6788

electron beam effects continued

polystyrene films, low energy electron transport, electron beam induced cond. effect 4-34984
 positron annihilation studies of vacancy-type defects, review 4-40560
 quartz, electron irradi., metamict transform. 4-20257
 quartz, irradi., positron annihilation lifetimes rel. to thermal cond. in glassy material 4-40561
 quartz optical fibre cable irradi. by 8 MeV electrons, radiation strength 4-14804
 rare earth alloy thin films, crystallisation under electron beam annealing 4-34826
 Schottky barriers, minority carrier lifetime excited by electron bombardment 4-25440
 Schottky diode, induced current profiles under electron irradi., determ. of semicond. minority carrier diffusion length 4-50834
 semiconductor laminated struct., surface polariton theory (*Russian*) 4-56237
 semiconductor materials and devices 4-34379
 semiconductors, dislocations, EBIC contrast and SEM methods 4-15478
 semiconductors, electron beam annealing using pulsed electron beams, review 4-24871
 simian virus 40 irradiated with van de Graaff electrons, lack of enhanced reactivation in UV-irrad. CV-1 monkey cells 4-21742
 steel, austenitic stainless, 316, void swelling, solute Ti effects in electron irradiation 4-15535
 steel, austenitic stainless, type 304, applied stress effect on swelling behaviour, electron microscope investig. 4-29478
 steel, austenitic stainless, type 316, fusion first wall test pieces, thermomechanical testing in ESURF 4-9400
 steel, stainless, Cr-Ni and Cr-Mn, radiation-stimulated transforms. in struct. 4-57230
 Teflon FEP foils, negative charge transport, const. current method 4-34985
 X-ray prod. in thin films by electrons, bremsstrahlung cross-sections 4-7284
 X-ray prod. in thin films by electrons, characteristic cross-sections 4-7285
 Ag, ellipsoidal spheroids, surface-plasmon radiation 4-46333
 Al, electron and gamma irradi., void form., dislocation struct., electron microscopy (*Russian*) 4-24869
 Al, K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 Al, point defect clusters at twin boundary 4-24805
 Al, surface, electron and ion excitation, Auger effect 4-11973
 Al-O system, electron bombardment effects on AES spectra (*French*) 4-50364
 Al-SiO₂-Si, MOS capacitor, hole traps optical generation in thermal oxide, electron irradiation effects 4-50929
 Al(Mn), stress relaxation, effect of electron irradi. 4-55874
 Al₃Ga_{1-x}As, solid soln., phase state change with pulsed annealing 4-55875
 Al₂O₃, electron irradi. damage in cation sublattice, HVEM and optical meas. 4-20255
 Al₂O₃, electron-induced desorption (*Russian*) 4-50357
 Al₂O₃, pure and He-doped, electron irradi., void and Al precipitate form. 4-15541
 Al₂O₃-Ag₂O, β and β'' phases, struct. and props., high resolution electron microscopy study 4-34477
 AsSb₃-CdSe heterostructure, EBIC study 4-50918
 As₂Se₃Ge_{0.5} heterostructure, EBIC study 4-50918
 Au floating target surface pot. meas. with parallel beam technique 4-39066
 Au thin films sputter deposited on Si, adhesion changes induced by electron irradi. 4-39342
 Bi, electron irradi., galvanomagnetic props. at 4.2K, rigid-band model 4-35014
 Bi₄Ge₃O₁₂, BGO cryst., radiation hardness under fast electron exposure 4-50358
 C fibre reinforced composites, mech. props. rel. to 2 MeV electron irradi. 4-30757
 CaSO₄, anhydrite, electron channelling effects, low energy limit 4-6416
 Ca-ion desorption from glass, electron-impact-stimulated, optical obs. 4-25149
 CdS/Cu₂S solar cells fabricated on single-crystal CdS substrates, scanning light spot and electron beam-induced current scans 4-21557
 CdS-CuInSe₂ thin film solar cells, interface activity 4-36013
 CdTe, defect study by SEM/EBIC 4-15480
 CdTe-Au Schottky diode, defect study by SEM/EBIC 4-15480
 CsNO₃, electron and X-ray irradi., struct. changes, X-ray diffr. study 4-50354
 Cu, electron irradi., internal friction flux depend. 4-29525
 Cu floating target surface pot. meas. with parallel beam technique 4-39066
 Cu, K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 Cu, neutron yields from electron bombardment, $E \leq 100$ GeV 4-6406
 Cu, oxidised and reduced, electron irradi., dislocation pinning effects 4-39305
 Cu, reduced and oxidised, internal friction and Bordoni peaks, electron irradi. effects 4-40879
 Cu-Al (12 wt.%), friction and wear rel. to heat treatment and electron beam surface melting 4-57354
 α -Fe, electron irradi., void growth and vacancy migration energy 4-11338
 Fe, impurity-vacancy interactions, muon spin rotation expts. 4-34527
 Fe vapour phase chemical transport in CsI, electron beam irradi., LMFBR fuels appl. (*Japanese*) 4-23149
 Fe-Cr-Ni, austenitic, electron irradi., defect props., elec. resist. meas., comp. depend. 4-55877
 Fe-Cr-Ni (18, 14 wt.%), austenites, irradi. in HVEM, interstitial migration, role of C and Ti (*French*) 4-34545
 Fe-Ni dilute alloy, electron irradi., annealing behaviour, mag. aftereffect study 4-46073
 Fe-Pd surface alloy, ion channelling and TEM studies of epitaxial growth 4-45544
 Fe₇₅B₂₅ metallic glass, electron irradi., displacement threshold energy 4-11187
 FeCr₁₀P₁₃C₇, electron beam irradiated, surface amorphous layer formation 4-11189
 FeCr₈P₁₃C₇, electron beam irradiated, surface amorphous layer formation 4-11189
 GaAs, electron indicated, deep donor levels excitation and annealing (*Russian*) 4-56265

electron beam effects continued

- GaAs, electron irradiated, mech. of dislocation climb, electron microscopy study 4-20198
 GaAs, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
 GaAs, heavily doped, electron irradi., annealed, internal quantum efficiency of deep-centre luminesc. 4-7246
 GaAs oxide film, plasma grown, Auger anal. 4-34827
 GaAs, proton and electron irradi., proton annihilation and damage profiles 4-40562
 GaAs, radiation-stimulated gettering at interfaces (*Russian*) 4-39341
 GaAs, recomb. electron beam irradi. enhanced dislocation mobility 4-15540
 GaAs:Zn, implanted p^+ layers, electron beam annealing, profile broadening control 4-50355
 GaAsP, form. by ion implantation and annealing, Schottky contact study 4-50317
 GaAs, P_{1-x} , solid soln., phase state change with pulsed annealing 4-55875
 GaP, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
 GaP, radiation-stimulated gettering at interfaces (*Russian*) 4-39341
 Ge, CZ grown, defects induced by annealing or irradiation 4-20182
 Ge, electron irradi., subthreshold, search for intrinsic point defects 4-45189
 Ge, electron irradi. defects, DLTS studies 4-34913
 Ge films, laser and electron beam enhanced crystallisation 4-15524
 Ge rod-like defects due to electron irradi. 4-34482
 a-Ge thin films, electron beam induced explosive crystallisation and dendritic growth 4-39711
 Ge:H, H^+ implanted or electron irradi., H-divacancy complexes, DLTS study 4-15833
 Ge-Si-Cu, solid soln., electron irradi. effect on electrophys. props., radiation defect form. control by alloying 4-56363
 GeSe, amorphous thin films, crystn. in TEM 4-34406
 H₂, ionisation and excitation yields on fast electron irradi. 4-55479
 InP, electron irradi. induced defects, minority carrier injection annealing 4-50828
 InP, irradi. defects, elec. and optical investigations 4-34902
 InP, low temp. electron irradi., defects, DLTS studies 4-50758
 InP, recomb. electron beam irradi. enhanced dislocation mobility 4-15540
 InP, undoped and doped, DLTS obs. of electron irradi. defects 4-34903
 InP:Cd p^+ - p -n junctions, EBIC linescans, computer simulation 4-35060
 InP:Fe, impulse photoconductance decay, electron beam excited 4-50863
 InP:Se, implanted, transient annealing using graphite strip heater and electron beam methods 4-34509
 InP:Se, ion implanted, rapid thermal and electron beam annealing 4-15537
 InSb, single cryst., 2 Mev electron irradi. between room temp. and 200°C, dislocation loops, electron microscopy study 4-11188
 KBr, electron irradi., nanosecond absorption spectra studies 4-25790
 KBr, radiation-induced vol. charge, dynamical studies 4-2199
 KBr:Ca, radiation-coloured, Z₁ centre form. under optical bleaching, thermal prehistory effect 4-39291
 KCl:Ca, radiation-coloured, Z₁ centre form. under optical bleaching, thermal prehistory effect 4-39291
 KCl:l, absorpt. spectra, annihilation of F-H pairs 4-35470
 KCl:l, pure and doped, triplet exciton absorption, radiation jarring and relax. kinetics 4-51309
 K₂₀MoO₃, CDW superlattice, electron beam effects 4-55878
 K₂O-Al₂O₃-CaO-SiO₂, phase-separated glass, spinodal decomp. 4-7417
 Li, K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 LiF, electron-induced desorption (*Russian*) 4-50357
 LiTaO₃ single cryst., reduction, electron irradi. and ESR spectra 4-45188
 Mg, electron irradi., Bordoni peak amplitude and temp. variations (*French*) 4-50431
 Mg, electron irradi. and cold worked, internal friction and anelastic phenomena (*French*) 4-40880
 Mg, internal friction and modulus meas. at low temp., electron irradi. effect (*French*) 4-39388
 Mg, surface, electron and ion excitation, Auger effect 4-11973
 MgAl₂O₄, neutron-electron irradiation, crystal defect study (*Russian*) 4-51379
 MgZnTe, energy deposition and heating kinetic anal. under pulsed electron bombardment (*French*) 4-55879
 Mo, cascade/cluster struct., low-energy damage effects 4-50363
 Mo, He implanted, electron bombardment-induced loop punching 4-6371
 N₂-O₂ mixtures, electron irradi., NO prod. rates and efficiencies 4-33517
 Na, surface, electron and ion excitation, Auger effect 4-11973
 NaCl, electron irradi., colloid prod. 4-20256
 NaNO₂, electron and X-ray irradi., struct. changes, X-ray diffr. study 4-50354
 Na₂O-BaO-B₂O₃-SiO₂-CeO₂ glass, radiation colouring, radio- and thermoluminescence 4-11190
 Nb carbides protective coatings, thermal shock resist., SEM, optical microscopy (*Russian*) 4-26075
 Nb₂Sn coatings, radiation defect distrib., nucl. gamma reson. methods (*Russian*) 4-24877
 Ni, electron irradi. induced creep 4-46575
 Ni, irradi., dislocation loop growth and void swelling, quantitative anal. 4-55876
 Ni₃Al alloy, vacancies, positron annihilation studies 4-29427
 PLZT ferroelectric ceramics, transparent, dielec. props., electron- and γ -irrad. and mag. field effects 4-46191
 PbSe_{0.5}Nb_{0.5}O₃, ferroelectric ceramics, transparent, dielec. props., electron- and γ -irrad. and mag. field effects 4-46191
 Pt (100), molecular and dissociated NO electron stimulated desorption 4-45508
 Pt, electron impact, luminance amplitude near melting point 4-35401
 S, deposition on W surface under electron bombardment, AES study (*Japanese*) 4-46379
 Sb, amorphous films, vacuum-deposited, crystn., electron irradi. effects 4-56176
 SbNbO₄, electron and X-ray irradi., struct. changes, X-ray diffr. study 4-50354
 Si amorphous ion implanted layers, seeded crystallisation using laser and electron irradi. 4-55724
 Si, band struct. and electron band populations in case of axial channelling 4-25211
 Si, bulk stacking faults, EBIC and high volt. electron microscopy studies 4-55848

electron beam effects continued

- Si crystal, thin cooled, coherent bremsstrahlung from relativistic electrons 4-30556
 Si, deep level defects after beam processing in solid phase regime 4-15839
 n-Si, deep levels introduced by electron beam deposition of metals, DLTS study 4-50887
 p-Si, defects induced by electron beam deposition, DLTS study 4-50886
 Si, EBIC contrast from dislocations, temp. depend. 4-15479
 n-Si, electron irradi., defect form. parameters 4-50361
 Si, electron irradi., muonium states 4-35321
 Si, electron irradi., subthreshold, search for intrinsic point defects 4-45189
 Si, electron irradiated, group III acceptors deactivation, MOS capacitor study 4-20726
 Si films, laser and electron beam enhanced crystallisation 4-15524
 Si, ion implanted, pulsed electron beam annealing, melting and freezing kinetics 4-20254
 Si, point radiation defects, form. and electrostatic interaction with disordered regions 4-15518
 Si, polycrystalline film, electron beam melting and recrystallisation on insulator substrates 4-20253
 Si polycrystalline grain, minority carrier transport meas. in SEM, EBIC response 4-39931
 Si, proton and electron irradi., proton annihilation and damage profiles 4-40562
 Si, pulsed electron beam annealing, struct. defects induced by thermoelectric stresses, SEM studies 4-24822
 Si, rod-like defects due to electron irradi. 4-34482
 Si solar cells, electron irradiation and light injection 4-46870
 Si, surface, electron and ion excitation, Auger effect 4-11973
 Si:As, ion implanted, controlled diffusion by electron beam heating 4-15699
 Si:As (B), ion implanted, pulsed electron beam annealing 4-15536
 Si:B, ion implanted, multiple scan electron beam annealing (*French*) 4-15538
 Si:C, ion implantation at low temp., SiC formation, IR and EBIC studies 4-15508
 Si:Co, impurity-electron irradi. induced defect reactions, Mossbauer study 4-45178
 a-Si:H, recombination processes and spin-dependent photocond. 4-6831
 Si:Na, electron irradi., radiation defects, Hall effect meas. 4-50362
 Si:P, proton irradi., fast electron annealing of IR absorption bands 4-34547
 Si: Sb, ion implanted, dopant conc., electron and ion channelling studies 4-50332
 n-Si/Au Schottky diodes, elec. characts. and electron beam annealing 4-15961
 Si/metal systems, silicide formation by CW scanned laser and electron beams 4-24864
 Si/Pt system, reaction products after pulsed electron beam annealing 4-15717
 Si/Sb thin film system, pulsed laser-and electron beam-induced diffusion 4-15716
 Si-Pt interface, silicide formation by pulsed electron beams, heat flow transients calc. 4-34548
 SiC, electron irradi., optical props., annealing effects (*Japanese*) 4-46286
 SiC, electron-induced desorption (*Russian*) 4-50357
 SiC-C CVD coating for fusion reactor, performance results 4-20527
 Si, Ge_{1-x}/GaAs heterojunction systems, radiation-stimulated gettering of struct. defects 4-30067
 Si₃N₄, amorphous film, luminescence study 4-25818
 Si₃N₄ CVD films, AES anal. electron and ion beam effect 4-51421
 SiO₂, electron-induced desorption (*Russian*) 4-50357
 SiO₂ films, elec. props., electron irradi. and HCl treatment effects 4-56465
 SiO₂, quartz, point defects, thermoluminesc., IR and EPR study 4-21053
 SiO₂ surface composition changes during ion and electron bombardment, temp. depend. 4-25136
 SiO₂ thin films, electron beam excited, geminate recombination 4-56464
 SiO₂:B layers, electron beam excited TSEE 4-3031
 SmS mixed valence cpd., electron irradi., displacement threshold energy 4-11187
 SnO₂-SiO₂-Si solar cells, electron radiation effects 4-46871
 TaS₂ (1T), Anderson localisation, effect of cryst. defects 4-6738
 TaS₂, electron irradi. effects, charge density wave pinning, dielectric and cond. props. 4-39887
 TaS₂, electron irradi. induced defects, CDW pinning 4-56326
 TaS₂, one-dimensional, electron irradi., CDW transport, noise spectrum 4-34956
 TaS₂, strandlike domains in charge density wave states 4-11463
 TaS₂, electron irradi., displacement threshold energy 4-11187
 TmS, thin film, formation of oxide phases, electron beam irradiation, aging in air 4-56165
 UW_{0.34+2}, cryst. struct., electron and ion irradi. effects 4-2160
 W (011) with adsorbed H and D lattices, thermal and electron-stimulated disordering 4-11407
 XeCl laser, e-beam excited, simulation 4-55016
 ZnTe, energy deposition and heating kinetic anal. under pulsed electron bombardment (*French*) 4-55879
 Zr, electron irradi. damage, recovery, positron annihilation study 4-16267
 Zr, foil, 14 and 38 MeV, 4.2°K, isochronous annealing (*Russian*) 4-39343

electron beam impact see electron impact

electron beam lithography

- see also electron resists
 column for 50×50 mm² deflection area 4-49254
 deflection system, large area, with very low aberration 4-38385
 defective focusing system with large field coverage for submicron lithography 4-38380
 DFB phase-shifted lasers for single-mode operation, 1.5 μ m 4-28718
 diffraction grating pitch control using electron-beam exposure system, integrated optics appls. 4-24266
 focusing and deflection system with vertical beam landing 4-38382
 holographic masks, electron beam generated, for optical vector-matrix multiplication 4-49301
 in-lens deflection system with nonequisected-type multipole electrostatic deflectors, electron beam lithographic machine appls. 4-37253
 mask alignment precision checking using interferometric method 4-42910
 microfabrication, electron beam lithography in 100 nm region 4-32392

electron beam lithography continued

- nanolithography, spatial resolution limits 4-38388
- nanometre lithography, exposure and development simulations 4-38386
- PMMA resist exposure with light ions, lithographic appls. 4-35537
- proximity correction, image processing approach 4-38387
- variable shape lithography, optical parameter optimisation 4-38381
- Nb/Nb small area planar Josephson tunnel junction, fabrication 4-40115

electron beam machining

No entries

electron beam welding

- Cu electron beam weldment in moisture monitor, failure anal. 4-12192

electron beams

- see also *electron impact; electron optics; Schwarz-Hora effect*
- Boersch effect and resolution in optoelectronic systems 4-33609
- charge neutralisation by ions, steady-state behaviour 4-28278
- Cherenkov oblique angle stimulated radiation anal. with some expt. results 4-49317
- cyclotron maser, longitudinal and helical wiggler configs., self-elec. and self-mag. field effects 4-55058
- cylindrical resonator, transition radiation, electron bunch shape influence 4-49255
- deflection system for electron and ion beam lithography, large area, with very low aberration 4-38385
- deflective focusing system with large field coverage for submicron lithography 4-38380
- ELA-50/5 electron-beam unit 4-4502
- electron beam propagation in cylindrical waveguide, integrodifferential eqns., numerical realization 4-23881
- electron-photon showers, 200 MeV to 1 GeV, energy deposition, Monte Carlo code 4-37739
- EM wave amplification by electron beam passing through slit 4-5593
- energy conversion of intense relativistic electron beams to high-power electrical pulses 4-23883
- extended, nonlinear wave and oscillatory processes 4-23884
- filamentary perturbation of fast electron beam, induced soliton (*Chinese*) 4-936
- finite-zoned space charge limited E-field evaluation 4-23880
- focusing and deflection system with vertical beam landing 4-38382
- foil-focused relativistic electron beam equilibrium 4-18841
- formation in diode with multiple-tipped explosive emission cathode 4-28276
- free electron laser storage ring system, 1-dimens. numerical simulation, power output, electron beam props. 4-33669
- generation from laser activated W and graphite 4-54945
- GW electron and ion beams generation by plasma focus discharges 4-34329
- HF radiation pulse excitation by relativistic electron beams in vacuum and plasma systems 4-33248
- high-current relativistic electron beam in EM wave field, explosive instability 4-44034
- ICF, status of relativistic electron beam driving 4-6148
- in-lens deflection system with nonequisectioned-type multipole electrostatic deflectors, electron beam lithographic machine appls. 4-37253
- inert gas atoms, metastable level excitation in crossed electron and gas dynamical at. beams 4-43827
- IREB, discrete energy spectrum 4-23882
- irradiation facility for internal friction and modulus meas. (*French*) 4-39388
- kinetic energy extraction and division, inverse and series diode expts. 4-33610
- lateral diffusion coeff. and vel. distrib. function under elect. field effect 4-33605
- magnetic plasma divertors, axisymmetric, beam divergence preservation 4-2016
- magnetised, temp. relax. 4-1331
- magnetised relativistic electron beam, radiation emission in electrostatic pump field 4-44032
- modulated intense relativistic electron beam interaction with cavity 4-49247
- monoenergetic electron source for collisions with atoms and mols. 4-13736
- neutralised electron beam stability in NAP-M proton storage ring 4-33225
- oscillating virtual cathodes, high-power coherent microwave generation 4-33599
- picosecond modulated electron beams from plasma focus, streak camera obs. 4-24638
- planar charge neutralised electron beam diode, laminar flow 4-50089
- plasma-beam instability, effect of electron beam transverse dimensions 4-15173
- quasi-neutral relativistic, in rarefied gas, equilibrium, expt. 4-28615
- quasineutral, instability in semiinfinite metallic waveguide 4-28614
- Raman type free electron laser, two-dimens. mode anal. by electron beam waveguide 4-33668
- reflection from semiinfinite medium, ang. distribution 4-5544
- relativistic, in coaxial vacuum lines, steady-state movement calcs. (*Russian*) 4-34278
- relativistic, self-focusing dynamics in plasma 4-15269
- relativistic, stimulated coherent EM wave scatt. 4-5656
- relativistic, transport and pulse shaping in low press. gases 4-1329
- relativistic beam dense filamentary propagation obs. 4-33611
- relativistic electron beam, interaction with slow Langmuir wave, reson. amplification 4-44040
- relativistic electron beam compression by continuously varying mag. field 4-23876
- relativistic electron beam generator, tabletop design 4-13721
- relativistic electron beam generators in collective ion accelerators 4-15314
- relativistic electron beam heating of plasma electrons in tandem mirror 4-6112
- relativistic electron beam in neutral gas, space charge neutralisation dynamics 4-44041
- relativistic electron beam in semiinfinite vacuum waveguide, steady-state configuration 4-49256
- relativistic electron beams, laser scatt. diagnostics 4-48860
- relativistic high current electron beams, velocity diagnostics meas. 4-14634
- resonant helically distorted relativistic electron beam equilibria for free electron laser applications 4-54941

electron beams continued

- rotating electron beam in crossed fields: space charge and nonlinear effects 4-28610
- semiconductor thin films, interaction dynamics of dimensionally quantised electrons with intense opposite EM waves 4-57020
- semimetallic thin films, interaction dynamics of dimensionally quantised electrons with intense opposite EM waves 4-57020
- short-wave emission from high-current beams 4-28650
- sliding spark, well-controlled, circuit development 4-20046
- Smith-Purcell radiation from a charge moving above a penetrable grating 4-23886
- spatial trajectory packing in helical mag. field 4-5543
- spot growth, influence of current density distrib. 4-54944
- steady state, colliding, EM radiation generation, power scaling 4-55555
- stimulated wave scattering by relativistic electron beam in uniform mag. field, linear theory 4-33601
- superlattices, electron beam, nonrelativistic, extreme UV and X-ray emission and amplification 4-56962
- TEM, beam spreading, Boltzmann transport eqn. 4-22883
- trajectory displacement due to local space-charge force 4-38383
- transition to chaos in EM field 4-14632
- variable shape lithography, optical parameter optimisation 4-38381
- KrF laser, coaxially excited by electron beam generator 4-55021
- N vapour with incident electron beam, anomalous Cherenkov radiation in D-doublet struct. (*Chinese*) 4-1330
- Si crystal, radiative moderation of electron beam 4-5076

electron capture

- see also *charge exchange; electron attachment*
- aromatic hydrocarbons radical anions with Li^+ , Na^+ and K^+ , $^{13}\text{CNMR}$ shifts, spin density and electron transfer in THF solns. 4-16106
- asymmetric collision, electron capture, thesis 4-49159
- atom+ion collisions, asymmetric, electron capture, intermediate to high velocity 4-10040
- atom+ion collisions, electron capture to continuum at asymptotically high vels. 4-10024
- atom+ion collisions, electron capture to continuum peak screened pots. 4-10017
- atom+ion collisions, radiative electron capture, strong-pot. Born theory 4-5345
- atom+stripped ion, electron capture peak shape, screened electron interaction effects 4-10021
- atom-ion collisions, high energy, differential electron-capture cross-sections, Thomas peak, expt. and theory 4-54856
- atom-ion collisions, radiative electron capture, off-shell Coulomb wavefunction 4-14535
- atomic many electron collisions, capture probabilities, time depend. HF calcs. 4-14559
- atoms and ions, spectral parameters, HF functions, orthogonalisation procedure 4-33313
- bound Rydberg states, threshold capture width determ. 4-5496
- collisional electron transfer into the continuum of ionic projectiles 4-43972
- diaryl ketones radical anions with Li^+ , Na^+ and K^+ , $^{13}\text{CNMR}$ shifts, spin density and electron transfer in THF solns. 4-16106
- dichlorodifluoromethane, vol. electron capture, laser optogalvanic effects 4-23801
- electron capture and loss into continuum 4-10022
- energetic heavy ions, effective charge and stopping power rel. to gases, solids and plasmas 4-24579
- exponential distorted wave approximation in charge transfer 4-19239
- fast highly charged ions in gas targets, electron capture 4-14532
- gas ionisation and electron capture cross-sections from proton impact 4-19185
- heavy ion+fast light atom, electron capture, angular distrib. peak study 4-38320
- intermolecular electron tunnelling reactions, matrix charge capture competition correction 4-30053
- ion+atom collisions, charge changing cross section, effective charge 4-5342
- ion-atom collisions, electron capture in high energy collisions, total cross section computation 4-10014
- ion-ion collision, resonant two-electron charge exchange (*Russian*) 4-54860
- ionic-covalent collision interactions, pot. energy curves 4-33520
- K-shell one-electron capture in asymmetric collisions at intermediate and high energies 4-43975
- laser-enhanced electron-ion capture and anti-H formation, electron cooling study 4-5350
- molecular gases and nonpolar liqs., electron attachment processes 4-33531
- multiple scattering theory approaches 4-14541
- multiple scattering theory of electron capture in intermediate- to high-velocity collisions 4-5344
- multiple-scattering calculation of electron transfer process 4-43974
- multiply charged ions electron capture, translational spectroscopy 4-14546
- multiply charged projectile+light target collisions, electron capture study 4-14542
- n population for electron capture processes involving multiply charged ions ($1 < E < 10 \text{ keV/q}$), target effect 4-19242
- plasma impurity ion detection with active neutral Li beam diagnostics, absolute emission cross sections 4-55630
- polyatomic mols., slow electron attachment, s wave model 4-54875
- second Born calculations, exact for differential and total cross-section 4-10043
- second Born contribs. to electron capture to continuum 4-49150
- strong Born pot. calcs. 4-28556
- thionine triplet+aniline, electron transfer reaction in reversed micelles, mag. field enhanced radical yield 4-30932
- Thomas peak obs. 4-19227
- transfer ionization and Coulomb ionization in collisions of multiply charged ions with atoms 4-19245
- Wick's theorem in strong-pot. approx. 4-1261
- Ar^{n+} , ($n=12$ to 15), KLL dielectronic recombination 4-38315
- $\text{Ar}+\text{Be(B)}(\text{C})$, cross-sections for one-electron capture 4-19219
- $\text{Ar}+\text{H}^+(\text{H}_2^+(\text{He}^+))$ collision, ion induced L_3 -subshell alignment of Ar 4-43959
- $\text{Ar}^{2+}+\text{He}(\text{Ne})$, state-selective electron capture 4-14553
- $\text{Ar}^{2+}+\text{He}(\text{Ne})$ (Kr), state-selective electron capture studied by translational attenuation method 4-19223

electron capture continued

- $\text{Ar}^{3+} + \text{He}$, electron capture energy loss spectra 4-14547
 $\text{Ar}^{3+} + \text{He}$, single e^- capture, energy loss spectra diff. cross sections 4-43979
 $\text{Ar}^{6+} + \text{Ar}(\text{Ne})$, single-electron capture, energy gain spectra 4-49149
 $\text{Ar}^{6+} + \text{H}$, electron capture, electronic state population 4-14552
 $\text{B}^{3+} + \text{He}$ electron capture collision, relative population between $\text{B}^+(2s)$ and $\text{B}^{2+}(2p)$ meas. 4-1238
 Be^+ , elastic electron scatt. cross section (*Russian*) 4-23816
 C target, solid and gaseous, charge-changing cross section by hydrogenic ions impact 4-43962
 $\text{C}^{2+} + \text{He}(\text{Ne})(\text{Ar})$, state-selective electron capture 4-14553
 $\text{C}^{3+} + \text{He}$, state-selective electron capture 4-14553
 $\text{C}^{9+} + \text{He}(\text{Ar})(\text{H}_2)(\text{N}_2)$, electron capture cross sections 4-14537
 Cl fast ions, Z_2 oscill. of mean charge states after passage through thin foils 4-1260
 $\text{Cl}^{19+} + \text{Ar}(\text{Kr})(\text{S})$, electron capture into metastable states, delayed Auger electron meas. 4-14540
 $\text{F}^{7+} + \text{He}(\text{Ne})$, electron capture, F K-Auger emission spectra meas. 4-23805
 F^{n+} metal surface, ionisation and electron transfer for K-, L- and M-shells 4-9988
 $\text{F}^{17+} + \text{He}$, ($q=6,7,8$), electron capture processes, energy-gain spectroscopy 4-54859
 $\text{Fe}^{26+} + \text{He}(\text{Ar})(\text{Ne})(\text{N}_2)$, total charge transfer cross sections 4-33525
 H^+ , electron capture by beam-foil interaction, $n=3$ states polarisation 4-28557
 H^+ , electron capture in gases 4-10048
 H^+ electron capture in large angle scatt. 4-10042
 H^+ heavy ion collisions, charge equilib. 4-19249
 $\text{H} + \text{Ar}^{17+}(\text{C}^{9+})(\text{O}^{8+})$, electron capture, ionisation, crossed beam coincidence study 4-19177
 $\text{H} + \text{Ar}^{17+}(\text{Ne}^{6+})$, electron capture cross section for low vel. ions 4-19232
 $\text{H} + \text{B}^{3+}(\text{C}^{5+})(\text{O}^{8+})$, charge capture, fully quantal calcs. 4-14560
 $\text{H} + \text{C}^{6+}(\text{O}^{8+})(\text{Ne}^{10+})$, electron capture, sublevel Stark mixing 4-14565
 $\text{H} + \text{C}(\text{N})(\text{O})(\text{Ne})$ multiply charged ions collisions; electron capture at low keV energies 4-19234
 $\text{H} + \text{Dy}^{94+}(\text{Ta}^{84+})(\text{Re}^{64+})(\text{Au}^{64+})(\text{U}^{94+})$ collisions, total electron capture cross sections charge depend., nonmonotonic behaviour for $q=4$ to 25 4-19233
 $\text{H} + \text{H}^+$, electron capture, close-coupling calc. 4-19220
 $\text{H} + \text{H}^+$, electron capture, differential cross section ang. distrib. 4-1259
 $\text{H} + \text{H}^+$, electron capture into highly excited states 4-10053
 $\text{H} + \text{He}^{2+}$ electron capture, close-coupling calc. 4-19220
 $\text{H} + \text{Na}(\text{K})(\text{Rb})$, charge exchange cross-sections meas., 0.2 to 5.0 keV 4-10036
 $\text{H} + \text{X}^{q+}$, state-selective electron capture, energy gain/loss spectra 4-14554
 $\text{H} + \text{X}^{q+} \rightarrow \text{H}^+ + \text{X}^{(q-1)+}$ cross beam expt., electron transfer coincidence meas. 4-19231
 $\text{H} + \text{X}^{q+} \rightarrow \text{X}^{(q-1)+} + \text{H}^+$, electron capture in slow collisions, $q \gg 1$ 4-19230
 H^+ alkali atom, electron capture and excitation 4-10057
 $\text{H}^+ + \text{H}$, electron capture, second order Brinkman-Kramers approx. calcs. 4-10049
 $\text{H}^+ + \text{H}$ electron exchange, linear Stark effect in eikonal calcs. 4-54638
 $\text{H}^+ + \text{H}(\text{Is}) \rightarrow \text{H} + \text{H}^+$, electron capture, high energy, close-coupling calcs. 4-10041
 $\text{H}^+ + \text{H}(\text{Is}) \rightarrow \text{H}(\text{nIm}) + \text{H}^+$, electron capture into highly excited states 4-10016
 $\text{H}^+ + \text{He}$, electron capture, orthogonality effects on initial and final states 4-10050
 $\text{H}^+ + \text{He}(\text{S})$ collisions, Hartree-Fock calcs. 4-10054
 $\text{H}^+ + \text{He}(\text{C})(\text{Ne})(\text{Ar})$ K-K shell electron capture in asymmetric collisions at high and intermediate energies 4-10051
 $\text{H}^+ + \text{Li}$, electron capture, two-centre AO expansions 4-54852
 $\text{H}^+ + \text{Li}$, electron capture cross section, H excited state form. 4-33522
 $\text{H}^+ + \text{Mg}$, electron capture contrib. to 2p-vacancy prod. 4-49152
 $\text{H}^+ + \text{Na}(\text{K})(\text{Rb})$, charge exchange cross-sections meas., 0.2 to 5.0 keV 4-10036
 $\text{H}_2 + \text{Ar}^{17+}(\text{Ne}^{6+})$, electron capture cross section for low vel. ions 4-19232
 $\text{H}_2 + \text{Be}(\text{B})(\text{C})$, cross-sections for one-electron capture 4-19219
 $\text{H}_2 + \text{C}^+(\text{O}^+)(\text{In}^+)(\text{Sn}^+)(\text{Pb}^+)(\text{Sn}^{2+})(\text{Pb}^{2+})$, electron capture cross-sections meas., 10-150 keV 4-10037
 H_2 multiply charged ions, electron capture, target ionisation pot. effect 4-19243
 $\text{H}_2 + \text{Ne}^{6+}(\text{O}^{6+})$, electron capture into different (n,l) states 4-14556
 $\text{H}_2 + \text{Ne}^{9+}$, $q=2,4$, electron capture cross sections 4-19221
 $\text{H}_3 \rightarrow \text{H}_2 + \text{H}^+$ in Ar , dissociation, electron capture and electron loss cross sections 4-9930
 H_2S gamma radiolysis in presence of methyl bromide and HCl 4-16674
 H_2^+ , scatt. and interaction from NiFe surface, optical radiation 4-11994
 ^3He electron capture and stripping, high energy 4-23800
 $\text{He} + \text{Ar}^{17+}(\text{Ne}^{6+})(\text{Kr}^{17+})$, low energy electron capture cross sections 4-14550
 $\text{He} + \text{C}^{6+}(\text{N}^{6+})(\text{O}^{6+})(\text{Ne}^{6+})$, electron capture into different (n,l) states 4-14556
 $\text{He} + \text{C}^{6+}(\text{N}^{7+})(\text{O}^{8+})$ collisions, electron capture study by multichannel model 4-19235
 $\text{He} + \text{C}^{9+}(\text{N}^{9+})(\text{O}^{9+})$, electron capture processes, final state anal. 4-14548
 $\text{He} + \text{F}^{9+}(\text{Ne}^{6+})$, electron capture, final state anal., translational energy spectra 4-14549
 $\text{He} + \text{H}^+$, continuum electron capture 4-10020
 $\text{He} + \text{H}^+$, electron capture and excitation collisions 4-23798
 $\text{He} + \text{H}^+(\text{Li}^{3+})(\text{Be}^{4+})(\text{C}^{6+})(\text{O}^{8+})$ electron capture cross-sections, uniaxially distorted wave approx. calcs. 4-38317
 $\text{He} + \text{He}^{2+}$, one and two electron capture, time-dependent HF description 4-23802
 $\text{He} + \text{Ne}^{6+}$, $q=2-5$, electron capture cross sections 4-19221
 $\text{He} + \text{Si}^{11+}$, electron capture and loss cross sections 4-14534
 $\text{He}^{2+} + \text{H}$, electron capture cross sections, coupled channel approx. 4-49158
 $\text{He}^{2+} + \text{H}$ collisions, electron capture and excitation cross section 4-43961
 $\text{He}^{2+} + \text{H}(\text{Is}) \rightarrow \text{He}^+ + \text{H}^+$, electron capture, high energy, close-coupling calcs. 4-10041
 $\text{He}^{2+} + \text{He}$, electron capture, global transfer cross sections calc. 4-5346
 $\text{He}^{2+} + \text{He}(\text{S})$ collisions, Hartree-Fock calcs. 4-10054

electron capture continued

- $\text{He}^{2+} + \text{Li}$, single electron capture cross sections, AO expansion method 4-54853
 $\text{He}^{2+} + \text{Li}$ collisions, charge transfer calc. 4-19236
 $\text{He}^{2+} + \text{Li}$ collisions, electron capture cross section calc. 4-19237
 $\text{He}^{2+} + \text{Li}$ collisions, two electron capture at high energies 4-19238
 ^{163}Ho , photon-induced electron capture 4-1264
 I_2 , vol. electron capture, laser optogalvanic effects 4-23801
 $\text{Kr}^{2+} + \text{Ne}$, electron capture, ion energy-loss spectra 4-14551
 $\text{Kr}^{2+} + \text{Ne}$, one electron capture reactions, drift tube study 4-43948
 $\text{Kr}^{19+} + \text{He}$ ($q=7$ to 25), one-electron capture cross sections, R_c depend. 4-43973
 Li sequence, dielectronic recombination cross section at low energies 4-19222
 $\text{Li} + \text{C}^{9+}(\text{O}^{9+})$, state-selective electron capture cross sections 4-14557
 $\text{Li} + \text{H}^+$, excitation and electron capture in inelastic collisions, 2-15 keV 4-10000
 $\text{Li}^{2+} + \text{Ar}(\text{He})(\text{N}_2)$, electron capture and loss, Li metastable ion form. 4-14538
 Mg^{2+} , elastic electron scatt. cross section (*Russian*) 4-23816
 Mg^{2+} , electron scatt., elastic cross-section, electron capture effects 4-19265
 $\text{N} + \text{Ar}^{18+}$ electron capture cross section in highly excited Ar^{18+} p states 4-14544
 $\text{N} + \text{Fe}^{25+}(\text{Fe}^{26+})$, electron capture cross section in high p Rydberg states 4-14545
 $\text{N}^{2+} + \text{He}(\text{Ne})$, state-selective electron capture 4-14553
 $\text{N}^{7+} + \text{He}(\text{H}_2)$, two-electron capture, N^{5+} autoionisation, electron spectra 4-49147
 $\text{Na} + \text{Ar}^+(\text{Na}^+)$, charge transfer, final state distrib. M and L depend. 4-19252
 Ne^{9+} , electron capture into metastable states, delayed X-ray emission 4-14539
 $\text{Ne}^{2+} + \text{He}(\text{Ne})(\text{Ar})$ collisions, single- and double-electron capture cross sections 4-43976
 $\text{Ne}^{2+} + \text{Xe}$, electron capture, transfer ionisation, translational spectra 4-38313
 $\text{Ne}^{44+} + \text{Ne}$, excited projectile states, electron capture 4-14558
 $\text{Ne}^{9+} + \text{He}$, ($q=7,8,9$), electron capture processes, energy-gain spectroscopy 4-54859
 O^{3+} dielectronic recombination cross section at low energies 4-19222
 O^{9+} electron capture into metastable states, delayed X-ray emission 4-14539
 $\text{O} + \text{H}^+(\text{H}(\text{Is}))(\text{H}(2s))(\text{H}^-)$, collisional electron capture, loss and excitation, cross-sections 4-10029
 $\text{O}^{17+} + \text{He}(\text{Ar})(\text{N}_2)(\text{H}_2)$, electron capture cross sections 4-14537
 $\text{S}^{11+} + \text{He}$, one-electron capture cross sections, R_c depend. 4-43973
 $\text{S}^{13+} + \text{Ar}$, resonant transfer and excitation collisions, vacancy sharing 4-19225
 $\text{S}^{13+} + \text{He}$, one-electron capture cross sections, R_c depend. 4-43973
 $\text{S}^{17+} + \text{C}$, radiative electron capture, L-shell nonequilibrium effect 4-14536
 SF_6 , slow electron attachment, s wave model 4-54875
 SF_6 , vol. electron capture, laser optogalvanic effects 4-23801
 Si fast ions, Z_2 oscill. of mean charge states after passage through thin foils 4-1260
 Si^{17+} metal surface, ionisation and electron transfer for K-, L- and M-shells 4-9988
 $\text{Sm}^{64+} + \text{Ar}(\text{Xe})$ collision, ($q=52$ to 54), M-subshell effects in electron capture 4-19248
 $\text{Sm}^{64+} + \text{Xe}$ collisions, ($q=52$ to 54), electron capture at 3.6 MeV/u 4-19247
 U^{91+} , electron capture and ionisation cross sections 4-28554
 U^{92+} , electron capture cross sections 4-28554
 $\text{U}(\text{IV}) + \text{U}(\text{VI})$ electron exchange reaction for isotope separation 4-738
 $\text{Xe}^{2+} + \text{Ar}$, one electron capture reactions, drift tube study 4-43948
 $\text{Xe}^{64+} + \text{Xe}$ collisions, ($q=44$ to 47), electron capture at 3.6 MeV/u 4-19247

electron capture, nuclear see nuclear electron capture

electron density

- see also carrier density; current density; electron density (metals); plasma density
 ablation plasmas, Stark profiles studied using time-resolving X-ray crystal spectrograph, electron density 4-24619
 astrophysical objects, electron densities from Be-like ions spectra 4-53040
 auroral ionosphere, electron density vars. due to gravity waves 4-22247
 auroral ionosphere, electron plasma density deduced from lower oblique resonance measurements 4-52989
 Balmer beta core study in pulsed plasma 4-48457
 equatorial electrojet, Type I irregularities, nonlinear theory 4-13123
 F-region, auroral zone, struct. and morphology of irregularities 4-22254
 F-region, electron density distrib. at high-latitude, three-dimens. nonstationary model 4-22207
 F-region, plasma freq. var. above Vietnam and plasma characts. 4-36534
 ferrocene derivatives, substituent effects on cyclopentadienyl ring charge distrib. (*Hungarian*) 4-16723
 Heliotron D runaway electron behaviour during ohmic discharges 4-20005
 IC 405 and 410, H II regions, characts. 4-13456
 interstellar electron density, determ. from pulsar dispersion measures 4-4072
 ionosphere, Alouette-ISIS radio wave studies of cleft, auroral zone and main trough 4-22252
 ionosphere, density profile modeling 4-47477
 ionosphere, electron density and temp. vars. during mag. storms 4-8347
 ionosphere, HF heating, perturbed region simulation 4-47478
 ionosphere, ledge effect in A1 absorption measurements 4-52988
 ionosphere, low-energy electron precip., scintillations and total electron content in auroral oval 4-22253
 ionosphere, rocket-borne obs. of winter anomaly over Volgograd 4-52986
 ionosphere, solar cycle and seasonal vars., Chatanika incoherent scatter radar obs. 4-22239
 ionosphere, struct. and dynamics of winter polar cap F-region 4-22203
 ionosphere D-region, electron density and energy distrib. rel. to auroral absorpt. event 4-58343
 ionosphere electron density equinoctial analytical model, depend. on solar activity 4-22209
 K 648, planetary nebula in M15, appearance, electron density, ionised nebula mass 4-13399
 light atoms, electron densities, HF and local density approx. 4-1051

electron density continued

- light atoms, inhomogeneity corrected Thomas-Fermi theory appl., electron density calc. 4-28370
 NGC 2024, mol. cloud, radio-recomb. line intensities and electron parameters 4-8553
 Orion A, mol. cloud, radio-recomb. line intensities and electron parameters 4-8553
 p-block elements, π electron density, reactivity of 2 and 3 element molecules (*Japanese*) 4-38046
 p-block elements, π electron density, reactivity of 3 and 4 element molecules (*Japanese*) 4-38047
 planetary nebulae, IR lines anal. 4-53252
 plasma diagnostics, electron concentration determ. by incoherent laser scattering 4-55628
 plasma diagnostics, scanning microwave interferometer for ELMO bumpy torus 4-6194
 plasma slab, collisional, magnetised and moving, EM wave interaction 4-1924
 profile in high-latitude nighttime lower ionosphere, artificial radiowave effects 4-22210
 SNRs, shell type, evolution and plasma characts. 4-47672
 solar wind, electron density towards Venera 13 and 14, radiowave propag. anal. 4-47518
 Sun, coronal electron density from Fe XII lines 4-3963
 Sw St 1, compact planetary nebula, physical conditions, visible/UV obs. 4-31889
 1,2,7,8-tetraaza-4,5,10,11-tetraoxatricyclo (6.4.1.1^{2,7}) tetradecane, bonding, X-ray anal. 4-33559
 Townsend discharge in transverse mag. field, electron conc. 4-29268
 W3, mol. cloud, radio-recomb. line intensities and electron parameters 4-8553
 Be, electron density, HF and local density approx. 4-1051
 CuBr lasers operating in double-pulse excitation regime, afterglow electron density time depend. 4-19431
 CuI lasers operating in double-pulse excitation regime, afterglow electron density time depend. 4-19431
 He, HF discharge, spectroscopic and probe investigs. 4-50115
 Li, electron density, HF and local density approx. 4-1051
 NF₃ discharges, negative ion and electron densities, microwave interferometry 4-39014
 Ne glow-discharge plasma, laser excited, electron density temporal var., relationship to optogalvanic signal 4-49932

electron density (crystallography) *see crystallography***electron density (metals)**

- conduction electron density at a cylindrical dilatation 4-15865
 metals, thermodynamic and kinetic characts., diamag. oscills. at low temps. (*Russian*) 4-45997
 skin effect in multichannel specular reflection of conduction electrons from the surface (*Russian*) 4-50858
 AuIn₂ thin films, elec. resist. and grain size at 4.2 K 4-40079

electron density (semiconductors and insulators) *see carrier density***electron density of states** *see electronic density of states***electron density of states (condensed matter)** *see electronic density of states***electron detachment**

- atom+negative ion collision, electron detachment, dynamical complex potential 4-38308
 atom+negative ion collision, electron detachment, time-depend. theory, propagator model 4-38307
 atomic negative ions, electron photodetachment in near-threshold region 4-1104
 atomic negative ions, electron photodetachment is near threshold region 4-1105
 atomic negative ions strong-field photodetachment spontaneous photorelaxation 4-48993
 atomic threshold laws, long range interactions 4-54832
 p-benzoquinone anion, time resolved electron energy loss spectra 4-5475
 negative ion, photodetachment of electron by strong EM field, threshold singularities 4-1109
 negative ions, electron photodetachment, continuum-continuum transitions, population trapping 4-19010
 negative ions, photoabsorption, oscillator strength mag. field induced redistribution 4-5174
 slow anion impact on ions, electron detachment 4-9965
 slow negative ion+atom collisions, electron detachment 4-9966
 C₂⁻, ultrahigh resolution photodetachment obs. 4-9844
 CN₂⁻, photodetachment threshold by laser optogalvanic spectroscopy 4-1220
 Cl⁻ discharges optogalvanic photodetachment spectroscopy 4-23668
 Cl⁻+Ar(Na)(Mg) collisions, electron detachment cross section 4-9964
 Cl⁻+inert gases, electron detachment cross section 4-1251
 D⁻+H₂(HD)(D₂) collisions, electron detachment cross sections 4-9961
 F⁻+He(N₂)(CO₂) collisions, electron detachment study by differential time of flight energy loss study 4-9970
 F⁻+N₂(H₂)(CO₂) collisions, autodetaching states, electron spectra study 4-9972
 H⁻, photodetachment cross section, polarised orbital method 4-9731
 H⁻+He(Ne)(Ar), energy distrib. of detached electrons 4-9963
 H⁻+CO₂, shape reson. charge exchange, non-Franck-Condon behaviour 4-49148
 H⁻+CO₂ collisions, charge exchange to shape resonances 4-9971
 H⁻+H(H₂), H⁻ collisional electron detachment Born cross sections leading to H⁰ in 1S, 2S and 2P final states 4-9962
 H⁻+He(Ar)(Xe) collisions, electron detachment cross sections in energy range 500 to 2000 eV 4-9968
 H⁻+He(Ne)(Ar), keV collisions, electron detachment, scaling law 4-9904
 H⁻+He(Ne)(Ar)(chloromethane), doubly differential electron detachment cross-sections, target depend. 4-38316
 H⁻+Kr collisions, autodetaching state excitation 4-9969
 H⁻+N₂(CO)(H₂)(O₂), energy distrib. of detached electrons 4-9963
 H⁻+N₂(O₂)(SF₆) collisions, electron detachment cross sections in energy range 500 to 2000 eV 4-9968
 H⁻+Ne(He) collisions, electron detachment cross sections 4-9967
 H⁻+O₂(No), charge transfer electron detachment to shape reson. 4-28555
 H⁺+H⁻ collisions, electron detachment 4-43963
 HF, electron impact vibr. excitation and assoc. detachment 4-10160
 He⁻ (⁴P_o), photo-double detachment, near threshold meas. 4-1125
 He⁻, near threshold two electron photoionisation absolute cross section 4-19015

electron detachment continued

- He⁻ photodetachment, 1s2p2p' ⁴P_o reson. obs. 4-1129
 I⁻, discharge, optogalvanic photodetachment spectroscopy 4-23668
 K⁻, photodetachment, spin correl. study 4-23669
 K⁻+He(Ar), keV collisions, electron detachment, scaling law 4-9904
 Li⁻+He(Ne)(Ar), keV collisions, electron detachment, scaling law 4-9904
 Na+H⁻, electron detachment, free electron scatt. approx. calcs. 4-9960
 Na⁻+He(Ne)(Ar), keV collisions, electron detachment, scaling law 4-9904
 Ne+H⁻(D⁻) collisions, electron detachment 4-9925
 O⁻ flowing afterglow discharge switches, photodetachment as control mechanism 4-39024
 O⁻+He(Ne)(Ar), energy distrib. of detached electrons 4-9963
 O⁻+N₂(CO)(H₂)(O₂), energy distrib. of detached electrons 4-9963
 SF₆⁻ unimol. decomp., energy-entropy trade-offs 4-3396
 Ti⁻+Ar(Na)(Mg) collisions, electron detachment cross section 4-9964

electron detection and measurement

- angle-resolving electron energy analyser, with novel input lens 4-13733
 ARGUS electron-photon calorimeter, props. of light collection system 4-5086
 beam current meas. of electron gun, instrumental function of four-grid analyser determ. 4-37256
 calorimeter, segmented extruded Pb-glass, a pion-electron response E=15-45 GeV 4-5087
 cavity theories for electrons, absorbed dose conversion factor derivation, radiotherapy appl. 4-31340
 DeL'fin device, relativistic electrons from laser plasma 4-29254
 drift chamber for studies of radiation from relativistic particles in single crystals 4-961
 e⁺e⁻ colliding beams, charged particle and EM shower detection 4-9631
 electron spectroscopy in coincidence with protons from the (t,p) reaction 4-54527
 EM calorimeters using wire chambers 4-18853
 EM shower calorimeter performance at PEP-4 4-23468
 exoelectron detection efficiency increase using after-pulses in organic-quenched Geiger-Muller counters 4-23500
 high energy dosimetry standards research (*Japanese*) 4-28207
 lead glass scintillator sandwich EM shower detector, test results and practical evaluation 4-957
 lead glass shower counters at high energies 4-958
 lead-glass drift calorimeter design with MWPC detection 4-23521
 Mott polarisation analyser, medium-energy compact design 4-33272
 nondestructive electron field emission meas., from oxide coated Cu cathodes 4-48258
 OPAL detector at LEP 4-9638
 phosphate glass:Ag, electron and photon dose meas. 4-48798
 plasma diagnostics, electron concentration determ. by incoherent laser scattering 4-55628
 SCGI-C glass scintillation counter, response to 2-17.5 GeV positions 4-54550
 secondary electron imaging detector, for scanning electron microscope 4-18013
 spectrometer of conversion electrons, with beta background suppression 4-28281
 thin layer chromatograms, positron-emitting radionuclides counting 4-35961
 thin multiwire chamber operation in high multiplication mode 4-23469
 transition radiation detectors for electron identification beyond 1 GeV 4-23520
 CaSO₄:Dy-Teflon TLD, Kilogray dosimetry 4-48777
 Ne(Ar), solid, prototype calorimeter performance 4-956
 Xe filled proportional scintillation wire chamber, energy loss distrib. meas. 4-23522

electron device manufacture

- see also integrated circuit manufacture; semiconductor device manufacture*
 thin-film resistance bolometer IR detectors, prep. and performance 4-37179

electron device noise

- hole-initiated photoavalanche processes, noise 4-6847
 inductive precision length measuring instruments, signal-to-noise ratio, computer-aided optimisation (*German*) 4-48099
 interferometer sensors, laser noise props. 4-5716
 magnetometer based on SQUID, transients allowing for noise (*Russian*) 4-27544
 MESFET optimum semiconductors for HF and low-noise appl. 4-29965
 metal/insulator/metal tunnel junctions, quantum shot noise 4-20739
 photomultiplier tube, noise variation under various DC voltages, energy spectra 4-38003
 pigtailed lasers, modal noise characterisation and specification 4-33660
 semiconductor laser partition noise influence on modal noise 4-38485
 AlGaAs lasers, intensity noise statistics 4-33659
 AlGaAs multi-longitudinal-mode TJS laser diodes, noise characts. 4-33661
 (AlGa)As-GaAs 2-D electron gas devices, deep-level anal. by low-freq. noise measurement 4-50909
 Al_{0.49}In_{0.51}As/Ga_{0.47}In_{0.53}As interdigitated photoconductive detectors 4-37170
 Bi₂Ge₂O₇, scintillation light detection using Si photodiodes 4-54543
 GaAlAs lasers in single longit. mode, HF phase noise 4-33658
 GaAs MESFET, cryogenically cooled, noise characts. obs. at 4 MHz 4-42990
 GaAs/GaAlAs gain and index guided lasers, linewidth broadening due to competition noise 4-38484
 Ge avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 InGaAs avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 InGaAsP lasers, 1.3 μ m, AM quantum noise 4-28686
 InSb, hot electron bolometers, nonequilibrium Johnson noise 4-27592
 p-InSb, IR detector, material parameters and surface props. effects 4-43053
 InSb, MIS detector, dark current phenomena 4-37174
 Si avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 Si submicrometer inversion layer in MOSFET, discrete resist. switching and interface traps 4-30079

electron diffraction

see also electron diffraction crystallography; electron diffraction examination of materials; gas phase electron diffraction; high energy electron diffraction; low energy electron diffraction
macroscopic objects, electron diffraction 4-36857
transmission electron microscopy, image form. and microanalysis, book 4-47789

electron diffraction crystallography

see also crystal atomic structure; Debye-Waller factors; electron diffraction examination of materials
alkyl chain lipids, identification of long-chain packing, electron diffraction crystallography 4-26359
computer programme for unique indexing of patterns 4-44900
dynamical theory, anal. of crit. voltage data 4-15353
electron wave phase changes at exit surface of scatt. cryst. 4-6225
high-resolution diffraction patterns obs., using electron microscope with adapter 4-44902
large cell crystals, high resolution images 4-39059
large-angle convergent-beam zone axis patterns 4-50153
polymer structure determination 4-44901
sign conventions in electron diffraction and imaging 4-24693
space groups, dynamic extinction determination in convergent beam electron diffraction 4-10929
TEM, cryst. symm. determ. 4-34378
transmission electron microscopy, image form. and microanalysis, book 4-47789

electron diffraction examination of materials

see also gas phase electron diffraction; high energy electron diffraction; low energy electron diffraction; reflection high energy electron diffraction
adsorbate core levels, X-ray photoelectron diffraction, 500-10000 eV, polarised radiation 4-45491
alloys, amorphous, atomic scale struct., scatt. expt. studies 4-55735
alloys, liq. and amorphous, structure, diffraction studies 4-44932
carbon tetrachloride, liq. and plastic crystalline, electron, X-ray and neutron diffraction 4-45034
cyclopropylacetylene, mol. struct. by electron diffraction-microwave spectra combined anal. 4-14607
electron energy loss spectrometry for use in materials science 4-50149
graphite-HNO₃ intercalation cpd., struct. determ. by X-ray and electron diffraction. (French) 4-45104
graphite-11IB element trichloride intercalation cpds., struct., low temp. anal. (French) 4-45103
graphite-SbCl₅ intercalation cpd., struct. and cond., TEM obs. (Chinese) 4-50248
mesophase spherule, carbonaceous, microstruct. study using TEM and X-ray diffraction 4-29643
metallic epitaxial bilayers, accommodation and misfit dislocations obs. (French) 4-45557
phospholipid monolayer transferred from water to solid substrates, electron microscopy and diffraction study 4-57860
poly(1,8 nonadiene), cryst. struct. of macromonomer and crosspolymerised product, electron diffraction study 4-2101
polyethylene terephthalate, amorphous, morphology, electron diffraction contrast micrograph obs. 4-15401
polypropylene-polyethylene blends, heat treated, drawn, morphology 4-45030
pyridine intercalated NbS₂, mol. arrangements, electron diffraction study 4-15458
quartz, electron irradiation, metamictic transform. 4-20257
rare earth alloy thin films, crystallisation under electron beam annealing 4-34826
steel, alloy, surface layers, electron microscopic methods (Czech) 4-41147
steel, austenitic stainless, cellular precipitation in Al- and Ti-containing alloys 4-40800
steel, austenitic stainless, cold drawing, deform. and transform. textures (Japanese) 4-35628
steel, galvanized, corrosion resist., surface passivation (German) 4-51862
steel, stainless, Cr-Ni and Cr-Mn, radiation-stimulated transforms. in struct. 4-57230
steel, stainless, lath martensite, crystallography and microstructure 4-45139
superalloy, GH302, fault structure of simple hexagonal lattice (Chinese) 4-55847
transition metal hydrides, cryst. struct. determ. by electron diffraction 4-39060
twist boundary, large angle, detection of expansion using electron diffraction 4-2216
visualisation of very small coherent precipitates by phase contrast method 4-39058
water, solid clusters struct. formed in free jet expansion 4-29403
zirconolite, CaZrTi₂O₇, alpha recoil damage 4-29488
AgAuTe₄, cryst. struct. and antiphase boundaries 4-29389
AgInSe₂ thin film growth by flash evaporation, X-ray and electron diffraction anal. 4-46444
Ag₂Ta₂S₇ (2H), elec. resist. meas., CDW anomaly, temp. depend. 4-6756
Al (001) surface, medium energy electron diffraction study 4-20445
Al/Ni(Pd)(Pt), bilayers, phase formation by ion beam mixing and thermal annealing 4-11194
Al-Cu (4 wt.%), θ' plates, heights of ledges, determ. by electron diffraction and lattice plane imaging 4-57228
Al-Cu-Mg, ageing mechanism, TEM, electron microdiffraction obs. (Russian) 4-25977
Al-Zn (15 at.%), coherent spinodal curve temp., hardness meas., TEM studies 4-30700
3Al₂O₃·2SiO₂, mullite, form. from oxides in Al-Si thin films, electron diffraction exam. 4-29843
Al_{4+2x}Si_{2-2x}O_{10-2x}, mullite, superstructures, high resolution electron microscopy and diffraction study 4-39247
AuTe₂, cryst. struct. determ. 4-29388
Au₂Zn(H), dissociated antiphase boundaries and dislocations 4-29645
Bi₂S₃ film, cathodic electrodeposition, struct. and composition charact. 4-34816
C black, laser heating and rapid cooling, phase transformations obs. 4-34629
C films, diamond-like, obtained by ionised deposition of acetylene (Japanese) 4-2471
C films, ion beam deposition, structural, elec. and optical props. 4-29841
CaZrTi₂O₇, zirconolite, polytypic behaviour 4-50271
CdInGaS₄, ordered phase struct. and domain struct., electron microscopy and electron diffraction study 4-39529

electron diffraction examination of materials continued

CdO-ZnO-P₂O₅ glasses, memory switching 4-45840
CdSe-TiO₂ interface, struct., comp., adhesion, TEM, electron diffraction obs. 4-56156
Co-Cr-Mo-C implant alloy, ageing behaviour 4-7485
Co-Cr-Mo-Ni, superalloy, HS 21, carbide grain refinement, nucleation entropy 4-12068
Cu early oxidation stage during CW CO₂ laser irradiation 4-41035
Cu phthalocyanine, chlorinated, X-ray and electron diffraction interpretation using laser optical diffraction techniques (Japanese) 4-55690
Cu/Al thin film bilayers, interdiffusion and sequential cpd. form. 4-29707
Cu-Al (>16 at.%), short range order, DTA, elec. resist., selected area diffraction 4-34441
Cu-Al-Ni, β Hulme-Rothery alloys, modulated microstruct. 4-40742
Cu-Ti with disperse oxides, ageing and hardening (Russian) 4-51678
Cu-Zn, β Hulme-Rothery alloys, modulated microstruct. 4-40742
 β -Cu-Zn(-Al), surface martensite transform. and microstruct. 4-7449
CuAl thin film and bulk alloy, heavy ion-induced γ to α transition 4-29603
CuAl₂ film, structural changes during leaching 4-25181
Cu₂S, vacuum evaporated thin films, phase transitions, electron diffraction 4-25176
Cu_{0.75}VS₂, phase transition with temp. hysteresis, long period superstructures, electron diffraction, microscopy studies 4-6489
(Fe,Cr)₂C₃ coatings, cryst. defects, electron diffraction and microscopy studies 4-11133
Fe (110), clean and adsorbate covered, polarised electron diffraction study 4-56129
Fe and Fe alloys, passive films, structure simulation by RDF method 4-57426
Fe surface, phase composition after B ion implantation, electron microscopy and diffraction studies 4-11163
Fe-Mo-C, ageing, interstitial phase formation, kinetics and morphology 4-21228
Fe-Ni-Co-Ti (23, 10, 10 wt.%), martensitic transform., γ -phase precipitate lattice parameters, internal stresses 4-21209
Fe-Ni-Ti (30.0, 3.8 wt.%), ausaging, martensitic transform. 4-51660
Fe-rare earth based Co-free permanent magnetic materials, mag. props., chem. comp. depend. 4-56701
Fe-V-C, ageing, interstitial phase formation, kinetics and morphology 4-21228
Fe_{100-x}C_x, amorphous, sputter deposited, crystn., carbide form., struct. 4-11423
 θ -Fe₃C and χ -Fe₃C₂ microcrystals, Co disproportionation, TEM, Mossbauer spectroscopy 4-34761
Fe₃C₃, cryst. defects, electron diffraction and microscopy studies 4-11133
Fe₃C₃ single crystals, formation and structure 4-2170
Fe₂N phase form. by N⁺ ion implantation and heat treatment 4-39326
Fe₄₀Ni₄₀B₂₀, amorphous, crystallisation study 4-39472
Fe₂O₃, wustite, defect struct., electron diffraction, TEM studies 4-20233
FeTi powder, thermal activation, H absorption 4-2424
Ga, amorphisation by low temp. ion irradiation 4-2234
GaAs-Al(Ag)(Fe), MBE, growth mechanisms, electron diffraction, AES, EELS studies 4-20525
GaSe, decomposition during vacuum deposition, electron diffraction studies (Russian) 4-35572
Ge (111) 7×7-Sn surface, X-ray photoelectron diffraction of Sn 3d core levels 4-30040
Ge films, microcrystalline, RF glow discharge deposited, electronic transport props. 4-6911
InP films, amorphous, electronic props. and struct., electron diffraction, optical and elec. cond. meas. 4-39143
InP:As, ESCA and electron diffraction studies (Japanese) 4-20441
InSb, thin films, elec. props. and crystallisation behaviour 4-56461
InSe deposition struct. and scratch microhardness 4-34841
K_{0.30}MoO₃, CDW superlattice, electron beam effects 4-55878
(La_{0.8}Ca_{0.2})MnO₃, homogeneous ionic distrib., elec. cond. 4-29972
Li₂MnO₂, Li intercalated, struct., X-ray and electron diffraction studies (French) 4-15444
LiTaO₃(H), cryst. struct., electron and neutron diffraction obs. 4-55803
LiTaO₃(H), Li ordering, electron and neutron diffraction study 4-34465
Mo single crystal, dynamic recovery during rolling, hardness and yield stress studies (Russian) 4-35638
NbN supercond. films, prep. and transition temp. 4-15778
 δ -Nb₂N heteroepitaxial films, CVD, crystallisation and struct. 4-3082
Nb₂O₅, long-period displacement superlattice struct., electron diffraction patterns 4-24792
NbSe₂ (2H), CDW superlattice, electron diffraction study 4-45346
NbSe₂(2H), layered, CDW, effects of defects 4-56330
Ni, film, He⁺ bombardment, structural changes (Russian) 4-45207
Ni-Al-Mo, phase equilib. reinvst., implication to elevated temp. stability of γ/γ' -Mo aligned eutectic 4-7420
Ni-Fe-Cr-Nb, electron diffraction anal., of δ -phase (Chinese) 4-7464
Ni-P electroless thin films grown in alkaline environment, struct. studies 4-34813
Ni-P films, crystn., electron diffraction study 4-24735
Ni₃Mo, order-disorder transform. under electron irradiation in HVEM 4-51654
Pb island films, Debye-Waller factor size depend. of Bragg reflections, Debye temp., electron diffraction (Russian) 4-24940
Pb_{1-x}Hg_xS films, flash-evaporated, structure 4-39731
PbS_{1-x}S_x films, growth of epitaxial single crystal by hot wall evaporation 4-51502
polystyrene, isotactic films, cold drawing, craze fibrils, TEM obs. 4-30782
Pt, polycrystalline films, {111} fiber axis orientation, Kikuchi rings obs. 4-56175
PtV system, ordered phase, electron microscopy and diffraction studies 4-15427
Rb₂P₈W₁₆O₆₄, cryst. struct., X-ray and electron diffraction (French) 4-45086
SbCl₅-graphite intercalation cpd., second stage, discommensuration struct. 4-15634
a-Si:H,F,P alloys, high conductivity, percolation process, effect of P-doping 4-39907
Si:Sb ion implanted solid soln., partially coherent Sb precipitate form. 4-29629
Si:Sb MBE layers, doping kinetic model 4-15512
SiO₂, fibrous, crystn., growth on Si surface, electron microscopy study (French) 4-15410

electron diffraction examination of materials continued

- SiO₂ whiskers grown on Si surface, electron microscope obs. (French) 4-51483
 Sm(Co,Fe,Cu,Zr)_{7.5} magnets, coercivity enhancement by heat treatment 4-7015
 γ-Ta₂N heteroepitaxial films, CVD, crystallisation and struct. 4-3082
 TaS₃, one-dimensional, electron irradi., CDW transport, noise spectrum 4-34956
 TaS₂(2H), layered, CDW, effects of defects 4-56330
 TaSe₂(2H), discommensuration arrays, dark field imaging and convergent beam electron diffraction obs. 4-11310
 Ti-Al-Y (8.4 at.%), as-cast and laser surface melted, comparison of microstruct. 4-7634
 Ti-Mo-Zr-Sn-O₂ alloys, ω-phase morphology, neutron scatt. and TEM studies 4-6513
 Ti_{58.7}Ni_{37.5}Al_{3.8}, diffuse electron scatt. from incommensurate phase 4-20369
 Ti₅₉Ni₃₈Al_{2.9}, phase transform. 4-21211
 Ti₆₀Ni₄₅Fe₅, phase transform. 4-21211
 TiS thin films, crystallisation kinetics, electron diffraction studies 4-34833
 WCl₅, mol. struct., electron diffraction obs. 4-10084
 YIG, mag. dielectrics, mag. and elec. field obs. by electron diffraction, microwave absorpt. (German) 4-40148
 YbS₂, nonstoichiometric phases, electron diffraction and microscopy studies 4-2159
 ZnFe₂O₄-Fe₃O₄, mag. dielectrics, mag. and elec. field obs. by electron diffraction, microwave absorpt. (German) 4-40148
 ZnO films reactively RF sputtered using Zn target, resist. and cryst. quality 4-35568
 Zr, pressure induced α→ω transition, electron microscopy studies (Russian) 4-50489
 ZrO₂ thin films, struct. and optical props. 4-57010
 ZrO₂-ZrN system, form. of incommensurate superstructure, TEM obs. 4-3133
 ZrO₂-ZrN system, tetragonal and monoclinic ZrO₂ precipitation, high resolution EM 4-3138

electron-electron double resonance *see ELDOR***electron-electron interactions**

- see also electron-electron scattering*
 $e^+e^- \rightarrow \mu^+\mu^-$, 34.5 GeV, electroweak coupling meas. 4-43354
electron-electron scattering
see also electron-electron interactions
 $e^+e^- (e^-e^-)$, cross sections with polarized spin-1/2 particles in terms of helicity amplitudes 4-27676
 $e^+e^- \rightarrow e^+e^-$, 34.5 GeV, electroweak coupling meas. 4-43354
 $e^+e^- \rightarrow e^+e^- (\gamma)$, QED radiative corrections to Bhabha scatt. 4-23001
 Al film, granular, electron inelastic lifetime, electron-electron attraction strength, magnetoresist. 4-2661

electron emission

- see also cathodes; electron field emission; exoelectron emission; photoemission; secondary electron emission; spin polarised electron emission; thermionic electron emission; work function*
 escape depth, rel. to analyser geometry 4-21072
 polymer films, etched, mechanoemission centres distrib. (Russian) 4-30614
 semiconductors, resonant emission of slow electrons from materials with a negative electron affinity 4-16290

electron energy bands *see band structure***electron energy loss spectra**

- anisotropic materials surface, EELS theory 4-40588
 p-benzoquinone, electron impact vibr. and electronic excitation EELS 4-38339
 p-benzoquinone anion, time resolved electron energy loss spectra 4-5475
 collisional electron transfer into the continuum of ionic projectiles 4-43972
 conference, Bourg Saint Maurice, France (Jan. 1983) 4-47750
 data-acquisition system for photoelectron and electron energy loss spectrometers 4-13628
 diatomic mols., physisorbed, EELS, shape reson. and overtones 4-10076
 differentially pumped spectrometer, for valence and inner-shell excitation studies 4-43981
 electron initiated electron spectroscopy, EELS, AES and secondary electron spectra (French) 4-51427
 electron microscopy conferences, EUREM 80, ICXOM and HVEM 80 (Aug.-Sept. 1980) 4-13482
 electron spectroscopy results, comparison, reproducibility and errors (French) 4-51419
 electron transitions from discrete levels into continuum due to radial coupling in slow atomic collisions 4-19257
 energy analyzing electron microscope for local electron spectroscopy 4-43142
 energy filtered imaging, in electron microscopy, biology appl. 4-21872
 graphite overlayer on Ni (111) geometrical and electronic struct., EELS and photoemission studies 4-39729
 HCl, ionisation pot., Feshbach reson., EELS 4-38340
 2,4-hexadiyne, vertical electron affinity meas. by electron transmission spectroscopy 4-1291
 inert gases adsorbed on metals, excited states and decay mechanisms 4-56142
 intermediate energy spectrometer 4-13737
 metal overlayer system, plasmons, reflectivity, ellipsometry and EELS spectra 4-39797
 metal surfaces, electronically excited state, nature nonradiative decay 4-21014
 metallic glasses, electron spectroscopy, review, book, contrib. 4-40610
 metallic surfaces, electron-hole pair excitation in low energy electron scatt. 4-29896
 metals, chemisorbed CO, excited states and decay mechanisms 4-56142
 metals, surface vibr., adsorpt. site symm. effect 4-39659
 methane, electron energy loss spectra, elastic and inelastic scatt. 4-10090
 Monte Carlo calc. of kilovolt electron transport 4-34555
 PbCl₂, polycrystalline film, dielec. function, EELS study 4-46383
 trans-polyacetylene, π-plasmon dispersion, EELS study 4-56255
 pyridine, electronically excited states of chemisorbed molecules 4-33359
 rare earths, 4p core electron energy loss spectra, breakdown of one electron approx. 4-51424
 scattering and energy loss in matter, important parameters 4-34558
 small molecules, Bethe surfaces, rel. to oscill. strengths and electron energy loss spectra 4-9672

electron energy loss spectra continued

- spectrometer for valence and inner-shell 4-8990
 superlattice structures, semi-infinite, collective excitations, plasmons and EELS 4-45659
 surface phonon dispersion, obs. using EELS technique (Japanese) 4-57052
 ternary compound thin film solar cells, review 4-31091
 tissue sections, electron spectroscopic imaging and Z-contrast 4-52544
 Ag (111), Xe ordered layers, excitonic transitions, EELS 4-45487
 Ag (111) adsorption of H₂, EHT study (Chinese) 4-2425
 Ag, electron stopping power, 1 to 10 keV 4-11206
 Ag thin film, electron energy loss continuum 4-3004
 Al 4-34814
 Al (111), Xe ordered layers, excitonic transitions, EELS 4-45487
 Al (111) with adsorbed H₂, EHT study (Chinese) 4-2425
 Al, EELS, multiple scatt. effect, Monte Carlo study 4-7287
 Al electron scattering, Monte Carlo simulation 4-7289
 Al, electron stopping power, 1 to 10 keV 4-11206
 Al inner-shell electron excitation loss, signal/background ratio, scatt. angle depend., EELS 4-51426
 Al, surface relax., plasmons, EELS study 4-16279
 Al, thick layers, electron transmission, EELS 4-51423
 Al₂O₃ film, TEM extended electron energy loss fine struct. study 4-57050
 Ar³⁺+He, electron capture energy loss spectra 4-14547
 Ar⁶⁺+Ar(Ne), single-electron capture, energy gain spectra 4-49149
 Au, electron stopping power, 1 to 10 keV 4-11206
 Bi (0001), adsorption of O₂, kinetic, electronic and structural features 4-25160
 Br₂, inner-shell and outer-shell electron excitation, energy loss spectra 4-54876
 C, thick layers, electron transmission, EELS 4-51423
 a-C:H film, complex, dielec. const., rel. to struct. 4-29845
 C₂N₂, vertical electron affinity meas. by electron transmission spectroscopy 4-1291
 CO, coord. on ZnO (10 $\bar{1}$ 0) surface, high resolution electron energy loss vibr. investig. 4-15560
 CO, electron energy loss spectra 4-10170
 CO, electronically excited states of chemisorbed molecules 4-33359
 CO, oxidation on kinked Pt (321) surfaces 4-31023
 CO₂, electron energy loss spectra 4-10170
 CO₂, electronic excited states, electron impact spectra 4-33547
 CaSO₄, anhydrite, electron channelling effects, low energy limit 4-6416
 Cd II, 5²S to 5²P⁰ transition, electron energy loss spectra and cross sections 4-23808
 CdII, 5²S→5²P transition, EELS study 4-10131
 CdS-CuInSe₂ thin film solar cells, interface activity 4-36013
 C₆, γ- and α-, electronic struct., XPS, EELS and bremsstrahlung isochromat 4-25209
 Ce intermetallics, 4d to 4f excitations, core-level EELS study 4-3003
 Cl₂, electron energy loss spectra 4-10089
 Cu (100), adsorption of water, EELS spectra at low temp. 4-50626
 Cu (100), Na-covered, adsorbed CO reduced stretch vibr. freq., EELS study 4-29766
 Cu (110), NH₃ and ND₃ adsorption, high resolution EELS study 4-45530
 Cu, adsorption of Cl₂, electronic excitations, angle-resolved LEED study 4-2460
 Cu, adsorption of phenol, high resolution EELS, angle-resolved photoemission studies 4-30579
 Cu, electron stopping power, 1 to 10 keV 4-11206
 Cu, thick layers, electron transmission, EELS 4-51423
 Cu₂P, P LVV Auger and electron energy loss spectra 4-21076
 F⁺+He(N₂)(CO₂) collisions, electron detachment study by differential time of flight energy loss study 4-9970
 Fe (110), adsorption and decomp. of methanol, EELS study 4-20484
 Fe, clean and with surface carbide layer, struct. study by surface extended energy loss spectroscopy 4-51425
 Fe-Si systems, surface segregation, electron spectroscopy study 4-46426
 Fe₂P, P LVV Auger and electron energy loss spectra 4-21076
 GaAs (110) with chemisorbed H, reflection electron energy loss study 4-30576
 GaAs-Al(Ag)(Fe), MBE, growth mechanisms, electron diffraction, AES, EELS studies 4-20525
 GaP, P LVV Auger and electron energy loss spectra 4-21076
 Ge (100) and (111), adsorption of H, work function, surface cond., and EELS study 4-56148
 Ge epitaxial growth mode on Si (111) substrate at initial stage, EELS, LEED studies 4-21085
 H+X³⁺ state-selective electron capture, energy gain/loss spectra 4-14554
 H⁺+CO₂, shape reson. charge exchange, non-Franck-Condon behaviour 4-49148
 H⁺+CO₂ collisions, charge exchange to shape resonances 4-9971
 HBr, inner-shell and outer-shell electron excitation, energy loss spectra 4-54876
 HCl electron energy loss spectrum, 12.748-16.254 eV 4-10088
 HCl, inner-shell and outer-shell electron excitation, energy loss spectra 4-54876
 HCl, valence and inner-shell excitation studies 4-43981
 He, metastable state, inelastic differential electron scatt. 4-5423
 He+CO(NO), excitation mechanisms, charge exchange 4-10018
 He+H⁺, elastic scatt., excitation and ionisation 4-9878
 He⁺+CO(NO), excitation mechanisms, charge exchange 4-10018
 He⁺+He, autoionisation spectra in electron energy range 3-2000 eV 4-19207
 Kr, electron impact excitation of elec. dipole forbidden transitions 4-10170
 Kr²⁺+He(Ne), low-lying state transitions, ion energy-loss 4-14519
 La, f electron characterisation using EELS and XPS studies 4-56261
 La₂S₃, inelastic electron scatt. 4-35534
 LiC₆, intercalation cpd., valence and core electronic excitations, EELS studies 4-25275
 N₂, electron energy loss spectroscopy using position sensitive detector 4-10087
 N₂, electron impact ionisation, partial generalised oscillator strengths 4-5491
 N₂ physisorbed on metallic substrate, EELS, shape reson. and overtones 4-10076
 N₂, valence and inner-shell excitation studies 4-43981

electron energy loss spectra continued

- NO, electron energy-loss spectroscopy using position-sensitive multidetector 4-10086
 NO₂, doublet-doublet and doublet-quartet transition, EELS 4-23828
 N₂O, electron energy loss spectra 4-10170
 Na, vapour, excited by high intensity laser, electron spectra of ionisation 4-14588
 Na vapour, resonantly excited by CW laser, electron spectra of ionisation 4-14587
 Na_{0.7}WO₃, adsorption of water, high resolution EELS, photoemission studies 4-30577
 Na₂WO₃ bronze, electronic struct., UPS and EELS studies 4-11433
 Ne+Kr⁺, electron capture, ion energy-loss spectra 4-14551
 Ni (100), Rayleigh phonon dispersion curve, EELS study 4-56136
 Ni (110), adsorbed H, vibr. modes 4-50622
 Ni (110) with chemisorbed graphite, surface struct. determ. 4-45495
 Ni, electron stopping power, 1 to 10 keV 4-11206
 Ni(100) with adsorbed O and S, adsorbate vibr. energies 4-29781
 O₂, forbidden transitions, EELS study 4-1266
 O₂ physisorbed on metallic substrate, EELS, shape reson. and overtones 4-10076
 Pb, thick layers, electron transmission, EELS 4-51423
 PbBr₂, polycrystalline film, dielec. function, EELS study 4-46383
 PbF₂, polycrystalline film, dielec. function, EELS study 4-46383
 PbI₂, polycrystalline film, dielec. function, EELS study 4-46383
 Pd (100), adsorption of water, EELS spectra at low temp. 4-50626
 Pd (100), CO adsorption, SIMS and high resolution EELS studies 4-45524
 Pd thin film with adsorbed O₂ and CO, Auger, electron loss spectra studies 4-50645
 Pd-SiC interface, form. and oxidation, AES and EELS study 4-15771
 Pt [110], chemisorbed formate ions, orientation from EELS selection rules 4-3005
 Pt, adsorbed HCO₂⁻, struct. determ., EELS study 4-30578
 Pt, adsorbed pyridine, struct. determ., EELS study 4-30578
 Pt electrode surface, oxidized, vibr. spectra, EELS and XPS study 4-46384
 Pt₁Ni_{100-x}, adsorption of CO, vibr. EELS, TDS meas. 4-40589
 Rh (100), coadsorption and interaction of CO and D₂, electron spectroscopy study 4-50639
 Rh (111), benzene adsorption, LEED, EELS, desorption and Auger studies 4-45527
 Rh, adsorption of HCNO, mol. dissoci., AES, EELS, TDS studies 4-41258
 Ru (001), adsorbed H, binding sites, high resolution EELS study 4-20489
 Ru (001), ordered O overlayer, EELS and vibr. struct. 4-15757
 Ru ternary oxides, metal-semicond. transition, electron spectroscopy studies 4-11440
 Si (100), (111), adsorbed O and H bonding, EELS studies 4-25164
 Si (100), adsorbed water, vibr. spectrum, rel. to EELS meas. 4-29767
 Si (111), electron activated stepwise oxidation and nitridation, EELS study 4-35741
 Si (111), Ti-silicide formation, EELS study 4-35531
 Si (111) 7×7, adsorption and growth of Ag, angle-resolved EELS and LEED study 4-35533
 Si (111)2×1 surface, π -bonded chain model rel. to wavevector-resolved EELS meas. 4-7288
 Si, electron beam radiative moderation 4-11211
 Si, inner-shell electron excitation loss, signal/background ratio, scatt. angle depend., EELS 4-51426
 Si reconstructed (001) surfaces, electronic struct., angle-resolved EELS, LEED studies 4-21086
 Si surface, (111)-(2×1), adsorption of H₂, energy loss spectroscopy studies 4-39678
 Si surface, chemistry investig. by EELS, inverse photoelectron spectrosc. and ion spectrosc. (Japanese) 4-35941
 a-Si:H sputtered films, struct. studies in high resolution STEM 4-39139
 SiO₂, fibrous, cryst. growth on Si surface, electron microscopy study (French) 4-15410
 SiO₂ ultra thin film struct. and growth kinetics on Si (111) surface 4-56179
 Si(111)-7×7, temp. depend. surface states and transitions 4-25413
 Si(111)2×1 surface, optical props. and electron energy loss spectrum 4-20937
 Sm₂S₃, inelastic electron scatt. 4-35534
 α -Sn (100), surface struct., effect of H₂ adsorption 4-29750
 Sn, liq. and solid, oxidation, 25-240°C, LEELS and Auger study 4-26098
 SnO₂ (110) surface optical phonons, high resolution EELS study 4-30580
 Sn_{1-x}Sb_xO₂, surface comp., electronic struct., XPS, UPS, EELS obs. 4-57066
 Th, f electron characterisation using EELS and XPS studies 4-56261
 Ti, oxidation, stoichiometry and oxide thickness, AES, EELS and microgravimetry study 4-16537
 Ti, polycryst., EXAFS and refl. energy loss results, comparison, above L_{2,3} edge 4-57040
 TiC (111), chemisorption of H, high resolution EELS study 4-11977
 U, f electron characterisation using EELS and XPS studies 4-56261
 UF₆, electron impact excitation cross-sections for excitation of electronic states 4-10165
 UF₆, electron impact excitation at electron energies of 10, 20 and 40 eV, energy-loss spectra 4-23827
 α -V-Fe, plasmon excitation, electron energy loss study 4-25256
 W (110), adsorption of acetylene, electron spectroscopic study 4-20488
 W, adsorbed H, struct. determ., EELS study 4-30578
 W, adsorption of Au, work function, AES and electron backscattering studies 4-6645
 Xe, electron impact excitation of elec. dipole forbidden transitions 4-10170
 Yb-Al (110) interface, electron spectroscopy study 4-56155
 ZnII, electron excitation, 4S²-4P¹ transition, ang. distrib. 4-10130
 ZnO surface, 2-D plasmons, angle resolved electron energy loss spectroscopy studies 4-50745

electron energy states (condensed matter)

see also band structure; band theory models and calculation methods; deep levels; defect electron energy states; dopplers; electron energy states of amorphous solids; electron energy states of liquid metals; electron energy states of liquid semiconductors; electron gas; electron traps;

electron energy states (condensed matter) continued

- electronic density of states; exchange interactions (electron); excitons; Fermi level; Fermi surface; field interactions (condensed matter); heli-cons; hole traps; impurity electron states; Landau levels; localised electron states; magnetic breakdown; magnons; metal-insulator transition; metal theory; plasmons; polar semiconductors; polarons; positron states; ripplons; spin-orbit interactions; spin-phonon interactions; surface electron states; triplet state
 accurate eigenvalues and oscillator strengths for the exponential-cosine screened Coulomb potential 4-11426
 density functional theory and ν -representability 4-2495
 electron-electron and electron-lattice interactions, four-site four-electron model 4-29856
 exchange-correlation energy, approx. by functionals with kernels, coordinate difference depend. 4-56258
 graphite and linear lattices, Heisenberg Hamiltonian, coherent state, variational derivation 4-34843
 Hohenberg-Kohn functional theory, decompositions of electron density and shell problem 4-56251
 many-electron states in multicentre systems, unique labelling with Mackey's theorem 4-29858
 metals, normal, QED model (Russian) 4-20531
 mobility edge wave functions, example of singular continuous spectrum 4-25195
 one-dimensional system with incommensurate lattice potentials, electronic states 4-39742
 poly-p-phenylenebenzobisthiazole, crystalline state, chain packing and electronic band struct. 4-39751
 quasi-particles and excitons, electronic correlations 4-25270
 relativistic ab initio calcs., pseudopotential and perturbation theory method 4-38102
 solids, collective excitations, conf., Erice, Italy (June 1981) 4-22528
 solids, collective excitations, radiation interactions 4-25197
 solids, quantum mech. description 4-25253
 thin wire in mag. field, electron energy levels 4-15807
 AgCl monocrystal photolysis kinetics, influence of long-wave radiation (Russian) 4-52038
 CdS, acoustoluminesc. and photoluminesc., influence of r centres charge state 4-16261
 Mn²⁺ systems, conc., electronic and mag. collective excitations, optical spectra 4-25701
 Mn²⁺ systems, conc., spectroscopic props. rel. to collective excitations 4-25254
 NH₄Br cubic compounds, thermal expansion 4-34674
 NH₄Cl cubic compounds, thermal expansion 4-34674
 NH₄CoF₆ cubic compounds, thermal expansion 4-34674
 NH₄ZnF₆ cubic compounds, thermal expansion 4-34674
- electron energy states of amorphous solids**
 see also Anderson model
 alloys, amorphous, electronic structure, LMTO-ASA calc. 4-45593
 alloys, crystalline and amorphous, modified CPA theory anal. 4-45577
 amorphous structure, low-temp. anomalies in thermal props. 4-20547
 Anderson symmetric lattice, ground states in 1-D 4-29873
 binary alloys, localisation, quantum percolation 4-15857
 chalcogenide glasses, localised states and photoinduced changes 4-50769
 chalcogenide glasses, time resolved photoluminescence and localised states 4-46309
 correlated diatomic polymer, interacting charge-ordered states 4-45605
 disordered semiconductors and their junctions, appl. of spectral limits theorem 4-6696
 disordered solid, anomalies in transport props. 4-39867
 electron pair self localisation in model struct. with critical pot. 4-25300
 epoxy resins, excitation spectrum, neutron diff., sp. th. and thermal cond. 4-50453
 glass ionisation wave vel., energy bandwidth narrowing 4-30432
 glassy metals, structural relax. influence on thermal cond. 4-20423
 glassy semiconductors, modified, extrinsic conduction and band gap 4-29976
 ice, cryst., hexagonal, optical spectra and electronic struct. 4-29880
 metal-H alloys, disordered interstitial electronic density of states 4-29860
 metallic glasses, atomic structure and dynamics, electronic struct. and mag. props., book 4-36830
 metallic glasses, electron spectroscopy, review, book, contrib. 4-40610
 metallic glasses, electronic struct., review 4-34869
 metallic glasses, electronic struct. and elec. resist., recursive calc. 4-45716
 metallic glasses, electronic struct. determ., XPS, UPS and inverse photoemission methods 4-56197
 metallic glasses, photoemission studies of electronic struct. 4-46421
 metals, disordered, electronic struct., appl. of Monte Carlo optimisation of pair distrib. functions 4-45579
 metals, disordered 1-D, localisation length singularity and hopping cond. 4-29944
 metals, electronic props., pair distribution function, Monte Carlo calc. 4-45596
 metals, electronic spectral function, eqn. of motion method calc. 4-45601
 metals, liq. and amorphous, conference, Los Angeles, USA (Aug. 1983) 4-42585
 metals, local electronic struct. theory, cluster approx. anal. 4-56196
 oligonaphthols, elec. cond., naphthoxyl type paramag. centre contrib. 4-6787
 one-dimensional amorphous materials, energy gaps, disordered Kronig-Penney model 4-22554
 paracyanogen, electronic struct., valence effective Hamiltonian 4-34867
 physics of amorphous metals 4-29326
 poly-(2-vinylpyridine-CO-styrene) film, metal-phthalocyanine bound, elec. cond. mech. (Japanese) 4-56349
 poly-phenylene, molecular orbital calcs., band struct. (German) 4-45590
 polyacene, electronic struct., 1-D tight binding SCF-CO calc. 4-6695
 polyacetylene:1, photoluminescence, doping effects 4-56996
 polyacetylene, cis and trans, multiphonon Raman scatt. and localised gap states 4-29931
 trans-polyacetylene, doped, electronic and geometric struct., cond. mechanisms, quantum-chemical calcs. 4-45589
 polyacetylene, dynamic charges for photoexcited defects 4-39840
 polyacetylene, photoinduced absorpt. and breathers 4-39793
 polyacetylene, soliton states calcs. 4-45603
 polyacetylene films, defect states, photoacoustic and diffuse refl. obs. 4-20544
 polyacetylene with soliton, Green's function theory 4-39839

electron energy states of amorphous solids continued

- polyethylene, Z 4-20548
 polyferrocenylene, one dimens. system band struct., semiempirical crystal orbital INDO calcs. 4-56193
 polymethineimine, electronic struct., valence effective Hamiltonian 4-34867
 polyparaphenylene, doped, electronic and geometric struct., cond. mechanisms, quantum-chemical calcs. 4-45589
 polyphenanthrene, electronic struct., 1-D tight binding SCF-CO calc. 4-6695
 polypyridinopyridine, electronic struct., valence effective Hamiltonian 4-34867
 polypyrrole, and derivatives, electronic struct., valence effective Hamiltonian 4-34867
 polypyrrole conducting films, valence electronic struct., UPS studies 4-50708
 polysilane, energy band struct., ab initio effective core pot. studies 4-20548
 polyne, infinite, energy band struct., ab initio effective core pot. studies 4-20548
 random-bond disordered systems, coherent pot. approx. generalisation 4-20539
 relativistic electronic states in finite disordered systems 4-39739
 Se, electron struct., cluster approx. 4-15812
 semiconductor, amorphous, localised state distrib., transient photodecay meas. sensitivity, Monte Carlo study 4-56388
 semiconductors, conf., Tokyo, Japan (August 1983) 4-42584
 semiconductors, doped, band tailing, impurity band form. and localisation 4-6744
 semiconductors, transient induced absorpt. spectroscopy from picoseconds to milliseconds 4-40472
 a-Si, density of states in energy gap, Bethe lattice model (*Chinese*) 4-20605
 site-dilute systems, localisation, tridiagonalisation study 4-34917
 transition metal alloys, amorphous and liquid, density of states, tight-binding calc. 4-45592
 transition metal amorphous alloys, Zr_xT_{1-x} , electronic and thermal props. 4-56195
 triarylmethane-bisphenol-A-polycarbonate solid soln., hole transport 4-25344
 Al_2O_3 film, anodic, photocond. in 3 to 6.2 eV range, localised levels 4-2664
 As_2S_3 glass, photoinduced changes and energy states (*Russian*) 4-56395
 $As_2Se_3Cu_x$, amorphous, electronic band struct., XPS and Raman scatt. study 4-45591
 $As_2Se_3(Te_2)$ chalcogenide glasses, photocarrier recomb. and band struct. parameters 4-45830
 Au, Sn_{100-x} , amorphous, density of states, photoemission study 4-45598
 α -B:H films, transient and steady state photocond. 4-45834
 Bi films, 2D and 3D, weak localisation, spin-orbit and electro-electron interactions 4-25348
 Ca-Al metallic glass, electronic and atomic struct., pulsed NMR study 4-45599
 $CdO-ZnO-P_2O_5$ glasses, IR transmission spectra, absorpt. band gap determ. 4-11876
 $Co_{40}U_{60}$, glassy, electronic struct., photoemission and X-ray emission studies 4-45595
 $Cu_{40}Ti_{60}$ metallic glasses, density of empty electronic states, appearance pot. spectra studies 4-57030
 $CuZr$ amorphous alloys, anomalous magnetoresist., weak localisation 4-50794
 $Cu_{40}Zr_{60}$ metallic glasses, density of empty electronic states, appearance pot. spectra studies 4-57030
 Cu_xZr_{1-x} glasses, electronic struct., first-principles CLCAO calc. 4-45597
 Fe, amorphous, spin polarised electronic density of states and mag. moments 4-25198
 Fe-B, amorphous, electronic struct. and mag. props. 4-20545
 Fe-Cr-P-C, amorphous, structural relax., energy level schemes, DSC meas., vitrification kinetic theory (*Russian*) 4-24727
 Fe-Ni-B, amorphous, structural relax., energy level schemes, DSC meas., vitrification kinetic theory (*Russian*) 4-24727
 FeBSi, amorphous, electronic struct. study 4-56194
 $Fe_{45}Ni_{45}P_{8.5}B_{1.5}$, amorphous, struct. and electronic state changes (*Russian*) 4-24726
 $Fe_{45}Th_{55}$, glassy, electronic struct., photoemission and X-ray emission studies 4-45595
 $Fe_{45}U_{60}$, glassy, electronic struct., photoemission and X-ray emission studies 4-45595
 a-GaAs:H, amorphous and microcryst., electronic struct., photoemission spectra 4-39767
 a-Ge, hydrogenated and nonhydrogenated, density of states modifications, 3d core levels binding energy effect 4-50707
 GeSe:Fe amorphous semicond., conduction mechanism, Mossbauer studies 4-25353
 Ge, Se_{1-x} system, struct. and photoluminesc. 4-51320
 $In_{1-x}Ga_xAs$, electronic struct., chem. and struct. disorder effects 4-25216
 InP films, electronic props. and struct., electron diff., optical and elec. cond. meas. 4-39143
 InP films, flash evaporated, electronic distrib., disorder effect, soft X-ray spectra, XPS meas. 4-40599
 $Li_2O-Bi_2O_3-P_2O_5$ glass, electrochromism, conduction bands 4-51241
 Ni-P, amorphous, P density of states, X-ray emission and absorpt. spectra 4-45602
 $(Ni_{0.5}Pt_{0.5})_{75}P_{25}$ metallic glass, density of unoccupied d states 4-45570
 $Ni_{33}U_{67}$ and $Ni_{40}U_{60}$, glassy, electronic struct., photoemission and X-ray emission studies 4-45595
 $Pd_{41}Zr_{59}$ glass, electronic struct., LCAO calc. 4-45600
 a-Se, deep trapping levels, elec. field ionisation 4-45690
 a-Se, equilib. doping and elec. behaviour, xerographic studies 4-45804
 a-Se thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355
 Se-Te, amorphous, gap states, isothermal photocurrent transient spectroscopy 4-34916
 a-Si, density of gap states, charged dangling bonds, crystn. studies 4-39833
 Si, electronic struct., cluster approach (*Russian*) 4-34868
 a-Si, optical absorpt. spectrum, electronic consequences of ideal local order 4-46280
 Si thin film, RF sputtered, electronic and optical props., conditions depend. 4-6784

electron energy states of amorphous solids continued

- Si, valence electron energy states, amorphisation effects 4-50709
 Si:H, amorphous film, magnetron sputtered, gap state density determ. 4-29862
 Si:H, amorphous films, localised states, photoluminesc. study method 4-39832
 Si:H, B, Hall effect and hole transport 4-20673
 a-Si:H, band edges, Fermi level position, surface H conc. 4-39763
 a-Si:H, charge fluctuations electronic density of states calc. 4-45568
 a-Si:H, conduction mechanism and photocond. 4-25350
 a-Si:H, deep trapping, disorder and band tail localisation effects 4-45809
 a-Si:H, density of gap states determ., const. photocurrent method, transient current spectroscopy 4-39762
 a-Si:H, density of states distrib. determ., capacitance-voltage method 4-39760
 a-Si:H, gap state distrib., elec. props. meas. 4-39764
 a-Si:H, gap states density, deep levels, TSC meas. in space charge zone 4-2623
 a-Si:H, luminescence study of saturation of band tail states 4-40509
 a-Si:H, occupied gap states distrib., photoelec. yield spectroscopy 4-40596
 a-Si:H, optical energy gap, H content depend. 4-40392
 a-Si:H, recombination processes and spin-dependent photocond. 4-6831
 a-Si:H, reversible photoinduced changes of electron hole lifetimes and gap states 4-39926
 a-Si:H, space-charge-limited I-V characts. and density of states 4-45798
 a-Si:H, Staebler-Wronski effect thickness depend. 4-39967
 a-Si:H, trapped electron-trapped hole recomb., dangling bonds, photocond., EPR studies 4-39834
 a-Si:H-B, density of gap states determ., space charge spectroscopy 4-39759
 a-Si:H-B films, prep. by glow discharge, optical props. 4-35508
 a-Si:H film, plasma deposited, field effect conductance, temp. depend. 4-39903
 a-Si:H film Schottky barrier diodes, space charge capacitance, freq. and temp. depend. 4-40047
 a-Si:H films, local states in band gap, photocond. and dark cond. studies 4-25403
 a-Si:H thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355
 a-Si:H-Pt(Yb) contacts, density of gap states determ., transient junction spectroscopy 4-40045
 Si:H(H,P) glow discharge films, density of states determ. by capacitance-freq. measurements (*Korean*) 4-15811
 a-Si-Ge alloys, hydrogenated, gap state distrib., elec. props. meas. 4-39764
 a-Si-Ge-B alloy, tetrahedrally bonded continuous random network, electronic props. 4-39765
 a-Si+H films, evaporated, gap states distrib. determ. before and after hydrogenation, SCL current meas. 4-39761
 a-Si, $C_{1-x}H_x$, valence band struct., photoelectron spectra and pseudopot. study 4-39766
 $Si_{1-x}Ge_xH$, amorphous, density of states by space-charge limited currents 4-20663
 SiN_x , valence and core level photoemission data 4-40598
 Tb-Fe, amorphous, electronic density of states, photoemission and inverse photoemission studies 4-45594
 Y-Fe, amorphous, electronic density of states, photoemission and inverse photoemission studies 4-45594
 Zr-transition metal alloys, $Zr_{1-x}M_x$, M=Fe-Cu, glassy, Hall coeffs. and electronic struct. 4-56320
 Zr-V(Mn)(Cr), metallic glasses, band struct. and mag. props. 4-45604
 $(Zr_{0.667}Ni_{0.333})_{1-x}B_x$, amorphous, density, elec. resist., supercond. props. 4-6287

electron energy states of glassy solids see *electron energy states of amorphous solids*

electron energy states of liquid metals

- alkali metal liq. alloys, chem. interactions and electronic struct., solid state calcs. 4-45588
 alloys, binary liquid, atomic and electronic struct., self-consistent theory 4-44925
 conference, Los Angeles, USA (Aug. 1983) 4-42585
 electronic props., pair distribution function, Monte Carlo calc. 4-45596
 transition metal alloys, amorphous and liquid, density of states, tight-binding calc. 4-45592
 transition metals, liq., thermodynamic props., one-component plasma model 4-34397
 Cu, liq., density of states and elec. resist. calc. 4-45579
 Cv, electronic density of states, muffin tin model calc. 4-45571
 Fe-Cr, liq. alloy, elec. resistivity, conc. depend. 4-2582
 Fe-Mn, liq. alloy, elec. resistivity, conc. depend. 4-2582
 Fe-V, liq. alloy, elec. resistivity, conc. depend. 4-2582

electron energy states of liquid semiconductors

- Sb-Te liquid semicond., mag. contrib. to hyperfine field, Knight shift meas. 4-56802

electron field emission

- adatom mobility measurement by field emission 4-2463
 field-emission source of electrons for electron-probe instruments 4-22873
 Fowler-Nordheim law violation caused by dynamic image forces 4-30613
 graphite, field emission in microwave current modulator 4-46428
 metals, dynamic image potentials and field emission 4-12015
 nondestructive electron field emission meas., from oxide coated Cu cathodes 4-48258
 point cathodes, electron field emission current, positive prepulse effect 4-3021
 spectroscopy, field, thermionic and secondary electron emission, book 4-47790
 STEM, field emission cathode prototype gun appl. 4-22874
 surface model for non-planar surfaces 4-30612
 whisker electrode projection, field increase factor, gap length effect 4-34349
 Au island film, energy distrib. of emitted electrons 4-21115
 C cathodes, glassy, electron field emission (*German*) 4-50707
 Ta-Ta₂O₃-Au MIM structures, negative resist. and electron emission props. 4-50949
 W (100), adsorbed Xe mols., surface diffusion, field-emission-current fluctuations 4-25144
 W surface, Ge adsorption, field electron emission and work function 4-12016

electron gas

- see also *cathode ray tubes; electron optics*
 anomalous skin effect under high elec. field 4-6818
 charged particle slowing down, extension to Fermi-Teller formula 4-25260
 conductivity of an electron gas in a low-frequency electric field due to large-scale fluctuations 4-56304
 degenerate, X-ray absorpt. spectra, effects of disorder and final-state interactions 4-7277
 electron-positron interaction, simple model 4-7266
 equilibrium electronic gas, paramag. impurity interactions (*Russian*) 4-56253
 free energy, sp. ht., Thomas-Fermi approach 4-42848
 high-density electron gas, appl. of variational approach to many-body problem 4-170
 homogeneous, dielec. function, role of correl. between electrons with anti-parallel spins 4-29911
 interacting, nonlinear susceptibilities, calc. using density functional method 4-2535
 interacting electron gas with screened Coulombic interactions 4-17820
 interatomic potentials, electron-gas model, calc. programs 4-9873
 inversion layer, weakly disordered, thermoelec. effect in quantising mag. field 4-45891
 ion stopping in degenerate electron gas, polarisation losses, neutron star appl. 4-34557
 jellium, dielectric function, dynamic exchange effects, perturbative and variational methods 4-34894
 jellium model, paramagnetic-ferromagnetic transition point, Pade approx. calc. 4-51053
 linear mag. response function 4-11462
 metal film, dynamical density response function, random phase approx. 4-11466
 metal surface, inhomogeneous electron gas, nonlocal density functional theory 4-34895
 metal theory, soliton bag state of plasmons and positrons 4-25263
 metallic densities, electron gas, short range correlation function 4-29915
 metallic thin film, Thomas-Fermi impurity potential 4-25273
 metals, dielec. function, core polarisation, self-consistent field approx. 4-2534
 metals, electron gas cooling at high temp. 4-20581
 metals, electron liquid dielectric const. tensor singularities 4-34891
 metals, exchange and correlation effects on structural energetics 4-25258
 metals, FCC, lattice dynamics using ionic Morse pot. in sea of free-electron gas 4-55945
 metals, mag., low density electron gas props., collective excitations, quasi-particles 4-25508
 metals, positron annihilation, many-body enhancement, choice of electron density parameter 4-57026
 MIS structure, charge changes due to change in mag. flux under quantum Hall effect conditions 4-20735
 MIS structure, quantum Hall effect, surface states model 4-20734
 MOS system, ellipticity and Faraday rot., memory function approach 4-7166
 nondegenerate electron gas, nonlinear EM wave dispersion (*Russian*) 4-25391
 plasmons, transverse, in electron gas 2-D, current-current response function, dispersion relation 4-27405
 polar media, mixing of plasmons with surface phonons (*Russian*) 4-56259
 proton screening while moving through electron gas, rel. to positron annihilation 4-34890
 quantised Hall effect, boundary conditions and many-body effects 4-39939
 quantised Hall effect, Laughlin wavefunction calcs. 4-39938
 quantum two-dimensional electron gas with $\ln(r)$ interaction, static and dynamic props. 4-15831
 quasi-two-dimensional semiconductor system, dielectric function calcs. 4-29910
 semiconductor film, totally degenerate electron gas, negative magnetoresist. 4-50966
 semiconductor inhomogeneous electronic systems, electron-phonon coupling, RPA calc. 4-56243
 semiconductors, nonequilibrium phonon distrib. function, cyclotron output 4-45277
 Spin-polarised inhomogeneous relativistic electron system, theory 4-56254
 superconductivity, organic, basic questions, including low-dimensional physics, electron-electron interactions, anion role 4-2670
 two-dimensional, diffusion effects on plasma oscils. 4-45819
 two-dimensional, heterojunctions and technical appls. 4-25439
 two-dimensional, quantised Hall effect in a hexagonal periodic pot. 4-56247
 two-dimensional, thermopower and thermal cond. in quantising mag. field 4-56249
 two-dimensional degenerate electron gas, elec. cond. during charged impurity scatt. (*Russian*) 4-50784
 two-dimensional electron fluids, transitions into ordered states 4-11460
 two-dimensional electron gas, anomalous quantum Hall effect 4-2572
 two-dimensional electron gas, dielec. function props. 4-2532
 two-dimensional electron gas, longitudinal dielec. behaviour in uniform mag. field 4-6724
 two-dimensional electron gas, mag. susceptibility in low fields 4-46006
 two-dimensional electron gas filled with Landau levels, Hall voltage 4-2571
 two-dimensional electron gas in quantising mag. field, Coulomb and harmonic interactions 4-6720
 two-dimensional electron gas in strong mag. field, sp. ht. 4-34663
 two-dimensional electron liquid, dynamical struct. factor 4-25262
 two-dimensional in semiconductors, a.c. conductivity study 4-11581
 two-dimensional quantum electron gas, correlations, ladder approx. 4-45658
 Al thin film, Thomas-Fermi impurity potential 4-25273
 n-Al_{0.9}Ga_{0.1}As/GaAs heterostruct., electron gas for FET 4-50821
 Al_{0.9}Ga_{0.1}As/GaAs layers, modulation doped, 2-D electron gas, low field mobility calc. 4-20710
 n-Al_{0.9}Ga_{0.1}As/GaAs selectively doped heterostructs. for high electron mobility transistors 4-35048
 Bi, energy band and electron density calcs. 4-56185
 Ce_{0.9}-La_{0.1} phase diagram and crit. points, Fermi liquid model 4-55966
 n-GaAlAs/GaAs heterojunction, 2-D electron gas, tangential magnetoresist. 4-15953

electron gas continued

- GaAs, electron indicated, deep donor levels excitation and annealing (*Russian*) 4-56265
 GaAs/Al_{0.9}Ga_{0.1}As heterostructure, 2D electron gas, negative magnetoresist. and inelastic scatt. time 4-50912
 GaAs/N-AlGaAs, selectively doped MBE heterostructs., high electron mobility in two-dimens, electron gas 4-25427
 GaAs/n-AlGaAs heterojunction, MBE growth, FET appls. 4-16327
 GaAs-Al_{0.9}Ga_{0.1}As heterostructure, electron gas, a.c. conductivity study 4-11581
 GaAs-Al_{0.9}Ga_{0.1}As heterostructure, 2D electron gas, parabolic negative magnetoresist. 4-25432
 GaAs-Al_{0.9}Ga_{0.1}As heterostructure, localisation of two-dimensional electrons 4-40005
 GaAs-AlGaAs heterostructures, dimensional resonance study 4-11582
 GaAs-AlGaAs heterostructures, Hall effect studies 4-11583
 GaAs-Ga_{1-x}Al_xAs heterojunction, doping considerations, low temp. mobility 4-20708
 GaSi_{1-x}P_x-GaAs strained layer superlattices, two-dimens. electron gas obs. 4-15938
 H₂, lowest Σ_u^+ state, pot. curve and polarisability tensor calcs. 4-28359
 p-InAs/metal struct., elec., photoelec. and luminesc. props. 4-30072
 Si inversion layers, 2-D plasmons, dispersion laws 4-25266
 Si:Na⁺ accumulation layers, dynamical conductivity 4-56410
 Si/dielectric/metal struct., electron gas Hall conductivity in inversion channels, ultraquantum limit 4-30077
 Si-SiO₂ interface, ballistic phonon absorpt. and scatt. by Si electron inversion layer 4-24936
- electron guns**
 beam current meas., instrumental function of four-grid analyser determ. 4-37256
 breakdown protection by current limitation 4-8989
 cold-cathode electron gun for CO₂ laser pre-excitation 4-33682
 microbeam generation using electron gun and imaging system (*Polish*) 4-313
 point cathode electron gun, electron optics, beam form. simulation 4-28613
 pulsed electron gun, compact high current with sub-nanosecond electron pulse width 4-13735
 ribbon beam electron gun, magnetically focused, homogeneous mag. field in cylindrical shell 4-44038
 semiconductor electron beam annealing by electron gun, uniformity of implant activation 4-6407
 thin film deposition appls., evaporation characteristics of electron beam gun heated sources 4-46438
- electron-hole avalanches** see *impact ionisation*
- electron-hole drops**
 condensed excited state in excited atom system 4-20587
 direct band semicond., polaritons localised on electron-hole drops 4-29898
 metallic surfaces, electron-hole pair excitation in low energy electron scatt. 4-29896
 semiconductors, bielectron-impurity and bielectron-heavy hole complexes 4-25294
 semiconductors, electron-hole drops, props., collective aspects 4-25243
 semiconductors, nonequilibrium, quasizero-dimensional electron-hole systems, Bogolyubov transformations 4-25237
 GaAs, electron-hole liq. plasma expansion, photoluminescence study 4-11553
 GaAs, pulsed laser excitation, electronic power transfer 4-30569
 Ge, deformed, electron-hole liquid, recombination radiation and plasma emission 4-34884
 Ge, electron-hole drop formation 4-39783
 Ge, electron-hole liq. decay and recomb. under CO₂ laser pulse irr., microwave cond. meas. 4-6819
 Ge, electron-hole liq. droplet destabilisation, magnetohydrodynamic mechanism 4-20572
 Ge, microwave breakdown of exciton gas 4-15827
 Ge, strained and photoexcited, Mott and liquid-gas transitions, luminesc. and energy spectra studies 4-56220
 Ge, surface influence on nucleation/phenomena in electron-hole drop formation 4-11447
 InGaAsP-InP double heterostructure, electron-hole plasma, luminescence and Auger studies 4-56426
 InSb, mag. field stabilised electron-hole liq. 4-56223
 Si MOS surface charge layer, recombination radiation of nonequilib. electron-hole pairs 4-25448
 VO₂ film, optical anisotropy induced by ps excitation 4-30546
 Zn_{1-x}Mn_xTe, semimagnetic, photolum. study, plasma parameters 4-7240
 ZnSe, light amplification, radiative processes in electron-hole drops 4-40530
 ZnTe, light amplification, radiative processes in electron-hole drops 4-40530
- electron-hole plasma** see *solid-state plasma*
- electron-hole recombination**
 see also *carrier mobility*
 amorphous semiconductors, carrier recombination rate study 4-25370
 back-surface field solar cell, EBIC characterisation 4-46872
 dislocations, EBIC contrast, recombination strength calc. 4-34496
 distant-pair recombination, tunnelling nonradiative transitions 4-46322
 electrophotographic layers, monopolar cond., photodischarge kinetics 4-39990
 energy transfer by diffusion and dipole-dipole interaction, perturbation expansion anal. 4-56228
 geminate recombination, time depend., Monte Carlo simulation 4-45808
 geminate recombination and field depend. photogeneration, mol. model 4-35009
 methane, liq. and solid, electron-ion recombination and electron thermalisation 4-29984
 p-n junction solar cells, electric field effect on minority carrier lifetime 4-26291
 passive layer on metal electrodes, photoeffects 4-56396
 pentacene crystals, photocond. at low temp., carrier photogeneration processes 4-11559
 photoconductivity decay method for light with low penetration depth (*German*) 4-25392
 polyacetylene junctions, photoresponse, geminate recombination model 4-50895
 polydiacetylene-toluene sulphonate, charge carrier photogeneration, recomb. and transport 4-39960

electron-hole recombination continued

- polyethyleneterephthalate, electron irradi. induced conductivity 4-6788
 polystyrene, electron irradi. induced conductivity 4-6788
 quasi-one-dimensional system, charge carrier photogeneration, recomb. and transport 4-39960
 semiconductor, Auger recombination, screening 4-2998
 semiconductor, hole-capture cross section of charged dislocations 4-29986
 semiconductor, nonequilibrium carrier diffusion, radiative recombination effects 4-50840
 semiconductor, point defects, exptl. studies, book 4-33
 semiconductor, polar with dislocations, carrier recombination and exciton-phonon interaction 4-20671
 semiconductor, stochastic recombination instability, electric circuit modelling 4-29985
 semiconductor, transmission line equivalent circuit model, analytic transform. of generation-recomb. centres 4-6772
 semiconductor, variable gap, cathodoluminesc., nonequilibrium carrier distrib. 4-25817
 semiconductor surfaces and interfaces, recomb. processes 4-6804
 semiconductor/electrolyte barriers, surface recombination and photovoltaic appls. 4-15958
 semiconductors, carrier recombination under laser annealing 4-15886
 semiconductors, impact ionisation by microwave field in static mag. field 4-25360
 semiconductors, negative differential photoconductivity in magnetooconcentration effect 4-45833
 semiconductors, photoacoustic studies of carrier props., theory 4-24915
 solar cells, interdigitated back contact, diffusion length and surface recomb. vel. determ. 4-12476
 SOS structure, review of physico-chemical and electrical props. (French) 4-40068
 tetracene crystals, photocond. at low temp., carrier photogeneration processes 4-11559
 Ag-As-Se vitreous system, recombination parameters and photoinduced carrier distrib. (Russian) 4-39934
 AgBr:Ir³⁺, radiative recomb., photoluminesc. spectra 4-11932
 Al/octaethylporphyrin/Ag film sandwich cells, UV electroluminescence study 4-21041
 As₂Se₃, amorphous, anomalous transient photocurrent 4-20689
 As₂S₃(Te₂) chalcogenide glasses, photocarrier recomb. and band struct. parameters 4-45830
 CaO-B₂O₃-Al₂O₃-Cu, glass, γ -irradiation, formation and decay of colour centres 4-34487
 n-CdIn₂S₄/aqueous electrolyte interface, photoelectrochem. characts. (French) 4-40041
 CdS, photocond. meas., control of carrier conc. by stimulated emission 4-56387
 CdS-CdTe heterojunction, electrochem. deposited, current transport mechanisms 4-35051
 CdSb single cryst., recombination parameters and photoinduced carrier distrib. (Russian) 4-39934
 Cu_{1.8}S-InP heterojunctions, elec. and photoelec. props. (Russian) 4-40029
 Ga_{1-x}Al_xAs semiconductor alloy variable-gap cells with several junction energy gaps for a high efficiency solar energy system 4-21558
 GaAs doping superlattices, photoluminescence study 4-30506
 GaAs, quantum wells, localisation induced excitonic electron-hole recombination, cathodoluminesc. study 4-39923
 GaAs, semi-insulating, field-assisted photoelectromagnetic effect 4-39961
 GaAs, semi-insulating, photocond. and PEM effect under different surface recomb. regimes 4-39985
 p-GaAs surface recombination rate meas., using cathodoluminescence 4-8922
 GaAs-Al_xGa_{1-x}As quantum well structures, recomb. enhancement due to carrier localisation 4-7234
 GaAs-AlGaAs single quantum well, improvements using thin superlattice buffers 4-51310
 GaAs_{0.99}P_{0.01}, recomb. mechanism, cathodoluminesc. study 4-57001
 GaAs_{1-x}P_x, γ -ray induced defects, recombination-enhanced annealing 4-20252
 GaP reverse biased diodes, electroluminescence spectra (Russian) 4-40537
 Ge, combined effects of CO₂ and Nd laser radiation, carrier recomb. rate meas. 4-30025
 Ge wafers, carrier lifetime meas. using photomagnetolectric contactless method 4-4421
 Ge:Li, gamma irradi., recomb. centres 4-6805
 Ge₂₀Bi_{80-x}, amorphous, photocond. props., Bi content depend. 4-45832
 Hg-As-Se vitreous system, recombination parameters and photoinduced carrier distrib. (Russian) 4-39934
 InGaAsP lasers, Auger recomb. temp. depend., expt. study 4-33697
 InGaAsP lightly doped lasers, radiative and nonradiative recomb. anal. 4-19452
 InGaAsP lightly-doped lasers, radiative and nonradiative recombination law anal., comment and reply 4-1394
 In_{0.72}Ga_{0.28}As_{0.64}P_{0.4}, band-to-band Auger recomb., effect of anisotropic band parameters 4-45810
 In_{1-x}Ga_xP solid soln., donor-acceptor recombination, band struct. effects 4-25809
 InSb, nonequilibrium plasma, recomb. and diffusion at high excitation rates 4-25389
 KI, VUV excitation of luminescence 4-40524
 KI:Eu²⁺, X-irrad., luminesc. and cond. meas., impurity cluster effects 4-16241
 KI+Ti³⁺, VUV excitation of luminescence 4-40524
 LiF:Ti (TLD-100), photoluminescence and thermoluminescence, thermal treatment effects 4-40539
 NaCl:Ca²⁺, Cu²⁺, X-irrad., recombination luminesc., photoacoustic emission 4-51315
 P, black, core-exciton induced resonant photoemission 4-51453
 a-P, radiative recombination, ODMR and photoluminesc. studies 4-25799
 Si, amorphous, solar cells, interface recombination effects, theory 4-46874
 Si crystal, lifetime doping, comparison of Nd:YAG fundamental and second harmonic Q-switched laser-beam 4-29981
 Si, laser-induced carriers in picosec. time range 4-11856
 Si MOS surface charge layer, recombination radiation of nonequilibrium electron-hole pairs 4-25448
 Si, minority carrier lifetime, SEM cathodolum. assessment 4-35499
 Si p-n junction, forward-biased, electroluminesc. by radiative recomb., leakage current study 4-30060

electron-hole recombination continued

- Si, polycrystalline, grain boundary recombination vel., illumination effects 4-45826
 poly-Si solar cells, grain boundary effects 4-57727
 Si structural defects and electronic effect in devices and unprocessed material 4-39935
 n-Si:Ar⁺ ion implanted, laser excitation, electrophysical props. 4-39989
 Si:H, amorphous, geminate recombination effect, prep. parameters (Chinese) 4-6798
 a-Si:H, luminescence, metastable excited carrier population 4-40525
 a-Si:H, luminescence quantum efficiency 4-40506
 a-Si:H, photocond., Fermi level effect 4-39973
 a-Si:H, recomb. processes, ODMR and photoluminesc. study 4-20889
 a-Si:H, recombination and spin depend. effects, comment 4-11803
 a-Si:H, recombination kinetics depend. on photoexcitation density 4-39925
 a-Si:H, recombination processes and spin-dependent photocond. 4-6831
 a-Si:H, reversible photoinduced changes of electron hole lifetimes and gap states 4-39926
 a-Si:H, spin-dependent photoinduced absorpt., ESR study 4-40225
 a-Si:H, trapped electron-trapped hole recomb., dangling bonds, photocond., EPR studies 4-39834
 a-Si:H films, photocond., optical and thermal quenching 4-11558
 a-Si:H films, photocond. and photoluminesc. at low temps. 4-56979
 a-Si:H glow discharge films, photoexcited carriers ps recombination 4-25462
 a-Si:H MOSFET, photocond., Fermi level effects 4-6830
 Si-SiO₂, ESR, optically induced, spin-dependent recombination 4-45883
 Si₃C_{1-x}H_x, amorphous, luminescence study 4-40504
 SiO₂, amorphous and cryst., low temp. recombination luminescence 4-46337
 SiO₂ high field current-induced positive charge transients 4-6801
 SiO₂ thin films, electron beam excited, geminate recombination 4-56464
 SnO₂-SiO₂-Si solar cells, electron radiation effects 4-46871
 Xe crystal, exciton luminesc. from high-energy states (Russian) 4-30532
 Zn₃Cd_{3(1-x)}In₂S₆ layered crystals, trapping and recomb. centres, photocond. quenching 4-6800
- electron impact**
 see also atomic electron impact excitation; atomic electron impact ionisation; molecular electron impact dissociation; molecular electron impact excitation; molecular electron impact ionisation; secondary electron emission
 disordered targets, elastically reflected electrons, spatial distrib. 4-25838
 electron bombarded targets, bremsstrahlung spectrum determ. (German) 4-35530
 ice, in Solar System, energetic charged particle erosion 4-31771
 molecular cryst., inelastic electron scatt. and surface exciton excitation 4-34882
 monoenergetic electron source for collisions with atoms and mols. 4-13736
 monoenergetic positron-solid surface interaction, review 4-30574
 small metal particles, nonlocal theory for far-IR absorpt. 4-51212
 solid state positron physics, Varenna, Italy, July 1981 4-27247
 Ag (111), Xe, Kr and Ar overlayers, electron stimulated desorption 4-29812
 Al electron scattering, Monte Carlo simulation 4-7289
 Cd ion desorption from glass, electron-impact-stimulated, optical obs. 4-25149
 GaAs:Te/Ag, inelastic electron scatt., semicond. surface vibr. spectrum, effect of cond. overlayer 4-57051
 Ni, adsorbed CO, electron- and ion-induced desorption studies 4-29809
 Ru (001), coadsorption of H₂O and Na, thermal desorption and electron stimulated desorption study 4-2461
 Si (111), electron activated stepwise oxidation and nitridation, electron stimulated desorp. study 4-35741
 W (110), single cryst. fast-to-slow positron moderator 4-30575
 W, adsorption of S, effects of electron bombard. and coadsorbed species 4-50640
- electron interactions** see elastic scattering of electrons by atoms and molecules; electron attachment; electron beam effects; electron beams; electron-electron interactions; electron-electron scattering; electron-impact; electron-nucleon interactions; electron-nucleon scattering; electron-nucleus reactions; electron-nucleus scattering; electron-positron interactions; electron-positron scattering; electron spectra; hadron electroproduction; neutrino-electron interactions; neutrino-electron scattering; secondary emission
electron ionisation see electron impact
electron lenses
 see also aberrations; electron microscopes; electron optics; electrostatic lenses; magnetic lenses
 aberration corrected systems of planar electrostatic deflection elements 4-44036
 angle-resolving electron energy analyser, with novel input lens 4-13733
 cathode lenses, axisymm., image defocusing rel. to small defect presence, MTF 4-19352
 cathode lenses aberrations, variational theory 4-19349
 electron and ion lens optimisation procedure 4-33606
 high resolution, analytical electron microscopy, twin lens and super twin lens 4-48261
 quadrupole probe-forming system beam optics, book 4-31978
 sandwich pole piece probe forming lens, design and calcs. (Chinese) 4-44037
 SEM, single pole forming lens 4-22875
 single pole piece objective electron lenses, TEM and STEM appl. 4-316
 spherical aberration correction in charged particle lenses using aspherical foils 4-38384
 third order aberration coeff. dependence on object position, comment 4-44039
- electron lifetime (metals)** see electron relaxation time (metals)
electron lifetime (semiconductors) see carrier lifetime
electron lithography see electron beam lithography
electron mean free path (metals)
 alloys, amorphous, elec. resist., temp. depend., diffraction model anal. 4-45723
 cyclotron doppler transmission (Russian) 4-25252
 films, resistivity, review of theoretical analyses 4-6910
 metallic contacts, I-V characts. and point contact spectroscopy elastic scatt. effects 4-50904
 metallic thin films, optical and reflection coeffs., free-electron parameter anal. 4-51402

electron mean free path (metals) continued

- metals, weakly damped Reuter-Sondheimer waves under anomalous skin effect conditions (*Russian*) 4-25386
 rare earths, mean free path and RKKY interaction 4-6767
 Cu, quenched-in resist., effects of O impurity 4-20626
 Ga, SAW and electron relax. time temp. depend. (*Russian*) 4-29755
 In_2O_3 , 3-dimens. films, conduction electrons, inelastic scatt. 4-45900
 K, low-temp. elec. resist. and local density of states. 4-56314
 Mg-Zn, amorphous, resist. and thermopower, diffraction model 4-6759
 Sb thin film, elec. resist., film thickness effect 4-20743
 Sr films, polycrystalline, elec. resist. meas. 4-25460
 W, resistive size effects, influence of surface scatt. 4-6770
 Zn thin films, struct. and elec. props. investig. 4-25457

electron mean free path (semiconductors) see carrier mean free path**electron micrographs see electron microscope examination of materials; electron microscopy****electron microprobe analysers see electron probe analysis****electron microprobes see electron probes****electron microscope applications**

- see also electron microscope examination of materials; scanning electron microscope applications
 asbestos in air samples measurement by transmission electron microscopy method 4-17271
 fibre optic waveguide end quality evaluation (*Slovak*) 4-1515
 lectins and antibodies, cell surface-associated, direct visualisation in freeze fracture electron microscopy 4-52548
 mol. images, automatic selection from electron micrographs, appl. to lipoyl transsuccinylase 4-52278

electron microscope examination of materials

- see also electron microscope applications; electron microscopy; scanning electron microscope examination of materials; scanning-transmission electron microscope examination of materials; transmission electron microscope examination of materials
 Balbiani ring, in situ transcription units, electron microscope tomography 4-58060
 biological materials, appl. of energy filtered imaging 4-21872
 biological specimens, improved device for rapid freezing using liquid He 4-31380
 biomembrane proteins, struct. meas. by electron microscopic techniques 4-52271
 bone, fracture, deform. rate effect 4-12619
 bronze, blue surface steps and electron microscopy Fresnel contrast (*French*) 4-15752
 conference, Nagoya, Japan (May-June, 1983) 4-53343
 cryo-electron microscopy of viruses 4-47121
 crystalline grain, bent, bending radius and orientation 4-29374
 diamond, electron optical imaging 4-10933
 DNA, imaging by photoelectron microscopy 4-46933
 electron energy loss spectrometry for use in materials science 4-50149
 erythrocyte ghosts, photoelectron microscopy obs., lectin binding sites imaging with colloidal Au markers 4-52307
 ferrofluids, particle size anal., electron microscopy study 4-30241
 fish muscle M-band, electron microscopy, 3D reconstruction from single oblique section 4-41682
 gap junction in rat liver, reversible struct. transition, high-resolution electron microscopy obs. 4-46958
 garnet films, LPE grown, domain struct. and characts. 4-2799
 grain boundary dislocations, Fresnel effects and high resolution images 4-39068
 graphite-metal chloride intercalation cpd., X-ray diffr. and high resolution electron microscopy (*French*) 4-45100
 isothermal treatment, austenitizing, microstruct. of intermediate temp. transform. (*Chinese*) 4-46503
 magnesium phthalocyanine, sublimed films, solvent induced dimorphic transformations and photoactivity 4-6498
 metal, laser irradi. with microsec. TEA CO_2 laser pulse, air plasma formation 4-55574
 metal nitride particles, (group IIIa, IVa, Va and VIa metals), prep. by reactive gas evaporation (*Japanese*) 4-21190
 metal-polymer composites, surface layers form. on sliding 4-46628
 metallic epitaxial bilayers, accommodation and misfit dislocations obs. (*French*) 4-45557
 metals, irradi., damage models (*Russian*) 4-24849
 metals, M-band, fish, 3D reconstruction from tilted sections 4-41681
 Ni-Cr-Co-Ta, superalloy IN 738, carbide transform, etching and EM obs. 4-25963
 nuclear waste glass, surface layer alteration by boiling water, struct. (*French*) 4-52249
 optical fibres, electron microscopy study of preparations during their prod. 4-49594
 perfluorocarbon particles, dimensional anal. by electron microscopy 4-43141
 photographic development, empty tubes in developed filaments, electron microscope obs. 4-3417
 photographic emulsion, electron microscopic ultrathin section prep. and interpret. (*German*) 4-43083
 poly-L-lysine alpha helix sidechains, electron microscopy visualisation 4-26360
 polydiacetylene crystals, rad. damage, high resolution microscopy study 4-29480
 polyethylene, linear and branched blends, morphology 4-34422
 polyethylene crystals, chlorination mechanism 4-46638
 polyethylene terephthalate, amorphous, morphology, electron diffraction contrast micrograph obs. 4-15401
 polymer structure determination using electron diffraction techniques 4-44901
 polypropylene-polyethylene blends, heat treated, drawn, morphology 4-45030
 polytypes, high resolution electron microscopy for charact., review 4-39067
 porcelain, phosphate containing, glass phase segregated struct. 4-40790
 porcelain, stomatologic, phase comp. and struct. 4-40721
 rare earth permanent magnets, R-Co, domain wall pinning 4-7001
 rare earth trialuminides, polytypism identification by electron microscopy 4-39214
 RecA-DNA filaments, electron microscope visualisation, evidence for cyclic extension of duplex DNA 4-57828
 retina, frog, melamine-embedded, electron microscopy and obs. of cryst. organisation of photoreceptor outer segments 4-41671

electron microscope examination of materials continued

- iRNA crystals, negatively stained with uranyl acetate, electron microscopy obs. 4-52272
 semiconducting materials, microscopy studies, conf., Oxford, England (Mar. 1983) 4-17636
 semiconductor superlattice, strained layer, lattice distortion direct obs. 4-11408
 silica, surface steps and electron microscopy Fresnel contrast (*French*) 4-15752
 silicate glass, Se containing, cryst. inclusions, X-ray spectral anal. 4-15391
 $\text{SiO}_2\text{-Na}_2\text{CO}_3$, soda crevanite-25, aging 4-57261
 stearic acid film, step morphology obs. (*Japanese*) 4-20519
 stearic acid single cryst., surface study by Ge or Bi film decoration (*Japanese*) 4-2416
 steel, alloy, diffusion layer failure formation after chemicothermal treatments 4-3235
 steel, austenitic stainless, reactor creep, 30-650°C, dislocation structure (*Russian*) 4-51735
 steel, austenitic stainless, type 304, applied stress effect on swelling behaviour, electron microscope investig. 4-29478
 steel, austenitic-ferritic, work hardening, effect of grain size 4-16416
 steel, C, heat treated, failure mechanism in abrasive wear 4-41001
 steel, Co eutectoid, partitioning of Co during pearlite growth 4-30705
 steel, Cr-Mn, multistage thermal cycling, struct., microhardness and strength 4-21229
 steel, ferrite-austenite stainless, deformed by rolling, microstruct. 4-40921
 steel, ferrite-austenite stainless, deformed by rolling, recryst. annealing 4-40820
 steel, ferritic stainless, cold-rolled, transition band struct., electron microscopy study 4-46527
 steel, ferritic-pearlitic, failure surface struct. in ductile-brittle transition zone 4-30817
 steel, low C, cold rolled, recrystallisation (*Russian*) 4-7477
 steel, Mo, metallographic characterization of wrinkled ferrite 4-21220
 steel, stainless, Cr-Ni and Cr-Mn, radiation-stimulated transforms. in struct. 4-57230
 steel, tempering, carbide form; mech. stresses effect 4-30734
 steel, type 70Kh2MFB and 90Kh2MF, supercooled austenite, pearlite precipitation (*Russian*) 4-51666
 surface restitution from electron micrographs of extended surface replicas in situ 4-30866
 tetrahedral compounds, polytypes and stacking faults, electron microscope imaging 4-11156
 TFT-CNQ thin films, elec. props., electron and optical microscopy 4-45762
 twin boundary contrast, Bloch wave dynamical theory 4-6228
 9-vinylcarbazole oligomers, electro-photographic props., heat treatment effect (*Russian*) 4-4486
 Zircaloy fuel cladding, high burnup, microstruct. and fracture examinations 4-20373
 Ag films, VPE grown, resist. ratios, size effects, radiation annealing, RHEED, electron microscopy studies 4-30087
 Ag halide emulsions, ultrafine grain, spectroscopic and electron microscopy obs. of photochem. colouring centres 4-41235
 Ag-Cu, ion beam mixing (*German*) 4-45212
 AgAuTe₄, cryst. struct. and antiphase boundaries 4-29389
 AgN₃ single crystals, dielectric breakdown, cond. current fluctuations and electron microscopy study 4-16164
 Al, electron and gamma irradi., void form., dislocation struct., electron microscopy (*Russian*) 4-24869
 Al/Cr(Si)(C), bilayer films, laser irradi., hole formation, replica electron microscopy 4-28793
 Al-Cu, single crystals, containing θ' precip., cyclic deform., orientation and history depend. 4-12102
 Al-Cu-WC, sintered, precip. and particle-hardening, combined effect 4-21186
 Al-CuAl₂, single eutectic grains, hot deform. in tension, role of phase boundaries 4-21263
 Al-Mg (7 wt.%), dynamic recrystallisation after extrusion 4-12082
 Al-Mg dilute alloys, vacancy clustering process 4-39287
 Al-SiO₂-Si structure, p-n junction formation in Si by Al electromigration through SiO₂ 4-30081
 Al-Zn (11 wt.%), creep at intermediate temp., evolution of internal stresses and substruct. 4-57279
 Al-Zn-Si (12, 6 wt.%), kinetics of phase transitions after deformation by quenching 4-30750
 AlN, formation by N⁺ ion implantation, precipitation process obs. 4-20228
 Al₂O₃ layer characterisation for Al sheet adhesive joints (*German*) 4-16542
 Al₂O₃-Ag₂O, β and β'' phases, struct. and props., high resolution electron microscopy study 4-34477
 Al₄₊₂Si_{2-2x}O_{10-x}, mullite, superstructures, high resolution electron microscopy and diffraction study 4-39247
 Au, indentation hardness meas. at 20 nm penetration depth 4-7572
 Au-Cu alloy, track-plated, electrodeposition, analytical electron microscopy study 4-12039
 AuTe₂, cryst. struct. determ. 4-29388
 Au₂Zn(H), dissociated antiphase boundaries and dislocations 4-29645
 BaF₂-Ge(InP), epitaxial interfaces, misfit dislocations, electron microscopy anal. 4-11410
 Bi₂S₃ film, cathodic electrodeposition, struct. and composition charact. 4-34816
 C, fibre glass, struct. rel. to neutron irradi. 4-55881
 CaZrTi₂O₇, zirconolite, polytypic behaviour 4-50271
 CdInGaS₄, ordered phase struct. and domain struct., electron microscopy and electron diffr. study 4-39529
 CdS, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 CdTe, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 CeO₂-O₂ system, ordered intermediate phases, high resolution electron microscopy study 4-2311
 Co-Cr-Ni-Fe-Mo-Mn spring alloy, low-temp. strain hardening 4-30715
 Co-Cr(Mo) sputtered films, domain struct. and mag. props. 4-25614
 Cu (111) surface, Young's soln., etching, dissolution rate at dislocation sites (*Japanese*) 4-6374
 Cu, rolled, texture, dislocation struct. 4-21234
 Cu thin film, chemically deposited, struct. studies 4-29844
 Cu-Al-Ni, β Hulme-Rothery alloys, modulated microstruct. 4-40742

electron microscope examination of materials continued

- Cu-Al-Ni (28.2, 3.9 at.%), decomp. of β_1 phase 4-21195
 Cu-Bi, equilib. segregation of Bi, analytical electron microscopy study 4-40797
 Cu-Pd disordered alloy, struct. study 4-39146
 Cu-Si (6.5 at.%), with low stacking fault energy, in situ deform., HVEM (French) 4-12100
 Cu-Zn, β Hume-Rothery alloys, modulated microstruct. 4-40742
 Cu-(Al₂O₃) single crystals, cold rolled, deform. struct. rel. to second phase particles 4-12111
 Cu_{0.75}VS₂, phase transition with temp. hysteresis, long period superstructures, electron diff., microscopy studies 4-6489
 CuZn, dislocations, Burgers vector determ., HVEM 4-45138
 Dy₂O₃/B, thin films amorphisation, forbidden gap 4-55725
 (Fe,Cr)₂C₃ coatings, cryst. defects, electron diff. and microscopy studies 4-11133
 Fe, Armo, heat treated, failure mechanism in abrasive wear 4-41001
 α -Fe, electron irradi., void growth and vacancy migration energy 4-11338
 Fe, fatigue crack propag. rel. to intermittent oversteering 4-21326
 Fe, H enhanced crack propag., in situ HVEM obs. 4-57336
 Fe surface, phase composition after B ion implantation, electron microscopy and diff. studies 4-11163
 Fe-Cr-Ni (18, 14 wt.%), austenites, irradi. in HVEM, interstitial migration, role of C and Ti (French) 4-34545
 Fe-Mn-Si alloys, shape memory effect, orientation and comp. depend. 4-57222
 Fe-Ni (31.7 at.%), mag. field induced martensitic transform. 4-21215
 Fe-Ni-C alloys, austenite-martensite interface and dislocation struct. 4-7457
 Fe-Ni-Co-Ti (23, 10, 10 wt.%), martensitic transform., γ' -phase precipitate lattice parameters, internal stresses 4-21209
 Fe-Si (33 at.%), amorphous films, crystn. behaviour 4-29320
 Fe-Si-B-based soft mag. glasses, retained γ -Fe, electron microscopy studies 4-56022
 Fe₂C₃, cryst. defects, electron diff. and microscopy studies 4-11133
 FeN, ion implanted, cryst. struct. and compound formation 4-39324
 FeN₂ phase form. by N⁺ ion implantation and heat treatment 4-39326
 α -Fe₂O₃ powders, particle charact., thermal analysis, electron microscopy (Japanese) 4-21191
 γ -Fe₂O₃, tri-dimensional morphology, appl. of dark field weak beam method (French) 4-20137
 α -FeOOH, domain boundaries, high-resolution electron microscopy study 4-11154
 α -FeOOH powders, particle charact., thermal analysis, electron microscopy (Japanese) 4-21191
 GaAs, electron irradiated, mech. of dislocation climb, electron microscopy study 4-20198
 GaAs:Se, implanted, electron-beam annealed, electron microscopy study 4-20229
 Ge, CZ grown, defects induced by annealing or irradiation 4-20182
 Ge films, microcrystalline, RF glow discharge deposited, electronic transport props. 4-6911
 Ge-Cr-C, low energy interphase boundaries, precipitation on mobile growth ledges 4-7469
 Ho_{1.9}Co_{8.1} thin films, sputter deposit, vertical Bloch line pair movements, electron microscopy obs. 4-20840
 InSb, single cryst., 2 MeV electron irradi. between room temp. and 200°C, dislocation loops, electron microscopy study 4-11188
 InSb, thin films, elec. props. and crystallisation behaviour 4-56461
 KNO₃, (100) ferroelectric domain walls, high resolution electron microscopy studies 4-25699
 Li_{0.47}Cu_{0.930}Co_{0.040}Fe_{2.495}O₄, ferrite, prep., physicochemical props. 4-57144
 LiF, deformed in contact with external medium, dislocation distrib. in surface layers 4-11149
 LiF, edge components of dislocations, sign of deformation effects 4-24819
 Mg(Cu_{0.10}Zn_{0.90})₂, defects, high resolution electron microscopy obs. 4-29448
 Mn₂SiO₄-Mn(OH)₂, leucophoenicite, cryst. struct., TEM, X-ray diff. and electron probe anal. 4-20146
 Mo condensate on steel, influence of ion energy on microstructure and macrostresses (Russian) 4-50662
 Mo, ductile fracture and dislocation glide, HVEM study 4-30810
 Mo single cryst., dynamic recovery during rolling, hardness and yield stress studies (Russian) 4-35638
 NaCl, dislocation loop, decoration method study 4-39300
 NaCl, divalent cation impurities, influence of weak pulsed mag. field 4-11173
 Nb₂O_{5-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 NbS₂, single molecular layer suspensions, H₂(H₂O) intercalated, X-ray and electron microscopy studies 4-55808
 Nb₃Sn multifilament superconductors, AC loss depend. on struct. props. 4-45952
 Nb₃Sn tapes, superconducting, microstruct. and neutron radiation damage 4-45193
 Ni, indentation hardness meas. at 20 nm penetration depth 4-7572
 Ni, irradi., dislocation loop growth and void swelling, quantitative anal. 4-55876
 Ni-Al phase diagram, Ni₃Al₃ precipitates, morphology and lattice parameters 4-57191
 Ni-Sn, genesis of orientation boundaries, photoemission electron microscopy 4-21223
 Ni₃Al, compression induced dislocation dissociation, weak beam study 4-39298
 Ni₆₇Cu₃₃Sn₇₅, massive and martensitic transform. structures 4-21214
 Ni_{80-x}Fe₂₀ glassy alloys, thermal relax., phys. props. meas. 4-45244
 Ni₄Mo, order-disorder transform. under electron irradi. in HVEM 4-51654
 Ni₅₀Zn₅₀, martensitic and massive transforms. 4-40787
 PtV system, ordered phase, electron microscopy and diff. studies 4-15427
 SOS films, Si-implanted and electron beam annealed, high resolution electron microscopy 4-20505
 Si, bulk stacking faults, EBIC and high volt. electron microscopy studies 4-55848
 Si, CW beam-annealed, electron microscopy and defect/impurity spectroscopy 4-20604
 Si, CZ grown, defects induced by annealing or irradiation 4-20182

electron microscope examination of materials continued

- Si, core, dislocation struct. study by high resolution electron microscopy (French) 4-15474
 Si, Czochralski grown, segregation and precipitation of O, early stages 4-50525
 Si, dislocation core structure, elucidation by high resolution electron microscopy 4-15473
 Si, indentation hardness meas. at 20 nm penetration depth 4-7572
 Si, ion implantation damage and amorphisation, electron microscopy studies 4-55887
 Si, local oxidation induced dislocation generation near Si₃N₄ mask edges, HVEM study 4-29435
 Si structural defects and electronic effect in devices and unprocessed material 4-39935
 Si, surface steps and electron microscopy Fresnel contrast (French) 4-15752
 Si, thermally induced microdefects, high resolution electron microscopy study 4-20181
 Si:H,B microcrystalline films, plasma-deposited, substrate temp. effects 4-21162
 SiO, Czochralski grown, defects study 4-15461
 Si-SiO₂ interface, high resolution electron microscopy studies 4-20504
 SiO amorphous film, vacuum deposited, high resolution electron microscopy studies 4-39708
 SiO₂, fibrous, cryst. growth on Si surface, electron microscopy study (French) 4-15410
 SiO₂ thermal layers grown in I₂ ambient, struct. anal. (Russian) 4-56168
 SiO₂-Al₂O₃-CaO-K₂O-Cu₂O glass, phase transforms, Cu₂O effect 4-10993
 SiO₂-Si interface, Cl incorporation and third phase development during Si oxidation 4-45538
 SmCo₅ permanent magnets, ageing, positron annihilation, electron microscopy, elec. resist., mag. meas. 4-7019
 Sm(CoFeCuZr)_{7.4} magnets, phase composition and hysteresis props. (Russian) 4-51093
 B-Sm₂O₃, cryst. struct. and high resolution electron microscopy images 4-24787
 B-Sm₂O₃, surface steps, high resolution electron microscopy study 4-34768
 SnO₂Sb, twin images, electron microscope study 4-20211
 SnSe₂ thin films, phase transformations, electron microscopy study 4-50658
 TaS₂, single molecular layer suspensions, H₂(H₂O) intercalated, X-ray and electron microscopy studies 4-55808
 TaSe₂ (2H), discommensuration arrays, dark field imaging and convergent beam electron diff. obs. 4-11310
 Tb₆₃O₁₁₂, structural relationship with Tb₆₀O₁₀₂ series members, high resolution electron microscopy study 4-2173
 (Ti,Cr)O_{2-x}, solid solubility, temp. depend., electron microscopy obs., linear cationic interstitial small defect models 4-56024
 Ti alloys, interface phase form., effect of thin foil prep. technique 4-3348
 Ti-Al-Zr-W(Mo)-(B), struct. and corrosion props., effect of quenching from liq. state 4-30857
 Ti₅₈Ni₃₇Al₅, diffuse electron scatt. from incommensurate phase 4-20369
 Ti₅₉Ni₃₈Al₂₉, phase transform. 4-21211
 Ti₅₀Ni₄₅Fe₅, phase transform. 4-21211
 TiO₂ crystals (rutile), small defect imaging, visibility criteria 4-34481
 TiO₂, resolution of atomic steps on dislocations 4-55833
 TiO₂:Cr₂O₃, dielec. props. due to crystallographic shear planes 4-40326
 TiO_{2-x}, nonstoichiometric phase, precipitation phenomena, pairs of crystallographic shear planes in reduced rutiles 4-39517
 TiO_{2-x}, nonstoichiometric phase, precipitation phenomena, {100} platelet defects in reduced rutiles 4-39518
 TiO_{2-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 TiO_{2-x}, rutile, thermomechanically treated, point, linear and extended defect structures, electron microscopy obs. 4-24835
 UW_{0.3x+2}, cryst. struct., electron and ion irradi. effects 4-2160
 W, failure in zone affected by electric discharge 4-35695
 WO_{3-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 YbS₂, nonstoichiometric phases, electron diffraction and microscopy studies 4-2159
 ZnS DC electroluminescent film, Cu electromigration rel. to emission degradation 4-51351
 ZnS evaporated epitaxial layers on Si substrate, struct., microtwins obs. (Japanese) 4-39718
 ZnSe, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 ZnTe, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 Zr, dislocation struct. and strain hardening during creep at 77K (Russian) 4-24817
 Zr, pressure induced $\alpha \rightarrow \omega$ transition, electron microscopy studies (Russian) 4-50489
 Zr-containing systems, B³⁺ ion struct. state, spectroscopy and electron microscopy obs. 4-40447
 ZrO₂ thin films, struct. and optical props. 4-57010

electron microscopes

- see also electron microscopy; field emission electron microscopes; scanning electron microscopes; scanning-transmission electron microscopes; transmission electron microscopes
 conferences, EUREM 80, ICXOM and HVEM 80 (Aug.-Sept. 1980) 4-13482
 high current electron microscope lenses 4-53796
 high-resolution diffraction patterns obs., using electron microscope with adapter 4-44902
 power supply, using chain of HV capacitors 4-37255
 vibration isolated cryopumps, use in electron beam instruments 4-48146

electron microscope

- see also electron microscope applications; electron microscope examination of materials; electron microscopes; field emission electron microscopy; metallography; scanning electron microscopy; scanning-transmission electron microscopy; specimen preparation; transmission electron microscopy
 analytical, charact. X-ray fluoresc. correction in thin foil analysis, models comparison 4-41279
 biological frozen hydrated sections for electron microscopy, freezing, sectioning and obs. artefacts 4-8166

electron microscopy continued

- cascade diffusion pump system for electron microscope 4-48255
- channelling radiation in electron microscopy 4-34556
- conference, Johannesburg, SA (1983) 4-47760
- conferences, EUREM 80, ICXOM and HVEM 80 (Aug.-Sept. 1980) 4-13482
- crystalloid lattice image struct., anal. digital processing method 4-2041
- dark field weak beam method, tri-dimensional morphology of $\gamma\text{-Fe}_2\text{O}_3$ particles (French) 4-20137
- dispersive equations for high resolution imaging and lattice fringe artifacts 4-48266
- energy analyzing electron microscope for local electron spectroscopy 4-43142
- energy filtered imaging, biology appl. 4-21872
- Fourier holography, influence and compensation of aberrations (German) 4-19350
- Fourier holography with electrons (German) 4-22880
- high resolution electron micrograph simulation by high-speed computation techniques 4-4499
- high resolution electron microscopy, image simulation of mol. crystals. 4-10932
- high resolution electron microscopy in association with interactive computing 4-37257
- HVEM of semi-thick sections for exam. of cyanobacterial thylakoid membrane arrangements 4-41667
- image analysis by non-dedicated microcomputer 4-42938
- large-angle convergent-beam zone axis patterns 4-50153
- metal shadowing replicas, granular structures, textural image processing 4-52547
- metastatic adenocarcinoma of unknown primary site, location using diagnostic electron microscopy 4-52471
- neuron, in vitro, combined light and electron microscopy method for visualisation by radioautography and serial sections 4-58055
- phase retrieval from image and diff. patterns (Chinese) 4-2039
- pituitary oncocytomas diagnosis by electron microscopy 4-52472
- plant cell rapid embedding for electron microscopy, use of ultra-low viscosity medium 4-17034
- plant cells, microfilament bundles staining method for HVEM 4-41669
- polymers, replica electron micrograph interpretation, surface artefacts (Russian) 4-30864
- secondary electron analysers, characterisation and performance improvement 4-37254
- sign conventions in electron diffraction and imaging 4-24693
- single particle averaging, stat. significance of mol. projections 4-58058
- stereoscopic representation of complex overlapping elemental maps in electron spectroscopic images 4-41668
- surface profile reconstruction, microdensitometer analysis of electron micrographs of shadowed surface replicas 4-48076
- surface profile restitution from microdensitometer anal. of surface replica electron micrographs 4-48259
- teaching through intensive short courses 4-53393
- tomography, transcription in three dimens. 4-58060
- twin boundary contrast, Bloch wave dynamical theory 4-6228
- virus detection by electron microscopy after direct ultracentrifuge specimen prep. 4-58059

electron mobility

- see also carrier mobility; electron mobility (metals)*
- air, electron drift velocity determ., time-of-flight method 4-38928
- anisotropic scatterers, disordered medium, electron cond., quantum corrections 4-5991
- arc plasma, DC, electron mobility, mag. field effect 4-24669
- binary inert gas mixtures, Monte Carlo simulations of electron drift velocities 4-38929
- dichlorodifluoromethane- N_2 binary mixtures, breakdown strength and synergism factor 4-34226
- diffuse discharge opening switches, electron drift vel. and ionisation and attachment coeffs. 4-34367
- electron swarm transport, diffusion tensor 4-34229
- electron swarms in gases and liquids, conf., Innsbruck, Austria (Aug. 1983) 4-31970
- gases, electron or light ion swarm diffusion tensor in elec. field 4-55669
- magnetron sputtering discharges, current-voltage characts. 4-29272
- negative differential conductivity in gases 4-38937
- pre-breakdown swarm expts., metastable particles effect 4-34232
- swarm experiments in gas mixtures 4-34231
- Townsend discharge in transverse mag. field, electron conc. 4-29268
- Ar, fluid, quasi-free-electron energy rel. to mobility 4-6849
- CO_2 gas, electron drift velocity determ., time-of-flight method 4-38928
- CO_2 gas, electron drift velocity determ., time-of-flight method 4-38928
- F_2 electronegative gas, electron swarm param. calc. 4-34230
- H gas, electron drift velocity determ., time-of-flight method 4-38928
- H_2O , electronegative gas, electron swarm param. calc. 4-34230
- He/Ne mixture, low-energy electron energy characts. 4-34228
- Hg-Ar mixture, low pressure discharges, electron mobility calcs. 4-39031
- Kr, fluid, quasi-free-electron energy rel. to mobility 4-6849
- Kr, low-energy electron energy characts. 4-34228
- N_2 gas, electron drift velocity determ., time-of-flight method 4-38928
- Ne, low-energy electron energy characts. 4-34228
- O_2 gas, electron drift velocity determ., time-of-flight method 4-38928
- O_2 thermal electron diffusion, attachment and cooling 4-28558
- $\text{O}_2\text{-CO}_2(\text{N}_2)$ thermal electron diffusion, attachment and cooling 4-28558
- $\text{SF}_6\text{-(N}_2)$ mixtures, electron transport coeffs. 4-34215
- SF_6 , electron motion in uniform elec. field, Monte Carlo simulation 4-20054
- SF_6 , electronegative gas, electron swarm param. calc. 4-34230
- $\text{SF}_6\text{-N}_2$ binary mixtures, breakdown strength and synergism factor 4-34226
- Xe, fluid, quasi-free-electron energy rel. to mobility 4-6849
- Xe, low-energy electron energy characts. 4-34228

electron mobility (metals)

- 1/f noise in metals 4-39999

electron mobility (semiconductors and insulators) *see carrier mobility***electron multipliers**

- alkali ions detection appl. 4-57621
- Bendix multiplier efficiency determ., for 2-5 keV He ions and neutrals 4-982
- CEM for positive ion detection 4-23517
- MCP detectors of high quantum detection efficiency, soft X-ray resolution 4-58386

electron multipliers continued

- microchannel plate and channel-electron multiplier for multiply charged ions, gain characts. 4-966
- parallel-plate electron multiplier, gain depend. on dynode spacing 4-18871

electron nuclear double resonance *see ENDOR***electron-nucleon interactions**

- see also electron-nucleon scattering; electron-proton interactions*
- electroproduction processes, scale breaking parameter and $F_2^{\text{en}} - F_2^{\text{ep}}$ behaviour 4-37385
- electroproduction with nucl. targets, perturbative QCD anal. 4-32597
- nucleon resonance electroproduction, review 4-23023
- eN, deep inelastic scatt., evolution eqns. in QCD 4-13906
- eN, deep inelastic scatt., invariant current algebra on light cone 4-53999
- eN, deep inelastic scatt. asymmetry and neutral intermediate boson (Polish) 4-32511
- e^+N , polarised scatt., lepton and quark substructure probing 4-48488

electron-nucleon scattering

- see also electron-nucleon interactions; electron-proton scattering*
- en, nucleon mean square charge radius determ., polarisability effect 4-486
- eN giant resonance excitation, P asymm., neutral weak current structure 4-605

electron-nucleus reactions

- for inelastic electron-nucleus scattering, *see "electron-nucleus scattering"*
- see also electron-nucleon interactions; nuclear electron capture*
- deep inelastic electron scatt., Coulomb sum rule in the relativistic nuclear many-body problem 4-18394
- electroproduction of charged pions and response functions spin-isospin (French) 4-644
- electroproduction on nuclei, quark and gluon distrib., QCD estimates 4-32870
- neutrino mass meas. with low energy electron beam 4-43388
- tripositronium prod. in electron-nucleus collisions 4-14614
- ($e,e'K^+$) on ^4He , ^{12}C , ^{208}Pb , hypernuclear excitation 4-4790
- ($e,e'N$) scaling variables for quasi-free nucleon knockout 4-37541
- ($e,e'\pi$) A dependence and threshold behaviour of T=0 nuclei 4-54121
- (e,π^\pm), nuclear responses, quasielastic peak, spin-isospin correlations (French) 4-641
- (e,π^\pm), quasielastic region, selective probe for spin-isospin responses 4-9199
- (e,X) deep inelastic scatt., 2p-2h contribution 4-48569
- (e,X) on ^2H , He, Be, C, Al, Ca, Fe, Ag, Au, 8-24.5 GeV, deep inelastic cross section meas., A-depend. 4-43544
- $^{27}\text{Al}(e,x)$, energy spectra of charged particle electroproduction (Russian) 4-54124
- $^9\text{Be}(e,x)$, energy spectra of charged particle electroproduction (Russian) 4-54124
- $^{12}\text{C}(e,e'p)$, proton decay, RPA calcs. 4-48545
- $^{12}\text{C}(e,e'X)$, quasi-elastic scatt. studies, form factors (Russian) 4-23101
- $^{12}\text{C}(e,x)$, energy spectra of charged particle electroproduction (Russian) 4-54124
- $^{40}\text{Ca}(e,\alpha)$, 10.5-32 MeV, cross sections, yield, excited state 4-634
- $^1\text{H}(e,n)p$, electrodisintegration near threshold and thermal np capture 4-32865
- $^2\text{H}(e,e')np$, very inelastic scatt. study (French) 4-642
- $^2\text{H}(e,e'pn)$, isobaric exchange currents (French) 4-643
- $^2\text{H}(e,ep)$, backward cross section, N anomalous mag. moment, meson exchange current operators 4-18358
- $^3\text{He}(e,e'X)$, quasielastic scatt., cross sections and asymmetries calc. 4-3451
- $^3\text{He}(e,e')$, electrodisintegration, double differential cross section meas. 4-32866
- $^4\text{He}(e,e'X)$, deep inelastic scatt., y-scaling in cross section 4-13982
- $^4\text{He}(e,e'p)$, A=3, 4, sum rule verification, spectral function 4-632
- $^{24}\text{Mg}(e,pn)$, giant dipole resonance anal. from γ -ray de-excitation meas. 4-23098
- $^{14}\text{N}(e,e'X)$, deep inelastic scatt., y-scaling in cross section 4-13982
- $^{23}\text{Th}(e,f)$, virtual photon spectra from fission fragment ang. distrib. 4-27912
- $^A\text{U}(e,f)$, A=234, 236, 238, 5.5-13 MeV E2 strength conc. near fission barrier 4-9242
- $^{238}\text{U}(e,f)$, coincident-inclusive electrofission ang. correl. 4-27910

electron-nucleus scattering

- see also electron-nucleon scattering*
- $^{208}\text{Pb}(e,e'0)$, multipole giant resonances, intermediate struct. in microscopic shell model 4-601
- annual review of nuclear and particle science, book 4-31979
- deformed nuclei, electron charge and magnetic scatt., joint eikonal description 4-591
- electric excitations in A=16 to 40, (e,e') and shell model anal. 4-43430
- giant multipole resonances and complex nuclei, inelastic electron scatt. 4-635
- NIKHEF-K annual report July 1982-June 1983 4-9653
- quasielastic electron scatt., effective-mass approx. 4-4843
- rotational states, high spin, in deformed nuclei, g-factors meas., transient mag. field 4-531
- spherical nuclei, isotope/isotone elastic electron scatt. differences 4-636
- (e,e), 2s-2d shell nuclei, configurational splitting of giant dipole resonance 4-4833
- (e,e), relativistic Coulomb sum rule in independ. particle model 4-48566
- (e,e), spin 7/2 nuclei, ground state form factors 4-523
- (e,e) on spin 3/2 nuclei, Rarita-Schwinger formalism, diff. cross section 4-638
- (e,e'), diagram method appl. in dipole and multipole resonance region 4-627
- (e,e'), resonance region, cross sections with incorporated spectroscopic information 4-624
- (e,e'), rots. and vibrs., single particle transition densities, transverse excitations, review 4-32869
- ($\bar{e},e'\gamma$), radiative scatt., EM nuclear struct., QED verification 4-633
- $\text{B}(e,e)$, 200-700 MeV, charge density params. determ., quadrupole component 4-526
- $^9\text{Be}(e,e)$, 200-700 MeV, charge density params. determ., quadrupole component 4-526
- $^{12}\text{C}(e,e')$, 150.6 MeV, cross section for transverse quasielastic scatt. at 180° 4-37542
- $^{12}\text{C}(e,e')$, 80-330 MeV, levels, PWBA form factors, mag. isovector transitions 4-32839

electron-nucleus scattering continued

- ¹²C(e,e'), quasi-elastic scatt., density depend. HF response functions and sum rules 4-18418
¹²C(e,e'), α -particle model anal. 4-637
¹²C(e,e'), isoscalar and isovector M4 spin transitions 4-54122
^ACa(e,e') A=42, 44, isovector M2 transitions, comparison with β^- decay of K 4-32867
^(e,e') giant resonance excitation, P asymm., neutral weak current structure 4-605
¹⁹F(e,e), mag. moments and elastic mag. electron scatt. form factors, simultaneous anal. 4-18344
^AGd(e,e'), A=156, 158, collective dipole excitation mode study in heavy deformed nuclei 4-54123
¹⁵⁴Gd(e,e'), lowest 2⁺ levels, test of IBA 4-13981
²H(e,e), deuteron struct., wave function, relativistic light front dynamics appl. 4-23100
²H(e,e), elastic scatt., vector and tensor polarisations 4-48475
²H(e,e), elastic scatt. at large transfer momenta, polarisation and deuteron quark structure 4-37543
²H(e,e), form factor, tensor polarisation, analytical wave function 4-54125
²H(e,e), neutron charge form factor slope, Paris potential 4-37441
³He(e,e'), very inelastic scatt. study (French) 4-642
²Mg(e,e'), 82-160 MeV, M3 transition form factors meas., shell model anal. 4-27825
¹⁴N(e,e), Z 4-526
^ANi(e,e'), A=58, 60, dipole and quadrupole mag. reson. 4-23088
¹⁹²Os(e,e'), nucl. charge densities in transition region 4-54033
³¹P(e,e), mag. moments and elastic mag. electron scatt. form factors, simultaneous anal. 4-18344
^APb(e,e'), A=204,206, neutron quasiparticle pairs effective charge, phonon struct. 4-32778
²⁰⁸Pb(e,e'), giant quadrupole resonance fine structure, doorway-state anal. 4-18404
^ASi(e,e'), A=32,34,36, elastic scatt. cross section, charge distrib. 4-640
²⁸Si(e,e'), 82-160 MeV, M3 transition form factors meas., shell model anal. 4-27825
²⁸Si(e,e), mag. moments and elastic mag. electron scatt. form factors, simultaneous anal. 4-18344
⁵¹V(e,e), mag. form factor at very high momentum transfer 4-13932
⁹⁰Zr(e,e), positive parity state excitation 4-32868

electron optics

- see also *beta-ray spectrometers; electron beams; electrostatic lenses; ion optics; magnetic lenses; particle optics*
 amplitude division off-axis Fresnel holography in TEM 4-19351
 beam column for 50X50 mm² deflection 4-49254
 beam propagation in cylindrical waveguide, integrodifferential eqns., numerical realization 4-23881
 biprism central electrode prod. using ion beam thinning techniques 4-48267
 cathode lenses using combined mag. and electrostatic focusing, aberrations, variational theory (Chinese) 4-54943
 deflection system for electron and ion beam lithography, large area, with very low aberration 4-38385
 deflective focusing system with large field coverage for submicron lithography 4-38380
 EELS spectrometer, differentially pumped, for valence and inner-shell excitation studies 4-43981
 electron and ion lens optimisation procedure 4-33606
 electrostatic deflecting elements without fourfold aberrations for electron optics systems 4-23885
 electrostatic electron spectrometer using tubular electrodes of equal radius 4-28282
 electrostatic mirror, two-electrode, space-time focusing, time and spatial aberrations 4-1332
 electrostatic three-dimensions. field computation for electron-optical devices with complicated boundaries, H.A. Schwarz alternating procedure appl. 4-10223
 energy loss high performance spectrometer for use with a dedicated SREM 4-37997
 enhanced brightness X-ray source, lithographic appls. 4-27634
 Fourier holography, influence and compensation of aberrations (German) 4-19350
 Fourier holography with electrons (German) 4-22880
 high-sensitivity photoelectron spectrometer for studying reactive transient species 4-46847
 image processing approach to efficient proximity correction for electron beam lithography 4-38387
 lithography, ultimate resolution anal. using Monte Carlo simulation 4-38386
 longitudinal coherence and interferometry in dispersive media 4-10230
 magnetic round lens and sextupole system, aberration theory 4-10222
 microbeam generation using electron gun and imaging system (Polish) 4-313
 microscopy conferences, EUREM 80, ICXOM and HVEM 80 (Aug.-Sept. 1980) 4-13482
 mirror analyser, cylindrical, calibration-alignment-reproducibility of Auger electron spectrometer 4-18018
 Mott polarisation analyser, medium-energy compact design 4-33272
 nanolithography, spatial resolution limits 4-38388
 point cathode electron gun, beam form. simulation 4-28613
 relativistic electron beam, interaction with slow Langmuir wave, reson. amplification 4-44040
 relativistic electron beam in neutral gas, space charge neutralisation dynamics 4-44041
 resonant helically distorted relativistic electron beam equilibria for free electron laser applications 4-54941
 review of developments at CSIO, Chandigarh, India 4-43000
 ribbon beam electron gun, magnetically focused, homogeneous mag. field in cylindrical shell 4-44038
 secondary electron imaging detector, for scanning electron microscope 4-18013
 sign conventions in electron diffraction and imaging 4-24693
 sources, two-dimensional trajectories, paraxial formalism 4-33608
 spot growth, influence of current density distrib. 4-54944
 third order aberration coeff. dependence on object position, comment 4-44039
 trajectory displacement due to local space-charge force 4-38383
 variable shape lithography, optical parameter optimisation 4-38381

electron optics continued

- X-ray image intensifier, electron optics influence on imaging props. (Czech) 4-319
 X-ray image intensifier props., electron optics effect 4-19600
 Ag, surface roughness, transverse electron focusing study 4-6632
 Co film, recorded magnetisation patterns obs. by electron holography 4-25601
 Cu, surface roughness, transverse electron focusing study 4-6632
 W, surface roughness, transverse electron focusing study 4-6632
electron pair annihilation see *electron-positron interactions*
electron pair production
 astrophysical environment, prod. in superstrong mag. fields 4-3908
 photoelectron asymmetry in crystals with lepton spin state allowance 4-626
 photoproduction in compact X-ray sources 4-42561
 probability of pair creation by external photon in crossed fields and in field of plane EM wave 4-428
 prompt charged μ^+ , μ^- (e^+ , e^-) rates, E>20 GeV 4-27768
^(γ ,e⁺e⁻), EM nuclear struct., QED verification 4-633
¹³Al(γ ,X), 4.2-31.1 MeV, e^+ e⁻ pair prod. at large angles, ang. distrib. meas. 4-27865
¹³C(γ ,E⁺e⁻), pair creation ang. distrib. 4-625
¹³C(γ ,X), 4.2-31.1 MeV, e^+ e⁻ pair prod. at large angles, ang. distrib. meas. 4-27865
 Cu(γ ,e⁺e⁻), 1.12-2.75 MeV, absolute pair production cross-sections 4-23095
 Sn(γ ,e⁺e⁻), 1.12-2.75 MeV, absolute pair production cross-sections 4-23095
electron pairs
 see also *electron pair production; positronium*
 No entries
electron paramagnetic resonance see *paramagnetic resonance*
electron-phonon interactions
 see also *phonon drag; strong-coupling superconductors; tunnelling spectra; tunnelling spectroscopy; Umklapp process*
 amorphous semiconductors, localisation, deep states in gap, and hopping transport 4-45685
 Anderson model, periodic, electron-phonon interaction and thermopower temp. depend. 4-45651
 B-carotene in isopentane, electron-phonon coupling, reson. Raman scatt., time correlator theory 4-20962
 CDW superconductor, soft phonons and Raman scatt. (Chinese) 4-50981
 chalcogenide glasses, time resolved photoluminescence and localised states 4-46309
 cold cathode spots (type A) in air, electrodynamic model initiation and extinction of emitting site interaction 4-12319
 competing electron-phonon interactions and the Peierls instability 4-11516
 cyclotron reson. lineshape theories, validity of perturbative expansions 4-40233
 cyclotron resonance lineshape in electron-phonon system 4-56776
 cyclotron resonance linewidth, quantum-limit, theory 4-40235
 dirty superconductors, inelastic scatt. and freq.-depend. cond. 4-56492
 disordered semiconductors, electron-phonon interactions near mobility edge 4-45650
 electron capture by shallow neutral impurities 4-25295
 electron-electron and electron-lattice interactions, four-site four-electron model 4-29856
 Eliashberg strong-coupling supercond., energy gap/critical temp. ratio 4-30107
 EM wave field interactions, generalised kinetic eqn. 4-20309
 graphite charged layer, nonlocal force constants due to electron-phonon coupling 4-29560
 graphite intercalation compound with Li(K), CESR studies 4-46111
 hopping transport of interacting localized electrons 4-45780
 Hubbard model, extended, ordered states taking into account electron-phonon interaction 4-34887
 III-V semiconductor junctions, magnetophonon reson. (French) 4-25246
 III-V semiconductors, effective masses of carriers, temp. depend. 4-25204
 insulator, transition metal impurities, effective interaction between 3d-electrons 4-34900
 intermediate state of condensed media, electron-vibr. mechanism of donor-acceptor transfer (Ukrainian) 4-39812
 ionic crystal, electron jump between impurity centres (Russian) 4-50765
 itinerant electron magnetism, electron-phonon interactions effect 4-56524
 Kondo lattice systems, supercond. theory 4-40103
 metal, linear magnetoresistance at high magnetic field 4-20630
 metal-insulator transition in disordered high temp. phases, Hubbard model 4-29890
 metal-metal point contacts, HF rectification, spreading resistance contrib. 4-50923
 metallic glasses, amorphous microstruct., structural relaxation, crystallisation, transport props., review 4-39147
 metallic glasses, superconducting transition temp. enhancement by two-level systems 4-6924
 metallic very thin films, exchange interaction between ferromagnetic domain wall and elec. current 4-56736
 metals, amorphous and liquid, high-resistivity conductors, transport theory 4-45700
 metals, deep level spectra, phonon effects, beyond linear screening and linear-coupling models 4-25289
 metals, electron gas cooling at high temp. 4-20581
 metals, electron Green functions in magnetic fields 4-50800
 metals, IR absorption and conductivity, transport eqn. calc. 4-45835
 metals, phonons, point-contact noise spectroscopy studies 4-45285
 metals, thermoelectric power, correl. function method 4-25324
 MIM junctions, tunnel conductivity, electron-phonon interaction function calc. 4-35089
 mixed valence semiconductors, periodic Anderson model 4-25301
 multiphonon structure of optical transitions to impurity reson. states, anharmonicity effect 4-24937
 naphthalene, injected electrons, band motion at low temps. 4-25334
 naphthalene, luminescence and thermomodulation spectra 4-35503
 nonequilibrium superconductor, effect of electron-electron collisions on phase transition 4-11627
 normal metal point contacts, nonequilib. fluctuations and electron-phonon interactions (Russian) 4-56418
 one-dimensional conductors, Hamiltonian for electron-phonon interactions 4-39794

electron-phonon interactions continued

- one-dimensional molecular chain, excess electron interactions (*Russian*) 4-55948
- one-dimensional N-sites N-electrons system, extended Peierls-Hubbard model, optical and mag. excitations 4-45653
- one-dimensional N-sites N-electrons systems, extended Peierls-Hubbard model 4-25227
- organic metals, π polymers, ideal conductivity calc., electron-phonon scatt. 4-45761
- Peierls condensate, electron-phonon system in 1D, phase solitons 4-45652
- Peierls model with disorder, exact soln. 4-25230
- (perylene)₂(AsF₆)_{0.75}(PF₆)_{0.15}×0.85CH₂Cl₂, mag. susceptibility under press. and elec. cond. anisotropy 4-2598
- photoacoustic signal source generation via nonradiative lattice phonon assisted de-excitations 4-6444
- polar semiconductors, donor polarisability in weak mag. field 4-34908
- polar semiconductors, interelectronic collisions and electron-optical phonon interactions, criterion for electron temp. model 4-25333
- polarons, free energy and effective mass, second-order cumulant expansion, at finite temps. 4-15829
- polarons, single electron Green function, coherent potential method 4-39790
- polyacetylene, soliton, polaron and soliton lattice solns., unified derivation 4-50741
- polyacetylene(-d_n), reson. Raman scatt. from amplitude modes 4-25756
- polydiacetylene, acoustic solitary wave polaron motion 4-29906
- pyridine adsorbed on Ag, first layer enhancement in Raman scatt. 4-51393
- quantum electron-phonon transport eqns. 4-2568
- quantum well heterojunction, impurity scatt. limited mobility 4-30061
- quasi-2D quantum well, electron scatt. by polar optical phonons 4-25331
- radiative and nonradiative decay times in weak coupling limit, energy gap law 4-51334
- random narrow-band alloys, T_c formula for strong-coupling superconductivity 4-25471
- rare earth compounds, mixed valence, charge transfer soft-phonon model 4-15602
- rare earth compounds, mixed-valent systems, polaron effect, temp. dependence 4-50740
- rigid muffin-tin approx., electron-phonon matrix element calc. for nonlocal and nonspherical potentials 4-55947
- semiconducting and semimetallic phases, nonlinear I-V characteristic, degenerate electron redistrib. 4-50825
- semiconductor, band charge carriers, nonlinear kinetics and optical props. 4-7150
- semiconductor, deformational phase transitions and periodic structures in a magnetic field 4-25010
- semiconductor, disordered polar, light absorption, Hubbard attraction effects 4-25702
- semiconductor, doped nondegenerate, carrier mobility and scatt. mechanisms 4-11524
- semiconductor, electron mobility, path integral representation for polaron 4-6790
- semiconductor, intra-collisional field effect, Airy function formalism 4-2619
- semiconductor, ternary chalcopyrite lattice, anisotropic electron scatt. by acoustic phonons 4-34965
- semiconductor heterojunctions, laser-enhanced mobility 4-40033
- semiconductor inhomogeneous electronic systems, electron-phonon coupling, RPA calc. 4-56243
- semiconductor superlattices, low temp. mobility and carrier statistics 4-11579
- semiconductors, distribution function instability in interelectronic scatt. 4-45764
- semiconductors, electron relax. mech., point contact spectroscopy study 4-2621
- semiconductors, electron-hole drops, props., collective aspects 4-25243
- semiconductors, energy gap, temp. depend. 4-56204
- semiconductors, impact ionisation by microwave field in static mag. field 4-25360
- semiconductors, nondegenerate, hot electrons absorpt. coeff., mag. field effect 4-16185
- semiconductors, polar, bound polarons in strong mag. field, ground state energies 4-50743
- solids, dynamic central peaks, progress and prospects 4-24999
- spinless Anderson model with local phonon mode, perturbation theory anal. 4-11458
- strong coupling 1-D optical exciton, ground state effective Hamiltonian 4-56227
- strong-coupling superconductors, thermodynamic props. in case of energy depend. electronic density of states 4-20763
- subsystem interacting with phonons, closed kinetic eqn. for density matrix 4-56245
- superconducting critical temperature with paramagnetic and normal impurities under the square well model 4-56470
- superconducting transition temperature, Migdal-Eliashberg theory, review, book contrib. 4-20757
- superconducting upper critical field, for weak electron-phonon coupling, renormalisation effects 4-35126
- superconducting-normal point contact, nonlinear I-V characts. (*Russian*) 4-2701
- superconductive tunnelling expt. data, electron-phonon interaction function, numerical anal. 4-11639
- superconductor with impurities, specific heat, anisotropic effects 4-56482
- superconductors, electron-phonon coupling and electron-electron Coulomb interaction 4-35111
- superconductors, electron-phonon coupling const., relation to $2\Delta/kT_c$ 4-45923
- superconductors, nonequilibrium, acoustic quantum generators, theory 4-35120
- TCNQ complex salts, lattice distortions and donor induced charge, electron-phonon coupling 4-45289
- TCNQ salt, (DPPE)(TCNQ)₂(H₂O), optical phonon assisted hopping 4-56352
- TCNQ salt, MPhT(TCNQ)₂, highly conducting salt, spectroscopic props. 4-20978
- transition metal alloys, disordered, effect of electron-phonon interaction on elec. cond. 4-45730
- transition metal amorphous alloys, thermopower, electron-phonon enhancement 4-45748
- transition metals, amorphous, electron-phonon interaction parameter, anharmonicity effects 4-11245
- transition metals, electron-phonon coupling const. and resist. 4-29958
- transition metals, electron-phonon interaction, relativistic APW band struct. calc. 4-34886
- transition metals, phonon spectrum, conduction electron band struct. effects 4-34604
- transition metals and their cpds., electron-phonon interaction, self-consistent theory 4-15603
- weak-coupling anisotropic superconductors with normal impurities, thermodynamics 4-2686
- weak-coupling schemes, direct interband transition 4-2293
- Wolfram's red salt, mixed valence cryst., optically excited quasi-1D, relax. of electron-phonon system 4-46246
- Ag, electron-phonon coupling const. and resist. 4-29958
- Al film, granular, electron inelastic lifetime, electron-electron attraction strength, magnetoresist. 4-2661
- Al, superconducting state parameters pseudopotential depend. 4-45906
- AlAs/GaAs double heterojunctions, inelastic tunnelling characts. 4-50906
- Au, Fermi surface, temp. depend., de Haas-van Alphen study 4-6691
- BaPb_{1-x}Bi_xO₃, plasma energies and electronic struct. 4-25217
- Bi_{1-x}Sb_x alloys, pure and Te doped electron conc. and cyclotron mobility 4-15876
- Co, electron-phonon interaction, point contact spectra studies (*Russian*) 4-56238
- Cr, FCC, electronic struct. and supercond. 4-45919
- CsDy(MoO₄)₂, phase transition and electron spectrum of Dy³⁺ ion (*Russian*) 4-29594
- Cu, low-temp. ultrasonic attenuation, electron-electron and electron-phonon interaction contribs. 4-29535
- Cu, magnetoresistivity, Boltzmann eqn. calc. 4-20631
- Cu monocrystals, dislocation damping with limited phonon-electron interaction at He temps. 4-2209
- Cu-Zr, crystalline and amorphous, specific heat meas. 4-25051
- CuBr, zero phonon-exciton band spectral characts. (*Russian*) 4-25239
- Cu_{1.8}Mo_{0.2}S_{2-y}Se_y, y=0-8, Chevrel-phase supercond., normal state elec. resist. meas. 4-45702
- Fe-Co, phonon generation by nonequilibrium electrons, optimum temp. determ. (*Russian*) 4-24935
- Fe-Ni, phonon generation by nonequilibrium electrons, optimum temp. determ. (*Russian*) 4-24935
- (Fe_{1-x}Cr_x)₈₄B₁₆ amorphous, elec. cond. and mag. props. (*Chinese*) 4-2578
- Fe₃O₄, Verwey transition, polaronic effects 4-34878
- Ga point contacts, electron-phonon interactions (*Russian*) 4-6931
- p-Ga_{1-x}Al_xAs, alloy scatt. potential calc. 4-6773
- GaAs, current-carrying plasma injection, with quasiballistic carrier motion 4-35020
- GaAs, magnetoresist. meas., electron scatt. mechanisms 4-2625
- GaAs, pulsed laser excitation, electronic power transfer 4-30569
- GaAs:Cr, impurity IR absorption spectra, shape and temp. depend. (*Russian*) 4-40487
- GaAs:V, luminesc. spectra, cryst. field theory, Tanabe-Sugano diagrams 4-35486
- GaAs/Ga_{0.7}Al_{0.3}As selectively doped heterostruct., transport. props. 4-35054
- GaP/S local dielec. modes, spectral fine struct. in Raman scatt. 4-56931
- Ge, electron distribution in presence of phonon drag 4-39420
- Ge:Sb, acoustic attenuation anomalous behaviour 4-20294
- n-Ge:Sb, negative magnetoresistance theory 4-25380
- Hg_{1-x}Cd_xTe, two-mode optical vibr., two-site model (*Chinese*) 4-6460
- In_{0.72}Ga_{0.28}As_{0.6}P_{0.4}, band-to-band Auger recomb., effect of anisotropic band parameters 4-45810
- InP, localised deep level electron trap MOE2, DLTS studies 4-39809
- n-InP, study of electron diffusion const. 4-25365
- Ir, cyclotron reson. anisotropy, electron-phonon interaction, relativistic APW Fermi surface calc. 4-29870
- K, electrical resist., effect of plastic deform., scatt. mechanisms 4-20622
- K-Rb, elec. resist., effect of plastic deform., scatt. mechanisms 4-20622
- KCl:Ga, A₂T luminescence decay and polarisation, mag. field effects 4-11927
- KCl(Br)(I):Ti⁴⁺, A-band effective dynamical coupling constants 4-2947
- LaF₃, anharmonic low freq. optical phonon lifetime and electron phonon relax. 4-6457
- LaF₃:Ho³⁺, electron-phonon coupling S factor in multiphonon transitions (*Chinese*) 4-55946
- LaF₃:Pr³⁺ (Nd³⁺), phonon-induced transverse relaxation, photon echo study 4-19521
- LaS, supercond. and self-consistent electronic struct., comparison with La (*Russian*) 4-56472
- α -N₂, solid, vibron and exciton-phonon interactions, absorpt. spectrum study (*Russian*) 4-29545
- NaCl:Ti⁴⁺, A-band effective dynamical coupling constants 4-2947
- Nb and alloys, phonon thermal cond., elec. cond. and thermopower, 80 to 400K 4-20424
- Nb sputtered film, logarithmic cond. at helium temp. 4-20764
- Nb superconducting point contacts, dirty, phonon spectroscopy, nonlinear I-V curves (*Russian*) 4-30113
- Nb, superconducting proximity effect tunnelling anisotropy 4-20768
- Nb, superconducting transition temp. electron-phonon coupling const. and spectral function calc. 4-45918
- Nb-Mo, elec. props. and band struct. calcs. 4-11512
- Nb₃Al, supercond., nearly stoichiometric and homogeneous, sp. ht. and mag. susceptibility 4-45929
- NbS₂(2H), intercalated with pyridine (picoline) (ethylene diamine) (aniline), supercond. and electron-phonon coupling 4-15985
- NbSe₃, polarised reflectance spectra and band struct. 4-40477
- Ni-Zr glasses, temp. coeff. of resist. and electron-phonon coupling 4-45718
- Ni-Zr metallic glasses, thermopower, electron-phonon enhancement 4-45745
- Pb, elec. resist., pre-melting effects 4-50793
- Pb-Al₂O₃-Al supercond. junction, electron-phonon interaction function, numerical anal. from expt. data 4-11639
- Pd₃V, elec. resist., magnetoresist. and AC susceptibility 4-11510
- Re, single cryst., point contact spectroscopy 4-29559
- Si inversion layers, electron-phonon interaction 4-35071
- a-Si:H, phonon-induced delocalisation of band tail states 4-45684
- a-Si:H, transient photocurrent in weak electron phonon coupling 4-39974
- n-Si:P(As)(Sb), effect of free carriers on Raman freq. 4-40461

electron-phonon interactions continued

- Si/SiO₂ bilayer system, surface polaritons and surface phonons 4-56235
 Si-SiO₂ interface, ballistic phonon absorpt. and scatt. by Si electron inversion layer 4-24936
 SiO₂, secondary and exoelectron emission, Monte Carlo calc. 4-46429
 Si(111)-7×7, temp. depend. surface states and transitions 4-25413
 SmB₆, electron-phonon interaction, cond. band coupling, phonon softening 4-39421
 SmS, first order valence transition theory 4-45629
 SrTiO₃, drift mobility meas. of small polaron transport 4-45772
 Ti dichalcogenides, thermal expansion, US velocity and attenuation meas. 4-20383
 TiSe₂, 1T polytype, CDW state, electron-lattice interaction 4-56216
 TmS, band struct., local density functional approx., self-consistent relativistic linearised APW calc. 4-34853
 TmS, band struct. and specific heat (*Russian*) 4-56206
 TmVO₄, cooperative vibronic system, thermal cond. 4-56103
 V, electron-phonon interaction, long wavelength, nucl. acoustic reson. study 4-25644
 VO₂:Fe³⁺, EPR linewidth, g-factor and electron-phonon interaction 4-35226
 V₃Si, band struct., electron-phonon coupling const. 4-45606

electron-positron inclusive interactions

- annihilation, energy-energy correlations to second order in quantum chromodynamics 4-32729
 annihilation into quarks and gluons, double logarithmic asymptotic behaviour 4-9094
 conference, electroweak interactions at high energies, Hamburg, Germany (Sept. 1982) 4-42600
 Drell-Yan cross sections, all-order factorisation in QCD 4-32595
 jet fragmentation in e^+e^- and pp interactions, QCD predictions 4-32765
 jet production, comparison with DIS and pp 4-4704
 jet production and quark fragmentation results from PEP 4-32736
 LICEPP, particle physics, present and future, DASP, JADE, review 4-113909
 low momentum transfer processes, quark-parton model 4-13890
 neutral gauge fermion search in e^+e^- annihilation 4-18129
 QCD, quark-gluon jet formation (*Russian*) 4-22986
 scaling constant correlation to pion radius in annihilation 4-48493
 two photon processes at very high energies, physics in e^+e^- , ep and pp collisions 4-32767
 e^+e^- , heavy sequential neutrinos search at PEP and PETRA 4-32652
 e^+e^- , pp and deep-inelastic scatt. processes, universality features 4-37407
 e^+e^- meson+2 jets, meson wave functions in perturbative QCD 4-9122
 e^+e^- → 2 jets, ang. distrib., spin zero quarks energy-energy correlation, squarks 4-18277
 e^+e^- → 2 jets, quark anomalous mag. moment 4-18205
 e^+e^- → 3 jets, 22-36.4 GeV, particle distrib., first order QCD calcs. 4-18276
 e^+e^- → 3 jets, ang. dist. in QCD 4-4713
 e^+e^- → 3 jets, QED-QCD validity, strong interaction coupling const. 4-9117
 e^+e^- → 3 jets (supersymmetric), gluon and gluino bremsstrahlung off quarks and squarks 4-488
 e^+e^- annihilation, charmed-strange exotic mesons, F⁺ meson, 2020 MeV state 4-23025
 e^+e^- annihilation, energy-energy correl., coloured Higgs bosons contrib. 4-32733
 e^+e^- annihilation, energy-energy correlations, perturbative QCD and leading log anal. 4-48441
 e^+e^- annihilation, energy-energy correlations, Z-boson and heavy quark effects 4-48492
 e^+e^- annihilation, heavy quark cross section, soft continuum threshold factor, SVZ sum rules 4-48491
 e^+e^- annihilation, polarised and unpolarised, photino mass, selectron prod. 4-9093
 e^+e^- annihilation, quark confinement in chromoelectric flux tubes, gluon radiation 4-48437
 e^+e^- annihilation, recent results 4-32723
 e^+e^- annihilation, scalar lepton prod., photino mass effects 4-32651
 e^+e^- annihilation, two- and three-jet ang. distrib. in perturbative QCD (*Chinese*) 4-54005
 e^+e^- → B⁰B⁰ → llX, B⁰B⁰ mixing, Kobayashi-Maskawa matrix weak interaction phase 4-18273
 e^+e^- → baryons, parton showers and colour singlet clusters production, effect near ν 4-32731
 e^+e^- → charmed hadrons, energy distrib. in QCD cluster model 4-4687
 e^+e^- collisions, evidence for QCD gluons, gauge nature 4-9116
 e^+e^- → D⁺X, 34 GeV, charm jet fragmentation 4-32732
 e^+e^- → e^+e^- + hadrons, electroweak interference effects, photon structure functions (*Chinese*) 4-54004
 e^+e^- → e^+e^- X, 29 GeV, prompt e prod., b and c quark semielectronic branching ratios 4-48495
 e^+e^- → η X, 34 GeV, inclusive η prod. obs. 4-9120
 e^+e^- → F⁺X, 35 GeV, F obs. and branching ratio from $\phi\pi$ final state 4-48496
 e^+e^- → γ , Z⁰, ff, polarisation and radiative corrections 4-43356
 e^+e^- → γ X, inclusive production, scaling and cross-sections 4-4691
 e^+e^- → γ X, photon structure functions 4-48476
 e^+e^- → γ Z⁰, cross section and mechanism 4-18217
 e^+e^- → hX, inclusive, perturbative QCD anal. 4-23024
 e^+e^- → hX at T(1S), T(2S), T(3S) resonances, total cross-section 4-54003
 e^+e^- → hadrons, 12-35.8 GeV, total hadronic annihilation cross section, multiplicity, inclusive spectra 4-48494
 e^+e^- → hadrons, 70 GeV, electroweak corrections to 1⁺ 1⁻ \bar{t} production 4-32620
 e^+e^- → hadrons, free-field theory, fixed point theory 4-9121
 e^+e^- → hadrons, γ , π^0 and η cross-section meas. using Crystal Ball 4-9126
 e^+e^- → hadrons, multiple hadron prod. in QCD parton jets 4-18275
 e^+e^- → hadrons, QCD semihard processes 4-27708
 e^+e^- → hadrons, T, T' and T'' mass meas. by resonance depolarisation 4-54002
 e^+e^- → hadrons ($\mu^+\mu^-$) ($\tau^+\tau^-$), JADE recent results 4-13910
 e^+e^- → hhX, weak neutral currents 4-18274
 e^+e^- → Higgs, radiative corrections in Weinberg model 4-43357
 e^+e^- high energy annihilation, energy-energy correlations, EM corrections 4-18266

electron-positron inclusive interactions continued

- e^+e^- → hx, inclusive cross-section and multiplicity meas. at 29 GeV 4-37388
 e^+e^- interactions, search for new lepton and quark flavours 4-43358
 e^+e^- interactions at PETRA electroweak meas., QCD anal. 4-32544
 e^+e^- → jets, QED tests 4-9118
 e^+e^- → jets, small p_T, perturbative QCD calcs., scalar reson. anal. 4-22993
 e^+e^- → K_S⁰X, charge multiplicity and scaling, comparison with QCD 4-4690
 e^+e^- → μ^+ + hadrons, heavy quark fragmentation, PETRA expt. 4-32734
 e^+e^- → π^+X , inclusive production, scaling and cross-sections 4-4691
 e^+e^- → qq, props. and processes 4-4689
 e^+e^- → qq, weak neutral current effects 4-43355
 e^+e^- → qq → 2 jets, quark and gluon fragmentation, model independ. anal. 4-22989
 e^+e^- → qq → hadrons, electroweak interference, neutral currents, review 4-27693
 e^+e^- → qqg, 3-jet cross section, Gegenbauer integration method appl. 4-23026
 e^+e^- → quarks, search for (4/3)e charge particle 4-27758
 e^+e^- → T⁺X, ARGUS detector results 4-32685
 e^+e^- → T⁺X, mass determ. at DORIS II 4-43375
 e^+e^- → W[±](Z⁰)X, polarisation in pair production, dominant helicities 4-37360
 e^+e^- → Z⁰(Z⁰), production evidence 4-4688
 e^+e^- → Z⁰(Z⁰)X, TASSO result 4-32735
 T resonances, production, decay and transitions, fine and hyperfine struct. 4-32680
 e^+e^- → 3 jets, 29.5-36.4 GeV, parton and colour flux line fragmentation model tests 4-32730
 e^+e^- annihilation, fire string theory 4-43376
- electron-positron interactions**
 see also *electron-positron inclusive interactions; electron-positron scattering; positron annihilation in liquids and solids*
 annihilation photons angular distrib. analyser, using image converter 4-28299
 conference, high energy e^+e^- interactions, Vanderbilt, TN, USA (May 1980) 4-8631
 gauge fermions prod. at colliders 4-13836
 gauge theory in high energy phys., meeting, Les Houches, France (Aug.-Sept. 1981) 4-31951
 high energy physics, recent topics (*Japanese*) 4-18141
 weak neutral current coupling for lepton and heavy quarks 4-32564
 e^+e^- → $\tau^+\tau^-$, weak and EM interactions (*Russian*) 4-23005
 e^+e^- → 3⁺W⁺W⁻, physical information 4-18214
 ee-eex⁺x, phys. parameters phys. distrib. under standard expt. conditions 4-32654
 e^+e^- , search for supersymmetric electrons 4-23003
 e^+e^- , singly produced supersymmetric electrons search 4-23004
 e^+e^- annihilation, effect of Compton scatt. 4-55616
 e^+e^- → e^+e^- ($\mu^+\mu^-$) ($\tau^+\tau^-$) ($\gamma\gamma$), >1000 GeV², QED tests at PETRA 4-48406
 e^+e^- → e^+e^- η , 5-7.25 GeV, 2 prod. in two photon collisions 4-18314
 e^+e^- → e^+e^- $\mu^+\mu^-$ ($\mu^+\mu^-$ γ), 29 GeV, acollinear μ pair prod., smuon search 4-18218
 e^+e^- → hadrons ($\mu^+\mu^-$) ($\tau^+\tau^-$), JADE recent results 4-13910
 e^+e^- → l⁺l⁻, 29 GeV, differential cross section meas., weak neutral-current couplings determ. 4-13894
 e^+e^- → l⁺l⁻, QED and electroweak tests at PETRA 4-9092
 e^+e^- → l⁺l⁻, weak neutral current effects 4-43355
 e^+e^- → $\mu^+\mu^-$, 34.7 GeV, muon pair asymmetry, total cross section 4-18219
 e^+e^- → $\mu^+\mu^-$, charge asymmetry and neutral intermediate boson (*Polish*) 4-32511
 e^+e^- → $\mu^+\mu^-$, composite models and finite width effects 4-53973
 e^+e^- → $\mu^+\mu^-$ at LEP energies, radiative corrections in standard SU_c(2)×U_c(1) electroweak model 4-466
 e^+e^- → $\mu^+\mu^-$ X, flavour changing neutral current decay of b quark 4-18216
 e^+e^- → $\mu^+\mu^-$ (e^+e^-), TASSO neutral current effects 4-32566
 e^+e^- → $\mu^+\mu^-$ (e^+e^-), weak neutral current studies by JADE at PETRA 4-32565
 e^+e^- → $\pi^+\pi^-$, pion EM form factor meas. at 640-1400 MeV 4-37380
 e^+e^- → $\tau^+\tau^-$, composite spin 3/2 model of τ heavy lepton 4-13893
 e^+e^- → $\tau^+\tau^-$, electroweak prod. props. of τ pairs 4-53987
 e^+e^- → T(T'), hadronic cross-sections, muon pair branching ratio 4-9097
 e^+e^- → T(T')(T''), mass meas. and relative leptonic widths 4-9119
 e^+e^- → ZH, testing heavy fermions in Higgs prod., Glashow-Weinberg-Salam model 4-18215
 e^+e^- → Z γ , Z γ l⁺l⁻, pair production as supersymmetry test 4-53974
 $\gamma\gamma$ interactions in e^+e^- , resonance prod., inclusive hadron prod., γ struct. functions 4-27772
 e^+e^- → hadron resonances, cooling process in relativistic e^+e^- plasma 4-8380
- electron-positron scattering**
 see also *electron-positron interactions*
 e^+e^- → Bhabha scatt. near 60 GeV, left-right models predictions 4-48465
 e^+e^- → e^+e^- ($\mu^+\mu^-$) ($\tau^+\tau^-$) ($\gamma\gamma$), >1000 GeV², QED tests at PETRA 4-48406
- electron probe analysers** see *electron probe analysis*
- electron probe analysis**
 Auger microscopy using sample modulation, semiconductor device analysis appl. 4-32386
 backscattered electron imaging with scanning Auger electron spectroscopy 4-7784
 black Ni coatings, selective solar absorption props. 4-57764
 characteristic X-ray fluoresc. correction in thin foil analysis, models comparison 4-41279
 computer program for trace element anal. (*French*) 4-46840
 corrosion research, SEM experience 4-57502
 energy analyzing electron microscope for local electron spectroscopy 4-43142
 glass, highly conductive, fast Na ion transport, EPMA study 4-34708
 HTGR fuel particles, SiC coating interaction with fission products 4-54247
 intracellular water meas., electron microprobe calibration 4-36082
 metals and alloys, microprobe analysis near phase boundaries, correction procedure for charact. fluoresc. 4-46850
 microanalysis with tilted specimen 4-26241

electron probe analysis continued

- minimum detectable mass expression in EELS, EPMA and AES 4-26258
 Nimonic 86, Ni-base superalloy, corrosion in nuclear He, study by X-ray diff. and electron probe microanal. 4-51865
 nuclear materials science appls., review 4-23164
 quartz, synthetic, Brazil twin form on x -plane (*Chinese*) 4-55843
 residual gas analysis in SEM, clean vacuum prod. 4-41280
 steel, fracture surface, flake form. mechanism (*Chinese*) 4-3204
 steel, stainless, passive layers, low energy electron induced X-ray spectroscopy study 4-57428
 stereoscopic representation of complex overlapping elemental maps in electron spectroscopic images 4-41668
 surfaces, quantitative X-ray microanalysis methods 4-41287
 thin films, quantitative X-ray microanalysis methods 4-41287
 wavelength-dispersive microanalysis in TEM 4-21508
 X-ray microanalysis of small particles in STEM system, acoustic beam position monitor 4-37258
 ZAF correction methods in quantitative electron probe X-ray microanalysis of light element specimens 4-26257
 Al-Al₃Ti system, directional peritectic solidification, solute distrib. at solid-liq. interface 4-51652
 Al-Cu(-Fe), phase equilib. between solid Al and liq. 4-30682
 Al-Mg/epoxy resin joints, locus of environmental crack growth 4-51878
 Al-Si-Na (12.5 wt.%), eutectic alloy, morphology rel. to Na addition (*Chinese*) 4-3121
 Al₂O₃-Na₂O, β and β' phases, fast Na ion transport, EPMA study 4-34708
 B₄C coated B fibre reinforced Ti, interfacial compositions Auger electron spectroscopy 4-3372
 BaO-TiO₂-Nd₂O₃-SnO₂ system, phase reactions 4-57193
 CaTiO₃:Y³⁺, polycryst., dielec. props. 4-51176
 Cd-Cd₃Ag system, directional peritectic solidification, solute distrib. at solid-liq. interface 4-51652
 Cd,Hg_{1-x}Te crystals, Bridgman growth, rapid quenching, boundary layer thickness 4-3056
 Co-Cr-W, ternary alloys, oxidation 4-16553
 Fe-austenitic stainless steel system, annealing, interdiffusion, 1023-1373K 4-15715
 Fe-Cr alloys, surface segregation and adsorption, anal. with backscattered ions 4-29623
 Fe-Cr-Mn-Ni, scaling resist. rel. to Ni content, subscale layer form. 4-51885
 Fe-Mn, binary alloys, oxidation 4-16551
 Fe₂O₃-GeO₂ cryst. phases, growth by chem. vapour transport, cryst. struct., X-ray diff., EPMA, neutron activation anal. 4-45084
 Ga₂In_{1-x}As heteroepitaxial layers, grading meas. 4-34838
 Hf-Os constitution diagram, metallography, X-ray diff. and electron microprobe studies 4-24969
 Hg_{1-x}Cd_xTe, quenched, dendrite config. and distrib. 4-34659
 La₂S₃-Nd₂S₃, phase equilib., ingot growth from melt, vacancy diffusion mechanism 4-3130
 Mn₂SiO₄-Mn(OH)₂, leucophoenicite, cryst. struct., TEM, X-ray diff. and electron probe anal. 4-20146
 Na₃ZrSi₂PO₁₂, NASICON, fast Na ion transport, EPMA study 4-34708
 NbB₂, Vickers microhardness, alloy composition depend. 4-11225
 Ni and Ni-Mo alloy surfaces, thin anodic films analysis using STEM 4-56125
 Ni, corrosion in Ar-O₂-SO₂ atmos., 823-1223K (*Japanese*) 4-35771
 Ni superalloy, γ' phase precip., analytical characs. (*French*) 4-46511
 Ni-Al-Mo system, ternary equilib. phase diagram. 4-57192
 Ni-Cr-Al-Co-W-Mo-Ti, struct. and phase comp., Y additions effect 4-21221
 Ni-Cr-Al-Zr, surface comp., quantitative Auger microprobe study 4-35527
 Ni-Mo-Ta system, constitution of Ni-rich alloys 4-30681
 Ni-Zr oxide coated cathode, interface layer formation and grain boundary study 4-29828
 Pb_{1-x}Sn_xTe, melt growth, cryst. inclusions, EPMA, constitutional supercooling model 4-11131
 Si, commercial, microstruct., impurity and inclusion distrib. 4-57187
 a-Si:H sputtered films, struct. studies in high resolution STEM 4-39139
 Sn, zone-refined bars, impurity mapping using X-ray macroanalyser 4-41124
 SnO₂ thin films, CVD on rutile substrates, struct. (*Japanese*) 4-11422
 TaB₂, Vickers microhardness, alloy composition depend. 4-11225
 Ti-Al-Ag system, phase diagram (*Japanese*) 4-25943
 U alloys, sample preparation for TEM 4-13732
 V-Al, high temp., oxidation, 800-993K, metallography and microhardness (*Japanese*) 4-46651
 YAG, Si-substituted, solubility, energy dispersive X-ray anal., electron probe anal. 4-56023
 Zr-Sn, solubility of Sn in α and β Zr below 1000°C 4-15645
 ZrO₂ films, stabilised, grain boundary resistivity 4-6547

electron probe microanalysis *see electron probe analysis***electron probe microscopy** *see electron probe analysis***electron probes***see also electron probe analysis*

- aliphatic carboxylic acid esters radicals, temp. depend. study of δ -CH proton couplings 4-40230
 field-emission source of electrons for electron-probe instruments 4-22873
 heavy ion fusion injector, radial charge distrib., electron probe meas. 4-48861
 sandwich pole piece probe forming lens, design and calcs. (*Chinese*) 4-44037
 Au electroplated electrical contacts, failure mechanisms study 4-12436

electron-proton interactions*see also electron-proton scattering*

- deep inelastic scatt., struct. function behaviour 4-4630
 electroproduction processes, scale breaking parameter and F_2^{ep} - F_2^{ep} behaviour 4-37385
 two photon processes at very high energies, physics in e^+e^- , ep and pp collisions 4-32767
 $e^+ + p \rightarrow \Sigma^+ + e^-$, production process calcs. (*Russian*) 4-54001
 ep deep inelastic scatt., quark distrib. funct. for polarised protons 4-32720
 ep deep inelastic scatt., $\sin^2\theta_W$ meas. at HERA, errors, standard model test 4-48487
 ep-epn, η meson prod. cross section in S₁₁(1535) reson. region 4-43374

electron-proton interactions continued

- ep-ex, deep inelastic scatt., longit. and transverse spin asymmetries 4-482
 ep. pol. deep inelastic scatt., radiative corrections, elastic tail, peaking approx. (*Chinese*) 4-53997
electron-proton scattering
see also electron-proton interactions
 No entries
electron radiation
 Cherenkov radiation from high-current electron beam 4-5541
 cyclotron radiation, conflict of conservation laws 4-10217
 EM wave amplification by electron beam passing through slit 4-5593
 magnetised relativistic electron beam, radiation emission in electrostatic pump field 4-44032
 Smith-Purcell radiation from a charge moving above a penetrable grating 4-23886
 superlattices, electron beam, nonrelativistic, extreme UV and X-ray emission and amplification 4-36962
electron relaxation time (metals)
 linear magnetoresistance at high magnetic field 4-20630
 metals, electron lifetime and elec. resist. at room temp., systematic trends 4-56322
 Al film, granular, electron inelastic lifetime, electron-electron attraction strength, magnetoresist. 4-2661
 Ga, SAW and electron relax. time temp. depend. (*Russian*) 4-29755
 Pt discontinuous thin films, elec. props and τ -spectroscopy 4-40078
electron relaxation time (semiconductors) *see carrier relaxation time*
electron resists
 nitrocellulose as a self-developing resist with submicrometre resolution and processing stability 4-32344
 organic acid monolayer at gas-water interface, phase controlled surface reactivity, FTIR spectra 4-7376
 polysiloxanes, lithographic appls., thermal stability, plasma etch resist. for VLSI 4-43091
 review of developments in Japan 4-43084
 ω -tricosenoic acid, Langmuir-Blodgett film layers, model for deposition, appl. in electron beam lithography 4-29849
electron ring accelerators
 No entries
electron scattering *see elastic scattering of electrons by atoms and molecules; electron beam effects; electron beams; electron-electron interactions; electron-electron scattering; electron impact; electron-nucleon interactions; electron-nucleon scattering; electron-nucleus reactions; electron-nucleus scattering; electron-positron interactions; electron-positron scattering; electron spectra; hadron electroproduction; neutrino-electron interactions; neutrino-electron scattering; secondary emission*
electron solvation *see solvation*
electron spectra
see also Auger effect; conversion electron spectra; electron energy loss spectra; electron impact; electron spectroscopy; photoelectron spectra
 allene, electron affinities, ab initio MNDO calcs., electron transmission spectra 4-43808
 anthracene photoexcited triplet state spin density distrib., electron spin echo envelope modulation spectroscopy 4-25231
 asymmetric atomic collisions, δ -electron spectrosc. obs. of inner quasiatomic shells 4-9900
 atom-ion inelastic collisions, inverted cusps in electron spectra near zero electron vel. 4-38311
 biphenyl, and methyl derivatives, conformation, electron affinities, electron transmission spectra 4-23749
 p-bis(trimethylgermyl) benzene, anion states, electron transmission spectrosc. obs. 4-33527
 p-bis(trimethylsilyl) benzene, anion states, electron transmission spectrosc. obs. 4-33527
 p-bis(trimethylstannyl) benzene, anion states, electron transmission spectrosc. obs. 4-33527
 bromoethylene, (e,2e) spectra and Green's function study of the ionisation 4-5474
 carbon tetrafluoride, low energy electron impact, vibr. excitation, energy transfer, electron cyclotron reson. study 4-14589
 chloroethylene, (e,2e) spectra and Green's function study of the ionisation 4-5474
 p-di-tert-butyl benzene, anion states, electron transmission spectrosc. obs. 4-33527
 fluorene, conformation, electron affinities, electron transmission spectra 4-23749
 fluoroethylenes, negative ion form. and dissoci., electron attachment spectroscopy 4-54877
 2,4-hexadiyne, vertical electron affinity meas. by electron transmission spectroscopy 4-1291
 hexafluoroethane, low energy electron impact, vibr. excitation, energy transfer, electron cyclotron reson. study 4-14589
 highly charged ion+atom collisions, low energy autoionis. electron emission, spectra 4-10026
 hydrocarbon films, electron-exciton complexes, electron transmission spectra 4-40587
 hydrocarbons, unsaturated, negative ion states, α and β substitution 4-33528
 inert gas atoms, ionisation energies, valence orbital momentum distrib., electron spectra 4-23817
 polymer films struct. and bonding, ESCA investig. 4-45033
 propyne, electron affinities, ab initio MNDO calcs., electron transmission spectra 4-43808
 pyridines, substituted, temporary anion states, electron transmission spectra 4-5352
 Ar, electron scatt., differential cross sections, 50 MeV to 2 eV 4-10093
 Ar+H⁺, multiple ionis., δ -electron spectrosc. obs. 4-9899
 Ar+Ne⁺ collision, thermal energy ionis. cross-section 4-9908
 Ar+Rb⁺, ejected electron spectra, Barker-Berry effect 4-9955
 Ar³⁺+He(He)(H₂), electron loss peak, charge state depend. 4-9944
 Ar⁶⁺+He(He)(H₂), electron loss peak, charge state depend. 4-9944
 Au+U, asymmetric collision, δ -electron spectrosc. obs. of inner quasiatomic shells 4-9900
 Ba, Rydberg state, Penning ionisation, photoionisation, autoionisation, electron spectra 4-1253
 Be⁺, triply excited three-electron atomic systems and beam-gas electron spectroscopy 4-38103
 Br+Pb, asymmetric collision, δ -electron spectrosc. obs. of inner quasiatomic shells 4-9900

electron spectra continued

- C, valence band struct., X-ray and electron spectra studies 4-29887
 C_2N_2 , vertical electron affinity meas. by electron transmission spectroscopy 4-1291
 CO_2 , electronic excited states, electron impact spectra 4-33547
 Cd, even parity 1D_2 autoionizing level, electron-electron coincidence spectra 4-10119
 Co, atomic beam, photon impact excitation, electron spectrosc. obs. 4-1094
 D^+ + inert gas (H_2), detached electron prod., energy spectra 4-9959
 $F^- + N_2(H_2)(CO_2)$ collisions, autodetaching states, electron spectra study 4-9972
 $F^{q+} + He$, ($q=6,7,8$), electron capture processes, energy-gain spectroscopy 4-54859
 Fe, atomic beam, photon impact excitation, electron spectrosc. obs. 4-1094
 H^+ + inert gas (H_2)(N_2)(O_2), detached electron prod., energy spectra 4-9959
 $H^+ + Kr$ collisions, autodetaching state excitation 4-9969
 $H^+ + O_2(NO)$, charge transfer electron detachment to shape reson. 4-28555
 H_2O , Compton lineshape determ. 4-33458
 He, electron impact ionisation, obs. of $n=1, 2, 3$ states 4-10123
 $He + Au^{17+}$, emergent charge states, coincidence with forward electron spectra 4-9956
 $He + H^+$, continuum electron capture 4-10020
 $He + He$, Penning- and associative-ionisation, electron spectra 4-33519
 He^+ + molecule reactions, optical and electron spectrosc. investig. 4-10009
 $He^+ + SO_2$ reactions, optical and electron spectrosc. investig. 4-10009
 $I + Au(Pb)(Bi)(U)$, asymmetric collision, δ -electron spectrosc. obs. of inner quasimolecular shells 4-9900
 I_2 , threshold electron spectrum of valence states 4-10158
 In, electron impact excitation, autoionising state, $ns(n+1)p$ configs. 4-10114
 Kr, electron scatt., differential cross sections, 50 MeV to 2 eV 4-10093
 $Kr + Cs^+$, ejected electron spectra, Barker-Berry effect 4-9955
 Li compounds, anal. by AES chemical effects 4-21507
 Li, triply excited three-electron atomic systems and beam-gas electron spectroscopy 4-38103
 Li^+CH_4 collisions, kinematic line broadening reduction in Auger electron spectra of fast ion beams 4-14508
 N^{5+} , autoionisation, electron spectra meas. by $Ne^{7+} + He(H_2)$ collisions 4-49147
 N_2 , Compton lineshape determ. 4-33458
 NO radical, ionisation and excitation spectra studied by SAC and SAC-CI theory 4-33330
 Ne, Ne^{**} form. and autoion. at Mg surface 4-9954
 Ne^+ , Ne^{**} form. and autoion. at Mg surface 4-9954
 $Ne + Ne$, Penning- and associative-ionisation, electron spectra 4-33519
 $Ne^{q+} + He$, ($q=7,8,9$), electron capture processes, energy-gain spectroscopy 4-54859
 Ni, atomic beam, photon impact excitation, electron spectrosc. obs. 4-1094
 Tl, electron impact excitation, autoionising state, $ns(n+1)p$ configs. 4-10114
 Xe, electric polarisability and electron scatt. length from electron cyclotron resonance absorpt. spectra 4-5411
 Xe, electron scatt., differential cross sections, 50 MeV to 2 eV 4-10093
 $Xe + Ar^{3+}$, autoionising states form. and decay 4-9957
 Yb atoms and ions, autoionising states, electron spectra 4-19005

electron spectrometers

- see also *beta-ray spectrometers*
 angle-resolving electron energy analyser, with novel input lens 4-13733
 Auger, calibration-alignment reproducibility, use of cylindrical mirror analyser 4-18018
 data-acquisition system for photoelectron and electron energy loss spectrometers 4-13628
 EELS, differentially pumped, for valence and inner-shell excitation studies 4-43981
 electron-electron multi-coincidence apparatus 4-13734
 electrostatic electron spectrometer using tubular electrodes of equal radius 4-28282
 energy loss high performance spectrometer for use with a dedicated STEM 4-37997
 energy loss spectrometer at intermediate energy 4-13737
 Kratos ES 300 electron spectrometer, electrochemical prep. chamber 4-53799
 LHS-10, instrument characts. 4-43147
 Penning electron ang. distrib. meas. 4-8991
 photoelectron spectrometer, for. investig. of vapours of nonvolatile cpds. (Russian) 4-37262
 pulsed electron gun, compact high current with sub-nanosecond electron pulse width 4-13735
 semiconductor spectrometer of conversion electrons with β background suppression 4-28281
 XPS analysers, calibration tests 4-48268
 H_2 electron impact heated oven for H prod., dissociation fraction meas. 4-14612

electron spectroscopy

- see also *electron spectra; photoelectron spectroscopy*
 AES, background intensity signal normalisation 4-32389
 backscattered electron imaging with scanning Auger electron spectroscopy 4-7784
 catalysts surface spectroscopic analysis and atmospheric pressure kinetic studies, in UHV reactor 4-46848
 coincidence spectroscopy with protons from (t,p) reaction 4-54527
 conversion electron Mossbauer spectroscopy, channeltron detecting system 4-4498
 conversion electron Mossbauer spectroscopy, theory 4-51162
 conversion electron Mossbauer spectroscopy 4-32387
 electron channelling and rapid electron-material interactions (French) 4-50392
 electron energy loss spectrometry for use in materials science 4-50149
 electron-photon correlation studies of spin exchange, spin orbit and quantum beats 4-19286
 EM squeezer for compressing electron tunnelling junctions 4-53805
 energy analyzing electron microscope for local electron spectroscopy 4-43142
 energy loss spectrometer for valence and inner-shell 4-8990

electron spectroscopy continued

- ESCA appls. in surface problems 4-53798
 ESCA appls. to electrode surface film studies 4-7765
 ESCA high resolution multipurpose instrument with X-ray monochromator, design and performance 4-48257
 excitation functions meas. for several vibrational levels in N_2 4-33563
 field, thermionic and secondary electron emission spectroscopy, book 4-47790
 high sensitivity low-energy electron energy loss spectroscopy 4-18020
 high-resolution spectrometer for spin-polarized electron spectroscopies of ferromagnetic materials 4-53804
 instrumental characteristics of AES for quantitative electron spectroscopy (Japanese) 4-43145
 minimum detectable mass expression in EELS, EPMA and AES 4-26258
 organosilicon plasma deposited films, IR spectra, ESCA and contact angle characterisation 4-7264
 PET sheet, surface damage in RF bias ion plating 4-46452
 review 4-18021
 RHEED-LEED-AES in-situ meas. apparatus and appl. to MBE and metal oxidation 4-39065
 semiconductor microelectronic materials, sputter ion depth profiling limitations 4-3015
 steel, C, etched in HCl soln. with and without inhibitor 4-51866
 steel, mobile impurities study by AES 4-29461
 stereoscopic representation of complex overlapping elemental maps in electron spectroscopic images 4-41668
 thin film surface anal., comparative study of methods 4-52076
 transition metal complex electronic absorption spectral curve resolution by least-squares methods 4-31044
 $CdSO_4$, Cd_3SnO_4 , formation, thermal analysis, X-ray diffr. ESCA obs. 4-16358
 Fe-Cr alloys, passive state, quantitative ESCA anal. 4-57466
 Fe-Cr-Mo alloys, passive state, quantitative ESCA anal. 4-57466
 GaAs, MBE grown surface, preservation and regeneration, RHEED, AES, UPS, ESCA studies 4-21146
 InAs, MBE growth on InP, thermally cleaned under As mol. beams, ESCA study 4-21351
 Li^+CH_4 collisions, kinematic line broadening reduction in Auger electron spectra of fast ion beams 4-14508
 Ne II $2p^{1/2}$ autoionisation energy determ. 4-9726
 NiO-MgO solid solns., segregation, fractional chem. anal. and ESCA obs. 4-34657
 Si/SiO₂ interface, Rh-doping effect on interface props. (Chinese) 4-20728
 Si_3N_4 -C composites, CVD amorphous, ESCA study 4-20104
 TiO₂ electrodes, photoelectrochemical props., effects of substitutional and defect doping 4-57732

electron spin

- classical mechanics, determ. of gyromagnetic ratio 4-22547
 storage rings, radiative diffusion effects on spin-flip 4-33222

electron spin-lattice relaxation

- cubic crystals, direct spin-lattice relax. process, effect of elastic anisotropy 4-2804
 (fluoranthene) $Pf_6(AsF_6)_3$, ESR spectra and relax. 4-2818
 (fluoranthenyl) AsF_6 , radical cation salt, electron-spin echo decays, diffusion const. 4-56775
 graphite intercalation cpds., CESR 4-46110
 magnetic ion pairs, electron spin-lattice relax. 4-30266
 methane, solid diffusive phase, T₁ freq. depend. 4-56757
 molecular crystals, electronic spin relax. mechanism for triplet excitons 4-11755
 polyacetylene films, ENDOR, TRIPLE, electron spin echo spectroscopy studies 4-2841
 polyacetylene-polyethylene composites, ENDOR, TRIPLE, electron spin echo spectroscopy studies 4-2841
 solid paramagnet, electron-nucleus spin system relax. study 4-35139
 ultrasonically modulated paramagnetic resonance, review, book contrib. 4-20849
 B_2C , transport and mag. props., free C effects 4-45774
 CaO , site-selective dephasing of photo-excited triplet spins 4-46291
 $CdF_2:Eu^{2+}$ single crystals, EPR uniaxial stress data, spin-lattice interaction 4-7060
 Fe (111) ions in soln., nonlinear effects in parallel mag. fields 4-46100
 p-GaAs(Sb), spin relax. of cond. electrons and exchange interactions 4-25311
 a-Ge:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 a-Ge:H, spin-lattice relax. of paramag. states, 4-40226
 Ge:P(B) amorphous films, ESR spectra, temp. depend. 4-11770
 $HgCr_2Se_4$, spin-lattice relax., EPR study 4-35225
 InP:Gd, ESR and spin-lattice relax. times, spin Hamiltonian parameters 4-16092
 InP:Mn, electron and nuclear mag. relax. 4-11789
 InP:Yb³⁺, EPR and spin lattice relax. 4-25635
 KH_2AsO_4 , X-irrad., crit. anomaly in electron spin-lattice relax. at ferroelec. phase transition 4-2821
 Li, film, surface mag. cross-relax. influence on EPR (Russian) 4-7051
 a-Si, EPR and spin-lattice relax. rate below 1K 4-46087
 a-Si:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 a-Si:H, spin-lattice relax. of paramag. states 4-40226
 $Si:Mn^{2+}$, Jahn-Teller centres, ESR and spin lattice relax. studies 4-25632
 VO^{2+} ions in soln., nonlinear effects in parallel mag. fields 4-46100

electron spin polarisation

- see also *CIDEP; spin polarised electron emission*
 3d metal surfaces and thin films, mag. props. 4-16074
 aliphatic ketones, zero-field splitting const. in photoexcited triplet states, electron polarisation CIDEP study 4-1185
 anisotropic double Ising chain, effect of impurities on spin polarisation 4-45989
 atom, electron scatt. amplitudes, observable quantity calcs., using OBSERVABLES program 4-28566
 diamond lattice, photoelectron spin orientation, electronic states 4-46424
 ferromagnetic semiconductor, magnetically dead surface layers, cond. band spin struct. calc. 4-2717
 LEED intensity and spin polarisation non-muffin tin and 3-D surface barrier effects 4-45476
 molecular beams, intramolecular electron-spin relax., Stern-Gerlach expt. 4-23724
 Mott polarisation analyser, medium-energy compact design 4-33272
 transition metal atoms, exchange integral matrices and cohesive energies 4-1049

electron spin polarisation continued

- triplet exciton, ESR studies 4-6708
- two-dimensional electron fluids, transitions into ordered states 4-11460
- CdS, excited exciton states, Fano antiresonance appearance, absorption bands 4-25232
- Cu (111) with Co overlayers, mag. props. calcs. 4-11740
- D spin polarised Fermi system, transport and mag. props. 4-11376
- Fe (110), clean and adsorbate covered, polarised electron diff. study 4-56129
- Fe atom, spin polarised internal conversion coeffs. 4-43789
- Fe, core level excitations, spin-depend., spin polarised APS study 4-30567
- Fe, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
- Fe₈₁Si₁₉Si₄ ferromag. glass, spin polarised electron scatt. studies 4-46070
- GaP, TO (Γ) phonon mode, anharmonicity and Fano effect 4-29565
- GaP, vacancy spin polarisation energy 4-39821
- Gd, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
- H, polarised, low temp. confinement, mag. field profiling 4-56120
- H, spin polarised, gaseous superfluid acoustical props. (*Chinese*) 4-50611
- H, spin polarised, superfluid film, struct., energetics, and modes 4-6607
- H, spin polarised, surface relaxation props. anal. (*French*) 4-34745
- H spin polarised at. gas, thermal explosion 4-45450
- H spin polarised gaseous superfluid film on He films, sound propagation (*Chinese*) 4-2404
- ³He liquid, fully spin-polarised, microscopic theory 4-6581
- KI(Br), F centre excited state electron spin polarisation meas. 4-11475
- MoCl₅, electronic struct. and spectra, spin polaris. effects and relativistic corrections 4-48926
- Ni (110), surface magnetism, spin-polarised metastable He atom deexcitation spectroscopy 4-35539
- Ni, ferromag., spin polarised Compton profile 4-16268
- Ni, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
- Ni thin film on nonmag. metals, mag. proximity effect 4-56731
- Ni_{1-x}Pd_x, itinerant ferromag., spin polarisation of tunnelling electrons 4-7041
- Ni_{1-x}Pt_x, itinerant ferromag., spin polarisation of tunnelling electrons 4-7041
- Pt (001), Knight shift, relativistic spin polarisation and magnetisation 4-20875
- Pt (111), LEED, longit. and transverse spin polarisation 4-2036
- Si, vacancy spin polarisation energy 4-39821
- U monochalcogenides, magnetooptics and electronic struct. 4-56210
- W (001), spin polarisation due to LEED 4-24694

electron spin relaxation see *electron spin-lattice relaxation*

electron spin resonance see *paramagnetic resonance*

electron states, impurity see *impurity electron states*

electron states, surface see *surface electron states*

electron streams see *electron beams*

electron structure of solids (crystallography) see *crystallography*

electron structure of solids and liquids (energy structure) see *electron energy states (condensed matter)*

electron theory

see also *Dirac equation; quantum electrodynamics*

Dirac rigid electron model interpreted by general relativity theory (*French*)

4-42768

zitterbewegung in stochastic electrodynamics, implications on zero-point

field acceleration 4-17356

electron theory of metals see *metal theory*

electron traps

see also *colour centres; hole traps; impurity electron states*

amorphous semiconductors, carrier diffusion, review 4-6791

anthracene, temp. dependent electron trapping obs. 4-39929

CuCl powder, photostimulated flash luminesc. studies (*Russian*) 4-16249

disordered materials, trap-controlled recombination model 4-15916

dye films, sublimated, photoconductive sensitivity and trap depths

4-39962

electron capture by shallow neutral impurities 4-25295

ethylene propylene fluorinated copolymer, radiation-induced conductivity

4-6786

hopping transport on randomly substituted lattice in presence of dilute

deep traps 4-50803

ice, proton mobility and trapping 4-29982

MIS structures containing borazone- and diamond layers, basic props.

4-35087

MIS structures with Al₂O₃ gate insulator, identification of charge carrier

type 4-56443

MIS systems with multilayer dielectric, electronic cond. and trapping,

review 4-56441

MNOS struct., switching and elec. instability 4-45893

MNOS structures, polarisation kinetics, temp. effect 4-50939

molecular cryst., optical trapping, vibr. struct. of transitions 4-11926

β -nickel phthalocyanine, elec. props., 293 to 450K, effect of O₂ 4-15873

nonhomogenous solids, one-carrier space-charge-limited currents under

planar, spherical and cylindrical flow 4-11541

one-dimensional insulators, space-charge-limited currents and trap-filled

limit 4-35006

organic polyiodide chain complexes, elec. cond. under high press.

4-39914

p-n junctions, traps, DLTS curves corresponding to nonexponential

transients 4-45673

photographic materials, static press. effects, shallow electron traps causing

disperse image centres 4-41233

phyllolites, induced thermoluminesc., cryst. defect study 4-21049

piezoelectric semicond., acoustic vibrs. interactions with spatial trap-

charging waves 4-6837

poly-N-epoxypropylcarbazole, photoconductor, carrier trapping by deep

impurity levels 4-6833

polyacetylene, partly isomerised, photocond., effect of traps (*French*)

4-56386

polyethylene, X-ray and neutron irradi., trap creation, TSC study

4-50837

polyethylene film electrodes, charge magnitude strain effect (*Russian*)

4-7115

polyethylene terephthalate, X-ray photoconductivity, doping effects, deep

traps obs. 4-30004

electron traps continued

- polyolefin films, chemical modification of near-surface charge trapping, SEM, ATR, TSC meas. 4-56364
- PTFE film electrodes, charge magnitude strain effect (*Russian*) 4-7115
- quartz:Ag, luminescence decay study 4-46305
- semiconductor junctions, trapped charge emission rates from nonexponential capacitance transients 4-45866
- semiconductors, capture into deep electronic states 4-29925
- semiconductors, compensated, capacitance and relax. times at carrier exclusion 4-45807
- semiconductors, nonradiative multiphonon hot electron capture coeffs. of deep traps, electron temp. depend. 4-39827
- semiconductors, surface photovoltage under sub-bandgap illumination, bulk trap effects 4-45836
- semiconductors, trap trajectories, dissipative effects cutoff 4-25369
- SOS structure, review of physico-chemical and electrical props. (*French*) 4-40068
- Teflon FEP foils, negative charge transport, const. current method 4-34985
- thermoluminescence isothermal decay, trapping parameters, model extension 4-35501
- thermoluminescence kinetics, non-integer order, electron traps 4-40541
- thermoluminescence phosphors, nonlinear response mechanism, trap distrib. model 4-51366
- time development of trap fluorescence following pulsed excitation 4-21021
- Ag halide microcrystals, electron trapping process statistics 4-41231
- AgCl powder, photostimulated flash luminesc. studies (*Russian*) 4-16249
- AgN₃, light stimulated charge carrier transfer, photocurrent and dark current studies 4-35024
- Al/Al₂O₃/Ag₂Se/Ag struct., I-V characts. and thermally stimulated depolarisation (*Russian*) 4-40063
- Al-SiO₂-Si structures, trap generation and electron detrapping in SiO₂ during high-field stressing 4-40053
- Al_{0.3}Ga_{0.7}As/GaAs interface, selectively doped, illumination stimulated persistent channel depletion 4-45861
- n-Al_{0.3}Ga_{0.7}As:Si MBE layers capacitance and Hall effect meas. 4-50962
- Al₂O₃ film, anodic, photocond. in 3 to 6.2 eV range, localised levels 4-2664
- α -Al₂O₃ powder, field dependent trap parameters 4-6915
- As₂Te₃, amorphous, dispersive transport, TOF and transient field effect meas. 4-45784
- BaS phosphors, thermally stimulated luminesc. glow peaks and trap distrib. 4-40538
- Bi₂GeO₂₀, optical excitation of traps, charge transfer, electro-optic study 4-30443
- CdF₂:Gd insulating crystals, low-applied fields, electron conduction, 80-170K 4-15881
- CdTe thin films, elec. props. study 4-25461
- Cu₃In₂S₃ single cryst., trapping levels, TSC and space-charge-limited current studies 4-34912
- Ga chalcogenide layer compounds, growth and characterisation 4-7344
- GaAs bulk single crystals, hydrogenation of electron traps 4-25366
- GaAs, EPR and magnetic circular dichroism study of defects 4-51134
- GaAs epitaxial layers, plastically bent, dislocation levels, DLTS study 4-25279
- GaAs, LEC grown, midgap electron traps, DLTS studies 4-15835
- GaAs, LEC grown, undoped semi-insulating, EL2 electron trap distrib., DLTS study 4-20591
- n-GaAs LPE layers, traps at interfaces with different substrates 4-6737
- GaAs, photoluminescence excitation of 0.77 eV emission 4-46327
- GaAs, plastically deformed, creation of As_{Ga} defects, dislocation-related electron states 4-15849
- GaAs, semi-insulating, LEC grown, trap level at 78 meV 4-15885
- GaAs semi-insulating growth technology, electron trap deep level conc. 4-7343
- GaAs:Cr(O), extrinsic photoconductivity, thermal quenching behaviour 4-50869
- GaAs:Se, implanted, deep levels, TSC and photolum. studies 4-2542
- n-GaAs/Cr, Schottky barrier diode, deep levels 4-6862
- GaAs-Pt buried Schottky barrier, interface states, DLTS study 4-40015
- GaAs_{1-x}P_x, γ -ray induced defects, recombination-enhanced annealing 4-20522
- GaAs_{1-x}P_x, MOVPE grown, luminesc. props. and deep electron traps 4-25794
- GaP bulk single crystals, hydrogenation of electron traps 4-25366
- n-GaP, luminescence and deep level studies of dislocations 4-16257
- Ge:Cu, plasma hydrogenation, deep levels and Cu solubility 4-29923
- Ge:P, transient elec. props. of low angle tilt boundaries 4-15847
- In chalcogenide layer compounds, growth and characterisation 4-7344
- In_{0.75}Ga_{0.25}As_{0.58}P_{0.42}, LPE grown, electron traps, MOS-DLTS method (*Chinese*) 4-50752
- InP, localised deep level electron trap MOE2, DLTS studies 4-39809
- InP, low temp. electron irradi., defects, DLTS studies 4-50758
- InP MOCVD layers on semi-insulating InP, deep level electron traps, DLTS study 4-39810
- InP, n-type, proton irradiated defects study (*French*) 4-55891
- InP, undoped and doped, DLTS obs. of electron irradi. defects 4-34903
- InP:Fe, recombination centre parameters, photoelec. studies 4-6828
- InSe single crystals, trapping centres, elec. and photoelectronic meas. 4-6799
- KCl, coloured, optical absorption and thermally stimulated depolarisation spectra studies (*Russian*) 4-40488
- NaCl:Ca, quenched, complex glow curves 4-51360
- NaCl-MnCl₂, photosensitivity, activator electron traps (*Russian*) 4-16679
- NbO₂, threshold switching, decay and recovery of on-state, trapping effects 4-6842
- Nd₂O₃ thin film, trapping distrib., SCLC 4-35101
- PtSi-Si, thermal diffusion of Pt in Si, deep electron traps obs. 4-45428
- Si CVD VPE from SiCl₄-H₂ system, deep levels study 4-15836
- p-Si, Czochralski type, new electron trap 4-34897
- Si, electrical resist. and carrier conc., grain size and doping effects 4-29973
- Si, field assisted emission from shallow levels, transient-current study 4-45799
- n-Si, neutron irradi., low dose, electron traps and annealing behaviour, DLTS study (*Chinese*) 4-39807
- Si, plasma hydrogenation, deep levels 4-29923
- Si, polycrystalline, elec. cond., modelling and numerical analysis 4-50805
- Si ribbon solar cells, EFG technique, minority-carrier diffusion length, illum. effects. 4-52141

electron traps continued

- Si, shallow short-range electron traps in mag. field 4-6730
 Si submicrometer inversion layer in MOSFET, discrete resist. switching and interface traps 4-30079
 p-Si:B MOS capacitors with Al gate, donor-like traps, atomic models 4-6897
 a-Si:H, MIS diodes, trap level and conc., DLTS 4-15887
 a-Si:H, time of flight photocond. study 4-39969
 a-Si:H, trapped electron-trapped hole recomb., dangling bonds, photocond., EPR studies 4-39834
 a-Si:H diodes, n-i-n struct., photo-induced degradation 4-35056
 Si:Te, trap level obs. by deep level transient spectroscopy 4-25276
 Si/PtSi interface, Pt diffusion, electron traps, DLTS studies 4-29696
 Si-SiO₂, electron and hole traps study 4-11473
 Si-SiO₂, MOS devices, charge trapping 4-50946
 Si-SiO₂, MOS struct., interface state generation 4-50947
 Si₃N₄ low-pressure CVD layers, electron and hole conduction 4-11532
 SiO₂ film, avalanche electron injection system with microprocessor-control (Japanese) 4-50968
 SiO₂ films, electronic conduction study using MOS capacitors 4-45889
 SiO₂ layers, field dependent trap parameters 4-6915
 SiO₂ off-stoichiometric films, charge transport and trapping 4-6916
 SiO₂, quartz, point defects, thermoluminesc., IR and EPR study 4-21053
 SiO₂, X-ray radiation-induced electron traps 4-15834
 SiO₂:B ion implanted MOS struct., electron traps, thermal energy depth 4-45892
 SiO₂:B⁺(P⁺)(As⁺) ion implanted layers in MOS struct. (Chinese) 4-20221
 SiO₂-Na₂O-CaO glass, containing Cu ions, γ -irradiated, elec. cond. study 4-2373
 SiO₂N₂, ultrathin nitrided oxide films, deep levels, electron capture and tunnel emission 4-40099
 Ta₂O₅ films, RF-sputtered, electron trapping levels, photocurrent study 4-15975
 TiO₂ transition metal, UV irradi., trapping centres, ESR studies 4-29924
 Zn₃Cd_{1-x}In₂S₆ layered crystals, trapping and recomb. centres, photocond. quenching 4-6800

electron tube components

- see also *electron guns*
 fast-gain switched for photomultiplier tubes, weak luminescence meas. appl. 4-13682

electron tube diodes see *diodes***electron tube rectifiers** see *rectifier tubes***electron tubes**

- see also *cold-cathode tubes*; *diodes*; *electron emission*; *microwave tubes*; *relativistic electron beam tubes*; *thermionic tubes*; *triodes*; *ultra-high frequency tubes*; *X-ray tubes*
 No entries

electron tunnelling see *tunnelling***electron valves** see *electron tubes***electron-wave tubes**

- see also *klystrons*; *magnetrons*; *travelling-wave-tubes*
 No entries

electronegativity

- chalcogen cpds., electronegativity and chem. bond 4-54578
 cyclobutanol, struct. props., ab initio HF gradient calc. 4-18907
 cyclobutylamine, struct. props., ab initio HF gradient calc. 4-18907
 expression for obtaining electronegativity through the energy function 4-28345
 fifth-row element compounds, tunnelling and electronegativity (Japanese) 4-38045
 fourth-row element compounds, tunnelling and electronegativity (Japanese) 4-38045
 gas mixtures gas discharge with electronegative component bounded by a dielect., change in form study 4-34358
 main-group atoms polyhedral clusters, electronegativity equalisation and electronic struct. 4-33356
 metals, work functions, overlapping spherical atomic charge density approx. 4-56413
 methyl cyclobutane, struct. props., ab initio HF gradient calc. 4-18907
 nontransition elements, atomic core, empirical chemical pot. 4-38024
 organolithium cpds., Li-C bond, transition operator-based MO electronegativity approach 4-38071
 third row element compounds, tunnelling and electronegativity (Japanese) 4-38045
 transition metal ternary phosphides and arsenides, electronegative effects and metallic interactions 4-11077
 Al₂O₃-B₂O₃-P₂O₅-SnO₂ glasses, Sn valency, Mossbauer study 4-10994
 Al₂O₃-B₂O₃-SiO₂-SnO₂ glasses, Sn valency, Mossbauer study 4-10994
 As₂S₃(Se₂)(Te₂), chemical bonding and heat of formation 4-24733
 Cu crystals, deformation-induced work funct. changes, models comparison 4-56412
 (Cu_{1-x}Ag_x)(Ga_{1-x}In_x)(Se_{1-x}Te₂)₂, solid soln., lattice consts. and electronegativity 4-39513
 F₂ electronegative gas, electron swarm param. calc. 4-34230
 GeSe₂, chemical bonding and heat of formation 4-24733
 H₂O, electronegative gas, electron swarm param. calc. 4-34230
 Po, effective electric charge, calc. (Chinese) 4-6511
 SF₆, electronegative gas, electron swarm param. calc. 4-34230
- electronic component manufacture** see *electron device manufacture*
- electronic conduction in crystalline semiconductor thin films**
 for electronic conduction in amorphous thin films, see "electrical conductivity of amorphous semiconductors and insulators"
 see also *electrical conductivity of amorphous semiconductors and insulators*; *electrical conductivity of crystalline semiconductors and insulators*; *electrical conductivity transitions*
 electron transport phenomena, review 4-35097
 energetic level determination, oscillation processes (Russian) 4-34874
 four-probe method, combined, Hall mobility, elec. resist. determ. 4-4423
 inhomogeneous amorphous and polycryst. films, elec. and optical props. 4-30093
 n-InP epitaxial, far IR photocond. from shallow donors 4-39954
 nonlinear transverse conductivity 4-50965
 oxide layers on metals, oxidation rate rel. to electronic and ionic cond. 4-57411
 oxide thin films, metallic, transparent and cond. (French) 4-35102
 3,4,9,10-perylene-tetracarboxylic dianhydride thin films, ion irradi., electronic resist. 4-30090
 semiconducting transparent thin films, props. and appls., review 4-25881

electronic conduction in crystalline semiconductor thin films continued

- semiconductors, electrical characterisation using carrier transport phenomena, thin film resistivity meas. 4-25336
 SOS films, ion implanted, elec. characts. 4-35072
 AgInSe₂ thin films, elec. resist. meas., energy dispersive X-ray anal. study 4-15968
 Al_{0.4}Ga_{0.6}As MOCVD layers on semi-insulating GaAs, bulk and transfer doping 4-50958
 Al_{0.4}Ga_{0.6}As variable gap film press. gauges, composition gradient depend. 4-50967
 Al_{0.4}Ga_{0.6}As:Si(Sn) MBE films, doping and elec. props. 4-15509
 n-Al_{0.4}Ga_{0.6}As/GaAs heterostruct., electron gas for FET 4-50821
 AlN, pyrolytic layers, doping with Cl₂ and O₂, effects on elec. cond. 4-56456
 Bi films, N₂⁺ ion bombarded, oxidation inhibition, elec. resist. and AES studies 4-41033
 Bi thin films, elec. characts., temp. depend. 4-30096
 Bi₂S₃ film, growth using soln.-gas interface technique, elec. and optical props. 4-29850
 Bi₂S₃ thin films, flash evaporation growth, struct. and elec. props. 4-56162
 Bi₂(Te_{1-x}S_x)₃ single crystal films, single parameter scaling, cond. data anal. 4-2614
 CdIn₂S₄ thin films, switching phenomena 4-30028
 CdS, photosensitivity in near UV 4-56455
 CdS piezoelectric thin film, deposited by hot wall technique, characterisation 4-34835
 CdS thin films, electrodeposition from aq. diethyleneglycol solns. 4-21172
 CdS thin films grown by flash-evaporation at low substrate, resist. and transparency 4-51501
 CdS:In, thin films grown by flash-evaporation at low substrate, resist. and transparency 4-51501
 CdS-Cu₂S all-electroplated solar cell technology, structure and performance 4-21550
 CdSe thin films, elec., photocond. and optical props. 4-15971
 CdSe thin films regeneration after O chemisorption 4-39690
 CdSe, UPE layers, cond., electron mobility, cryst. struct. and morphology 4-57102
 CdSe_{1-x}Te_x solid soln. films, elec. cond. characts. 4-30091
 Cd₃SnO₄ thin films, influence of point defects on electrical properties 4-40091
 Co silicides, layer growth on evaporated Si, elec. props. 4-35095
 Cu₃Fe₂Cr₂S₄, elec. and galvanomagnetic props. 4-56454
 p-CuInS₂, RF sputtered thin films, elec. props. study 4-30089
 CuInSe₂ films, low resist. n- and p-type, grown by flash evaporation 4-7361
 CuInTe₂ thin films, growth and elec. transport props. 4-50689
 CuS thin films, growth, struct. and elec. props. 4-50677
 Cu₂S films, reactive RF sputtering, characterisation and solar cell appl. 4-51492
 FeCr₂S₄, film, elec. and galvanomagnetic props. 4-56454
 Fe₂O₃ electrodes, prep. by spray pyrolysis, photoelectrochemical behaviour 4-46771
 GaAs epitaxial growth by MO-CVD, optical and elec. props. (Japanese) 4-34832
 GaAs epitaxial layers, MOCVD grown, elec. and optical props., operating press. effects 4-40662
 n-GaAs, epitaxial layers, cyclotron resonance plasma shift 4-46112
 GaAs, epitaxial n-type, residual cond. and nonequilibrium carrier slow relax. 4-25463
 n-GaAs, erosion laser plasma irradi., compensation study 4-45180
 n-GaAs thin inhomogeneous films, elec. props., nonreciprocal effects 4-11607
 Ga_{0.47}In_{0.53}As, MBE growth on InP substrate, elec. props. 4-16326
 Ge, epitaxial growth by electron beam evaporation on Si, elec. characts. (Japanese) 4-29842
 Ge films, conductivity, percolation, struct. dependence 4-56453
 Ge films, microcrystalline, RF glow discharge deposited, electronic transport props. 4-6911
 p-Ge thin inhomogeneous films, elec. props., nonreciprocal effects 4-11607
 Hg_{0.8}Cd_{0.2}Te thin films, sputtered, annealed, elec. props., struct., comp. 4-40086
 HgCr₂Se₄, ferromag. semicond. thin film, elec. props. and prep. 4-29837
 InGaAsP double heterostructures, optical study for injection laser applications 4-30507
 InGaP and InGaAlP, MBE grown, doping studies, elec. and optical meas. 4-15510
 In₂O₃ films, prod. by ion plating, cond. and transparency (French) 4-35583
 In₂O₃ films, prod. by PYROSOL process, transparency, cond., IR refl. props., appls. (French) 4-34836
 In₂O₃ films, thermally evaporated, elec. conductive and IR transparent 4-21055
 InP:H⁺(B⁺)(O⁺)(Ne⁺)(Ar⁺)(Fe⁺), high resistive layers obtained by ion implantation (French) 4-55853
 InP-Si, n-type doping in MBE growth, elec. and optical props. 4-2219
 InSb film, low temp. transitions, superconductivities 4-40106
 p-InSb film, polycryst., elec. props., effect of laser irradi. 4-2663
 InSb, thin films, elec. props. and crystallisation behaviour 4-56461
 n-InSb thin inhomogeneous films, elec. props., nonreciprocal effects 4-11607
 InSb-based MBE grown systems, struct. and elec. props. 4-15791
 In₂-Sn₂O_{3-y} thin films, prep. by hydrolysis method, elec. resist., optical transmission props. 4-56463
 In₂-Sn₂O_{3-y}, weak localisation and correlation effects of 2D electrons 4-11606
 Pb_{1-x}Cd_xSe films, photosensitivity, UV radiation effects 4-20690
 (PbSe)_{1-x}(SnTe)_x epitaxial films, elec. props., band struct., depend. on composition 4-56208
 Pb_{1-x}Sn_xSe, LPE, doping, charge carrier mobility and conc. 4-56457
 PbSnTe epitaxial films grown by hot wall technique, struct. and elec. props. 4-46443
 Pb_{0.8}Sn_{0.2}Te epitaxial films, vacuum deposited, growth and high mobility props. 4-16316
 Pb_{1-x}Sn_xTe, effect of composition on struct. and electrophysical props. 4-50665
 Pb_{1-x}Sn_xTe:In, liquid phase epitaxy, elec. cond., deep levels in forbidden zone 4-51556

electronic conduction in crystalline semiconductor thin films continued

- PbTe film, elec. cond., Hall effect, and thermoelec. power, adsorbed O₂ effects 4-11608
 PbTe film, with pot. barriers, transport coeffs., influence of IR illumination 4-15974
 PbTe films, polycrystalline, dark current flow 4-6912
 n-PbTe layers, heavily doped, LPE grown, temp. depend. of mobility 4-20749
 PbTe RF sputtered films, struct. and transport props., substrate depend. 4-40092
 Sb films, elec., galvanomagnetic and electrothermal props. 4-30097
 Sb films, vacuum deposited, struct. and galvanomag. props. 4-40096
 Si CVD VPE from SiCl₄-H₂ system, deep levels study 4-15836
 poly-Si, cond. processes, effects of laser restructuring 4-11604
 poly-Si, electronic props. of grain boundaries 4-11605
 Si film, preparation and optical and elec. props. 4-51518
 Si glow discharge films, polycryst., and thin film transistors, elec. props., temp. depend. 4-50961
 Si, in capacitor field, vibration processes (*Russian*) 4-35096
 Si, ion-implanted polycryst., IR radiation annealing using graphite heater 4-24854
 Si, microcrystalline, Raman scatt. and elec. cond. 4-51386
 Si, polycrystalline films, improved conductivity by pre-annealing 4-45902
 Si:Al film on sapphire, recrystallised, electrically active impurity neutralisation 4-50964
 Si:B (P) film on sapphire, dopant profiling, spreading resist. studies 4-50331
 Si:Co(Cr), implanted polycryst., electron-beam annealing 4-24870
 Si:H,B microcrystalline films, plasma-deposited, substrate temp. effects 4-21162
 Si:P, H microcrystalline films, ESR and elec. cond. 4-16095
 Si:P polycrystalline layers, ion implanted, elec. resist., effect of annealing in H₂ and N₂ atmos. (*Chinese*) 4-40084
 Si:P(As), polycryst., solubility of implanted dopants, effect on elec. props. 4-34508
 SiC_xN_y, RF sputtered films, elec. props. 4-6914
 SnO₂ films, CVD grown, low cond. and optical props. 4-21161
 SnO₂ films, prod. by ion plating, cond. and transparency (*French*) 4-35583
 SnO₂ films, prod. by PYROSOL process, transparency, cond., IR refl. props., appls. (*French*) 4-34836
 SnO₂:F films, sprayed on glass substrates, elec. and optical props. 4-57021
 SnO₂:Sb film, charact., for solar cell appls. 4-30434
 SnO₂:Sb-In₂-xSn₂O₃-y mixed thin films, prep. by hydrolysis method, elec. resist., optical transmission props. 4-56463
 SnO₂:As thin film, ion implanted, elec. props. 4-35099
 SnTe epitaxial films, elec. transport props., two-circuit model 4-56460
 (SnTe)_{1-x}(PbSe)_x, hot-wall film growth, physicochemical characs. 4-57111
 Ti passive films, ion implantation or Au deposition, electronic props. 4-56467
 TiN films, ion implanted, transparency and cond. props., solar cells fabrication appl. 4-35103
 TiS thin films, chemical method for prep., characterisation 4-35588
 VO₂ thin films, DC magnetron-reactive sputtering, struct., elec. and optical props. study (*Japanese*) 4-21141
 V₂O₃ thin films, DC magnetron-reactive sputtering, struct., elec. and optical props. study (*Japanese*) 4-21141
 WSi₂ thin films, elec. cond. and Hall effect studies 4-50963
 Zn,Cd_{1-x}S films, flash evaporation, low resistivity and high transparency props. 4-7363
 ZnO film deposition by reactive RF sputtering, struct. and elec. props. 4-7356
 ZnO films, highly oriented, laser evaporation growth 4-16315
 ZnO films reactively RF sputtered using Zn target, resist. and cryst. quality 4-35568
 ZnO thin films fabricated by RF magnetron sputtering, resistivities study 4-40095
 ZnO:In film, prep. by spray pyrolysis, elec., struct. and optical props. 4-30095
 ZnSe, hetero-epitaxial growth on GaP by MBE 4-16336
 ZnTe epitaxial layers, vapour growth and elec. props. 4-25885
 ZnTe films on GaAs(100) substrates, growth by VPE and solid phase epitaxy 4-21163
 ZnTe thin films, prep. by vacuum deposition, optimisation of growth conditions, max. elec. resist. 4-16314

electronic conduction in insulating thin films

- see also electrical conductivity of amorphous semiconductors and insulators; electrical conductivity of crystalline semiconductors and insulators*
 cadmium stearate Langmuir-Blodgett multilayers, struct. effects on elec. cond. 4-35107
 Langmuir-Blodgett films in dielectric and biological research 4-35360
 oxide and passive layers on electrodes, model for electron transfer reactions 4-56466
 oxide layer prod. by anodic oxidation by spark discharge technique, mech., elec., chem. props. 4-51829
 poly(amide-imide) films, elec. conductivity, dielec. loss, chip technology appls. 4-15977
 stearic acid films, elec. and dielectric props. 4-35108
 p-xylene, electronic conduction 4-39978
 Al₂O₃ anodic film on InP and In_{0.53}Ga_{0.47}As, prep. and props. 4-25465
 Al₂O₃, CVD, charge-carrier injection, trap-assisted tunnelling model 4-35104
 CH_x films, amorphous, prep., struct., phys. and optical props. 4-7261
 FeF₃ thin films, inhomogeneous, elec. charge transfer, less resistance path, TSC 4-15978
 Fe₂O₃ thin films, quantum size effect study 4-40101
 Hf passive films, ion implantation or Au deposition, electronic props. 4-56467
 PZT ferroelectric films, RF magnetron sputtering 4-30628
 Pb₃Ge₂O₁₁ films, elec. and dielectric props. 4-35105
 Si oxides on SiO₂, elec. and growth study 4-30099
 Si₃N₄ CVD layers, amorphous, two-carrier cond. 4-56468
 SiO₂ films, elec. props., electron irradi. and HCl treatment effects 4-56465
 SiO₂ films, electron beam assisted CVD 4-3079
 SiO₂ films, electronic conduction study using MOS capacitors 4-45889
 SiO₂ films in MOS struct., tunnelling and high field breakdown 4-6919
 SiO₂ off-stoichiometric films, charge transport and trapping 4-6916

electronic conduction in insulating thin films continued

- SiO₂, polySiO₂ layer, elec. cond. mechanism 4-11610
 SiO₂ RF sputtered films, high field variable range hopping of holelike polarons 4-6918
 SnO₂ thin films, struct. and elec. resist., RHEED and Mossbauer studies 4-50691
 Ta₂O₅ amorphous films, leakage-current increase due to pinhole growth during annealing 4-35106
 TaSi₃ thin films, temp. depend. of elec. and struct. props. 4-30098
 Ti-N films, reactively sputtered, microstructure, phys. props., TEM study 4-2480
 TiB₂ thin film, RF diode sputtering and props. 4-3072
 TiN, amorphous ion plated, elec. cond. mechanism 4-11609
 TiN film, reactively sputtered using sputter gun, props. 4-2478
 TiN, sputtered thin films, elec. props. 4-11611
 TiN thin film, d.c. sputtering, struct. and elec. props. 4-39733
 TiO-SiO₂ mixed, amorphous thin films, elec. cond. 4-6917
 ZrB₂ thin film, RF diode sputtering and props. 4-3072
 ZrO₂ thin films, metal organic CVD, dielec. and elec. props. 4-51521

electronic conduction in metallic thin films

- see also discontinuous metallic thin films; electrical conductivity of amorphous metals and alloys; electrical conductivity of crystalline metals and alloys*
 adsorption and decomposition of water, work function and elec. resist. meas. 4-34776
 columnar metal film, elec. resist. eqns. derivation 4-2659
 continuous thin metallic double layer films, elec. conductance 4-25459
 discontinuous metal film, resistive inhomogeneity and metal insulator transition 4-40080
 discontinuous metallic deposits on C film, granularity, cond. meas. (*French*) 4-30086
 Fuchs-Sondheimer theory, approx. validity in thin film case 4-2660
 metal films, sputtered, stress and prop. control without substrate bias 4-15786
 metal surfaces, transport phenomena, review 4-50892
 noble metal film, inelastic scatt. and spin scatt. times, magnetocond. anal. 4-25458
 pretreated and passivated, water adsorption, work function, elec. resist. meas. 4-34777
 review of theoretical analyses 4-6910
 specular and thermal expansion effects 4-56451
 specularity in thin metallic films and wires 4-45899
 strain coefficient of resistivity 4-20742
 strain gauge coefficient of resistivity of supported film 4-11603
 transition metal amorphous thin films and thick layers, elec. resist. 4-11508
 Ag electroformed thin films, reversible humidity-sensitive switching (*Japanese*) 4-35032
 Ag film, adsorption of CO, dielec. const., ellipsometry and resist. meas. 4-56848
 Ag film, chemisorbed CO or O₂, dielec. const., ellipsometry and resist. meas. (*Japanese*) 4-2860
 Ag films, growth kinetics on SiO₂ substrate with He⁺ and Ar⁺ ion implantation 4-39728
 Ag films, pure and O covered, ethylene adsorption, photoelec. and ellipsometric studies 4-39682
 Ag films, VPE grown, resist. ratios, size effects, radiation annealing, RHEED, electron microscopy studies 4-30087
 AgPd alloy layers, influence of aggressive atmospheres on the change of contact resistance (*Polish*) 4-40022
 Al film, granular, electron inelastic lifetime, electron-electron attraction strength, magnetoresist. 4-2661
 Al polycrystalline film, temp. coeff. of resist., three layer model anal. 4-15967
 Al-Ge evaporated films, percolation of liquid eutectic 4-29945
 Au, electrical resist., grain boundary and surface Debye temp. effects 4-35093
 Au polycrystalline film, specific adsorption of Br⁻ and I⁻, electrode resist. in electrochem. cell, size effect anal. 4-34799
 Au strongly adhesive electrodes on Melinex, phys. props. and microstruct. 4-15794
 Au-Co metastable solid solns., electrodeposition and growth from melt, elec. cond. meas. 4-40689
 AuIn₂ thin films, elec. resist. and grain size at 4.2K 4-40079
 Bi film, inelastic scatt. and spin scatt. times, magnetocond. anal. 4-25458
 Ca polycrystalline film, temp. coeff. of resist., three layer model anal. 4-15967
 Co films, annealed, elec. resist. and photoelec. work function 4-6909
 Co-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Cu film, adsorption of CO, dielec. const., ellipsometry and resist. meas. 4-56848
 Cu film, chemisorbed CO or O₂, dielec. const., ellipsometry and resist. meas. (*Japanese*) 4-2860
 Cu-Cr polycr. structures, electrophysical props., low temp. diffusion effects 4-2662
 Cu-Mn film, inelastic scatt. and spin scatt. times, magnetocond. anal. 4-25458
 Cu-Sn-Au, microstruct. and elec. props. 4-34821
 Fe film, adsorption of CO₂, effect of preadsorbed H, volumetric meas., changes in work function and resist. 4-29797
 Fe films, annealed, elec. resist. and photoelec. work function 4-6909
 Fe-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Fe_{1-x}B_x amorphous thin film, magnetisation, resist. and Hall const. 4-30250
 Hg films, quench-condensed, activation-conduction, superconductivity influence 4-35115
 In thin films, critical mag. field meas. (*Russian*) 4-6922
 In-H films, elec. and supercond. characts. near metal-insulator transition 4-45912
 In-H quench-condensed films, supercond. enhancement and metastable state formation 4-40104
 In₂O₃, 3-dimens. films, conduction electrons, inelastic scatt. 4-45900
 Mg-Zn amorphous vacuum deposited films, elec. and optical props. 4-45725
 Mo films, sputter-deposited, elec. resist. and plasma etching 4-46435
 Nb thin films, vortex motion and critical currents 4-35129
 Nb₂Fe films, substrate temp. effect on superconducting props. (*Chinese*) 4-2666

electronic conduction in metallic thin films continued

- NbGe₂ hexagonal phase thin films, resist. and supercond. transition temp. 4-45909
 NbTa multilayers, DC sputtered, low temp. diffusion, X-ray obs., elec. characts. 4-50562
 Ni films, anneal, elec. resist. and photoelec. work function 4-6909
 Ni-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Ni-P thin films, elec. resist., resist. temp. coeff. (*French*) 4-56452
 Ni_{1-x}P_x amorphous film, ion implanted, elec. props. 4-20744
 Pb thin film, superconducting props. (*Russian*) 4-50970
 Pt discontinuous thin films, elec. props and γ -spectroscopy 4-40078
 Pt film, RF sputter deposition, effect of rare gas and O₂ on elec. and struct. props. 4-3070
 PtSi cosputtered coatings, high temp. stability, Schottky diode studies 4-29840
 Sb thin film, elec. resist., film thickness effect 4-20743
 Sm-Co amorphous films, elec. and mag. props., temp. depend. 4-30246
 Sr films, polycrystalline, elec. resist. meas. 4-25460
 Ti films, evaporated, elec. resist. and Auger electron APS, O diffusion effects 4-20741
 Ti thin film, d.c. sputtering, struct. and elec. props. 4-39733
 Ti thin film, effect of H sorption on work-function 4-40081
 Ti thin film oxidation, elec. and optical methods meas. 4-26087
 Ti/Au bimetal films, interdiffusion and elec. resist. changes under annealing 4-35092
 W, CVD coating on Si wafer, props. 4-2477
 Y, elec. resist. of thin films, effect of substrate temp., deposition rate and annealing 4-6908
 Zn thin films, struct. and elec. props. investig. 4-25457

electronic density of states

- 2D electron gas, heterojunctions and technical appls. 4-25439
 actinide nitrides, AnN, An=Th-Am, lattice parameters, electronic struct., LMTO, RLMO calcs. 4-56211
 adsorption, surface props., Green's function calc. 4-6854
 alkali metal monolayers; electronic struct. and cohesive energies, all-electron local density functional theory 4-6852
 alkaline earth metal monolayers, Be-Ba, electronic struct., cohesive energy, all-electron local density functional calcs. 4-45607
 alloys, amorphous, sp. ht. and thermal conductivity 4-56047
 alloys, binary, with random transfer, local spin fluctuations 4-25568
 alloys, binary liquid, atomic and electronic struct., self-consistent theory 4-44925
 alloys, substitutionally disordered, density of states and local-environment fluctuations 4-34851
 amino acid crystals, long-lived vibr. modes probed by ps CARS spectroscopy 4-29544
 amorphous materials, trap statistics and gap density of states calc. method 4-11488
 amorphous semiconductors, localised state distrib., transient photodecay meas. sensitivity, Monte Carlo study 4-56388
 Anderson symmetric lattice, ground states in 1-D 4-29873
 Anderson-localised systems, density of states in Coulomb gap 4-45689
 antiferromagnetic superconductor, effect of nonmagnetic impurities 4-20761
 Bethe lattice, disordered, total and surface density of states, node counting method 4-207
 Compton effect meas. 4-30559
 cyclohexanol, glassy cryst. state, existence of two-level-tunnelling systems, expt. evidence 4-56847
 delta function integrals for recombination problems 4-50700
 diamond, electronic charge density, recursion method generalisation 4-45578
 diamond, vacancies, ideal and reconstructed, localised electron states, tight-binding calc., recursion method 4-6734
 disordered metal, Coulomb interaction, density of states 4-11489
 disordered n-orbital model, density of states, scaling relation 4-25194
 disordered solids, density of states and amplitude correlations 4-24939
 disordered system of localised electrons, Coulomb gap, mean field approach 4-45686
 disordered systems, electronic and vibr. props., use of recursion method 4-6740
 electronic systems, chaotic renormalisation approach 4-50702
 fractals, harmonic excitation spectrum 4-36931
 glass, properties, pseudo-topological disorder 4-55740
 granular systems, Coulomb quasigap and metal-insulator transition 4-39777
 graphite, highly oriented pyrolytic, local density of unoccupied states, photolyed spectroscopy meas. 4-3020
 graphite intercalation cpd. with Li and tetrahydrofuran, synthesis, X-ray and mag. reson. studies (*French*) 4-46128
 graphite-alkali intercalation cpds., electronic props. (*French*) 4-45575
 graphite-AsF₆⁻ intercalation cpd., charge transfer and density of states 4-39749
 graphite-K intercalation cpd., C₆K, density of unoccupied states, bremsstrahlung studies 4-39748
 graphite-K intercalation cpd., NMR and CESR studies (*French*) 4-39757
 graphite-Li intercalation cpd., C₆Li, density of unoccupied states, bremsstrahlung studies 4-39748
 graphite-tetrahydrofuran cpd., NMR and CESR studies (*French*) 4-39757
 gyrotronic crystals, degenerate excitations, dispersion relation 4-29891
 heavily doped semiconductor, impurity-band tails, simplified approach 4-11474
 Heisenberg periodic magnet, 1-D, density of states in reciprocal lattice 4-30136
 intermediate valence ion fluctuations between two mag. configurations 4-29933
 isovalent-impurity clusters in Koster-Slater approximation 4-2543
 local density approximation, modified, for pots. with finite step 4-15930
 local density of states in dislocation and impurity cages 4-45688
 metal-H alloys, disordered interstitial electronic density of states 4-29860
 metal-insulator transition fixed-point eqn. structure from single particle density of states 4-15820
 metallic glasses, electronic struct., review 4-34869
 metallic glasses, electronic struct. determ., XPS, UPS and inverse photoemission methods 4-56197
 metals, amorphous, electronic spectral function, eqn. of motion method calc. 4-45601
 metals, cluster approach to mag. impurities 4-25515
 electronic density of states continued
 metals, disordered, electronic struct., appl. of Monte Carlo optimisation of pair distrib. functions 4-45579
 metals, disordered 1-D, localisation length singularity and hopping cond. 4-29944
 metals, FCC layered ultrathin coherent structs., electronic struct. and density of states (*Chinese*) 4-50903
 metals, granular density of electronic states, tight-binding model 4-45572
 metals, thermodynamic and kinetic characts., diamag. oscills. at low temps. (*Russian*) 4-45997
 molecular crystals, energy spectrum, influence of planar defects and disorder 4-39785
 non-crystalline materials, electronic props. 4-2606
 nonideal systems, correlation effects in metal-dielectric transitions 4-20568
 one dimensional systems, temperature depend. cond., eigenstates tunnelling theory 4-45760
 one-dimensional disordered chain, energy level correlations 4-34850
 one-dimensional system with incommensurate lattice potentials, electronic states 4-39742
 one-dimensional systems, disordered, position-space rescaling and hierarchical lattice models 4-53602
 periodic systems, evaluation of densities of states in ab initio calcs. 4-56183
 physics of amorphous metals 4-29326
 polyacene, band struct., one-dimensional conductivity 4-29866
 trans-polyacetylene chain, dimerised, band struct., LCAO calc. with Gaspar-Kohn-Sham pot. 4-20535
 polyacetylene with soliton, Green's function theory 4-39839
 polypyrrole conducting films, valence electronic struct., UPS studies 4-50708
 quasi-two-dimensional systems, mag. quantum oscills. 4-15893
 random-bond disordered systems, coherent pot. approx. generalisation 4-20539
 rare earth alloys, R_{1-x}Gd_xAl₂ (R=La,Lu,Y), electronic and mag. props., bremsstrahlung isochromat spectra 4-21063
 rare earth compounds, nonmetal-metal transition, electronic density of states 4-20565
 rare earth intermetallics, X-ray absorption spectra localised versus itinerant final states 4-35517
 rare-earth systems, valence fluctuation dynamics, self-consistent perturbation theory, single-site theory 4-11493
 s-d mixing in a simple tight binding model, local density of states 4-29868
 Se, electron struct., cluster approx. 4-15812
 self-consistent continued-fraction and other continued-fraction methods, comparison 4-15800
 semiconductor, deformational phase transitions and periodic structures in a magnetic field 4-25010
 semiconductor, dilute reson. scatterers in parabolic band, density of states as function of scatt. strength 4-6774
 semiconductor degenerate materials with nonuniform band struct., elec. current, carrier density 4-50839
 semiconductor-insulator interface, inversion layer, two-dimens. density of states for electrons bound to impurities 4-30082
 semiconductors, deep level determination using capacitance-volt. charact. meas. 4-29928
 semiconductors, density of electron states, Fourier series calc. 4-20532
 semiconductors, diamond-like, bulk and surface electronic props. 4-30042
 a-Si, density of states in energy gap, Bethe lattice model (*Chinese*) 4-20605
 strong-coupling superconductors, thermodynamic props. in case of energy depend. electronic density of states 4-20763
 thin film, amorphous, annealing and oxygenation effects on conductivity 4-40085
 thin wire in mag. field, electron energy levels 4-15807
 transition metal alloys, heats of form., density of states moments, tight-binding model 4-3425
 transition metal alloys, ordering and segregation, electronic theory anal. 4-45344
 transition metal amorphous alloys, Zr_{1-x}Ti_x, electronic and thermal props. 4-56195
 transition metal diborides, electronic struct., Fermi levels, valence bands, solid-state and cluster calcs. 4-50724
 transition metal silicides, bulk electronic struct., synchrotron radiation photoemission study 4-6567
 transition metals, de Haas-van Alphen effect 4-56189
 transition metals, interatomic Green functions calc. using continued fraction technique 4-39740
 transition metals and alloys, A15, electronic struct. and phase stability 4-20549
 transition-metal monoborides, band struct., densities of states, bonding, ESCA spectra 4-20563
 two-dimensional disorder in the presence of a uniform magnetic field 4-2554
 ultrahigh vacuum analytical scanning electron microscopy, surface science appl. 4-50150
 V₃Ge-Co(Fe), X-ray emission spectra and electronic struct. (*Russian*) 4-51411
 valence band, CVV-type Auger peaks 4-57056
 Ag-Cu-Mg metallic glasses, electron transport and density of states 4-45724
 Ag-Te, liq., electronic props., cond. and susceptibility meas. 4-6758
 AgAlSe₂, band struct., valent state density, pseudopot. calc. 4-39776
 AgAlTe₂, band struct., valent state density, pseudopot. calc. 4-39776
 Al-Al₂O₃-Te capacitors, surface states and capacitance-voltage curves 4-50940
 Al-Cu, metastable, soft X-ray emission spectra, effect of heat treatment 4-7282
 Au-Te, liq., electronic props., cond. and susceptibility meas. 4-6758
 BP, diffuse refl. spectra and electron struct. 4-25221
 Be, structural and electronic props., ab initio study 4-6318
 Bi thin film, density of electron states, singularities 4-15801
 C₆K, intercalation cpd., local density of unoccupied states, photolyed spectroscopy meas. 4-3020
 C₆Li, intercalation cpd., local density of unoccupied states, photolyed spectroscopy meas. 4-3020
 Ca, L_{2,3} emission and absorpt. spectra 4-25829
 Ca_{1-x}Al_x metallic glasses, thermopower as function of temp. 4-29949
 Cd₃As₂, topological transition and singularity in density of states of cond. band 4-25220

electronic density of states continued

- Cd_{1-x} type layered cryst., struct. behaviour and phys. props., review 4-40325
- CeCu₂Si₃, cryst. struct., band struct., and Fermi surface props. 4-6690
- CeH₃, proton spin-lattice relax. and metal-insulator transition 4-30313
- CoNi₃ residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
- Cr, FCC, electronic struct. and supercond. 4-45919
- Cr, UPS, valence band spectra meas. 4-46420
- Cr₃Si, electronic struct. study 4-25219
- Cr₂Si, phonon and electron densities of states, regularisation method 4-2291
- Cu, FCC, electronic energies, densities of state, X-ray scatt., total energy, calcs. using Gaussian basis sets contraction 4-34440
- Cu, liq., density of states and elec. resist. calc. 4-45579
- Cu, liquid 4-45571
- Cu thin films, local electronic density of states, photoemission and self-consistent calcs. (*German*) 4-35091
- Cu-Al alloys, γ_2 and δ phases, electronic sp. ht. and electronic struct. 4-56046
- Cu-Pd alloys, electronic struct., density of states and photoemission spectra 4-45610
- Cu-Te, liq., electronic props., cond. and susceptibility meas. 4-6758
- Cu-Zr, crystalline and amorphous, specific heat meas. 4-25051
- CuAlS₂(Se₂), ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
- CuGaS₂(Se₂), ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
- CuInS₂(Se₂), ternary chalcopyrite semicond., electronic struct. and chemical bonding calc. 4-20558
- Cu₃P, P LVV Auger and electron energy loss spectra 4-21076
- Cu₄₀Ti₆₀ metallic glasses, density of empty electronic states, appearance pot. spectra studies 4-57030
- Cu₄₀Zr₆₀ metallic glasses, density of empty electronic states, appearance pot. spectra studies 4-57030
- Fe, amorphous, spin polarised electronic density of states and mag. moments 4-25198
- Fe-B, amorphous, electronic struct. and mag. props. 4-20545
- Fe-Ni, electron struct. changes in FCC \rightarrow BCC transitions, XPS study (*Russian*) 4-50488
- FeCo, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
- FeNi, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
- Fe₃P, P LVV Auger and electron energy loss spectra 4-21076
- Fe₃Pt, ground state mag. props. of ordered and disordered alloys 4-20801
- GaAs (100), electronic surface states distrib. calcs. 4-56404
- GaAs (110) 4-46425
- GaAs/metal struct., interface states, Schottky capacitance spectra studies 4-15929
- GaP, P LVV Auger and electron energy loss spectra 4-21076
- GaP, vacancy induced deep levels, density of states change 4-39747
- GaSb:Se, press. spectroscopy of impurity states 4-45679
- GdCo₂, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293
- GdFe₂, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293
- Ge films, microcrystalline, RF glow discharge deposited, electronic transport props. 4-6911
- a-Ge, hydrogenated and nonhydrogenated, density of states modifications, 3d core levels binding energy effect 4-50707
- (GeTe)_{1-x}(AgSbTe₂)_x, density of states effective mass, Kane model anal. 4-2503
- In_{1-x}Mg_x binary supercond. alloys, electronic props. near FCT \rightarrow FCC transition 4-25490
- InP, vacancy induced deep levels, density of states change 4-39747
- InSb MIS struct., built-in charge and surface state density, C-V charact. meas. 4-30064
- Ir, electronic energy bands and optical props. 4-20550
- IrO₂, electronic states, XPS studies 4-45623
- IrO₂ films, voltammetric anal. and open-circuit pH response 4-7732
- K, low-temp. elec. resist. and local density of states. 4-56314
- KCl, surface, local density of electronic states 4-40012
- LaCu₂Si₃, cryst. struct., band struct., and Fermi surface props. 4-6690
- Li, energy bands and density of states, linear combination of Gaussian orbital calc. 4-56199
- Li-Bi(Pb)(Sn)(Si), liq., electron localisation and cpd. form., ⁸Li spin relax. study 4-40261
- Mg, density of states, cond. band spectra, XPS, UPS studies 4-35547
- Mn_{1-x}Cr_x(Fe₂)S antiferromag. semicond., elec. props., stoichiometry and cation substitution effects 4-34978
- MnP₃ ferromag. alloy, electronic struct., spin-polarised APW calc. 4-29874
- Mo, electronic struct., photoemission study 4-7309
- Mo_{1-x}Nb_xS₂ layered cps., Li insertion and charge transfer 4-45573
- MoO₂, electronic struct., photoemission study 4-7309
- MoO₃, electronic struct., photoemission study 4-7309
- Na₂SiO₃, electronic struct. and density of states, LCAO calc. 4-6702
- Na₂SiO₃, α and β phases, electronic struct. and density of states, LCAO calc. 4-6702
- Na₂WO₃ bronze, electronic struct., UPS and EELS studies 4-11433
- Nb/Cu superlattices, supercond. transition temp. and critical fields 4-45911
- Nb-Cr supercond. thin film, density of states, proximity effect studies 4-50996
- Nb-Mn supercond. thin film, density of states, proximity effect studies 4-50996
- Nb₃Al, supercond., nearly stoichiometric and homogeneous, sp. ht. and mag. susceptibility 4-45929
- NbS₂(2H), intercalated with pyridine (picoline) (ethylene diamine) (aniline), supercond. and electron-phonon coupling 4-15985
- Ni (111) layers, on C, heterogeneous catalytic props., effect of metal-support interactions 4-57602
- Ni silicides, electronic struct. and visible and IR reflectivity 4-20557
- Ni-P amorphous electrodeposits, Hall effect and IR reflectivity studies 4-45740
- (Ni_{0.3}Pt_{0.5})₇₅P₂₅ metallic glass, density of unoccupied d states 4-45570
- Pb_{0.97}Mo_{0.03}S_{7.5}, NMR and mag. susceptibility meas. 25 to 300K (*Russian*) 4-2833
- (PbSe)_{1-x}(SnTe)_x, epitaxial films, elec. props., band struct., depend. on composition 4-56208

electronic density of states continued

- Pb_{1-x}Sr_xS, electronic struct., Haydock recursion method calcs. 4-29883
- Pb_{1-x}Sr_xS, optical props. and band struct. 4-51298
- Pd (111), electronic structure and angle resolved photoemission 4-35041
- Pd, surface, (100) and (111), H chemisorpt., H-Pd bond and H diffusion investig. by SW Xa calc. (*German*) 4-2429
- Pd-Ag, Young's modulus variation induced by H or D 4-39363
- Pd-Te, liq., electronic props., cond. and susceptibility meas. 4-6758
- PdH₂, 4d density of states, small-angle X-ray scatt. study 4-2497
- Pt, electronic energy bands and optical props. 4-20550
- Rh (001), S catalytic poison effects on electronic struct. 4-25414
- RhAl(Ga)(In) alloys, band struct. and mixed states, photoemission spectra studies 4-25208
- Ru ternary oxides, metal-semicond. transition, electron spectroscopy studies 4-11440
- Ru_{1-x}Ir_xO₂, electronic states, XPS studies 4-45623
- RuO₂, electronic states, XPS studies 4-45623
- Sb, X-ray L absorption spectra and electronic band struct. 4-2992
- Sb-Te liquid semicond., mag. contrib. to hyperfine field, Knight shift meas. 4-56802
- Se, L_{2,3} emission and absorpt. spectra 4-25829
- Se-Te, liquid, Hall coeffs., melting point to 750°C 4-6811
- Si (111)-(2 \times 1) surface, chemisorption of H, deconstruction mechanism 4-29789
- Si, band struct., optical props., and photoemission valence band spectrum, local pseudopot. calc. 4-29878
- Si, electronic struct., cluster approach (*Russian*) 4-34868
- a-Si thin film, RF sputtered, electronic and optical props., conditions depend. 4-6784
- Si, vacancies, ideal and reconstructed, localised electron states, tight-binding calc., recursion method 4-6734
- a-Si:H, charge fluctuations electronic density of states calc. 4-45568
- a-Si:H, Cl film, photoluminescence spectra 4-40507
- a-Si:H, conduction mechanism and photocond. 4-25350
- a-Si:H, electronic and optical props. 4-45687
- a-Si:H, p-type, used as photoreceptor, photoelectrical and optical study 4-40393
- a-Si:H, P(B), film, surface states study 4-30036
- a-Si:H, space-charge-limited I-V characts. and density of states 4-45798
- a-Si:H, trap statistics and gap density of states calc. method 4-11488
- a-Si:H,P, photoinduced transient localised states 4-39835
- a-Si-based p-i-n solar cells, computer modelling 4-7872
- Si-Ge alloys, electronic and optical props. KKRZ pseudopot. calc. 4-15815
- SmB₆, far IR reflectivity and hybridisation model 4-40456
- TbFe₃, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293
- TiO₂ (110) and (001), electronic density of states, scatt. theoretic method 4-29861
- TiSe₂, 1T polytype, CDW state, electron-lattice interaction 4-56216
- Tl, liquid, electronic density of states, relativistic KKR-EMA, calc. 4-45569
- TlBr, electronic struct., ab initio calc. 4-50721
- TiCl₃, electronic struct., ab initio calc. 4-50721
- TiSe, reflectance and thermoreflectance spectra 4-7169
- U intermetallics, X-ray absorption spectra localised versus itinerant final states 4-35517
- UAs, electronic struct., lattice parameters, bulk moduli 4-45621
- UPe₃, supercond., electronic struct., resonant photoemission 4-35550
- UP, electronic struct., lattice parameters, bulk moduli 4-45621
- USi(Te), electronic struct., lattice parameters, bulk moduli 4-45621
- USb, electronic struct., lattice parameters, bulk moduli 4-45621
- V, ultrafine particles, specific heat in normal and superconducting states 4-50982
- V-Cr supercond. thin film, density of states, proximity effect studies 4-50996
- V-Mn supercond. thin film, density of states, proximity effect studies 4-50996
- V₂GaH₃, short range order and electron structure, NMR studies (*Russian*) 4-51140
- V₂O₃, surface electronic struct. and H₂O and O₂ chemisorption, UPS and XPS studies 4-25415
- V₂O₃-P₂O₅ glass, localised states energy spectrum (*Russian*) 4-56282
- VSe₂, NMR study of charge density wave state 4-2836
- V₂Si, band struct., electron-phonon coupling const. 4-45606
- V₂Si, phonon and electron densities of states, regularisation method 4-2291
- V₂Si-G(Fe)(Co), X-ray emission spectra and electronic struct. (*Russian*) 4-51411
- WO_{2.72}:V(Ni)(Nb), pure and doped, XPS studies, comp. depend. 4-7310
- WO_{2.70}:V(Ni)(Nb), pure and doped, XPS studies, comp. depend. 4-7310
- Zn-Mn dilute supercond. film, quenched and annealed, localised excited states 4-50749
- Zr-Cu amorphous alloy, electronic density of states calc. 4-2498
- Zr-Ni glasses, electronic props., sp. ht. and supercond. phases 4-45916
- Zr-V(Mn)(Cr), metallic glasses, band struct. and mag. props. 4-45604
- Zr_{100-x}Cu_x alloys, amorphous, elec. and mag. props. 4-25316
- ZrH₂, tetragonal-cubic phase transform, mag. susceptibility 4-56562
- (Zr_{0.667}Ni_{0.333})_{1-x}B_x, amorphous, density, elec. resist., supercond. props. 4-6287
- electronic density of states of amorphous solids** see *electron energy states of amorphous solids*
- electronic density of states of liquid semiconductors** see *electron energy states of liquid semiconductors*
- electronic engineering computing**
see also *circuit analysis* *computing*; *circuit CAD*; *computerised instrumentation*
carrier domain magnetometer, with circular p-n-p-n structure, computer model 4-27541
device equations, qualitative anal. 4-25429
inductive precision length measuring instruments, signal-to-noise ratio, computer-aided optimisation (*German*) 4-48099
metal-semiconductor-metal contact one-dimensional transport eqns., steady-state computer soln. 4-25456
semiconductor barrier characts., computer anal. (*Korean*) 4-20720
- electronic equipment testing**
amplifier/filter band-pass characts. and freq. meas., technique using Tektronix 2236 CRO (*French*) 4-22801
curie meters, testing procedures (*Japanese*) 4-33257

electronic equipment testing continued

- electronic components block-like arrays, convective heat transfer response to height differences 4-44341
- scale calibration and mass measurement correction (*Croatian*) 4-8877

electronic music

- see also *musical acoustics; musical instruments*
- digital electronic organ, Alpha Digital DX 300 T, master-slave principle (*German*) 4-28937
- organ, Chopin 2001, arpeggio chords and rhythmic sequences (*German*) 4-28938
- spatial processing of sound, general model, C music sound synthesis 4-8019

electronic news gathering

- camera zoom lenses for electronic news gathering and field production (*Russian*) 4-17983

electronic structure, atomic see *atomic structure***electronic structure, molecular** see *molecular electronic states***electronic switching systems**

- System X, British Telecom's cooling unit design 4-48138

electronics applications of computers see *electronic engineering computing electronics***electronics**

- see also *beta-rays; cosmic ray electrons; positrons*
- anomalous mag. moment, QED bound state effect 4-22970
- anomalous magnetic moment, muonic contrib. 4-32703
- chronon in electron theory and wave-particle duality 4-32101
- deposition energy module, DEPOS code 4-37728
- generalized curve approach to elementary particles 4-9091
- path integral construction using Lie groups 4-400
- relativistic, circularly polarised bremsstrahlung, parity violation 4-13983
- selectron, cosmological consequences of low mass 4-48371
- solar flare energetic electrons, evolution from 1989 June 25 flare 4-53108
- supersymmetric partners from $Z_{-}(se) + (\bar{se})$, 4-18312
- three-loop electron $(g-2)/2$ in QED, analytic evaluation 4-48402
- e-p mass ratio, vacuum lattice theory determ. evaluation 4-9056

electrooptics see *electro-optical effects***electroosmosis** see *osmosis***electrophoresis**

- see also *electrophoretic coating techniques*
- aerosol droplets, diffusion interaction, EM control 4-24464
- carnauba wax in liquid phase, quasi-elastic light scatt. dynamics 4-19375
- cell dielectrophoresis, dynamic and static cord. struct. 4-31189
- continuous flow, space expts. 4-12373
- DC discharge positive column, axial particle density gradient 4-34354
- developers, photoelectrophoretic, latex based 4-13690
- dielectrophoretic and magnetohydrostatic levitation of particles, droplets and bubbles 4-57569
- dielectrophoretic effect, two-regime approach 4-35912
- DNA, electrophoretic mobility, low freq. dispersion 4-7919
- dynamic dielectrophoretic levitation of living individual cells 4-52302
- electrophoretogram anal., successive subtraction of 2-D Gaussian intensity functions 4-41685
- erythrocyte electrophoretic mobility meas. by laser cytopherometry, multiple sclerosis diagnosis appl. 4-8071
- gel electrophoresis, image processing system 4-58032
- in situ electrophoresis of cell membrane components, theory (*Chinese*) 4-52310
- 6,6-ionene, transition to counterion condensation study by electrophoretic mobility 4-39556
- mononucleosomes, electrophoretic mobility, low freq. dispersion 4-7919
- pictorial color electrophotography for copying (*Japanese*) 4-48228
- quartz, mechanically activated, electrokinetic props. 4-16659
- size effect in dielectrophoretic levitation 4-32275
- sperm, X- and Y-bearing, human, separation using free-flow electrophoresis 4-52540
- spherical colloidal particles, electrophoretic mobility in dilute suspensions, elec. cond. calcs. 4-26215
- swarm analysis in positive column using transport eqns. 4-39038
- CuSO₄, ionic mass transfer rate in electrodialysis 4-12330
- Ru coated Ti and stainless steel electrodes for electrodialysis 4-26223

electrophoretic coating techniques

- LiAlO₂, porous matrix electrophoretic deposition for molten carbonate fuel cell 4-12469

electrophoretic coatings

- CdS electrophoretically deposited layers for CdS-Cu_xS solar cells, phase conversion 4-29853
- CdS, powder layers, transformed into heterojunction solar cells using transient heating techniques, SEM studies 4-26294

electrophotography

- copper phthalocyanine in polyvinyl cinnamate binder, electrophotographic charact. 4-48222
- dry Ag, electrophotographic and wet processed recording media performance comparison when exposed to gas laser and laser diode sources for image recording 4-22860
- dry process film, Ag-less 4-27617
- electrostatic plotting on film which offers advantages over paper 4-4493
- halftone recording density change with time on EkhB-4 electrochem. paper 4-53793
- ion generator, high current density, ionographic printer appls. 4-15324
- laser copier printer scanner 4-22859
- laser electrophotographic printing and drawing machines, multibeam acousto-optical modulator appls. 4-55183
- laser writing sub-system for electrophotographic transfer printer 4-55107
- latent xerographic image, luminesc. effect 4-40529
- non-impact printer, PLZT electro-optical ceramic as light-gate array 4-55185
- oligovinylperimidine synthesis, photosensitive (*Russian*) 4-48238
- photodischarge kinetics of electrophotographic layers with monopolar conductivity 4-39990
- photoelectrophoretic latex based developers 4-13690
- photographic diode and transistor heterojunction imaging 4-13692
- photomasking film using phthalocyanine electrophotographic layer 4-53786
- photoreceptors, reciprocity failure in laser exposure (*Japanese*) 4-27616
- photothermoplastic film absorpt. layer material selection (*Russian*) 4-17989
- pictorial color electrophotography for copying (*Japanese*) 4-48228
- poly N-vinylcarbazole/ZnO/poly N-vinylcarbazole double layer photoreceptor, electrophotography (*Japanese*) 4-30011

electrophotography continued

- poly-N-epoxypropyl carbazole, photo-oxidation influence on spectral and electrophotographic parameters (*Russian*) 4-17988
- poly-N-epoxypropylcarbazole, dielec. charact. temp. depend. (*Russian*) 4-16137
- polyimide based electrophotographic layers (*Russian*) 4-17990
- polyvinyl carbazole layers, local centre functions (*Russian*) 4-17996
- polyvinylcarbazole-TCNQ, charge-transfer complex, electrophotographic appls. 4-8972
- printing and data handling, high speed read/write techniques, conf., Los Angeles, CA, USA (Jan. 1983) 4-22506
- resistive one-components toner systems, electrographic development model 4-27619
- resolving power for targets of various configs. (*Russian*) 4-13708
- single electron transfer theory appl. to photographic technology 4-41234
- 9-vinylcarbazole oligomers, electro-photographic props., heat treatment effect (*Russian*) 4-4486
- Cd(S₂Se)₂/Cu/Michler's ketone double layer system, optoelectronic props., Xerographic appls. 4-4488
- CdS, low-voltage photoconducting materials, information recording and display 4-14649
- HgS-Cd(S₂Se)₂/Cu mixed system optoelectronic props. for electrophotographic appls. 4-53790
- Se electroradiographic layer sensitivity calc. 4-53815
- a-Se, equilb. doping and elec. behaviour, xerographic studies 4-45804
- a-Se thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355
- Se-Te particle migration film, photosensitive particles, formation and photographic properties 4-27620
- Si:H, amorphous, multilayered photoreceptor drum for electrophotography, glow discharge fabrication 4-40673
- a-Si:H reactively sputtered films, electrophotographic photoreceptor props. 4-48229
- a-Si:H thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355

electrophotoluminescence see *electroluminescence; photoluminescence***electrophysiology** see *bioelectric phenomena***electroplated coatings**

- bipolar ICs, automating plating machine appl. 4-57117
- contact materials for electronics appls. 4-51561
- defects on electroplated components (*German*) 4-51552
- solar selective absorber coatings development for high temp. applications 4-36030
- surface platings determ. and thickness meas. using X-ray fluorescence anal. (*Danish*) 4-48074
- testing of electrolytically and electrolessly coatings (*German*) 4-51554
- thickness measurement with X-ray fluoresc. 4-22760
- Ag-plated Al alloy, contact resistance anal. 4-56416
- CdS-Cu_xS all-electroplated solar cell technology, structure and performance 4-21550
- Cr coatings, CVD and electroplated, endurance evaluation in hot gas erosion atmosphere 4-16569
- Cr, electroplating from trivalent state 4-7646
- Cr plating, hard, under reduced press. (*Finnish*) 4-12269
- Cu electroplated mirrors, dimens. instability 4-10391
- Cu plated Al alloy, elec. contact resist. rel. to surface roughness 4-56416
- Ni coatings, electrolytically and chemically deposited, mech. props. (*German*) 4-51553
- Ni, electroless, composition and crystallinity 4-40685
- Ni, engineering and electroforming appl. 4-51559
- Ni/Cr, mathematical model of porosity (*Russian*) 4-20517
- Ni-P coating, electroless deposited on steel substrates, fretting wear and fretting fatigue 4-7597
- Pd, electroplated layers, wear, corrosion and contact resistance comparison to roll milled Pd and Pd alloys 4-46666
- Sn deposits, bright acid, solderability 4-3272
- Sn, present and future trends 4-51560
- Sn-plate, passivation layers, comp., struct. and props. 4-57484
- Zn-Ni, review 4-51558

electroplating

- bipolar ICs, automating plating machine appl. 4-57117
- contact materials for electronics appls. 4-51561
- cyanide plating solns., metal conc. determ. by differential pulse polarography 4-3434
- defects on electroplated components (*German*) 4-51552
- deposit distribution control using modulated pulse periodic reverse current, application in electrical contacts 4-46460
- levelling power, assessment using profilographic measurements 4-48079
- smoothing action evaluation of plating baths containing brightening agents, photometric method 4-44258
- testing of electrolytically and electrolessly coatings (*German*) 4-51554
- wires fabrication with 80 angstrom diameter, using etched tracks in mica 4-57140
- Ag-Pd cyclic multilayered alloy coatings, electroplating 4-12036
- Ag-plated Al alloy, contact resistance anal. 4-56416
- Au deposition, high speed maskless patterning by laser-enhanced jet plating 4-12033
- Au-Cu alloy, track-plated, electrodeposition, analytical electron microscopy study 4-12039
- Cd plating, optimum deposition current density 4-16349
- Cr electroplating, magnetic field effects 4-57565
- Cr, electroplating from trivalent state 4-7646
- Cr plating, hard, under reduced press. (*Finnish*) 4-12269
- CuInSe, films, solution growth and electroplating 4-12037
- Cu₂S-CdS solar cells, thin film, front grid contact fabrication laboratory method 4-36011
- Ni coatings, electrolytically and chemically deposited, mech. props. (*German*) 4-51553
- Ni, electroless plating, catalytic activity of Fe, Ni and Ni-P 4-40681
- Ni, electroless plating on mo activated with Pd 4-40684
- Ni, engineering and electroforming appl. 4-51559
- Ni plating solns. electrode efficiency, brighter systems effect 4-46459
- Ni-Cd plating, cathodic potential in sulphate bath, temp. depend. 20-80°C 4-46458
- Sn coatings, present and future trends 4-51560
- Ti-Al-V (6.4 wt.%), electroplated metal adhesion rel. to H absorption, notch sensitivity and fatigue 4-3290
- Zn-Ni coatings, review 4-51558

electropolishing *see electrolytic polishing*

electroreflectance

- cholesteric liq. crys., blue phase systems, electro-optical effects 4-7160
copper phthalocyanine, charge transfer excitations, electro-reflectance spectra 4-16179
ethyl ether adsorbed on Au surface, characterisation using visible electroreflectance spectroscopy 4-56144
metal-electrolyte interface, electroreflectance curve shape near photoemission threshold 4-2902
metal/electrolyte boundary, electrorefl. spectra features due to interband transitions 4-56892
Ag thin layers on Au, bulk plasmon resonances in electroreflectance spectra 4-51239
Ag-electrolyte interface, electroreflectance spectroscopic study 4-46232
Au-electrolyte interface, electroreflectance spectroscopic study 4-46232
Br⁻ adsorbed on Au surface, characterisation using visible electroreflectance spectroscopy 4-56144
CdIn₂Se₄ in polysulphide solns., surface state characterisation by electrolyte electroreflectance spectroscopy 4-50922
Cu-electrolyte interface, electroreflectance spectroscopic study 4-46232
CuInS₂, modulated refl. spectra, energy gap determ. 4-25780
Fe, passivity, study using electroreflectance 4-57417
GaAlAs-GaAs/GaAs heterostructures, spectroscopic electroreflectance and ellipsometry (French) 4-11866
GaAs:Te, IR optical susceptibilities of (001) face surface electrons under weak modulation fields 4-2931
GaAs-GaAlAs heterojunction, electrorefl. and spectroscopic ellipsometry 4-51389
Ge, carrier relax. time, electroreflectance meas. 4-35008
Ge-Sn metastable semicond. alloy, synthesis by pulsed UV laser crystallisation, charact. study 4-11411
Hg_{0.9}Cd_{0.1}Te:Al⁺, ion implanted, defect distrib. profile 4-24845
InGaAsP/InP heterostructures, spectroscopic electroreflectance and ellipsometry (French) 4-11866
Si, doping profiles, electroreflectance technique 4-11864
Si:H, amorphous, homo and heterojunction, internal pot. characterisation using backsurfaces refl. electroabsorption method 4-52147
SiC:H, amorphous, homo and heterojunctions 4-52147
SmSe, band edge exciton spectra 4-35464
TiO₂ hydrolytic films, electroreflectance investig. 4-2985
TiO₂-aqueous electrolyte interface, surface state characterisation by electrolyte electroreflectance spectroscopy 4-50922
ZnS film grown by at. layer epitaxy and electron beam evaporation, electrorefl. spectra 4-51391
ZnS film in Al-ZnS-Al sandwich, electrorefl. spectra 4-51390

electroretinography *see bioelectric potentials; eye*

electrospark machining *see spark machining*

electrostatic accelerators

- see also Van de Graaff accelerators*
accelerator mass spectrometry with ²⁶Al 4-43114
accelerator tube design, vacuum breakdown, discharge physics 4-54507
breakdown mechanism and time development of discharges in compressed insulating gases 4-54470
Buenos Aires tandem accelerator facility 4-54467
charge exchange and sputter ion sources for RIKEN Tandatron (Japanese) 4-43744
conference, physics of high-energy particle accelerators, Stanford, CA, USA (Aug. 1982) 4-27225
Daresbury Nuclear Structure Facility, online nuclear orientation 4-37956
Demokritos tandem, high current capability utilisation 4-54464
Holifield Heavy Ion Research Facility, status report 4-54461
HV-gap geometries for high current heavy ion acceleration and beam transport 4-43727
insulating strength of cadmium 4-5055
large diameter melting by sparks 4-54473
linacs, elementary principles, design struct., operation 4-28241
NEC accelerator tubes, compressed geometry test 4-54509
NSF ladderton, high voltage behaviour 4-54471
NSF tandem, initial operation and commissioning review 4-54469
polarized nuclear beams in 6 MV tandem accelerator, expts (German) 4-19299
Strasbourg MP, upgrading, second stage 4-54462
tandem accelerator conference, Chester, England (Apr. 1983) 4-53341
target coding, simulator for electrostatic accelerators 4-13719
VICKSI-tandem injector project, progress 4-54465
voltage limitations 4-54474

electrostatic coating techniques

- paint spraying, model for computer simulation 4-35751

electrostatic coatings

No entries

electrostatic devices

- see also capacitors; dielectric devices; electrostatic accelerators; electrostatic lenses; electrostatic precipitators*
cylindrical form errors meas. by noncontact gap sensor, electrostatic-capacitance sensor (Japanese) 4-8869
gyroscopes with an electrostatic suspension, perturbing moment probability charact. determ. 4-48156
manometers for vacuum measurement, Coulomb repulsion and sound wave types (Japanese) 4-37112
multiple-type electrostatic deflectors, numerical considerations 4-37247
three-electrode electrostatic mirror, with rot. symmetry, space-time characts. 4-49223

electrostatic fields *see electric fields*

electrostatic lenses

- see also aberrations; focusing; particle beams*
bipolar lenses, props. of first-order doublet, expt. study 4-10221
Caledonian Quadruplet, ion lenses, geometric aberration correction 4-939
cathode lenses using combined mag. and electrostatic focusing, aberrations, variational theory (Chinese) 4-54943
cylindrically symmetric lenses, electrostatic potentials calc. 4-23879
deflecting elements without fourfold aberrations for electron optics systems 4-23885
einzel lenses, optimum electrode shape 4-23887
electron spectrometer using tubular electrodes of equal radius 4-28282
four-electrode lens for ion beam lithography 4-33614
in-lens deflection system with noneuclidean-type multiple electrostatic deflectors, electron beam lithographic machine appls. 4-37253
ion and electron lenses, aberration corrected systems of planar electrostatic deflection elements 4-44036

electrostatic lenses continued

- Poschenrieder lens with TOF atom-probe, numerical anal. 4-37252
quadrupole lens three-dimens. electrostatic field computation using H.A. Schwarz alternating procedure 4-10223
quadrupole probe-forming system beam optics, book 4-31978
Rehovot 14UD Pelletron accelerator developments 4-54477
spherical aberration correction in charged particle lenses using aspherical foils 4-38384
submicron focused ion beam system optics, computer simulations 4-33612

electrostatic microphones *see microphones*

electrostatic precipitation *see electrostatic precipitators; precipitation (physical chemistry)*

electrostatic precipitators

- charged droplets, periodic convulsive disruption during evaporation, analytical model 4-31030
corona discharge, cylindrical probe meas. 4-55673
droplet size and self-dispersal properties, plume modeling 4-31029
polystyrene latex spheres, singlets, doublets, triplets and quadruplets, equilib. charge distrib. 4-7759
wire-plate precipitator, voltage and space charge distrib. calc. 4-54902

electrostatics

- see also electrets; electric charge; electric fields; electrostatic devices; static electrification; triboelectricity*
n-alcohols, flowing through capillary streaming classification, electric double layers (Japanese) 4-38877
Brownian particles in soln., self-diffusion coefficient, electrostatic interactions contrib. to conc. depend. 4-15669
coal, mineral inclusion separation, cyclone-tribocharging and electrostatic differential deflection method 4-31062
conducting plates, capacitance, variational estimates 4-1315
current-carrying conductor static surface charge anal. 4-54903
DC flow through sphere with multipoint supply, potential distribution and conductivity determ. (Polish) 4-19318
dielectric spheres in electrostatic field, conditions for stable equilib. 4-1313
dielectrophoretic and magnetohydrostatic levitation of particles, droplets and bubbles 4-57569
drops, charged submicron particle collection, particle wettability effects 4-29733
elastic dielectrics, nonlinear couple stress theory, dynamic deform. appls. 4-14886
elastic-electrostatic analogy, implications on certain path-independ. integrals 4-4229
electrode pairs in weakly conducting medium, elec. fields calc. 4-5536
electron in mag. field constrained by electrostatic central force 4-32011
electron-optical devices with complicated boundaries, three-dimens. electrostatic field computation using H.A. Schwarz alternating procedure 4-10223
electrostatic demonstrations at high relative humidity 4-36874
electrostatics, multiple expansion, teaching 4-42652
EM waves without Maxwell's equations, magnetostatic field prod., Coulomb's law of electrostatics 4-22544
equal charges at corners of regular polygon, electrostatic field zero 4-53419
gas-solid flow stability with electrostatic forces 4-49878
high-voltage measuring means, accuracy of electrostatic field calcs. 4-4418
inhomogeneous Coulomb system corrls. 4-49222
inhomogeneous medium, soln. using subtractive method 4-19319
ion sensitive FETs, with electrostatic protection 4-37084
lysozyme, electrostatic free energy 4-26353
magnetised relativistic electron beam, radiation emission in electrostatic pump field 4-44032
multiple-type electrostatic deflectors, numerical considerations 4-37247
nonlinear Poisson-Boltzmann eqn., soln. for flat slit or sphere 4-33583
open spherical shell between parallel cond. plates, electrostatic field 4-1314
particle interactions in powder mechanics conf., Eindhoven, The Netherlands (Aug. 1983) 4-47746
periodic electrostatic system of juxtaposed coaxial cylinders, Fourier-Bessel representation 4-28593
piezoelectric shells, var. stiffness, design 4-33959
potential resulting from localised arbitrary symmetric charge distrib., variational calc. 4-33273
relativistic electron beam in semiinfinite vacuum waveguide, steady-state configuration 4-49256
room ion generators for electrostatic discharge 4-22872
rotating conducting sphere, electrostatic torque 4-23854
transformer oil, state electrification during flow through pipes 4-34186
s-triazine derivatives, electrostatic mol. model (German) 4-1287
two-dimensional beam in time-varying mag. field 4-5542
water-in-oil dispersions, electrostatic coalescence, phase ratio effects 4-46801
H₂S-HF complex, H bonded, struct., ab initio calcs. 4-28361
Zr(MPO₄)₂ + xHCl = ZrM₂-xH₂(PO₄)₂ + xMCl (M = Li⁺, Na⁺, K⁺), ion exchange selectivity, electrostatic effect 4-30967

electrostriction

- see also piezoelectric materials; piezoelectricity*
acoustic wave parametric instability in microwave elec. field 4-1536
anodic oxide films, electrostriction and electrochromism, ellipsometric study 4-46352
conference, Gaithersburg, USA (June 1983) 4-31956
crystal deformations meas., using capacitive transducer 4-8920
measurement of electrostrictive high-temp. props. in ferroelectrics 4-22795
perovskite type crys., electrostriction, optical and engineering appls. (Japanese) 4-40357
piezoelectrics as phonon echo generating materials 4-56856
CaF₂, electrostriction coeff. meas. 4-40355
KH₂PO₄, ferroelec. phase transition, Slater theory anal. and extension 4-46203
LiF, electrostriction coeff. meas. 4-40355
NaCl, electrostriction coeff. meas. 4-40355
NaF, electrostriction coeff. meas. 4-40355
PZT, solid solns., electrostrictive props. near tricritical point 4-46184
Pb(Mg_{1/3}Nb_{2/3})₃-PbSc_{1/3}Nb_{2/3}O₃ solid soln., electrostriction study 4-7127
Pb(Mg_{1/3}Nb_{2/3})₃O₃, dielectric and electrostrictive props. 4-40321
Pb(Mg_{1/3}Nb_{2/3})₃O₃, electrostriction meas. 4-40356
Pb(Mg_{1/3}Nb_{2/3})₃O₃:PbTiO₃, electrostriction meas. 4-40356

electrostriction continued

(PbMg_{1/3}Nb_{2/3}O₃)_{1-x}(PbSc_{1/2}Nb_{1/2}O₃)_x, solid soln., electrostriction study 4-33366

Pb_{0.99}Nb_{0.02}(Zr_{0.6}Sn_{0.4})_{0.94}Ti_{0.06}O₃, electrostriction study 4-40354

SrTiO₃, electrostriction coeff. meas. 4-40355

VO₂ film, optical anisotropy induced by ps excitation 4-30546

electrosynchronisation *see* **synchronisation****electroviscous effect**

see also **colloids**; **viscosity**

No entries

electroweak model *see* **unified field theories****element origin**

see also **cosmic ray origin**; **cosmology**

Galaxy chemical evolution, rel. to star form. and abundance gradients 4-4099

heavy elements, prod. in supernovae rel. to Al/Mg abundance ratio in halo stars 4-8465

neutron physics and element abundances, review 4-58371

primordial element production in universes with large lepton-baryon ratio 4-8611

primordial nucleosynthesis with adiabatic fluctuations, light element abundances 4-42566

stellar evolution 4-31939

C production in stellar interiors, screened triple-alpha reaction rate 4-3916

¹⁴⁶Sm in early solar system, evidence from Nd isotopes in Allende meteorite 4-36646

CCF Xe in Allende meteorite, evidence against extinct superheavy element 4-36645

element relative abundance

see also **isotope relative abundance**

accelerator mass spectrometry with ²⁶Al 4-43114

aerosols, atmospheric, elemental tracers of distant regional pollution 4-46913

Allende chondrules, I-Xe dating and comp. 4-36640

Amazon oil shale, U content determination by solid-state track detector 4-21925

ancient materials, Li, B, N content, ion beam anal. 4-43157

Argo Tunnel water, Idaho Springs, Colorado, dissolved species chemistry 4-41997

atomic absorption spectrometric anal. techniques and speciation, review 4-41290

aubrites, trace elements anal. and origin 4-36643

late Caledonian granites, Scotland, coupled Sm-Nd and U-Pb systematics 4-41819

continental tholeiites, trace element geochemistry, crustal contamination of mantle material 4-36315

Cretaceous-Tertiary boundary, trace element patterns in non-marine sediments 4-41818

Cygnus Loop, element abundances from emission spectrum of nonradiative shock wave 4-31880

diogenites, trace elements anal. and origin 4-36643

Earth mantle K/U and K/Rb ratios and radiogenic heat production 4-17114

El Chichon volcano, comp. of plume gases and particles 4-36338

enstatite chondrites, trace elements anal. and origins 4-36642

Ezhimala igneous complex, Kerala, India, petrochemistry of granite and granophyres 4-52706

Galaxy, star formation and abundance gradients 4-4099

inert gases in planetary atmospheres, rel. to origin and evolution of Venus atmosphere 4-36626

inert gases in Venus atmosphere, isotopic and elemental ratios 4-36627

interstellar medium, shock processing of dust grains rel. to heavy element depletions 4-31882

island arc volcanics from Aleutians, Genesis and geochemistry, mantle struct. implications 4-31455

Isna meteorite, unusual Cs(O) carbonaceous chondrite, elemental and isotopic comps. of inert gases 4-8430

K648, planetary nebula in globular cluster M15, element abundances from IUE and optical obs. 4-58493

lithophile elements in chondrules of Mafra H-4 chondrite 4-42383

M71, globular cluster, metal abundances from spectroscopic obs. 4-22451

metallicity of K-giants in nuclear bulge of Galaxy 4-13302

neutron physics and element abundances, review 4-58371

in NGC 2814, irregular galaxy, element abundances from spectrophotometric investigation 4-17587

noble gases in diamond, implications for early Earth history 4-36322

oceanic tholeiites from East Pacific Rise, ²³⁰Th-²³⁸U disequilibrium, systematics 4-8229

β Pegasi, M-type giant star, abundances of s-process elements Mo and Ru (*Russian*) 4-53168

primordial nucleosynthesis with adiabatic fluctuations, light element abundances 4-42566

rare earth elements in chondritic phosphates, implications for ²⁴⁴Pu chronology 4-8432

Rhum intrusion, NW Scotland, isotopic and geochemical evidence for evolution of cyclic unit 4-47262

seawater Ne/He ratios in Arctic Ocean 4-47303

Sikhote-Alin meteorite, Ni content rel. to internal struct. and fragmentation 4-42390

Solar System abundances rel. to cosmic ray abundances 4-13156

solar wind, elemental abundances from M/Q obs. (during 1980) 4-17374

subgiant CH stars, C and O abundances 4-22406

trace elements in tektite Ni-Fe spherules, non-meteoritic origin 4-21928

YM29, planetary nebula, N/O and He/H ratios rel. to classification 4-22461

Al in Bp-stars, Al resonance lines in IUE spectra 4-8471

Al/Mg ratio in halo stars (HD 19445 and 140283) 4-8465

Be in weak G-band stars, IUE UV spectra 4-58448

Fe abundance in Sun, determ. from Fe I line spectrum (*Russian*) 4-42403

H II regions, heavy element abundances and opacity rel. to struct. 4-13390

He in globular star clusters, R-method 4-22444

HgMn stars, sharp-lined, element abundances in atmospheres 4-22401

Ir abundance anomalies at Late Cambrian biomere boundaries, unsuccessful search 4-47263

Li, abundance in Li-rich K-type giant 8 Bootis (*Russian*) 4-53167

Mo, solar abundance from transition probabilities and spectra 4-31804

element relative abundance continued

Ne abundance in nearby H II regions, determ. from Ne II 12.8 μm line 4-13400

Ni abundance in planetary nebula NGC 7027, determ. from Ni II detect. at 5.2 to 7.5 μm 4-13389

Ni/Fe ratio in Crab Nebula, results from near-IR spectrophotometry of bright filament 4-8547

O in low surface brightness galaxies 4-8576

O in quasar H I Lyman α-β clouds producing absorption 4-4106

O/H ratio in spiral galaxy NGC 628 (M74), radial gradient determ. 4-47707

O/S/N abundance ratios in supernova remnants and galactic abundance gradients 4-53242

Pb cycling in Gironde estuary 4-57806

Pb, radiogenic, in Earth crust, dynamic model of continuous isotopic evolution 4-8192

rare earth elements in East China Sea sediments, geochemical characteristics 4-41888

Ru in Sun, Ru I radiative lifetimes 4-48980

Th in NW Pacific, vertical distrib. of alpha-emitting isotopes in deep waters 4-8246

²³⁰Th-²³⁸U disequilibrium in island arcs, evidence from Aleutians and Marianas 4-52636

U distribution and conc. in Chinese sedimentary carbonates, silicites and pelitic rocks 4-41817

Zr, in East China Sea sediments, geochemical characteristics 4-41888

Zr, in East China Sea sediments, geochemical characteristics 4-41888

elemental semiconductors

band structure calcs. of elementary semicond. with spin-orbit interaction 4-11427

covalent diamond-like, exciton dispersion law, variational calc. 4-50734

diamond, band struct. and electron band populations in case of axial channelling 4-25211

diamond, electronic charge density, recursion method generalisation 4-45578

diamond, electronic excitations, self-consistent-field calc. 4-45615

diamond, epitaxial synthesis by low energy C ions deposition 4-50692

diamond, impurity potential calcs. 4-6731

diamond, partial dislocations, 90°, core struct., valence force field calc. 4-15468

diamond, vacancy charge states and stress matrix elements 4-45671

diamond detector for α-particles, polarisation and space charge 4-23509

diamond surface, O and H overlayers, RBS anal. 4-45486

diamond-like crystals, surface relax. and reconstruction, MNDO calc. 4-50619

energy loss and channelling phenomena for GeV particles 4-2242

epitaxial cryst. growth by sputter deposition, review 4-56163

films, diamondlike, surface anal. by AES and LEED 4-20515

Ge:F, implanted, quadrupole interactions gamma-ray spectra 4-34932

n-Ge, ion bombardment, recombination centre form. study 4-55854

group IV, ¹¹⁹Sn implanted, electronic struct., Mossbauer isomer shifts 4-35272

group IV materials, ¹²⁵Te and ¹²⁹I implanted, electronic struct., impurity-host bond lengths, Mossbauer nucl. quadrupole interaction data 4-34931

interface form. with noble metals 4-6890

lattice defect effects in induced current scanning microscopy 4-15481

metal-oxide-n-p-p⁺ solar cells on Si type, characteristics 4-3467

metal-Si₃N₄-SiO₂-Si, MNOS structures, ionised and neutral Ar atom beam milling, damage effects study 4-45217

pulsed laser annealing, structural phase transitions and energy exchange 4-24865

Se, electron struct., cluster approx. 4-15812

shallow high-conductivity junctions, fabrication of n-type regions using heavy ion implants 4-34505

a-Si:H, mol. H₂, calorimetric detect. 4-44964

a-Si:H film, CVD deposition process 4-51519

Si, ion irradi., photomechanical effects 4-55912

Si, polycrystalline, defect-free SOI layer prod. by dual electron beam recrystn. 4-15781

Si crystals, solar grade, physics, chemistry and growth aspects for use in flat-plate photovoltaic systems 4-7352

Si solar cells, R&D progress (*Japanese*) 4-3457

Si-SiO₂, solar cells with induced channel (*Russian*) 4-41341

SOI film recrystn. using electron-beam line source 4-34823

SOI struct. form. by O₂⁺ ion implantation, buried SiO₂ layer characts. 4-34512

SOI structures using high dose O₂⁺ ion implantation to form buried oxide films 4-34825

solar cell, conductive Ag paste ohmic contact, SEM and AES study 4-31090

SOS films, ion implanted, elec. characts. 4-35072

SOS structure, review of physico-chemical and electrical props. (*French*) 4-40068

surface barrier detectors with side groove, high volt. operation 4-1002

tenrometer for abdominal tokography appl. (*Czech*) 4-58027

tetrahedral, mag. susceptibility rel. to bonding 4-45994

thermally nitrated, struct., channelling anal. 4-45464

thin films, laser ordering processes 4-39736

with XeCl excimer lasers 4-33707

Al/a-Se/Al dark EMF phenomena and photovoltage (*Korean*) 4-20719

Al/SiO₂/p-Si MIS tunnel diode, solar cell operation, model (*Polish*) 4-12473

Al-SiO₂-Si, MOS capacitor, hole traps optical generation in thermal oxide, electron irradiation effects 4-50929

Al-SiO₂-Si structures, trap generation and electron detrapping in SiO₂ during high-field stressing 4-40053

Al-SiO₂-Si MIS tunnel junction, anal. model, current flow, device appls. 4-50928

Au-Si interface, dose enhancement factors 4-48844

Au-Si Schottky barrier solar cell performance calculation using Monte Carlo simulation 4-21553

α-Bi films, transient and steady state photocond. 4-45834

B:Bi(Te)(Re), number of spins, free carrier conc., EPR spectra 4-51123

C, dislocation core behaviour calcs. 4-25278

a-C, nucleation of Sb, atomistic nucleation theory 4-39439

C:H films, amorphous, DC cond. and ESR meas. 4-56353

a-C:H glow discharge film, white photoluminescence 4-40511

C₂(4) crystalline modification, electronic struct. calcs. 4-11432

n-CdS/P-Si heterojunction solar cell, characts. and performance 4-12479

n-CdS/P-Si heterojunction solar cells, performance anal. 4-12482

elemental semiconductors continued

- Cu₂S films, reactive RF sputtering, characterisation and solar cell appl. 4-51492
- Fe-Si surfaces, valence band photoemission spectra, reson. effects 4-40604
- Ge, 1/f fluctuation temp. depend. 4-20699
- Ge, 1/f noise parameter, mobility fluctuations anal., lattice scatt., expt. studies 4-30034
- Ge (100) and (111), adsorption of H, work function, surface cond., and EELS study 4-56148
- Ge (111), chemisorption of Pb, LEED and AES meas. 4-15763
- Ge (111), deposition of and reaction with Si, RHEED study 4-45473
- Ge (111), with monolayer liq. Pb, struct., RHEED study 4-29306
- Ge (111) 7×7-Sn surface, X-ray photoelectron diff. of Sn 3d core levels 4-30040
- Ge (111) surface, cleaved, ellipsometric study as function of temp., 300-700K range 4-56873
- Ge (111)-Pb interface, growth and struct., LEED, AES, and SEM study 4-20502
- Ge (111)2×1, electronic structure, π -bonded chain model and photoemission study 4-35040
- Ge, adsorbed Cl, I, and Te, local struct., surface EXAFS study 4-6661
- Ge, amorphous, in-situ crystn. under laser irradiation in TEM 4-39336
- Ge, amorphous, low power laser annealing effects, crystallisation 4-15528
- Ge, amorphous, low temp. AC loss meas., evidence for two loss mechanisms 4-50812
- Ge, amorphous, sp. ht. meas. at very low temps. 4-50536
- Ge, amorphous, tunnelling systems, thermal cond. meas. 4-6572
- Ge avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
- Ge, background estimation for gamma-ray spectra 4-7098
- Ge, bicrystals, cond. and magnetoresistance 4-35013
- Ge bicrystals, ultralow temp. two-dimensional cond. 4-40013
- Ge, brittle, coated with hard C, indentation and liq. impact studies 4-15792
- n-Ge, capacitance transient spectroscopy of states localised at dislocations 4-15846
- Ge, carrier drag by photons in far IR and sub-MM spectral ranges 4-6832
- Ge, carrier relax. time, electroluminescence meas. 4-35008
- Ge, characterisation for nuclear radiation detectors 4-2550
- Ge, combined effects of CO₂ and Nd laser radiation, carrier recomb. rate meas. 4-30025
- Ge, compensation induced optical transitions within ground state of shallow donors 4-51308
- Ge, conductance modification by O chemisorption, 2D scaling theory 4-39910
- Ge crystal, cyclic bending failure, fracture surface structure 4-20287
- Ge crystal, electronic struct. of ideal vacancies 4-29922
- Ge, deformed, electron-hole liquid, recombination radiation and plasma emission 4-34884
- Ge, deposition on and reaction with Si (111) substrate, RHEED study 4-45473
- Ge, depth profiles of 20-100 keV light ions 4-45225
- Ge detector for escape correction in X-ray spectra 4-15350
- Ge, dislocation core behaviour calcs. 4-25278
- Ge, dislocation dissociation after reverse motion along a slip plane 4-29437
- Ge, dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907
- Ge, dislocation outstripping by crystallisation growth front 4-55768
- Ge, disordered by strong plastic deform., optical absorption 4-16220
- Ge, effective masses for impurity states 4-45670
- Ge, elastic constants, third-order, Keating's theory 4-2248
- Ge, electrical resist. under shear stresses and high press. 4-29978
- Ge, electron distribution in presence of phonon drag 4-39420
- n-Ge, electron heating in L and X-valleys under uniaxial deformation 4-50826
- Ge, electron irradiation, subthreshold, search for intrinsic point defects 4-45189
- Ge, electron irradiation, defects, DLTS studies 4-34913
- Ge, electron-hole drop formation 4-39783
- Ge, electron-hole liq. decay and recomb. under CO₂ laser pulse irradiation, microwave cond. meas. 4-6819
- Ge, electron-hole liq. droplet destabilisation, magnetohydrodynamic mechanism 4-20572
- Ge, electron-hole plasma, obs. of chaotic behaviour 4-50859
- Ge, electronic states, symmetry anal. by spin-depend. photoemission 4-15814
- Ge, epitaxial growth by electron beam evaporation on Si, elec. characts. (Japanese) 4-29842
- Ge epitaxial growth mode on Si (111) substrate at initial stage, EELS, LEED studies 4-21085
- Ge, exchange-correlation energy, approx. by functionals with kernels, coordinate difference depend. 4-56258
- n-Ge, fast neutron irradiated, electrophys. props. 4-56351
- a-Ge film, laser annealing, in situ TEM studies 4-24860
- a-Ge film, transient photoconductivity study 4-2632
- Ge film, zone melting crystallisation with W encapsulation 4-20509
- Ge films, conductivity, percolation, struct. dependence 4-56453
- Ge films, laser and electron beam enhanced crystallisation 4-15524
- Ge films, microcrystalline, RF glow discharge deposited, electronic transport props. 4-6911
- a-Ge films, short range order, vacuum deposition angle depend. 4-50203
- Ge, first-order Raman scatt. by phonons, temp. depend., anharmonic effects 4-46262
- Ge, growth model from amorphous phase 4-16299
- Ge, γ -ray irradiation, A centres, energy levels and annealing 4-50760
- a-Ge, heavily doped, Coulomb gap, disorder effect, cond. study 4-45781
- Ge, heavily doped, implanted laser annealed, and bulk grown, photolum. study 4-21031
- Ge, heavily doped, impurity excited states effects 4-39817
- Ge, heavily doped, laser annealed, photolum. study 4-21032
- n-Ge, heavily doped, light scatt. by plasmons 4-56942
- Ge, heteroepitaxial growth on Si (111)7×7 and Si (100)2×1 substrates 4-25171
- Ge, heteroepitaxial vacuum deposition on Si (111), 5×5 superstruct., LEED and AES studies (Japanese) 4-39719
- Ge, high energy proton irradiation, defect cluster form., role of nonelastic nucl. processes 4-55890
- Ge high purity, detector fabrication by liquid phase epitaxial method 4-40680

elemental semiconductors continued

- Ge, high purity cryst. growth, zone refining, nuclear detector appl. 4-3065
- a-Ge, hopping transport, extended theory 4-45778
- a-Ge, hydrogenated and nonhydrogenated, density of states modifications, 3d core levels binding energy effect 4-50707
- Ge II hollow cathode discharge lasers 4-14670
- Ge, IR modulation, hole-hole collisions, warm hole distrib. 4-15883
- Ge, impurity clouds, IR scatt. study 4-24848
- Ge, impurity conc. and chem. nature, submillimeter BWT spectroscopy 4-35966
- p-Ge, interaction of tunable probe beam with high-intensity pulsed CO₂ laser beam 4-46261
- Ge, isolated dislocations mobility in single cryst., asymmetry 4-15477
- Ge, kinetics of electron and hole binding into excitons 4-20574
- Ge, laser beam irradiation, surface rippling kinetics 4-2230
- a-Ge, laser induced structural changes 4-39340
- Ge, laser treatment, conference, Pianore, Italy (July 1980) 4-36794
- Ge, laser-generated plasmas, picosecond time-resolved reflectivity and transmission 4-39333
- p-Ge, light hole energy spectrum and quasibound Coulomb states 4-25212
- Ge, local modes and IR absorpt. of substitutional group IV impurities (Chinese) 4-39423
- Ge, location of implanted ¹²⁵I, Mossbauer study 4-11171
- Ge, low temp. thermometers at 70 to 300K 4-258
- a-Ge, low-power laser annealing, defect migration and temp. gradient effects 4-24861
- n-Ge, magnetophonon reson. at low temps. 4-25372
- n-Ge, magnetoresist. and band struct. (Chinese) 4-39936
- p-Ge, many-photon absorpt. in submillimeter range 4-21071
- Ge many-valley semicond., even magnetotransport effect 4-29994
- Ge melt, crystn. in an external elec. field 4-29362
- Ge, microwave breakdown of exciton gas 4-15827
- Ge, molten, struct., pseudopotential-derived interatomic forces and optimised RPA calcs. 4-55701
- Ge, multiple X-ray scatt. dispersion effects (Russian) 4-24687
- Ge, nuclear radiation detector appl., review 4-43757
- Ge ordered overlayer growth on Si (111) under ultrahigh vacuum conditions 4-39734
- n-Ge, permittivity modulation by intense microwave field 4-16136
- p-Ge, phonon limited cond. and Hall mobility calcs. 4-20653
- Ge, photoelectron energetic anal. under X-ray diff. conditions using gas-flow proportional counter 4-57070
- Ge photoelement qualification for radiometric meas. 4-17941
- Ge, photomagnetolectric effect in the Corbino config. 4-56393
- Ge, photovoltaic props. and exciton-plasma transition 4-25404
- p-Ge, plastic deformation-induced defects, DLTS studies 4-6364
- n-Ge, plastically deformed, filling of dislocations by electrons, Hall effect study 4-29962
- Ge, polycrystalline layers form. by solid phase epitaxy through amorphous material zone recrystn. (Russian) 4-46433
- p-Ge, population inversion for direct optical transitions, in crossed E⊥B fields 4-16181
- Ge, pulsed laser annealing, time-resolved surface struct. study using LEED 4-34538
- Ge radiation detector fabrication, overview 4-1000
- Ge, rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
- Ge, recovery processes during high-temp. deform. 4-15574
- a-Ge, refractive index dispersion temp. depend. 4-30429
- Ge, reson. Raman scatt. by plasmons 4-56257
- Ge rod-like defects due to electron irradiation 4-34482
- Ge, secondary ion yields, O₂⁺ bombard. incidence angle effects 4-46389
- Ge, shallow and deep impurity state calcs. 4-2549
- Ge, shallow centre spectra calcs. 4-56274
- Ge shaped crystals, growth thermal stress, slip plane form. 4-29359
- Ge single cryst., phonon pulse detection by fluorescence meas. 4-50452
- Ge single crystalline island on insulator, zone melting recrystn. 4-21129
- Ge single crystals, optical properties and appls. 4-24110
- Ge solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
- a-Ge sputtered films, ordering prior to crystn., Raman scatt. and EXAFS study 4-6273
- Ge, strained and photoexcited, Mott and liquid-gas transitions, luminesc. and energy spectra studies 4-56220
- Ge surface, <111>, higher-order laser-induced grating obs. 4-29472
- Ge surface, thermally stimulated exoelectron emission centre chemical nature 4-7332
- Ge surface bombarded by laser, resonant conversion of EM waves 4-5691
- Ge, surface influence on nucleation phenomena in electron-hole drop formation 4-11447
- Ge surface states study by photoemission yield spectroscopy (Polish) 4-35548
- Ge, surface struct. transition, (2×1) to (2×8), temp. depend., optical consts., ellipsometry 4-40399
- Ge, surface topographical changes induced by low energy ion beam sputtering 4-16286
- Ge surfaces, (111)7×7-Sn and (111)2×8, electronic struct., ARUPS study 4-50889
- Ge, T₂ symm. deep level wavefunction predictions 4-11478
- Ge textured storage medium fabrication parameters, reactively-ion etched 4-26071
- Ge thin film, surface EM wave excitation and reson. transform. during irradiation by high-power laser radiation, periodic struct. form. 4-14734
- a-Ge thin films, electron beam induced explosive crystallisation and dendritic growth 4-39711
- p-Ge thin inhomogeneous films, elec. props., nonreciprocal effects 4-11607
- Ge, transverse photovoltaic effect meas. (Russian) 4-50873
- Ge, two-phonon density of states and anharmonic decay 4-11241
- Ge, ultraviolet transparency, plasma reflection of valence electrons 4-20991
- Ge, vacuum deposited target, sputtering yield, sputtered atom photon emission meas. (Japanese) 4-3010
- Ge wafers, carrier lifetime meas. using photomagnetolectric contactless method 4-4421
- Ge, X-ray reflections from crystal planes obs., Bragg diffraction spectrometer appl. 4-39048

elemental semiconductors continued

- Ge:Al (Ga)(In)(Sb), kinetics of decomposition, with separation, retrograde scheme 4-57231
 n-Ge:As, elec. cond. near Anderson transition 4-15922
 Ge:B(N), hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
 Ge:Be radiative recomb. of excitons bound to Be double acceptors 4-56978
 Ge:Be(Mg), impurity states and excitation spectra 4-25288
 Ge:Cu, plasma hydrogenation, deep levels and Cu solubility 4-29923
 Ge:Cu single cryst., negative photocond. and hole mobility (*Russian*) 4-35023
 Ge:Ga, deform. potential consts., intensity parameters, optically induced transitions 4-25285
 Ge:Ga, diffusion of Ga along small angle grain boundaries 4-6563
 Ge:Ga, O and Ge:Sb, O, thermal donors, charge state and energy level spectrum 4-20600
 Ge:Ga, sources of impurity clouds, IR laser small angle scatt. study 4-11348
 Ge:Ga heterodyne detector for far-IR plasma diagnostics 4-39002
 Ge:Ga(P)(B)(As), ion implanted, laser annealed, phonon softening, Raman study 4-15597
 Ge:Ga(Sb), self-diffusion, doping effects, radioisotope studies 4-11336
 Ge:H, amorphous and microcryst., Ge-H bond stretching modes, IR absorpt. spectra study 4-40435
 Ge:H, C(Si)(O), crystalline, electronic struct. of impurity complexes 4-25290
 a-Ge:H, doped and undoped, defect correl. energy, IR absorpt. 4-40483
 a-Ge:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 Ge:H, H^+ implanted or electron irradi., H-divacancy complexes, DLTS study 4-15833
 a-Ge:H, H-atom local density of states, T-matrix anal. 4-24938
 a-Ge:H, semiconductor superlattices, phys. props. 4-15940
 a-Ge:H, spin-lattice relax. of paramag. states 4-40226
 a-Ge:H, thin film, homogeneous chemical vapour deposition 4-51513
 a-Ge:H film, magnetron sputtered, high photocond. 4-11555
 Ge:H film, reactively sputtered, IR absorpt. spectrum 4-20513
 a-Ge:H sputtered film, AC and DC conduction, H effects 4-25347
 Ge:Li, gamma irradi., recomb. centres 4-6805
 a-Ge:Mo films, local struct. and elec. props. 4-39133
 Ge:Ni n-p diodes, mobility of Ni-related centres 4-2225
 Ge:P, ion implanted, laser annealed, Raman study 4-16204
 Ge:P transient elec. props. of low angle tilt boundaries 4-15847
 Ge:P(B) amorphous films, ESR spectra, temp. depend. 4-11770
 Ge:Sb, acoustic attenuation anomalous behaviour 4-20294
 Ge:Sb, ballistic heat-pulse transport under mag. field 4-45432
 Ge:Sb, Cu, solubility of Cu, temp. depend. of Hall coeff. study 4-50521
 n-Ge:Sb, He ion irradi., conversion to p-type, radiation-accelerated diffusion effects 4-15556
 n-Ge:Sb, magneto-impurity reson. 4-25373
 Ge:Sb, negative magnetoresist., impurity conc. depend. 4-20678
 n-Ge:Sb, negative magnetoresistance theory 4-25380
 n-Ge:Sb, US attenuation, effects of uniaxial stress 4-24913
 n-Ge:Sb, US attenuation, impurity conc. depend. 4-24912
 Ge:Sb(Ga)(O), neutron irradi., low temp. photoluminescence studies 4-35487
 Ge:Zn, bound double exciton complexes, photoluminescence 4-45644
 Ge:Zn, electrophysical props. near semicond.-metal transition, Lifshitz impurity band model 4-6844
 p-Ge:Zn, nonequilibrium hole lifetime, recombination centre depend. 4-11542
 Ge:Zn, singly charged impurity excited states spectra, optical absorpt., photoconductivity, Hall coeff. meas. 4-7220
 Ge/GaAs (110) interface form., MBE growth, effect of substrate temp. 4-6671
 Ge/GaAs heterojunction, Ge MBE growth, photoemission study 4-35039
 Ge/GaAs MBE-grown heterostructures and superlattices, interface studies 4-15774
 Ge/Sn contacts, photoelec. props. 4-6893
 Ge-BaF₂ epitaxial interfaces, misfit dislocations, electron microscopy anal. 4-11410
 Ge-CdGeP₂ n-p heterostructures, polarisation photosensitivity 4-2648
 Ge-GaAs abrupt heterojunctions, valence band discontinuities, effect of crystallographic orientation 4-6876
 Ge-GaAs heterostructure, band bending during form., in situ study 4-30062
 a-Ge-monocrystal Si junction, elec. behaviour 4-20713
 Ge-PbS heterojunction photocells, current and EMF temp. dependence. 4-7875
 Ge-Si₃N₄ systems, stressed state and cryst. defects 4-50937
 Ge-SiO₂ systems, stressed state and cryst. defects 4-50937
 In/Si contacts, ohmic character monitoring by one-probe technique 4-32272
 NiSi₂/(001)Si interface, atomic struct., TEM study 4-20506
 NiSi₂/Si (111) interface struct., X-ray standing wave anal. 4-39693
 P, black, core-exciton induced resonant photoemission 4-51453
 P, black, far IR cyclotron reson. absorpt. meas. 4-7067
 P, black, high press. phase transition, elec. study 4-39456
 P, black, single cryst., UPS study of band struct. 4-40601
 a-P, radiative recombination, ODMR and photoluminesc. studies 4-25799
 PbS-Si monolithic focal plane development 4-48199
 SOI, Si film recrystn. using laser beam split by birefringent plate 4-56159
 Se, amorphous, AC cond., photoinduced changes 4-45787
 Se, amorphous, hole lifetime in strong elec. fields 4-6807
 Se, amorphous films, elec. and photoelec. props. controllability 4-45790
 Se amorphous layer, electret state, AC field effects (*Russian*) 4-46175
 a-Se, deep trapping levels, elec. field ionisation 4-45690
 Se, electrolyte, Debye length determ. 4-52022
 Se, electroradiographic layer sensitivity calc. 4-53815
 a-Se, equilib. doping and elec. behaviour, xerographic studies 4-45804
 a-Se film, mol. doping and transport props. 4-45159
 a-Se films, crystallisation, compressive stress form., vacancy mechanism 4-34828
 Se, glassy, dynamical elastic modulus meas. near and below T_g (*French*) 4-39362
 Se, glassy, struct. defects, local density total energy calcs. 4-44978
 Se hexagonal single cryst., photocond. in strong elec. fields (*Russian*) 4-45824
 Se, metastable He*(²S) and Ne*(²P₂) at impact, deexcitation mechanisms, electron spectra 4-30585

elemental semiconductors continued

- a-Se photoceptors, deep gap state spectroscopy 4-20606
 Se, relativistic corrections to valence and conduction band edges 4-34873
 a-Se thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355
 Se vapour deposited amorphous thick films, room temp. ageing, X-ray diffr. 4-29836
 Se/O, impurity detect., ion microprobe anal. 4-41285
 Se/Al struct., elec. switching phenomena (*Russian*) 4-45880
 Se-MgF₂ multilayer coatings, enhanced Fabry-Perot fringe visibility over long path differences 4-1464
 Se-Na (Ti)(Cl), liq., cond. and thermopower, charged additives effects 4-50811
 Si 4-12021
 Si, 1/f fluctuation temp. depend. 4-20699
 Si (III) surface interactions with H₂/NH₃, SiH₄ multipolar plasmas, in situ ellipsometry obs. 4-51837
 Si (001)-(2×1) surface, RHEED obs. of disorder 4-29747
 Si (100), (111), adsorbed O and H bonding, EELS studies 4-25164
 Si (100), (2×1) reconstructed, ion beam scatt. study 4-7298
 Si (100), adsorbed water, vibr. spectrum, rel. to EELS meas. 4-29767
 p-Si (100), denuded zone form., heat treatment effects 4-39514
 Si (100), O₂ dissociative chemisorpt., self-consistent cluster and slab model studies 4-34786
 Si (100), phase transitions, total energy renormalisation group approach 4-11389
 Si (100), surface morphology following O₂⁺ and Cs⁺ bombardment, SEM study 4-45477
 Si (100) inversion layer, second subband occupation, substrate bias effects 4-50932
 Si (100) surface, LEED evaluation of models 4-29749
 Si (111), adsorbed Cl atom location and electronic struct., first principles study 4-40007
 Si (111), Ag adsorption, ion scatt., LEED and AES studies 4-45507
 Si (111), chemisorbed Br submonolayer, surface registration, X-ray interferometric study 4-34787
 Si (111), deposition of and reaction with Ge, RHEED study 4-45473
 Si (111), electron activated stepwise oxidation and nitridation 4-35741
 Si (111), form. and struct. of epitaxial NiSi₂ 4-25178
 Si (111), He⁺ impact, short wavelength photon emission 4-49145
 Si (111), ordered Ge overlayer growth under ultrahigh vacuum conditions 4-35734
 Si (111), reconstruction and nonlinear struct. 4-24758
 Si (111), Ti-silicide formation, EELS study 4-35531
 Si (111), unreconstructed, mag. props., Hubbard model anal. 4-46031
 Si (111), unreconstructed, antiferromag. transition temp. 4-46032
 Si (111) 7×7, adsorption and growth of Ag, angle-resolved EELS and LEED study 4-35533
 Si (111) 7×7 surface, clean and with adsorbed Ag, RHEED intensity anal., kinematic diffr. approach 4-20444
 Si (111) 7×7 surface, model 4-30040
 Si (111) electron subbands, IR spectroscopy 4-35449
 Si (111) Ga and In adsorption, LEED, AES and photoemission spectra studies 4-45520
 Si (111) H₂ and ethene adsorption, work function, desorption and surface cond. studies 4-45511
 Si (111) He⁺ scatt. energy loss, energy and ang. depend. 4-11996
 Si (111) surface, cleaved, low temp. LEED and elec. cond. meas. 4-6633
 Si (111) surface, electronic struct. rel. to geometry 4-6857
 Si (111) surface Fermi level pinning position determ. 4-25417
 Si (111) with Ni monolayer, NiSi₂ struct. and nucleation mechanism 4-29782
 Si (111)/Ag interface struct. and form., EXAFS studies 4-29830
 Si (111)-Au interface interdiffusion due to Cr catalyst 4-11350
 Si (111)-Pd interface electron states 4-6892
 Si (111)-Pd(Cr) interface reaction, synchrotron radiation photoemission study 4-6567
 Si (111)-(2×1) surface, chemisorption of H, deconstruction mechanism 4-29789
 Si (111)-(7×7) and -(1×1), H₂ chemisorption, IR study 4-6658
 Si (111)-(7×7) substrate for Ag epilayers, photoemission study 4-45561
 Si (111)-(7×7) surface struct. model 4-2418
 Si (111)2×1, electronic surface states at steps, optical refl. meas. 4-6859
 Si (111)2×1, surface state absorption by photothermal displacement spectroscopy, polarisation depend. 4-56878
 Si (111)2×1 surface, differential reflectivity, polarisation depend., test for surface struct. 4-56877
 Si (111)2×1 surface, electron struct., angle-resolved photoemission study 4-7318
 Si (111)2×1 surface, electronic struct., angle resolved photoemission study 4-7319
 Si (111)2×1 surface, Mott insulator model, ab initio calcs. 4-6858
 Si (111)2×1 surface, π -bonded chain model rel. to wavevector-resolved EELS meas. 4-7288
 Si (111)2×1 surface, test of structural models 4-20701
 Si (111)(2×2) adatom geometry, total energy and pyramidal-cluster models 4-45471
 Si {100} surface, electronic struct. and bonding 4-20703
 Si, accelerator based mass spectrometry of semiconductor materials 4-46834
 Si, adsorbed Cl, I, and Te, local struct., surface EXAFS study 4-6661
 Si, adsorbed F atoms, electronic struct. and associated nucl. quadrupole interaction 4-39663
 a-Si alloys, optical absorpt. props., effects of topological and quantitative disorder 4-46217
 Si, alpha-particle channelling stopping power, position depend. 4-55894
 Si, amorphised, hopping and band transport 4-25338
 Si, amorphous, appl. of spectral limits theorem 4-6696
 Si, amorphous, bibliography, 1982 update 4-42646
 Si, amorphous, glow-discharged, photoluminescence study 4-40532
 Si, amorphous, laser-annealing, acoustic signals obs. 4-11181
 Si, amorphous, photocrystallisation by laser beam or incoherent radiation, SEM/TEM study 4-6304
 Si, amorphous, prepared by CVD, refr., index depend. on optical gap 4-7257
 Si, amorphous, solar cell, photon responses and energy conversion coeff. (*Dutch*) 4-36010
 Si, amorphous, solar cells, interface recombination effects, theory 4-46874
 Si, amorphous, solar cells, reverse bias and heat treatments 4-57717
 Si, amorphous and cryst., sp. ht. meas. at very low temps. 4-50536

elemental semiconductors continued

- Si, amorphous and microcrystalline, vacuum deposition form. 4-46442
 Si amorphous film, halogenated and hydrogenated, transport props. rel. to deposition parameters 4-6824
 Si amorphous film, hydrogenated, photocond. and trapping parameters 4-6823
 Si amorphous film deposition by laser induced-CVD and sputtering 4-7369
 Si amorphous films, deposition techniques and appls. 4-7368
 Si, amorphous films, epitaxial recrystn. on sapphire 4-25185
 Si amorphous films with SiO₂ patterns, lateral solid-phase epitaxy 4-20510
 Si amorphous ion implanted layers, seeded crystallisation using laser and electron irradi. 4-55724
 Si amorphous photovoltaic solar cells, progress 4-16773
 Si amorphous photovoltaic modules; manufacture rel. to prod. cost components 4-16778
 Si amorphous pin solar cells, carrier collection length and fill factor 4-52135
 Si, amorphous Si/polycrystalline Si stacked solar cell with over 12% conversion efficiency 4-21548
 Si amorphous solar cell types, fabrication method for high conversion efficiency 4-16774
 Si amorphous thin film fabrication appl. of microwave plasma CVD system (*Japanese*) 4-3084
 Si and its oxides, plasma-chemical etching kinetics, ion bombardment effect 4-41031
 Si, annealed, interstitial O conc. depth profiles 4-50334
 Si annealing using CW CO₂ laser 4-50348
 Si, anodisation, HF, kinetics 4-57385
 n-Si, anodisation in HF soln., kinetics and mechanism of porous layer growth 4-16527
 n-Si, asymmetric Joule heat production at a point contact 4-50849
 Si, asymmetric neutron diff., transition from Bragg to Laue case 4-39055
 Si, Auger electron emission excited by low-energy Ar⁺ bombardment (*Chinese*) 4-7290
 Si avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 Si, band struct., optical props., and photoemission valence band spectrum, local pseudopot. calc. 4-29878
 Si, band struct. and electron band populations in case of axial channelling 4-25211
 Si, beam annealing, techniques and appls. 4-55868
 Si bent crystal, radiation induced defects, on channelling study 4-45202
 Si bilayers, randomly stacked, localised electron states, LCAO calc. 4-45693
 Si bolometers, spectral characts. 4-32312
 Si, bulk stacking faults, EBIC and high volt. electron microscopy studies 4-55848
 Si bulk-barrier-diode temperature transducer, struct., simulation and sensitivity (*German*) 4-37080
 Si buried amorphous layers, ion implanted, thermal cond., laser probe studies 4-56104
 Si, CVD epitaxial growth, doping element incorporation, adsorption- and equilibrium-referred interpretation 4-11159
 Si, CVD structures formed by amorphous and crystalline growth 4-51511
 Si CVD VPE from SiCl₄-H₂ system, deep levels study 4-15836
 Si, CW beam-annealed, electron microscopy and defect/impurity spectroscopy 4-20604
 Si, capacitance transient spectroscopy of states localised at dislocations 4-15846
 Si capacitive press. sensor with linear sensitivity 4-42952
 Si, capacitively meas. scanning DLTS system 4-15844
 Si, carrier domain magnetometer, with high sensitivity 4-37119
 n-Si, carrier scatt. anisotropy in mixed scatt. region 4-20644
 Si, carrier spin-dependent recomb. at dislocation dangling bonds 4-15848
 Si, chalcogen doped, deep centers and their importance for semiconductor devices 4-39830
 Si, characterisation, SEM developments 4-24698
 Si, characterisation for nuclear radiation detectors 4-2550
 Si, chemical shift effect on donor polarisabilities 4-11477
 Si, chemisorption of O₂, multiple bonding configurations 4-2449
 Si, compensation induced optical transitions within ground state of shallow donors 4-51308
 Si concentrator solar cells thermal non-uniformities 4-52167
 poly-Si, cond. processes, effects of laser restructuring 4-11604
 Si, conducting anodic oxyfluoride layer growth, for MIS-solar cells 4-57730
 Si, conductivity transients under intense laser excitation 4-15875
 a-Si, continuous random network model, force field treatment 4-55732
 Si, core dislocation struct. study by high resolution electron microscopy (*French*) 4-15474
 Si, cryst. growth from melt, mechanisms and doping striations 4-24751
 Si, cryst. struct. refinement by profile fitting and least-squares anal. of powder diff. data 4-15348
 Si crystal, Czochralski growth, bulk flow at large melt aspect ratio 4-3053
 Si, crystal, plastic deformation, 385-650°C 4-39370
 Si crystal, thin cooled, coherent bremsstrahlung from relativistic electrons 4-30556
 Si, crystal defect classification by g-values 4-11139
 Si, crystal growth, Czochralski method, melt interface temp. oscils. rel. to process parameters 4-16306
 Si, crystal growth for nuclear radiation detectors 4-3062
 Si crystal lifetime doping, comparison of Nd:YAG fundamental and second harmonic Q-switched laser-beam 4-29981
 Si, crystalline, radiatively melted spatial melt instabilities 4-11178
 Si crystals, composition anal., spatial averaging effects in absorption spectroscopy 4-46290
 Si crystals, Czochralski growth, control of C contamination 4-3059
 Si, Czochralski crystal growth, heat transfer model 4-45037
 Si, Czochralski grown, donor-related microdefects at surface of denuded zone 4-2226
 Si, Czochralski grown, segregation and precipitation of O, early stages 4-50525
 Si, Czochralski grown, thermal donors, IR spectra study at 450°C 4-16222
 Si, Czochralski grown, thermally induced microdefects after high temp. annealing 4-20129

elemental semiconductors continued

- Si, Czochralski growth, C contamination study (*Chinese*) 4-39181
 p-Si, Czochralski type, new electron trap 4-34897
 Si, dark-probe pulse method studies (*Russian*) 4-25405
 Si, deep level defects after beam processing in solid phase regime 4-15839
 n-Si, deep levels introduced by electron beam deposition of metals, DLTS study 4-50887
 Si deep point defect centre levels, passivation/annihilation techniques (*Chinese*) 4-6728
 Si, defect form., heat treatment condition effects, X-ray diff. studies 4-2194
 p-Si, defects induced by electron beam deposition, DLTS study 4-50886
 Si, deform. potentials and internal strain parameter, relativistic LMTO calcs. 4-56299
 Si, deformed notched crystal, microplasticity mapping and analysis, computer aided X-ray diff. 4-50411
 Si, dense dislocation arrays, elec. props. 4-25351
 a-Si, density of gap states, charged dangling bonds, crystn. studies 4-39833
 a-Si, density of states in energy gap, Bethe lattice model (*Chinese*) 4-20605
 Si, deposition on and reaction with Ge-(111) substrate, RHEED study 4-45473
 Si, depth profiles of 20-100 keV light ions 4-45225
 Si detector, energy loss distrib., for protons and several relativistic particles 4-4889
 Si diaphragm with sputtered piezoelectric ZnO layer, integrated acoustic sensor appl. 4-53668
 Si diffused junction test structures, charge collection meas. 4-50908
 Si, diffusion of Al, distrib. conc. 4-55859
 Si diode thermometer, miniature, for cryogenics 4-8898
 Si diodes, heavily doped, bandgap narrowing in space charge region 4-40031
 Si, directional solidification, reusable C mould, solar cells appl. 4-36012
 Si, dislocated, photoacoustic spectroscopy study 4-16216
 Si, dislocated crystal, photolum. study 4-16235
 Si, dislocation bend motion, kink model 4-15576
 Si, dislocation bends in high stress deformed crystals 4-15475
 Si, dislocation core behaviour calcs. 4-25278
 Si, dislocation core structure, elucidation by high resolution electron microscopy 4-15473
 Si, dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907
 Si, dislocation glide, theoretical interpretation 4-20206
 Si, dislocation motion, doping effects 4-15476
 Si, dislocation structure and energy levels 4-15840
 Si, dislocation structure at lower yield point, quantitative TEM anal. 4-20199
 Si, dislocations, static and moving, localised electron states calc. 4-6733
 Si, divacancy-O₂ defect complexes, electronic struct., Si-P2 centre simulation 4-39828
 Si, dopant parameters characterisation by IR ellipsometry 4-43025
 Si, doped, CO₂ laser heating and appls., fast CO₂ laser detect. 4-20241
 Si, doped metal-insulator transition, renormalisation group theory appl. 4-45628
 Si, doping by dye-laser pulse induced diffusion (*Chinese*) 4-39318
 Si, doping by laser beam annealing during nonequilibrium solidification 4-15499
 Si doping by laser irradiation (*Chinese*) 4-50320
 Si, doping profiles, ellipsometry technique 4-11864
 Si, doping with organic colloidal dopants by laser irradiation, electrical and optoelectrical characts. 4-39319
 Si, double kink interaction and form. energies 4-55832
 Si, dry oxidation, growth model 4-30840
 Si, dynamic holography, charact. relax. times, optical props. (*Russian*) 4-5563
 Si, EBIC contrast from dislocations, temp. depend. 4-15479
 a-Si, EPR and spin-lattice relax rate below 1K 4-46087
 Si, effective masses for impurity states 4-45670
 Si, elastic constants, third-order, Keating's theory 4-2248
 a-Si, elec. props. anal. by EBIC method 4-50679
 a-Si, elec. props. study, interface and surface effects study 4-39976
 Si, electrical resist. and carrier conc., grain size and doping effects 4-29973
 Si, electrical resist. under shear stresses and high press. 4-29978
 Si, electron drift velocity in bulk material, semi-empirical eqn. 4-50804
 n-Si, electron irradi., defect form. parameters 4-50361
 Si, electron irradi., muonium states 4-35321
 Si, electron irradi., subthreshold, search for intrinsic point defects 4-45189
 Si, electron irradiated, group III acceptors deactivation, MOS capacitor study 4-20726
 Si electronic materials, IR microscopy, appls. (*French*) 4-17934
 poly-Si, electronic props. of grain boundaries 4-11605
 Si, electronic struct., bond formation and metallisation 4-45614
 Si, electronic struct., cluster approach (*Russian*) 4-34868
 Si, electronic transport at grain boundaries 4-20670
 Si, ellipsometric data, spectral anal. by Fourier methods 4-37217
 Si, energy band calcs. using variational cellular model 4-34871
 Si, energy loss and channelling phenomena for GeV particles 4-2242
 Si/epitaxial films, cryst. correl. with underlying spinel films in Si/MgOAl₂O₃/Si struct. 4-2464
 Si epitaxial films, low temp. low press. CVD deposition with and without plasma enhancement 4-46447
 Si epitaxial growth on porous Si, defect struct. study 4-25188
 Si epitaxial layers, annealing behaviour of stacking faults (*Chinese*) 4-6384
 Si epitaxial layers, cryst. perfection, etching, deposition temp., substrate props. effects 4-29834
 Si epitaxial planar p-n junction, thermally stimulated current studies (*Russian*) 4-45862
 Si, epitaxial process, reduced pressure, autodoping problem reduction 4-34811
 Si, epitaxy in ultra-high vacuum, substrate surface cleaning by pulsed laser irradiation 4-3076
 Si, etching, preferential, chem. system 4-21345
 Si etching by plasmas, mass spectrometric kinetic meas. 4-15308
 Si, etching by SF₆ plasmas, mass spectrometric kinetic meas. 4-15307
 Si, etching mechanism and anisotropy in tetrafluoromethane/O₂ plasma 4-3267

elemental semiconductors continued

- a-Si evaporated film, hydrogenation and direct substitutional doping, elec. props. 4-24837
- a-Si evaporated films, dangling bond density reduction by hydrogenation under NH_3 4-2545
- Si extrinsic photoconductive detectors, operating temp. 4-37177
- Si, field assisted emission from shallow levels, transient-current study 4-45799
- Si, field ion microscopy and atom probe microanal. 4-20062
- Si film, CVD, epitaxial overgrowth process 4-21158
- a-Si film, horizontal plasma deposition and solar cells 4-51542
- Si film, laser crystallisation on amorphous insulating substrates 4-20243
- a-Si film, photo-electronic props. 4-15972
- a-Si film, photochemical vapour deposition 4-51517
- Si film, preparation and optical and elec. props. 4-51518
- Si film CVD by substrate preheating using lasers (*Chinese*) 4-57105
- Si film formation, oxidation and MIS diode preparation 4-26072
- Si film structure on (100) texture, laser recrystallised on fused quartz 4-50651
- Si films, CO_2 laser CVD of SiH_4 , CARS study 4-16338
- a-Si films, deposition from plasma influence of gas flow direction 4-51531
- Si films, laser and electron beam enhanced crystallisation 4-15524
- Si films, patterned, graphoepitaxy and zone melting recrystallisation 4-21159
- Si films, seeded, recrystallised between SiO_2 layers, low angle grain boundary suppression 4-21134
- a-Si films, self-sustaining crystallisation study 4-39723
- Si films, zone melting recrystallisation on insulating substrates 4-21131
- Si, first-order Raman scatt. by phonons, temp. depend., anharmonic effects 4-46262
- Si floating zones, electrodynamic convection 4-51482
- Si, Gaussian statistical props. of $1/f$ noise 4-6845
- Si, gettering, defect control technique for device processing 4-39281
- Si glow discharge films, polycryst., and thin film transistors, elec. props., temp. depend. 4-50961
- Si grain boundary, appl. of spectral limits theorem 4-6696
- Si, grain boundary electronic struct. calcs. 4-39825
- Si grapho-epitaxy using partly ionised particle beams 4-16335
- Si, graphoepitaxy by laser or strip heater recryst., orientation mechanism 4-11416
- Si, grown at high speed, microdefects, selective etching and TEM study 4-55822
- Si, grown-in impurities investig. by DLTS 4-11476
- Si, growth model from amorphous phase 4-16299
- Si, growth striations, contrast form. investigated by X-ray topography 4-25024
- Si, Hall effect meas., at high temp., use of van der Pauw method 4-32279
- Si, heavily doped, energy gap narrowing meas. 4-50835
- Si, heavily doped, hole and electron mobilities, device models implications 4-20655
- Si, heavily doped, impurity excited states effects 4-39817
- Si, heavily doped, ion implanted, laser annealed, electronic struct. study 4-15838
- Si, heavily doped, laser annealed, photolum. study 4-21032
- Si, heavily doped, n- and p-type, photoluminesc. and excitation spectra, optical and reduced band gap 4-46326
- Si, heavily doped, pulsed laser annealed, optical and elec. props. 4-20650
- Si, heteroepitaxial, microstruct., UV reflectometry 4-2469
- Si, high dose reactive O^+ implants computer simulation 4-39322
- Si, high purity powder compacts, nitridation, removal of surface SiO_2 4-26078
- Si, higher cond. bands, crit. point study by angle-resolved photoemission 4-7316
- a-Si, hopping transport, extended theory 4-45778
- Si, IR detectors, spectral response, detectivity, operational temp. 4-37173
- Si, implanted, interstitial atom conc. profile, depth distrib. meas., fast H^+ and He^+ backscattered energy spectra (*Russian*) 4-24881
- Si, implanted, thermal cond. meas. 4-20422
- Si, implanted, transient annealing, elec. characts. and microscopic anal. 4-24859
- Si, impurity clouds, IR scatt. study 4-24848
- Si, impurity nuclei at interstitial sites, hyperfine interactions 4-34899
- Si, impurity profiles, meas. and calcs. 4-15513
- Si, impurity trapping, influence of fast solidification 4-15647
- Si, indentation hardness meas. at 20 nm penetration depth 4-7572
- Si ingot growth by oscillating crucible technique 4-21122
- Si, inner-shell electron excitation loss, signal/background ratio, scatt. angle depend., EELS 4-51426
- p-Si insulator a-Si:As $^+$, laser annealing effects (*Korean*) 4-40020
- a-Si, integrated multi-bandgap solar cells fabrication and props. 4-52152
- a-Si, interfacial reaction with Schottky metals 4-39612
- Si, internal stresses from ion-implanted amorphous regions 4-11161
- Si, intervalley effective mass eqn. and deep chalcogen donors 4-39824
- n-Si inversion layer, higher subband effects on screening 4-40065
- Si inversion layer, MOS 3D conductivity in activated regime, inhomogeneity effects 4-6902
- p-Si inversion layer in MOSFET, atomic roughness and Hall mobility 4-15963
- Si inversion layers, 2-D plasmons, dispersion laws 4-25266
- Si inversion layers, complex capacitance in strong inversion region 4-50931
- Si inversion layers, conductivity, electron-electron interaction effects 4-6903
- Si inversion layers, cyclotron resonance linewidth, impurity and thickness effects 4-56777
- Si inversion layers, electron-phonon interaction 4-35071
- Si inversion layers, many-body correlation effects 4-2639
- Si inversion layers, Shubnikov-de Haas oscils. 4-30080
- Si, inversion layers, two-dimensional cond., absence of scaling 4-30076
- Si inversion layers, use of investigating electron states localisation, conductance oscils., quantised Hall resist. 4-45853
- Si inversion layers, valley degeneracy, far IR freq. domain intersubband spectra 4-56408
- Si, ion bombarded by H_2^+ , solar cell parameters change 4-39354
- Si, ion implantation, Boltzmann transport equation based 2D model for impurity distrib. determ. 4-29454
- Si, ion implantation, impurity-matrix cluster ions, SIMS 4-51444
- Si, ion implantation, lateral extension of radiation damage obs. 4-29452
- Si, ion implantation, surface softening 4-50378

elemental semiconductors continued

- Si, ion implantation damage and amorphisation, electron microscopy studies 4-55887
- Si, ion implantation through SiO_2 film, induced-defects, compensative study (*French*) 4-15502
- Si, ion implanted, excimer laser annealing 4-45183
- Si, ion implanted, heat pulse annealing, struct. charact. by TEM 4-24838
- Si, ion implanted, picosecond laser annealing 4-15526
- Si, ion implanted, pulsed electron beam annealing, melting and freezing kinetics 4-20254
- Si, ion implanted, solid phase epitaxy by annealing 4-34810
- Si, ion irradiated with 150 MeV N^{13+} (Cl^{17+}) ions, X-ray diffr. topographic obs. 4-15549
- Si, ion-implant conditions in device processing, transport in amorphous targets, Monte Carlo simulation 4-29453
- Si, ion-implanted, annealing using dense plasma focus 4-29455
- Si, ion-implanted polycryst., IR radiation annealing using graphite heater 4-24854
- Si, ion-surface backscattering of 1 MeV He ions, computer simulation 4-16285
- Si, ionised and neutral Ar atom beam milling, damage effects study 4-45217
- Si isolated deep U-groove photodiode linear array, crosstalk meas. 4-4467
- Si, isolated dislocations mobility in single cryst., asymmetry 4-15477
- Si, isolated layers, FIPOS fabrication, dislocation density, elec. characts. 4-21347
- Si, LCAO model Hamiltonian, $1/d^2$ dependence 4-25210
- Si large area avalanche photodiodes, nucl. scintillation detector appl. 4-998
- Si, laser annealed, local cryst., orientation, Raman microprobe studies 4-50230
- Si, laser annealing, in depth O contamination, IR, AES and ESCA studies (*Chinese*) 4-55856
- Si, laser annealing, pulsed ruby, surface phase change, depth meas. 4-20250
- Si, laser annealing, temp. dependence, laser mode dependence 4-24855
- Si, laser generated electron-hole plasma using picosec. pulses 4-34534
- Si, laser generated plasma, non-equilib. effects, luminesc. study 4-21030
- Si, laser induced structural changes 4-39339
- Si, laser induced thin film crystal growth on fused silica, TEM study 4-6675
- Si, laser irradi., liq.-amorphous phase transition, thermal model 4-6478
- Si, laser irradiated, melting mech. 4-20248
- Si, laser treatment, conference, Pianore, Italy (July 1980) 4-36794
- Si, laser-annealed, transiently molten, ultra-rapid solidification 4-24858
- Si, laser-generated plasmas, picosecond time-resolved reflectivity and transmission 4-39333
- Si, laser-induced carriers in picosec. time range 4-11856
- Si, laser-induced electron-hole plasma near melting transition 4-20238
- Si, laser-induced free-carrier absorption, Auger constant 4-34536
- Si, laser-induced lattice tensile strain, Raman scatt. study 4-45182
- Si lateral epitaxial chem. vapor deposition over insulator 4-40663
- Si, lattice dynamics and renormalised density response 4-29551
- Si, lattice temp. during laser annealing and reflectivity 4-15523
- Si, lattice temp. meas. using pulsed Raman spectra 4-7176
- Si layer, ion implanted, deep penetration of radiation defects into bulk 4-15555
- Si liquid crystal light valves, status and issues 4-24159
- Si, liquid phase transient laser annealing, point defect origins 4-15460
- Si, local density theory of impurity states 4-2544
- Si, local modes and IR absorpt. of substitutional group IV impurities (*Chinese*) 4-39423
- Si, local oxidation induced dislocation generation near Si_3N_4 mask edges, HVEM study 4-29435
- Si, location of implanted ^{125}I , Mossbauer study 4-11171
- Si, low temp. surface cleaning, MBE appls. 4-16332
- Si, low temp. thermometers at 70 to 300K 4-258
- a-Si, low-energy heavy ion ranges, shell effects 4-50388
- Si low-energy high flux reactive ion etching by RF magnetron plasma, VLSI appls. 4-41013
- n-Si MAOS structures, transient Poole-Frenkel effect at semiconductor surface 4-20732
- Si, MBE, pulsed laser irradi. effects, LEED study 4-35571
- Si MBE, recent developments in Japan, review 4-16331
- Si MBE with high throughput of large diameter wafers 4-16333
- Si, MESFET optimum semiconductors for HF and low-noise appl. 4-29965
- Si MIS field effect struct., de Haas-van Alphen effect in inversion layers 4-25449
- Si MIS struct., magnetoresistance meas. 4-40066
- Si MIS struct., quantum Hall resistance 4-20730
- Si MIS tunnelling struct., photoelectric props. 4-40070
- Si MOS capacitor photosensor quantum efficiency improvement, near IR wavelengths, by edge illum. 4-294
- Si MOS device structs., TEM studies, epitaxial recrystallisation 4-40071
- Si MOS inversion layers, in weak and strong mag. fields, review 4-50942
- Si MOS inversion layers, electron transport, semiclassical Monte Carlo model 4-56437
- Si MOS struct., ion implanted C-V characts. and dielec. props. 4-45890
- Si MOS structure, strong inversion layers, freq. response calc. 4-40055
- Si MOS structures, evaluation of capacitance quasistatic methods in Fermi stats. 4-6896
- Si MOS structures, γ -irrad., paramag. Si^{3+} centres obs. 4-40052
- Si MOS surface charge layer, recombination radiation of nonequib. electron-hole pairs 4-25448
- Si MOSFET, electron temp., determ. from broadband far IR emission 4-35080
- n-Si, magnetophonon resonance study of intervalley phonons 4-20672
- Si magnetron-enhanced plasma etching 4-21341
- Si many valley semicond., loops for hot electron props. 4-15882
- a-Si material for thin film solar cells (*Japanese*) 4-3458
- Si, metallurgical grade, hydrometallurgical purification 4-7351
- Si, metallurgical grade, metallic particulate defects, scanning AES study 4-45148
- Si, metallurgical grade, purification by slagging and impurity redistrib. 4-7349
- Si, metallurgical grade, purification by thermomigration of impurity clusters 4-7350

elemental semiconductors continued

- Si microcontacts, electronic Knudsen flow, thermovoltaic evidence 4-11580
- Si, microcrystalline, defect states study 4-50756
- Si, microcrystalline, elec. cond., EPR and gas adsorption effects 4-11522
- Si, microcrystalline, Hall and photo-Hall study 4-50844
- Si, microcrystalline, luminescence lifetime distrib. 4-40512
- Si, microcrystalline, Raman scatt. study 4-51256
- Si, microcrystalline, Raman scatt. and elec. cond. 4-51386
- Si, microdefects, formation on growth by zone refining, influence of temp. gradient 4-51480
- Si, micromechanical capacitive accelerometer with a two-point inertial-mass suspension 4-22768
- Si, microstructural changes in high elec. fields, high resolution X-ray diff. study 4-39528
- Si, minority carrier lifetime, SEM cathodolum. assessment 4-35499
- Si, minority-carrier diffusion lengths, surface photovoltage measurements using liquid electrolyte junction 4-45876
- Si, monocryst., plasma anodisation, real time ellipsometric analysis (French) 4-51838
- Si monocryst. strips grown by Stepanov method, struct. features 4-25865
- Si monolithic bolometer for millimetre, submillimetre spectral range 4-53751
- Si, multilayer amorphous Fe-W metallizations, stability 4-2485
- Si n^+-n-n^+ struct., S-type I-V characts. and current filamentation 4-35057
- Si, n^+ -p junctions, mesoplasma formation, space distrib. of radiation in impulsive regime (Russian) 4-30541
- Si n^+ -p-p⁺ solar cells, open-circuit voltage, temp. depend. under high illum. levels 4-7878
- Si, n-type and p-type, charge collection meas. for heavy ion incidence 4-50376
- Si, nanometre structures formed by low energy ion implantation 4-45165
- Si, needle cryst. growth by vapour-liq.-cryst. mechanism 4-51467
- Si, neutron doped, drag thermo EMF, anisotropy parameters, heat treatment effects 4-6816
- Si, neutron doped and γ -irrad., nature of defects 4-55885
- n-Si, neutron irrad., annealing, DLTS studies 4-20260
- n-Si, neutron irrad., low dose, electron traps and annealing behaviour, DLTS study (Chinese) 4-39807
- Si, neutron irrad., single phonon absorption band 4-2918
- Si, neutron irradiated, DLTS studies using uniaxial stress apparatus 4-42976
- Si, neutron irradiated, zero phonon line, uniaxial stress meas. 4-35484
- n-Si, neutron transmutation doped, piezoresist. and Hall effect, annealing and quenching effects 4-6776
- Si, neutron-damaged, vacancy cluster formation, electron spin resonance study 4-55882
- Si npn bipolar struct. form. using UV laser doping 4-34513
- Si nuclear radiation detectors, materials and appls. 4-999
- Si, nuclear radiation detector appl., review 4-43757
- Si ohmic and Schottky contacts elec. breakdown over Si surface 4-25445
- Si on insulating material (French) 4-45885
- Si on quartz, laser recrystn. of Si stripes in SiO₂ grooves with polycryst. Si sublayer 4-20237
- a-Si, on Si₃N₄, material migration, grain growth and crystallisation, in situ laser heating in STEM 4-10931
- Si on Si₃N₄ substrate, mechanism of polycryst. growth from SiH₄/H₂ 4-50676
- Si on ZrO₂, epitaxial low-mass film on high-mass substrate, Rutherford backscattering and channelling anal. 4-45221
- Si, optic phonon decay, appl. of double constrained Brillouin zone integrals, tetrahedron method 4-24922
- a-Si, optical absorpt. spectrum, electronic consequences of ideal local order 4-46280
- Si, optical effective mass of high density carriers, pseudopot. calc. 4-50705
- Si, optical transitions at four Li atom complex, mag. and uniaxial stress perturbations, Zeeman meas. 4-46236
- Si, photoacoustic phenomena (Russian) 4-6443
- Si, orientation of straight edge dislocation, impurity atmosphere form. effect 4-2203
- Si, oxidation, low temp., in presence of catalysts 4-57384
- Si oxidation, SiO₂ thermal layers growth in I₂ ambient, struct. anal. (Russian) 4-56168
- Si, oxidation, stress evolution, point defect generation 4-50584
- Si, oxidation in controlled ambient, SiO₂ thin film growth kinetics 4-51827
- Si, oxidation kinetics, very thin SiO₂ film growth 4-57375
- Si, oxidation mechanism, transport of O and H₂O in oxide layers 4-57374
- Si, oxidation using laser radiation 4-44136
- Si, oxidation-induced stacking faults, photoacoustic topography obs. 4-39313
- Si, oxidised, effective phase factors for extended absorption fine struct. meas. 4-7279
- Si, oxidised, MOS struct., paramag. defects and electronic deep levels, EPR 4-46107
- Si oxidised surface, Si⁺ sputtering, work function effect 4-12024
- Si, oxidised surface, thermally stimulated exoelectron emission mechanism 4-7333
- Si P⁺-N-N⁺ struct. and microwave power generation negative resistance 4-11578
- a-Si p⁺-i-n⁺ diode solar cells, storage current meas. 4-52157
- Si, p⁺-n junction between polycryst. and single cryst. phases, I-V characts. 4-50917
- Si p⁺-n structures, microplasma, breakdown, neutron irrad. effects 4-30065
- a-Si p⁺-n-i structures, high-speed memory switching 4-50879
- a-Si p-i-n junction, photovoltaic devices fabrication and characts. 4-50913
- a-Si p-i-n junction solar cells, high efficiency, junction and film props. anal., design and fabrication 4-52163
- a-Si p-i-n junctions, carrier lifetime study 4-15941
- Si p-i-n photodiode in photodetector for auto-focus systems (Japanese) 4-53791
- Si p-n junction, abrupt, open-circuit photovoltage, degeneracy and heavy doping effects 4-40037
- Si p-n junction, forward-biased, electroluminesc. by radiative recomb., leakage current study 4-30060

elemental semiconductors continued

- Si p-n junction, microplasma switch-on probability, mag. field effects (Russian) 4-56421
- a-Si p-n junction, photocurrent due to p layer 4-50914
- Si p-n junction anal. by ion-induced Auger electrons, surface pot. 4-25841
- n-Si, p-n junction formed by Al electromigration through SiO₂ film 4-30081
- Si, p-n junction solar cells, mol. beam glow discharge prep. 4-52160
- Si p-n junctions, avalanche breakdown, pulsed mag. field effects (Russian) 4-56420
- Si p-n junctions, built-in voltage in heavily doped region 4-40032
- Si p-n junctions, ion implanted, rapid annealing techniques (French) 4-15782
- Si, p-n junctions, second breakdown, localized electrophys. characts. 4-35059
- Si, p-type, elastoresistance in sapphire, measurement data (Russian) 4-45763
- a-Si, p-type, sputtered, elec. and optical props. 4-6779
- Si, p-type (100), oxidation in steam, defects study 4-2218
- Si, p-type detectors, effects of radiation damage, dosimeter appl. 4-5104
- Si, partial dislocation, 90°, valence force-field geometry and electronic states 4-20603
- Si, partial dislocations, 90°, core struct. and electronic bands 4-45134
- Si, passivation of dry etching damage, low-energy H ion implantation technique 4-30839
- p-Si, phonon limited cond. and Hall mobility calcs. 4-20653
- a-Si, photo-induced defects and photocond. 4-39986
- n-Si photoanodes, BP stabilised 4-12485
- Si photoconduction quenching by field effect of photoresistive microwave modulator 4-50871
- Si photodetectors quantum efficiency improvement, near IR wavelengths, by edge illum. 4-294
- Si photodiode self-calibration technique for checking accuracy of absolute radiometers 4-27561
- Si photodiode wavelength-depend. delay time determ. using picosec. phase fluorometry 4-4466
- Si photodiodes, linearity range 4-17943
- Si photodiodes, linearity behaviour 4-17944
- Si photodiodes, longit. photoeffect in p- and n-regions 4-37181
- Si photodiodes, self-calibration technique developments 4-27595
- Si, photoelectromagnetic effect, influence of HF field 4-56389
- Si, photoexcited, reflectivity meas. 4-16215
- Si, photoionisation of deep h centres 4-34914
- Si, photostimulated free current oscils. 4-56419
- Si, photothermostimulated exoelectron emission, effect of edge dislocations and point defects 4-25856
- Si photovoltaic cell, bulk minority carrier diffusion length and photogenerated carrier profile 4-3461
- Si photovoltaic cells, low level light meas. appls. 4-27563
- Si piezoelectric-film FET accelerometer, with proof mass 4-37083
- Si, plasma etched, surface chemistry, XPS study 4-12404
- Si, plasma etching in CF₄ and SF₆, O₂ additions effects 4-41027
- Si, plasma etching simulation, reaction probability with XeF₂ 4-16686
- Si, plasma hydrogenation, deep levels 4-29923
- Si, plastic deform., deep level defects 4-15845
- Si, plastic deformation at low temp., influence of doping 4-15575
- Si, plastically deformed, lattice nuclei optical polarisation, NMR study 4-2832
- Si plate, bent, X-ray topograph intensities, quantitative anal. using enhanced microfluorescence 4-15347
- Si plates, defect struct. using synchrotron radiation 4-11393
- Si, point radiation defects, form. and electrostatic interaction with disordered regions 4-15518
- Si, polycrystalline, 1/f noise parameter, mobility fluctuations anal., lattice scatt., expt. studies 4-30034
- Si, polycrystalline, dislocation content of some near-coincidence grain boundaries 4-20200
- Si, polycrystalline, effectiveness of diffusion sources 4-20404
- Si, polycrystalline, elec. cond., modelling and numerical analysis 4-50805
- Si, polycrystalline, grain boundary recombination vel., illumination effects 4-45826
- Si, polycrystalline, solar cells, grain boundary and intragrain Al diffusion 4-46875
- Si, polycrystalline film, electron beam melting and recrystallisation on insulator substrates 4-20253
- Si, polycrystalline film, large area recrystallisation with W-halogen lamp 4-25175
- Si, polycrystalline films, improved conductivity by pre-annealing 4-45902
- Si polycrystalline grain, minority carrier transport meas. in SEM, EBIC response 4-39931
- Si, polycrystalline LPCVD thin films for inversion layer solar cells 4-46878
- Si, polycrystalline layers, melt dipped, photovoltaic appls. 4-51551
- Si polycrystalline MBE films, prep. and active device appl. 4-16334
- Si polycrystalline solar cells, review of research 4-21545
- Si polycrystalline thin film, threshold and memory switching effects, deep levels 4-50881
- Si, polycrystalline/single crystal interface, TEM study 4-45534
- Si position sensitive detector, high spatial resolution 4-54536
- Si position sensitive photodetector, using planar technology 4-54537
- Si, positive secondary ion emission, O conc. depend. enhancement 4-46390
- Si, positron blocking from muon decay 4-51172
- Si, positron interactions and struct. imperfections 4-51407
- Si, preamorphised, BF₃⁺ implanted, rapid thermal annealing 4-15514
- Si, precipitation and formation of SiO₂ along dislocation core (French) 4-15648
- Si, precipitation of O and C for high impurity conc., secondary defect form. (Chinese) 4-39510
- Si preheated sample annealing using Nd:YAG laser 4-49424
- Si pressure sensors using four-terminal gauge, optimum design 4-22769
- Si, proton and electron irrad., proton annihilation and damage profiles 4-40562
- Si, proton and gamma irrad., dislocation effects on impurity-defect agglomeration interaction processes 4-6404
- Si, proton and γ -ray irrad., point defect-group radiation defect interactions 4-34531
- Si, proton and neutron irrad., defect cluster parameters determ. 4-6412
- Si, pulsed electron beam annealing, struct. defects induced by thermoelastic stresses, SEM studies 4-24822

elemental semiconductors continued

- Si pulsed laser annealing, fundamentals, optical studies 4-20246
 a-Si, pulsed laser melting, time-resolved meas. and model calcs. 4-45309
 Si, quantized Hall effect and localization, review 4-50847
 Si, quantum yield in UV 4-17942
 Si, RF sputter etching, power input effects 4-16310
 Si, Raman scatt. of phonons, absolute efficiency and dispersion 4-2927
 Si, Raman spectrum, first-order, temp. gradients effects 4-40424
 Si, rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
 Si, reactive ion sputtering in Ar-O₂ plasma, SiO₂ film form., Ar metastable states (*French*) 4-34837
 Si, reactive sputter Ar⁺ ion etching study 4-25882
 Si reconstructed (001) surfaces, electronic struct., angle-resolved EELS, LEED studies 4-21086
 Si, reconstructed dislocations, energy levels and defect props. calc. 4-15841
 Si reconstructed struct., surface plasmon energy shifts across phase transitions 4-20702
 Si, recovery processes during high-temp. deform. 4-15574
 Si, recrystallization on thermal SiO₂-coated Si substrates, zone melting, electron beam line source 4-50666
 Si, resolved Raman spectra during pulsed laser heating 4-16203
 Si, resonance dechanneling of protons 4-45234
 Si, resonance dechanneling of H⁺ and He⁺, ionic charge meas. 4-45235
 Si, resonance Raman scatt. at elevated temp. 4-40454
 Si, ribbon, EFG, metallographic techniques 4-35816
 Si ribbon growth system, hydrostatic study (*French*) 4-7348
 Si ribbon solar cells, EFG technique, minority-carrier diffusion length, illum. effects. 4-52141
 Si, rod-like defects due to electron irradi. 4-34482
 Si, Rutherford backscattering depth profiling for external 4.5 MeV protons 4-46814
 Si, S-type I-V characts. in strong mag. and elec. fields (*Russian*) 4-39922
 Si SOS structure, Si-implanted, strain states and optical phonons, Raman scatt. study 4-16195
 Si, Schottky barriers modification by NF₃-Ar-N₂ reactive ion etching 4-45855
 Si, secondary ion yields, O₂⁺ bombard. incidence angle effects 4-46389
 Si, selectively epitaxial layers, crystalline defects 4-39707
 Si, self-interstitial migration barrier 4-56074
 Si semiconductor crystal, H⁺ beam effects, damage and pulsed proton annealing 4-50379
 Si, semiconductor layer in capacitor field, vibration processes (*Russian*) 4-35096
 Si sensors for mechanical variables meas., temp. compensation (*Czech*) 4-48103
 Si, shallow and deep impurity state calcs. 4-2549
 Si, shallow centre spectra calcs. 4-56274
 Si, shallow impurity influence on self-diff. of light 4-56273
 Si, shallow short-range electron traps in mag. field 4-6730
 Si, shaped, structural and electronic props., annealing influence 4-25364
 Si shaped crystal growth by Stepanov method with different variants of heating 4-25864
 Si shaped crystal prep., electronic props. and defect struct., solar element prod. 4-25863
 Si, Si-P(B), CVD mechanisms, (100) surface props. 4-7364
 Si single cryst., margin effect in plane-wave X-ray topography 4-39051
 Si single cryst., neutron irradi.-induced defects, γ -ray diff. and IR studies 4-11192
 Si single cryst., phonon pulse detection by fluorescence meas. 4-50452
 Si single cryst., temp. depend. neutron scattering 4-24692
 Si single cryst. matrix, electrode pot. meas. rel. to struct. perfection 4-3265
 p-Si single cryst. thick surface barrier detectors 4-1001
 Si single crystal, optical constants, UV and X-ray reflection spectra meas. 4-25710
 Si single crystal, solid particle erosion, vel. depend. 4-15584
 Si single crystal plates for pressure sensors, residual mech. stresses determ. 4-3322
 Si single crystal wafers, native oxide film thickness meas. by AES and XPS 4-32230
 Si single crystals, surface struct. and microrief after ion chemical etching 4-57365
 Si, single-crystal, polycrystalline and amorphous, picosecond range process investigation 4-20939
 Si six-digit coded multielement photoreceiver 4-8952
 Si small particles, gas-evaporated, Raman scatt. 4-51285
 Si solar cell, back-surface-field n⁺-p device, masked ion implantation, design and characts. 4-31094
 Si solar cell, MIS struct., characterisation (*Japanese*) 4-7881
 Si solar cell active layers, cost estimates for amorphous deposition processes 4-21149
 Si solar cell fabrication by laser induced diffusion 4-16785
 Si solar cells, electron irradiation and light injection 4-46870
 poly-Si solar cells, grain boundary effects 4-57727
 Si solar cells, high conversion efficiency 4-41351
 Si solar cells, junction depth meas. technique 4-17875
 Si solar cells, metallurgical grade, impurity gettering effect on efficiency 4-7877
 a-Si solar cells, optical confinement by MIS tunnelling back surface electrode 4-52154
 Si solar cells, p⁺-n-n⁺, open-circuit voltage, combined effect of non-uniform illumination and series resistance 4-52166
 a-Si solar cells, photovoltaic props. degradation after laser irradi., Staebler-Wronski effect rel. to excess carriers 4-52153
 Si solar cells, polycryst., ion implanted, pulsed and CW laser treatments 4-16787
 a-Si solar cells, review of recent advances 4-52159
 Si solar cells, technological advancements, w.r.t. effectiveness and economics (*Slovak*) 4-3465
 Si solar cells, terrestrial, 18% efficient 4-52146
 Si solar cells fabrication techniques for single and semicrystalline Si substrates 4-52139
 Si, solar grade, prod. and refining processes, future trends 4-7378
 Si solid phase and molecular beam epitaxial film growth on GaP 4-50653
 Si, solitons, dislocation elec. and mobility props. 4-6372
 Si, solution growth from liq. Sn, photovoltaic solar cell appl. 4-40690
 a-Si, specific heat at low temp. 4-39538

elemental semiconductors continued

- Si, sputter etching leading to film deposition, microgravimetric, spectroscopic, electron microscopic obs. 4-57373
 Si, sputtered amorphous solar cell, deposition parameters rel. to photovoltaic props. 4-21541
 Si, sputtering yields, meas. using thin C catcher foils 4-51437
 Si, Stepanov growth, melt temp. fluctuations transmission to crystn. front 4-25862
 Si, struct. defects effect on etching rate 4-57364
 Si structural defects and electronic effect in devices and unprocessed material 4-39935
 Si, structure factors, high-precision determ. 4-44896
 Si, sublimation, desorption, vacancy and diffusion effects 4-29589
 Si submicrometer inversion layer in MOSFET, discrete resist. switching and interface traps 4-30079
 Si substrate, oxidised, integrated optical spectrum analyser using planar technology 4-1510
 Si substrate, spectrum analyser, key element for many optical integrated devices 4-24256
 Si substrate for Cs and Li overlayers, secondary ion emission 4-46410
 Si, substrate for ZnO film, elec. field effect on SAW excitation 4-39657
 Si substrates, evaluation of dislocation generation by selective oxidation 4-26076
 Si surface, ¹⁶O₂⁺ and ¹⁴N₂⁺ bombardment, Raman study 4-56901
 Si surface, (111), nitridation process, XPS and LEED study 4-57604
 Si surface, chemistry investig. by EELS, inverse photoelectron spectrosc. and ion spectrosc. (*Japanese*) 4-35941
 Si surface, defect struct., LEED spot profile anal. 4-6634
 Si surface, desorption, electron-hole pairs role 4-2455
 Si surface, electron and ion excitation, Auger effect 4-11973
 Si surface, plasmochemical etching using halide-bearing plasma, structure of surface 4-57361
 Si surface, second harmonic refl. and vel. to struct. symmetry 4-15755
 Si surface, thermally stimulated exoelectron emission centre chemical nature 4-7332
 Si surface (111) 7 \times 7, obs. in TEM, cryopump and sample holder designs 4-18010
 Si surface (222) X-ray reflection power, press. and stress depend. 4-10923
 Si, surface damage caused by H containing plasmas 4-24879
 n-Si, surface inversion channels, elec. cond., field and temp. depend. 4-50894
 Si surface layer enrichment by Xe implantation (*Chinese*) 4-34757
 Si surface states study by photoemission yield spectroscopy (*Polish*) 4-35548
 Si, surface steps and electron microscopy Fresnel contrast (*French*) 4-15752
 Si, surface topographical changes induced by low energy ion beam sputtering 4-16286
 Si, T₂ symm. deep level wavefunction predictions 4-11478
 Si, T₂ symmetric deep level wave functions, defect centres (*Chinese*) 4-50753
 Si temperature sensors 4-48126
 Si, theory of SiO₂ growth in O₂ plasma 4-21348
 Si, thermal oxidation, stacking faults at Si/SiO₂ interface 4-7614
 Si, thermal oxidation conditions rel. to electrophys. props of SiO₂ (*Russian*) 4-41018
 Si, thermal processing, effect on thermophysical props. and structural perfection 4-50836
 Si, thermally induced microdefects, high resolution electron microscopy study 4-20181
 Si, thermionic-field emission from interface states at grain boundaries 4-35543
 a-Si thin film, RF sputtered, electronic and optical props., conditions depend. 4-6784
 Si thin film CVD growth and nucleation 4-20520
 Si thin film coatings, optical const. determ. based on inverse synthesis 4-2975
 Si, thin film crystalline solar cell, extended back-surface-field 4-46877
 Si thin film on insulating substrates, recrystallisation using incoherent light sources 4-15381
 Si thin films, α -particle stopping power meas. 4-50385
 Si thin films, laser beam zone melted on amorphous substrates, recrystallisation, struct. control 4-15775
 a-Si thin films, magnetron sputtered, props., influence of deposition parameters 4-50686
 a-Si thin films, residual strains, X-ray double cryst. topography study 4-39710
 Si thin slabs, charge-deposition spectra generated by energetic protons 4-48874
 Si thin surface layer oxidation by high dose ¹⁶O₂⁺ ion implantation, volume changes meas. 4-45163
 Si, time-resolved cathodoluminescence, delayed coincidence meas. 4-46335
 Si, topographic diffraction patterns obs. using X-ray TV unit 4-43149
 Si, total energy conversion, momentum-space formalism, pseudopot. calc. 4-29917
 a-Si, transport and related props., transient expts. 4-45775
 Si, twins, reconstructed [211], struct. and energy, computer simulation 4-24831
 Si, two-dimensional electron gas, diffusion effects on plasma oscils. 4-45819
 Si, US attenuation and nonlinearity const., 73 to 293K 4-29534
 Si, ultra high purity cryst. growth by floating zone method for radiation detectors 4-3066
 Si ultrahigh vacuum MBE system 4-51505
 Si ultrathin films, surface-energy-driven secondary grain growth 4-50657
 Si, ultraviolet transparency, plasma reflection of valence electrons 4-20991
 Si, undissociated 60° dislocations, lattice images 4-20197
 Si, vacancies, interaction between dangling bonds 4-11140
 Si, vacancy negative U-props. and expl. p(1/T) characts. 4-20594
 Si, vacancy spin polarisation energy 4-39821
 Si, vacuum deposited target, sputtering yield, sputtered atom photon emission meas. (*Japanese*) 4-3010
 Si, valence electron energy states, amorphisation effects 4-50709
 Si, valence orbital interactions, nonlocal topology 4-6310
 a-Si, vibrational density of states 4-39427
 Si wafer, characterisation of phosphosilicate film by energy dispersive X-ray spectroscopy 4-41151

elemental semiconductors continued

- Si, wafer, high precision polishing using hydrodynamic principles (*Japanese*) 4-12211
- Si wafer, large diameter, appl. of surface treatment apparatus, RHEED and AES meas. (*Japanese*) 4-3270
- Si wafer, minority carrier diffusion length control by O precipitation 4-45811
- Si wafer, process induced bending and mech. stress 4-2466
- Si wafer, step-shaped, thermal oxidation, SEM two-dimensional anal. 4-21343
- Si wafer surfaces, microdeformation and crystal defects, nondestructive optical imaging technique 4-11388
- Si wafers, long-time processed, Cu precip., cryst. defects, TEM, DLTS studies 4-2192
- Si wafers, oxidized, coated with Langmuir-Blodgett films, interface defects, ESR 4-46106
- Si₂ wavelength-dispersive microanalysis in TEM of light elements 4-21508
- Si whiskers, internal friction, high-temp. max. 4-25191
- Si, X-ray intensity at forbidden 222 refl. as order parameter for semiconductor-metal transition 4-45640
- Si, X-ray irradi., Frenkel pairs, minority carrier injection effects 4-55823
- Si, X-ray reflections from crystal planes obs., Bragg diffraction spectrometer appl. 4-39048
- Si, zone-melting recrystn., beading phenomena, SEM and SIMS studies 4-30626
- Si, zone-melting recrystn. on SiO₂, grain orientation control by orientation filtering 4-30627
- a-Si(D,O) films, IR study of bonding 4-46354
- Si(H, Cl) amorphous films, XPS and UPS investig. (*Chinese*) 4-21102
- Si(H,C,N,O) background secondary ion emission under Cs⁺ bombardment 4-46392
- Si:Al, ion implanted, diffusion under semi-continuous laser annealing (*French*) 4-15700
- Si:Al film on sapphire, recrystallised, electrically active impurity neutralisation 4-50964
- Si:Al(Ga), effect of O₂ from vapour phase on doping 4-56082
- Si:Ar, high-dose implanted, radiation damage 4-11195
- n-Si:Ar⁺, ion implanted, laser excitation, electrophysical props. 4-39989
- a-Si:Ar(Kr)(Xe), stopping cross sections for MeV He ions 4-24880
- Si:As, amorphous ion-implanted layer, thermal annealing, ellipsometric parameters (*Chinese*) 4-7483
- Si:As, As retarded diffusion by thermal oxidation 4-11344
- Si:As, depth profile meas. by glancing angle Rutherford backscattering spectrometry 4-46386
- Si:As, donor clusters, ESR study 4-46102
- Si:As, implanted, struct. modification during annealing 4-50328
- Si:As, ion implantation, annealing behaviour, MeV backscattering anal. 4-45154
- Si:As, ion implanted, controlled diffusion by electron beam heating 4-15699
- n-Si:As, ion implanted, laser annealed, Brillouin study of phonon softening 4-40466
- Si:As, ion implanted, transient enhanced diffusion during short time annealing 4-39594
- Si:As, ion implanted As behaviour under transient heating by incoherent light 4-24836
- Si:As, Rutherford backscattering with continuous sample rotation, ion beam dosimetry 4-46385
- Si:As, supersaturated solid soln., decomposition, sessile Frank loop, impurity atmosphere effects 4-29442
- Si:As (B), ion implanted, pulsed electron beam annealing 4-15536
- Si:As/Si bilayer films, As diffusion along grain boundaries 4-34725
- Si:As⁺, channelled ion implantation at 300°C, distrib. and lattice location 4-11167
- Si:As⁺, extremely shallow n⁺-p junctions, low temp. process for annealing 4-50324
- Si:As⁺, high dose ion implanted, annealing behaviour 4-15500
- Si:As⁺, MeV ion implantation, extended defect reduction and planar n-p-n transistor fabrication 4-2220
- Si:As⁺ ion implanted wafers, IR transient annealing (*Chinese*) 4-20222
- Si:As(B), implanted, rapid thermal annealing 4-20218
- Si:As(Br)(P), high conc. diffusion, profile estimation using unified analytic approx. 4-50333
- Si:As(p), doping from spin-on sources exposed to incoherent light, solar cell prod. 4-15503
- Si:Au, Au diffusion and solubility, neutron-activation anal. and spreading resist. meas. 4-34710
- p-Si:Au, hole capture cross section temp. depend. (*Chinese*) 4-11538
- Si:Au, low symmetry EPR centres 4-2815
- Si:Au, nonequilibrium carrier lifetime determ., dynamic grating method 4-6806
- a-Si:Au films, transport props., metal-insulator transition and supercond. 4-39995
- Si:Au-Fe, deep levels in band gap, EPR and DLTS study 4-50754
- Si:B, B diffusion profile from BN source by H₂ injection 4-15703
- Si:B, B diffusion profile 4-15704
- Si:B, carrier profiles meas. by IR ellipsometry 4-45175
- Si:B, fine struct. of energy levels of excitons bound to impurity 4-29892
- Si:B, flash annealing with pulsed Xe lamp and appl. for solar cells 4-39332
- Si:B, focused ion beam implanted, elec. props. 4-15872
- Si:B, interstitial level energies 4-6729
- Si:B, ion implantation for shallow p⁺/n junction formation 4-20225
- Si:B, ion implanted, B lattice position annealing studies 4-11158
- Si:B, ion implanted, diffusion behaviour, flash-lamp annealing effects 4-45421
- Si:B, ion implanted, multiple scan electron beam annealing (*French*) 4-15538
- Si:B, ion implanted, rapid thermal annealing using ultrahigh power arc lamp 4-50318
- Si:B, laser implanted, AES and SIMS study 4-34519
- Si:B, low energy B ion implantation, planar and axial channelling effects 4-50314
- Si:B, polycryst., ion implanted, time-resolved scanned electron beam annealing 4-50360
- Si:B, preamorphized, implants, rapid thermal annealing, residual defects 4-50316
- Si:B, range meas. using neutron depth profiling facility 4-46815
- Si:B,Ar, ion implanted, epitaxial regrowth 4-50656

elemental semiconductors continued

- Si:B,H, neutralisation of shallow acceptor levels by atomic H, resist. increase 4-25286
- a-Si:B,H films, prep. by CVD, optical parameters, effect of post-hydrogenation and H-exodiffusion 4-40390
- Si:B (BF₃), cryst. and amorphous, carrier and implant profiles 4-29459
- Si:B (P) film on sapphire, dopant profiling, spreading resist. studies 4-50331
- Si:B diffused resistors in process industry, comparison through narrow and wide areas 4-6561
- p-Si:B MOS capacitors with Al gate, donor-like traps, atomic models 4-6897
- a-Si:B p-i-n solar cell produced by reaction chamber method, prep. and props. 4-52149
- Si:B X-ray masks, heating and temp.-induced distortions 4-37264
- p⁺-Si:B/Al Ohmic contacts on ion implanted shallow Si layers, formation by halogen lamp annealing 4-15960
- Si:B⁺ ion implanted wafers, defects induced by laser annealing (*Chinese*) 4-20240
- Si:B⁺(BF₃⁺) implanted slices, TEM studies after annealing and oxidation 4-24823
- Si:BF₃, preamorphized, implants, rapid thermal annealing, residual defects 4-50316
- Si:BF₃⁺, implanted, oxidation generated defects, TEM studies 4-24824
- Si:B(As), ion implanted, ESR study 4-16096
- p-Si:B(Ga), bulk acceptor compensation by H₂O plasma treatment 4-50751
- Si:B(N), hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
- Si:B(P), amorphous CVD films, doping and elec. props., plasma hydrogenation effects 4-39321
- p-Si:B(P), implanted, sheet resist. and junction depth relationships 4-34516
- Si:B(P), UV laser doping, npn bipolar struct. form. appls. 4-34513
- a-Si:B(P) CVD film, crystallisation growth rate, doping depend. 4-44948
- Si:Be, bound exciton states, far IR absorption spectra study 4-25234
- Si:Bi, ion implanted, characterisation by Rutherford backscattering 4-45152
- Si:C, acceptor ground state problems 4-15852
- Si:C, ion implantation at low temp., SiC formation, IR and EBIC studies 4-15508
- a-Si:C, local struct., NMR, EPR, Raman scatt., and IR absorpt. studies 4-39131
- Si:C, O crystals, O precipitation C and heat treatment effects 4-39515
- a-Si:C,O,H film, photolum. props., effect of O₂ 4-40513
- a-Si:Cl, H film, EPR study (*Chinese*) 4-20858
- a-Si:Cl, H films, photocond. and absorption study 4-39972
- Si:Co, impurity-electron irradi. induced defect reactions, Mossbauer study 4-45178
- Si:Co, segregation behaviour, Mossbauer and TEM studies 4-45341
- Si:Co(Cr), implanted polycryst., electron-beam annealing 4-24870
- Si:Cs, ion implantation effects on secondary ion emission 4-7295
- Si:Cu, symmetric lattice distortions around deep level impurities 4-6736
- Si:Cu, vibronic coupling and photolum. spectrum 4-51338
- Si:Cu(Al), laser implantation of impurities 4-15505
- a-Si:D(H), vibr. props., IR absorpt. spectra 4-40440
- Si:Er, 1.54 μ m photolum. obs. 4-21001
- Si:Er, γ -ray irradi. defects, Hall effect, elec. cond. and photocond. studies 4-34543
- Si:F, porous, distrib. determ. using nuclear reactions, XPS and Auger anal. 4-45170
- a-Si:F films, deposition, elec. and optical props. 4-51541
- a-Si:F films, prep. by glow-discharge decomp., impurity content, IR transmission spectra, bond stretching vibrs. 4-2983
- a-Si:F films, Raman scatt. of SiF₄ mols. 4-40437
- Si:Fe, single crystals, rel. to thermal defects, radioactive tracer and ESR investig. 4-25090
- Si:Fe,B, isotope shift study of luminescence 4-2961
- Si:Fe in p⁺ π -n⁺ diodes, nature of deep levels (*Russian*) 4-50764
- Si:Fe reverse-biased p-n junction, photo-ESR studies 4-30280
- Si:Fe(Cr), multiple charge state of interstitials 4-6732
- Si:Ga, ion irradiation effects from liq. metal ion source, SIMS anal. conditions simulation 4-45164
- Si:Ga MBE growth, high Ga implantation doping using liq. metal Ga ion source 4-39320
- Si:Ga(P)(B)(As), ion implanted, laser annealed, phonon softening, Raman study 4-15597
- Si:Ga(Sb), evaporative doping in MBE systems by solid phase epitaxy 4-45151
- Si:Gd, mag. susceptibility, Faraday method meas. 4-35142
- a-Si:H, AC cond., photoinduced changes 4-45787
- Si:H, amorphous, CVD prep., optical, electronic and device props. 4-16337
- Si:H, amorphous, collection lengths and diffusion lengths in p-i-n solar cells 4-50830
- Si:H, amorphous, geminate recombination effect, prep. parameters (*Chinese*) 4-6798
- Si:H, amorphous, glow-discharge prep., sp. ht. meas. at very low temps. 4-50536
- Si:H, amorphous, growth mechanism anal. by Rutherford recoil meas. for glow discharge prep. 4-45540
- Si:H, amorphous, high-rate deposition from SiH₄ plasma 4-51529
- Si:H, amorphous, homo and heterojunction, internal pot. characterisation using backsurfaces refl. electroabsorption method 4-52147
- Si:H, amorphous, large area glass(TCO)/p-i-n/metal solar cell, photovoltaic performance improvement 4-16776
- Si:H, amorphous, multilayered photoreceptor drum for electrophotography, glow discharge fabrication 4-40673
- Si:H, amorphous, multiple gap solar cell, limiting efficiency calc. 4-16782
- Si:H, amorphous, periodically structured MSM structs., picosecond response photodetectors 4-37169
- Si:H, amorphous, photoinduced IR absorpt., dispersive relaxations 4-35443
- Si:H, amorphous, RF sputtered, light-induced optical absorption changes (*Chinese*) 4-21056
- Si:H, amorphous, reactive RF sputtering in Ne, Ar and Kr 4-7358
- Si:H, amorphous, silicide formation with metals for semitransparent photo-diode electrodes appl. 4-56094
- Si:H, amorphous, solar cells, review 4-26295

elemental semiconductors continued

- Si-H, amorphous, solar cells, light soaking and regenerative annealing 4-46876
 Si-H, amorphous, sputtered, photovoltaic props., solar cells appl. 4-21136
 Si-H, amorphous and microcryst., Si-H bond stretching modes, IR absorpt. spectra study 4-40435
 Si-H, amorphous CVD film, post-hydrogenated, electronic props. 4-35578
 Si-H, amorphous film, magnetron sputtered, gap state density determ. 4-29862
 Si-H, amorphous films, localised states, photoluminesc. study method 4-39832
 Si-H, amorphous films, plasma deposition kinetics, optical emission spectroscopy 4-21164
 a-Si:H, anomalous surface photocond. 4-39975
 Si-H, B, amorphous, simultaneous depth profiling by elastic recoil detection anal. 4-29460
 a-Si:H, B, dopant states, tight-binding model 4-6743
 Si-H, B, Hall effect and hole transport 4-20673
 a-Si:H, B films, photoinduced metastable surface effects 4-15908
 a-Si:H, band edges, Fermi level position, surface H conc. 4-39763
 a-Si:H, carrier dynamics, surface and interface effects obs. by transient grating spectroscopy 4-39928
 a-Si:H, charge fluctuations electronic density of states calc. 4-45568
 a-Si:H, Cl film, photoluminescence spectra 4-40507
 a-Si:H, Cl films, doped and undoped, Hall mobility meas. 4-39940
 a-Si:H, Cl films, IR spectra study 4-40550
 a-Si:H, compensated, localised states, drift mobility, charge collection meas. 4-45692
 a-Si:H, computer model with periodic boundary conditions, struct. and vibr. spectra 4-39136
 a-Si:H, conduction mechanism and photocond. 4-25350
 Si-H, deep Au-related donor and acceptor levels hydrogenation by electrolytic doping 4-45668
 a-Si:H, deep level distrib., transient voltage spectroscopy 4-40046
 a-Si:H, deep trapping, disorder and band tail localisation effects 4-45809
 a-Si:H, density of gap states determ., const. photocurrent method, transient current spectroscopy 4-39762
 a-Si:H, density of states distrib. determ., capacitance-voltage method 4-39760
 a-Si:H, differential photocurrent transients, meas. using Fourier transform technique 4-39963
 Si-H, dislocated, hydrogenation, DLTS study 4-15504
 a-Si:H, dispersive transport, Monte Carlo study 4-45779
 a-Si:H, distant-pair recombination, tunnelling nonradiative transitions 4-46322
 Si-H, dopant effect on dislocation photoluminescence 4-16237
 a-Si:H, dopant states, tight-binding model calc. 4-6741
 a-Si:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 a-Si:H, effect of light irradi. on TSC 4-39927
 a-Si:H, effect of localised-state distrib. on photoconductive props. 4-39964
 a-Si:H, elec. cond. study 4-39905
 a-Si:H, electron-transport meas. 4-40090
 a-Si:H, electronic and optical props. 4-45687
 a-Si:H, F, dopant states, tight-binding calc. 4-6742
 Si-H, F amorphous thin films, RF glow discharge deposition from SiF₄, plasma anal. 4-21169
 a-Si:H, F film, deposition and photoconductivity 4-51540
 a-Si:H, film deposition by glow discharge, bias effects on props. 4-51497
 a-Si:H, gap state distrib., elec. props. meas. 4-39764
 a-Si:H, gap state parameters, isothermal capacitance transient spectroscopy (*Japanese*) 4-20609
 a-Si:H, gap states density, deep levels, TSC meas. in space charge zone 4-2623
 a-Si:H, glow discharge deposited, impurity diffusion study 4-39598
 a-Si:H, glow discharge deposited film, crystallisation 4-39721
 a-Si:H, glow discharge film, silane dilution effect on intrinsic stress 4-50673
 a-Si:H, hydrogenated and pure, phonon density of states 4-39426
 a-Si:H, IR study of stretch freq. 4-11895
 a-Si:H, interface kinetics at metal contacts, Raman scatt. and elec. props. 4-40048
 Si-H, ion implanted, low-symm. EPR center 4-20864
 a-Si:H, light-induced metastable defects 4-39284
 a-Si:H, light-induced optical absorpt. changes 4-40485
 a-Si:H, luminescence, metastable excited carrier population 4-40525
 a-Si:H, luminescence quantum efficiency 4-40506
 a-Si:H, luminescence study of saturation of band tail states 4-40509
 a-Si:H, MIS diodes, trap level and conc., DLTS 4-15887
 Si-H, microcrystalline, RF-sputter deposition, substrate elec. cond. effect 4-16309
 Si-H, microcrystalline, reactive sputtering onto low temp. substrate 4-21138
 a-Si:H, N glow discharge films, optical band gap, H content effects 4-57011
 a-Si:H, nonequilibrium photon thermalisation 4-20421
 a-Si:H, nonsubstitutional dopant states and carrier density statistics 4-56271
 a-Si:H, occupied gap states distrib., photoelec. yield spectroscopy 4-40596
 a-Si:H, optical energy gap, H content depend. 4-40392
 a-Si:H, optically detected mag. resonance and luminescence 4-40282
 a-Si:H, P, mechanism of P-doping IR spectra study (*Chinese*) 4-39130
 a-Si:H, P films, transient-photocurrent studies 4-40094
 a-Si:H, p-type, used as photoreceptor, photoelectrical and optical study 4-40393
 a-Si:H, P(B), film, surface states study 4-30036
 a-Si:H, phonon density of states meas. 4-45295
 a-Si:H, phonon interactions in tail states 4-20308
 a-Si:H, phonon-induced delocalisation of band tail states 4-45684
 a-Si:H, photo-induced mid-gap absorption and transient photocond. 4-39970
 a-Si:H, photocond., Fermi level effect 4-39973
 a-Si:H, photoconductivity, light-induced defects 4-39965
 a-Si:H, photoconductivity absorpt. edge study 4-30021
 a-Si:H, phys. props. and imaging appl. (*French*) 4-39984
 a-Si:H, RF glow discharge deposited, optoelectronic and photovoltaic props. meas. 4-50864
 a-Si:H, RF sputtered, light induced Si-H bond (*Chinese*) 4-11413
 a-Si:H, RF sputtered, props., effects of RF power and total gas press. 4-2981

elemental semiconductors continued

- a-Si:H, radiative and nonradiative processes 4-21033
 a-Si:H, recomb. mechanisms, radiative and nonradiative processes, subnanosecond photoluminescence meas. 4-40503
 a-Si:H, recomb. processes, ODMR and photoluminesc. study 4-20889
 a-Si:H, recombination and spin depend. effects, comment 4-11803
 a-Si:H, recombination kinetics depend. on photoexcitation density 4-39925
 a-Si:H, recombination processes and spin-dependent photocond. 4-6831
 a-Si:H, recrystallisation, AES obs. 4-40579
 a-Si:H, reversible photoinduced changes of electron hole lifetimes and gap states 4-39926
 a-Si:H, SIMS anal. using superimposed D implant standards 4-46829
 a-Si:H, Schottky barrier, electron drift mobility 4-45766
 a-Si:H, semiconductor superlattices, phys. props. 4-15940
 a-Si:H, short-range order, EXAFS obs. 4-40570
 a-Si:H, solar cell, ion bombardment effect on efficiency 4-45211
 a-Si:H, solid H₂ detect. and thermal props. 4-45354
 a-Si:H, space-charge-limited I-V characs. and density of states 4-45798
 a-Si:H, spin-dependent photoinduced absorpt., ESR study 4-40225
 a-Si:H, spin-lattice relax. of paramag. states 4-40226
 a-Si:H, sputter deposition, energetic H-atom bombardment effects 4-45560
 a-Si:H, Staebler-Wronski effect meas., appl. of Meyer-Neldel rule 4-15910
 a-Si:H, Staebler-Wronski effect, dark cond. study 4-39966
 a-Si:H, Staebler-Wronski effect thickness depend. 4-39967
 a-Si:H, thermal props. at low temps. 4-56045
 a-Si:H, thin film, homogeneous chemical vapour deposition 4-51513
 a-Si:H, thin film solar cell modelling, uniform field approx. 4-31097
 a-Si:H, time of flight photocond. study 4-39969
 a-Si:H, transient photocurrent in weak electron phonon coupling 4-39974
 a-Si:H, transport props., effect of surface oxide 4-39977
 a-Si:H, trap statistics and gap density of states calc. method 4-11488
 a-Si:H, trapped electron-trapped hole recomb., dangling bonds, photocond., EPR studies 4-39834
 a-Si:H, travelling wave method for meas. drift mobility 4-11540
 Si-H, twisted, radiative recomb. hydrogenation effects. 4-16236
 a-Si:H, two-beam photoluminescence study 4-40505
 a-Si:H, undoped layers, effect of dopant contamination on space charge limited currents 4-50824
 a-Si:H, vibr. density of states, bond CPA calc. 4-39425
 a-Si:H, vibrational density of states 4-39427
 a-Si:H,B, density of gap states determ., space charge spectroscopy 4-39759
 Si-H,B amorphous films, glow discharge deposition, BF₃ doping 4-29456
 a-Si:H,B films, prep. by glow discharge, optical props. 4-35508
 Si-H,B microcrystalline films, plasma-deposited, substrate temp. effects 4-21162
 a-Si:H,B p-i-n solar cell, carrier collection enhancement by B doping in i-layer 4-52155
 a-Si:H,B(P) film, doping efficiency, crystallisation effects 4-44949
 Si-H,B(P) microcryst. film, preferential dopant segregation 4-45340
 a-Si:H,Cl, doping in RF glow discharge 4-45158
 Si-H,F, amorphous film, glow discharge deposition and high resistive props. 4-16342
 a-Si:H,F,P alloys, high conductivity, percolation process, effect of P-doping 4-39907
 Si-H,F films, amorphous-microcryst., mixed phase, elec. props., appl. to power sensors and strain gauges 4-50855
 a-Si:H,F high cond. film, performance for power sensor and strain gauge 4-50813
 a-Si:H,N films, plasma deposition, optical and elec. props. 4-39716
 a-Si:H,O glow discharge coatings, photocond. 4-15915
 a-Si:H,P, dispersive photoluminescence decay 4-40510
 a-Si:H,P, doping depend. of carrier lifetime 4-2622
 a-Si:H,P, localised states and photoconductivity 4-39836
 a-Si:H,P, photoinduced transient localised states 4-39835
 Si-H,P (B), post hydrogenated, elec. cond. and ESR, doping effects 4-39900
 Si-H,P microcrystalline films, struct. and elec. props. 4-45551
 a-Si:H,P(B) film, optically induced excess cond. 4-40088
 a-Si:H,Sb(In)(Ti), doping by controlled evaporation into RF plasma discharge 4-40674
 Si-H amorphous film, growth characterisation of multiple angle of incidence spectroscopic ellipsometry 4-51523
 Si-H amorphous film, thickness and optical constants determ. 4-25706
 Si-H amorphous films, glow discharge deposited, Schottky barriers, photovoltaic props. 4-30047
 Si-H amorphous layer, broadband spectroscopy by optical guided wave techniques 4-43067
 Si-H amorphous layer on quartz, SHG, bulk material use in integrated optics 4-24242
 Si-H amorphous solar cell degradation, role of C 4-41338
 a-Si:H and a-Si, dangling bond states, rigorous energy bounds 4-45681
 a-Si:H and a-Si, hydrogenated bond states, rigorous energy bounds 4-45682
 a-Si:H CVD films, struct. and electronic props., Raman scatt. study 4-40436
 a-Si:H diodes, n-i-n struct., photo-induced degradation 4-35056
 a-Si:H evaporated film, IR vibr. spectroscopy studies 4-21059
 a-Si:H film, CVD deposition and photoconductivity 4-51520
 a-Si:H film, CVD growth and photoconductivity 4-51516
 a-Si:H film, carrier dynamics at surface and interface, transient grating method obs. 4-20667
 a-Si:H film, chemical vapour deposition characterisation 4-51514
 a-Si:H film, deposition characs. 4-51530
 a-Si:H film, electric field induced conduction drift (*Chinese*) 4-20746
 a-Si:H film, growth kinetics studied by pulsed RF discharge 4-51532
 a-Si:H film, ion bombardment effect on growth 4-51539
 a-Si:H film, laser CVD study 4-51515
 a-Si:H film, low temp. photocond. and photolum. study 4-39971
 a-Si:H film, microcrystalline, morphological fluctuations 4-50678
 Si-H film, microcrystalline, NMR and optical spectra 4-1142
 Si-H film, microcrystalline, ¹H NMR study 4-51143
 Si-H film, microcrystalline, formation kinetics and control 4-51545
 a-Si:H film, microwave glow discharge deposition method 4-51537
 Si-H film, optical band gap, IR absorpt. spectrum meas. 4-2984
 a-Si:H film, photoconductivity study 4-39968
 a-Si:H film, plasma deposited, mech. stress 4-29855

elemental semiconductors continued

- a-Si:H film, plasma deposited, field effect conductance, temp. depend. 4-39903
- a-Si:H film, plasma deposition rate study 4-51534
- a-Si:H film, plasma deposition study 4-51535
- a-Si:H film, plasma deposition calcs. 4-51536
- a-Si:H film, plasma deposition and growth morphology 4-51543
- a-Si:H film, reactive evaporation deposition 4-51503
- a-Si:H film, short lived photoinduced midgap absorpt. 4-40551
- a-Si:H film, sputtered, transform. from microcrystalline state 4-51491
- a-Si:H film, UHV plasma deposition system 4-51538
- a-Si:H film 4-51544
- a-Si:H film Schottky barrier diodes, space charge capacitance, freq. and temp. depend. 4-40047
- a-Si:H films, CVD and plasma deposition, defect chemistry 4-29839
- a-Si:H films, dangling bonds, ENDOR study 4-40280
- a-Si:H films, diffusion of H 4-39597
- a-Si:H films, dispersion energy and oscill. strength 4-40549
- a-Si:H films, doped, elec. cond., kink in high temp. depend. 4-39904
- a-Si:H films, etch pit symm., disclinations, high resolution electron microscopy 4-39141
- a-Si:H films, glow discharge deposited, H incorporation, doping and thickness depend. conductivity 4-40089
- a-Si:H films, hydrogenated and pure, intermediate range order 4-39135
- a-Si:H films, IR photocond. and dark cond., annealing effects 4-35025
- a-Si:H films, local states in band gap, photocond. and dark cond. studies 4-25403
- a-Si:H films, medium range order, small-angle neutron diffraction study 4-39140
- a-Si:H films, P doped and undoped, optical gap, Urbach tail parameters, temp. and doping effects 4-40391
- a-Si:H films, photochem. CVD prep., struct., optical, and electronic props. 4-3078
- a-Si:H films, photocond., optical and thermal quenching 4-11558
- a-Si:H films, photocond. and photoluminesc. at low temps. 4-56979
- a-Si:H films, photocurrent reversal, time-of-flight expts. 4-6887
- a-Si:H films, prep. by ion beam deposition, photoacoustic spectroscopy, charge transport 4-40484
- a-Si:H films, RF glow discharge deposition and solar cell appls. 4-45825
- a-Si:H glow discharge films, photoexcited carriers ps recombination 4-25462
- a-Si:H heterogeneous LPCVD films, X-ray diffraction and Raman scattering studies 4-39137
- a-Si:H MOSFET, photocond., Fermi level effects 4-6830
- a-Si:H n-i-n diodes, characts., SCLC model including diffusion 4-40034
- a-Si:H p⁺-i-n⁺ cells, electroluminesc. detected ODMR 4-40281
- a-Si:H p-i-n junctions, luminescence phenomena 4-40508
- a-Si:H p-i-n solar cells, effect of B₂H₆ profile on photovoltaic performance 4-52156
- a-Si:H p-i-n solar cells with graded B-doped active layers 4-16780
- a-Si:H photovoltaic cell performance (Czech) 4-7869
- a-Si:H RF sputtered coatings, microcryst. struct. 4-45550
- a-Si:H reactively sputtered films, electrophotographic photoreceptor props. 4-48229
- Si:H ribbon, H diffusion and passivation along grain boundaries 4-50581
- a-Si:H Schottky solar cells, effect of dopant contamination in undoped layer 4-7879
- a-Si:H solar cells, numerical computer simulation 4-52158
- a-Si:H solar cells (Russian) 4-41340
- a-Si:H sputtered, luminescence lifetime distrib. 4-40512
- a-Si:H sputtered film, preparation, elec. props. 4-51490
- a-Si:H sputtered films, optical props. 4-30544
- a-Si:H sputtered films, struct. studies in high resolution STEM 4-39139
- a-Si:H sputtered films, thickness depend. props., Raman and DC cond. meas. 4-39714
- a-Si:H thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355
- a-Si:H thin films, high field breakdown 4-40341
- a-Si:H ultrathin layers, quantum size effect, optical props. 4-21057
- a-Si:H/SiO₂, charge injection during field effect and photo-field effect 4-40064
- Si:H⁺, ion implantation and diffusion effects on laser induced defects, EPR study 4-15501
- a-Si:H/a-Si_{0.2}C_{0.8}H quantum well structures, optical props. 4-51387
- a-Si:H₂, optical absorpt. edge, site disorder effect 4-40473
- a-Si:H-Pt(Yb) contacts, density of gap states determ., transient junction spectroscopy 4-40045
- a-Si:H-Si n-p heterojunction, elec. props. 4-50910
- a-Si:H-metal contacts, Schottky barrier form. and struct. props. 4-6866
- a-Si:H(D)(F)(Cl), vibr. resonance modes 4-39428
- a-Si:H(F) film, ion implanted, elec. cond. study 4-15969
- Si:H(H,P) glow discharge films, density of states determ. by capacitance-freq. measurements (Korean) 4-15811
- Si:H(He), microstruct. study by Rutherford backscatt., TEM and SEM 4-24839
- Si:Hg, ion implanted, annealed and unannealed depth distrib. 4-34515
- Si:In, epitaxial layer doping with organoindium cpds., annealing effect 4-55850
- Si:In, ion implanted, high temp. diffusion in oxidising atmosphere 4-25097
- Si:In, long-wavelength photocond., impurity band anal. 4-30024
- Si:In(Tl)(Bi), photoluminescence lifetimes of bound excitons 4-56231
- Si:Li detector for PIXE anal., accurate calibration 4-48873
- Si:Mn, γ -irrad., elec. and photoelec. props. 4-29975
- Si:Mn²⁺, Jahn-Teller centres, ESR and spin lattice relax. studies 4-25632
- Si:N, 1.1223 eV A.B.C photoluminescence line 4-51311
- a-Si:N, local struct., NMR, EPR, Raman scattering, and IR absorpt. studies 4-39131
- Si:N,H amorphous glow discharge films, elec. props. 4-6792
- Si:N(O), off-centre impurities theory 4-56270
- Si:Na, electron irradiation, radiation defects, Hall effect meas. 4-50362
- Si:Na⁺ accumulation layers, dynamical conductivity 4-56410
- Si:Ni wafers nucleation and growth morphology of Ni impurity precipitates, TEM study 4-25040
- Si:noble gas atoms, deep impurity levels, luminescence studies 4-45672
- Si:O, annealing behaviour of recombination centres 4-39823
- Si:O, Czochralski grown, annealed, deep level photoluminesc. from dislocations 4-21010
- Si:O, Czochralski grown, defects study 4-15461
- Si:O, Czochralski grown, O out-diffusion, SIMS study 4-6558

elemental semiconductors continued

- Si:O, Czochralski grown, thermal donors, deep level luminesc. study 4-21009
- n-Si:O, donors, ESR studies 4-16093
- Si:O, Hall effect, temp. depend., differential evaluation 4-25277
- Si:O, impurity content, IR absorpt. difference method 4-16189
- Si:O, interstitial O IR spectrum and stress-induced dichroism 4-51248
- Si:O, minority carrier lifetime, heat treatment effects 4-6803
- Si:O, thermal donors and O agglomeration 4-56262
- Si:O epitaxial layers, preannealing effects 4-45549
- Si:O semi-insulating film, characterisation by XPS, IR spectra, Auger and thermal analyses 4-45564
- Si:O₂, impurity-dislocation interactions 4-15515
- Si:Os, electronic states and thermal dissociation 4-56272
- Si:P, Anderson localised regime, theory of interacting donor electrons 4-50767
- Si:P, annealed, shallow donor complex, photocond. spectra 4-45669
- Si:P, crystal growth by vertical mag. field-applied Czochralski method, homogeneous dopant distribution 4-40627
- Si:P, diffusion in crystallised amorphous layers 4-45418
- Si:P, diffusion models, vacancy and interstitial mechanisms 4-29698
- Si:P, donor clusters, ESR study 4-46102
- Si:P, field ionisation of P atoms, MIS struct. study 4-40611
- Si:P, H microcrystalline films, ESR and elec. cond. 4-16095
- Si:P, implanted, impurity drag on climbing misfit dislocations 4-34498
- Si:P, implanted, solar cells obtained by incoherent light annealing, elec. characts. 4-21547
- Si:P, ion implanted, cryst. ordering disruption, 2p core reflectance spectra 4-40595
- Si:P, ion implanted, damage-dependent atom and carrier profiles 4-20227
- Si:P, ion implanted, incoherent light annealing, appl. to solar cell prod. 4-16788
- Si:P, ion implanted, laser annealed, precipitation study 4-39520
- Si:P, low temp. diffusivity and precipitation of P 4-45415
- n-Si:P, magnetopiezoresistance in range of strong elastic deform., carrier scattering mechanisms 4-20677
- Si:P, P diffusion, Si self-interstitials supersaturation 4-20403
- Si:P, P diffusion, theory 4-20406
- Si:P, P diffusion from high surface conc., theory 4-45417
- Si:P, proton irradiation, fast electron annealing of IR absorption bands 4-34547
- Si:P, shallow diffusion profile anal. by four-point probe meas. 4-15697
- Si:P,As, double-donor system, metal-insulator transition, elec. cond. meas. 4-15824
- Si:P epitaxial layers, ion implanted, cryst. quality, UV reflectivity meas. 4-11165
- Si:P epitaxial layers, reflectance, transmittance and Hall mobilities meas. 4-40548
- Si:P films, dielectric props. meas. 4-40327
- a-Si:P films, plasma deposition, doping, cond. meas. 4-39717
- Si:P layers, impurity diffusion, incompatibility dislocation struct. effect 4-11343
- Si:P polycrystalline layers, ion implanted, elec. resist., effect of annealing in H₂ and N₂ atmos. (Chinese) 4-40084
- Si:P solar cells, pulsed electron beam annealing effect on open-circuit voltage 4-16786
- a-Si:P sputtered coating, P diffusion, Auger spectra study 4-45422
- Si:P/TaSi₂ system, P dopant redistrib. during high temp. sintering 4-2223
- Si:P⁺, ion implanted, extended defect reduction by uniform heating 4-29450
- Si:P(As)(O)(Cl), CVD polycryst. film, impurity effect on grain growth 4-6674
- Si:P(As), ion implanted, rapid isothermal annealing with electron beam system 4-15539
- Si:P(As), polycryst., solubility of implanted dopants 4-34508
- Si:P(As) superheavily doped SOS films, absorption edge studies 4-2982
- n-Si:P(As)(Sb), effect of free carriers on Raman freq. 4-40461
- Si:P(B), impurity profiles, anodic oxidation and chemical polishing study 4-34517
- Si:Pt, EPR line shape meas. 4-51132
- Si:S, spectroscopy of neutral S-related centres 4-56966
- Si:S(Se), donor centres, IR absorpt. and photocond. spectra 4-45677
- Si:Sb, evaporative doping during MBE 4-50671
- Si:Sb, high concentration Sb diffusion using auxiliary wafers 4-45419
- Si:Sb, ion implanted, dopant conc., electron and ion channelling studies 4-50332
- Si:Sb, low temp. resist., log-T depend. 4-34981
- Si:Sb, polycrystalline, ion implantation doping and annealing, expt. study and VLSI appl. 4-45169
- Si:Sb, solid-phase epitaxially grown, point defect trapping 4-50322
- Si:Sb ion implanted solid soln., partially coherent Sb precipitate form. 4-29629
- Si:Sb MBE layers, doping kinetic model 4-15512
- Si:Sb(Bi)(Ga)(In), laser-induced diffusion, TEM studies (French) 4-15698
- a-Si:Se, films, optical gap, elec. resist. meas., stability reduction by microvoids 4-40395
- Si:Si⁺(As⁺) amorphous layers, pulsed laser melting study 4-34535
- Si:Te, epitaxial regrowth, Te location, Mossbauer study 4-50655
- Si:Te, ion implanted, pulsed laser annealing, supersaturated solid soln. formation 4-24863
- Si:Te, trap level obs. by deep level transient spectroscopy 4-25276
- Si:Tl, ion implanted, deep impurity levels, DLTS studies 4-20593
- Si:Tl, ion implanted, photo- and cathodoluminesc. studies 4-21013
- Si:Al-Si interface, high resolution TEM study 4-20507
- n-Si/Au Schottky diodes, elec. characts. and electron beam annealing 4-15961
- Si/dielectric/metal struct., electron gas Hall conductivity in inversion channels, ultraquantum limit 4-30077
- Si/electrolyte interface, surface states induced by metal atoms 4-30068
- Si/GaAs-AlAs (GaAs-GaP), for high efficiency crystal. solar tandem cells 4-21542
- Si/liquid contact, 7.2% efficient photoanodes 4-50862
- a-Si/metal bilayer, optical storage material, TEM anal. 4-29846
- Si/metal systems, silicide formation by CW scanned laser and electron beams 4-24864
- p-Si/methyl cyanide junctions of high photovoltages and solar energy conversion efficiencies 4-40042
- Si/MgO,Al₂O₃/Si struct., VPE growth and bipolar integrated circuit form (Japanese) 4-40021

elemental semiconductors continued

- Si/Mo bilayers, MoSi₂ form. kinetics by CW laser annealing 4-15720
 Si/Ni system, silicide form. by pulsed laser irradiation 4-15719
 Si/Ni-Au bilayers, ion induced reactions, glancing angle X-ray diffraction and particle backscattering spectrometry 4-6410
 Si/Ni-Au dilute alloys, ion-induced or thermal reactions, Rutherford backscattering and glancing angle X-ray diffraction 4-6411
 Si/NiSi₂ interfaces, Schottky barrier form. 4-35065
 Si/SiO₂ interface, atomic structure, TEM studies 4-39695
 Si/oxide/metal FET inversion layer, conductance, electron density dependence 4-30078
 n-Si/p⁺-Si MIS tunnel devices, switching model (Korean) 4-40058
 Si/Pt system, reaction products after pulsed electron beam annealing 4-15717
 Si/PtSi interface, Pt diffusion, electron traps, DLTS studies 4-29696
 Si/Sb thin film system, pulsed laser- and electron beam-induced diffusion 4-15716
 Si/Si₃N₄/GeO₂/SiO₂/metal memory multilayer structure, photoelectret charging (Russian) 4-40332
 Si/Si₃O₄ system, amorphous film structure, modelling, perturbation calculation (Russian) 4-39735
 Si/SiO structure, positive charge form. mechanism at surface states 4-2641
 Si/SiO₂ bilayer system, surface polaritons and surface phonons 4-56235
 Si/SiO₂ formation by O⁺ implantation, SIMS analysis 4-45545
 Si/SiO₂ interface, Rh-doping effect on interface properties (Chinese) 4-20728
 Si/SiO₂ MOS structure, surface potential, fluctuation and trap distribution 4-6900
 Si/SiO₂/Al capacitors, H migration under electron avalanche injection 4-29711
 Si/SiO₂/Al MOS system, interface state electron capture cross-section, DLTS studies 4-35075
 Si/SiO₂/Al structures, photoinjection phenomena, surface potential effects 4-6901
 Si/SiO₂/In₂O₃/SnO₂ minority carrier transparent solar cells 4-12471
 Si/silicide interfaces, structure and Schottky barrier characteristics, review 4-25444
 n-Si/SnO₂/n-CdSe tandem electrochemical solar cells 4-26286
 n-Si/SnO₂/redox-electrolyte photoelectrochemical cell, photocurrent-voltage characteristics 4-26297
 Si/Ta system, disilicide form. by thermal pulse annealing 4-15718
 Si/TaSi₂(WSi₂) polycyclic structures, interfacial Al electromigration 4-39616
 Si/Ti system, disilicide form. by thermal pulse annealing 4-15718
 Si/transition metal interfaces, structure and Schottky barrier characteristics, review 4-25444
 Si/ZnO p-n and n-n heterojunctions, conductivity 4-45864
 Si-(Ba,Sr)TiO₃ film structure, memory effects 4-11574
 Si-Ag junction, Schottky barrier formation calculations 4-15935
 Si-Al contacts, interdiffusion reduction by improved surface ordering 4-39610
 Si-Al contacts formed by ion implantation and post annealing 4-30069
 Si-Al interfaces, metal adsorption, chemical bonding states, AES with MBE technique studies 4-21078
 Si-Al thin film diffusion couples, effects of different solute element addition on Si diffusion 4-56088
 Si-AlN₃O₂ MIS structure, growth and electronic properties 4-51496
 Si-anodic oxide interface, ellipsometric investigation 4-46224
 Si-Au(Al) contacts, electrical and energy storage properties 4-35070
 a-Si-based p-i-n solar cells, computer modelling 4-7872
 Si-Bi₂SiO₂₀, photorefractive piezoelectric-semiconductor structure, optoacoustic interaction 4-51238
 Si-CaF₂(SrF₂)(BaF₂) interface, vacuum-evaporated heteroepitaxial growth 4-25170
 Si-CeO₂-Al MIS structure, conductance switching with memory 4-50936
 Si-Cr interface, preparation and reactions 4-25219
 Si-dielectric structures, plasma-chemical treatment effects on charge characteristics 4-35085
 Si-Ge interface, heteroepitaxial growth of Ge films 4-25171
 a-Si-H film, electronic structure, photoemission study 4-30037
 Si-insulator-electrolyte ISFET structures, pH sensitivity, surface potential, interfacial impedance 4-45858
 Si-LiInSe₂ p-n heterojunctions, fabrication by LiInSe₂ vacuum evaporation 4-25886
 Si-metal contacts, I-V characteristics, model 4-30070
 Si-metal films, laser induced structural changes 4-39339
 Si-metal-oxide semiconductor structure, quantum Hall effect, current effect on plateau width 4-56435
 Si-Nb thin films, resistivity anomaly 4-20740
 Si-Ni contacts, chemically deposited structure and electrical properties measurements 4-35064
 Si-Ni-Pt bimetallic condensates, monitoring of heat treatment by FMR 4-51136
 Si-Ni-Pt system, silicide formation, metallurgical and electrical behaviour 4-50897
 Si-Ni(Pd) interface, Schottky barrier height, effect of variations of silicide characteristics 4-6864
 Si-on-insulator, buried oxide, laser recrystallised and graphite strip heater recrystallised systems 4-25887
 Si-on-insulator, CW laser crystallisation, thermal modelling 4-15529
 Si-on-insulator, large area single crystal, grain boundary-free growth technique 4-21133
 Si-on-insulator, O ion implantation, buried oxide layer formation 4-20729
 Si-on-insulator layers, crystallisation by laser annealing (German) 4-15530
 Si-Pt interface, silicide formation, internal stresses and reflectivity studies 4-56097
 Si-PtSi, thermal diffusion of Pt in Si, deep electron traps observed 4-45428
 Si-sapphire interface, electrophysiological properties, thermally-stimulated charge release study (Russian) 4-40061
 Si-SiN₄O₂ MIS structure, growth and electronic properties 4-51496
 Si-SiO₂ ESR, optically induced, spin-dependent recombination 4-45883
 Si-SiO₂ electron and hole traps studied 4-11473
 Si-SiO₂ polycrystalline, electron beam recrystallisation 4-34824
 Si-SiO₂ based MOS structures, DLTS automatic measurements of interface-state densities (Japanese) 4-40062
 Si-SiO₂ interface, ²⁹Si hyperfine structure of unpaired spins, EPR study 4-30074
 Si-SiO₂ interface, AES depth profiles analysis, electron escape depth (Chinese) 4-6894
 Si-SiO₂ interface, ballistic phonon absorption and scattering by Si electron inversion layer 4-24936

elemental semiconductors continued

- Si-SiO₂ interface, Cl incorporation and third phase development during Si oxidation 4-45538
 Si-SiO₂ interface, configuration, Eindhoven, The Netherlands (April 1983) 4-42605
 Si-SiO₂ interface, continuously distributed trap states model 4-45894
 Si-SiO₂ interface, electrical properties of MOS capacitors 4-56447
 Si-SiO₂ interface, fixed charge density, backend processing effects 4-11598
 Si-SiO₂ interface, γ-ray damage, annealing characteristics 4-45185
 Si-SiO₂ interface, high resolution electron microscopy studies 4-20504
 Si-SiO₂ interface, RF plasma induced radiation defects, carrier mobility in inversion layers 4-35077
 Si-SiO₂ interface, transition layer, core level photoemission study 4-40051
 Si-SiO₂ interface defects, characterisation by ESR, review 4-46105
 Si-SiO₂ interface defect centres, EPR, effect of As⁺ implantation 4-46108
 Si-SiO₂ interface in MIS structure, electrical breakdown over surface of Si and in SiO₂ 4-25445
 Si-SiO₂ interface in MOS capacitor, hole trap properties 4-45887
 Si-SiO₂ interface region, Ag distribution profiles, DLTS 4-45177
 Si-SiO₂ interface state measurements 4-6853
 Si-SiO₂ interface states 4-6905
 Si-SiO₂ interface with polySiO₂ layer, electrical conductance mechanism 4-11610
 Si-SiO₂ layers as reflection coatings for resonator mirrors in injection laser 4-38505
 Si-SiO₂ MIS, computer model of radiation effects 4-45886
 Si-SiO₂ MIS structures, ion implanted, C-V characteristics, interface states energy spectra calculation, parameters, influence of errors 4-35042
 Si-SiO₂ MOS devices, charge trapping 4-50946
 Si-SiO₂ MOS structure, interface state generation 4-50947
 Si-SiO₂ MOS structure, SiO₂ thickness determination 4-50698
 Si-SiO₂ mixtures, MBE growth, spectroscopic ellipsometry and He backscattering 4-51498
 Si-SiO₂ SOI structures, TEM, microdiffraction and electrical studies of buried SiO₂, O implantation 4-40072
 Si-SiO₂ structure formed by 200 keV O ion implantation, O depth distribution 4-45167
 Si-SiO₂ systems, stressed state and crystal defects 4-50937
 Si-SiO₂-Al₂O₃-Al structure identification of charge carrier type 4-56443
 Si-SiO₂-Au MIS structure, photoemission threshold 4-40608
 Si-SiO₂-MIS, growth kinetics and thickness distribution of ultrathin oxide layers 4-30083
 Si-silicide (metal) interfaces, Schottky barrier heights, induced dipole model 4-6868
 Si-silicide interfaces, microscopic chemical relation to Schottky barrier height determination 4-6670
 Si-TaSi₂ interface, P diffusion, lattice and grain boundary diffusion 4-29831
 Si-thermal oxide structure, hole capture cross sections in thermal oxide, field dependence 4-11597
 Si-TiN contacts, finite metal-sheet-resistance in contact resistivity measurements 4-11591
 Si-transition metal interfaces, low temperature diffusion of dopant atoms during silicide form. 4-45424
 Si-transition metal Schottky barriers, Fermi level pinning by Si dangling bonds at interfacial vacancies 4-30071
 Si-V interface, chemical reaction and Schottky-barrier form. 4-45535
 Si-W interface, WSi₂ form., photoemission, AES, work function measurements 4-45536
 Si-W(Ni)(Pt) interface, silicide formation, atom probe and field ion microscopy study 4-34804
 a-Si+H films, evaporated, gap states distribution, determination before and after hydrogenation, SCL current measurements 4-39761
 Si(H)-SiGe(H), tandem type amorphous solar cells 4-52150
 SiC(H)/Si amorphous/crystalline heterostructure, solar cell, performance and characteristics 4-36008
 SiC-Si p-i-n heterojunction solar cells, mobility-lifetime products and interface properties 4-52148
 a-SiH glow-discharge films, H₂ evolution and annealing studies 4-39134
 SiSiO₂, oxidised SOS structures, ¹¹B dopant implants, SIMS study 4-20226
 Si(100) inversion layers, inelastic electron-electron scattering 4-20731
 Si(111)-7×7, temp. dependent surface states and transitions 4-25413
 Si(111)-Cu-Pd system, PES study of reacted interface 4-12012
 Si(111)2×1 surface, optical properties and electron energy loss spectrum 4-20937
 α-Sn (100), surface structure, effect of H₂ adsorption 4-29750
 α-Sn, first-order Raman scattering by phonons, temperature dependence, anharmonic effects 4-46262
 α-Sn thin films, semiconductor-metal transition, Raman scattering studies 4-39779
 Te, 2D accumulation layer, Hall conductance oscillations 4-25379
 Te based two-layer systems, SIMS study and electrical characteristics of metal/Te/metal structure 4-50954
 Te, current-voltage characteristics and Gunn domains 4-34996
 Te, drift mobility, electrical conductance, temperature dependence calculations 4-39917
 Te, free and bound impurity states, pressure dependence, photoconductivity studies 4-39816
 p-Te, heavily doped, Raman study of A₁-phonon asymmetry 4-7194
 Te II hollow cathode discharge lasers 4-14670
 Te, relativistic corrections to valence and conduction band edges 4-34873
 Te, thin film, for optical data storage stability 4-29847
 Te:Sb, self-diffusion and Sb diffusion, vacancy mechanism 4-11345
 n-Zn_{0.5}Cd_{0.5}-p-Si heterojunction solar cells, performance analysis 4-12482

elementary particle coupling constants

- bag model, center-of-mass corrections to hadrons static properties 4-53960
 charmed baryon-pion elastic scattering, dispersion theory sum rules and coupling constants, determination 4-37311
 Coulomb's coupling constant, S-matrix poles in complex plane (Russian) 4-37299
 cubic interaction terms for arbitrarily extended supermultiplets, light-cone superspace formalism 4-333
 cubic self-interaction terms, light-cone formulation of dynamics 4-332
 deep inelastic lepton production, structure functions in quasielastic region, QCD double log. approx. 4-43366
 gauge boson mass hierarchy in maximal GUT from coupling constant renorm. in SU(16) breaking 4-22958

elementary particle coupling constants continued

- gauge theories, Lie isotopic lifting, isotopic covariant derivatives, field strengths 4-43183
 hadron mass spectra, quark-gluon coupling, QCD 4-53970
 hierarchical mass ratio and gauge boson coupling constants, dynamical implementation 4-48408
 Jackiw-Johnson model, dynamical symmetry breaking 4-43196
 lattice gauge theories, Susskind fermions at strong coupling 4-376
 lattice QCD, glueball mass calc. from SU(3) gauge fields 4-48428
 meson hadronic decay, coupling const. and transition potentials from quark harmonic oscillator model 4-23010
 nucleon axial coupling const., QCD calcs. 4-37339
 nucleon-meson vertex interaction, coupling const. and form factors determ. 4-43405
 nucleon-meson vertex interactions due to one-gluon exchange transition potential $V_{q\bar{q}q}$ (Chinese) 4-43325
 preon models, grand unification, symmetry breaking 4-9028
 QCD, chiral symmetry breakdown mechanism 4-48413
 QCD, exact running coupling const. and approx. effective lagrangians 4-27699
 QCD, nucleon octet, axial and vector const. 4-48443
 QCD, three-meson vertex sum rules 4-43316
 QCD at short distances, spin-averaged interquark pot. 4-13864
 QED, standard and Pauli, couplings, local U(1) gauge invariance 4-32557
 reggeon field theory, bare coupling constants and asymptotic behaviour 4-32643
 renormalised field theory, coupling constant transformation 4-27664
 self-consistent lowest-order dual-topological-unitarization Regge-trajectory and coupling calculation 4-37358
 strong, EM and weak coupling 4-18122
 strong gravity and fine structure constant 4-13563
 SU(3)×SU(3) chiral bag model, baryon-meson and axial vector coupling constants 4-18160
 Walecka's mean-field theory, phase transition of nucleon-antinucleon plasma 4-9029
 weak decays of leptons, quarks, hadrons in intermediate vector bosons 4-27737
 A_p $n=2,3$, mass and coupling const. using QCD sum rules 4-4585
 $e^+e^- \rightarrow 3$ jets, ang. dist. in QCD 4-4713
 $e^+e^- \rightarrow 3$ jets, QED-QCD validity, strong interaction coupling const. 4-9117
 $e^+e^- \rightarrow$ jets, QED tests 4-9118
 $e^+e^- \rightarrow \mu^+\mu^- (e^+e^-)$, TASSO neutral current effects 4-32566
 e^+e^- annihilation, energy-energy correlations to second order in quantum chromodynamics 4-32729
 f , mass and coupling const. using QCD sum rules 4-4585
 γe^+ , pol. γ , weak boson photoprod. charged weak boson coupling gauge struct. 4-48464
 $hh \rightarrow l^+l^- X$, transverse mom. calc. using soft gluon summation and QCD coupling const. 4-23037
 $\Lambda^0 \rightarrow p e^- \bar{\nu}$, coupling const., strangeness changing hadronic weak current 4-32690
 $\mu^+ \rightarrow e^+ \nu_\mu \bar{\nu}_e \gamma$, meas. of $\bar{\eta}$ decay parameter, V-A struct. test 4-32693
 $\nu_d d (\bar{\nu}_d d)$, neutral current chiral coupling constants meas. 4-23006
 $\nu_p p \rightarrow \mu^+ p \pi^+$, differential cross section in theory of broken chiral symmetry 4-4667
 $\pi^3\text{He}$ - ^3H form factor, coupling const., impulse approx. calc. 4-32790
 π -N coupling constant, chiral boundary condition effects on quark hadron bags 4-18200
 Q_q , normalisation point of Coulomb-like interaction const. determ. 4-457
 $\rho \rightarrow \pi\pi$, coupling const. calc. in lattice gauge theory 4-27662
 ϕ_4^4 field theory, renormalised coupling constant 4-9012

elementary particle decay

- see also *electromagnetic decays; elementary particle coupling constants; hadron decay; lepton decay; leptonic decays; nonleptonic decays; semileptonic decays*
 beauty quarks, expt.-theory lifetime discrepancy (French) 4-43332
 degenerate quark matter, beta decay, chemical kinetics 4-18151
 early Universe, baryon asymmetry from Higgs boson decay, finite temp. effect 4-53330
 gauge vector bosons, production and decay widths, QCD anal. 4-48299
 gluino decays and experimental signatures 4-37301
 heavy quark weak decays, gluon effects, charm appl. 4-48470
 high-energy phys. expts. 4-32649
 intermediate boson, radiative decay, composite model 4-32621
 light Higgs scalar in SU(2)×U(1) models, b quark decay, supersymm. models appl. 4-43243
 multiple hadron production, high-energy, theoretical anal. and model for decay events 4-23034
 narrow neutral resonances as Higgs particles, decay of ν , b-quark, Z^0 and $\xi(2.2)$ 4-32562
 pulsions decay in (ϕ^4_-) field theory 4-22935
 Skyrmion decay in SU(2) nonlinear σ model 4-32430
 steady-state cosmology particle decay and microwave background origin 4-22484
 top decays, contamination by QCD jets, Monte-Carlo simulation 4-18177
 weak decays of leptons, quarks, hadrons in intermediate vector bosons 4-27737
 b-quark, weak decays, QCD effects 4-43304
 b-quark decay meas. implications 4-37335
 $e^+e^- \rightarrow e^+X$, 29 GeV, prompt e^- prod., b and c quark semielectronic branching ratios 4-48495
 $\gamma \rightarrow \pi^0 \omega$, transition form factor from hadron amplitudes 4-27751
 $H \rightarrow W^+W^- \gamma$ decay, Higgs boson partial width 4-504
 $t \rightarrow e^+ X$ in hh , $e^- p_N$ distrib. calc. t-quark mass determ. 4-13925
 $t \rightarrow \mu b$ in $p\bar{p} \rightarrow b\bar{b}(t\bar{t})X$, t-quark identification from muons and jets 4-48445
 W, supersymmetric decay widths, gaugino, squark and slepton mass limits 4-18315
 W boson decay, charged lepton ang. distrib., parity-nonconserving asymmetries 4-54011
 W decays, evidence from $p\bar{p}$ collider 4-32772
 W decay to charged and neutral 'inos' in softly broken supersymmetry 4-4720
 $W \rightarrow e\nu$, $e\nu$ perpendicular mass, transverse props. 4-18317
 $W \rightarrow e\nu$, from UA2 expt. 4-32773
 $W \rightarrow e\nu\gamma$ search in $p\bar{p}$ 4-32748
 $W \rightarrow \mu\nu\gamma$ search in $p\bar{p}$ 4-32748
 W props. in electroweak interaction models 4-18149

elementary particle decay continued

- $W^\pm \rightarrow \mu^\pm \nu_\mu (\bar{\nu}_\mu)$, high transverse momentum muon obs. at CERN 540 GeV $p\bar{p}$ collider 4-32768
 $W^\pm(Z)$ decays, winos, zinos, photinos and higgsinos prod. 4-23039
 $\xi \rightarrow K^+K^-$ in T and B decays, $\xi(2.2)$ interpretation as meson, glueball, or Higgs boson 4-53995
 Z, supersymmetric decay widths, gaugino, squark and slepton mass limits 4-18315
 Z decay to charged and neutral 'inos' in softly broken supersymmetry 4-4720
 Z^0 decays into lepton pairs and spin 0 bosons 4-37417
 $Z^0 \rightarrow e^+e^-$, from UA2 expt. 4-32773
 $Z^0 \rightarrow e^+e^-$, width and Z^0 mass determ. at $p\bar{p}$ collider, radiative corrections 4-54018
 $Z^0 \rightarrow e^+e^- \gamma$, anal. in composite weak boson framework. 4-53994
 $Z^0 \rightarrow e^+e^- \gamma$, integrated decay rate in standard SU(2)×U(1) model 4-484
 Z^0 radiative decays, branching ratio, composite scenario 4-48483
 $Z^0 \rightarrow e^+e^- (\mu^+\mu^-)$, anal. of data from CERN $p\bar{p}$ collider 4-32771

elementary particle electromagnetic interactions

- see also *Weinberg model*
 book, leptons, hadrons and nuclei 4-36836
 characteristics, general discussion 4-430
 fermions, pointlike with EM interactions, vorton structure model 4-13855
 radiation amplitude zeros in radiative processes, null zone 4-53990
 real photons in hard scattering 4-32606
 $p\bar{p} \rightarrow W(Z)X$, weak force quanta, EM-weak force relationship (German) 4-13919

elementary particle gravitational interactions

- see also *supergravity*
 Brans-Dicke-type gravitational theory, dynamical symm. breaking calc. 4-22950
 characteristics, general discussion 4-430
 gravitational fundamental length, interaction strength and superheavy particles 4-156

elementary particle inclusive interactions

- see also *electron-positron inclusive interactions; elementary particle large momentum transfer interactions; pion-proton inclusive interactions; proton-proton inclusive interactions*
 charm photoproduction, subtractive gluon exchange model, vector meson dominance violations 4-18271
 coherent soft gluon emission and QCD jets 4-32586
 deep inelastic processes, forward and backward multiplicities 4-13907
 deep inelastic scatt., hadron and jet production, perturbative QCD 4-54016
 deep-inelastic scatt. process; $p\bar{p}$ and e^+e^- , universality features 4-37407
 Drell-Yan cross sections, all-order factorisation in QCD 4-32595
 electroproduction with nucl. targets, perturbative QCD anal. 4-32597
 emulsion, nuclear, exposed in Intercoms 6 satellite, high energy primary interaction (Romanian) 4-23038
 fireballs, thermodynamic, multiple hadron production 4-18207
 gauge theory in high energy phys., meeting, Les Houches, France (Aug.-Sept. 1981) 4-31951
 hadronic inclusive diffractive dissociation, total, and elastic cross sections, review 4-37398
 hadronic production of J/ψ and gluon structure function 4-32762
 hard hadronic collisions, parton annihilation, jets, Drell-Yan, ψ prod. 4-27769
 high energy collisions, hot hadronic matter, equilibrium formation, plasma deflagration, hydrodynamical approach 4-18184
 jet universality in pionisation region 4-48458
 jets, k_T double diffraction manifestations 4-4705
 large- p_T hadronic reactions, jet studies, QCD quark-gluon scatt., subprocesses 4-9131
 meson-meson interactions, Drell-Yan process, lepton pair prod., spectator interactions 4-27755
 multiple hadron production, high-energy, theoretical anal. and model for decay events 4-23034
 multiplicity distrib. functions, KNO scaled solns. 4-43198
 multiplicity distribution in high-energy collisions 4-23035
 perturbative QCD, jet struct. and IR sensitive quantities 4-32580
 prompt charged μ^+ , $\mu^- (e^+ + e^-)$ rates, $E > 20$ GeV 4-27768
 QCD perturbation theory, inclusive hadron production study, quark counting of anomalous dims. 4-502
 response function, calcs. by variational principles 4-18309
 strong interaction dynamics and inclusive processes 4-22997
 thrust calcs., high multiplicity events, efficient algorithm 4-18293
 two photon processes at very high energies, physics in e^+e^- , ep and $p\bar{p}$ collisions 4-32767
 $e\gamma$ deep inelastic scatt., hadron prod., QCD assessment, γ struct. functions 4-32650
 eN , deep inelastic scatt., invariant current algebra on light cone 4-53999
 eN , deep inelastic scatt. asymmetry and neutral intermediate boson (Polish) 4-32511
 e^+N , polarised scatt., lepton and quark substructure probing 4-48488
 $ep \rightarrow ex$, deep inelastic scatt., longit. and transverse spin asymmetries 4-482
 $\gamma\gamma$, glueball prod. cross section in perturbative QCD 4-32600
 $\gamma\gamma$, hadrons prod., unnatural-parity exchanges 4-27739
 $\gamma\gamma$, high- p_T inclusive meson prod., higher-twist contris. 4-32769
 $\gamma\gamma$ interactions in e^+e^- , resonance prod., inclusive hadron prod., γ struct. functions 4-27772
 $\gamma\gamma \rightarrow q\bar{q}$, high p_T jet prod., PETRA expts. 4-48515
 $\gamma h \rightarrow h^+X$, large transverse mom., second-order QCD calc. 4-32721
 γN , glueball prod. cross section in perturbative QCD 4-32600
 $\gamma N \rightarrow \psi X$, vector dominance and QCD models, diffraction mechanism 4-48467
 $\gamma p \rightarrow \psi(3097)X$, inelastic and elastic photoprod. at 105 GeV, cross sections, QCD anal. 4-48490
 hd, high p_T hadron prod., single and double scatt., quark-gluon plasma-like configs. 4-32877
 hh—jets, identification algorithm 4-4701
 hh—X, Bose-Einstein correlations with increasing multiplicity 4-4656
 $h_1 h_2 \rightarrow \chi X$, decay ang. correl. for J/ψ prod. via intermediate χ states 4-48505
 K^+N , 150-280 GeV/c, on H_2 , Pt targets, J/ψ hadronic prod. study 4-4715
 kp, low- p_T collision, charge distrib. and correl. in Lund fragmentation models 4-43334
 K^+p , 10-110 GeV/c, sphericity and thrust for jets, quark fragmentation anal. 4-48509

elementary particle inclusive interactions continued

- K^+p , 32 GeV/c, low p_T , K and π prod. associated with 0, K^+ valence quark fate 4-9128
 K^+p , 70 GeV/c, high- p_T jet fragmentation props. 4-43385
 K^+p , 70 GeV/c, inclusive photon and π^0 prod. cross section meas. 4-43386
 K^+p , strangeness fragmentation and production, Lund string model 4-27761
 $K^+p \rightarrow \Delta X$, scaling approach, Regge and quark model anal. 4-18310
 $lh \rightarrow (qq)$, hadronisation of quarks 4-4712
 lN , deep inelastic interactions, recent results 4-32723
 lN , gluon linear polarisation and neutral currents effects 4-32722
 $lN \rightarrow l'hX$, spin physics at short distances 4-27707
 μN deep inelastic scatt., p , p and meson forward production 4-32728
 $\mu N \rightarrow \mu X$, vector dominance and QCD models, diffraction mechanism 4-48467
 μp , 120, 280 GeV, inclusive p^0 meson prod. 4-23021
 μp , 120, 280 GeV deep inelastic scatt., hadronic azimuthal distrib. meas. 4-487
 μp , deep-inelastic scatt. process. pp and e^+e^- , universality features 4-37407
 NN , annihilation study rel. to power for spacecraft 4-53009
 NN , cross-sections at high transverse energy 4-4708
 $NN \rightarrow \gamma sX$, gamma-ray anal. using H-quantum model 4-37410
 νN inclusive cross-sections, quark model predictions 4-32662
 νN inclusive deep inelastic scatt., electromagnetic radiative corrections 4-32716
 $\nu N \rightarrow \mu^+ h^+ X$, 3-30 GeV, on freon, inclusive hadron spectra, parton and Monte Carlo descriptions 4-23008
 $\bar{\nu} N \rightarrow \mu^+ h^+ X$, azimuthal asymmetry of charged hadrons 4-37362
 $\bar{\nu} N \rightarrow \mu^+ h^+ X$, 3-30 GeV, on CF_3Br , multiplicity distrib. props., KNO scaling 4-23007
 $\bar{\nu} N \rightarrow \mu^+ h^+ X$, 3-30 GeV, on freon, inclusive hadron spectra, parton and Monte Carlo descriptions 4-23008
 $\nu N \rightarrow \mu^+ h^+ X$, 3-30 GeV, on CF_3Br , multiplicity distrib. props., KNO scaling 4-23007
 $\nu N(\bar{\nu} N)$, coherent π^0 prod. in Gargamelle Freon expts. 4-53975
 $\nu N(\bar{\nu} N)$, like sign dimuons prod., phenomenological model 4-43359
 $\nu N \rightarrow \mu X$, vector dominance and QCD models, diffraction mechanism 4-48467
 $\nu_e N \rightarrow \mu^+ e^- X$ ($\mu^- e^+ e^- X$), CERN SPS energies, dilepton and trilepton prod. 4-467
 $p p(p)$, diagram breakup in high-energy interactions 4-4670
 pN , 12 GeV, Λ^0 hyperons inclusive prod., polarisation meas. 4-18292
 pN , 19 GeV/c, inclusive pion and proton spectra, reson. prod. and diffraction effect 4-37408
 pN , 200, 400 GeV/c, cluster production 4-18308
 pN , 400 GeV/c, Ξ^0 and Λ hyperons prod., polarisation meas. 4-18295
 pN , in nuclei, secondary particle differential cross section equality at high energies 4-9129
 $pN \rightarrow (\Lambda_c \bar{\Lambda}_c) X ((DD) X)$, charm prod. in fixed target beam dump expts. 4-18311
 pN in $p\bar{p}$, $\sqrt{s}=31.5, 44$ GeV, p and E_T multiplicity correlations 4-18304
 $pN \rightarrow \mu^+ \mu^-$, contribution to cross section from p^0 and ω in Be 4-4710
 $pN \rightarrow \mu^+ \mu^- X$, dimuons transverse momentum, energy depend. comparison with $\pi^- N$ interaction in QCD 4-32756
 pN -neutrino's X , DD deduced cross-section 4-27767
 $pN \rightarrow \mu X$, prompt neutrino production 400 GeV, flux meas. 4-27760
 $pN \rightarrow \pi X$, 200 GeV, average transverse momentum, pion emission volume 4-37411
 $p^+ N$, 150-280 GeV/c, on H_2 , Pt targets, J/ψ hadronic prod. study 4-4715
 $p\bar{p} \rightarrow pX$, single diffraction, VA4 collaboration 4-27762
 $\pi^- N$, in nuclei, secondary particle differential cross section equality at high energies 4-9129
 $\pi^- Be \rightarrow DX$, associated hadronic production, energy dependent cross-section 4-18299
 $\pi^- Be \rightarrow DX$, production and decay properties 4-18300
 $\pi^- N \rightarrow \pi^+ \pi^- X$, 25 GeV, $1^0 S$ resonant state near 1.2 GeV prod. 4-18294
 $\pi^- N$, 40 GeV/c, nucleons and C, leading particles, associative multiplicity and partial inelastic coeffs. 4-13922
 $\pi^- n$, 40 GeV/c, secondary neutron characts., momentum spectra 4-13923
 $\pi^- N$, in ^{12}C , 40 GeV/c, secondary neutron characts., momentum spectra 4-13923
 $\pi^- N \rightarrow DX$, production and decay of D^* and D 's 4-27763
 $\pi^- N \rightarrow \mu^+ \mu^- X$, dimuons transverse momentum, energy depend. comparison with pN interaction in QCD 4-32756
 $\pi^- N \rightarrow \pi X$, 40 GeV, secondary pion emission region size 4-9130
 $\pi^- N \rightarrow \rho^0(\omega) X$, 43 GeV/c, in Be and Cu, A depend. of inclusive meson spectra 4-18230
 $\pi^- N$, 150-280 GeV/c, on H_2 , Pt targets, J/ψ hadronic prod. study 4-4715
 $\pi^+ p$, 40 GeV/c, multiple production, multiperipheral and two-jet anal. using collective variables 4-18307
 $\pi^- p \rightarrow DX$, D branching ratios and hadronic cross-sections 4-27764
 $\pi^- p \rightarrow p(\pi^+) X$, p/π^+ ratio, diquark model calc. 4-54015
 ψ hadroproduction in colour-singlet model, quark-antiquark contrib. 4-32601
 Ξ^- mag. moment meas. 4-37381
 γp , 50-130 GeV, π^0 and η^0 mesons inclusive prod. 4-4686
 lp , deep inelastic scatt., transverse energy distrib. 4-53998

elementary particle interaction models

- see also bootstrapping; composite models of hadrons; diffraction model; duality and dual models; peripheral models; statistical models; vector meson dominance model; Weinberg model*
confining potentials, two-point functions, duality 4-37357
correlation functs., many-identical-boson, in $1/N$ expans. 4-13892
Feynman scaling model breakdown at high energies 4-27756
gluon condensate potentials 4-4617
hadron scattering amplitude, asymptotic correlations between phase and modulus 4-32648
isovector electric nucleon form factor, vector meson contributions 4-53968
massive spin-1 particles Compton scatt. on massless fermions, helicity selection rules 4-37308
multichain fragmentation model, particle production in hadron-hadron interactions 4-13968

elementary particle interaction models continued

- phenomenological confining pot., relativistic generalisations, quasipotential approach 4-32627
photon-hadron fragmentation models 4-32718
quarkonium potential model with confinement barrier and c and b quark masses 4-4660
relativistic canonical commutation relations and harmonic oscillator model of elementary particles 4-18213
S-wave scatt., nonlocal separable potentials, phase eqn. 4-13534
static potential in Polyakov's theory of the quantized string 4-37346
unitarity test for high energy models and data 4-32647
variable-mass particle eqn. of motion and quark confinement 4-37359
ed, elastic scatt., deuteron struct., wave function, relativistic light front dynamics appl. 4-23100
 $\gamma\gamma$ elastic scatt., electroweak and magnetic model calcs. 4-18224
 μN scatt., expl. and theory review, parton model, struct. functions scaling violation 4-32719
 $NN \rightarrow 2$ meson, optical pot. modelling, nucleon effective radius 4-18280
 NN scattering wave function, projected Yamaguchi pot., continuum bound state 4-48462
 $\nu N \rightarrow \mu^- N \pi$, Dombey-Read model generalisation 4-48466
 $\bar{\nu} \nu \rightarrow 2\gamma$, electroweak and magnetic model calcs. 4-18224
 $\bar{\nu} \nu(\nu\nu)$ elastic scatt., electroweak and magnetic model calcs. 4-18224
 $p\bar{p}$ annihilation, S-wave quark rearrangement model 4-32738
 $p\bar{p} \rightarrow n\pi$, pion multiplicity distrib. 4-32741
 $p p(p)$, 4-540 GeV, γ elastic scatt. and inclusive spectrum in geometrical picture 4-32737
 $p\bar{p} \rightarrow p\bar{p}$, 50, 100, 200 GeV/c, Van der Waals type model anal. 4-32746
 $p\bar{p} \rightarrow \pi X$, transverse momentum spectrum of inclusive reactions in geometrical model 4-18305
qq energy levels, potential models 4-27715
- elementary particle interactions**
see also cosmic ray effects and interactions; elementary particle coupling constants; elementary particle electromagnetic interactions; elementary particle gravitational interactions; elementary particle inclusive interactions; elementary particle large momentum transfer interactions; elementary particle scattering; elementary particle strong interactions; elementary particle weak interactions; hadron-deuteron interactions; hadron-hadron interactions; high-energy cosmic ray interactions; lepton-deuteron interactions; lepton-hadron interactions; lepton-lepton interactions; photon-deuteron interactions; photon-hadron interactions; photon-lepton interactions; photon-photon interactions; polarisation in elementary particle interactions; quantum field theory of interactions; unified field theories; vertex functions
conference, Villeurbanne, France (Mar. 1983) (French) 4-28
high-energy phys. expts. 4-32649
- elementary particle large momentum transfer interactions**
see also elementary particle inclusive interactions
 $\gamma\gamma \rightarrow h$, perturbative corrections at large momentum transfer 4-4719
 $\gamma\gamma \rightarrow$ jets, photon-quark coupling, resonance production 4-9132
deep inelastic scatt., hadron and jet production, perturbative QCD 4-54016
high p_T events with a single particle trigger 4-32635
high- p_T jets at the CERN intersecting storage rings with calorimeter triggers 4-32763
jets, k_T double diffraction manifestations 4-4705
large p_T hadron collisions, quark and gluon fragmentation, model independ. anal. 4-22989
large p_T particle prod., QCD semihard processes 4-27708
large transverse momenta from small colour radiation length, colour confinement, gluon emission 4-13867
large- p_T hadronic reactions, jet studies, QCD quark-gluon scatts., subprocesses 4-9131
perturbative QCD, jet struct. and IR sensitive quantities 4-32580
spin physics at short distances 4-27707
 $\gamma\gamma$, high- p_T inclusive meson prod., higher-twist contribs. 4-32769
 γ interactions in e^+e^- , resonance prod., inclusive hadron prod., γ struct. functions 4-2772
hd, high p_T hadron prod., single and double scatt., quark-gluon plasma-like configs. 4-32877
hh high p_T exclusive interactions, quark scatt. amplitudes 4-37404
hh $\rightarrow X$, Monte Carlo simulation of QCD in hard collisions 4-18278
 K^+p , 70 GeV/c, high- p_T jet fragmentation props. 4-43385
 pp , 300 GeV, high transverse interactions study using streamer chamber 4-48504
 pp , 340 GeV/c, high- p_T correl. meas. 4-23032
 pp , 540 GeV, CERN results, total cross sections, scaling, jets, W bosons, Centauro search 4-37405
 $p\bar{p}$, CERN Collider, jets prod. and prods. meas. 4-4716
 $p\bar{p}$, polarisation at large p_T due to weak interaction and weak-strong interference 4-48514
 $p\bar{p} \rightarrow \gamma X$, polarisation effects of supersymmetric QCD in large p_T photon production 4-54017
 $p\bar{p} \rightarrow$ jets, calorimetric study, total energy trigger at 150 GeV and 300 GeV 4-499
 $p\bar{p} \rightarrow p\bar{p}$, production of large p_T hadron pairs at 70 GeV 4-37399
 $p p(p) \rightarrow \gamma X$, large p_T prompt photon production, polarisation effects (Chinese) 4-48513
 $p\bar{p} \rightarrow \pi^+ p$, production of large p_T hadron pairs at 70 GeV 4-37399
 $p\bar{p} \rightarrow \pi^- \pi^+$, production of large p_T hadron pairs at 70 GeV 4-37399
 $p\bar{p} \rightarrow \pi^+ X$, $\sqrt{s}=45$ and 62 GeV, high transverse momentum production 4-43382
 $p\bar{p} \rightarrow \pi X$, transverse momentum spectrum of inclusive reactions in geometrical model 4-18305
 $p\bar{p} \rightarrow \pi s$, fire-ball model, high transverse momentum 4-37390
 $p\bar{p} \rightarrow p\bar{p}$, scatt. amplitude at large momentum transfer 4-18287
 $\pi^- p$, 280 GeV/c, high- p_T correl. meas. 4-23032
 $\pi^- p$, 300 GeV, high transverse interactions study using streamer chamber 4-48504
 $\pi^- p$ jets, calorimetric study, total energy trigger at 150 GeV and 300 GeV 4-499
- elementary particle mass**
see also baryon mass; lepton mass; mass differences; mass formulae; meson mass
continuum QCD, dynamical masses 4-53940
dark matter, nonbaryonic, cosmological constraints on neutrino and ino masses 4-53318
distribution on chromatic tempered scale (French) 4-48435
extended GUTs, quark mass renormalisation and family verification 4-43267

elementary particle mass continued

- extended technicolour mass scale, fermion masses 4-22987
- fermion mass matrix, suggested struct., mixing angles and CP violation 4-4619
- gauge boson mass hierarchy in maximal GUT from coupling const. renorm. in SU(16) breaking 4-22958
- glueball 0^+ mass in lattice gauge theory with mixed SU(2)-SO(3) action 4-22979
- grand unified theory, locally supersymm. with two-loop stable mass hierarchy, gluino mass 4-13839
- gravitino mass, constraints from big bang theory 4-8607
- hierarchical mass ratio and gauge boson coupling constants, dynamical implementation 4-48408
- Higgs masses and couplings, restrictions from K^0 and B^0 systems in gauge theories 4-48334
- horizontal permutation symmetry, fermion masses, and pseudo-Goldstone bosons in SU(2)_L × U(1) 4-37309
- Jackiw-Johnson model, dynamical symmetry breaking 4-43196
- Kaluza-Klein theory, harmonic field expans., fermion mass problem 4-13562
- lattice QCD, glueball mass calc. from SU(3) gauge fields 4-48428
- light composite fermions in dynamical subquark model of pre-gauge interactions 4-48454
- light scalar particles, mass bounds from nuclear decays 4-37327
- $M_W - M_Z$ relation, electroweak correction, heavy fermions and Higgs scalars role, t-mass 4-32503
- next-next-to-leading perturbative QCD corrections and light quark masses 4-43311
- O(4) ⊗ U(1) gauge model, gauge boson masses, and lepton mixing 4-18106
- p-parameter, two-loop large Higgs mass correction 4-22908
- photino mass, constraints from big bang theory 4-8607
- photon mass from gravitational red shift 4-152
- preon model, fermion-boson symmetric, composite fermion masses 4-37351
- pseudo-Goldstone fermions in broken supersymm., current algebra formula for mass 4-22949
- QCD, heavy quark decoupling 4-9067
- QCD, three-meson vertex sum rules 4-43316
- QCD modelling theory, eigenvalue problem 4-4640
- quantum and cosmological mass relations 4-53418
- quark behaviour and props. computer simulation on 4-dimens. space-time lattice 4-32638
- quark mass, appl. of modified lepton mass formula 4-27716
- quark mass difference, connection with K^0 decay form factor, QCD sum rule anal. 4-23020
- quark mass matrices, reln. to Kobayashi-Maskawa mixing matrices 4-32616
- quark mass radiative shift in external chromomagnetic field 4-18173
- quark masses, unification and supersymmetry 4-18123
- quark-lepton mass hierarchies and $1/N_{\text{subgroup}}$ 4-53965
- quarkonium mass spectra, identity of forces using baryon parameters 4-4614
- quarkonium potential model with confinement barrier and c and b quark masses 4-4660
- quarks, mass, triangle anomaly at nonzero temp. in QCD 4-37331
- quarks, mass as EM self energies in composite models 4-32639
- quarks, QCD sum rule predictions, SVZ duality 4-18178
- quarks mass hierarchy in GUT 4-37320
- real quark mass matrix in theory with spontaneously broken CP 4-48358
- residual family unification symmetry, neutral current probing, intermediate boson masses 4-32515
- scalar quark mass, SUSY and gauge hierarchy problem 4-43282
- SO(10) GUT, proton lifetime, grand unification mass scale and Weinberg angle 4-4606
- SO(10) unification, $\sin^2 \theta$, ρ and gauge boson masses 4-416
- SU(11), mass spectra for quarks and leptons 4-48359
- SU(2) × SU(2) × U(1) unification, $\sin^2 \theta$, ρ and gauge boson masses 4-416
- SU(2) lattice gauge theory, Monte Carlo calc. of glueball mass 4-27661
- SU(3) lattice gauge theory, deconfinement phase transition, critical quark mass 4-18189
- SU(5) ⊗ SU(3) symmetric model with quark-leptonic generations 4-18140
- SU(5) monopole, classical configuration and mass 4-18062
- SU(5) monopole, mass from Yang-Mills eqns. 4-4579
- SU(5) monopole and its dependence on the weak scale 4-32504
- superheavy fermions and horizontal symmetries 4-37314
- technifermions, family mass hierarchy and composite gauge bosons 4-48455
- top-quark mass, left-right symmetric model based on gauge group SU(2)_L × SU(2)_R × U(1)_{B-L}, limits on strength 4-32526
- top-quark mass and mixing among fermion generations 4-32618
- variable-mass particle eqn. of motion and quark confinement 4-37359
- vector boson mass from left-right symmetric gauge models 4-32702
- W(Z) boson mass in SU(2)_L × U(1) theory, $O(\alpha^2)$ corrections 4-32525
- W mass scale, SU(2)_L × SU(2)_R × U(1) gauge theory, L-R symmetry 4-43269
- weak gauge boson mass relation for arbitrary Higgs scalars in SU_{L2} × SU_{R2} × U₁ 4-4540
- weak gauge boson masses, radiative corrections from supersymm. 4-53923
- weak and Higgs boson masses from composite model 4-27712
- B, Schrodinger fit of spectra using $V_0 + A r^{0.1}$ potential 4-4637
- D, Schrodinger fit of spectra using $V_0 + A r^{0.1}$ potential 4-4637
- d quark-charged lepton mass relations and mixing angles in SU(5) and SO(10) GUTs 4-48380
- e^+e^- annihilation, polarised and unpolarised, photino mass, selectron prod. 4-9093
- e^+e^- annihilation, scalar lepton prod., photino mass effects 4-32651
- F⁺, Schrodinger fit of spectra using $V_0 + A r^{0.1}$ potential 4-4637
- G⁰, Schrodinger fit of spectra using $V_0 + A r^{0.1}$ potential 4-4637
- H⁻, Schrodinger fit of spectra using $V_0 + A r^{0.1}$ potential 4-4637
- $\psi^- - \psi \pi^+$, decay rate relative to $\psi^- - \psi \eta$, symmetry breaking quark mass term 4-32675
- t quark mass determ. from p_N spectrum of e^- decay product in hh 4-13925
- t quark mass from $KL \rightarrow \mu^+ \mu^-$ and $K^0 - \bar{K}^0$ transition 4-27727
- t-quark, mass from discrete symmetries 4-48369
- u-d mass difference, effect on $\pi NN(\pi N \Delta)$ coupling 4-32700
- W boson mass determ. 4-32768
- W mass, and weak isospin in technicolour dynamics 4-32507
- W mass and width from $W \rightarrow e \nu$ perpendicular mass 4-18317

elementary particle mass continued

- W^\pm , higher order QCD corrections to masses in standard model 4-43286
- W^\pm mass as standard model test 4-48409
- z mass as standard model test 4-48409
- Z₀-particles obs. using particle detectors UA1 and UA2 (Danish) 4-38002
- Z₀ mass and width determ. at pp collider radiative corrections 4-54018
- ν_μ mass constraints in SU(2)_L × SU(2)_R × U(1) 4-406
- Z₀, higher order QCD corrections to masses in standard model 4-43286

elementary particle scattering

see also bootstrapping; elementary particle interactions; hadron-deuteron scattering; hadron-hadron scattering; lepton-deuteron scattering; lepton-hadron scattering; lepton-lepton scattering; Mandelstam representation; photon-deuteron scattering; photon-hadron scattering; photon-lepton scattering; photon-photon scattering; polarisation in elementary particle scattering; Pomeranchuk poles and trajectories; quantum field theory of elastic scattering; Regge poles and trajectories; relativistic scattering theory; S-matrix theory

No entries

elementary particle strong interactions

see also composite models of hadrons; duality and dual models; hadron classification schemes; peripheral models; quantum field theory of strong interactions

axial-vector-current Ward identity using partially conserved currents 4-32498

book, leptons, hadrons and nuclei 4-36836

characteristics, general discussion 4-430

inclusive processes and dynamics of strong interactions 4-22997

numerical experiments, QCD, lattices and Monte Carlo form., review (Russian) 4-53969

QCD, quark-gluon jet formation (Russian) 4-22986

spin in the quark-gluon picture of strong interactions. Secondary Regge trajectories 4-4661

vector mesons, radially excited states, strong decays 4-4674

elementary particle symmetry

see also chiral symmetries; conservation laws; discrete symmetries; dynamical symmetry; helicity (elementary particles); isotopic spin (elementary particles); nonlinear symmetries; spontaneous symmetry breaking; SU_n theory; supersymmetry

big bang baryosynthesis 4-36767

elementary particles, symmetry and unification models (Italian) 4-43271

global family symmetry and CP violation 4-18116

horizontal permutation symmetry, fermion masses, and pseudo-Goldstone bosons in SU(2)_L × U(1) 4-37309

local SL(2,R) invariance applied to the master-field problem 4-32435

Nambu's generalised mechanics, classical and quantum, symmetries and conserved quantities 4-43352

pp(pp) → lllX, lepton pair asymmetries, test of electroweak gauge models 4-500

residual family unification symmetry, neutral current probing, intermediate boson masses 4-32515

superheavy fermions and horizontal symmetries 4-37314

unitary symmetries, Lie isotopic lifting 4-27336

elementary particle theory

see also Bethe-Salpeter equation; complex angular momentum plane; current algebra; dispersion relations; electron theory; elementary particle interaction models; elementary particle symmetry; Feynman diagrams; form factors (elementary particles); group theoretical schemes; helicity (elementary particles); isotopic spin (elementary particles); Lee model; mass formulae; quantum field theory; S-matrix theory; scaling phenomena; structure functions; sum rules; vertex functions

amplitude zeros, persistence at higher order 4-4665

baryon and lepton number, finite particle number approach to physics 4-32118

characteristics and nature general discussion 4-430

conference, high energy physics, Brighton, England (July 1983) 4-31964

conference, Villeurbanne, France (Mar. 1983) (French) 4-28

conference on hadronic mechanics, Cambridge, MA, USA (Aug. 1983) 4-42581

elementary particles, symmetry and unification models (Italian) 4-43271

Fermi-Bose similarity and g-numbers 4-13826

fundamental questions of elementary particle physics 4-54490

generalized curve approach to elementary particles 4-9091

Grassmannian anal., vector valued diff. forms on Banach spaces, variational self-adjointness 4-43345

hadronic mechanics, time non-canonical character, quantum dissipative models 4-43347

hadronic mechanics formulation via isotopic lifting of Dirac's quantum mech. formulation 4-43353

holonomic stationary mechanical system, pot. function from integral family, partial diff. eqn. 4-43350

interacting bosons and fermions, path integrals over coherent states on Lie group 4-400

Jacobi's theorem, limitations and generalisations, quantisation to hadronic mech. 4-43346

Nambu's generalised mechanics, classical and quantum, symmetries and conserved quantities 4-43352

Nambu c-number mechanics in microphysics 4-43351

nonholonomic system dynamics, affine connections, partial derivative eqns. 4-43349

nonlinear relativistic theories, hydrodynamic interpretation 4-18206

q-analysis props., noncanonical mech. appl., hadronic oscillator, q-algebra 4-43348

relativistic and nonrelativistic classical mechanics, constants of motion 4-42715

resonant poles and minimal relativity 4-27675

SO(p,q) group of pseudo-orthogonal matrices, irreducible unitary representations 4-43244

supersymmetry breaking and supergravity in particle physics, review 4-32492

transition amplitudes, helicity formalism 4-18113

unitarity test for high energy models and data 4-32647

vector meson leptonic widths, pot. model relativistic and radiative corrections 4-471

weak-interaction theory perspectives 4-32567

ψ , vector meson mixing, hadronic isospin violating decays, phenomenological model 4-18234

W boson superpartner decay, electron spectra in SU(5) model 4-32524

elementary particle weak interactions

- see also *neutral currents; quantum field theory of weak interactions; Weinberg model*
- ρ parameter, effective field theory calcs. 4-32717
- book, leptons, hadrons and nuclei 4-36836
- characteristics, general discussion 4-430
- conference, weak interactions and neutrinos, Javea, Spain (Sept. 1982) 4-27240
- confining $SU(2)_L \times SU(2)_R$ gauge model of the weak interactions 4-32637
- double β -decay, investigation using multidimensional anal. 4-27846
- double β -decay, two neutrino microscopic mechanism 4-27847
- electroweak theory, calculation of $\sin^2\theta_W$ without unification 4-32540
- extended hadron model, weak form factors 4-53924
- high energy physics, recent topics (*Japanese*) 4-18141
- intermediate boson, radiative decay, composite model 4-32621
- intermediate boson masses as standard model test 4-48409
- Lorentz structure of leptonic charged weak interactions 4-32500
- massive charged vector particles, dual invariant theory, renormalisation 4-427
- muonium, muon and electron theory, QED and weak interactions 4-19311
- neutrinos, massless, search for nonorthogonality 4-4668
- nuclear structure study using weak interactions 4-37323
- quark mass matrices, reln. to Kobayashi-Maskawa mixing matrices 4-32616
- Rishon model, hypercolour gauge of discrete symmetry, mass matrix struct. 4-43341
- $SU(2)_L \times SU(2)_R$ gauge of weak interactions for composite model 4-43336
- $SU(3) \times SU(2) \times U(1)$ model, effective weak non-leptonic Hamiltonian for flavour conserving processes 4-27682
- supersymmetric confining model of weak interactions based on $SU(3)_C \times SU(2)_L \times SU(3)_F \times U(1)$ 4-32563
- supersymmetric left-right confining model 4-48407
- theory perspectives 4-32567
- V.A struct., of weak current and mirror leptons 4-32499
- weak interaction symmetry breaking by colour forces 4-18203
- weak interactions of leptons and quarks, book 4-53385
- weak interactions of quasi Nambu-Goldstone fermions 4-32505
- weak and Higgs boson masses from composite model 4-27712
- $D^+ \rightarrow K^0 \pi^+ (K^0 \pi^+) (\pi^0 \pi^+)$ quark theory of two-body weak decays 4-53984
- $e^+ e^- \rightarrow B^0 \bar{B}^0 \rightarrow l l X$, $B^0 \bar{B}^0$ mixing, Kobayashi-Maskawa matrix weak interaction phase 4-18273
- $e^+ e^-$ Bhabha scatt. near 60 GeV, left-right models predictions 4-48465
- $e^+ e^- \rightarrow \mu^+ \mu^-$, composite models and finite width effects 4-53973
- K nonleptonic decay, $\Delta I = 1/2$ rule anal. in chiral $SU(3)^* SU(3)$ symm., missing penguins 4-32678
- $K^0 \rightarrow \pi^+ \pi^- (K^0 \pi^0) (K^0 \pi^+) (\pi^- \pi^+)$ quark theory of two-body weak decays 4-53984
- K^0, \bar{K}^0 mixing, matrix element from vacuum saturation, long range effects 4-48444
- $K^+ \rightarrow \mu^+ \nu_\mu$, muon polarisation meas., right-handed currents search 4-32668
- $\mu^+ \rightarrow e^+ \nu_e \gamma$, meas. of $\bar{\eta}$ decay parameter, V-A struct. test 4-32693
- $(\mu^+ e^-) \rightarrow (e^+ e^-) + \nu_e + \bar{\nu}_e$ 4-18250
- $N(\bar{\nu})$, charged current cross-sections and structure functions 4-32656
- $\nu(\bar{\nu})d \rightarrow \nu p(\bar{\nu})$, relativistic effects in $\nu(\bar{\nu})$ disintegration 4-37500
- νN , $\sin^2\theta_W$ determ. of neutral current coupling 4-18220
- νN -quarks, fragmentation function, QCD anal. 4-32661
- (p, \bar{p}) , parity violation in meson exchange model 4-32897
- pp, polarisation at large p_T due to weak interaction and weak-strong interference 4-48514
- $\bar{p}p \rightarrow W(Z)X$, weak force quanta, EM-weak force relationship (*German*) 4-13919
- $\tau \rightarrow e^+ \nu + \bar{\nu}$, weak and EM interactions (*Russian*) 4-23005
- W decay, evidence from $\bar{p}p$ collider 4-32772
- $W \rightarrow e \nu_\mu$ from UA2 expt. 4-32773
- $Z^0 \rightarrow e^+ e^-$, from UA2 expt. 4-32773
- $^{12}B, \beta^-$ decay, weak interactions and nucl. struct., theory (*Korean*) 4-13961
- $^{12}C(\mu^-, \nu_\mu)^{12}B$, weak process with finite momentum transfer 4-23081
- $^{12}C(\mu^-, \nu_\mu)^{12}B$, weak interactions and nucl. struct., theory (*Korean*) 4-13961
- He, muon and electron theory, QED and weak interactions 4-19311
- $H(n, \gamma)D$, parity violation in weak current interactions 4-32899
- $^{12}N, \beta^+$ -decay, weak interactions and nucl. struct., theory (*Korean*) 4-13961
- $Z^0 \rightarrow e^+ e^- (\mu^+ \mu^-)$, anal. of data from CERN $\bar{p}p$ collider 4-32771

elementary particles

- see also *bosons; charm particles; composite particles; cosmic rays; fermions; gamma-rays; hadrons; hypothetical particles; leptons; quantum field theory; strange particles*
- sub-atomic particles, discovery, book 4-22534

elements (chemical)

- for specific metals and non-metals see appropriate chemical names
- see also *element origin; element relative abundance; periodic system of elements*
- atomic form factors, relativistic HFS modified for elements from $Z=1$ to 100, Rayleigh scatt. 4-4164
- heavy elements, $K\beta$ X-ray relative transition probabilities, energy-dispersive meas. 4-49097
- incoherent-scattering cross sections of ^{60}Co γ rays in elements 4-23666
- nontransition elements, atomic core, empirical chemical pot. 4-38024
- periodic classification 4-36877
- superheavy element, vacuum in region close to nuclei 4-36849
- thermal neutron activation anal., monostandard method 4-31052

Eliashberg strong-coupling model see *strong-coupling superconductors*

Elinvar

- dispersion hardened, submicroscopic struct., X-ray struct. anal. (*Russian*) 4-25041
- Mn-Cu-Ti(Zr), Elinvar characts., thermal expansion, Young's modulus, hardness, tensile strength rel. to heat treatment 4-21262
- Mn-Ge-Fe, thermal expansion and elastic props. 4-7499

ellipsometers

- see also *ellipsometry*
- comparison ellipsometer, geometrical resolution 4-43024
- fast self-nulling spectroscopic ellipsometer, instrumentation and appl. 4-43019

ellipsometers continued

- Isoscope ellipsometer, study of adsorbed proteins and biospecific binding reactions 4-47115
- microprocessor controlled spectroellipsometer for electrochem. system study 4-43018
- retardation modulation ellipsometer for fast surface transient obs. 4-43020
- self-compensating spectral-scanning ellipsometer 4-53730
- ellipsometry**
- see also *ellipsometers; polarimetry*
- angle-of-incidence derivative ellipsometry and reflectometry, inhomogeneous light-reflecting structures characts. 4-37148
- angle-of-incidence derivative ellipsometry and reflectometry, theory, implementation and appls. 4-43022
- anodic oxide films, electrostriction and electrochromism, ellipsometric study 4-46352
- antigen-antibody precipitates adsorbed on antigen-coated Si surfaces, ellipsometric quantification, new principle for immunochem. anal. 4-57827
- conference, ellipsometry and optical methods for surface and thin film analysis, Paris, France (June 1983) 4-42587
- differential ellipsometry 4-43023
- differential reflectometry, combined spectroscopic ellipsometry and spectral refl. 4-43033
- dye absorbing solution ellipsometric study 4-56874
- ellipso-interferometry, elimination of de-focusing blur (*Japanese*) 4-27579
- films, thick transparent, ellipsometry using channelled spectrum 4-43017
- films, very thin, accuracy of ellipsometric thickness determ. 4-43015
- III-V semiconductors, surface prep. methods, chem. treatment 4-51832
- immersion-type transmission ellipsometry of very thin metal films 4-48182
- inhomogeneous layer with arbitrary refr. index profile, ellipsometric formulas 4-27571
- inhomogeneous surface layers, ellipsometry (*Russian*) 4-4451
- inhomogeneous system, inverse problem theory (*Russian*) 4-48183
- IR spectroscopic ellipsometry using IR retarder 4-37147
- layer structures, optical constns. from ellipsometric data 4-46220
- liquid surface ellipsometry 4-48180
- metal overlayer system, plasmons, reflectivity, ellipsometry and EELS spectra 4-37977
- optical characterisation by ellipsometry 4-43014
- optical const. allowed value anal. 4-43029
- optical glass mechanically polished sample ellipsometric studies 4-17920
- optical methods for studying surfaces of solids and films (*Czech*) 4-39641
- optical spectra, anal. by Fourier methods, appl. to Si ellipsometric data 4-37217
- optical surface analysis of ICs (*German*) 4-8946
- phospholipid and protein surface vols. at solid-water interfaces, ellipsometric meas. 4-57826
- polarisers of low quality in ellipsometry 4-37149
- polypropylene thin films, dielec. function by spectroscopic ellipsometry 4-20941
- prothrombin association with phospholipid monolayers, ellipsometric meas. 4-57825
- Prussian Blue thin films, dielec. function by spectroscopic ellipsometry 4-20941
- qualitative ellipsometric technique, study of corrosion processes under organic coatings 4-48181
- refractive index profile of small-amplitude, ellipsometric formulae 4-43016
- small polarisation-plane rotation meas. 4-13669
- solid surfaces, optical props. investig. appls. 4-43013
- steel, austenitic stainless, passive-transpassive transition, study of film 4-57474
- steel, austeno-ferritic stainless, passive film anal. by microscopic ellipsometry 4-35505
- thin continuous films on rough surfaces, optical props. 4-51397
- thin films, dielectric function and thickness determ. by spectroscopic ellipsometry 4-53731
- thin films, unsupported and embedded, combined refl. and transmission ellipsometry 4-43021
- thin films on vapour-liq. interfaces, ellipsometry 4-50481
- Ag, adsorption of O, optical anisotropy, spectroscopic ellipsometric anal. 4-40400
- Ag film, chemisorbed CO or O₂, dielec. const., ellipsometry and resist. meas. (*Japanese*) 4-2860
- Ag films, pure and O covered, ethylene adsorption, photoelec. and ellipsometric studies 4-39682
- Ag films, underpotential deposited on Au electrodes, dielec. constns., ellipsometry 4-40402
- Al₂O₃ film, on Si, optical props., ellipsometric meas. 4-46225
- Al₂O₃ RF sputtered thin films, O₂ partial press. effects on props. 4-56161
- Au electrodes, elec. field penetration depth, ellipsometry 4-40402
- Au ultrathin foil, combined refl. and transmission ellipsometry 4-43021
- Be (0001) surface oxidation studies 4-57398
- CO, adsorbed on Cu and Ag, dielec. const., ellipsometry and resist. meas. 4-56848
- CdS, dielec. const. determ. by ellipsometry, interferometry and surface plasmon optical excitation 4-46345
- CoFe_{2-x}Al_xO₄, polar magneto-optical Kerr effect and dielec. tensor 4-46235
- Cu, adsorbed O, H₂ interaction kinetics, ellipsometry 4-41261
- Cu film, chemisorbed CO or O₂, dielec. const., ellipsometry and resist. meas. (*Japanese*) 4-2860
- Cu-Ni surface alloys, prep. by Ni(CO)₄ decomp., ellipsometry, AES, LEED, ion depth profiling 4-41259
- Fe film, obliquely deposited, crystallites study by ellipsometry 4-11953
- Fe, passive film formation, comp., structure, thickness, pH depend. (*Japanese*) 4-26094
- Fe, passive films formed in borate solutions, electrochem. and ellipsometric study 4-57418
- Fe, passivity in neutral borate electrolyte, ellipsometric study 4-57419
- GaAlAs-GaAs/GaAs heterostructures, spectroscopic electroreflectance and ellipsometry (*French*) 4-11866
- GaAs, anodic oxide growth in situ study using ellipsometry (*French*) 4-46347
- GaAs, electrolyte elec. field modulated ellipsometric spectrum (*Chinese*) 4-40414
- GaAs, ion implanted, spectroscopic ellipsometry anal. 4-39327

ellipsometry continued

- GaAs, optical props. determ. by multiple angle of incidence ellipsometry 4-46221
 GaAs surface, anodic oxide growth, coupled ellipsometric and capacitance meas. 4-56440
 GaAs:B (111), optical const. temp. depend., 20 to 400°C 4-56876
 GaAs:Be, shallow implantation, spectroscopic ellipsometry and Raman scatt. anal. 4-50327
 GaAs-GaAlAs heterojunction, electrorefl. and spectroscopic ellipsometry 4-51389
 GaAs_{1-x}P_x, dielec. function and derivative spectra by ellipsometry, Fourier analysis 4-46222
 β-GaSe, optical constants of layer structures from ellipsometric data 4-46220
 Ge (111) surface, cleaved, ellipsometric study as function of temp., 300-700K range 4-56873
 Ge, surface struct. transition, (2X1) to (2X8), temp. depend., optical consts., ellipsometry 4-40399
 InGaAsP/InP heterostructures, spectroscopic electroreflectance and ellipsometry (*French*) 4-11866
 InP, optical props. determ. by multiple angle of incidence ellipsometry 4-46221
 InP:S, ion implanted, laser beam annealing, Hall effect and ellipsometry studies 4-50346
 Mn_{0.2}Ni_{0.3}Fe_{0.3}¹⁵Fe₂O₄, mag. surface props., effect of RF sputter etching, non-destructive anal. 4-41029
 Ni anodic oxide film growth in alkaline electrolyte, cond., refr. index, cyclic voltammetry, ellipsometry 4-41102
 Ni, oxidation, reduction of surface oxide by CO and H₂, ellipsometry, AES 4-41260
 Ni surface, clean and O exposed, spectroscopic ellipsometric anal. 4-40401
 Ni(OH)₂ films deposited on Ni, ellipsometric growth and oxidation study 4-46351
 Ni(110) surface, effect of O₂ exposure after ion bombardment, ellipsometric and AES study 4-57399
 O₂ adsorbed on Ag (110) surface, around Ag plasma freq., ellipsometric study 4-51400
 O₂ adsorbed on Ag films, ellipsometric study 4-57014
 Pb alloy Josephson junctions, RF plasma oxide growth, inhibiting effect of thermal oxides 4-15997
 Pb underpotential deposits on Cu and Ag, ellipsometry, optical model 4-40403
 PbTe film obliquely deposited in vacuum, anisotropy, photovoltaic and ellipsometric meas. 4-46341
 Ru, oxidation, ellipsometry and AC impedance studies, automated system 4-57431
 Si (111) surface interactions with H₂, NH₃, SiH₄ multipolar plasmas, in situ ellipsometry obs. 4-51837
 Si, dopant parameters characterisation by IR ellipsometry 4-43025
 Si, heavily doped, ion implanted, laser annealed, electronic struct. study 4-15838
 Si, heavily doped, pulsed laser annealed, optical and elec. props. 4-20650
 Si, monocryst., plasma anodisation, real time ellipsometric analysis (*French*) 4-51838
 Si:As, amorphous ion-implanted layer, thermal annealing, ellipsometric parameters (*Chinese*) 4-7483
 Si:As, implanted, struct. modification during annealing 4-50328
 Si:B, carrier profiles meas. by IR ellipsometry 4-45175
 Si:H amorphous film, growth characterisation of multiple angle of incidence spectroscopic ellipsometry 4-51523
 Si-anodic oxide interface, ellipsometric investigation 4-46224
 Si-SiO₂ MOS structs., thin oxides, thickness meas., TEM investigation 4-40073
 Si-SiO₂ mixtures, MBE growth, spectroscopic ellipsometry and He backscatt. 4-51498
 a-Si_{1-x}C_x:H films, optical consts., ellipsometric spectra 4-40394
 Ta₂O₅ film, on Si, optical props., ellipsometric meas. 4-46225
 Ti/TiH₄ system, polyphase substrate ellipsometry, kinetic investigation 4-43027
 Ti/TiO₂ multiple film thickness ellipsometry (*French*) 4-43026
 TiN transparent conducting film, ion implanted, optical characterisation by ellipsometry 4-51392

elliptical polarisation *see polarisation***elongation**

see also deformation; thermal expansion

- cellulose fibre reinforced PVC, extrusion and performance 4-40824
 diallyl phthalate resins, microheterogeneous co-curing with vinyl monomers, mech. props. 4-3195
 elongational flow predictions, Leonov constitutive eqn. 4-29136
 epoxide-phenol polymer based composite anticorrosion materials, strength and deform. props. 4-46640
 ferromagnetic emulsions, hydrodynamics and effective viscosity, appl. to elongational flow 4-38894
 fibre reinforced plastics and elastomers, short fibre, mech. prop. improvement through control of fibre orientation during fabrication 4-51616
 hot rolled plates, mech. props., grain size and interstitials effect (*German*) 4-35657
 HSLA, martensitic, high temp. ductility, effects of austenite grain size and grain boundary segregation 4-16452
 low C, dual-phase, continuously annealed, temper-aging 4-40831
 macromolecular rigid rodlike sols, kinetic theory and rheology 4-34139
 metals, polycrystalline, acoustic emission in deform. 4-51765
 metals, rolling of thick narrow strips, rolling dia. and contact friction influence 4-30770
 nylon 6 fibres, high energy irradi., mech. props., fracture morphology deterioration rel. to dose 4-26003
 Oldroyd fluids, extensional flows 4-34142
 polydiethyleneglycolterephthalate, birefringence and glass transition temp. 4-39508
 polyethylene, mica-filled, extensional flow 4-51704
 polyethylene melts, extensional behaviour mol. struct. influence 4-29047
 polyethylene melts, uniaxial elongational viscosity at const. strain rate, nonlinearity 4-20387
 polymer films, stretched, mechanoemission centres distrib. (*Russian*) 4-30614
 polymer melts, entangled chains, nonlinear viscoelasticity, slip-link model response to elongation strains 4-10625
 polymer solid, rupture, pseudo cross-link theory 4-3237
 polymers, extrusion, particle flow and sintering processes 4-51695

elongation continued

- polypropylene, filled, tensile behaviour, comparison of various reinforced fillers 4-51706
 polypropylene, ultra-drawing, mech. props., wide angle X-ray scatt. 4-46485
 polystyrene melt, entangled chains, nonlinear viscoelasticity, slip-link model, stress-strain curves comparison 4-10626
 polyurethane elastomers, struct., mech. props. rel. to diamine additive 4-30741
 rubber, elasticity, pseudo cross-link theory 4-3166
 rubber, elongated, nondestructive method for bulk structure investigation 4-7666
 SBR-ground asbestos system, mech. props., filler shape effect 4-3330
 steel, austenitic, nonmag. and cryogenic, mech. props. (*Chinese*) 4-16467
 steel, austenitic stainless, failure temperature conditions, effect on struct. and props. 4-40979
 steel, austenitic stainless, prestrained strips, yielding props. 4-40891
 steel, C, tensile necking, operant strain rate sensitivity 4-16448
 steel, chromised sintered, mech. props. 4-40709
 steel, Cr, deform. and fractography, carbide particle struct. (*Japanese*) 4-26042
 steel, Cr-Co, embrittlement in various quenched structures 4-16488
 steel, dual-phase, low C, mech. behaviour, influence of microstruct. (*Korean*) 4-57288
 steel, dual-phase, yielding and deform., effect of retained austenite 4-21264
 steel, low-alloy, continuously cast, mech. props. and struct. changes during hot deform. 4-40920
 steel, stainless, mixed struct. of age-hardened martensite and metastable austenite, transform, induced plasticity 4-40903
 subgrain coalescence, dynamic, during low-temp. large plastic strains 4-34564
 Udimet 500, γ' precip. strengthened Ni-base superalloy, effect of Co on high temp. strength (*Chinese*) 4-16433
 viscoelastic fluids, constrained chain network model, comparison with expt. 4-29042
 viscoelastoplastic bodies, of fibres, dynamic spreading simulation (*French*) 4-55350
 Ag-Cu-In (35, 5 wt.%), hot extrusion, structural superplasticity, strain rate and temp. depend. 4-3186
 Al bronze, commercial, superplastic behaviour (*Japanese*) 4-35666
 Al, internal friction, dynamic modulus meas., dislocation segment distrib. effects 4-50304
 Al-Cu, ageing, effect on struct. and props. 4-57266
 Al-Cu-Mg-Mn, failure temperature conditions, effect on struct. and props. 4-40979
 Al-Mn-Mg (1,1 wt.%), Portevin-Le Chatelier effect, serration characts. 4-40907
 Al-Si-Cu-Fe, heat treatment, mech. props. rel. to Fe content 4-3187
 Al-Zn-Mg-Cu plates, ingot struct. and props. influence on quality 4-57297
 Bi_{1-x}Sb_xTe_y, elec. cond. and electron mobility, elongation effects 4-34982
 Cu, polycryst., struct. and strength during hydrostatic extrusion 4-30766
 Cu, polycrystalline, acoustic emission in deform. 4-51765
 Cu single cryst., plastic anisotropy coeff. changes during elongation (*Russian*) 4-35660
 Cu-Al-Ti (10, 2.5 wt.%), struct., mech. props., Ti addition effect 4-26001
 Fe, Armco, polycrystalline, acoustic emission in deform. 4-51765
 Fe, cast, ductile, ferrite-bainite matrix, tensile props. (*Korean*) 4-16442
 α-Fe, H induced grain boundary fracture, C segregation effect (*Japanese*) 4-7554
 Fe-Co-V, cold rolling, mech. props. 4-7553
 Fe-Ni, sintered, tensile props. and phase struct. rel. to annealing temp. 4-7527
 Fe-Ni (28 wt.%), austenitic, deform.-induced transform., effects of cyclic heat treatment (*Korean*) 4-30758
 Fe-Ni-Cr austenitic alloys, H embrittlement, effect of pre-injection thermomech. treatment 4-16481
 Fe-Ni-Cr superalloy, mech. props., microstruct. on prolonged heat exposure (*Chinese*) 4-3172
 Fe₃Ni₃Cr₁₄P₁₂B₆, metallic glass, influence of superimposed tensile stress 4-15392
 Fe₉₀Ni₁₀P₁₄B₆, metallic glass, influence of superimposed tensile stress 4-15392
 Mo-Nb-Zr-C single crystal, strengthening by internal nitriding 4-30711
 Nb, mechanical properties, room temp., effects of H plasma irradiation (*Russian*) 4-40934
 Ni-Cr-W-Co-Ti, ZrN modified, ductility 4-3193
 Ti-Al-V (6, 4 wt.%), modified, enhanced superplasticity and strength 4-26009
 Ti-V-Cr-Al-Sn cold-formable sheet alloy 4-40902
 U-Mo(2wt.%), ageing, strain rate sensitivity rel. to cooling rate from γ phase 4-40928
 V, mechanical properties, room temp., effects of H plasma irradiation (*Russian*) 4-40934
 W-Ni-Fe, heavy alloys, liq. phase sintered, fracture behaviour 4-40972
 Zn, polycrystalline, acoustic emission in deform. 4-51765

e.m. waves *see electromagnetic waves***embrittlement**

see also ductile-brittle transition; hydrogen embrittlement; liquid metal embrittlement

- (*German, English*) 4-35644
 fast reactor component technical performance and control, embrittlement monitoring (*German*) 4-12188
 Hastelloy X, high temp. ductility loss due to thermal neutron irradi. 4-43584
 Inconel 718, oxidation influence on crack propag. at high temp. (*French*) 4-46653
 metals, neutron irradi., improvement in mech. props. 4-45196
 nylon 6 fibres, high energy irradi., mech. props., fracture morphology deterioration rel. to dose 4-26003
 steel, alloy, intergranular embrittlement, small punch test evaluation 4-41161
 steel, alloy, reactor shell, few cycle loading effects on radiation embrittlement 4-16505
 steel, austenitic stainless, T exposed, ion beam profiling of ³He 4-16589
 steel, Cr-Co, embrittlement in various quenched structures 4-16488

embrittlement continued

- steel, Cr-Mo, temper embrittled, containing rare earth additions, Auger anal. of fracture surfaces 4-26055
 steel, Cr-Mo-V, turbine rotor, creep embrittlement 4-35707
 steel, medium strength, fatigue crack growth, low freq., effect of environment and stress ratio 4-57395
 steel, Ni, intergranular tempered martensite embrittlement 4-16478
 steel, Ni, intergranular tempered martensite embrittlement 4-40975
 steel, Ni-Cr, P-doped, intergranular fracture surfaces, rel. between impurity-induced embrittlement and residual strains 4-30806
 steel, Ni-Cr and Cr-Mn-Si, temper brittleness, grain boundary segregation of P, AES (*Chinese*) 4-3205
 steel, Ni-Cr-Mo-V, heat resistant, for turbine rotors, working props. improvement (*Italian*) 4-7536
 steel, Ni-V-Mo, maraging, struct. and props. 4-21323
 steel, pressure vessel, neutron irradi., APFIM study 4-45192
 steel, reactor pressure vessel, dominant mechanism of irradi. embrittlement 4-12171
 steel, reactor pressure vessel, radiation embrittlement, physically based surveillance programs 4-51819
 steel, stainless, ferritic, Cr-Al, struct. and embrittlement, heat treatment effect 4-21256
 steel, temper embrittlement, effect of alloying elements 4-57327
 turbine rotor, temper embrittlement 4-35706
 Cu-Al-Zn-Mn(Ni), quenched martensitic state, mech. props. and struct. rel. to Mn and Ni content 4-7586
 Cu-Sn-Au bulk alloys and thin films, microstruct. and elec. props. 4-34821
 Fe, cast, spheroidal graphite, ferritic, embrittlement at 673K, influence of microstruct. 4-26065
 Fe-B(P), grain boundary segregation, electronic struct. and intergranular embrittlement 4-20357
 Fe-Co-V, cold rolling, mech. props. 4-7553
 Fe-Mn-Ni (11, 6.5 wt.%), strengthening mechanisms 4-46517
 Fe-Ni-Cr austenitic alloys, He embrittlement, effect of pre-injection thermomech. treatment 4-16481
 Fe₃₂Ni₃₆Cr₁₄P₁₂B₆, Metglas 2826 A, thermal annealing, embrittlement 4-35692
 Fe₄₀Ni₄₀Si₈B₁₂ glass, structural relaxation and embrittlement 4-45016
 Ni, corrosion in S- and Cl-containing environments, grain boundary penetration and embrittlement 4-21380
 Ni, intercrystalline adsorption of He, neutron irradiation effects, radiation embrittlement 4-39687
 Ni, intermediate temp. embrittlement 4-40955
 Ni, polycrystalline, grain boundary segregated S, chemical state, AES and XPS obs. 4-35633
 Ni-base superalloy, corrosion in S- and Cl-containing environments, grain boundary penetration and embrittlement 4-21380
 Ni-Mo-W (33, 17 wt.%), superalloy, embrittlement and ductility rel. to phase struct. 4-51801
 Sn-Al eutectic, embrittlement in damp air 4-41070
 Ta-W (10 wt.%), silicide coated, weld embrittlement 4-40931
 Ti alloy plate, O contaminated, US characterisation 4-57519
 W, high-temp. embrittlement, struct. form. 4-57340
 W, recrystn. effect on fracture toughness, high-temp. embrittlement 4-7575
 W-Ni-Fe (3.5, 1.5 wt.%), liq. phase sintered, variation of toughness with test temp. and cooling rate 4-40965
 W-Ni-Fe (7, 3 wt.%), liq. phase sintered, strain and fracture (*Chinese*) 4-16472
 Zr-Nb (1 wt.%), radiation effects on mechanical props. (*Russian*) 4-50366

e.m.c. see *electromagnetic compatibility*

e.m.f. see *electric potential*

emission nebulae see *nebulae*

emission spectra see *spectra*

emissivity

- see also *brightness*
 black coating total reflectance props. from 0.2 to 20 μ m, optical black appl. 4-55148
 calorimetric method for emissivities and absorptivities meas. 4-27526
 electrical resistivity and normal integral coeff. of radiation 4-45733
 energy converter selective emitters, performance 4-21555
 gases, relativistic generalization of the Einstein-Milne relations 4-55481
 high temperature selective surfaces, lower emissivity limits 4-3477
 metal-thin oxide film, integral hemispherical emittance (*Russian*) 4-29659
 microwave radiometer, design and operation, temp. and emissivity meas., biomedical appl. (*German*) 4-16943
 modulation method for total emissivity relative meas. 4-27587
 portable thermoradiometers for emissivity meas. 4-27590
 rough surface, emissivity, radiation polarisation calcs. 4-11322
 selective absorbing surfaces in practice review 4-41380
 soil microwave emissivity, Monte Carlo simulation of effect of soil moisture var. 4-26723
 solar energy absorbing selective coating on Cr steel 1X13, thermal emission (*Russian*) 4-21574
 stainless steel, spectral emittance meas., during oxidation, 800-1400K 4-51871
 thin films, thermal conductivity, thermal diffusivity, and other transport coeffs. meas. 4-53682
 Al, spray deposited, emissivities, calorimetric method study 4-27526
 CaAl₂Si₂O₈ glass, emission spectra, shock wave instability temp. and rel. to fusion curve 4-30529
 CaF₂, shock compression and shocked-induced radiation, phase transitions obs. 4-39399
 Gd, Curie temp., anomaly of emissivity and absorptivity 4-2757
 Mo black coatings for solar selective absorbers, opt. props. and microstruct. 4-41378
 Ni etched electroless plate, scatt. characts., solar collector surface finish appl. 4-55147
 Ni-P electroless deposits for solar energy appl., blackening 4-41379
 W, rough surface, thermal radiation, polarisation props., spectral emissivity 4-39548
 W, use of data in radiation pyrometry, 1400-2400K 4-48204

emitters see *television camera tubes*

emitter-coupled logic

- see also *logic circuits; switching circuits*
 digital delay CAMAC module with 550 MHz preset counter for TRIS-TAN accelerator 4-9648
 synchronous ECL divider for reduced jitter in laser pulse studies 4-24054

EMP see *electromagnetic compatibility; electromagnetic interference; radio-frequency interference*

employees see *personnel*

employment

- see also *personnel*
 No entries

emulsions

- see also *nuclear track emulsions; photographic emulsions*
 cleaning emulsion for inorganic substrates 4-41024
 ferromagnetic emulsions, hydrodynamics and effective viscosity, appl. to elongational flow 4-38894
 Lyotropics and related fields, conf., Cosenza, Italy (Sept. 1982) 4-47741
 microemulsion microstructure, progression of states, bicontinuous structs. 4-21496
 microemulsion microstructure, small-angle X-ray scatt. investig. 4-21495
 microemulsions, cylindrical, polymer-like phase possibility 4-35947
 microemulsions, struct., role of interfacial flexibility, review 4-52059
 microemulsions, ultrasonic absorpt. and flow birefringence, salinity effect 4-41270
 microemulsions, water-in-oil, highly viscous isotropic mesophase, TSD study 4-51181
 oil-water mixtures, microemulsions and interface problems (*Norwegian*) 4-3428
 PE-2 transparent emulsion, induced sensitized photoanisotropy 4-51236
 polyoxymethylene-polyethylene interface, contact angles and wettability emulsion formation 4-39631
 structural rheology, hydrodynamic interaction of two identical liq. spheres 4-44682
 US vibration of plate, emulsification mechanism (*Japanese*) 4-28912
 water, dispersed within emulsions, freezing, thermally stimulated depolarisation study 4-55970
 water emulsions, pure and inseminated by AgI particles, ice nucleation, kinetics studied by DSC 4-29367
 water-heptane emulsion, supercooled, thermal diffusivity meas., photothermal detection 4-45430
 water-oil, behavior in high-freq. electromag. field (*Russian*) 4-5967

emulsions (nuclear track) see *nuclear track emulsions*

emulsoids see *emulsions*

encapsulation

- see also *packaging*
 poly(amide-imide) films, elec. conductivity, dielec. loss, chip technology appls. 4-15977
 solar concentrators using total internal reflection, encapsulating materials 4-26270
 space and terrestrial applications of solar photovoltaic cells 4-7886
 Cu₂S-CdS solar cell, mag. field assisted bonding of prefabricated grid 4-57720
 Si₃N₄ plasma enhanced deposition, encapsulant for GaAs:Si 4-50693
 Ti-Pd-Ag solar cell contacts degradation mechanism determ. by accelerated electrochemical technique 4-52168
 W encapsulation of Ge film during zone melting crystallisation 4-20509

encoding

- see also *decoding*
 adaptive neural encoder model, demodulation methods appl. 4-46972
 angular measurement, using high resolution optical encoders, transducers 4-13617
 coded aperture masks, geometric design, phantom imaging using gamma camera 4-26499
 coding images in the frequency domain, applied to human vision system 4-41512
 colour storage, and grey level pseudocolouring using speckle carrier 4-38404
 complex coded aperture imaging, system features 4-41641
 computer-generated holograms with pulse-density modulation 4-49299
 density pseudocolour encoding by holographic techniques with three primary colours 4-49302
 fibre optic DS-3 bipolar interface 4-10459
 holographic masks, electron beam generated, for optical vector-matrix multiplication 4-49301
 image histogram hybrid meas., texture discrimination appl. 4-23914
 medical image storage, encoding/compression techniques and statistical props. 4-57966
 optical profilometer, focus-wavelength encoded 4-48173
 optical signal encoding at 1.32 μ m, 14 Gbit/s technique using LiNbO₃:Ti waveguide modulator 4-38637
 pattern matching and substitution for two-level pictures 4-14646
 pseudocolour encoding with a white-light processing system 4-19391
 quasi-interferometry, colour coded, dispersive and colour correlation filtering 4-281
 residual-excited linear predictive coders, Walsh transform encoding technique 4-38672
 sound signals, 16 bit adaptive transform coder for real time processing 4-33865
 spatial encoding for optical floating point computation 4-38401
 speech synthesis, single-chip devices, encoding techniques and system interfacing aspects 4-5767
 transform domain DPCM, human psycho-visual response incorporation 4-8017
 turbine blade analysis using moire system for producing profile numerical data using a computer and video store 4-53736
 vision adapted progressive image transmission 4-41528
 word synthesis, techniques, systems, encoding and vocoders (*French*) 4-28936

end-fire antennas see *antenna arrays*

ENDOR

- N-acetylglycine, crystal imperfections, ENDOR spectra 4-35249
 alkoxy radical, from X-ray irradi., ESR and ENDOR study 4-11772
 p-benzosemiquinone radicals, monoprotonated, CIDEP enhanced ENDOR 4-1187
 o-benzosemiquinones, ENDOR-TRIPLE reson. 4-5262
 imidazole nitroxides, photochemical transform., mag. reson. study 4-52030
 nuclear Zeeman correlated ENDOR 4-7094

ENDOR continued

- polarization-modulated ENDOR spectroscopy 4-48167
 polyacetylene, neutral solitons, implications of ENDOR results 4-2843
 polyacetylene films, ENDOR, TRIPLE, electron spin echo spectroscopy studies 4-2841
 polyacetylene-polyethylene composites, ENDOR, TRIPLE, electron spin echo spectroscopy studies 4-2841
 potassium hydrogen malonate, radical pairs, ENDOR study 4-2842
 structural phase transitions, EPR and ENDOR studies of slow dynamics and central peak phenomenon, review, book contrib. 4-20850
 tempone nitroxide radical, matrix isolated, g-tensor, EPR and ENDOR study 4-49069
 tetracyanoarenoquinodimethane, radical anions and trianions 4-33426
 xanthosine dihydrate, cryst., X-ray irr., ESR and ENDOR study 4-3412
 β -Al₂O₃-H₂O, study of atomic H centres by ENDOR and ESR linewidth 4-7093
 CaF₂:Gd³⁺, Ag⁺, second nearest neighbour F⁻ ions position determ. by ENDOR technique 4-56817
 CaF₂:Tm²⁺, optical detection of ENDOR without microwaves 4-11804
 Cs₂NaYCl₆:Gd³⁺, EPR and ENDOR study 4-46144
 Cu complexes, nuclear Zeeman correlated ENDOR 4-7094
 GaP:Cr(Co), impurity states, ENDOR and optical absorption studies 4-20601
 KH₂AsO₄, X-irradiated, obs. of K hyperfine interaction, electron spin echo envelope modulation 4-46145
 RbCdF₃:Mn²⁺, struct. phase transition, ENDOR study 4-20888
 RbCl:H, anion site H ENDOR study 4-11799
 a-Si:H films, dangling bonds, ENDOR study 4-40280
 VO(H₂O)₂²⁺, H⁺ hyperfine couplings, point dipole approx. calcs. 4-28474

energies, molecular dissociation *see molecular dissociation energies*

energy, binding *see binding energy*

energy, lattice *see lattice energy*

energy, surface *see surface energy*

energy bands *see band structure*

energy bands, electron *see band structure*

energy control *see power control*

energy conversion, direct *see direct energy conversion*

energy dispersive X-ray analysis *see X-ray chemical analysis*

energy gap

see also superconducting energy gap

- alkaline earth-rare earth sulphides, optical band gaps, absorpt. edge meas., diffuse reflectance spectroscopy 4-2937
 amorphous material, 1D, energy gaps, disordered Kronig-Penney model 4-22554
 amorphous semiconductors, transient induced absorpt. spectroscopy from picoseconds to milliseconds 4-40472
 Anderson-localised systems, density of states in Coulomb gap 4-45689
 chalcogenide glasses, localised states and photoinduced changes 4-50769
 chalcogenide glasses, time resolved photoluminescence and localised states 4-46309
 commensurability 2 mixed Peierls system, soliton excitations 4-2516
 crystals near melting temp., quantum field theory 4-6452
 diamond, electronic excitations, self-consistent-field calc. 4-45615
 disordered system of localised electrons, Coulomb gap, mean field approach 4-45686
 epoxy resin, selfsimilar struct., energy gap, thermal props. 4-6520
 exact Kohn-Sham orbital energies, band gaps and derivative discontinuities 4-11464
 excitons, electronic struct., interactions with phonons and photons 4-25240
 ferromagnetic semiconductor, energy-gap between spin branches, influence of intense EM field 4-50868
 fluctuating valence system with energy gap, sp. ht. linear temp. depend. 4-34664
 fractional quantised Hall effect, many-body theory 4-34938
 Ga_{1-x}Al_xAs, elec. resist. var., deep levels, band struct. 4-34974
 glass ionisation wave vel., energy bandwidth narrowing 4-30432
 glassy semiconductors, modified, extrinsic conduction and band gap 4-29976
 granular systems, Coulomb quasigap and metal-insulator transition 4-39777
 Heisenberg magnetic quantum systems, existence of gap in energy spectrum 4-16006
 Heisenberg model, anisotropic, ground state props. 4-25502
 I-III-V₂ cpds., average bond ionicity 4-11037
 I-III-V₂ semiconductors, band gap anomaly, chem. and struct. factors 4-45624
 III-V semiconductors, effective masses of carriers, temp. depend. 4-25204
 III-V semiconductors, impact ionisation by holes in materials with a complex valence band struct. 4-15884
 insulators, energy band gap, density functional theory anal. 4-11465
 IV-VI ferroelectric semicond., band edge struct., magneto-optical studies 4-25226
 Kronig-Penney model, energy bands and forbidden gaps 4-20530
 narrow-gap semiconductor, two-band model, energy spectrum and permittivity, renormalisation 4-25223
 one-dimensional conductor, Peierls transition in a periodic pot. 4-39886
 one-dimensional crystal model, low-lying energy levels of electrons 4-25201
 paracyanogen, electronic struct., valence effective Hamiltonian 4-34867
 plasma-polymerised thin films, photoinjection from metal electrodes 4-11595
 poly-phenylene, molecular orbital calcs., band struct. (German) 4-45590
 polyacene, electronic struct., 1-D tight binding SCF-CO calc. 4-6695
 trans-polyacetylene chain, dimerised, band struct., LCAO calc. with Gaspar-Kohn-Sham pot. 4-20535
 polymethineimine, electronic struct., valence effective Hamiltonian 4-34867
 polymethylpentene, elec. cond. and photoconductivity 4-34990
 polyphenanthrene, electronic struct., 1-D tight binding SCF-CO calc. 4-6695
 polypyridinopyridine, electronic struct., valence effective Hamiltonian 4-34867
 polypyrrole, and derivatives, electronic struct., valence effective Hamiltonian 4-34867
 polyselenophene, conducting polymer, electrochem. polymerisation 4-15866

energy gap continued

- quasi-two-dimensional systems, mag. quantum oscils. 4-15893
 rare earth compounds, nonmetal-metal transition, elec. resist. and dynamical cond. 4-20566
 rare earth compounds, nonmetal-metal transition, electronic density of states 4-20565
 rare earth sesquisulphides, optical band gaps, absorpt. edge meas., diffuse reflectance spectroscopy 4-2937
 semiconductor, three-band Kane model, many particle effects 4-34858
 semiconductor degenerate materials with nonuniform band struct., elec. current, carrier density 4-50839
 semiconductor heterojunctions, abrupt, band gap discontinuity rel. to interface struct. 4-6875
 semiconductors, direct-gap, scaling rules for multiphoton interband absorpt. coeffs. 4-49432
 semiconductors, energy gap, temp. depend. 4-56204
 semiconductors, forbidden-band width, temp. depend., semiempirical calc. 4-56209
 semiconductors, narrow gap, band mixing calcs. 4-50717
 semiconductors, press. coeffs. of band gaps 4-56188
 a-Si, density of states in energy gap, Bethe lattice model (Chinese) 4-20605
 solar cells, amorphous, single-junction and tandem, optimal design 4-12484
 solids, electronic energy bands, density functional theory, self-interaction correction 4-20540
 superconductors, nonequilibrium phonon effect on energy gap (Russian) 4-56484
 TCNQ salt, TMA-I-TCNQ, intrinsic semicond., elec. props. and phase transitions 4-2617
 5,6,11,12-tetrachlorotetracene, optical and photoelectric props. (Russian) 4-35462
 (TMTSF)₂F₂PO₂, resist. meas., metal-insulator transition obs. 4-30031
 (TMTTF)₂X salts, (X=Br, ClO₄, NO₃, SCN, BF₄, AsF₆, PF₆), thermopower studies 4-20682
 transition metal chalcogenides, M₅X₄, fusion of metal clusters, valence electron conc. depend. 4-34852
 transition metals and their cpds., electron-phonon interaction, self-consistent theory 4-15603
 AgInS₂(Se₂) and AgInSe₂(1-x)S₂, cryst. growth and props. 4-25874
 Al-Si₃N₄-GaAs MIS struct., characterisation using capacitance method (French) 4-35073
 Al_{1-x}Ga_xAs:Sn(Ge)(Te)(Cu) epitaxial films, impurity photolumin. 4-16263
 AlGaAsSb multijunction cascade solar cells, band gap span influence on efficiency 4-12480
 Al_{1-x-y}Ga_yIn_xAs, band struct. calcs. 4-20559
 Al_{1-x-y}Ga_yIn_xAs, multinary alloys, energy gaps, CPA calc. 4-25214
 Al_{1-x}In_xAs epitaxial layer, lattice matched to InP, direct energy gap, cathodoluminesc. study 4-45616
 Al₂O₃ film, anodic, photocond. in 3 to 6.2 eV range, localised levels 4-2664
 Ar, electronic energy bands, density functional theory, self-interaction correction 4-20540
 As₄ vapour deposited yellow films, struct. and optical props., condensation condition effects 4-39722
 As₄₀Se₆₀/Ge₂₅Se₇₅ multilayered amorphous film struct., long-range interactions, IR absorpt. study 4-20959
 As₄₀Se₆₀-Ge₂₅Se₇₅ multilayered amorphous struct., long-range interaction 4-15951
 Bi₂S₃ film, growth using soln.-gas interface technique, elec. and optical props. 4-29850
 Bi_{1-x}Sb_x alloys, pure and Te doped electron conc. and cyclotron mobility 4-15876
 Bi₂Sb_{2-x}S₃ solid solns. use as photoelectrodes (French) 4-30018
 a-C:H thin films, optical consts. and dielectric props. 4-46339
 Cd₂Hg_{1-x}Te, magnetoabsorption and photoluminescence 4-11872
 Cd₂Hg_{1-x}Te, nonresonant interband Faraday rotation study 4-46238
 CdO-ZnO-P₂O₅ glasses, IR transmission spectra, absorpt. band gap determ. 4-11876
 CdS polycrystalline films, bath deposited, photosensitivity and optical props. (Korean) 4-16262
 CdSe, deform. of band gap absorpt. edge by laser radiation (Russian) 4-7215
 CdSe_{1-x}Te_x films, impurity luminesc., photocond. meas., comp. depend., band struct. 4-35506
 CdTe, long-time photoconductivity relax. (French) 4-15913
 p-Cd_{1-x}Zn_xAs₂, composition depend. of band gap, photocond. obs. 4-25222
 Cd₂Zn₂Mn₂Te₂ lattice parameter and optical-energy gap values 4-29393
 Cr, surface magnetism of (110) face, angle-resolved photoemission study 4-30608
 CsI, energy gap decrease at high press. 4-45328
 Cu complexes, polymeric alkaline o-phthalatocuprates(II), negative photoconductivity effect 4-25394
 Cu-Zn(Al)(Ge), Hume-Rothery alloys, composition depend. of optical gaps 4-20936
 Cu₂Ag_{1-x}Cd_xInTe₂, photocond. meas. 4-30009
 (Cu_{1-x}Ag_x)(Ga_{1-x}In_x)(Se_{1-x}Te_x)₂, lattice parameter and optical-energy gap values 4-29392
 CuAlO₂, photoelectric props. and band struct. 4-45827
 CuInS₂, modulated refl. spectra, energy gap determ. 4-25780
 CuInS₂, single cryst., elec. and optical props. 4-29989
 CuInSe₂, refl. and absorpt. spectra near band gap 4-20972
 CuS amorphous thin films, preparation and optical props. 4-11420
 Cu_{2-x}Se, electronic and lattice thermal cond. meas. 4-6570
 CuWO₄, single cryst., AC and DC cond., 300 to 1000K, cond. mechanism, band gap 4-2608
 Dy₂O₃:B, thin films amorphisation, forbidden gap 4-55725
 Fe anodic oxide films, in-situ reflection-spectroscopic study 4-46348
 Fe complexes, pyridine-Fe(III), ligand-to-metal charge-transfer excited states lifetimes, isotopic substitution and temp. effects 4-15858
 Fe, passivation films in neutral borate and acidic phosphate solns., reflectometry study 4-57430
 Ga chalcogenide layer compounds, growth and characterisation 4-7344
 Ga_{1-x}Al_xAs semiconductor alloy variable-gap cells with several junction energy gaps for a high efficiency solar energy system 4-21558
 GaAs (100), electronic surface states distrib. calcs. 4-56404
 GaAs (100) surface band struct., surface photovoltaic study 4-56403
 GaAs, charge density and energy gap calcs. 4-39774

energy gap continued

- GaAs epitaxial layer, picosecond absorption saturation, wavelength depend. 4-28783
 GaAs surface electronic props. of (100) face, thermally cleaned in UHV and O covered 4-56409
 GaAs/metal struct., interface states, Schottky capacitance spectra studies 4-15929
 GaAsP strained-layer superlattices, independently variable band gaps and lattice consts. 4-2465
 GaAs_{1-x}P_x, energy band struct. calcs. 4-29884
 Ga_{0.9}In_{0.1}P, two-modes behaviour, reson. Raman scatt. of disorder induced modes (*French*) 4-35446
 Ga_{0.9}In_{0.1}P, energy band struct. calcs. 4-29884
 GaP-ZnSe solid solns., behaviour of electron energy bands 4-50722
 Ga_{0.9}Se_{0.1} solid solns., elec. props. study, rel. to struct. and optical props. 4-29987
 n-GaSb, conduction band parameters, Hall effect and magnetoresist. 4-56370
 Ge (111) surface, cleaved, ellipsometric study as function of temp., 300-700K range 4-56873
 a-Ge, heavily doped, Coulomb gap, disorder effect, cond. study 4-45781
 a-Ge:H, doped and undoped, defect correl. energy, IR absorpt. 4-40483
 GeS₂, glassy, optical gap, temp. depend. 4-2894
 GeS₂, single crystals, opt. absorpt., transmission and reflectivity, energy gap 4-25777
 Ge_{1-x}Se_x(Se_x) chalcogenide glasses, cluster interactions, Raman studies 4-46253
 (GeTe)_{1-x}(AgSbTe₂)_x, fundamental energy gap, temp. depend. 4-2509
³He, superfluid B-phase, gap distortion effect on magnetisation motion 4-3740
 n-Hg_{0.96}Cd_{0.04}Te, Shubnikov-de Haas effect under pressure 4-29871
 Hg_{1-x}Cd_xTe, energy band gap 4-11436
 Hg_{1-x}Cd_xTe, energy gap, comp. and temp. dependence from optical absorpt. data 4-20555
 Hg_{1-x}Cd_xTe, energy gap bowing calcs. 4-11437
 Hg_{1-x}Mn_xTe, IR detector material, band structure, elec. props., mag. props. 4-39937
 In chalcogenide layer compounds, growth and characterisation 4-7344
 InAs, optical bistability obs. at band gap 4-49427
 InGaAsP, absorpt. coeff., band struct., IR spectra 4-35403
 InP/electrolyte interface, hot carrier injection of photogenerated carriers 4-15956
 InSb, luminesc. spectra and optical heating of electrons 4-25807
 n-InSb, thermal-electric instability in static mag. and elec. fields 4-34997
 InSb-based MBE grown systems, struct. and elec. props. 4-15791
 K, energy spectrum of incommensurate CDW, energy gaps 4-56200
 KCl, surface, local density of electronic states 4-40012
 LiCl, electronic energy bands, density functional theory, self-interaction correction 4-20540
 LiInS₂ thin films, vacuum deposition and optical props. 4-40557
 LiInS₂, fundamental absorption edge study 4-46284
 Na, energy spectrum of incommensurate CDW, energy gaps 4-56200
 Nb₃Ge, tunnelling $\alpha^2F(\omega)$ and heat capacity meas. 4-30120
 Nb₃Te₄, fusion of metal clusters, valence electron conc. depend. 4-34852
 Ni anodic oxide films, in-situ reflection-spectroscopic study 4-46348
 Os complexes, polypyridine-Os(III), ligand-to-metal charge-transfer excited states lifetimes, isotopic substitution and temp. effects 4-15858
 Pb chalcogenides, energy gap versus refractive index relationships 4-56879
 PbF₂, electronic band gap and exciton states, temp. depend. 4-6712
 PbSe:Cd, heavily doped, elec. and optical props. 4-15920
 Pb_{1-x}Sn_xTe, indirect optical transitions (*Russian*) 4-56946
 Pb_{1-x}Sn_xTe p-n junctions, I-U characts., hydrostatic press. depend. 4-35050
 RuS₂, single cryst., growth and phys. props. 4-29970
 Sb₂S₃ films, growth by soln.-gas interface technique, optical and electrical props. 4-29838
 a-Se thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355
 Si, amorphous, prepared by CVD, refr., index depend. on optical gap 4-7257
 Si, amorphous and microcrystalline, vacuum deposition form. 4-46442
 Si, electronic struct., cluster approach (*Russian*) 4-34868
 Si, electronic transport at grain boundaries 4-20670
 Si, heavily doped, energy gap narrowing meas. 4-50835
 Si, heavily doped, n- and p-type, photoluminesc. and excitation spectra, optical and reduced band gap 4-46326
 Si, oxidised, MOS struct., paramag. defects and electronic deep levels, EPR 4-46107
 Si p-n junctions, built-in voltage in heavily doped region 4-40032
 Si, sputtered amorphous solar cell, deposition parameters rel. to photovoltaic props. 4-21541
 a-Si thin films, magnetron sputtered, props., influence of deposition parameters 4-50686
 Si:Au-Fe, deep levels in band gap, EPR and DLTS study 4-50754
 Si:B(P), amorphous CVD films, doping and elec. props., plasma hydrogenation effects 4-39321
 Si:H, amorphous, CVD prep., optical, electronic and device props. 4-16337
 a-Si:H, conduction mechanism and photocond. 4-25350
 a-Si:H, density of gap states determ., const. photocurrent method, transient current spectroscopy 4-39762
 a-Si:H, gap state parameters, isothermal capacitance transient spectroscopy (*Japanese*) 4-20609
 a-Si:H, gap states density, deep levels, TSC meas. in space charge zone 4-2623
 a-Si:H, N glow discharge films, optical band gap, H content effects 4-57011
 a-Si:H, occupied gap states distrib., photoelec. yield spectroscopy 4-40596
 a-Si:H, optical energy gap, H content depend. 4-40392
 a-Si:H, RF glow discharge deposited, optoelectronic and photovoltaic props. meas. 4-50864
 a-Si:H-B, density of gap states determ., space charge spectroscopy 4-39759
 a-Si:H-B films, prep. by glow discharge, optical props. 4-35508
 a-Si:H:Cl, doping in RF glow discharge 4-45158
 a-Si:H:N films, plasma deposition, optical and elec. props. 4-39716
 a-Si-H and a-Si, hydrogenated bond states, rigorous energy bounds 4-45682

energy gap continued

- a-Si:H CVD films, struct. and electronic props., Raman scatt. study 4-40436
 a-Si:H film, electric field induced conduction drift (*Chinese*) 4-20746
 Si:H film, optical band gap, IR absorpt. spectrum meas. 4-2984
 a-Si:H film, plasma deposited, field effect conductance, temp. depend. 4-39903
 a-Si:H film Schottky barrier diodes, space charge capacitance, freq. and temp. depend. 4-40047
 a-Si:H films, local states in band gap, photocond. and dark cond. studies 4-25403
 a-Si:H films, P doped and undoped, optical gap, Urbach tail parameters, temp. and doping effects 4-40391
 a-Si:H films, prep. by ion beam deposition, photoacoustic spectroscopy, charge transport 4-40484
 a-Si:H films, RF glow discharge deposition and solar cell appls. 4-45825
 a-Si:H sputtered film, preparation, elec. props. 4-51490
 a-Si:H sputtered films, optical props. 4-30544
 a-Si:H thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355
 a-Si:H ultrathin layers, quantum size effect, optical props. 4-21057
 a-Si:H, optical absorpt. edge, site disorder effect 4-40473
 a-Si:H-Pt(Yb) contacts, density of gap states determ., transient junction spectroscopy 4-40045
 a-Si:Se, films, optical gap, elec. resist. meas., stability reduction by microvoids 4-40395
 Si-Ge alloys, electronic and optical props. KKRZ pseudopot. calc. 4-15815
 a-Si+H films, evaporated, gap states distrib. determ. before and after hydrogenation, SCL current meas. 4-39761
 SiC, electron irradi., optical props., annealing effects (*Japanese*) 4-46286
 Si_{0.9}C_{0.1}-x amorphous CVD films, photoluminescence and optical props. (*French*) 4-46320
 Si_{0.9}C_{0.1}-x:H amorphous films, plasma-deposition, ion beam effects 4-25900
 Si_{1-x}Ge_x:H, amorphous, density of states by space-charge limited currents, photoluminescence and optical gap 4-20663
 SiN_{1.5}H films, amorphous, prep. by RF glow discharge deposition, IR absorpt. 4-40552
 Si₃N₄, amorphous, defect states energy levels, trap states 4-50750
 SiO_x amorphous films, vacuum evaporated, optical and dielec. props., comp. dependence 4-30552
 SmB₆, energy gap suppression under press., elec. resist., semicond. and metallic behaviour 4-25409
 TaS₂ (1T), CDW induced energy gap, tunnelling meas. 4-56252
 TaSe₂ (1T), CDW induced energy gap, tunnelling meas. 4-56252
 TbF₃ film, opt. props., thickness and wavelength depend. 4-57012
 Ti anodic oxide films, in-situ reflection-spectroscopic study 4-46348
 Ti dicalcogenides, thermal expansion, US velocity and attenuation meas. 4-20383
 Ti_{1-x}Hf_xSe₂, plasmon and interband transitions, IR thermoreflectance meas. 4-56256
 Ti₃Al₂, pressed pellets, electrical transport, 300-580K 4-6781
 Ti₃OCl₂, pressed pellets, electrical transport, 300-580K 4-6781
 TiS thin films, chemical method for prep., characterisation 4-35588
 V₂O₃, metal-insulator transition, plasmon behaviour study 4-2515
 ZnGeAs₂, chalcopyrite, electronic charge density and crystallographic distortion, pseudopot. calc. 4-24768
 (ZnSe)_{0.9}(CdTe)_{0.1}-x single cryst., band gap energy, reflectance spectra and photocond. studies 4-2893
 (ZnSe)_{0.9}(CdTe)_{0.1}-x single crystals, vapour phase growth, surface topography, elec. cond. rel. to comp. 4-16302
 ZnTe, single crystal growth, characterisation (*Korean*) 4-40640
 ZnTe_{1-x}S_xSe_x solid solns., photoluminesc. and phonon spectra meas. 4-30524

energy gap, superconducting see superconducting energy gap

energy level crossing

see also Hanle effect

- acetone, methyl tunnelling motion, level crossing, field-cycling NMR spectra 4-46136
 ambient gas, mutual neutralisation rate enhancement 4-1258
 diatomic mols., two-state couplings, multichannel quantum defect anal., dissoci., line shapes 4-54823
 four-wave light mixing spectroscopy of atoms, Doppler narrowing and collision-induced Zeeman coherence 4-19516
 glyoxal, rot. consts., triplet quantum number, level anticrossing spectroscopy 4-23759
 glyoxal-Ar(Kr), Van der Waals complexes, vibr. predissoc., fluoresc. spectrum, lifetime meas. 4-54822
 multichannel analysis and $n^2(T)$ meas. for level crossing detect., error comparison 4-37185
 multichannel quantum defect analysis of diatomic predissociation and inelastic atomic scattering 4-54828
 nonadiabatic transitions in level crossing with energy fluctuations, analytical investig. 4-43851
 nonadiabatic transitions in level crossing with energy fluctuations, numerical investig. 4-43852
 photon statistics for level-crossing detect. 4-5182
 polyatomic mols., radiationless transitions, pot. surface crossing 4-1202
 three-level atoms, optical bistability, coherent nonlinear mechanism 4-55118
 two-level atom, behaviour in strong multimode synchronised radiation field 4-33376
 uniform semiclassical theory of avoided crossings 4-9840
 violations of the noncrossing rule due to special symmetry and alternance 4-14353
 Ar I 3p⁴ configuration, crossing fields calc. of Zeeman sublevels 4-28400
 Ar³⁺+He, single e⁻ capture, energy loss spectra diff. cross sections 4-43979
 B₂N₂H₆, ¹⁰B NQR, level crossing calcs. 4-28476
 B₂N₂H₆, ¹⁰B nuclear quadrupole double reson. spectra line intensities 4-7095
 Ba isoelectronic sequence, n=2 configurations, level values 4-5183
 CH⁺ radical, shape reson., curve crossing, complex rotated Titchmarsh-Weyl theory 4-33459
 He, highly excited, microwave ions, anticrossings role 4-9740
 He I, 1sn^D levels impact excitation by He⁺+He collision, level-crossing signals 4-28409
 K₂, ground, excited and Rydberg ²Σ states, model pot. calcs. 4-5153

energy level crossing continued

- Kr 1 $4p^55p$ and $4p^56p$ configs., crossing fields calc. of Zeeman sublevels 4-28400
 Li_2^+ , ground, excited and Rydberg $^2\Sigma$ states, model pot. calcs. 4-5153
 NO_2 , excited mol. state prep. and decay, optical-RF double reson. 4-33430
 Na_2^+ , ground, excited and Rydberg $^2\Sigma$ states, model pot. calcs. 4-5153

energy level transitions, atomic *see atomic spectra*energy level transitions, molecular *see molecular spectra*energy level transitions, nuclear *see nuclear energy level transitions*energy levels *see energy states*energy levels, atomic *see atomic structure*energy levels, molecular *see molecular energy levels*energy levels, nuclear *see nuclear energy levels*energy levels in solids and liquids *see electron energy states (condensed matter)*

energy loss of particles

see also channelling; electron energy loss spectra; radiation effects

- amine compounds, stopping powers for He^+ , chemical bonding effects 4-54839
 amorphous targets, ion beam penetration simulation 4-29494
 anomalous electron energy loss in small spheres 4-2238
 ARGUS drift chamber design and performance 4-18866
 atomic physics for ion-driven fusion, conf., Orsay, France (March 1983) 4-22514
 Bethe straggling expression, correction terms 4-9655
 Bethe-Bloch stopping power parameters for Al, Cu, and Ag extracted from recent accurate measurements 4-39357
 binary compounds, ion range parameters (*Chinese*) 4-2237
 Bragg's rule of stopping power additivity: a compilation and summary of results 4-2244
 bremsstrahlung radiation energy flux density, precision measurement 4-5117
 charge changing cross section, effective charge 4-5342
 charged particle deflection in hundred GeV regime using channelling in bent single cryst. 4-54560
 charged particle stopping, in supercompressed substance, simulation (*Russian*) 4-50382
 CLEO dE/dx system performance 4-23519
 crystal lattice, spatial distrib. of channelled ions, semi-empirical calc. 4-11208
 deuteron energy loss in neutron generator target for fusion blanket design 4-28193
 dielectric solids, latent ion damage tracks, model for form. 4-48871
 E DEP-1 program for nuclear stopping power data 4-9652
 electric and mag. charges energy loss in matter 4-23525
 electron attachment reactions in gases under NCI conditions, electron energy moderating gas effect 4-49160
 electron gas, charged particle slowing down, extension to Fermi-Teller formula 4-25260
 electron scattering and energy loss in matter, important parameters 4-34558
 electron stopping power values in S and Ca, dosimetry appl. 4-55895
 electron stopping powers, numerically biased, rectification 4-28227
 electron-photon showers, 200 MeV to 1 GeV, energy deposition, Monte Carlo code 4-37739
 energetic heavy ions, effective charge and stopping power rel. to gases, solids and plasmas 4-24579
 ethane, liq., electronic stopping cross-sections 4-20273
 fast ion energy losses in dense plasmas 4-24575
 ferroelectrics, fast electron bombarded, energy losses, temp. dependence 4-29497
 gamma ray buildup factors, result differences 4-54449
 gases, effective charges from stopping powers of heavy ions 4-19916
 heavy ion beam heated cylinders, hot dense matter expts. 4-24589
 heavy ion beams for bulk anal., calibration 4-52070
 heavy ion energy straggling 4-45228
 heavy ion stopping in finite temp. target, charge state, ab initio calcs. 4-24581
 heavy ion stopping power at intermediate energies, quasi-molecule contrib. 4-28310
 impurity atom location, modified continuum model for evaluation of channelling expts. 4-45224
 ion beam anal., conf., Tempe, AZ, USA (May 1983) 4-42579
 ion beam interactions in dense plasmas 4-6102
 ion beam-target interaction, plasma effects 4-24578
 ion damage track form. in insulators 4-29491
 ion implantation, nuclear energy loss, Thomas-Fermi scatt. cross section anal. 4-45232
 ion scattering, shadowing/blocking expts., Monte Carlo simulation 4-7299
 ion stopping in degenerate electron gas, polarisation losses, neutron star appl. 4-34557
 ion stopping power in ICF plasmas 4-24576
 Landau dist. for energy loss of particles, calcs. using LANDAU code 4-50381
 layered media, electron transport computation by invariant imbedding 4-37740
 light-ion stopping power, low-velocity predicted Z_2 structure and gas-solid difference 4-1239
 Makrofol polycarbonate plastic track detector, response to 1.1 MeV/N ^{132}Xe ion 4-23506
 mass stopping power ratio calc., conversion factors, dosimetry appl. 4-36239
 mean excitation energies, statistical calc. 4-28309
 measuring method effect on stopping cross section data 4-45229
 multistage autorecuperation 4-29500
 muonic Coulomb capture probabilities calcs. from electron binding energies 4-38282
 muons in gases, charge exchange, kinetic equations 4-19224
 mylar thin films, α -particle stopping power meas. 4-50385
 neutral beam stopping cross-section in fusion plasmas, enhancement due to multistep collision processes 4-44838
 neutron absorption in bulk media, measuring method 4-39347
 neutron star, magnetised, H and He free fall into atmosphere 4-4022
 neutrons, number of collisions to slow down, Dancoff's soln. 4-48616
 nonrelativistic charged particle beams, energy loss, beam-density effect 4-50015
 nonrelativistic ions, stopping in dense hot matter 4-24577

energy loss of particles continued

- particle beam-target interaction, diagnostics using K_α X-rays 4-24582
 particle identification by ionisation sampling 4-18855
 photon attenuation cross-section, theoretical-experimental comparison 4-37540
 plasmons, inelastic scatt. of fast particles 4-25271
 polycrystalline materials, ion slowing down, computer simulation 4-45227
 positron moderation process using high intensity, highly polarised slow-positron beams 4-24885
 proton energies at maximum of stopping cross section in $57 \leq Z_2 \leq 83$ 4-45226
 pyridines, substituted, temporary anion states, electron transmission spectra 4-5352
 relativistic particles, energy loss in Si detector calorimetry 4-43768
 relativistic particles identification from ionisation in gas 4-23510
 secondary electron image contrast, electron channelling effect 4-20061
 self-polarization and spin precession of channelled particles 4-29498
 soda glass, etch rate, ^{40}Ti ion track study, energy loss study 4-2232
 soda glass, heavy ion tracks study 4-5084
 sputtered particle fluxes, spatial profiles, thermalisation and diffusion 4-57053
 steel, structural, charged particle braking power and paths, 0.1 to 90 MeV (*Russian*) 4-39355
 stopping and straggling mean excitation energies prediction 4-49161
 stopping power of K electrons for relativistic incident electrons 4-18880
 stopping powers, higher-order Z_1 effects 4-72
 stopping powers for pre-equilibrium heavy ion beams 4-39356
 stopping rates for 30-330 keV light ions in materials with $57 \leq Z_2 \leq 83$ 4-45231
 straggling of 1.4-10 MeV/u heavy ions in gases 4-1013
 structural materials, charged particle braking power and paths, 0.1 to 90 MeV (*Russian*) 4-39355
 surface channelling of swift light ions, measurements and simulation 4-34553
 total photon cross sections in elements 4-55892
 water, low-energy electrons penetration 4-20276
 water, vapour, Bragg rule for stopping power 4-1014
 X-ray transition radiation detectors calcs. 4-54540
 Z_2 stopping power oscillations as derived from range measurements 4-45230
 Z-pinch particle orbit clarification and energy balance 4-34306
 α -particle energy loss in hot dense laser produced plasma 4-6017
 Ag ion stopping in solids, X-ray Doppler shift investig. 4-20274
 Ag thin films, α -particle stopping power meas. 4-50385
 Al, 4-MeV proton stopping resulting in time-resolved acoustic pulse generation 4-34584
 Al, electron transport calc., two discrete ordinates methods comparison 4-37742
 Al, electronic absorption coeff. for ^{57}Co 14.4 keV X-rays 4-54573
 Al foil, energy loss straggling for electrons 4-50386
 Al, K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 Al thin films, α -particle stopping power meas. 4-50385
 Al_2O_3 anodic film in borate soln., film density and stopping power for α -particles 4-57062
 $Ar^{35+} + He$, single e^- capture, energy loss spectra diff. cross sections 4-43979
 ^{40}Ar ion tracks study in cellulose nitrate 4-23505
 Au thin films, α -particle stopping power meas. 4-50385
 Ba_2NaNbO_{15} , bronzes, optical, ferroelectric and electronic props. 4-35465
 $Ba_2Sr_{1-x}Nb_2O_6$, bronzes, optical, ferroelectric and electronic props. 4-35465
 $BaTiO_3$, ferroelectric target, beta particle critical transmission at Curie temp. 4-55893
 $BaTiO_3$ target, external bremsstrahlung due to β particles from ^{90}Sr , ^{90}Y reaction 4-24882
 C foil, elastic multiple scatt. of transmitted electrons, energy loss straggling 4-45236
 C probe surface exposed to low press. plasma impurity ions energies determ. 4-51432
 C thin films, α -particle stopping power meas. 4-50385
 C thin foils, protons energy straggling 4-5114
 CO, beam-foil excited, C-fragment Auger electron line shape 4-28547
 ^{252}Cf fission fragments, Ag stopping power meas. 4-53403
 ^{252}Cf fission fragments energy deposition in gases and solids 4-38021
 Cu foil, proton stopping cross section meas., Rutherford backscattering spectra, foil thickness determ. 4-50383
 Cu, K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 D pellet ablation in fusion plasma, stopping power problem 4-23428
 Ge, depth profiles of 20-100 keV light ions 4-45225
 Ge, energy loss and channelling phenomena for GeV particles 4-2242
 H muonic atom, muon transfer to He, charge exchange mechanism 4-33567
 H^+ , energy loss and straggling in AG 4-5116
 H^+ stopping power in H_2 and He gases 4-38281
 $H^+ + Cl_2(Br_2)$ gas, H^+ -stopping cross sections and excitation energies 4-9929
 H_2 , subexcitation electron energy distrib., stopping cross sections 4-10102
 H_2 , subexcitation electron energy distrib., stopping cross sections 4-10102
 He^+ energy loss and straggling in Ag 4-5116
 3He electron capture and stripping, high energy 4-23800
 4He stopping cross section in H_2 , He, N_2 , O_2 , Ne, Ar, Kr, Xe, methane and CO_2 4-1012
 Li, K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 $MgZnTe$, energy deposition and heating kinetic anal. under pulsed electron bombardment (*French*) 4-55879
 NO^+ , excited states, translational energy spectroscopy 4-23682
 NO_2^+ , excited states, translational energy spectroscopy 4-23682
 NaCl surface, Cu coated, electron channelling, average penetration depth 4-50390
 Ni, positron transmission and effective mass absorption coeff. 4-25827
 Ni thin films, α -particle stopping power meas. 4-50385
 ^{238}Pu , A=238, 241, fission fragments energy deposition in gases and solids 4-38021
 π^- beams, low energy, interaction with nucl. emulsion, energy-range relations 4-18872
 Si (100), (2×1) reconstructed, ion beam scatt. study 4-7298
 Si (111) He^+ scatt. energy loss, energy and ang. depend. 4-11996
 Si, alpha-particle channelling stopping power, position depend. 4-55894
 Si, depth profiles of 20-100 keV light ions 4-45225

energy loss of particles continued

- Si detector, energy loss distrib., for protons and several relativistic particles 4-48891
 Si, energy loss and channelling phenomena for GeV particles 4-2242
 Si, ion-surface backscattering of 1 MeV He ions, computer simulation 4-16285
 a-Si, low-energy heavy ion ranges, shell effects 4-50388
 Si, positron blocking from muon decay 4-51172
 Si thin films, α -particle stopping power meas. 4-50385
 a-Si:Ar(Kr)(Xe), stopping cross sections for MeV He ions 4-24880
 Si:As⁺, channelled ion implantation at 300°C, distrib. and lattice location 4-11167
 Si:B, range meas. using neutron depth profiling facility 4-46815
 Si:Hg, ion implanted, annealed and unannealed depth distrib. 4-34515
 TGS, ferroelectric target, beta particle critical transmission at Curie temp. 4-55893
 Ti, alpha-particle stopping power meas. 4-50384
 Ti thin films, α -particle stopping power meas. 4-50385
 TiB₂, particle and energy reflection coeff. 4-40591
 TiC, particle and energy reflection coeff. 4-40591
^AU, A=233, 235, fission fragments energy deposition in gases and solids 4-38021
 V, alpha-particle stopping power meas. 4-50384
 W, ion bombarded with W₂⁺ (Ag₂⁺), nonlinear depleted zones obs. 4-20266
 WO₃, particle and energy reflection coeff. 4-40591
 Xe filled proportional scintillation wire chamber, energy loss distrib. meas. 4-23522
 Yb, electron impact, reson. effects 4-23819
 ZnTe, energy deposition and heating kinetic anal. under pulsed electron bombardment (French) 4-55879

energy measurement see power measurement**energy-range relations see energy loss of particles****energy resources**

- see also fuel; geothermal power; hydrogen economy; solar energy concentrators; solar power; wind power
 alternate energy resources and technologies for rural Third World countries 4-57626
 alternative energy sources and new energy technologies for Turkish rural areas 4-57632
 alternative energy sources for electricity generation 4-26263
 alternative energy sources in Iran: the state of the art 4-57634
 automobile exhaust emissions and energy consumption, forecasting by computer 4-16820
 Azores geothermal program for 1983 to 1987 (Portuguese) 4-7806
 Bangladesh, alternative energy sources 4-31060
 BETAPLOT user's manual, black oil reservoir simulator, output processing 4-16732
 black oil reservoir simulation program user manual 4-16733
 boreholes, tailored pulse stimulation anal. 4-17157
 Cerro Prieto geothermal area, Mexico, production induced boiling 4-12826
 Cerro Prieto geothermal field, Mexico, heat and water transport model 4-52659
 Cerro Prieto geothermal field, Mexico, Rn study of reservoir thermodynamic conditions 4-12825
 Cerro Prieto geothermal system 4-12446
 CH₄ production from geopressured aquifers using downhole gas separator 4-57627
 Chinese energy resources present status of utilisation and research 4-26262
 comparative economic development factors (French) 4-31058
 conference, energy and the environment, Zurich-Derlikon, Switzerland, (May, 1983) (German) 4-18
 Danish villages alternative future energy supplies, pilot project 4-57752
 Darling Basin, NSW, Australia, hydrocarbon deposit prospects 4-58111
 deep-sea operations marine technologies over next ten years (Italian) 4-3847
 direct and indirect means for solar energy utilisation 4-12459
 efficient use in United Kingdom 4-52080
 electrochemistry, industrial appl. (Italian) 4-57564
 energy 2000-2020: world equilibrium and regional tensions (French) 4-46851
 energy balances according to world regions 4-41298
 Energy Conservation Demonstration Projects Scheme 4-35974
 energy from renewable sources for rural communities of the state of Rio Grande do Sul, Brazil 4-57633
 energy options, alternative sources, international conference, London, England, (April, 1984) 4-47735
 environment politics, conflicting objectives with energy requirements (German) 4-3491
 environmental conservation, electricity demand, soln. of conflicting aims (German) 4-3497
 environmental protection role in industrial policy of electricity supply company (German) 4-3499
 estimation of the quality of energy sources and uses 4-16729
 European biomass resources, energy programmes and conversion technologies 4-26265
 European economic development and energy consumption, Explor model data bank restructuring 4-26264
 European energy supply, 12D model structure and results 4-21516
 European energy system, candidate technologies for relief 4-21517
 fault opening and slip due to fluid injection for geothermal heat extraction 4-41879
 Fenton Hill hot rock geothermal site, New Mexico, USA, induced seismicity 4-47151
 fossil energy and its alternatives—a problem which goes beyond costs and prices (French) 4-31057
 fossil energy sources processing utilisation of hydrogen 4-3447
 French energy planning economics (French) 4-31059
 future energy needs and alternative sources for Zaïre 4-52097
 geothermal prospecting supported by European Community 4-26268
 geothermal reservoir, vapour-dominated, at Serrazzano, Italy, distributed parameter modelling 4-52788
 geothermal reservoir exploitation in Vosges region, France, effects of trace elements 4-41830
 geothermal systems, principles and case histories (book) 4-42623
 government duty to protect the environment, energy conflicts (German) 4-3489
 hot water underground stores of arbitrary shape, dynamics anal. 4-12491

energy resources continued

- Indonesia energy resources and influence on world markets 4-16730
 industrial energy and conservation in developing countries 4-16727
 Japanese renewable energy resource potential 4-12456
 large energy-economics models, sensitivity theory appl. 4-31055
 long-range energy policy, planning model guidelines 4-57625
 LWR scenarios possible for current U resource base 4-21534
 making energy sector assessment studies in LDCs 4-16726
 natural ecosystem exploitation for energy, economic vs. ecological considerations 4-21594
 natural gas, role in Canadian petrochemicals (French) 4-7798
 natural gas deep in Earth, chemical composition 4-41816
 natural gas in Canada's energy balance (French) 4-7797
 necessary use of all available energy sources (French) 4-31056
 new and renewable energy sources, biomass, hydropower, ocean energy and tidal power 4-26261
 oil generation, physical-chemical models 4-41916
 oil substitution for electricity generation, prospects (French, German) 4-41302
 peat field surveying, radiowave probe design 4-13090
 petroleum maturation in San Juan Basin, Colorado-New Mexico, rel. to heat flow and palaeotemps. 4-17108
 petroleum potential of central Eromanga Basin, Queensland, seismic refl. results 4-58178
 petroleum prospects in central Eromanga Basin, Australia, geophysical studies 4-58177
 primary, future energy supply: the concept of the new horizontal integrated system (German) 4-52079
 R&D, pursuing methods in Japan (Japanese) 4-3445
 R&D at ETL (Japanese) 4-3446
 rational use and conservation policy (French, German) 4-41299
 remote sensing, Landsat-4, image data quality anal. for energy-related appls. 4-21514
 renewable energies and World's energy requirements (French, German) 4-41301
 renewable energy sources, Department of Energy research and development programme, strategic overview 4-57637
 Romanian energy programme 4-41324
 NW Scotland, wave power schemes influence on environment 4-26331
 secondary energy resources utilisation in chemical industry 4-57624
 size optimisation in power stations, economical, ecological, political, social aspects (German) 4-3498
 solar energy utilisation, role of climate and sunlight parameters 4-8303
 Swiss energy policy, environment and energy consumption relationships (German) 4-3490
 Toko Syncline, Georgina Basin, Queensland, Australia, petroleum prospects 4-58109
 wood gasification technology and resource availability 4-3449
 wood residues, conversion to methanol by gasification methods 4-7795
 World's energy reserves and production capacities (French, German) 4-41300
 World Petroleum Congress, geology, exploration and reserves, London (Aug.-Sept. 1983) 4-4155
 U, fuel, for European nuclear power stations, economics and security of supply (French) 4-41322
- energy states**
 see also atomic structure; electron energy states (condensed matter); energy level crossing; molecular energy levels; nuclear energy levels; population inversion
 No entries
- energy states in solids and liquids see electron energy states (condensed matter)**
- energy storage**
 see also capacitor storage; direct energy conversion; energy storage devices
 125 kJ plasma focus, energy coupling expts. 4-34332
 air conditioning, cool storage for energy saving and management in Kuwait 4-36034
 Albuquerque Central Receiver Test Facility Solar Molten Salt Electric Experiment 4-57769
 aquifer thermal energy storage, flow lines recoverable zone 4-3479
 aquifer thermal energy storage, injection-recovery expts. and convection suppression 4-52215
 aquifer thermal energy storage, well doublet expt. at increased temp. 4-16802
 aquifer thermal energy storage system, surface heat exchange study 4-52214
 baffled rock bed, horizontal, thermal energy storage effectiveness 4-57787
 central- and distributed receiver solar thermal power plants, state-of-art and problems 4-7902
 clathrates, cool storage phase change materials 4-12490
 compressed-air energy storage unit 4-26327
 distributed receiver solar power plant design 4-7903
 dual energy conversion, integrated cold reservoir and energy roofing brine circuit system (German) 4-46882
 energy storage, compression and switching, conf., Venice, Italy (Dec. 1978) 4-31967
 geothermal heat, in underground captive water, French feasibility project (French) 4-21590
 graphite intercalation compounds, appl. to thermal energy storage (French) 4-46893
 graphite-BF₄⁻ intercalation cpd., C₂₄BF₄⁻, electrochem. energy storage appls. (French) 4-46902
 graphite-K intercalation cpd., KC₈, electrochem. energy storage appls. (French) 4-46902
 graphite-NiCl₂ intercalation cpd., C₇NiCl₂, electrochem. energy storage appls. (French) 4-46902
 H₂ energy prospects in Canada 4-36035
 heat pump systems, solar assisted, performance in residential applications 4-41363
 heat pump systems for residential/commercial space and water heating 4-7891
 heat-of-fusion storage using salt hydrates, refrigerants use for reflux boiling direct contact heat exchanging 4-57795
 high temperature energy storage, applications 4-57790
 high temperature storage of solar power, applications 4-21587
 ice/water latent heat storage for solar absorber house heating systems (German) 4-26326

energy storage continued

Kerava solar village, Finland, simulation of expected performance 4-21576
 latent heat storage, low temp., by reciprocal salt pairs 4-52212
 latent heat storage tanks, heat transfer with phase change around finned cylindrical tubes 4-57785
 latent heat thermal energy storage reservoir using spherical capsules (Japanese) 4-41383
 latent heat thermal energy storage reservoirs, optimum design (Japanese) 4-16801
 long term heat accumulator for district heat supply in West Berlin (German) 4-41381
 metal hydrides, energy storage appl. 4-52221
 methyl viologen and anionic solutes, ion pair complexes, luminesc. props., application to solar energy storage 4-40492
 mobile dwelling utilising solar and wind power for heating, hot water and electric power supply 4-31072
 multilayered aquifer thermal energy storage system with buoyancy flow, field expt. prediction 4-52216
 natural convection with coupled mass transfer in porous media 4-38806
 NTS test bed for novel HVAC systems evaluation 4-52190
 packed-bed thermal storage unit, spherical, transient solid-fluid temp. responses 4-57788
 paraffin wax, energy storage dynamics in cylindrical containers 4-31123
 paraffin wax storage sub-systems parametric sensitivity studies 4-26316
 phase change material in pool, heat transfer, effect of cycling 4-57794
 phase-change material, semi-transparent vertical slab, solar radiation induced melting 4-57786
 photovoltaic solar energy systems, stand-alone, loss-of-power probabilities estimation 4-41319
 polyethylene, high-density, radiation cross-linked, thermal energy storage appls. 4-36033
 polyethylene, latent heat thermal storage material, thermal oxidative aging (Japanese) 4-41382
 rock beds velocity profile measurements, non-uniform flow effect on solar contribution 4-52211
 scaling experiments on plasma opening switches for inductive energy storage applications 4-50100
 shallow solar ponds, series connected, thermal performance 4-41374
 solar collector water heating system for transportable wash room (Czech) 4-41368
 solar domestic water heating with salt hydrate heat-of-fusion storage unit, expt. 4-3480
 solar energy accumulation in solar hothouses 4-16799
 solar energy by nitrogen fixation 4-57796
 solar energy storage and utilisation 4-7828
 solar heat-pipe water heater, analytical model 4-57761
 solar heating systems, liquid phase equilibria systems involving hydrated salts as energy storage medium 4-46891
 solar hot water systems, straight through and recirculation-types, comparative economic anal. 4-41369
 solar hothouse subsurface regenerative gravel heat accumulator heat and mass transfer 4-16798
 solar industrial hot water systems with storage, design and optimisation 4-26321
 solar pond, reflecting bottom, dynamic performance and optimisation 4-57758
 solar pond, shallow, experimental performance for water heating 4-57774
 solar ponds, alternate energy options for United States 4-52210
 solar ponds, immiscible, laboratory tests, for Hawaii 4-57773
 solar powered water heaters, natural-circulation, measured performances 4-52191
 solar steam production plant, modelling and control 4-57779
 solar vapour absorption cooling system, choice of thermal energy system 4-41371
 solar water heating systems, forced circulation mode, long term performance 4-57757
 solar-heated house, optimum level of insulation 4-52192
 solar-thermal power system near Willard, New Mexico, operational characteristics. 4-21530
 status update of EPRI research project (1983) 4-35973
 storage water heaters, built-in, series connected, thermal performance 4-41374
 Summary of the report: heat storage in district heating water systems (German) 4-16800
 surplus heat storage methods, heat produced in summer stored for winter (German) 4-16762
 thermal energy storage, phase change shell and tube heat exchanger design 4-57792
 thermal energy storage by encapsulated Glauber's salt in a liquid fluidized bed 4-57784
 thermal energy storage cylindrical capsule, cyclic phase change 4-57791
 thermal energy storage in confined aquifer, temp. distrib. calc. 4-52213
 thermal energy storage in phase change heat exchanger, heat transfer 4-44349
 thermal energy storage in supersaturated salt solutions 4-46892
 thermal energy storage using alveolar containerization of phase-change materials 4-57793
 thermal storage media durability for compressed-air energy storage systems 4-12492
 thermal storage system optimum design 4-57789
 thermochemical high temperature storage of solar power, applications 4-21587
 transient analytical solution of solar energy devices 4-21573
 underground shallow solar pond water heater, effect of thermal trap on performance 4-57766
 unsaturated soil layer simulation for heat storage (French) 4-57783
 volume heat-trap solar collector using fine-particle semitransparent liquid suspension, one-dimensional heat transfer 4-26317
 wall heat transmission and storage under sinusoidal insolation 4-21566
 wind power storage options 4-46890
 Wolfsburg earth storage ponds for long term heat storage, utilisation for district heating in winter (German) 4-21588
 $\text{CaCl}_2 \cdot 6\text{H}_2\text{O}$ - $\text{SrCl}_2 \cdot 6\text{H}_2\text{O}$ latent heat stores reversibility problems 4-52209
 $\text{Ca}(\text{OH})_2/\text{CaO}$ reversible chemical reaction system for thermal energy storage 4-57797
 H_2 , energy economy based on hydrogen technology 4-12496
 H_2 energy systems materials degradation 4-36041
 Na_2SO_4 heat storage characts. in solar storage systems 4-26328

energy storage devices

application of hydrides to the silver-hydrogen system 4-7906
 design and testing of a plastic bubble-film covered shallow solar pond 4-46901
 effects of friction and extraction on the stability of solar ponds 4-46895
 flywheels, storage of energy from electric locomotive regenerative braking systems 4-57782
 in situ measurement of solar pond density profiles 4-46900
 inertial-inductive energy storage, current interruption techniques and components 4-37854
 numerical model to describe the layer behavior in salt-gradient solar ponds 4-46894
 numerical simulation of a solar pond with a stratified storage zone 4-46896
 numerical simulation of the performance of a salt-gradient solar pond 4-46897
 observations of the transmittance in two solar ponds 4-46899
 oscillatory motions in the nonconvective layer of a solar pond 4-46898
 redox flow cells, electric energy storage with advanced batteries and power generation with fuel cells (Japanese) 4-3455
 secondary energy storage requirements of the space satellite user in the late 1980s and 1990s 4-7861
 thermal storage tank, transient mixed convection flows, num. study 4-21589
 Fe/Cr redox battery, separator membranes, fouling mechanism 4-52217
 Zn-Br battery module, 10 kW, design and testing 4-7859
 ZnCl_2 battery development for utility energy storage 4-12467

energy transfer collisions, molecular *see molecular inelastic collisions*

engineering

see also biomedical engineering; civil engineering; design engineering; electrical engineering; environmental engineering; maintenance engineering
 fundamental and product training for film and television engineers 4-32343

engineering applications of computers *see engineering computing*

engineering computing

see also aerospace computing; chemical engineering computing; civil engineering computing; communications computing; control engineering computing; electrical engineering computing; electronic engineering computing; mechanical engineering computing; nuclear engineering computing
 AMBRA program for buildings/thermal behaviour simulation, field validation 4-52092
 anisotropic materials, interactive program for anal. of US modulus data 4-11214
 black oil reservoir simulation program user manual 4-16733
 central solar receiver tower reflected flux density calc. 4-52201
 EM scattering from perfectly conducting rough surfaces in resonance region 4-28604
 evaluated tubular solar collector with internal reflector and heatpipe 4-57768
 plasticity problems, rate-depend., large deform., computational aspects 4-24354
 solar domestic hot water system performance computing 4-41375
 solar hot water systems, straight through and recirculation-types, comparative economic anal. 4-41369
 tribological coating selection, intelligent knowledge-based systems appl. 4-30844

engineering societies *see societies*

engines

see also aerospace engines; heat engines; internal combustion engines; ion engines; propulsion
 ceramics, use in engines 4-51605

entertainment *see sports and entertainment*

enthalpy

see also heat of
 4-alkyloxy benzoinilidene 4-n-propyloxy aniline, liq. cryst., synthesis, thermodynamic and optical props. 4-50509
 alloys, ordered L1₂, anomalous yield behaviour theory 4-51727
 bacteriorhodopsin photocycle, photoacoustic calorimetry studies 4-41445
 benzene, enthalpy, sp. heat and latent heat of vaporisation 4-39533
 binary alloys, surface segregation and free enthalpy 4-2338
 butylurea, isomers heats of dilution, mol. interactions excess enthalpies 4-20377
 carbon-K intercalation cpd., sorption of H_2 isotopes at low temps. 4-39688
 1-cyclohexyl-2-(4'-halobiphenyl-4'-yl)ethanes, synthesis and mesomorphic props. 4-10977
 1-cyclohexyluracil-acetyl glycine N-methylamine, H bond complex formation 4-49179
 cyclopentadienyl manganese tricarbonyl, heat capacity and thermodynamic functions, 10 to 300K 4-11312
 n-decane, density calcs. using Lee-Kesler correlation 4-24888
 1,2-dichloroethane containing mixtures, conformational equilib. and calorimetric behaviour 4-16682
 dilution refrigerators, performance 4-8903
 DNA, heat capacity at low temp., moisture content depend. 4-12544
 generalised eqn. of state, boiling point as parameter 4-24954
 geothermal district heating, low enthalpy systems, economic analysis for northern France and UK 4-57654
 heat pumps, vapour compression type, dynamic interactions theoretical anal. 4-57748
 homogeneous nucleation of a coherent precipitate, statistical thermodynamic approach 4-15650
 homologous series of solutes in H_2O , thermodynamics 4-56026
 ionic surfactant aggregation, ion binding and the hydrophobic effect 4-31032
 latent heat storage, low temp., by reciprocal salt pairs 4-52212
 latent heat storage tanks, heat transfer with phase change around finned cylindrical tubes 4-57785
 liquid alloys, thermodynamic state functions, aggregation model (German) 4-34669
 liquid mixtures, heat of adsorption on solid surfaces 4-15766
 measurement by electrical matching boil-off flow calorimeter 4-53690
 melting/freezing processes, temp. distrib., enthalpy method in singularity region 4-15619
 metallic glasses, enthalpy relaxation near glass transition temp. 4-45014
 metallic glasses prepared with different quenching rates, struct. relax., DSC study 4-45008

enthalpy continued

- methanol-chloroform(acetone)(tetrachloromethane), mixtures, molar excess enthalpies using isothermal dilution calorimeter 4-25055
 methanol-chloroform-acetone(benzene-tetrachloromethane), mixtures, molar excess enthalpies using isothermal dilution calorimeter 4-25055
 n-octane, density calcs. using Lee-Kesler correlation 4-24888
 open-cycle diagonal-type MHD power generator, performance improvement 4-26299
 organic binary liquid mixtures, excess enthalpies and volumes meas. 4-2352
 physical property correlations, industrial viewpoint 4-20339
 PMMA and oligomers, enthalpy relax., mol. wt. effect; DSC obs. 4-39542
 polycyane anion radical sodium salts, solvation enthalpy and cryst. lattice energies 4-11318
 polydimethylsiloxane-solvent systems, heats of dilution, calorimetric meas. 4-29652
 polypropylene film, isotactic, blended with rubbers, kinetic, morphological and thermodynamic props. 4-11016
 polystyrene-b-poly(ethylene/propylene) block copolymer in n-decane, thermodynamics of micellization 4-12389
 pyridinium salts soln., association with bases, IR spectra 4-23695
 pyrrolyl manganese tricarbonyl, heat capacity and thermodynamic functions, 10 to 300K 4-11312
 rare earth monosulphides, thermodynamic props. in homogeneity range 4-39537
 reactor core concrete, enthalpy of melting, appl. to meltdown accident (German) 4-28152
 Refrigerant-12 stationary vapour, heat transfer with condensation on horizontal tube banks with different diameters 4-14974
 steam, thermodynamic props., data tables 4-43583
 steel, Si-Mn, tempering, enthalpy study (French) 4-21240
 tetrachloromethane+CS₂, excess molar enthalpy, 0.1-330 MPa 4-25059
 tetrachloromethane+dichloromethane, excess molar enthalpy, 0.1-330 MPa 4-25059
 thermotransport in solids, LeClaire-Brinkman theory 4-56062
 thiopivalic acid, self-association in solns., PMR chem., shift study 4-41199
 Al hot expanded liquid, vol., enthalpy, temp. and elec. resist. 4-45707
 AlN-Y₂O₃ sintered compacts, thermophys. props., high temp., elec. resist., strength props., oxidation resist. 4-50541
 B₂O₃ glass, annealing, enthalpy relax. 4-2349
 CO₂-N₂(methane), liq. vap. equilib. study 4-24983
 CO₂+cyclohexane, excess enthalpies, 7.5 to 12.5 MPa 4-25058
 Ca-Hg system, evaporation study using new Knudsen cell-mass spectrometer system 4-34624
 Co₈₈Ni₁₀Fe₂Si₁₁B₁₆, Vitrovac 6010, annealed, mech. and phys. props. (German) 4-57273
 Cu, diffusion of Cr and Mn, and Mn isotope effect 4-2381
 Cu-Ag-Ge, liq. alloys, enthalpy of form., dissoln. of Ge (French) 4-35611
 Cu-Ag-Si, liq. alloys, enthalpy of form., dissoln. of Si (French) 4-35611
 Cu-Ti, glassy, struct. relax., microcalorimetric study 4-45000
 CuI-CdI₂ system, Cu⁺ superionic solids 4-29683
 Cu₂O:Ag, diffusion and point defects 4-50585
 D₂O, thermodynamic props. in critical region 4-4165
 Er₂WO₁₂, enthalpy, sp. ht. determ., reversible phase transition 4-50534
 Fe-Cu-(Co)-C melts, thermodynamic props., C solubility and Fe/Cu activity coeffs. (Chinese) 4-7421
 FeAl-Y(La)(Ce), liq., enthalpy of form. 4-51628
 Fe(CN)₆⁴⁻ charge transfer interactions with heterocyclic cations, visible electronic absorpt. spectra 4-26205
 Ga-Si solutions, partial molar enthalpies at infinite dilution 4-6526
 GaP:Fe, optical and thermal props. of Fe 4-2547
 H₂O⁺+H₂O, gas phase clustering, thermochemical data, ab initio calcs. 4-46758
 H₂S-methane, liq. vap. equilib. study 4-24983
 In³⁺ ion in spinel struct., energy of preference of octahedral positions 4-52040
 In-Si solutions, partial molar enthalpies at infinite dilution 4-6526
 LaNi₅/CaNi₅/Mg₂Ni ternary hydrides formation and enthalpic behaviour 4-36040
 LiI-CdCu, fast interstitial diffusion processes 4-15707
 Lu₂WO₁₂, enthalpy, sp. ht. determ. 4-50534
 MgF₂:Li, nature of defects, diffusion and ionic cond. 4-15462
 MnFe₂O₄, elec. cond. study of phase equilibrium 4-29971
 NaCl, aq. soln., thermodynamic parameters comparison with Born eqn. predictions 4-2342
 Nb-O system and cpds., calorimetric studies 4-56043
 Nb₂O_{5-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 Ni, saturated vapour press. 4-50483
 Ni-B system, high temp. enthalpies and heat capacities 4-2354
 Ni-Zr, glassy, struct. relax., microcalorimetric study 4-45000
 PbF₂, perfect cryst. and intrinsic defect props., quasi-harmonic calc. 4-45127
 Pd-Ni-Si glasses, enthalpy relax. below glass transition 4-45359
 Pd-Zr, glassy, struct. relax., microcalorimetric study 4-45000
 PuC_{1.5}, thermodynamic values assessment, improved method 4-25057
 PuO_{1.5}, thermodynamic values assessment, improved method 4-25057
 (Rb,K₁₋₂)I solid solns., self-diffusion and ionic cond. 4-15682
 Si, ion implanted, pulsed electron beam annealing, melting and freezing kinetics 4-20254
 ThO₂UO₂ solid solutions, enthalpy, 2300-3400K 4-15660
 TiO_{2-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 Ti-Te melts, dissolved O, thermodynamic study using coulometric titration method 4-25060
 U chlorides, gaseous, thermochem. studies 4-41243
 U_{0.5}Am_{0.5}O_{2+x}, thermodynamic study 4-14055
 WO_{3-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 Y₂O₃, thermodynamic props. 4-45361
 Zr-Ni-H, amorphous, thermodynamics of H absorption 4-45358

entropy

- see also entropy of substances
 atmosphere, Prigogine diffusion theorem and appl. to transfer processes 4-42042
 baryonic matter, cosmological origin rel. to entropy per baryon (Polish) 4-53326
 Bianchi cosmological models, Gibbs entropy production 4-22644

entropy continued

- biological systems, entropy-driven processes 4-12543
 bound energy, entropy and US velocity abrupt changes at melting point 4-2274
 Carnot cycle, lost energy and entropy (Italian) 4-42900
 chemical generalised excess entropy, probability density for conc. fluctuations near stable steady state (German) 4-21420
 composite slabs for thermal insulation, heat flow, entropy generation, freq. domain anal. 4-5782
 current density, rel. to K-vector struct. and dynamic variables transport 4-48055
 defect melting, thermal props. 4-55971
 density distrib. function, differential entropy calcs. 4-210
 dislocation interactions with vacancies and interstitials, binding energy calcs. and vibr. entropy (Russian) 4-50336
 dissipative hamiltonian systems, unifying principle 4-42842
 entropy of planar random surfaces on the lattice 4-9026
 equilibrium states, metric struct., entropy and energy versions 4-27470
 first lecture on entropy 4-8693
 fluid mechanics, applications of entropy to predictability theory 4-53491
 Gibbs-Duhem eqn., extensivity 4-219
 harmonic systems, thermal energy transport and entropy 4-44357
 heat exchanger, flow reversible, temp.-entropy bond graphs 4-27529
 homogenous void nucleation, Gibbs energy 4-24803
 hydrodynamic dissipative fluxes, fluctuations, equilib. third moments and nonequilib. second moments 4-17862
 ideal gas mixtures, entropy, wave speed, frame depend., kinetic theory 4-34214
 ideal solns., entropy of mixing derivation conc. depend. 4-29636
 image entropy meas. with appl. to image focusing 4-54970
 interfacial equations of state, thermodynamic equilib. 4-39431
 inverse problems of NDE, maximum entropy formulation 4-28949
 inviscid fluids, thermoacoustic effects and entropy oscillations 4-45269
 ionic crystal compounds, standard entropies, approx. formulae 4-39540
 ionic solids, melting and ionic cond., correlations 4-39445
 irreversibility and nonlocality in second law of thermodynamics, entropy 4-4368
 irreversibility in statistical thermodynamics, origin (Chinese) 4-27467
 irreversible classical fields, bracket formulation 4-42843
 Ising 2-D spin glass, entropy discontinuities 4-25574
 Ising model, 2D random, equilib. props., numerical transfer matrix anal. 4-25577
 Ising model, 2D random, thermodynamic props. and spin glass correlation length 4-25576
 Ising model, anisotropic D+1 dimensional, competing multispin interactions 4-48036
 Karle-Hauptman determinants and entropy 4-39041
 Kolmogorov entropy estimation from chaotic signal 4-183
 lattice anharmonicity, separation from vacancy effects 4-34665
 librational entropy mechanism for elastomers with repeating peptide sequences in helical array 4-41412
 liquid, entropy and press. using inverse power pot. reference system 4-6237
 liquid crystals, smectic A and nematic phases, partition function, mol. ordering and thermodynamic props. 4-20099
 local entropy production and Gibbs relation, nonlinear revised Enskog eqn. calcs. 4-42904
 local moments in narrow band and metal-insulator transition, thermodynamic anal. 4-25228
 many body systems, von Neumann algebras, New-Tamm-Dancoff procedure 4-27469
 methyl radical+methyl ion, entropy bottlenecks in ion-molecule reactions 4-51984
 molecular fluids, non-axial, thermodynamic perturbation theory 4-20075
 negentropy, role in maximum work and conversion of form 4-8854
 Newton's algorithm and chaotic dynamical systems 4-53599
 non-equilibrium thermodynamics appl. in chem. engineering, distillation in wetted-wall column 4-32216
 nondiffusive system simulation, entropy estimation 4-50163
 nonequilibrium EM radiation 4-28602
 nonequilibrium entropy and irreversibility, book 4-8660
 open-cycle diagonal-type MHD power generator, performance improvement 4-26299
 probability distrib., entropy, relationship with statistical mechs. 4-42841
 production surface convexity rel. to steady currents 4-48054
 PVC, glass transition temp. and relax. time 4-39509
 quantitative Occam's razor 4-32027
 quantum and classical entropy relation 4-37063
 quantum energy-entropy inequalities, method for proving absence of symmetry breaking 4-36945
 quantum mech. of large systems, book 4-31990
 radiological imaging system, entropy calc. for duplicating series system 4-26502
 shifts dynamical systems, entropy functionals 4-27472
 spin glasses, cluster model and replica symmetry breaking 4-56650
 stressed systems, heat of adsorption and thermodynamic equilib. 4-39675
 superconducting channel, resistive state and min. entropy production 4-15988
 thermodynamical paradox for engine converting heat into work, comments 4-26308
 thermoelastic bodies, balance laws, supplementary conservation law 4-36909
 three-dimensional classical one-component plasma, crystallisation 4-55976
 transport processes, steady state, entropy production and predictive statistical mechanics 4-218
 ultrahigh compression by shock collision of layered structures 4-34133
 vapourisation entropy, temperature-pressure relationship 4-55981
 Na/S cells, thermal props. during charge and discharge 4-52133
 U chlorides, gaseous, thermochem. studies 4-41243
 ZnBr in ethyl acetate, glass forming non aqs. electrolyte, viscosity type study 4-39506

entropy of substances

- alkali metals, liquid surface theory 4-45454
 alkali metals and alloys, liq., thermodynamic props., variational calc. 4-2062
 amorphous materials, glass forming ability, thermodynamic anal. 4-44979
 benzil, crystalline, heat capacity, phase transition and thermodynamic props. 4-6491

entropy of substances continued

- 1,4-bis-[4-n-hexylbenzoyloxy]-2-subst.-benzenes, liq. crystalline, lateral branches effects 4-50180
 4-n-butyl-4'-n-alkanolyoxyazobenzenes, thermodynamic props., DSC study 4-11288
 carbon-K intercalation cpd., sorption of H₂ isotopes at low temps. 4-39688
 chemical reactions, one dimensional scheme, conc. fluctuations, probability density, entropy calcs. (*German*) 4-16628
 1-cyclohexyl-2-(4'-halobiphenyl-4'-yl)ethanes, synthesis and mesomorphic props. 4-10977
 cyclopentadienyl manganese tricarbonyl, heat capacity and thermodynamic functions, 10 to 300K 4-11312
 di(4-alkoxyphenyl)TTF mesogenic series, phase transitions (*French*) 4-20354
 di(4-alkylphenyl)TTF mesogenic series, phase transitions (*French*) 4-20354
 1,2-dichloroethane, IR and Raman spectra, exchange broadening, picosecond kinetics 4-7178
 ferrofluid particle size distrib., magnetisation meas. 4-30214
 glass transition, evidence for first-order nature, vol. and entropy changes 4-45330
 Grafoil, adsorpt. of N₂, heats and entropies of adsorpt. at 79.3K 4-50631
 graphite-Li intercalation cpd., stage-2, (P,T) phase boundary, order-disorder transition 4-39478
 homogeneous nucleation of a coherent precipitate, statistical thermodynamic approach 4-15650
 ionic surfactant aggregation, ion binding and the hydrophobic effect 4-31032
 liquid alloys, binary, two cluster regular associated model (*French*) 4-39087
 liquid alloys, thermodynamic state functions, aggregation model (*German*) 4-34669
 liquid crystals, isotropic and nematic or cholesteric phases, mol. foundation of unified theory 4-6267
 liquid metals, thermodynamics, liq. theory approx. methods 4-20077
 liquid metals, undercooled, entropy, free energy and sp. ht. 4-45350
 metallic binary solutions, strongly associated, configurational entropies, short range order effects (*French*) 4-39086
 metals, entropy of fusion, vacancy model 4-15618
 metals, liq., surface tension, vapourisation entropy near melting point 4-50615
 methane multilayers adsorbed on graphite, thermodynamics study 4-2450
 noble metals, liq., struct. and thermodynamics from generalised OPW and reson. model approaches 4-15371
 nonpolar gases, solubility in 1,4-dioxane at 285.15 to 303.15K, Gibbs free energy, entropy, enthalpy 4-15644
 one-component plasma liq., freezing, mol. theory 4-50475
 organic cpds., entropy of vaporisation at boiling point, group contrib. method 4-29584
 polymers, semiflexible nematic systems, transition temp., orientation order 4-34399
 polystyrene, highly porous shock-compressed, isentrope determ. 4-45266
 polystyrene-b-poly(ethylene/propylene) block copolymer in n-decane, thermodynamics of micellization 4-12389
 pyrrolyl manganese tricarbonyl, heat capacity and thermodynamic functions, 10 to 300K 4-11312
 rare earth monosulphides, thermodynamic props. in homogeneity range 4-39537
 rare earth sesquisulphides, R₂S₃ (R=La, Ce, Nd, Gd, Dy), Schottky levels and thermodynamic contribs., calorimetric and optical studies 4-6518
 simple liquids, variational theory, double Yukawa pot. 4-6231
 superconductor, quasiwarm, crit. temp. depend. on degree of external irreversibility 4-11619
 thiophene, cryst. struct. and phase diagram 4-50276
 thiopalivalic acid, self-association in solns., PMR chem., shift study 4-41199
 transition metals, liq., thermodynamic props., one-component plasma model 4-34397
 water, liquid and supercrit., struct. study by X-ray diff., mol. density radial distrib. and paired correl. functions 4-55699
 Ag-based binary liquid alloys, free energy and entropy of mixing 4-45355
 AgI, thermodynamic props. and phase transitions, EMF meas. 4-6528
 Au based binary liquid alloys, free energy and entropy of mixing 4-45355
 Au-Ag liquid alloys, enthalpies of mixing, 1379K 4-39516
 Au-Co, activity coeffs., phase equilib., 1073-1673K 4-35607
 Au-Cu liquid alloys, enthalpies of mixing, 1379K 4-39516
 Ca-Hg system, evaporation study using new Knudsen cell-mass spectrometer system 4-34624
 CaF₂, anion Frenkel defect, heat of formation 4-20187
 Co-Cr-Mo-Ni, superalloy, HS 21, carbide grain refinement, nucleation entropy 4-12068
 Co(NH₃)₆Br₂, Co²⁺ ion EPR study near struct. phase transition 4-46089
 Co(NH₃)₆Cl₂, Co²⁺ ion EPR study near struct. phase transition 4-46089
 CsNO₂ crystal, phase transition and freezing of ionic disorder 4-25023
 CsNO₂-TiNO₂ system, ion orientational and positional disorder and its freezing 4-24971
 CsRbSeO₄, ferroelectric and thermal props. 4-25693
 Cu, highly porous shock-compressed, isentrope determ. 4-45266
 Cu, nucl. cooperative phenomena at nanokelvin temps. 4-11696
 Cu-based binary liquid alloys, free energy and entropy of mixing 4-45355
 Cu-transition metal liquid alloys, free energy and entropy of mixing 4-45355
 D₂O, thermodynamic props. in critical region 4-4165
 Fe-Ni-S solid solutions, thermodynamics of S solubility 4-3145
 Fe_{1+x}Cr_{2-x}O₄, interacting Jahn-Teller and mag. transitions 4-56621
 Fe₂O₃, vacancy effect on Verwey transition temp., sp. ht. meas. 4-6521
 GaAs, current fluctuation phenomena, irreversible thermodynamics 4-50823
 GdCl₃-AlCl₃, complexes, vapour press., comp. and thermodynamic props., radiochem. investig. 4-31008
 GeS, electron impact, dissociative attachment, ion pairs and excited states form., entropy 4-14592
 H₂O⁺+H₂O, gas phase clustering, thermochemical data, ab initio calcs. 4-46758
³He, BCC solid, vacancy form. and mobility, pretransitional effects 4-6614

entropy of substances continued

- ³He solid, pressure, entropy and ordering transition, molar vol. depend. 4-6616
 Hg/soln. interface, entropy of form., solvent effect 4-31012
 HgTe-metal chem. reactions, thermodynamic props. 4-57539
 KCl:Ba²⁺ solid soln., solvus, single cryst. density studies 4-34655
 MnFe₂O_{4+δ}, elec. cond. study of phase equilibrium 4-29971
 Na-Cs liq. alloys, Gibbs energy of mixing 4-45356
 Na-group VIB liq. alloys, thermodynamics of mixing 4-45357
 Nb-O system and cpds., calorimetric studies 4-56043
 Nb₂O_{5-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 NdMnO₃, O dissociation press., 1173-1473K, enthalpy and entropy of reaction 4-51971
 (Ni(NH₃)₆)(NO₃)₂, phase transitions, Raman spectra, calorimetry and neutron scatt. 4-55993
 Pb, elec. resist., pre-melting effects 4-50793
 PbF₂, perfect cryst. and intrinsic defect props., quasiharmonic calc. 4-45127
 Pb₃(P₁₋₃As₄O₄), ferroelastic phase transition, critical exponents, sp. ht. meas. 4-20349
 Pb₃(PO₄)₂, ferroelastic phase transition, critical exponents, sp. ht. meas. 4-20349
 PbS, electron impact, dissociative attachment, ion pairs and excited states form., entropy 4-14592
 PuCl₃, thermodynamic values assessment, improved method 4-25057
 PuO₂, thermodynamic values assessment, improved method 4-25057
 (Rb,K₁₋₂)I solid solns., self-diffusion and ionic cond. 4-15682
 RbNO₃, X-ray diffuse scatt. due to orientation disorder, Bethe approx. 4-6301
 Rb₂ZnBr₄, heat capacity, 3 to 300K, thermodynamic props. of incommensurate transitions 4-6517
 Rh, adsorption isotherms of H₂, 193 to 500K 4-15762
 SiO₂, vitreous, vacancy-bridge defect form., pseudoequilib. approach 4-10995
 SnS, electron impact, dissociative attachment, ion pairs and excited states form., entropy 4-14592
 SrAl₂O₉, thermodynamic props., 1245-1380K, EMF method 4-56048
 TiO, nonstoichiometric, thermodynamics, EMF meas. 4-6525
 TiO_{2-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 Ti-Te melts, dissolved O, thermodynamic study using coulometric titration method 4-25060
 TiB₂(Si₂Se₂), semicond., heats and entropies of fusion, melting temps. 4-55969
 TiNO₂ crystal, phase transition and freezing of ionic disorder 4-25023
 TiSb₂(Se₂)(Te₂), semicond., heats and entropies of fusion, melting temps. 4-55969
 TmCl₃-AlCl₃ complexes, vapour press., comp. and thermodynamic props., radiochem. investig. 4-31008
 (U,Nd)O_{2+x}, solid soln., O potentials 1000 to 1500°C 4-14054
 UO₂AmO_{2+x}, thermodynamic study 4-14055
 UO₂-PuO₂ mixed oxide reactor fuel, thermodynamic props., computer simulation 4-6527
 W (100), desorption of H, LEED and work function study 4-45502
 WO_{3-x}, point defects and crystallographic shear planes, thermodynamic equilib. 4-24834
 WS₂, sp. ht., heat of form., Gibbs energy, calorimetric meas. 4-41245
 YGd, dilute alloys, spin density wave transition, sp. ht. study 4-56584
 Zr-Ni-H, amorphous, thermodynamics of H absorption 4-45358
 Zr-transition metal metallic glasses, Zr_{1-x}M_x, M=Fe-Cu, short range order thermal stability 4-45019
- environmental engineering**
see also air conditioning; cooling; ergonomics; lighting; safety; space heating; temperature control; ventilation
 pollution abatement expenditures allocation and distribution effects on US economy 4-26330
- environmental requirements** *see environmental engineering*
- environmental testing**
see also corrosion testing
 assessing the durability of solar thermal collectors 4-52208
 graphite fibre reinforced epoxy, accelerated environmental testing 4-26125
 steel, stainless, atmospheric corrosion 4-57522
 thermal performance testing of air heating solar collectors 4-52207
 Pd connector contacts and inlay coupons, HCl and Cl₂ effects 4-30048
 Ru coated Ti and stainless steel electrodes for electrodialysis 4-26223
- enzymes** *see proteins*
- epitaxial growth**
see also liquid phase epitaxial growth; vapour phase epitaxial growth
 adatom gas, epitaxy and thick film form. on attractive substrate, lattice gas model 4-6679
 anharmonicity in epitaxial interfaces, equilib. struct. of thin epitaxial films 4-50684
 anharmonicity in epitaxial interfaces, substrate-induced dissociation of finite epitaxial islands 4-50683
 carrier domain magnetometer, with circular p-n-p-n structure, computer model 4-27541
 conference, cryst. growth of electronic materials, Milan, Italy (Dec. 1982) 4-4144
 diamond, epitaxial synthesis by low energy C ions deposition 4-50692
 halogen chemisorption and epitaxial growth on V and Cr surfaces 4-29817
 interface struct., epitaxial, ion beam studies, review 4-21098
 mechanism of growth, theory and expts. 4-6673
 one-dimensional phase transition and epitaxy 4-34840
 polyacetylene, oriented, epitaxial form. on cryst. benzene 4-34817
 SOI structures using high dose O₂⁺ ion implantation to form buried oxide films 4-34825
 surface science conf., Warwick, England (Apr. 1983) 4-27238
 Al-Si/Si interface, high resolution TEM study 4-20507
 Cu-Pd diffusion couples, diffusion-induced grain boundary migration, TEM, AES studies 4-20415
 GaAs:Se, ion implanted, annealing, amorphisation and recrystn., high resolution TEM study 4-50319
 Ge epitaxial growth mode on Si (111) substrate at initial stage, EELS, LEED studies 4-21085
 Ge, polycrystalline layers form. by solid phase epitaxy through amorphous material zone recrystn. (*Russian*) 4-46433
 Si, amorphous films, epitaxial recrystn. on sapphire 4-25185

epitaxial growth continued

- Si amorphous films with SiO₂ patterns, lateral solid-phase epitaxy 4-20510
 Si, graphoepitaxy by laser or strip heater recrystn., orientation mechanism 4-11416
 Si, ion implanted, solid phase epitaxy by annealing 4-34810
 Si, polycrystalline film, large area recrystallisation with W-halogen lamp 4-25175
 Si, polycrystalline/single crystal interface, TEM study 4-45534
 Si:Al film on sapphire, recrystallised, electrically active impurity neutralisation 4-50964
 Si:B, ion implantation for shallow p⁺/n junction formation, solid-phase epitaxy obs. 4-20225
 Si:B,Ar, ion implanted, epitaxial regrowth 4-50656
 Si:Sb, solid-phase epitaxially grown, point defect trapping 4-50322
 Si:Te, epitaxial regrowth, Te location, Mossbauer study 4-50655
 Si-on-insulator, buried oxide, laser recrystallised and graphite strip heater recrystallised systems 4-25887
 Si-SiO₂, polycryst., electron beam recrystn. 4-34824
 SiC layers grown by Si surface C contamination, crystallographic struct. (French) 4-45558
 SiO₂ film structural evolution during thermal growth in dry O₂ 4-34808
 ZnTe films on GaAs(100) substrates, growth by VPE and solid phase epitaxy 4-21163

epitaxial layers

- see also magnetic epitaxial layers; metallic epitaxial layers; semiconductor epitaxial layers*
 anharmonicity in epitaxial interfaces, equilib. struct. of thin epitaxial films 4-50684
 anharmonicity in epitaxial interfaces, substrate-induced disloc. of finite epitaxial islands 4-50683
 stepped surfaces and interfaces, atomic correlations and diffracted beam shapes calc. 4-29738
 AgBr single crystal films as model system for latent image research 4-46780
 BaF₂-Ge(InP), epitaxial interfaces, misfit dislocations, electron microscopy anal. 4-11410
 BaO epitaxial film on W (110), slow electron diffr. study 4-20511
 Ba₂Sr_{1-x}F₂ epitaxial films, MBE growth on InP (001) 4-12028
 Bi (0001), adsorption of O₂, kinetic, electronic and structural features 4-25160
 CaF₂ epitaxial films, MBE growth on InP (001) 4-12028
 InGaPAs:N solid soln. epitaxial struct., luminesc. and photoelec. props. 4-21029
 β-Nb₂N heteroepitaxial films, CVD, crystallisation and struct. 4-3082
 NiO (111), epitaxial film on Ni (111), reduction by mol. H₂, investig. (French) 4-31026
 SrF₂ (001) layer growth on GaAs (001) by MBE 4-39704
 SrF₂ epitaxial films, MBE growth on InP (001) 4-12028
 γ-Ta₂N heteroepitaxial films, CVD, crystallisation and struct. 4-3082

epitaxy *see* epitaxial growth**EPR** *see* paramagnetic resonance**EPR line breadth**

- bis-tetramethylammonium tetrachlorocobaltate: Mn²⁺, ESR line shapes and rot. modes in incommensurate phase 4-30276
 emerald, width of the Cr³⁺ ESR line 4-25633
 ESR lineshape analysis using dispersion vs. absorpt. plots 4-49059 (fluoranthene)₂PF₆(AsF₆), ESR spectra and relax. 4-2818
 graphite intercalation compound with Li(K), CESR studies 4-46111
 graphite intercalation compd. with MnCl₂, two-dimensional antiferromag., ESR study 4-51125
 graphite intercalation cpds., CESR 4-46110
 graphite-SbCl₃ intercalation cpd., ¹²¹Sb NMR and EPR studies 4-40250
 Heisenberg magnet, EPR signal, influence of nondiagonal dynamic susceptibility 4-7050
 5-hydro-6-methyl-6-yl-uracil radical, in solid matrix, dynamic effects, ESR spectra 4-49062
 hyperfine centres, orientational diffusion motion EPR 4-56758
 liquid mesophases, slow-motion EPR spectra in terms of generalised Langevin eqn., fast computational approach 4-2823
 molecular crystals, electronic spin relax. mechanism for triplet excitons 4-11755
 (naphthalene)₂AsF₆, ESR study, metallic and semicond. behaviour 4-2817
 polyacetylene, heavily doped, ESR study 4-2805
 polyacetylene, metallic, EPR of delocalised electrons (French) 4-16084
 pyrolytic, neutron irradi., ESR studies at low temp. 4-7066
 ruby:Cr³⁺ crystals, random strain thermally detected EPR linewidths study 4-7053
 superconducting state, cond. electron spin relax. 4-11633
 tetraethylammonium iron(III) tetrachloride, EPR linewidth, anomalous temp. depend. 4-7048
 2,2',6',6'-tetramethylpiperidone-N-oxyl, spin exchange with Cu²⁺ (VO²⁺), EPR obs. 4-49065
 TMPD-maleonitrile dithiolate nickelate, cryst. struct. and mag. meas. 4-2191
 (TMTSF)₂ClO₄, EPR g-factor anisotropy and linewidth 4-2816
 (TMTSF)₂F₂PO₂, resist. meas., metal-insulator transition obs., ESR study 4-30031
 (TMTSF)₂TaF₆, transport props., mag. props., phase diagram 4-2602
 AgMn₂(Sb₂) spin glass, EPR width and shift, exchange-narrowed anisotropy contrib. 4-30279
 Al, transmission ESR studies 4-46109
 Al₂O₃:Cr³⁺, optical detection of EPR and mag. circular dichroism 4-25654
 Al₂O₃:Cr³⁺, ruby, spin-packet lineshape determ. by fast deconvolution procedure applied to inhomogeneous EPR lines 4-51127
 β-Al₂O₃-H₂O, study of atomic H centres by ENDOR and ESR linewidth 4-7093
 Ce:Eu, graphite intercalation cpd., ESR studies 4-16086
 CaF₂:Tm³⁺, optical detection of EPR and mag. circular dichroism 4-25654
 CaH₂O₉Gd³⁺, EPR spectra broadening 4-25634
 3-carbamoyl-2,2,5,5-tetramethyl-3-pyrrolidine-1-yloxy, O₂ sensitive spin label probe, ESR spectra simulation 4-40218
 Cd_{1-x}Mn_xTe dilute mag. semicond., EPR linewidths 4-56772
 Cd_{1-x}Mn_xTe, EPR meas. under extreme line broadening 4-35224
 CdTe:Cl(In)(Al) crystals, EPR studies 4-46103
 Ce mononitrides:Gd³⁺, exchange and cryst. field effects, EPR study 4-11767

EPR line breadth continued

- CsMnBr₃ Heisenberg system, EPR study 4-16087
 Gd³⁺ EPR spectra broadening in polycryst. ceramics 4-25634
 Ge:P(B) amorphous films, ESR spectra, temp. depend. 4-11770
³He-⁴He mixtures, liq., positive ions, EPR obs. 4-45438
⁴He, liq., positive ions, EPR obs. 4-45438
 KNiF₃, EPR spectra, temp. depend. 4-11754
 LaAlO₃:Ge³⁺, EPR powder spectra, simulation and interpretation 4-56771
 La_{1-x}Pr_xAl₂Gd³⁺, Van Vleck paramagnet, Stark splitting and exchange forces, EPR study 4-30145
 Li₂O-B₂O₃-CuO glass, EPR line width and X-band spectra, freq. depend. 4-46099
 MnPS₃, mag. susceptibility and EPR meas. 4-11680
 Nb, CESR in normal and supercond. states 4-11771
 NiCl₂-graphite intercalation cpd., second-stage, ESR studies 4-16085
 NiK₂(SO₄)₆H₂O:Mn²⁺, exchange const., spin Hamiltonians and EPR meas. 4-11761
 PbO-SiO₂-CuO glass, EPR line width and X-band spectra, freq. depend. 4-46099
 Rb₂Mn₂Cd_{1-x}Cl₄, two dimensional diamagnetically diluted, spin dynamics, ESR study 4-2814
 Rb₂Mn₂Cd_{1-x}Cl₄, two-dimens. antiferromag., EPR crit. line broadening 4-7058
 RbMnF₃, paramag. and antiferromag. resonance near Neel temperature 4-46115
 Si:P(As), donor clusters, ESR study 4-46102
 Si:Pt, EPR line shape meas. 4-51132
 Si-SiO₂ interface defect centres, EPR, effect of As⁺ implantation 4-46108
 Tb mononitrides:Gd³⁺, exchange and cryst. field effects, EPR study 4-11767
 VBr₂, triangular lattice Heisenberg antiferromag., ESR study 4-46086
 VCl₂, triangular lattice Heisenberg antiferromag., ESR study 4-46086
 VLi₂, triangular lattice Heisenberg antiferromag., ESR study 4-46086
 VO₂:Fe³⁺, EPR linewidth, g-factor and electron-phonon interaction 4-35226
 VSe₂, Li intercalated, ESR and mag. investigation 4-56759
 ZnK₂(SO₄)₆H₂O:Mn²⁺, exchange const., spin Hamiltonians and EPR meas. 4-11761

EPROM *see* PROM**E'PROM** *see* PROM**epsilon meson resonances** *see* eta meson resonances**equations**

for equations used in specific subjects, see the specific indexing heading
see also Bethe-Salpeter equation; differential equations; equations of state; functional equations; integral equations; nonlinear equations
 No entries

equations of state

see also equations of state of gases; equations of state of liquids; equations of state of solids; phase transformations; thermodynamics
 bounded systems, virial theorems 4-56
 construction method, rel. to internal energy and saturation line 4-45301
 critical nuclei in the Van der Waals model 4-15609
 degenerate stellar configurations and superdense matter theory 4-13293
 Earth interior, eqns. of state for metals, halides and oxides 4-52694
 EM mass accelerator, railgun development status, appl. to impact fusion research 4-37113
 fluid mixtures, crit. points calc., effect of improved pure component crit. point representation 4-20319
 free Bose gas, eqn. of state, finite vol. corrections 4-37005
 G^E model developments and group contribs. 4-22739
 hard-disk fluid, equilib. props. determ. using hypernetted chain integral eqn. theory 4-15358
 heavy-ion collisions, 400-800 MeV/nucleon, deuteron vol. influence on d/p ratio 4-37530
 hydrodynamic turbulence, universal eqn. of state 4-13520
 infinite dilution equilib. data, prediction of finite conc. behaviour 4-20323
 molecular fluids, non-axial, thermodynamic perturbation theory 4-20075
 neutron stars, quadrupole oscillations from eqns. of state 4-4023
 neutron stars, radial oscillations from eqns. of state 4-4024
 nonclassical equations of state of fluids, method for construction 4-20314
 partially ionised plasmas, integral eqn. method calcs. 4-44802
 phase equilibria, minimisation technique calc., problems of thermodynamic consistency 4-20318
 polymer chains, tricritical theta point region, transition to collapse 4-33570
 random mag. lattice gas, 1-D, phase diagrams and eqn. of state 4-30182
 simple fluids, critical behaviour 4-2051
 solid-supercritical phase equilib., correl. and prediction 4-29628
 supernova matter, thermodynamic props. in Thomas-Fermi approximation 4-53192
 thermodynamic data reduction, statistical principles 4-20320
 Van der Waals equation of state modification 4-24955
 Al, laser-plasma interaction simulation, two temp. eqns. of state 4-55617

equations of state of gases

binary mixtures, statistical mechanical eqn. of state for phase equilibria calcs. 4-24948
 Burnett method, use in determ. compressibility and virial coeff. 4-34216
 complex mixtures, extension of Peng-Robinson eqn. of state 4-24949
 cryogenic mixtures, phase equilibria calcs. at very high press. 4-24950
 cubic chain-of-rotators eqn. of state and vapour-liquid equilibrium calcs. 4-24952
 cubic eqns. of state for vapour-liquid equilibrium calcs. 4-24956
 ethylene-vinyl chloride system, fluid phase equilibrium 4-45311
 fluid mixtures, new theories of eqns. of state 4-24947
 fluid phase equilibrium, conference, Callaway Gardens, GA, USA (April 1983) 4-22510
 gas solubility thermodynamics, eqn. of state and activity-coeff. models 4-50520
 gas-liquid mixtures, wave model 4-1826
 generalised eqn. of state, boiling point as parameter 4-24954
 hexamethyldisiloxane, (p,V,T) study in vapor phase 4-5987
 hydriding system for moderately severe conditions of pressure and temperatures 4-22789
 mixing laws modifications 4-24946
 nonpolar gases and their mixtures, third virial coeff. 4-15051
 organic binary mixture, vapour-liquid and liquid-liquid equilibrium calcs. 4-24979

equations of state of gases continued

- polar and nonpolar fluids, analytic variational inequality minimisation eqn. of state 4-24953
 polar fluids, chain-of-rotators eqn. of state 4-55473
 square-well fluids in $d=2,3$, perturbation theory, critical temp. 4-44915
 tetramethylsilane, (p,V,T) study in vapor phase 4-5987
 toluene, (p,V,T) study in vapor phase 4-5987
 virial coefficients for one-dimensional hard rods 4-24511
 $\text{CO}_2\text{-N}_2$ (methane), liq. vap. equilib. study 4-24983
 H_2 , spin polarized atomic, virial calcs. in two and three dimensions 4-2406
 H_2 containing mixtures, vapour-phase equilibrium 4-24980
 H_2 , cubic eqns. of state for vapour-liquid equilibrium calcs. 4-24956
 HF , second virial coeff. and rot. inelastic scatt. 4-38925
 H_2S -methane, liq. vap. equilib. study 4-24983
 Kr-SF_6 , second interaction virial coeff. 4-54833
 N_2 dense fluid, thermodynamics study by mol. dynamics 4-38923
 N_2 , intermolecular pair pot. energy function 4-49120
 O_2 vapour, equation of state derivation 4-29228
 SF_6 , eqn. of state in range of temps. 222 to 500K up to 5 MPa 4-15610
 SF_6 , gaseous, struct. second virial coeff. and intermol. pair pot. 4-19906

equations of state of liquids

- alkanes, light-heavy mixture, vap. liq. phase equilib. calc. using a new cubic eqn. of state 4-24984
 binary mixtures, statistical mechanical eqn. of state for phase equilibria calcs. 4-24948
 complex mixtures, extension of Peng-Robinson eqn. of state 4-24949
 cryogenic mixtures, phase equilibria calcs. at very high press. 4-24950
 cubic chain-of-rotators eqn. of state and vapour-liquid equilibrium calcs. 4-24952
 dense condensed media, perturbation theory and eqn. of state 4-55955
 ethylene-vinyl chloride system, fluid phase equilibrium 4-45311
 fluid mixtures, new theories of eqns. of state 4-24947
 fluid phase equilibrium, conference, Callaway Gardens, GA, USA (April 1983) 4-22510
 gas solubility thermodynamics, eqn. of state and activity-coeff. models 4-50520
 gas-liquid mixtures, wave model 4-1826
 generalised eqn. of state, boiling point as parameter 4-24954
 hard convex particle fluids, eqn. of state, modified cell theory 4-34389
 hard spheroids, model fluid, equation of state and radial distrib. function, Monte Carlo simulations 4-55691
 hydrocarbon mol. fluids, generalised van der Waals eqn. of state, Bon-
 lik-Nezbeda eqn. 4-2300
 magnetic fluids, structure phenomena, mathematical model anal. 4-30227
 melting, hole model approach in hard sphere system 4-24977
 methane- CO_2 (N_2 - CO_2), vapor-liq. equilib. meas. 4-29583
 mixing laws modifications 4-24946
 molecular fluids, effective central pots. calcs. 4-6229
 negative pressure, nonequilib., in pipeline system 4-20324
 organic binary mixture, vapour-liquid and liquid-liquid equilibrium calcs. 4-24979
 PMMA, cosolvent mixtures, carbon tetrachloride/isoamyl acetate, light
 scatt. and viscometry obs. 4-39080
 polar and nonpolar fluids, analytic variational inequality minimisation eqn.
 of state 4-24953
 polar fluids, chain-of-rotators eqn. of state 4-55473
 poly(tetramethylene oxide) in benzene, excess vol. and thermodynamic
 functions 4-2346
 polymeric globules, second virial coeff. 4-10948
 rigid disks and spheres, virial coeffs., press. consistent BGY eqns.
 4-39071
 simple fluid, const. press. sp. ht. 4-6515
 simple fluid, Joule-Kelvin coeff. 4-6236
 square-well fluids in $d=2,3$, perturbation theory, critical temp. 4-44915
 three parameter eqns. of state 4-24951
 variational theory of simple liquids, double Yukawa pot. 4-6231
 water, liq., eqn. of state, struct., thermodynamic props., press. effects
 4-10940
 water, superheated, base to define normal components of expansivity and
 compressibility of stable water 4-39432
 water, volumetric props. in critical region 4-34607
 Ar, equation of state, mol. thermodynamics theory 4-29567
 $\text{CO}_2\text{-N}_2$ (methane), liq. vap. equilib. study 4-24983
 D_2O , thermodynamic props. in critical region 4-4165
 H_2 , solubility in metals at high press., thermodynamics 4-20367
 H_2 containing mixtures, vapour-phase equilibrium 4-24980
 H_2S -methane, liq. vap. equilib. study 4-24983
 ^3He , liq., normal and polarised, microscopic calcs. 4-2397
 N_2 dense fluid, thermodynamics study by mol. dynamics 4-38923
 N_2 , intermolecular pair pot. energy function 4-49120
 N_2 , perturbation theory, thermodynamic props. 4-20316
 $\text{N}_2\text{-CO}_2$ (CO_2 -methane), vapor-liq. equilib. meas. 4-29583
 SF_6 , eqn. of state in range of temps. 222 to 500K up to 5 MPa 4-15610

equations of state of solids

- actinide nitrides, AnN , $\text{An}=\text{Th-Am}$, lattice parameters, electronic struct.,
 LMTO, RLMTTO calcs. 4-56211
 amorphous lattice, two-dimens., statistics study 4-13595
 Earth interior, eqns. of state for metals, halides and oxides 4-52694
 explosive 9404, equation of state, overdriven shock states effects 4-15588
 glass ceramic, machinable, elastic moduli, second-order press. derivatives
 4-51709
 interfacial equations of state, thermodynamic equil. 4-39431
 Ising spin glass, eqns. of state from Parisi soln. 4-25575
 metals, equation of state, binding energy and bulk modulus 4-55954
 metals, long term strength under load applied in steps 4-7531
 metals, melting temp. calc. eq., Gruneisen coeff. (*Chinese*) 4-2312
 metals, scaling relations in eqns. of state, thermal expansion and melting
 4-34606
 metals, semi-empirical eqn. of state (*Russian*) 4-50455
 metals, thermal expansion and vacancy form. vol. 4-11321
 plastic molecular cryst., orientational phase transitions in case of rota-
 tional reorientation anisotropy 4-24742
 steel, austenitic stainless, type AISI 304, 310, 316, elastic moduli, press.
 depend. study 4-51710
 steel, structural, fracture toughness under cyclic loading 4-51814
 theories up to 10 TPa, review 4-55953
 van der Waals network, phenomenological approach to dense networks
 4-39174
 Au calibration standard, eqn. of state, compression to 70 GPa 4-48067

equations of state of solids continued

- CsI, eqn. of state and high press. phase transition 4-39477
 CsI, eqn. of state and metal-insulator transition 4-50457
 CsI, press. induced successive phase transitions, eqn. of state and metal-
 lisation 4-39479
 D_2 , solid, equation of state, bulk modulus and thermal expansion
 4-45446
 H_2 , solid, equation of state, bulk modulus and thermal expansion
 4-45446
 K , compression, equations of state, and thermal expansion 4-20325
 K , high pressure equations of state and phase diagrams 4-34608
 K , high pressure equations of state and phase diagrams 4-45302
 Li , high pressure equations of state and phase diagrams 4-34608
 Li , high pressure equations of state and phase diagrams 4-45302
 Na , compression, equations of state, and thermal expansion 4-20325
 Na , high pressure equations of state and phase diagrams 4-34608
 Na , high pressure equations of state and phase diagrams 4-45302
 NaCl , Hugoniot and shock wave data, shell model calc. 4-50456
 Rb , compression, equations of state, and thermal expansion 4-20325
 T_2 , solid molecular, high press. eqn. of state, semiempirical calc. 4-45447
 UO_2 , electronic struct., self-consistent LMTO calcs. 4-45620
 UN , electronic struct., self-consistent LMTO calcs. 4-45620
 UO_2 , electronic struct., self-consistent LMTO calcs. 4-45620
 YbH_2 , first order phase transition, high press. X-ray diffr. studies
 4-56004

equilibrium, chemical see chemical equilibrium**equilibrium, phase see phase equilibrium****equilibrium constants see chemical equilibrium****equilibrium diagrams see phase diagrams****equivalent circuits**

- acoustic attenuation const. meas. for steel plate floating on water surface
 4-14858
 elemental cell analogue of elastic element 4-5797
 epithelial tissues, equiv. circuit models for I-V relationship 4-31199
 high-frequency capacitance measuring method for non-destructive quality
 control of reserve and dry-charged power sources 4-7834
 optical waveguide operational characteristics study using resonance tech-
 nique of equivalent transmission line 4-55205
 photoacoustic resonant cells, temp. gradient effects 4-37199
 piezoelectric plate, local vibrations with energy losses, finite element anal.
 4-14836
 plastic foams, acoustic insulation, analogous circuits 4-44286
 preaccelerators, heavy ion, branched coaxial and bifilar shielded lines, dis-
 persion eqns. 4-23440
 semiconductor, transmission line equivalent circuit model, analytic trans-
 form. of generation-recomb. centres 4-6772
 $\beta\text{-Al}_2\text{O}_3\text{-Na}_2\text{O}$, solid electrolyte, impedance and modulus spectroscopy
 4-6554
 $\alpha\text{-Zr}(\text{APO})_2$ ($\text{A}=\text{Li,Na,K}$), ionic cond. and dielec. props. 4-6551

erbium**see also nuclei with**

- antiferromagnetic, elec. resist. anomalies at mag. transition points
 4-11513
 antiferromagnetic, mag. props., muon probe study 4-35324
 electric field gradient, temp. depend., perturbed ang. distrib. study
 4-39849
 electric field gradient at Cd-impurities, press. depend. of elec. field gradi-
 ent 4-39847
 HFS and isotope shift study by collinear fast-beam laser spectroscopy
 4-34923
 piezoreflectance spectra of polycryst. film meas. 4-20942
 $\text{CaF}_2\text{:Er}$, defect struct., neutron diffr. study 4-15463
 $\text{CaF}_2\text{:Er}$, impurity-defect clusters, EXAFS study 4-16275
 $\text{CaF}_2\text{:Er}^{3+}$ activated crystals, laser generation with electron beam pumping
 4-51303
 $\text{Er}^{3+}\text{,Yb}^{3+}$: glass, Er^{3+} $^4\text{I}_{13/2}$ level population inversion characters. 4-5592
 Er I, ground config. $4f^{15}6s^2$ isotope shift, crossed second order effects
 4-1088
 Er II, second spectrum, IR and visible obs. 4-48969
 Er^{3+} , Pr^{3+} : YLF pulse-periodic lasing at $0.8503\text{ }\mu\text{m}$ 4-33665
 ErF_3 , heat capacity, 5 to 350K, calorimetric meas. 4-29650
 ^{167}Er ground state $^2\text{H}_g$, hyperfine structure and Zeeman interactions
 meas. hexadecapole interaction determ. 4-28396
 ^{167}Er I, hyperfine struct., atomic beam laser RF double reson. 4-18966
 ^{167}Er , quadrupole moments and Sternheimer effect, muonic atom meas.
 4-4754
 GaAs:Er^{3+} rare earth activated luminesc. 4-35480
 GaP:Er^{3+} rare earth activated luminesc. 4-35480
 InP:Er^{3+} rare earth activated luminesc. 4-35480
 $\text{Li}_2\text{O-SiO}_2\text{:Er}^{3+}$ glass, Er^{3+} $^4\text{I}_{13/2}$ level population inversion characters.
 4-5592
 $\text{LiYF}_4\text{:Er}^{3+}$, polarised absorpt. spectra and quantum states (*Chinese*)
 4-51305
 $\text{LiYF}_4\text{:Er}^{3+}$ γ -irrad., colouring study 4-29477
 $\text{LiYF}_4\text{:Er}^{3+}$, Pr^{3+} pulse-periodic lasing at $0.8503\text{ }\mu\text{m}$ 4-33665
 $\text{Lu}_2\text{Y}_3\text{-ScO}_3\text{:Nd(Er)(Eu)}$, electrophysical props. 4-56341
 $\text{PbF}_2\text{:Er}^{3+}$, defect sites identification using site selective laser spectroscopy
 4-11164
 $\text{PbO-BaO-P}_2\text{O}_5\text{:Er}^{3+}$ glass, Er^{3+} $^4\text{I}_{13/2}$ level population inversion characters.
 4-5592
 $\text{PbO-FeO}_3\text{:Er}^{3+}$ glass, Er^{3+} $^4\text{I}_{13/2}$ level population inversion characters.
 4-5592
 Si:Er , γ -ray irradi. defects, Hall effect, elec. cond. and photocond. studies
 4-34543
 $\text{Sr}_{1-x}\text{Dy}_x\text{F}_2$, Er, ionic thermocurrent and dielectric losses 4-20898
 $\text{Sr}_2\text{La}_2\text{W}_2\text{O}_{12}\text{:Tm}$, Er, two-colour emission spectra (*German*) 4-7228

erbium alloys

- $\text{Sm}_{1-x}\text{Er}_x(\text{Co,Fe,Cu,Zr})_{7-3}$ permanent magnets, B-H loop meas. meas
 4-56706
 Er-Fe-B system, phase equilib. diagrams, phase comp. 4-51632
 Er-Ge system, binary, phase diagram (*Chinese*) 4-16372
 ErAgPb, lattice parameters, X-ray diffr. study 4-2144
 ErCo_2 , mag. props. 4-20788
 $\text{ErCo}_{5-x}\text{Cu}_x$ alloys, permanent mag. props. 4-35203
 ErCu_2 , antiferromag. struct., neutron diffr. study 4-56555
 ErFe_2 , mag. props. 4-20788
 ErFe_2Al_7 , ferromagnetism and hyperfine studies 4-7010
 ErFe_2H_2 , magnetisation behaviour, Curie temp. and mag. moments
 4-30217
 $\text{Er}_6\text{Fe}_{23}\text{H}_x$, H_2 absorption thermodynamics 4-2441

erbium alloys continued

- ErFe₂Si₂ mag. ordering, neutron diffr. study 4-51030
 (Er_{1-x}Gd_x)Fe₃, spin reorientation, Mossbauer study 4-35282
 α-ErH₂ solid solns., mag. order, magnetisation study 4-7008
 ErMn₂(Fe₂)(Co₂)(Ni₂), hydrogenation kinetics and surface compositions, AES study 4-2440
 ErMn₂Ge₂, mag. ordering, neutron diffr. study 4-51030
 ErMn₂Si₂, mag. ordering, neutron diffr. study 4-51030
 ErNi, ferromagnetic, thermal cond. and elec. resist. 4-50791
 ErNi₂, mag. props. 4-20788
 ErSi, magnetic interactions, modulated ordering using neutron diffraction 4-30150
 Er_{1-x}Y_xCo₂, band metamagnetism and magnetostriction (*Russian*) 4-51048
 (Er_{1-x})_{1-x}Sn_{1-x}(Er₂)₄Rh₆Sn₂(Sn₃)₁₂Sn₄, cryst. struct. determ. 4-39206
 Gd_{1-x}Er_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Er_xAl₂, inverse paramag. susceptibility and mag. moments 4-30146
 Gd_{1-x}Er_xAl₂, low hysteresis materials for mag. refrigeration 4-56629
 Ge-Er, paramag. susceptibility temp. depend. (*Ukrainian*) 4-25513
 Sm-Er-Fe Laves phase alloys, struct. and magnetostriction 4-35215
 Sn-Er-Rb system, cryst. struct. and reentrant superconductivity 4-11051

erbium compounds

- see also erbium alloys*
 ErCl₃, solid hexahydrate and frozen aq. soln., Er³⁺ energy levels, parametric anal. 4-51243
 ErF₃ thin film, dielectric props. meas. 4-35359
 ErFeO₃, flux grown crystals, {100} surface struct., microtopography 4-15754
 ErFeO₄, valence fluctuation and Verwey transition, Mossbauer study 4-51164
 Er₃Fe₂O₁₂ (110) plate, domain walls, microspectroscopic studies 4-11751
 Er₃Fe₂O₁₂, garnet, electric field gradient calcs. 4-50779
 Er₃Fe₂Si₂, magnetically ordered, mag. and cryst. struct. 4-35147
 Er₂Gd_{1-x}Rh₄B₄, Gd mag. moment orientation, Mossbauer studies 4-56564
 ErIGr, magneto-optical props., 1.1-1.7 μm 4-51244
 ErNbF₄, mag. props., 4.2 to 200K 4-6943
 Er₂O₃ films, thermoelec. measurements 4-25464
 Er₂O₃, resonant absorpt. of submillimeter waves 4-25834
 ErRh₂B₄, perovskite struct., cryst. structures, X-ray anal. 4-45076
 ErRh₂B₄, anisotropic mag. superconductor, fluctuations study 4-50989
 ErRh₂B₄, coexistent superconductor, single cryst. growth by flux method 4-25873
 ErRh₂B₄, ferromag. semicond., re-entry condition 4-35112
 ErRh₂B₄ ferromag. supercond. critical fields and phase transition 4-11624
 ErRh₂B₄, ferromag. thin film supercond., dissipative intermediate state study 4-40123
 ErRh₂B₄ ferromagnetic supercond., coexistence state, strain effects 4-11648
 ErRh₂B₄ film, tunnelling anomalies and coexistence of ferromagnetism and supercond. 4-15999
 ErRh₂B₄, superconducting, magnetic phase transitions, neutron scatt. study 4-2684
 Er₂WO₁₂, enthalpy, sp. ht. determ., reversible phase transition 4-50534
 KEr(WO₄)₂, self-activated Er³⁺ new laser channel 4-10309
 LiErP₄O₁₂, cryst. struct. determ. (*Chinese*) 4-2145
 (Sm_{1-x}Er_x)Rh₄B₄, supercond., antiferromag.-ferromag. transition study 4-40170
 Sm_{0.65}Er_{0.15}Tb_{0.2}FeO₃, thermal cond. at reorientation phase transition 4-56625
 Sr_{1-x}Er_xF_{2+δ}:Dy(Yb), ionic thermocurrent and dielectric losses 4-20898
 (Y_{1-x}Er_x)₂Al₂O₁₂ garnet cryst., Raman light scatt. 4-25766
 ZnS:ErF₃, YbF₃ phosphors, electroluminescence, IR-to-visible conversion (*Japanese*) 4-16253

ergodic theorem *see statistical mechanics***ergonomics**

- see also human factors; man machine systems*
 LEITZ microscopes, ergonomic improvement possibilities 4-293
 photoergonomics, glossary of some useful terms rel. to skin darkening (*Italian*) 4-47809
 photoergonomics, glossary of terms, photokeratoconjunctivitis, annotated bibliography 4-17665
 photoergonomics, glossary of terms, vitamin D form., annotated bibliography 4-17663
 photoergonomics, glossary of terms used, counterpart of Abney's law for nonvisual effects 4-47810

erosion

- Aldabra Atoll, Indian Ocean coastal and subaerial sites erosion 4-41920
 Andean Piedmont, Chile, Upper Cainozoic devel., role of tectonics and climate (*French*) 4-52618
 avalanching, erosion and transport in deep-sea canyons, appl. 4-58168
 Axmouth-Lyme Regis, England, landslides in undercliffs 4-26696
 bed-wave form. in eroding channel 4-3784
 bedload transport in lowland rivers, annual gravel wave movement 4-52777
 Bondhusbreen outlet glacier, Norway, subglacial processes 4-22013
 braided stream confluence scour, for coarse bed material 4-52771
 British rivers, contemporary erosion and sedimentation, book 4-17657
 dune movement caused by wind, theory 4-36363
 East Fork River, Wyoming, USA, annual gravel bedload transport wave 4-52777
 glacier erosion and sedimentation processes, symposium, Geilo, Norway (1980 August 25 to 30) 4-31957
 gravel bed rivers, conf., June 1980, Glynogyn, Newton, UK 4-31976
 hypersonic dusty gas flow past a body with erosion 4-29126
 Maryland, Piedmont landscape, relief interpretation 4-41919
 meltwater runoff and erosion rel. to hillslope orientation to sunlight 4-22028
 raindrop erosion from low slopes, effects of surface runoff depth 4-52789
 river bed degradation, causes 4-52785
 salt weathering as erosion process in S Tunisia 4-41921
 soil erosion features, monitoring from remote sensing data 4-17316
 Sunwapta River, Alberta, Canada, braided stream confluence scour 4-52771
 tektite chemical durability, laboratory leaching expts. 4-58183
 topographic relief erosion, effect on pore pressures at depth 4-58207

erosion continued

- Walnut Gulch, Arizona, USA, alluvium removal from semiarid watershed 4-52778
 water-rock interaction, fourth symposium, Misasa, Japan (Aug.-Sept. 1983) 4-4153
- error analysis**
see also error correction
 anomalous error rejection using stochastic models (*Russian*) 4-225
 astronomical observations, systematic errors separation procedure (*Russian*) 4-13204
 decaying exponential process reproduction by inertial device 4-53644
 digital wave-front measuring interferometry, systematic error sources 4-8947
 dual-Doppler radar obs. of wind field, errors due to temporal var., minimisation algorithm 4-13051
 fast reactor, integral expt. information, book contrib. 4-48633
 Fourier transform spectrometers, flexible scanning advantages 4-4471
 IR radiometer instrument error estimation 4-27560
 linear and circular polarisation modulation for meas. complex magneto-optical rot., optimisation and error anal. (*German*) 4-53729
 LMFBR design and critical assembly anal., calculational methodology and associated uncertainties, book contrib. 4-48632
 LMSE classifiers, optimum selection of target points 4-38414
 measurement uncertainty statistics appl. 4-13613
 mechanical boundary value problems, approx. solns. (*Polish*) 4-47873
 multivariable sensitivity anal., probabilistic rejection test 4-27477
 nuclear data, sources of systematic error 4-37637
 object restoration in presence of noise regularised iterative and noniterative procedures, error anal. 4-10252
 ocean thermal structure, observational error correlations effect on objective anal. 4-12923
 reactor performance parameters, sensitivity and uncertainty anal. 4-47804
 reflex cameras, photographic and viewfinder channel matching method anal. 4-4495
 roundoff error problems in diffusion calculations 4-699
 sensitivity functions for uncertainty anal. of reactor performance parameters, book contrib. 4-48634
 stellar light curves, error anal. for detached eclipsing binary systems 4-53209
 transducer measurement errors, systematic and random 4-48110
 turbulent flow meas. by triple hot-wire anemometry, statistical errors determ. 4-24488
 uncertainty in nucl. data use for reactor calcs., book contrib. 4-48631
 upstream collocation 4-34075
- error compensation**
see also error correction
 accelerometers, expt. investigation into algorithmic method of error compensation (*Russian*) 4-22764
 digital wave-front measuring interferometry, systematic error sources 4-8947
 dimensional measurement, noncontact instrument, Pana Opt Scale D-Type, video processing and compensation features (*Japanese*) 4-27509
 gyroscopes, optimum correcting moment of vertical type (*Russian*) 4-42954
- error correction**
 azimuthal data, errors in acoustic meas. system on oscillating base (*Russian*) 4-14859
 electronic scale calibration and mass measurement correction (*Croatian*) 4-8877
- error statistics**
 measurement uncertainty statistics appl. 4-13613
 radioisotope measuring devices, information value of errors (*Russian*) 4-23524
 tolerance of spectral estimation 4-27476
- errors**
see also measurement errors; roundoff errors
 atmosphere convective boundary layer, air quality models, prediction uncertainty 4-41394
 cartography, satellites use, precision anal., appl. to SPOT (*French*) 4-31394
 cylindrical form errors meas. by noncontact gap sensor, electrostatic-capacitance sensor (*Japanese*) 4-8869
 electrical logging diagrams, algorithm for quality monitoring and correction (*Russian*) 4-26601
 extragalactic distance scale calibration 4-8400
 General Catalogue of Stars with the System of Photoelectric Astrolabes in China, errors anal. (*Chinese*) 4-58393
 geodetic baseline determination, Earth orientation errors 4-12747
 gravity anomalies, decomposition to Fourier series, Simpson's and Filon's methods comparison, errors anal. (*Russian*) 4-26571
 magnetotelluric probing, accuracy improvement (*Russian*) 4-52953
 magnetotelluric readings from TSEH-2 digital station, algorithms for errors influence reduction (*Russian*) 4-52572
 natural gas well, thermal parameters, errors effect on yield determ. by acoustic method (*Russian*) 4-26864
 pluviometers in afforested mountain basins, precipitation meas. accuracy, comparisons 4-26727
 radar remote sensing, target discrimination, probability of error and radiometric resolution 4-52942
 seismic velocity parameters in sedimentary sections with refl. waves method (*Russian*) 4-12808
 stratosphere wind errors/initial states/forecast skill in GLAS general circulation model 4-36424
 tunable EHF radar for rainfall rate, meas. accuracy 4-47428
 visual binary stars photographic measures from Torino Observatory (1976-1982), errors 4-53218
 weather forecasting, ECMWF model, orographic forcing rel. to systematic errors 4-58212
 wind profiles in lower troposphere, precision of radiosonde data (*German*) 4-17215
 zoom system centring errors, effect on transverse image position 4-49483
 H, error estimates for complex eigenvalues of dilated Schrodinger operators for DC Stark effect 4-9720
- erythema** *see biological effects of ultraviolet radiation*
- erythrocytes** *see blood; cellular biophysics*
- Esaki diodes** *see tunnel diodes*
- Esaki effect** *see tunnelling*

ESCA see *electron spectroscopy; spectrochemical analysis; X-ray photoelectron spectra*

ESR see *paramagnetic resonance*

estimation theory

see also *information theory*

climatic elements estimation, use of exponential smoothing 4-58319
component batches monitoring, allowance for metrological conditions 4-13612

covariate ratio procedure for treatment differences estimation, appl. to Climax I and II expts. 4-13055

evoked potentials, estimation criteria 4-7975

generalised linear model estimation problem, optimum linear restriction, appl. to climatic data 4-58276

location and scale parameters estimation, asymptotic theory, appl. to climatic data 4-58275

meteorology, generalised representation of objective anal. 4-42041

missing daily max. and min. temp., estimation methods 4-31682

seismic signal processing, modelling and estimation methods 4-58311

eta meson resonances

glueball- $\eta(\pi')$ mixing in QCD, SU(3)_{flavour} breakings 4-13878

$\eta_c \rightarrow 2\gamma$, power corrections from QCD sum rules 4-9111

$\eta_c(\eta_b) \rightarrow 2\gamma$, partial widths taking account of spin-spin interaction 4-18264

$\eta_c \rightarrow \gamma X$, inclusive γ spectrum meas. for gluonium-gluonish props. 4-4684

η masses in bag model, annihilation contrib., mass shifts 4-18192

$\gamma\gamma \rightarrow \rho\rho$, 2.0-3.1 GeV, differential cross section, η_c prod. cross section 4-9133

$\pi^+ p \rightarrow X^0 n$, production mechanism of $I=0$ mesons 4-37397

$\psi \rightarrow \eta\gamma$, allowed and hindered mag. dipole transition amplitudes in quarkonia 4-18263

eta mesons

glueball- $\eta(\pi')$ mixing in QCD, SU(3)_{flavour} breakings 4-13878

masses in bag model, annihilation contrib., mass shifts 4-18192

$e^+e^- \rightarrow e^+e^- \eta$, 5-7.25 GeV, 2 prod. in two photon collisions 4-18314

$e^+e^- \rightarrow \eta X$, 34 GeV, inclusive η prod. obs. 4-9120

$\eta \rightarrow \pi^0 \pi^0$, η meson prod. cross section in $S_{11}(1535)$ reson. region 4-43374

$\eta \rightarrow \mu^+ \mu^- \gamma(\gamma\gamma)$, two-photon form factor, EM decay amplitudes in quark triangle model 4-18228

$\eta \rightarrow \pi^0 \gamma\gamma$, decay in model of mesons with quark loops 4-32713

η_c mass from EM decay 4-18264

$\eta_c(\eta_b) \rightarrow 2\gamma$, partial widths taking account of spin-spin interaction 4-18264

$\eta \rightarrow \rho\gamma(\omega\gamma)$, decay in model of mesons with quark loops 4-32713

$f \rightarrow \eta\eta$, decay rate and branching ratio from $\pi^+ p$ 4-32672

G(1590) $\rightarrow \eta\eta$ decay rate and branching ratio from $\pi^+ p$ 4-32672

etalons see interferometers

etchants see etching

etching

see also *crystal defects; dislocation etching; sputter etching*

ammonium hydrogen tartrate, growth in SiO₂ hydrogel, density, morphology, microstructure 4-29363

bent-groove etched-wall struct. for integrated optics in III-V semiconds. 4-55224

bidirectional shadowing in freeze-etching, particle size analysis 4-17033

borate glasses doped with fissionable material, track characts. and detection 4-23492

cellulose nitrate, ⁴⁰Ar ion tracks study 4-23505

conference on low energy ion beams, Loughborough, England (Mar. 1983) 4-42592

copolyester, random, injection moulded, thermotropic liquid crystal, micro-morphology, etching, X-ray and SEM obs. 4-20123

CR-39, track registration and etching props. for various particles 4-28293

deep etching procedures in the electronic technology (German) 4-51869

electrochemical preparation of fine needles in a flow of electrolyte 4-8885

epidote fission track detector, etching technique 4-28297

glass nuclear track detector, fission fragments, track diameter and etching time, empirical relationship 4-9632

glauconite, suitability for fission track dating, etching conditions 4-47179

Homalite CR-39 plastic detector calibration for light particle spectrometry and appl. 4-965

III-V semiconductors, electrochemical selective etching and photoelectrochem. behaviour in H₂O₂ redox system 4-40040

III-V semiconductors, surface prep. methods, chem. treatment 4-51832

ion damage track form. in insulators 4-29491

Makrofol after long storage time in air, critical angle for fission fragment registration 4-28296

Makrofol polycarbonate plastic track detector, response to 1.1 MeV/N ¹³²Xe ion 4-23506

mesolite crystals, natural, etching of {101} faces 4-30836

metallography, standardisation and comparison of methods, report 4-12306

metals, microstruct. revealed by oxidising etchants 4-57508

methylmethacrylate-methacrylic acid copolymer, positive resist., photoetching by X-ray pulse 4-51840

Ni-Cr-Co-Ta, superalloy IN 738, carbide transform, etching and EM obs. 4-25963

optical end-point detection using chromatic aberration 4-22751

optical fibre, stress-guiding struct., fabrication by gas-phase etching 4-1495

organic materials, oxidative removal, appl. of EPR spectroscopy 4-35940

phosphate glass detectors 4-970

photo-induced CVD, etching and thin film deposition (Japanese) 4-40669

photometric laser controller for thin film growth and etching (French) 4-45566

photoresist films, deep etching using XeCl laser 4-3263

plasma-assisted, in microfabrication, book contrib. 4-7623

PMMA, far UV ablative photodecomposition, etching appl. 4-35916

polyethylene, mixed single crystals, chain mobility, HNO₃ etching effects, IR obs. 4-35431

polyethylene, mixed single crystals, comp. heterogeneity, HNO₃ etching obs. 4-34423

polyethylene terephthalate film, deep etching using XeCl laser 4-3263

polyethylene terephthalate surface, activation by corona discharge 4-16520

polyethylenes, optimisation of permanganic etching for SEM 4-12289

polyimide film, deep etching using XeCl laser 4-3263

polymer film, dosimetry of soft X-ray and VUV radiation using photoetching effect 4-9603

polyolefin films, chemical modification of near-surface charge trapping, SEM, ATR, TSC meas. 4-56364

etching continued

quartz, chemically etched AT-cut plates, surface texture 4-41032

quartz plates, chem. etching, orientation effects 4-20440

semi-infinite active surface, two-dimens. etching model 4-41028

semiconductor surfaces, photoelectrochemical etching, photoelectrochemical solar cells appl. 4-41030

soda glass, etch rate, ⁵⁰Ti ion track study, energy loss study 4-2232

soda glass, heavy ion tracks study 4-5084

steel, austenitic stainless, metallographic study of $\alpha \rightarrow \sigma$ phase transform. 4-30883

steel, C, etched in HCl soln. with and without inhibitor 4-51866

steel, Cr-Mo, bainitic, H attack 4-35709

steel, Cr-Mo-V, turbine rotor, etching technique for revealing prior austenite grain boundaries 4-57507

steel, HSLA multiphase, metallography, etching method 4-26145

steel, low alloy, high C, centreline segregation, metallographic study 4-30885

steel, metallographic reagent for characterisation of oxide scale 4-3338

steel, stainless spray etching with FeCl₃, removal mechanism, surface struct. (German) 4-51870

TGS, aqueous photolithographic etching, pyroelec. detector appls. 4-39512

wires fabrication with 80 angstrom diameter, using etched tracks in mica 4-57140

Al, electrochemical tunnel etching 4-41064

Al, etching and passivation under AC conditions, influence of temp. 4-57490

Al, HF discharge plasma etching, spectrosc. investig. 4-12256

Al metallisation, improved lift-off process using chem. etch formulation 4-12257

AlGaAs-GaAs curved waveguides and channelled-substrate DH lasers, monolithic integration by wet chem. etching 4-24245

Al₂O₃, RF sputtered thin films, O₂ partial press. effects on props. 4-36161

BaFCl, cryst. growth by flux technique, etching, impurity effect 4-2107

Cd chalcogenide/ferri-ferrocyanide photoelectrochemical cells, effect of surface morphology and added salt 4-26296

Cd₂Hg_{1-x}Te crystals, Bridgman growth, rapid quenching, boundary layer thickness 4-3056

CdS/Cu₂S solar cells fabricated on single-crystal CdS substrates, scanning light spot and electron beam-induced current scans 4-21557

CdTe surface, photoetching effect, cathodoluminescence imaging 4-16255

CdTe-metal junctions, surface prep. effect on props. 4-2653

Co-Cr-Al-M coatings (M=Si, Y, Hf, Zr), oxide struct., effect of deposition and processing variables 4-15788

Cu with oxide film, hologram writing by photochemical etching 4-49307

Fe, metallographic reagent for characterisation of oxide scale 4-3338

Fe-Cu, liquid phase sintered, austenite grain boundaries, etching obs. (German, English) 4-7683

Fe-Si (3 wt.%), fatigue cracks, 3-D obs. of plastic zones 4-26064

Fe₃O₄, magnetite, dissolution, surface comp. and morphology 4-7783

GeAs, laser induced local etching in CCl₄ gas atmosphere 4-39334

GaAs (100) substrate, vapour phase in-situ etch 4-7365

GaAs based semiconductor materials, fabrication of modulators and switches 4-24253

GaAs, etching characts. of HCl-H₂O₂-H₂O etching soln. (Chinese) 4-41014

GaAs, etching in H₂-HCl gas mixtures, dopant and orientation depend. 4-12203

GaAs, grating formation by one-step laser-photochem. etching 4-28892

GaAs, ion implanted, spectroscopic ellipsometry anal. 4-39327

GaAs, LEC grown, undoped semi-insulating, EL2 electron trap distrib., DLTS study 4-20591

GaAs laser chemical etching method for drilling vias 4-12205

GaAs, MBE, selective area growth with patterning by SiO₂ masking 4-12027

GaAs optical gratings, submicrometer, maskless laser-enhanced chem. etching 4-28817

GaAs, passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380

GaAs, photochemical microetching in aqueous solns. 4-12206

n-GaAs, photoelectrochemical oxidation 4-26077

GaAs, selective Si²⁺ and Be²⁺ implantation using 100 kV mass-separating ion beam system with Au-Si-Be ion source 4-34503

GaAs thin film planar waveguides, preparation, parameters optimisation (Czech) 4-10419

GaAs:Si as-grown single crystals, microdefects and their behaviour (Chinese) 4-20220

GaAs:Zn, diffusion masks using CVD-SiO₂ and plasma-SiN_x films 4-50326

GaAs-Ag(Au)(Al), correl. between prep. method, barrier height and interface states (French) 4-6888

GaAs-AlGaAs heterostructure, MBE grown, recent developments and device appls. 4-15952

GaAsAl, passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380

GaAsP passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380

GaInAsP BH heterostructure optical waveguide branches and bends, low-loss, LPE growth 4-38574

GaSb ingots, Bridgman growth, texture, cryst. orientation, grain boundaries, SEM, chem. etching, electron channelling 4-29364

a-Ge, low-power laser annealing, defect migration and temp. gradient effects 4-24861

Ge₂Se₃ chalcogenide IR optical glass, flocculent inhomogeneities 4-6280

III-V heterostructure layers, interface defect struct., etch pits obs. on chem. bevel (French) 4-15772

InAs/oxide interfaces, element V material obs. 4-56157

InBO crystal growth, etch patterns, optical transmission and dielec. const. meas. 4-40618

InP, (100) plane, anisotropic undercutting rate 4-26074

n-InP, photoelectrochemical oxidation 4-26077

InP substrate, deform. of etched V-grooves by heat treatment 4-46636

InP:Ge LEC ingots, dopant inhomogeneity, segregation nature and minimisation 4-35562

InP-Al₂O₃-metal, etching procedures of InP, effects on electrical props. (French) 4-25451

InSb MOS structures, film and interface anal. 4-56154

InSb/oxide interfaces, element V material obs. 4-56157

NaBrO₃, growth from aq. soln., selective etching, microhardness studies 4-3264

etching continued

- Pt, acid etching inhibition by preexposure to O plasma 4-51844
 Si crystals, etching, preferential, chem. system 4-21345
 Si, Czochralski grown, donor-related microdefects at surface of denuded zone 4-2226
 Si epitaxial layers, cryst. perfection, etching, deposition temp., substrate props. effects 4-29834
 Si etching and surface reactions by XeF_2 , photoeffects 4-12384
 Si, grown at high speed, microdefects, selective etching and TEM study 4-55822
 Si, low temp. surface cleaning, MBE appls. 4-16332
 Si MOS struct., ion implanted C-V characs. and dielec. props. 4-45890
 Si single cryst. matrix, electrode pot. meas. rel. to struct. perfection 4-3265
 Si single crystals, surface struct. and microrelief after ion chemical etching 4-57365
 Si, struct. defects effect on etching rate 4-57364
 Si:In, ion implanted, high temp. diffusion in oxidising atmosphere 4-25097
 Si-anodic oxide interface, ellipsometric investigation 4-46224
 Si_3N_4 film, photo-CVD by direct pyrolysis, elec. and optical props. 4-40661
 Si_3N_4 films, plasma enhanced CVD deposition, etching and insulation degradation 4-51841
 Si_3N_4 layers, plasma deposition, charact., etch rate study 4-34815
 Si_3N_4 -C, amorphous composites, CVD, etching in HF soln. 4-7617
 SiO_2 thermal layers grown in I_2 ambient, struct. anal. (Russian) 4-56168
 Ti-based spectrally selective surfaces, chemically etched for textured surface, performance 4-36032
 ZnSnAs_2 , preferential and nonpreferential etchants 4-12204

ether drift see special relativity

Ettingshausen effect see thermomagnetic effects

europium

- see also nuclei with $^{151}\text{Eu}^{2+}$, $^{153}\text{Eu}^{2+}$, EPR study 4-20857
 alkali halides: $^{151}\text{Eu}^{2+}$, $^{153}\text{Eu}^{2+}$, Sr^{2+} , EPR study 4-20857
 distribution on Ap stars α^2 CVn/x Ser/CU Vir surfaces 4-13338
 Fermi surface, band struct. and de Haas-van Alphen freqs. calc. 4-2500
 phospho-tungstate glass:Eu (III), vitreous and partly crystallised, site-selective fluoresc. 4-21005
 quadrupole moments and Sternheimer effect, muonic atom meas. 4-4754
 CaF_2 :Eu, close-approach high-energy detector for SEM 4-24695
 CaF_2 :Eu, fluorite, Stark levels, laser-induced reversible deformation 4-15862
 CaF_2 : Eu^{2+} , $4f^7$ levels, two-photon absorpt. spectra study 4-11908
 CaF_2 : Ho^{3+} , Eu^{2+} single cryst., Eu^{2+} luminesc. decay 4-40517
 CaSO_4 :Eu, thermoluminesc. centres, ESR, optical excitation spectra 4-51368
 CdF_2 : Eu^{2+} , EPR spectra 4-46101
 CdF_2 : Eu^{2+} single crystals, EPR uniaxial stress data, spin-lattice interaction 4-7060
 Eu I hyperfine struct. and isotope shifts, determ. by high-resolution opto-galvanic spectrosc. 4-18961
 Eu II hyperfine struct. and isotope shifts, determ. by high-resolution opto-galvanic spectrosc. 4-18961
 Eu^{2+} , hyperfine interactions calc. using Dirac wave functions 4-33300
 Eu^{2+} , in matrices, lower d band edge energy, stimulated emission 4-51302
 Eu^{2+} : Y_2O_3 , time resolved emission study by computer controlled luminescence spectrometer 4-51323
 Eu(III) ions in hydrated A and Y zeolites, coordination environment, luminescence lifetimes and EXAFS meas. 4-54744
 Eu(III)-citric acid complexes, luminescence and intermolecular energy transfer 4-19130
 ^{63}Eu , L-emission spectrum, diagram lines, forbidden and quadrupole transitions 4-43844
 GaSe:Eu, photoluminescence and ESR spectra 4-51342
 GaAlO_3 : Eu^{2+} , electronic transitions, IR transmission spectra 4-29926
 I VII through Eu XVII, Ag I-like array $4d^{10}5s-4d^95s5p$ 4-48972
 KBr:Eu, X-ray irradi., F-centres and Eu^{2+} cations vacancy dipoles 4-29429
 KCl(Br): Eu^{2+} , X-ray induced precipitation, photoluminesc. study 4-11305
 KI:Eu, X-ray irradi., F-centres and Eu^{2+} cations vacancy dipoles 4-29429
 KI:Eu single crystals, X-irradiated, Eu precipitation study by photolum. 4-2952
 KI:Eu $^{2+}$, X-irrad., luminesc. and cond. meas., impurity cluster effects 4-16241
 KY $_3$ F $_{10}$: Eu^{3+} , energy migration, decay times, luminesc. 4-11917
 LaCl_3 : Eu^{3+} , force electric-dipole transition probabilities, electron correl. effect 4-34919
 La_2HfO_7 : Eu^{3+} (Tb^{3+})(Ti^{4+}), lattice const., luminesc. props. 4-45082
 A- La_2O_3 : Eu^{3+} , fluorescence spectrum anal. 4-21023
 LiNbO $_3$:Eu, X-ray irradi. and thermal reduction-induced defects 4-39286
 Lu $_2$ Y $_3$: ScO_3 :Nd(Er), electrophysical props. 4-56341
 MgS:Eu, Sm phosphors, optically stimulated luminesc. dosimetry 4-48753
 NaCl(Br): Eu^{2+} , X-ray induced precipitation, photoluminesc. study 4-11305
 PbF $_2$: Eu^{3+} , $^3\text{D}_2$ - $^7\text{F}_0$ transition, homogeneous linewidth, anomalous temp. depend. 4-11930
 $\text{Sr}_2\text{La}_2\text{W}_2\text{O}_{12}$:Tm, Eu, two-colour emission spectra (German) 4-7228
 SrF_2 : Eu^{2+} , $4f^7$ levels, two-photon absorpt. spectra study 4-11908
 Sr_2SrGd_2 : W_2O_{12} : Eu^{3+} luminesc., low-lying charge-transfer transition 4-2951
 Y $_2\text{O}_3$:Eu phosphors, cathodoluminesc. enhancement by coagulation 4-35493

europium alloys

- Eu-Rh system, phase diagram, X-ray and DTA study 4-40752
 Eu-transition metal alloys, EuM_3 (M=Rh, Ni, Pd, Pt, Cu, Ag), find state effects and surface valence, XPS study 4-7314
 EuCu_2Si_2 mixed valence cpd., field induced valence shifts, Mossbauer study 4-56294
 EuFe_2Al_3 , ferromagnetism and hyperfine studies 4-7010
 EuGa_2 , crystal struct., X-ray anal. 4-45060
 EuMn_2Si , X-ray spectroscopy study 4-46368
 EuPd_3 , band struct., bremsstrahlung isochromat spectra 4-39769
 EuPd_2Si_2 , mixed valence system, mag. susceptibility meas., press. depend. 4-45694
 $\text{La}_2\text{Eu}_{1-x}\text{Pd}_2\text{Si}_2$ mixed valence alloy, Mossbauer isomer shifts 4-2848
 Ni-Eu, ion implanted, pulsed laser treatment, surface alloying, trapping, and damage 4-15531

europium compounds

- see also europium alloys
 intercalation compound, C_6Eu , ESR studies 4-16086
 intercalation cpd. with graphite, C_6Eu , mag. props. study 4-40195
 intercalation cpd. with graphite, EuC_6 , Mossbauer study 4-40317
 monochalcogenides, pure and mag. diluted, Mossbauer study 4-16128
 tris(β -diketonates), shift reagents for nonpolar media 4-14450
 β - Al_2O_3 : $\text{EuO}(\text{Eu}_2\text{O}_3)$, synthesis, ion transport and fluorescence lifetimes 4-39576
 β'' - Al_2O_3 - M_2O_3 (M= Gd^{3+} , Nd^{3+} , Eu^{3+}), formation by ion exchange and ionic cond. meas. 4-39571
 C_6Eu graphite intercalation cpd., mag. anisotropy due to π -f exchange 4-2750
 C_6Eu , graphite intercalation cpd., four-spin exchange, high field magnetisation meas. 4-16025
 C_6Eu , graphite intercalation cpd., sp. ht. study, rel. to mag. phase transition 4-16044
 EuB_6 , compressibility, high press. X-ray diffr. studies 4-11218
 EuCl_2 , EFG and electronic struct. 4-2561
 EuCl_2 , anhydrous non-stoichiometric phase, Mossbauer studies 4-20890
 $\text{EuCl}_2\text{Br}_{2-x}$, preparatory and X-ray powder diffr. study 4-6341
 Eu_2CuO_4 , semiconductor, mag. props. study 4-30156
 $\text{Eu}_2\text{FeO}_{12}$, garnet, electric field gradient calcs. 4-50779
 EuFeP_{12} , giant hyperfine fields, Mossbauer study 4-35297
 EuFeP_{12} , mag. and elec. props., Mossbauer spectra 4-11684
 $\text{Eu}_{1-x}\text{Ho}_x\text{Mo}_2\text{S}_8$, press. induced supercond. 4-56476
 Eu_2IrH_8 , ferromagnetism and ^{151}Eu Mossbauer effect 4-51165
 EuLiH_3 , synthesis, cryst. growth and optical absorption 4-40638
 EuMo_6S_8 , bulk supercond. behaviour under hydrostatic press. 4-20752
 EuMo_6S_8 , bulk supercond. behaviour under press. 4-56477
 EuMo_6S_8 , supercond. and struct. instability at high press. 4-45910
 $\text{EuMo}_6\text{S}_8(\text{Se}_8)$, low-temp. mag. props., Mossbauer study 4-56837
 EuMo_6Se_8 cluster cpd., structural phase transitions, elec. resist. meas., X-ray diffr. study 4-6495
 EuMo_6Se_8 , struct. phase transition, X-ray, elec. resist. and Hall effect studies 4-2331
 $\text{Eu}(\text{NH}_3)_6$, low-temp. mag. susceptibility meas. 4-51036
 EuO , appl. of theory of mag. excitations in ferromag. semiconds. 4-25534
 EuO , insulator-metal transition and valence instability near 130 kbar, optical refl. spectra 4-45639
 EuO , mag. interactions, band model study 4-11662
 $\text{Eu}(\text{OH})_2$: Gd^{3+} , EPR spectra of impurity ion, spin-Hamiltonian param. temp. depend. 4-56769
 EuP , stability during heating in vacuum, thermodynamic props. 4-57593
 EuPd_2Si_2 , valence transition and mag. ordering, Mossbauer study 4-40291
 $\text{Eu}_2\text{ReS}_{11}$, synthesis, cryst. struct. and mag. props. (German) 4-24774
 EuRuP_{12} , giant hyperfine fields, Mossbauer study 4-35297
 EuS , growth from vapour phase, sublimation 4-51465
 EuS , mag. interactions, band model study 4-11662
 EuS , transfer in I_2 atmosphere, 1270-1970K 4-51464
 $\text{Eu}_2\text{Se}_{1-x}\text{S}_x$ spin glass, mag. props. study 4-16039
 $\text{Eu}_2\text{Se}_{1-x}\text{Fe}_x\text{O}_{12}$ garnet, Mossbauer study of cation distrib. 4-45081
 EuSe , growth from vapour phase, sublimation 4-51465
 EuSe , mag. interactions, band model study 4-11662
 EuSe , one-phonon and multiphonon absorpt. 4-7192
 $\text{Eu}_4\text{Sr}_6\text{O}_{16}\text{S}$, insulating spin glass, analyticity breakdown from dynamical meas. 4-56633
 $\text{Eu}_4\text{Sr}_6\text{O}_{16}\text{S}$ spin glass, threshold field for de Almeida-Thouless transition line 4-56634
 $\text{Eu}_4\text{Sr}_6\text{O}_{16}\text{S}$ spin glass, logarithmic dynamic scaling and spin freezing 4-56651
 $\text{Eu}_{0.54}\text{Sr}_{0.46}\text{S}$, spin flip Raman scatt. 4-56908
 $\text{Eu}_{1-x}\text{Sr}_x\text{S}$, one-phonon and multiphonon absorpt. 4-7192
 $\text{Eu}_2\text{Sr}_{1-x}\text{S}$, ferromag. and reentrant, domain obs. 4-56687
 $\text{Eu}_2\text{Sr}_{1-x}\text{S}$, reentrant spin glass, elastic light scatt. 4-56639
 $\text{Eu}_2\text{Sr}_{1-x}\text{S}$, spin correlations near ferromag.-to-spin glass crossover 4-56631
 $\text{Eu}_2\text{Sr}_{1-x}\text{S}$ spin glass, spin freezing process, susceptibility meas. 4-6991
 $\text{Eu}_2\text{Sr}_{1-x}\text{S}$ spin glass behaviour, mag. phase diagram 4-46045
 $\text{Eu}_2\text{Sr}_{1-x}\text{S}$, thermal cond., mag. field depend. 4-15729
 $\text{Eu}_2\text{Sr}_{1-x}\text{S}_{1-x}\text{Se}_x$, ferromag. solid soln., crit. exponents, sp. ht. and magnetisation meas. 4-6984
 EuTe , growth from vapour phase, sublimation 4-51465
 EuVO_2 gaseous, thermodynamic props., mass spectrometric obs. 4-19911
 EuVO_2 gaseous, thermodynamic props., mass spectrometric obs. 4-19911
 EuYIG films, Ga substituted, laser annealed, thermal variation in mag. props. 4-25619
 $\text{KEu}(\text{WO}_4)_2$, optical hole burning and optically detected NMR 4-38534
 $\text{La}_{1-x-y}\text{Nd}_x\text{Ln}_y\text{P}_3\text{O}_{14}$ (Ln=Tb, Eu), donor luminesc. quenching, energy transfer processes 4-30525
 $\text{Na}_2\text{Eu}(\text{MO}_4)_4$ (M=Mo, W), spectroscopic parameters and paramag. susceptibility 4-6748
 Ni-Cr-Eu $_2\text{O}_3$, oxidation, effect of oxide dispersion 4-26109
 $\text{Pb}_{1-x}\text{Eu}_x\text{SeTe}_{1-y}$ diode lasers grown by MBE 4-19444
 SiO_2 : EuF_3 thin films, electrochrom. characs. 4-51353
 SrEuFeO_4 , Mossbauer spectroscopy study 4-7102
 $\text{Tb}_2\text{EuO}_2(\text{MoO}_4)_3$ 4-51280
 $\text{Tb}_2\text{EuO}_2(\text{MoO}_4)_3$, Tb^{3+} , Eu^{3+} $^7\text{F}_J$ absorpt., multiphonon modes of MoO_4^{2-} ions 4-7175

eutectic alloys

- binary alloy systems, glass forming ability by modified temp.-comp. map. rel. to phase 4-45004
 binary eutectic alloys, cohesion, phase boundary effects (Russian) 4-57190
 directional eutectic, model of subgrain boundary form. 4-51629
 solid-phase diffusion interaction between eutectics and metals forming them 4-57189
 Ag alloys, solid solubility of transition metals, metastable extension under melt quenching (Chinese) 4-15639
 Ag-Cu (1-28.1 wt.%), rapid solidification vel., effect on microstruct. 4-40766
 Ag-Ge, hypoeutectic, undercooling, glass slag technique, solidification struct. 4-40762
 Al-Al $_3$ Cu lamellar composites, deformation mechanism, plastic anisotropy (French) 4-40924
 Al-Al $_3$ Cu strips of regular eutectic comps., growth and microstruct. 4-25950

eutectic alloys continued

- Al-Al₃Ni strips of regular eutectic comp., growth and microstruct. 4-25950
 Al-Cu, hypoeutectic alloys, directional solidification, dendrite morphology 4-51648
 Al-Cu-Ag system, phase diagram, thermal analysis of liquidus (*Chinese*) 4-3122
 Al-Cu-Si, flow stress rel. to deform. time (*Japanese*) 4-26006
 Al-CuAl₂, directionally solidified eutectic, effect of fluid flow 4-40767
 Al-CuAl₂, single eutectic grains, hot deform. in tension, role of phase boundaries 4-21263
 Al-Ge evaporated films, percolation of liquid eutectic 4-29945
 Al-Si, morphology of (100)-textured Si crystallites, dendrites 4-51471
 Al-Si, thermal cycling treatment, effect on struct. and props. 4-40840
 Al-Si (0 to 24 wt.%), struct. modification by alloying additions 4-57207
 Al-Si eutectic, Sr modification, improvement of mech. props. 4-7426
 Al-Si eutectic alloys, struct. mech. props., Sr microalloying effect (*Rumanian*) 4-35608
 Al-Si hypereutectic alloys, cutting with sintered diamond tool (*Japanese*) 4-41002
 Al-Si-Cu-Mg-Ni, hypereutectic, wear resist. 4-40993
 Al-Si-Na (12.5 wt.%), eutectic alloy, morphology rel. to Na addition (*Chinese*) 4-3121
 Al₃Ni-Al fibre matrix eutectic alloy, interphase boundary struct. 4-6667
 Cd-Zn eutectic alloy, directional solidification, forced convection flow effects 4-21201
 Co-B eutectic melts, wetting of refractory compounds 4-2413
 Co-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Cu binary alloys, metastable states by super-rapid quenching 4-46537
 Cu-Cu₃Zr, directionally solidified eutectic, texture and meas. props. 4-3151
 Er-Ge system, binary, phase diagram (*Chinese*) 4-16372
 Fe-B eutectic melts, wetting of refractory compounds 4-2413
 Fe-C-Si eutectic system, cast Fe, eutectic crystallisation 4-12062
 Fe-Fe₂B, eutectic system, primary phase crystal growth and shape 4-3125
 Fe-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 In-Sn eutectic difference in cryogenic tensile props. of constituent phases 4-46581
 Li-Pb eutectic alloy, breeding blanket material in fusion reactor 4-9419
 Li₁₇Pb₃₃ eutectic, combined N₂ determ., fusion reactor material 4-33162
 Li₁₇Pb₃₃, eutectic fusion reactor blanket, conceptual study 4-9426
 Li₁₇Pb₃₃, liq. breeder for fusion reactor blanket, progress in studies 4-9445
 Li₁₇Pb₃₃, liquid eutectic, tritium recovery by vacuum degassing 4-9543
 Mg-Ca eutectic, superplasticity 4-35656
 γ/γ'-α-Mo, directionally solidified eutectic, off-axis tensile props. (*Chinese*) 4-16434
 Na-K (22 wt.%-78 wt.%), O solubility determ. by vacuum distillation method 4-50526
 Nb-Ge, struct. and phase composition, metallographic study (*Russian*) 4-51649
 Nb-Ge-Si, struct. and phase composition, metallographic study (*Russian*) 4-51649
 Ni-Al-Ti, eutectic superalloy, directionally solidified, interface dislocations motion (*Japanese*) 4-35618
 Ni-B eutectic melts, wetting of refractory compounds 4-2413
 Ni-base eutectic superalloys, MC-carbide reinforced, gas turbine blade appl. 4-16354
 Ni-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Ni-Mo-Al (33.57 wt.%), directionally solidified eutectic, precipitation 4-3144
 Ni-Nb-Al, γ-γ' eutectic, directionally solidified, morphology (*Slovak*) 4-46501
 Ni-NbC, directed crystallisation, phase structure 4-21199
 Ni-Ni₃B, eutectic system, primary phase crystal growth and shape 4-3125
 Ni-Sn (32.5 wt.%) supercooled eutectic alloy microstructure and solidification (*Croatian*) 4-35622
 Pb-Li, molten eutectic, kinetics of H absorption 4-29779
 Pb-Sb eutectic, twin-roll rapid solidification process, cooling characteristics 4-7445
 Pb-Sb eutectic alloy, rapidly solidified ribbon, rolling characts. 4-21202
 Pb-Sn eutectic, superplastic, influence of prestrain on ductility 4-21275
 Pb-Sn eutectic alloy, directional solidification, forced convection flow effects 4-21201
 Pb-Sn-Sr, phase diagram up to ~36 at.% Sr 4-40749
 Pb-Tl alloys, solidification front morphology during unidirectional growth 4-40764
 Sn-Al eutectic, embrittlement in damp air 4-41070
 Th-In phase diagram, DTA and X-ray studies 4-46492
 ZrC-ZrB₂ eutectic, high-temp. oxidation 4-3294

eutectic structure

- eutectic alloy, directional, model of subgrain boundary form. 4-51629
 naphthalene-benzil, solidification mode, tensile and compressive strengths 4-2257
 steel, austenitic stainless, type 316, EBR-II driver fuel elements, eutectic penetration induced cladding rupture 4-18605
 steel, high speed, MZ, as-cast, 4-30730
 steel, Mn-Si, rail, rupture localisation near eutectoid sulphides 4-30818
 Al-Al₂Cu lamellar composites, deformation mechanism, plastic anisotropy (*French*) 4-40924
 Al-CuAl₂, directionally solidified eutectic, effect of fluid flow 4-40767
 Al-In (17.5 wt.%), unidirectional solidification struct. rel. to growth rate and temp. gradients (*Japanese*) 4-35619
 Al-In (17.5 wt.%), unidirectional solidification, monotectic struct. (*Japanese*) 4-35620
 Al-Si-Cu-Mg hypoeutectic cast alloy, Sr modification (*Chinese*) 4-7441
 Al₂O₃-Y₂O₃ system, sintering, eutectic form and struct. 4-57203
 Al₂O₃-ZrO₂ system, rapid solidification 4-16381
 BaB₂O₄-Li₂B₄O₇ system, phase equilibrium and cryst. structs., thermal and X-ray diff. anal. (*Chinese*) 4-55960
 BaB₂O₄-Li₂O system, phase equilibrium and cryst. structs., thermal and X-ray diff. anal. (*Chinese*) 4-55960
 Cd-Sn eutectic, degenerated regions study with automatic anal. of pictures (*French*) 4-30874
 CdSb-NiSb, interaction in system 4-3127

eutectic structure continued

- Co-P, rapidly cooled alloys, metastable states, composition and struct. 4-55964
 Cu-Cu₃Zr, directionally solidified eutectic, texture and meas. props. 4-3151
 Fe, cast, elastic modulus, var. on heating 4-40883
 Fe, cast, flake graphite, C diffusion in liquid during steady-state solidification 4-57213
 Fe, grey cast, dry abrasive wear rel. to eutectic domain struct. (*Rumanian*) 4-35731
 Fe-TiO₂, eutectic formation, rel. to cooling rate 4-51650
 α-Fe₂O₃, powder, sintering, microstruct. and density rel. to purity 4-57152
 LiCl-KCl eutectic melt, struct. and dynamical props., numerical simulation 4-45369
 MgF₂-CaF₂, ceramic powders, sintering pre-eutectic densification 4-51588
 Ni-Al-Mo, phase equilb. reinvest., implication to elevated temp. stability of γ/γ'-Mo aligned eutectic 4-7420
 Ni-Mo-Al, γ/γ'-α, Bailey-Orowan creep model 4-35662
 Ni-Nb-Al, γ-γ' eutectic, directionally solidified, morphology (*Slovak*) 4-46501
 Ni-Sn (32.5 wt.%) supercooled eutectic alloy microstructure and solidification (*Croatian*) 4-35622
 NiO-CaO, directionally solidified eutectic, crystallography 4-7416
 PbTe-Bi₂Te₃, eutectic point solubility, microstructure, X-ray diff. and thermal anal. study 4-56015
 PbTe-CdSe, phase diagram, X-ray diff. and DTA studies 4-55965
 Sm₂S₃-Sm₂S₅ mixed cryst. series, valence transition 4-11499
 TiC-Ni composites, liq. phase sintering 4-40735

eutectic transformations see *phase diagrams; phase equilibrium*

eutectoid steel see *carbon steel*

eutectoid transformations see *solid-state phase transformations*

evaporated layer production see *vapour deposition*

evaporation

- see also *drying; field evaporation*
 activated reactive evaporation processes, tribological appls. 4-3088
 aerosol droplets, diffusion interaction, EM control 4-24464
 alkali halide crystals, evaporation in electrostatic field, surface ledge configurations 4-15753
 capillary tubes, evaporation of liquids, transitional regime 4-20341
 climate sensitivity, evaporation-limited tropical temps. as constraint, energy balance model 4-8311
 ecosystem hydrodynamics and water at Earth surface 4-4176
 electrostatic spray atomizers, charged droplets, periodic convulsive disruption during evaporation, analytical model 4-31030
 foil target, anomalous laser light transmission, amplified spontaneous emission 4-38980
 Freon-11, flashing and evaporation due to sudden depressurisation 4-38703
 heat transfer in evaporation and condensation zones in heat pipes with intensively heated ends 4-34079
 hydrocarbon fuel drops, steady state evaporation characts. 4-10525
 immiscible liq. drops, direct contact evaporation, parametric studies 4-38702
 inverted vertical spout evaporators for open cycle ocean thermal energy conversion 4-41360
 lakes, evaporation rates 1-D computer model of energy budgets 4-52790
 laser evaporation instability produced during laser evaporation of thin films 4-29475
 liquid evaporation from thin-walled capillary-porous bodies, nonstationary convective heat transfer 4-24429
 metal nitride particles, (group IIIa, IVa, Va and VIa metals), prep. by reactive gas evaporation (*Japanese*) 4-21190
 phase interface, evaporation and condensation, mass exchange and parameter nonuniformity 4-2412
 polymer solns., conc., heat transfer in solvent evaporation 4-34066
 rare earth hexaborides, thermionic electron emitter, high temp. surface composition 4-29752
 slot burner with thermal evaporator for flame atomic absorption spectrophotometer 4-52074
 spray column, direct contact evaporation, theoretical anal. 4-39450
 steam-water mixtures, critical flow, separated flow model 4-1810
 turbulent falling liquid films, evaporation, heat exchange on thermal initial section 4-19832
 two-fluid theory of the condensation and evaporation effects in fluid flow 4-1782
 vortical motion in liquids generation, using magnetically coupled digital motor 4-19902
 water drop condensation and evaporation in air, particle flow rate determ. (*Russian*) 4-50477
 water flow through porous metals, evaporation 4-19877
 water vapour flux over water surface 4-31495
 Al foil laser evaporation, laser-evaporation instability 4-29475
 AlN-Y₂O₃ sintered compacts, thermophys. props., high temp., elec. resist., strength props., oxidation resist. 4-50541
 BaB₆ thermionic electron emitter, high temp. surface composition 4-29752
 Bi laser evaporation, influence of hydrodynamic perturbations 4-24989
 Ca-Hg system, evaporation study using new Knudsen cell-mass spectrometer system 4-34624
 DyI₃, evaporation, Knudsen cell mass spectra 4-50480
 KNO₃, molten, evaporation kinetics 4-45312
 Mg₂Hg, Mg₂Hg, Mg₂Hg₂ and Mg₃Hg, evaporation, enthalpy changes 4-57591
 Na surface chemistry and evaporation kinetics 4-46790
 Na₂B₄O₇·10H₂O, borax, needle-shaped and platelet growth from soln. 4-2109
 Na₂B₄O₇·10H₂O, borax, grown from soln., dendritic forms 4-2490
 NaNO₂, molten, evaporation kinetics 4-45312
 NaNO₃, molten, evaporation kinetics 4-45312
 Ni, saturated vapour press. 4-50483
 Pb laser evaporation, influence of hydrodynamic perturbations 4-24989

Evershed effect see *sunsports*

evoked potentials see *bioelectric potentials*

evolution (biological)

- anthropic principle and its implications for biological evolution 4-21874
 biogeography of Devonian period, implications for reconstruction of Palaeozoic Pangaea 4-31272

evolution (biological) continued

- biomolecules, L-D optical stereoselection by weak neutral currents 4-57831
- bolide impact effects on course of evolution 4-31650
- Late Cambrian bioterm boundaries in W Utah, search for Ir abundance anomalies 4-47263
- Cambrian explosion, skeletal evolution rel. to phosphorites at Precambrian-Cambrian boundary 4-52705
- chiral specificity, possible mechanism for origin during origin of life 4-46936
- conference on comets and origin of life at College Park, USA (October 1980) 4-27242
- conference on origin of life and related topics at Jerusalem, Israel (June 1980) 4-36793
- holostean retina, cellular mechanisms for colour coding, rel. to colour vision evolution 4-7996
- life (book) 4-42640
- life evolution to present (book) 4-42637
- mammalian evolutionary patterns, implications of completeness estimates for composite terrestrial Palaeocene section 4-3759
- mass extinctions, relation to collisions of comets with Earth 4-53097
- optical activity origins, role of statistical fluctuations and parity nonconservation 4-46941
- origin of life, implications of galactic evolution and nucleosynthesis 4-17041
- origin of life, planetary atm. conditions 4-17415
- terrestrial life, evolution from space (book) 4-53372

EXAFS

- 100 μ s-resolved technique for studying protein dynamics 4-17039
- Al₂O₃ film, SEM and surface EXAFS study 4-20521
- alloys, amorphous, atomic scale struct., scatt. expt. studies 4-55735
- alloys, amorphous, EXAFS capabilities and limitations, overview 4-46364
- basic principles and applications, book contrib. 4-11968
- chalcogenide glass thin film and bulk, photostruct. changes, neutron diff. studies 4-44976
- chemisorbed molecules, bonds and bond lengths from EXAFS spectra 4-29783
- crystal monochromator, resolution for continuous X-ray spectra (*Chinese*) 4-53806
- curved-wave theory, rapid exact calcs. 4-30561
- electron-yield EXAFS with use of gas-flow electron detector 4-35516
- experimental techniques (*Japanese*) 4-21069
- ferrocene in 2,2,4-trimethylpentane, EXAFS of liqs., photocond. meas., Fe K-edge spectrum 4-39958
- fluorescence detection at SRS, sensitivity enhancement for dilute samples 4-26244
- fluoro-octamethylporphyrinato-Ga(III) complex: GaF(GaOH), bridge-stacked polymeric struct., Fourier anal. and EXAFS spectra 4-35515
- graphite-Br₂ intercalation cpd., linearly polarised X-ray absorption spectra 4-57041
- graphite-Rb intercalation cpd., EXAFS and X-ray absorption threshold study (*French*) 4-46372
- laboratory EXAFS spectrometer with a bent crystal, a solid-state detector, and a fast detection system 4-13740
- metal catalysts, highly dispersed, appl. of EXAFS 4-30566
- Nafion ionomers, Fe neutralised, EXAFS and Mossbauer investig. 4-16272
- optimization of data end points and taper width in extended absorption fine-structure analysis 4-40573
- oxide amorphous layers on Al, prod. in sodium tartrate and H₃PO₄ electrolytes, electron-yield EXAFS study 4-15783
- passive film structure, EXAFS study 4-56177
- passive films on metals, surface EXAFS study using sample-and-detector chambers 4-56178
- phase shifts, chemical transferability 4-16274
- photon-stimulated ion desorption, isolated surface site features study 4-29780
- platinum tetra(ethylammonium)dichlorides, EXAFS and XANES studies 4-21066
- polyacetylene:Br₂, EXAFS studies, experimental techniques (*Japanese*) 4-21069
- polyacetylene:Br, bonding, reactions, EXAFS study 4-11966
- rare earth alloys, amorphous, struct. short-range order, Mossbauer spectra and EXAFS study 4-7104
- rare earth intermetallics, RMn₂Si₂ (R=La to Gd), X-ray spectroscopy study 4-46368
- review, advances in solid state physics, book 4-17647
- review of EXAFS spectroscopy, book contrib. 4-21070
- time-resolved EXAFS technique, microcomputer-controlled system 4-22896
- Ag-Mn spin glass alloys, local order, EXAFS 4-46365
- (AgI)_x(Ag₂O n B₂O₃)_{1-x} glasses, superionic, optical and X-ray absorpt. meas. 4-40574
- Ag₂O crystal, X-ray absorption meas. at Ag L₃ edge 4-2995
- Ag₂O-B₂O₃ glass, X-ray absorption meas. at Ag L₃ edge 4-2995
- Al foil, K edge EXAFS spectra 4-7280
- Al, oxidised, effective phase factors for extended absorption fine struct. meas. 4-7279
- Au-Cu alloys, order-disorder transform., EXAFS study 4-45327
- Al_{0.73}Cu_{0.30}Zn_{0.47}, premartensitic phase, struct., EXAFS study 4-21067
- BaBiO₃ supercond. oxide, EXAFS studies 4-51410
- BaPb_{1-x}Bi_xO₃ supercond. oxide, EXAFS studies 4-51410
- BeF₂:Nd³⁺ glass, bonding and struct. by XANES and EXAFS spectroscopy 4-40568
- CaF₂:Er(La), impurity-defect clusters, EXAFS study 4-16275
- CeRh₂Si₂, mag. props., lattice parameters and EXAFS measurements 4-2740
- Co complexes, cobalt octoate solns., homogeneous Ziegler-type hydrogenation catalysts, EXAFS study 4-35870
- Cu complexes, EXAFS and chemical shift studies 4-7275
- [Cu(CN)₃]²⁻ aq. solns., EXAFS study with position-sensitive photodiode array 4-2991
- [Cu(CN)₄]³⁻ aq. solns., EXAFS study with position-sensitive photodiode array 4-2991
- Cu₂Y, amorphous, struct. study using EXAFS 4-55728
- Cu₂Zr₆₆, metallic glass, EXAFS spectra 4-57034
- Eu(III) ions in hydrated A and Y zeolites, coordination environment, luminescence lifetimes and EXAFS meas. 4-54744
- Fe, passive film, in situ Mossbauer and EXAFS studies 4-57424
- Fe, passive films, structure, surface EXAFS studies 4-57425

EXAFS continued

- Fe plate, electron-yield EXAFS with use of gas-flow electron detector 4-35516
 - Fe, surface structure of clean and oxidised surfaces 4-39647
 - Fe₈₀B₂₀(P₂₀), metallic glass, EXAFS study 4-57037
 - Fe₄₀Ni₃₈Mo₄B₁₈ glassy alloy, crystn. EXAFS and XANES study 4-29327
 - Fe₉₉Zr_{0.1}, amorphous, heterogeneous struct., EXAFS and small-angle X-ray scatt. studies 4-6276
 - Ga, EXAFS study of premelting and supercooling phenomena 4-57036
 - Ga_{1-x}In_xAs, EXAFS study 4-30563
 - Ge, adsorbed Cl, I, and Te, local struct., surface EXAFS study 4-6661
 - a-Ge sputtered films, ordering prior to crystn., Raman scatt. and EXAFS study 4-6273
 - GeSe, amorphous, heterogeneous struct., EXAFS and small-angle X-ray scatt. studies 4-6276
 - La₈₀Ga₂₀, metallic glass, EXAFS spectra 4-57035
 - Mg-Zn, amorphous and cryst., EXAFS spectra 4-46369
 - Mg₇₀Zn₃₀, amorphous, struct. studies 4-44981
 - Mn²⁺-ATP complex in aq. soln., binding, EXAFS and XANES struct. determ. 4-12540
 - Mo-Ge sputtered amorphous film, structural study 4-44952
 - Mo-Ge sputtered films, amorphous, struct. changes through semiconductor-metal transition 4-39132
 - MoNi, cryst. and glassy, EXAFS studies 4-21068
 - Ni (100), O adsorption, surface struct., near-EXAFS studies 4-20442
 - Ni complexes, nickel octoate solns., homogeneous Ziegler-type hydrogenation catalysts, EXAFS study 4-35870
 - Ni-P, amorphous, EXAFS study and struct. 4-57033
 - Ni-Zr crystallised glasses, local order, EXAFS studies 4-50240
 - Ni₆₀B₄₀ metallic glasses, EXAFS and XANES studies 4-39158
 - PbTiO₃, amorphous, heterogeneous struct., EXAFS and small-angle X-ray scatt. studies 4-6276
 - ReO₃, orthorhombic and monoclinic, EXAFS study 4-16271
 - Re₂W(Mo), EXAFS study near ReL_{III} absorpt. discontinuity 4-40572
 - Si (111) with Ni monolayer, NiSi₂ struct. and nucleation mechanism 4-29782
 - Si (111)/Ag interface struct., and form., EXAFS studies 4-29830
 - Si, adsorbed Cl, I, and Te, local struct., surface EXAFS study 4-6661
 - Si, oxidised, effective phase factors for extended absorption fine struct. meas. 4-7279
 - a-Si:H, short-range order, EXAFS obs. 4-40570
 - Si-Ge alloys, amorphous and cryst., struct. studies using EXAFS and Raman scatt. 4-40571
 - Sm_{1-x}Gd_xS, mixed valence cpd., lattice parameter and EXAFS studies 4-2556
 - Ti, polycryst., EXAFS and refl. energy loss results, comparison, above L_{2,3} edge 4-57040
 - ZnSe:Cu, diffused Cu impurities, EXAFS studies 4-11342
- exchange forces in nucleus** *see nuclear forces*
- exchange interactions (electron)**
see also antiferromagnetism; ferromagnetism; RKKY interaction; superexchange interactions
- acoustic plasmons and supercond., role of exchange 4-45908
 - alloys, disordered ferromagnetic, elec. cond. with s-f exchange interaction (*Russian*) 4-34944
 - alloys, second-order phase transition, press. effects (*Russian*) 4-6975
 - amorphous ferromagnets and spin glasses, magnetic phase transition, mol. field theory 4-16028
 - amorphous Heisenberg ferromagnet, 2-D, long-range order and magnetisation 4-30138
 - binary ferromagnetic alloy, anisotropy, mag. states, phase diagrams, mol. field approx. 4-56611
 - binary mag. alloy, competing exchange interactions 4-6963
 - binuclear unit 12_2-12_2 , mag. behaviour study 4-20781
 - condensed excited state in excited atom system 4-20587
 - crystal dielectric function, Lorentz-Lorenz formula 4-2533
 - density functional theory, generalised weighted density approach 4-39743
 - dilute Potts chain in mag. field, one-dimens. calcs. 4-45987
 - dimethylammonium copper tetrachloride, normal and deuterated ferromag., mag. props. 4-56581
 - dirty superconductors, spin-orbit scatt. and spin contamination 4-30108
 - easy plane ferromagnets, one dimensional, spin wave energy quantum renormalisations, appl. using C₆NiF₃ expt. data 4-11689
 - elastic Ising chain with exchange striction, statistical mechanics 4-56517
 - electron gas, interacting, nonlinear susceptibilities, calc. using density functional method 4-2535
 - exact Kohn-Sham orbital energies, band gaps and derivative discontinuities 4-11464
 - exchange-correlation energy, approx. by functionals with kernels, coordinate difference depend. 4-56258
 - Fermi liquid, helimagnetic ordering (*Russian*) 4-25494
 - ferromagnetic systems, two-sublattice, exchange-corrected susceptibility in paramag. range 4-25509
 - ferromagnet, double exchange, spin-flip scatt. 4-11693
 - ferromagnet, relativistic multiple scatt. theory of electrons 4-15352
 - ferromagnet, three-dimensional, weakly coupled mag. chains with local anisotropy, mag. phase transition, soliton induced 4-2760
 - ferromagnet with single-ion anisotropy in mag. field, single-particle Green's funct. 4-2751
 - ferromagnet-electron elastic scatt. and emission, electronic struct., relativistic multiple scatt. theory 4-11425
 - ferromagnetic Ising model, diluted free surface, surface magnetism 4-20834
 - ferromagnetic semiconductor, doped, spin wave spectra, Green's function calc. 4-56590
 - ferromagnetic semiconductors, s-f exchange model, electron states in spin wave region 4-40159
 - ferromagnetic thin films, pure and dil., phase transitions, mean-field model 4-7040
 - ferromagnetic-spin glass transition, localised mag. moment interactions 4-35169
 - ferromagnets, EM solitons, propagation and struct. (*Russian*) 4-6962
 - ferromagnets, oriented nuclei misalignment 4-39851
 - graphite-Eu intercalation cpd., C₆Eu, mag. props. study 4-40195
 - Heisenberg 1-D disordered magnet, low-temp. thermodynamic props. 4-35189
 - Heisenberg antiferromagnet, quasi-one-dimensional, spin-Peierls state vs. Neel state, interchain exchange interaction 4-11657

exchange interactions (electron) continued

- Heisenberg ferromagnet, spin-wave dispersion, small dilution correction 4-46017
- Heisenberg paramagnet, relax. function, temp. depend. fourth moment 4-45991
- Heisenberg spin glasses, exchange stiffness and macroscopic anisotropy 4-35187
- Hubbard model, linear responses, role of exchange field fluctuations 4-2718
- insulators, energy band gap, density functional theory anal. 4-11465
- Ising ferromagnet, Curie temp. theory 4-46025
- Ising ferromagnet, quadratic, two-dimensional, with mixed spins ($S=1/2, 1$) Curie temp. calc. 4-51075
- Ising metamagnet, frustration study, spin dynamics 4-51077
- Ising spin glass, critical dynamics study 4-51080
- Ising spin glass, long range random exchange interactions 4-51078
- Jahn-Teller ions random mixture, mag. phase diagram 4-56606
- jellium, dielectric function, dynamic exchange effects, perturbative and variational methods 4-34894
- Laves phase intermetallic cpds., spin glass props. 4-20823
- liquid ferromagnet, domain walls 4-11742
- magnetic alloys, exact results in theory, review 4-51022
- magnetic oxides, substituted, localised canting models 4-6951
- magnetic semiconductors, dil., indirect exchange interaction 4-46020
- magnetic semiconductors, electron photoferromagnetism, Curie point shift 4-20820
- magnetic semiconductors, spin-electron interaction influence on current carrier characts. (*Russian*) 4-51020
- magnetically mixed semiconductors, spin correlation effects for large radius electron centre 4-35150
- magnetically ordered cryst., P-odd long range action of ions 4-16024
- magnets, amorphous, renormalised field theory 4-56676
- metal, indirect exchange interaction with resonance defect electron states 4-11669
- metal surface, inhomogeneous electron gas, nonlocal density functional theory 4-34895
- metallic very thin films, exchange interaction between ferromagnetic domain wall and elec. current 4-56736
- metals, exchange and correlation effects on structural energetics 4-25258
- metals, permittivity, influence of collective-state valence electrons exchange interaction (*Russian*) 4-25257
- (*n*-methyl-2-aminopyridinium) copper (II) trichloride, spin-1/2 linear chain antiferromagnet 4-56579
- one-dimensional Heisenberg system with long-range interaction, thermodynamic props. 4-56522
- periodic Anderson Hamiltonian with orbital degeneracy, ordered states 4-25506
- pyrolytic, neutron irradi., ESR studies at low temp. 4-7066
- q-state antiferromagnetic Potts model with competing interactions 4-46053
- α -quartz, band struct., exchange pot. and cut-off radii effects 4-56205
- random binary alloys, Ising model with competing interactions, mean field approach 4-16005
- random mag. alloys with competing spin anisotropies, renormalised field theory 4-56669
- rare earth alloys, RPd_2Si , $R=Dy-Er$, ferromagnetic, Curie temps., indirect exchange interactions, cryst. field effects 4-30169
- rare earth alloys, RPd_2Si , $R=Gd, Tb$, antiferromag., Neel temps., metamagnetic transitions, indirect exchange interactions, cryst. field effects 4-30169
- rare earth amorphous alloy film, $R-Fe$, mag. props. and hydrogenation 4-56717
- rare earth bromates, $R(BrO_3)_2 \cdot 9H_2O$, mag. susceptibility and ferromag. transitions 4-56571
- rare earth garnets, $R_3Fe_5O_{12}$, low temp. mag. susceptibility at optical freq. 4-11679
- rare earth metallic glasses, random anisotropy, exchange fluctuations and phase transitions 4-2749
- rare earth metals, magnetostriction, electron and s-f-exchange, spin-wave theory 4-16081
- rare earth ternary silicides, RMn_2Si_2 ($R=La$ to Nd , Sm and Gd), XPS study, mag. moment determ. 4-51452
- s-d model, orbital degeneracy in the double exchange theory (*Russian*) 4-51040
- semiconductor, Auger recombination, screening 4-2998
- semiconductors, collective excitations, excitons and plasmons 4-25272
- semiconductors, indirect exchange interaction 4-2747
- spin glass, supercond. theory 4-56480
- spin glasses, condensed modes, mean field theory and time depend. 4-11720
- Spin-polarised inhomogeneous relativistic electron system, theory 4-56254
- spin-polarised photoemission expt. determ. of exchange constants 4-57069
- spin-wave theory, possible fundamental inadequacies, NMR evidence 4-56589
- TCNQ salt, $(NPQn)_{1-x}(NEQn)_x(TCNQ)_2$, triplet excitons, EPR study 4-2806
- TCNQ salt, spin-Peierls critical temp. 4-11517
- tetramethylammonium hexacyanotrimethylene-cyclopropanide, mag. and struct. phase transition study 4-45995
- TMPP-maleonitrile dithiolate nickelate, cryst. struct. and mag. meas. 4-2191
- transition metal amorphous alloys, Zr_xTi_{1-x} , electronic and thermal props. 4-56195
- transition metal atoms, exchange integral matrices and cohesive energies 4-1049
- transition metals, ferromagnetism and correlation effects 4-30183
- two-spin clusters random ensemble, mag. props. 4-56605
- two-sublattice antiferromagnet, optical transitions in saturated paramagnetic region 4-11659
- valence fluctuation in periodic Anderson Hamiltonian, single-site picture 4-25543
- $AgMn(Sb)_2$ spin glass, EPR width and shift, exchange-narrowed anisotropy contrib. 4-30279
- Ar. solid, band struct., many-body effects, OPW calc. 4-56214
- $BaCoF_4$, optical phonon spectra, effect of magnetoelec. interaction (*Russian*) 4-2936
- C_6E graphite intercalation cpd., mag. anisotropy due to π -f exchange 4-2750
- $Ca(Cu_{1-x}Mn_x)_2Mn_2O_7$, lattice constant, specific saturation magnetisation, Curie temp. 4-50254

exchange interactions (electron) continued

- $CaFe_2^{2+}Fe^{3+}Si_2O_8(OH)_2$, ilvaite, elec., mag. props., Mossbauer spectra 4-56565
- $CdBr_2 \cdot Co^{2+}$, Co^{2+} pairs, thermally detected EPR studies 4-25629
- $CdCl_2 \cdot Co^{2+}$, Co^{2+} pairs, thermally detected EPR studies 4-25629
- $Cd_{1-x}Mn_xS$, semimagnetic donor-magnetic-impurity system, exchange interaction, spin-flip Raman scatt. study 4-35165
- $Cd_{1-x}Mn_xSe$, exciton emission and emission by exciton-impurity complexes 4-30512
- $Cd_{1-x}Mn_xSe$, magnetoreflectance at band edge 4-25730
- $Cd_{1-x}Mn_xTe$, exchange splittings of reflectivity maxima 4-11869
- $Cd_{1-x}Mn_xTe$ semimag. semicond., spin correlations, neutron scatt. studies 4-56643
- Ce mononitrides and monochalcogenides, mag. props. 4-11692
- Ce mononitrides: Gd^{3+} , exchange and cryst. field effects, EPR study 4-11767
- $CeSb_{1-x}Te_x$ solid solns., mag. props. 4-6964
- $CeSb_{1-x}Te_x$ solid soln., mag. props. and cryst. field splitting energy 4-56600
- $CoCo_2Fe^{2+}$, low-freq. spin excitations of impurities 4-35168
- $Co_{0.9}Fe_{0.08}O_8$, electronic struct., UPS and KKR calc. studies 4-29876
- $Co_{70}Fe_{30}B_{10}$, amorphous ribbons, domain struct., applied current effects 4-56678
- $Co(Si_{1-x}Se_x)_2$ spin glass, low field mag. props. and relax. effects 4-40179
- $Co_{1-x}Zn_xF_2$, mag. props. 4-16031
- Cr complexes, dinuclear $Cr(II)$ complexes, ground term splitting, Wigner-Racah algebra calc. 4-6749
- $(Cr(NH_3)_6)(Cr(CN)_6)$ and $(Cr(H_2O)_6)(Cr(CN)_6)$ ordered bimetallic magnets, ferromag. props. 4-56576
- Cr_2CoCl_4 , one-dimens. XY antiferromag., quasielastic neutron scatt. study 4-2732
- $CsMnMg_{1-x}Br_x$, dilute one-dimens. magnet, mag. excitations 4-56601
- $CsNiF_6$, exchange interaction between Ni^{2+} ions and octahedral packing 4-34922
- Cu complexes, Schiff bases with ONO donor tridentate dibasic ligands (I), IR spectra, mag. meas. 4-46014
- Cu II dimeric complexes, two-bridge exchange mechanism, EPR study 4-2809
- Cu maleonitriledithiolate complex, triplet-triplet interactions between dimers, EPR spectra 4-40221
- $(CuCr_2Se_4)_x(Cu_0.5Me_0.5Cr_2Se_4)_{1-x}$ ($Me=In, Ga$) spin glass state suppression by indirect exchange 4-35182
- $Cu(NO_3)_2 \cdot 2.5H_2O$, quantum stationary mag. states (*Russian*) 4-6936
- $Cu_4Ox_4L_4$, tetranuclear complexes, mag. behaviour, isotropic exchange model 4-11691
- $CuSb_2O_6 \cdot MgSb_2O_6$ solid soln., mag. susceptibility investig. (*Russian*) 4-40158
- $Cu_2Zn_{1-x}Cr_2Se_4$, transition from helimag. to ferromag., mag. props. study 4-25557
- $Cu_2Zn_{1-x}Cr_2Se_4$, mag. props., double exchange effects 4-20812
- Dy, specific heat meas. near Neel temp. 4-11727
- Dy monochalcogenides, pure and mag. diluted, Mossbauer study 4-16128
- Eu_2CuO_4 , semiconductor, mag. props. study 4-30156
- Eu_2IrH_8 , ferromagnetism and ^{151}Eu Mossbauer effect 4-51165
- EuO , insulator-metal transition and valence instability near 130 kbar, optical refl. spectra 4-45639
- $Eu(OH)_3 \cdot Gd^{3+}$, EPR spectra of impurity ion, spin-Hamiltonian param. temp. depend. 4-56769
- $EuO(S)(Se)$, mag. interactions, band model study 4-11662
- $Eu_2Re_2S_{11}$, synthesis, cryst. struct. and mag. props. (*German*) 4-24774
- Fe (110), exchange-split empty energy bands 4-6699
- Fe, BCC and FCC, ferromagnetism, lattice parameter depend. 4-20803
- Fe, ferromagnetic, bulk electronic props., XPS study 4-56202
- Fe, ferromagnetic, exchange splitting of electronic states 4-56602
- Fe, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
- Fe, surface states, mag. exchange splitting and band dispersion 4-20700
- FeB, cryst. and amorphous sputtered films, ferromag. and paramag. phases 4-30251
- $Fe_{1-x}Mn_xCl_2 \cdot 2H_2O$, spin glass behaviour, tetracritical point, mag. phase diagrams 4-51049
- $(Fe_{1-x}Mn_x)_{7/8}P_{1/8}B_2Al_3$ spin glass, reentrant props. 4-11721
- FeNi Invar alloys, model for mag. abnormalities 4-25542
- $Fe_{70}Ni_{30}Cr_x$, exchange anisotropy and thermal expansion 4-25548
- Fe, O, mag. props. nonstoichiometry effects 4-56570
- $FePS_3$, mag. struct. neutron diff. study 4-25517
- FeS_8 , intratomic-exchange splitting and cryst. field splitting 4-11504
- Fe, $SnMo_6S_8$, supercond. props. press. and impurities effect 4-35114
- $Fe_{1-x}Y_{1-x}$ metallic glasses, mag. props. hydrogenation effects 4-56563
- $Fe_{1-x}Zr_x$ metallic glasses, ferromagnets, magnetoresist. meas. 4-56318
- $Fe_{100-x}Zr_x$, amorphous ferromagnets, crit. behaviour 4-51085
- GaAs n-p superlattice, electron and hole subband energies, self-consistent calcs. 4-6870
- GaAs, neutron induced defects EPR (*French*) 4-7065
- p-GaAs(Sb), spin relax. of cond. electrons and exchange interactions 4-25311
- Gd, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
- $GdAlO_3 \cdot Cr^{3+}$, mag. Franck-Condon effect, absorpt. and emission spectra 4-11910
- $Gd_{1-x}Dy_xAl_3$ alloys, Curie temp. and exchange interactions 4-11705
- $Gd_{1-x}Er_xAl_3$ alloys, Curie temp. and exchange interactions 4-11705
- Gd, $Fe_{1-x}H$ amorphous film, mag. and elec. props. 4-46027
- $GdFe_{1-x}Cr_xO_3$, weak ferrimagnet, f-d exchange 4-35164
- $Gd_{1-x}Ho_xAl_3$ alloys, Curie temp. and exchange interactions 4-11705
- Ge, exchange-correlation energy, approx. by functionals with kernels, coordinate difference depend. 4-56258
- $GeCu_{1-x}Fe_xO_4$ spinel, mag. props., Mossbauer spectra studies 4-30369
- 3He BCC solid, exchange parameters and mag. transitions 4-6610
- 3He , BCC unordered, elastic const., Debye temp. and exchange parameters 4-6609
- 3He liquid, quasiparticle scatt. amplitude, parametrisation 4-6579
- 3He , solid, antiferromag. UUDS state for spin exchange interactions, Green funct. theory 4-29726
- $HfZn_2$, exchange enhanced paramagnet, mag. susceptibility and sp. ht 4-30147
- $Hg_{1-x}Mn_xTe$, low temp. elec. and mag. props. 4-25381
- n-HgTe, cyclotron resonance, magnetoabsorption 4-34862
- $Ho_2Co_{17-x}M_x$ ($M=Ni, Fe, Mn, Cr, V, Ti, Cu, Al$), cryst. struct. and mag. props. 4-40169

exchange interactions (electron) continued

- $\text{Ho}_2\text{Co}_{17-x}\text{M}_x$, $\text{M} = \text{Al}$, Yi-Fe , Ni , Cu , lattice consts., Curie temp., coercive force, comp. depend. 4-6979
 $\text{Ho}(\text{Co}_{1-x}\text{Ni}_x)_2$, magnetic moments and sublattice magnetisations (*Russian*) 4-25587
 In-Ni alloys, liq., NMR Knight shift and linewidth meas. 4-46119
 $\text{K}_2\text{CuCl}_4 \cdot 2\text{H}_2\text{O}$, spin transfer, ^1H NMR 4-51139
 $\text{K}_2\text{CuCl}_4 \cdot 2\text{H}_2\text{O}$, ^1H NMR study, temp. depend. of spin transfer to H 4-16108
 $\text{K-Cu-Mn}_{1-x}\text{F}_4$, temp. depend. of EPR fields 4-20853
 KNiF_3 , exchange interaction between Ni^{2+} ions and octahedral packing 4-34922
 $\text{La}_{1-x}\text{Ba}_x\text{MnO}_3$ system, mag. and crystallographic props. 4-30142
 $(\text{La}_{0.8}\text{Ca}_{0.2})\text{MnO}_3$, monoclinic phase, mag. heat capacity meas. 4-51084
 $\text{La}_{1-x}\text{Pr}_x\text{Al}_2\text{Gd}^{3+}$, Van Vleck paramagnet, Stark splitting and exchange forces, EPR study 4-30145
 Li , energy bands and density of states, linear combination of Gaussian orbital calc. 4-56199
 $\text{LiFe}_{1/2}(\text{Ga}, \text{Al})_{1/2}\text{O}_8$ ferrite, mag. props., impurity effects 4-56572
 $\text{Li}_{10}\text{Ge}_{17}\text{Fe}_{23}\text{O}_{41}$, nature of triangular spin struct. 4-35148
 $\text{MgCl}_2 \cdot \text{Co}^{2+}$, Co^{2+} pairs, thermally detected EPR studies 4-25629
 Mn^{2+} ions in cubic cryst. field, exchange interaction 4-34921
 Mn-V-Fe-O , spinel struct., mag. props. 4-56558
 $\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$, NMR of oriented ^{55}Mn nuclei 4-30298
 MnF_2 antiferromagnet, dielec. const. anomalous changes 4-56845
 $\text{MnI}_2 \cdot \text{Ni}$, giant-spin clusters, mag. and optical props. 4-20811
 MnO antiferromagnet, mag. interactions, band theory 4-20805
 MnPS_3 , mag. struct. neutron diff. study 4-25517
 MnS antiferromagnet, mag. interactions, band theory 4-20805
 MnSi , ferromagnetic, exchange hole, neutron scatt. study 4-56546
 $(\text{Mn}_{1-x}\text{Ta}_x)_2\text{B}_4$ ferromag. solid soln., exchange striction 4-30260
 $\text{Mn}_{1-x}\text{Zn}_x\text{F}_2$, mag. props. 4-16031
 $\text{Na}(\text{Cu}_{1-x}\text{Mn}_x)_2\text{Mn}_2\text{O}_{12}$, lattice constant, specific saturation magnetisation, Curie temp. 4-50254
 Na_2SiO_3 , electronic struct. and density of states, LCAO calc. 4-6702
 $\text{Na}_2\text{Si}_2\text{O}_7$, α and β phases, electronic struct. and density of states, LCAO calc. 4-6702
 $\text{Na}_{10}\text{V}_2\text{O}_{13}$, mag. susceptibility meas., exchange-coupled pair model 4-10677
 Nd_2CuO_4 , semiconductor, mag. props. study 4-30156
 Ni complex, $(\text{Ni}(\text{OCH}_3)(\text{SAL})(\text{CH}_3\text{OH}))_4$, heat capacity, methyl group internal rotation 4-25563
 Ni , exchange splitting, temp. depend., spin-polarised photoemission study 4-40162
 Ni , ferromagnetic, exchange splitting of electronic states 4-56602
 Ni , surface ferromagnetism study by polarised and unpolarised electrons 4-35220
 Ni^{2+} ions in cubic cryst. field, exchange interaction 4-34921
 Ni-Cu and Ni-Cu-Zn(Al)(Si) alloys, micromagnetism, s-d exchange and spin fluctuations anal. (*Rumanian*) 4-16042
 NiBr_2 , helix-antiferro-fan transition, in-plane mag. field effect 4-40168
 NiF_2 , exchange interaction between Ni^{2+} ions and octahedral packing 4-34922
 $\text{NiK}_2(\text{SO}_4) \cdot 6\text{H}_2\text{O} \cdot \text{Mn}^{2+}$, exchange const., spin Hamiltonians and EPR meas. 4-11761
 NiO antiferromagnet, mag. interactions, band theory 4-20805
 NiO , optical absorpt. and mag. ordering (*Russian*) 4-7217
 NiO , optical absorption coeff., Green's function anal. 4-25711
 NiO-CoO type II antiferromag. solid soln., high temp. susceptibility 4-30157
 NiSiF_6 , press. effect on isotropic exchange interaction 4-25512
 $\text{NiSiF}_6 \cdot 6\text{H}_2\text{O}$, mag. phase transitions under press. 4-25558
 $\text{Ni}_{1-x}\text{Zn}_x\text{F}_2$, mag. props. 4-16031
 O_2 , solid, exchange interaction const. calcs. (*Russian*) 4-56599
 $\text{Pb}_{1-x}\text{Mn}_x\text{Te}$ semimag. semicond., transport and mag. props. 4-56569
 $(\text{PdNi})\text{Mn}$, competing exchange interactions, AC susceptibility meas., T_c comp. depend. 4-46011
 Pr_2CuO_4 , semiconductor, mag. props. study 4-30156
 RbCoCl_3 , Raman scatt. and antiferromagnetic props. 4-16199
 $\text{Rb}_2\text{CuBr}_4 \cdot 2\text{H}_2\text{O}$, ^1H NMR study 4-16108
 $\text{Rb}_2\text{CuCl}_4 \cdot 2\text{H}_2\text{O}$, ^1H NMR study 4-16108
 $\text{RbFeCl}_3 \cdot 2\text{H}_2\text{O}$, spin-cluster reson. intensity, temp. depend. 4-20866
 $\text{Rb}_2\text{Mn}_{1-x}\text{Cr}_x\text{Cl}_4$ insulating antiferromagnet-ferromagnet random mixture, AFMR, EPR obs. 4-56784
 RbNiCl_3 , Raman scatt. and antiferromagnetic props. 4-16199
 Si-B , fine struct. of energy levels of excitons bound to impurity 4-29892
 Sm_2CuO_4 , semiconductor, mag. props. study 4-30156
 SrEuFeO_4 , Mossbauer spectroscopy study 4-7102
 $\text{Sr}_0.5\text{La}_{1.5}\text{Li}_{1.0}\text{Co}_3\text{O}_{12}$ ESR and mag. studies 4-20782
 $\text{Sr}_2\text{M}_2\text{Mg}_{1-x}\text{WO}_6$, $\text{M} = \text{Mn-Ni}$, struct., mag. props. 4-51046
 Tb mononitrides: Gd^{3+} , exchange and cryst. field effects, EPR study 4-11767
 $\text{Ti}_2\text{Br}_3^{3-}$, orbitally degenerate ions, exchange interactions 4-35163
 $\text{Ti}_2\text{Cl}_9^{3-}$, orbitally degenerate ions, exchange interactions 4-35163
 TmCu , mag. excitations, inelastic neutron scatt. 4-51041
 TmZn ferromag. tetragonal phase, mag. props., neutron diff. studies 4-30219
 U mononitrides and monochalcogenides, mag. props. 4-11692
 V^{2+} ions in cubic cryst. field, exchange interaction 4-34921
 $\text{Y}(\text{Cu}_{1-x}\text{Mn}_x)_2\text{Mn}_2\text{O}_{12}$, lattice constant, specific saturation magnetisation, Curie temp. 4-50254
 YIG , 'pseudo-acoustic' magnon dispersion, anomalous anisotropy 4-25530
 YIG , spin wave spectra and thermodynamics 4-25539
 $\text{Y}(\text{OH})_3 \cdot \text{Gd}^{3+}$, EPR spectra of impurity ion, spin-Hamiltonian param. temp. depend. 4-56769
 $\text{Zn}_{1-x}\text{Mn}_x\text{Se}$, s-d type exchange interaction, magnetorefectivity, mag. susceptibility meas. 4-11448
 $\text{Zn}_2\text{Mn}_{1-x}\text{Te}$, dil. mag. semicond., mag. susceptibility and spin glass transition 4-46052
 $\text{Zn}(\text{pyridine-N-oxide})_2(\text{NO}_3)_2 \cdot \text{Cu}$, EPR spectra, Jahn-Teller effect, exchange interaction 4-56761

exchange models see peripheral models

exchanges (chemical) see chemical exchanges

exchanges (telephone) see telephone exchanges

excimer lasers

- direct high-resolution excimer laser photoetching 4-48221
 discharge characteristics of an excimer laser with Blumlein type UV preionisation energy coupling relationship (*Chinese*) 4-49415
 gas contamination prevention 4-5572

excimer lasers continued

- KrF laser, electron-beam pumped, excitation, quenching and absorption kinetics 4-55020
 projection lithography using excimer laser 4-48217
 pulse generation, high-power, picosec. tunable 4-24085
 pump source for Raman transition, H_2 Raman gain coeffs. determ. 4-5573
 ultrafast deep UV lithography using excimer lasers 4-43088
 unstable resonator excimer lasers, injection-locking 4-24047
 wide aperture lasers using electrically triggered rail-gap switch 4-55075
 ArF discharge pumped laser improved energy output 4-44091
 ArF* discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 HgBr efficient cavity-dumped laser 4-24009
 HgBr* $\text{B}^2\Sigma_{1/2}^+$ state dissociative excitation by electron impact 4-28570
 HgCl* $\text{B}^2\Sigma_{1/2}^+$ state dissociative excitation by electron impact 4-28570
 HgI* $\text{B}^2\Sigma_{1/2}^+$ state dissociative excitation by electron impact 4-28570
 I_2 342 nm laser, optically pumped, driven by exploding metal films and wires 4-14714
 I_2 lasers, He-Ne laser pumped 4-23964
 K_2 lasers, He-Ne laser pumped 4-23964
 KrCl discharge pumped laser improved energy output 4-44091
 KrF discharge laser, narrow linewidth gain, saturation meas. 4-1386
 KrF excimer laser, electron beam pumped, with 14 J output power 4-14680
 KrF excimer laser circularly polarised beam, in H_2 gas, forward Raman scatt. (*Chinese*) 4-49446
 KrF laser, coaxially excited by electron beam generator 4-55021
 KrF laser technology for short-wavelength laser fusion, status 4-5031
 KrF lasers, longitudinally electron-beam excited, 115 J output energy 4-14672
 KrF , multichannel breakdown switch appl. 4-34356
 KrF unstable resonator excimer lasers, injection-locking 4-24047
 KrF^* discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 N_2 Blumlein-type laser simulation by numerical anal. (*Japanese*) 4-28666
 N_2 CW laser feasibility (*Chinese*) 4-55019
 N_2 discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 N_2 , discharge-excited, highly stable, design and performance 4-44114
 N_2 , high repetition rate atm. press. laser, pulse parameters 4-55076
 N_2 , high-power compact laser, impulse nanosec. gas discharge (*Bulgarian*) 4-24013
 N_2 laser emission spectra, new vibrational bands 4-19424
 N_2 laser pumped DFB dye laser, 6 psec. pulse generation 4-10316
 N_2 , multiple line laser performance 4-5576
 N_2 narrow band laser system with variable wavelength ~ 337.1 nm 4-38448
 N_2 , output pulse parameters obs. 4-33686
 N_2 TEA laser, miniature, with automatically timed UV preionisation 4-24017
 N_2^+ laser pumped by charge transfer 4-49335
 N_2 -Ar 4-28490
 N_2 -He-Ar mixtures, e-beam pumped, $\text{N}_2(\text{B}^3\Pi_g)$ and $\text{N}_2(\text{C}^3\Pi_u)$ vibr. temps. 4-28490
 N_2 -TEA laser, short cavity dye laser systems pumping 4-55077
 Na_2 , cascade stimulated emission 4-33375
 Na_2 lasers, He-Ne laser pumped 4-23964
 Na_2 molecules, optically pumped, cascade laser emission 4-19426
 S_2 , optically pumped, broad-band gain 4-28665
 XeCl close-cycled and flowing excimer laser (*Chinese*) 4-55070
 XeCl compact laser with corona preionisation 4-5570
 XeCl electron-beam-excited lasers, theoretical simulation 4-23960
 XeCl excimer laser, discharge characts. (*Chinese*) 4-55018
 XeCl excimer-laser, spectral characteristics (*Russian*) 4-5568
 XeCl high-power picosec. tunable pulse generation 4-24085
 XeCl laser, 100 J, pulsed, electron beam pumped 4-28730
 XeCl laser, actively mode-locked, subnanosec.-pulse generation 4-44129
 XeCl laser, compact discharge-excited, operational characteristics 4-38454
 XeCl laser, long pulse, magnetically switched, ultranarrow linewidth 4-55017
 XeCl laser for metal film removal and patterning 4-21352
 XeCl laser pumped by microsec. electron-beam pulses 4-28671
 XeCl laser using high voltage prepulse, efficient discharge pumping 4-1385
 XeCl laser with phase-conjugating Brillouin mirror, regenerative amplification 4-44092
 XeCl lasers for annealing ion implanted Si 4-33707
 XeCl pulsed high repetition rate laser, appls. in chemistry and isotope separation 4-23959
 XeCl X-ray preionised avalanche discharge laser, gain and saturation characts. (*Chinese*) 4-49329
 XeCl^* , $\text{B}_{3/2}$ level vibr. relax. time const. 4-14669
 XeCl^* discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 XeF excimer laser, $^{136}\text{Xe}^{19}\text{F}$ B-X transition obs. 4-19425
 XeF unstable resonator excimer lasers, injection-locking 4-24047
 XeF^* discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 XeI(B) excimer form. mechanism by Xe-I_2 mixture photoexcitation 4-9826
 XeO laser pumped by open discharge radiation, energy characts. 4-14679
 XeO photochemical laser, relax. mechanism of lower active levels, luminesc. obs. 4-28678

excimers

see also excimer lasers

- 2-anthracenecarboxylic acid ω -dimethylaminoalkyl esters, exciplex form., Monte Carlo simulation 4-7705
 7-azaindole, exciplex formation in alcohol and H_2O solns., fluoresc. spectra shift and bandwidth 4-3394
 α -cyanonaphthalene/triethylamine gas-phase exciplex, temp. depend. 4-31011
 2-cyclophanes, singlet and triplet states, absorpt. spectra 4-33315
 di-N-carbazolypentane, meso- and rac-, model cpds., intramol. excimer emission 4-9756
 4-N,N-dimethylaminobenzonitrile, excited state props., anomalous fluoresc., solvent effects 4-54785
 4-N,N-dimethylaminobenzonitrile and rel. compounds, singlet and triplet states, fluoresc., dipole moments 4-38221

excimers continued

- doped cryst., exciplex form., host electronic excitation energy trapping 4-25792
 in cellulose acetate films, fluoresc. anisotropy and decay times 4-2953
 oligostyrenes, intramolecular excimer form., rate const. 4-5270
 poly(1-methoxy-4-vinylnaphthalene) in polystyrene solid soln., second excimer fluoresc. obs. 4-14616
 poly-2-isopropenylnaphthalene, anionically polarised, luminesc. in soln. 4-7224
 poly-N-epoxypropylcarbazole, UV photosensitivity, low-molecular impurities effects, exciplexes formation 4-6834
 poly-N-vinylcarbazole, model cpds., intramol. excimer emission 4-9756
 polycyclic aromatic hydrocarbons, luminesc. props. in colloidal or microcryst. suspensions 4-25805
 polystyrene, excimer form., energy migration model, luminesc. spectra (*Russian*) 4-56971
 potential curves, characteristics of radiative transitions 4-19126
 spectral line shapes, universal stationary phase treatment 4-18993
 trans-stilbene-amine exciplexes, quenching radical form., intersystem crossing and fluoresc. study 4-28492
 Ar₃⁺ excimer, ab initio CI relativistic calcs. with spin-orbit coupling 4-18914
 Cu, atom and molecules, photoluminesc. spectra in Xe cryomatrix (*Russian*) 4-28397
 Kr at small interatomic distances, keV electron impact excitation 4-9711
 Kr excimers, electron impact excitation, emission from outer turning points of the vibr. states 4-9710
 XeI(B) excimer form. mechanism by Xe-I₂ mixture photoexcitation 4-9826

exciplex lasers see excimer lasers**exciplexes see excimers****excitonic molecules**

- biexciton in a strong magnetic field 4-11451
 copper phthalocyanine, charge transfer excitations, electro-reflectance spectra 4-16179
 diamagnetic biexcitons, mag. field induced dissociation and binding type change 4-2519
 ground state energy calcs. using Monte Carlo method 4-29893
 molecular crystal, nonlinear luminescence quenching (*Russian*) 4-7248
 nonlinear optical props. of exciton-biexciton system, single beam propag. 4-5647
 semiconductor, biexciton luminescence, M-band, soliton waves, self-induced transparency study (*Russian*) 4-5671
 semiconductors, wurtzite type, valence band splitting effect on biexciton binding energy 4-6710
 surface biexcitonic positive ion binding energy 4-2518
 CdS, biexciton luminescence and P bands 4-11940
 CdS, valence band splitting effect on biexciton binding energy 4-6710
 CuCl, biexciton resonance, collision broadening model 4-45641
 CuCl, biexcitons, nonlinear optical props., single beam propag. 4-5647
 CuCl excitonic mol., optical phase conjugation based on giant two-photon reson. 4-28775
 CuCl, excitonic molecules relaxation under giant two-photon absorption 4-50728
 CuCl, excitonic molecules relaxation under giant two-photon absorption 4-50729
 CuCl films, biexcitonic optical bistability and optical limiting 4-5643
 CuCl, optical bistability due to biexcitons 4-5648
 CuCl, polariton dispersion, renormalisation effects, hyper-Raman scatt. 4-20967
 GaSe, interexciton interaction and exciton-biexciton transitions 4-56232
 O₂ single crystal, absorpt. band polarisation, biexciton transitions 4-11904

excitons

see also *excitonic molecules; phonon-exciton interactions*

- alkali metal halides, excitons, absorpt., reflectivity, intrinsic luminesc. spectra 4-25242
 alkaline earth chalcogenides, vacuum UV refl. spectra in energy range 4 to 40 eV 4-30492
 p-alkylbenzene mol. cryst., intra- and intermol. interaction study 4-56957
 amorphous semiconductors, triplet exciton recomb., ODMR studies 4-39782
 anthracene, cryst., charge transfer band, two-photon CARS and CSRS study 4-40432
 anthracene, polaritons, picosec. time of flight meas. 4-29902
 anthracene crystal, N₂-coated, monolayer surface Raman and fluoresc. spectroscopy 4-56134
 anthracene crystal (001) face, monolayer surface Raman and fluoresc. spectroscopy 4-56134
 Bose-Einstein condensation in nonequilibrium systems 4-15744
 Bose-Einstein statistics in exciton systems 4-25244
 CdTe thin films, size quantisation, fine struct. due to exciton transitions in transmission spectra 4-30540
 core excitons in electronic polaron model 4-56221
 crystal dielectric function, Lorentz-Lorentz formula 4-2533
 cubic cryst., donor excited states and donor-acceptor interactions 4-50759
 cubic cryst., two-site self-trapped excitation form. (*Russian*) 4-56222
 defect recombination kinetics, phenomenological theory 4-20183
 diamagnetic exciton, effective mass depend. on mag. field intensity and temp. 4-39788
 diamagnetic excitons, odd states in crossed mag. and elec. fields 4-11450
 1,4-dibromonaphthalene, hole burning and zero-field ODMR of quasi-linear chain excitons 4-25653
 1,4-dibromonaphthalene, mol. cryst., exciton states, intraband scatt., luminesc. study 4-7222
 dielectrics, polariton dispersion relations and damping, ATR, light scatt., nonlinear optical processes meas. 4-25245
 4,4'-dimethylbenzophenone, phosphorescence emission 4-21019
 diphenylfluoranthene doped mol. crystals, excitation energy transfer, phosphorescence study 4-16247
 direct band gap semiconductor, exciton-polariton theory 4-2523
 direct band semicond., polaritons localised on electron-hole drops 4-29898
 direct-gap, radiative decay of bound exciton, correlation effect 4-20571
 electron-assisted exciton recomb., Green's function treatment 4-6705
 electronic correlations, quasi-particles and excitons 4-25270
 electronic struct., interactions with phonons and photons 4-25240
 energy transfer by diffusion and dipole-dipole interaction, perturbation expansion anal. 4-56228

excitons continued

- energy transfer of exciton 4-39780
 excited Wannier excitons in half-space geometry, finite element anal. 4-20570
 exciton-laser amplifier 4-49371
 Goos-Hanchen lateral shift, reson. effects, near exciton-polariton reson. 4-20928
 gyrotropic crystals, degenerate excitations, dispersion relation 4-29891
 heterojunction superlattices spectrum of two-dimensional excitons 4-56224
 hydrocarbon films, electron-exciton complexes, electron transmission spectra 4-40587
 ice, electron solvation, subnanosec. time-resolved optical absorpt. 4-30491
 inert gas solids, excitons, absorpt., reflectivity, intrinsic luminesc. spectra 4-25242
 inert gases, condensed, exciton kinetics, Penning type ionisation, rate const. 4-34881
 insulator, homogeneous spontaneous currents in external EM fields 4-29899
 insulators, structurally inhomogeneous, exciton defect form. mechanism 4-11453
 lasing action involving excitons in pure crystals 4-1397
 light amplification, radiative processes in electron-hole drops 4-40530
 many-phonon resonance Raman scatt., amplification in strong mag. field 4-11900
 metals and alloys, excitonic processes in spectra 4-34880
 molecular aggregates lineshapes, exchange narrowing and intersite correl. 4-50727
 molecular chain, two-particle solitary waves, probability amplitude 4-56225
 molecular crystal, inelastic electron scatt. and surface exciton excitation 4-34882
 molecular cryst., metal quenching of luminescence 4-7247
 molecular crystal, sinusoidally modulated, Rayleigh light scatt. (*Russian*) 4-51292
 molecular crystal, uniaxial, self-induced transparency of excitons 4-24103
 molecular crystals, electronic spin relax. mechanism for triplet excitons 4-11755
 molecular crystals, energy spectrum, influence of planar defects and disorder 4-39785
 molecular crystals, nonlinear optical susceptibility near vibronic excitations 4-1436
 molecular crystals, spectroscopy, 1981 bibliography 4-42647
 molecular crystals, theory of natural optical activity, gyrotropy tensor (*Russian*) 4-7153
 N molecule system, excitons, partition technique and generalized master equations 4-39781
 naphthalene, disordered mixed cryst., vibr. energy transfer, localisation, CARS study 4-20964
 naphthalene, mol. cryst., exciton states, intraband scatt., luminesc. study 4-7222
 naphthalene, triplet mini-excitons, intermolecular spin-orbit coupling 4-6706
 non-Markovian exciton transport in one dimens. lattice 4-27427
 nonlinear optical props. of exciton-biexciton system, single beam propag. 4-5647
 nonlocal dielectric, with excitation surface pot., reflectivity 4-46211
 one-dimensional N-sites N-electrons system, extended Peierls-Hubbard model, optical and mag. excitations 4-45653
 one-dimensional N-sites N-electrons system, extended Peierls-Hubbard model, lattice relax. 4-45654
 optical excitons formed from mechanical and Coulomb excitons 4-11452
 optical line shapes, appl. of stochastic Hamiltonian models for exciton motion 4-2520
 pentacene crystals, photocond. at low temp., carrier photogeneration processes 4-11559
 phenazine crystals, isotopically mixed, triplet state dimers, phosphoresc., EPR 4-56973
 phonon-exciton interaction, absorption lineshape, impurity effects 4-50730
 polaron states, excitonic, and optical transitions 4-11445
 polarons, single electron Green function, coherent potential method 4-39790
 poly-N-epoxypropyl carbazole, brominated, photophysical props. (*Russian*) 4-30026
 poly-N-epoxypropylcarbazole, UV photosensitivity, low-molecular impurities effects 4-6834
 polyene chain, infinite, unusual soliton props. 4-15832
 pseudoexciton time evolution in crystal localised excitation 4-50748
 quantum diffusion in stochastic media 4-42854
 quasi-one-dimensional mol. structures, solitons 4-7928
 randomly mixed cryst., diffusion and trapping of excitations on fractals 4-29894
 reaction kinetics on fractals, random walker simulations and exciton expts. 4-53626
 self-trapping barrier theory, symmetry breaking 4-51214
 semiconductor, anisotropic, optical absorpt. by exciton-ionized donor complex 4-2946
 semiconductor, polar with dislocations, carrier recombination and exciton-phonon interaction 4-20671
 semiconductor film, anisotropic, exciton spectrum calc. 4-29901
 semiconductor solid solns., exciton states, effect of one-dimensional disorder 4-15826
 semiconductor solid solutions, exciton absorption line broadening 4-29900
 semiconductor solid solutions, exciton states, 1-D disorder effects 4-25236
 semiconductor superlattices, band structure, impurity and exciton binding energies, Stark effect (*French*) 4-25423
 semiconductor surface, Wannier exciton eigenstates 4-6711
 semiconductor thin filaments, exciton states and interband absorption coefficient 4-20573
 semiconductors, adsorbed molecules, Raman scatt. theory, excitonic excitations 4-2929
 semiconductors, collective excitations, excitons and plasmons 4-25272
 semiconductors, covalent diamond-like, exciton dispersion law, variational calc. 4-50734
 semiconductors, degenerate, differential eqns. for excitons 4-45643
 semiconductors, exciton localisation on defects 4-20575
 semiconductors, exciton-exciton inelastic collision processes 4-50731
 semiconductors, excitons, optical props. 4-25241

excitons continued

- semiconductors, nonequilibrium, quasizero-dimensional electron-hole systems, Bogolyubov transformations 4-25237
 semiconductors, polaron and phonon spectra restructuring in presence of strong EM wave 4-15828
 solids, collective excitations, conf., Erice, Italy (June 1981) 4-22528
 solids, collective excitations, review 4-25255
 spatially dispersive media, refl. and absorpt. spectra (*Russian*) 4-40479
 stoichiometric laser materials, self-quenching, excitonic or incoherent transfer processes 4-24004
 surface collective excitations, macroscopic and microscopic viewpoints 4-25142
 TCNQ salt, (NPQn)_{1-x}(NEQn)_x(TCNQ)₂, triplet excitons, EPR study 4-2806
 TCNQ salt, NBP-TCNQ, crys. and mol. struct., EPR triplet spin excitons 4-6353
p-terphenyl cryst., charge carrier generation, two-photon absorpt. coeff. 4-56381
p-terphenyl cryst., zero field splitting of triplet excitons, fluorescence studies 4-6707
 tetrabutylammonium iodide, absorption and photoluminescence of self trapped excitons (*Russian*) 4-35474
 tetracene crystals, photocond. at low temp., carrier photogeneration processes 4-11559
 1,2,4,5-tetrachlorobenzene, triplet mini-excitons, intermolecular spin-orbit coupling 4-6706
 tetrachlorophthalic-hexamethylbenzene charge transfer crystals, delayed thermal fluoresc. 4-56981
 tetrapropylammonium iodide, absorption and photoluminescence of self trapped excitons (*Russian*) 4-35474
 (TMTSF)₂ClO₄, low field and anomalous high-field Hall effect 4-20637
 trans-polyacetylene, photogenerated charged solitons 4-20546
 trichloroethane, migrational quenching in a system of centers with cross relaxation 4-28488
 triplet exciton, ESR studies 4-6708
 two-sublattice antiferromagnet, optical transitions in saturated paramagnetic region 4-11659
 vibrational mode in mol. crystal, indirect dephasing 4-2279
 Wannier exciton in quantum wells 4-11446
 zincblende alloys, splitting of acceptor ground state 4-2548
 AgBr, exciton relax., time resolved secondary emission studies 4-56230
 AgBr, indirect-forbidden exciton transitions, reson. Raman scatt. 4-56939
 AgBr_{1-x}Cl_x, x=0.15, 0.6, excitons press. induced phase transition, photoluminescence obs. 4-2522
 AgBr₂Cl_{1-x}, self-trapped excitons, ODMR study 4-11801
 AgCl, exciton relax., reson. Raman scatt. study 4-16201
 AgCl, luminescence excitation by vacuum UV photons 4-30511
 Al-phthalocyanine Schottky barrier cells, photovoltaic action spectra 4-11556
 Al_{0.4}Ga_{0.6}As/GaAs quantum well struct., MBE growth, photoluminescence props. 4-51344
 Al₁Ga_{1-x}As/GaAs quantum well heterostructs., MBE grown, photoluminesc. 4-35472
 Al₁Ga_{1-x}P, high excitation photo- and electroluminesc., exciton annihilation 4-21008
 Al₂O₃, photon-stimulated desorption of H⁺(F⁺) and photoelectron yield, core excitons obs. 4-6663
 α-Al₂O₃:Ga³⁺ crystals, cathodoluminesc. and thermoluminesc. spectra 4-25815
 Ar, solid, electronic excited states relaxation processes, luminesc. study 4-51325
 Ar, solid, ground- and excited state props., perturbation model calc. 4-25218
 Ar, solid, surface-sensitive luminescence and excitons 4-46303
 BN, hexagonal, electronic struct. and core exciton, tight-binding band calc. 4-45625
 BaO film, low-voltage cathodolum. characts., exciton radiative decay 4-11944
 BeO, photon-stimulated desorption of H⁺(F⁺) and photoelectron yield, core excitons obs. 4-6663
 CaO powders, photoluminescence from surface states 4-46306
 (Cd,Mn)Se, bound mag. polaron form., ps. laser spectroscopy study 4-6716
 Cd_{1-x}Mn_xSe, exciton emission and emission by exciton-impurity complexes 4-30512
 Cd_{1-x}Mn_xSe, magnetoreflexivity at band edge 4-25730
 Cd_{1-x}Mn_xSe, subnanosecond luminesc. spectroscopy under high intensity optical excitation 4-7244
 Cd_{1-x}Mn_xTe, exciton luminesc., mag. polarons interpretation 4-7227
p-Cd_{1-x}Mn_xTe, photocond. due to exciton dissoc. 4-25397
 Cd_{1-x}Mn_xTe, press. depend. of absorption edge 4-46287
 CdS, bound exciton excited states 4-2521
 CdS, excitation spectroscopy of donor-acceptor pair luminesc. 4-35485
 CdS, excited exciton states, Fano antiresonance appearance, absorption bands 4-25232
 CdS, exciton ground state fine struct., photoluminesc. studies 4-29897
 CdS, low power optical saturation of bound excitons with giant oscillator strength 4-1448
 CdS, low power transverse optical bistability near bound excitons 4-49428
 CdS, luminescence study of exciton polaritons 4-21038
 CdS, nonlinear susceptibility anisotropy and hologram recording (*Russian*) 4-49441
 CdS, polaron wave-packet, group vel. and dispersion relation 4-11454
 CdS, pure, enhanced two-photon absorption, anti-Stokes luminesc. obs. 4-11935
 CdS, refractive index at exciton resonance, transmission spectra studies 4-56880
 CdS single cryst., polaron scatt. processes, exciton absorption studies 4-34889
 CdS, strain induced effects of dislocations, excitonic shift, photovoltaic effect 4-15911
 CdS, undoped, laser oscillations in bound excitonic region 4-33663
 CdS:Ga, excitonic luminesc. spectra doping effects 4-16240
 CdSe_{0.53}Se_{0.47}, luminescence study of excitons 4-21037
 CdS_{1-x}Se_x, luminescence study of exciton mobility edge 4-16233
 CdS_{1-x}Se_x, solid soln. dispersion of localised exciton lifetimes 4-25233
 CdSe crystals, reson. magneto-spatial dispersion 4-56895
 CdSe, excitonic reson., reflectivity spectra 4-39787
 CdSe, mag. field reversal at polaritons 4-2524
 CdTe, dense exciton gas, self-heating, luminesc. study 4-6709

excitons continued

- CdTe films, (100), MBE growth on GaAs (100), exciton photoluminesc. study 4-40653
 CdTe, MBE growth on Ge, photoluminescence spectra, X-ray diffr. studies 4-20522
 CdTe, photoluminescence meas., stimulated emission spectra, light amplification under two-photon pumping 4-40481
 CdTe, pure, photolum. effects of excitation intensity 4-56991
 CdTe, resonant Brillouin scatt. 4-11901
 CdTe:N(P)(As), photoluminescence studies 4-16244
 Cd_{0.9}Zn_{0.1}-xTe, bound excitons and resonant Raman scatt. 4-30470
 Ce and Ce cpds., mixed valency, bistability and collective effects 4-56287
 CsI(Br), mag. circular dichroism and optical absorpt. spectra 4-25729
 CsMnCl₂·2D₂O, energy transfer of exciton (*Chinese*) 4-2950
 CuBr, zero phonon-exciton band spectral characts. (*Russian*) 4-25239
 CuCl, dynamics of exciton screening on subpicosecond time scale 4-45642
 CuCl, excitonic mols., luminesc., Bose-Einstein condensation 4-25244
 CuCl, excitonic polaritons, wave vector depend. of third-order nonlinearity 4-20577
 CuCl, soft X-ray absorpt. and emission, energy bands 4-46366
 CuCl, two-photon magnetoabsorpt. of exciton polariton 4-2907
 CuI single crystals, low-temp. violet luminesc. 4-7229
 CuI, stress effects on excitons bound to neutral acceptors, photoluminesc. spectra 4-39784
 CuI thermally deformed films, quantum dimensional effect, exciton spectra meas. 4-35507
 CuI, Zeeman effect of principle emission line 4-46237
 Cu(IO₃)₂, ¹²⁸I recoil, pre-heat treatment study 4-55883
 CuInSe₂, refl. and absorpt. spectra near band gap 4-20972
 Cu₂O, birefringence dispersion, validation of Kramers Kronig relation 4-11863
 Cu₂O, free excitons, Bose-Einstein statistics 4-25244
 Cu₂O, highly mobile paraexcitons, luminescence study 4-50732
 Cu₂O, method for creating high density of I₂⁺ excitons 4-25238
 Cu₂O, photoconductivity and birefringence, dislocations 4-15912
 Cu₂O type film, exciton energy calcs. (*Russian*) 4-56233
 GaAs, quantum wells, localisation induced excitonic electron-hole recombination, cathodoluminesc. study 4-39923
 GaAs waveguide formation using ion-implantation, review (*Russian*) 4-24246
 GaAs:Be layers, implanted, substrate for MBE grown GaAs photoluminescence intensity meas. 4-20514
 GaAs:Se, donor-level deepening under hydrostatic press., photoluminesc. study 4-21011
 GaAs/Ga_{1-x}Al_xAs quantum well struct., Wannier excitons, energy levels 4-50733
 GaAs/GaAlAs quantum well high-speed optical modulator in p-i-n diode, struct. 4-35047
 GaAs-Al_{1-x}Ga_xAs, Si doped quantum well struct., photolum., anomalous polarisation 4-2962
 GaAs-Al_{1-x}Ga_xAs multiple quantum well struct., free excitons in room temp. photolum. 4-30518
 GaAs-Al_{1-x}Ga_xAs quantum well heterostruct., p-doped, photolum. effects of longitudinal elec. field 4-21002
 GaAs-Al_{1-x}As multi-quantum-well struct., excitons, luminescence 4-46328
 GaAs-AlGaAs single quantum well, improvements using thin superlattice buffers 4-51310
 GaAs_{0.1}P_{0.9}N, recomb. mechanism, cathodoluminesc. study 4-57001
 GaAs(110)-Al interface, reson. photoemission 4-30599
 GaP, absorpt. spectrum, many-body effects 4-11905
 GaP, bound exciton series, absorpt., isoelectronic trap luminesc. studies 4-39818
 GaP:N, saturation spectroscopy of bound excitons 4-5670
 GaSe, electrooptical prop. dispersion 4-35417
 GaSe, exciton-exciton collisions, spontaneous and optically amplified luminesc. 4-7239
 GaSe, interexciton interaction and exciton-biexciton transitions 4-56232
 GaSe, optical bistability and exciton resonance excitation 4-49439
 GaSe:Cu, doped and undoped, radiative recomb. kinetics, spontaneous photoluminesc. spectra 4-7242
 GaSe_{1-x}S_x solid solns., localised excitons, photoluminesc. study 4-46311
 Ge, electron-hole liq. droplet destabilisation, magnetohydrodynamic mechanism 4-20572
 Ge, kinetics of electron and hole binding into excitons 4-20574
 Ge, microwave breakdown of exciton gas 4-15827
 Ge, photovoltaic props. and exciton-plasma transition 4-25404
 Ge, strained and photoexcited, Mott and liquid-gas transitions, luminesc. and energy spectra studies 4-56220
 Ge, surface influence on nucleation phenomena in electron-hole drop formation 4-11447
 Ge:Be radiative recomb. of excitons bound to Be double acceptors 4-56978
 Ge:Zn, bound double exciton complexes, photoluminescence 4-45644
 GeSe, exciton absorpt. edge, light absorpt. spectra 4-6714
 H₂ solid, FIR absorption spectrum in freq. region of S(0) line 4-11382
 Hg, liquid and dense vapour, metal-nonmetal and dielec. transitions 4-45633
 In halides, exciton transitions, refl., absorption and emission spectra 4-46279
 In-phthalocyanine Schottky barrier cells, photovoltaic action spectra 4-11556
 InP, fine struct. of (A⁰X) complex 4-25804
 InP, heat treated, photoluminescence and photocond. spectrum 4-51326
 InP, impact ionisation of excitons and shallow donors, photoluminesc. study 4-7241
 InP, vapour grown, donor identification, exciton band-gap luminescence 4-50755
 InP:Si, ion implanted, photoluminescence excitons and polaritons 4-40498
 InSb, luminescence of bound diamagnetic excitons 4-30513
 InSe, exciton absorpt. line, influence of indirect phototransitions (*Russian*) 4-50736
 InSe, photoluminescence meas., stimulated emission spectra, light amplification under two-photon pumping 4-40481
 InSe:Gd with macroscopic inclusions, polaron effects, photoluminesc. studies 4-29903
 KBr:I, laser excitation, F-H pair creation from localised exciton 4-50283
 KCl (Br), luminescence excitation by vacuum UV photons 4-30511
 KCl, piezoreflectivity at about 12 eV 4-25718

excitons continued

- KCl:I, pure and doped, triplet exciton absorption, radiation jarring and relax. kinetics 4-51309
 KCl(Br), selective σ -luminescence at triplet state of exciton 4-51327
 KD_2PO_4 , permittivity at high conc. of elementary excitations 4-20897
 KMnF_3 , photoluminescence, interacting centres and short-wavelength edge 4-56993
 Kr, solid, electronic excited states relaxation processes, luminesc. study 4-51325
 LiF, decay process of Li 1s-core exciton 4-29895
 Li_2O_3 , ^{128}I recoil, pre-heat treatment study 4-55883
 MgF_2 crystals, optical absorpt. by self-trapped excitons 4-16239
 MgO, amorphous thin films, visible and UV anomalous absorption 4-46340
 MgO powders, photoluminescence from surface states 4-46306
 Mn^{2+} systems, conc., spectroscopic props. rel. to collective excitations 4-25254
 2H-MoS_3 , layered cpd., dispersive resonant two-phonon Raman mode 4-51254
 N_2 cryocrystals, vibronic spectra, coexistence of zone and self-localised exciton states 4-51299
 NaBr, luminescence excitation by vacuum UV photons 4-30511
 $\text{Na}_2\text{O-SiO}_2$, glass, elementary electron excitations, localisation and migration 4-50735
 Ne, solid, electronic excited states relaxation processes, luminesc. study 4-51325
 Ne, solid, excitation spectrum of visible luminescence 4-30521
 NiMn, electronic struct., structural and mag. transitions 4-20551
 NiMn-Fe, exciton ferromagnet, mag. and structural transitions 4-20822
 P, black, core-exciton induced resonant photoemission 4-51453
 P, black, press.-induced supercond., excitonic mechanism 4-50975
 a-P, radiative recombination, ODMR and photoluminesc. studies 4-25799
 PbF_2 , electronic band gap and exciton states, temp. depend. 4-6712
 PbI_2 , exciton absorption, spatial dispersion effects 4-45645
 RbAg_4I_5 , excitons in superionic transition 4-20569
 RbBr, luminescence excitation spectra between 40 and 130 eV 4-25800
 RbCoCl_3 , Raman scatt. and antiferromagnetic props. 4-16199
 RbI, 1s exciton self-trapping, dynamical aspects, luminesc. meas. 4-25798
 RbI, luminescence excitation spectra between 40 and 130 eV 4-25800
 RbMnF_3 , photoluminescence, interacting centres and short-wavelength edge 4-56993
 RbNiCl_3 , Raman scatt. and antiferromagnetic props. 4-16199
 Se_2O_3 , breakdown of excitonic absorption and luminesc. due to d-type cond. band 4-46318
 Se, trigonal single cryst., mid-gap photolum. and excitation spectrum 4-7245
 Si, desorption, electron-hole pairs role, surface excitons 4-2455
 Si:B, fine struct. of energy levels of excitons bound to impurity 4-29892
 Si:Be, bound exciton states, far IR absorption spectra study 4-25234
 a-Si:H, radiative and nonradiative processes 4-21033
 Si:In(Tl)(Bi), photoluminescence lifetimes of bound excitons 4-56231
 Si:Ti, ion implanted, photo- and cathodoluminesc. studies 4-21013
 $\text{Si}_3\text{C}_{1-x}\text{H}_x$, amorphous, luminescence study 4-40504
 $\text{Si}_2\text{H}_5(\text{OH})_3$, siloxene, layer cpd., time resolved luminesc., mol. exciton model 4-40515
 SiO_2 , photon-stimulated desorption of $\text{H}^+(\text{F}^+)$ and photoelectron yield, core excitons obs. 4-6663
 SiO_2 , vitreous, elementary electron excitations, localisation and migration 4-50735
 Sm monochalcogenides, band edge exciton spectra 4-35464
 TbF_3 , exciton-exciton annihilation and saturation effects, fluorescence obs. 4-2963
 TiCl_3 , resonance Raman scatt., exciton and polariton pictures 4-30461
 TlGaS_2 (Se_2), absorpt. study of excitonic transition oscillator strengths (*Russian*) 4-7216
 TlInS_2 , absorpt. study of excitonic transition oscillator strengths (*Russian*) 4-7216
 VO_2 , NMR studies 4-25648
 $\text{V}_{1-x}\text{W}_x\text{O}_6$, NMR studies 4-25648
 Xe crystal, exciton luminesc. from high-energy states (*Russian*) 4-30532
 Xe, ordered layers on Ag (111) and Au (111) surfaces, excitonic transitions, EELS 4-45487
 $\text{Zn}_{1-x}\text{Mn}_x\text{S}$ solid solns., exciton states, effect of one-dimensional disorder 4-15826
 $\text{Zn}_{1-x}\text{Mn}_x\text{Se}$, s-d type exchange interaction, magnetorefectivity, mag. susceptibility meas. 4-11448
 $\text{Zn}_{1-x}\text{Mn}_x\text{Te}$, semimagnetic, photolum. study, plasma parameters 4-7240
 ZnO sputtered thin films, UV photolum., excitonic recomb. 4-30528
 ZnPo , free-exciton states, refl. and transmission spectra studies 4-6713
 ZnS:I , excitonic and time-resolved edge emissions 4-39786
 ZnS:Mn(II) , excitonic excitation spectra under press. 4-21016
 ZnSe, Brillouin resonance, scatt. of light by thermal acoustic phonons 4-25775
 ZnSe crystal, self-activated luminesc., excitation spectra, under press. 4-51337
 ZnSe, optical props. of I_1^{deep} bound excitons 4-25748
 ZnSiP_2 , photolum. and luminesc. excitation spectra 4-30502
 ZnTe, light amplification, radiative processes in electron-hole drops 4-40530
 ZnTe, luminescence study of neutral donor bound excitons 4-21017
 ZnTe, opt. functions and parameters of long-wavelength exciton 4-11903

executive programs see *supervisory and executive programs*

exhibitions

No entries

exobiology see *extraterrestrial life*

exoelectron emission

- alkali halide, vacuum cleaved crystals, TSEE 4-3022
 apatites, powdered biological, simultaneous exoelectron emission and thermoluminesc. meas. 4-3626
 conference, Strasbourg, France (Mar. 1983) 4-5
 cotton fibres, electron emission optical thermal stimulation, accident dosimetry 4-3622
 Ethiopian soil, exoemission, rel. to endemicity of non-filarial elephantiasis 4-3593
 Geiger counting system for registration of TSEE or OSEE 4-979
 Geiger-Muller counters, organic-quenched, exoelectron detection efficiency increase using after-pulses 4-23500
 graphite, irradiated, TSEE peaks 4-3025

exoelectron emission continued

- ice, polycrystalline, TSEE in vacuum, 190-205K, electron bombardment effect 4-3035
 interface dosimetry, comparison of TSEE and conventional methods 4-3625
 metallic glasses, crystallisation, photostimulated exoelectron emission, temp. depend. 4-3027
 metals, quenched, photostimulated exoelectron emission 4-7324
 microcomputer-controlled apparatus for simultaneous measurement of exoelectron emission and thermoluminescence 4-295
 photostimulated exoelectron emission, emission rate and source population determ. 4-25858
 photostimulated exoelectron emission and microadhesion (*Japanese*) 4-40612
 physical metallurgy appl., exoelectron emission at struct. transform. in condensed matter 4-7335
 silicate glass surface, ion exchange processed, optically stimulated exoelectron emission 4-7320
 silicate minerals, tribo-exoemission 4-3034
 steel, H17, optically stimulated exoelectron emission and plastic props. 4-7328
 steel, photostimulated exoelectron emission, lapping kinetics in dry friction process 4-7331
 steel, stainless, photostimulated exoelectron emission kinetics, deform. rate effect 4-7330
 TSEE reader, commercial, design and appls. 4-981
 water vapour cryodeposits, thermostimulated exoemission under various vacuum conditions 4-7323
 Al, photostimulated exoelectron emission from scratched surfaces 4-25857
 Al_2O_3 film, plasma-sputtered, for exoelectronic dosimeters 4-25854
 $\alpha\text{-Al}_2\text{O}_3$ layers, TSEE detection of α and β radiation 4-3618
 $\alpha\text{-Al}_2\text{O}_3$ powder, field dependent trap parameters 4-6915
 Al_2O_3 powder, mixed α/γ phases, surface area, sinterability, photostimulated exoelectron emission (*French*) 4-57080
 $\alpha\text{-Al}_2\text{O}_3$ single crystals, TSEE rel. to mech. surface treatment 4-3033
 $\alpha\text{-Al}_2\text{O}_3$, synthetic corundum, exoelectron emission rel. to prep. conditions 4-3030
 Al_2O_3 , TSEE dosimeters, photon energy depend. of dose response 4-3620
 $\alpha\text{-Al}_2\text{O}_3$, TSEE rel. to synthesis parameters 4-3032
 BaSO_4 heat induced conversion to BaS, thermally stimulated exoemission 4-7334
 BeO single cryst., exoemission topography of surface 4-25855
 BeO, TSEE, archaeological dating appl. 4-74
 BeO thin film, TSEE dosimeters, photon energy depend. of dose response 4-3620
 BeO thin film, TSEE dosimeters, sensitivity for T beta particles 4-3621
 BeO thin film dosimeters, TSEE yield rel. to grain size, SEM obs. 4-7322
 BeO thin film dosimeter, energy depend. of TSEE on monoenergetic electrons 4-48771
 BeO, thin films and ceramics, TSEE yield rel. to gas adsorption 4-7321
 Be_2SiO_4 , irradiated surface layer, electron and hole centres (*Russian*) 4-39813
 CaCO_3 single crystals, \otimes TSEE glow curves rel. to heat treatment 4-3028
 CaF_2 film, \otimes TSEE glow curves rel. to heat treatment 4-3028
 Cu, exoactive surface, thermally stimulated exoelectron emission mechanism 4-7333
 Cu surface, thermally stimulated exoelectron emission centre chemical nature 4-7332
 Fe-Cr, oxide surface, exoelectron glow curves, interaction with gasoline 4-3026
 Ge surface, thermally stimulated exoelectron emission centre chemical nature 4-7332
 $\text{Li}_2\text{B}_2\text{O}_7$, crystalline, X-ray or γ -ray irr., thermally stimulated exoelectron emission (*Korean*) 4-16298
 $\text{Li}_2\text{B}_2\text{O}_7$ sintered crystal and thin evaporated layer, TSEE, dosimetric appl. 4-3024
 $\text{Li}_2\text{B}_2\text{O}_7\text{:Cu}$, effects of ion implantation on TSEE and TL glow curves 4-48770
 LiF (100), (110) and (111) surfaces, thermally stimulated exoelectron emission 4-7326
 LiF crystals, mechanically induced excited states, TSEE obs. 4-3023
 LiF film and crystal, \otimes TSEE glow curves rel. to heat treatment 4-3028
 LiF, single cryst., thermally stimulated exoemission at low temps. 4-21114
 LiF, TSEE for beta and gamma dosimetry 4-3619
 LiF, vacuum deposited thin film, integrating radiation dosimetry by exoelectron emission 4-48759
 LiF:Ag(Cu,Mg) , effects of ion implantation on TSEE and TL glow curves 4-48770
 LiNbO_3 , exoelectron emission under pyroelec. and piezoelec. conditions 4-25859
 LiTaO_3 , exoelectron emission under pyroelec. and piezoelec. conditions 4-25859
 MgO monocrystal, thermostimulated exoelectron emission in ultra-high vac. 4-7325
 MgO, thermally stimulated exoelectron emission and desorption in UHV 4-7327
 NaCl, exoelectron energy spectrum calc. 4-25853
 NaCl:Ca,Cu , single cryst., thermolum. and thermally stimulated exoelectron emission 4-51378
 NaF crystals, mechanically induced excited states, TSEE obs. 4-3023
 NaI, hydrated, thermostimulated exoelectron emission (*Russian*) 4-51462
 Ni, photostimulated exoelectron emission, strength parameters determ. 4-7329
 Ni surface, thermally stimulated exoelectron emission centre chemical nature 4-7332
 Ni-NaF thin film dosimeters, energy distrib. of thermo- and photothermo-stimulated exoelectrons 4-3624
 Si, oxidised surface, thermally stimulated exoelectron emission mechanism 4-7333
 Si, photothermostimulated exoelectron emission, effect of edge dislocations and point defects 4-25856
 Si surface, thermally stimulated exoelectron emission centre chemical nature 4-7332
 Si_3N_4 -thin resistive film, layered struct., photostimulated exoelectron emission 4-51461
 SiO_2 layers, field dependent trap parameters 4-6915
 SiO_2 , secondary and exoelectron emission, Monte Carlo calc. 4-46429

exoelectron emission continued

- SiO₂:B layers, electron beam excited TSEE 4-3031
 SiO₂-Al₂O₃ multilayer emitter, thermally stimulated exoelectron emission 4-7337
 SiO₂-LiO₂-Al₂O₃-K₂O-Na₂O glass, laser-irradiated, thermostimulated exoelectron emission 4-57079
 ZnO/Zn anodically and thermally formed systems, photostimulated exoelectron emission 4-7336
 ZrO₂, powdered monoclinic and stabilised ceramic, X, γ or β irradi., exo-emission and thermoluminesc. 4-3029

exosphere

- heating due to upward energy flux of semidiurnal tide 4-3862
 temperature at high latitudes, solar cycle/seasonal vars. 4-22196
 temperature difference between poles 4-3863
 H atom escape from atmosphere 4-17321

exotic atoms

- see also *hadronic atoms*; *muonic atoms*
 magnetic monopole spin resonance, bound-state energies calc. 4-54890
 relativistic two-particle effects calcs. 4-23844
 three-particle systems, ground state energy, var. calcs. (Russian) 4-38359
 τ leptonics atoms, τ mass determ. from spectra 4-10189
 H-like atoms, relativistic, discrete level transitions cross-sections 4-1299

expanding universe see *cosmology***expansion, thermal** see *thermal expansion***expansion chambers** see *cloud chambers***expert systems** see *artificial intelligence***exploding foils** see *exploding wires and foils***exploding wires and foils**

- see also *discharges (electric)*; *plasma production*
 cylindrical explosive flow, Rayleigh-Taylor instability 4-50037
 imploding foil diodes, conductor surface photon ablation 4-55665
 inertial confinement fusion by implosion and compression of magneto-vortex rings 4-55603
 light ion driven fusion, wire exploding multi-plasma channel system, light ion beam transport 4-38971
 neutron production in cylindrical targets driven by fast plasma liners 4-55579
 optical emission of exploding film and wire initiated discharges 4-20003
 plasma blow-off from electrode surfaces, VUV radiation effects 4-24595
 plasma coaxial gun, thin film plasma liner form. and acceleration 4-55581
 plasma production system, device for loading thin wires in a vacuum 4-34288
 pulsed high-energy-density plasma generation by EM implosion 4-38987
 radial inhomogeneities, similarity calcs. 4-10877
 spark gaps, elec. and space-time charact. correl. 4-24596
 thin film liners, imploding phase for theta and Z geometries 4-55580
 vacuum gap, rise time triggered by exploding wire plasma 4-38985
 wire, pulsed EM acceleration, MHD code 4-20004
 I 1315 nm laser, optically pumped, driven by exploding metal films and wires 4-14714
 I₂ 342 nm laser, optically pumped, driven by exploding metal films and wires 4-14714

explosion bubbles see *bubbles***explosions**

- see also *accidents*; *detonation*; *nuclear explosions*; *safety*; *shock waves*
 blast waves dissipation and dynamic compressibility of soil 4-5920
 Cezalier, French Massif Central, maars positions anal. age and genesis (French) 4-41832
 channel produced by explosion of linear charge below anisotropic medium surface 4-44615
 chemical system with explosive behaviour, stochastic anal. 4-41217
 chemically active medium, steady plane-parallel convective motion, stability 4-44766
 detonation front governed by celerity-curvature relation, motion (French) 4-49853
 detonation products gun 4-14996
 electrical explosion characts., external pulse press. effect (Russian) 4-20050
 explosive-driven magnetic flux compression generators 4-36022
 explosive-driven magnetic flux compression generators for dense plasma production 4-34289
 explosive-driven plasma generator, pulsed light source parameter calcs. 4-34323
 Fry-Robinson steam explosion expt. simulation using dynamic thermic detonation model, reactor appl. (German) 4-5021
 gas mixtures, explosion anal. with shift in chemical equilb. of products taken into account 4-7729
 gases in explosion cavity for water-free and steam saturated silicate soils, heat exchange dynamics 4-7730
 generalised reaction rate laws, asymptotic anal. of criticality at extremes of Biot number 4-52013
 glass fibre reinforced plastic cylindrical shells, dynamic deform. and fracture on internal impulse loading 4-12116
 HMX, low density explosive, shock initiation sensitivity meas. 4-34128
 hydrodynamic explosion theory 4-29111
 ion beam plasma system, soliton and nonlinear explosion modes 4-6045
 magnetogasdynamics, unsteady isothermal flow of gas behind exponential shock 4-3913
 Metglas alloys, explosive compaction effects on ferromag. props., relative density and crystallisation 4-35591
 nuclear fuel reprocessing, accidental events, criticality, fires and explosions, probability (German) 4-4982
 opening switches, high explosive driven 4-55652
 plastic soils with variable dilation, explosion envelope expansion 4-47158
 point explosion in non-ideal gas with mag. field, flow behind shock 4-24478
 point explosion with varying energy, spherical shock wave 4-44648
 Proto-II, Ar gas puff implosion expts. 4-55611
 pulsed prebreakdown phenomena in centimeter vacuum gaps 4-50120
 quasisentropic compression of the medium by shock wave loading 4-44642
 radiation implosion in dense plasmas and solids 4-54409
 seismic shear waves from explosive point source, converted P-S wave generation 4-41747
 shaped charges, optimisation 4-34119
 shock wave propagation to large distances, matched asymptotic expansion anal. 4-55423

explosions continued

- shock waves propagation in rot. fluid due to central explosion, accretion disc appl. 4-13181
 stable explosive emission from cathodes with a bounded emitting surface 4-29283
 steel, C, thin-walled tubes, deform. and fracture after explosion 4-30798
 thermal, criticality, transition, variable heat transfer coeff. calcs. 4-10527
 thermal, criticality, transition, variable thermal cond. calcs. 4-10528
 thermal explosion and times-to-ignition in systems with distributed temps., influence of reactant consumption 4-41218
 thermal explosions, criticality for arbitrary Biot no. and general reaction-rate laws 4-29113
 thermal explosions initiation by steady intense light 4-29114
 thermal explosions with reactant consumption, criticality criterion 4-3409
 thermally unstable solid, slow and explosive decomp., time resolved mass spectrometry 4-12343
 thermokinetic systems, small amplitude periodic parameter variations 4-30991
 TNT, shock front, shear stress effects 4-39396
 transformation development behind weak nonstationary shock front, specimen diameter effect 4-39397
 Tunguska event, chondritic fireball versus small comet theories 4-42389
 turbulent burning vel. and flame straining 4-41219
 underground, near surface, soil cratering, rock bench blasting (Korean) 4-41926
 underground explosions, elastic wave emission, porous saturated medium deform. 4-31444
 underwater explosive source, anomalous behaviour of press. waveform 4-1537
 water aerosol, laser radiation propag. under breakup conditions 4-1449
 water drops, explosion under intense laser radiation 4-1582
 water drops, heating and destruction on exposure to radiation with inhomogeneous internal heat evolution 4-1581
 NH₃ explosion in glass capillary, for fusion reaction 4-38986
 UF₆-D mixtures, possibility of spark-initiated explosion 4-12369

exposure meters see *photometers***extended Huckel theory calculations** see *EHT calculations***extended X-ray absorption fine structure** see *EXAFS***extensive air showers** see *cosmic ray showers and bursts***extensometers**

- dilatometer, computer controlled, appl. to ceramic sintering (French) 4-53678
 high-pressure mixing dilatometer, inexpensive design 4-53699
 high-resolution multifold path interferometers for dilatometric measurements 4-22755
 high-temperature, high-pressure dilatometer, for Si₃N₄ sintering obs. 4-263
 materials testing, role of extensometry 4-57514
 strain cell for the study of smectic liquid crystals (French) 4-48096
 tubular specimens, extensometer for measuring axial and tangential strain 4-8895

external flows

- aerodynamic profile system pot. flow, cubic spline quadrature formula (Russian) 4-10635
 aerodynamic research, IR thermal images processing appl. 4-29213
 axisymmetric flow of ideal flow with interphase, hydrodynamic instability 4-44533
 buoyant boundary layer flow during heating of stably stratified fluid 4-55430
 cascades, grid generation using conformal mapping 4-5864
 circular cylinder, Oseen drag 4-55390
 cylindrical capillary jets in external flow, stability 4-10720
 desiccant film flowing over roof, heat flux red. 4-21586
 detached flow stability in flow over surface with kink 4-44528
 differentially heated vertical cavity, transition to time-depend. natural convection flow (French) 4-44560
 flow about elastic plates, drag coeff. meas., hydrodynamic characteristics 4-34057
 fluid flow contained between infinite rot. discs, subjected to asymm. distrib. of sources and sinks across the discs 4-19846
 free convective flow through porous medium, effects of magnetic field 4-15024
 free surface flows, isoparametric finite elements analysis 4-14943
 free-surface flow generated by immersed body horizontal motion (French) 4-49832
 gas flow past an obstacle, steady soln. of Boltzmann eqn. 4-27301
 gas-liquid flow, stress at interfaces and walls (French) 4-49869
 grid pack, heat transfer coeff., smallest grid-thickness sections (Russian) 4-10668
 Hamilton's principle and certain problems of dynamics of perfect fluid 4-44515
 heat and mass transfer in flow over bodies of various shapes, blowing 4-44579
 heat diffusion with time-depend. convective boundary conditions, geothermal appls. 4-34076
 heat transfer numerical props., conf., College Park, USA, Sept. 1981 4-31973
 incompressible rarefied visco-elastic fluid convective flow in mag. field, heat/mass transfer 4-10661
 liquid-wall boundary conditions, microscopic theory, thermophoresis 4-29054
 low Reynolds no. flow past elliptical cylinder 4-29057
 low speed flow around multi-airfoils, calc. and expt. (Japanese) 4-29216
 magnetohydrodynamic flow between two horizontal plates in a rot. system, the lower plate being a stretching sheet 4-1849
 Maxwell fluid exponential flow, laminar boundary layers along infinite plate with uniform suction 4-44524
 mechanical screens, bluff-body, circulation zones in wakes 4-19851
 MHD free-convection flow in Stokes problem for vertical porous plate in rot. system 4-10786
 miscible displacement simulation, pressure approx. by mixed method 4-29177
 mixed convection heat transfer from a vertical heated cylinder in a cross-flow 4-19825
 oscillatory MHD flow in Stokes problem past infinite vertical porous plate, Hall effects 4-44710
 plane and axisymm. pointed bodies, supersonic unsteady flow past (Russian) 4-44640
 plane irrotational flow, incompressible fluid around moving obstacle between parallel rectilinear boundaries (French) 4-55412

external flows continued

- prolate spheroid, flow separation and vortices 4-1751
 prolate spheroid at incidence, press. distrib. for 3D steady flow (*German*) 4-38833
 pyramidal bodies, centre of pressure (*Russian*) 4-10636
 radiating ionised gas, flow around blunted body (*Russian*) 4-5978
 rarefied gas flow past flat Pitot tube 4-44654
 sail, theory nondetached planar stationary flow of ideal incompressible fluid 4-1698
 salient wedge effect on motion of small particle in viscous fluid 4-19875
 separation flows on a concave conical wing 4-44617
 sharp corner, angle of separation in Stokes flow 4-44518
 side wall effect on rot. flow over bottom topography 4-24439
 slender body motion in quiescent fluid near interface 4-29094
 slender cone with heat transfer and angle of attack, transverse curvature effects, boundary layers 4-29128
 slow viscous flow, two dimens., past a plate midway between an infinite channel 4-44734
 sphere, Oseen drag, method of induced forces 4-55391
 submerged solid motion in a fluid with a surfactant film 4-1816
 supersonic flow over thin wedge intersected by external plane compression shock 4-5917
 torus, mass flux past and through hole in Stokes flow 4-10637
 transient natural convection past doubly infinite plate, radiation effects 4-19840
 transonic airfoils, outer inviscid flow interaction with boundary layer (*German*) 4-1781
 transonic flow, implicit lambda scheme 4-10702
 transonic separation flow of water past a circular cone 4-44625
 Tricomi equation in elliptic coordinates, local similarity solution 4-34125
 turbomachinery, internal flow condition, fluid flow behaviour 4-44603
 turbulent transfer processes in MHD and stratified streams 4-38908
 two dimensional test section inserted in cavitation tunnel (*Chinese*) 4-44772
 two-dimensional flow past arbitrary cylindrical bodies, boundary element formulations 4-34030
 two-phase displacement in Hele Shaw cell 4-49876
 unsteady Magnus effect, periodic normal force on circular cylinder in cross flow (*German*) 4-1738
 viscous flows with free surfaces, boundary integral eqn. soln. 4-19784
 viscous incompressible flow over plane vane, Oseen scheme calcs. (*Russian*) 4-5868
 vortical flow interactions with neighbouring surfaces, research at NASA Langley 4-1747

external modes (crystals) *see lattice dynamics*

extraordinary ray *see birefringence*

extraterrestrial atmospheres *see planetary satellite atmospheres*

extraterrestrial life

- anthropic principle in cosmology 4-27276
 book on Solar System bodies and processes 4-27262
 CETI (book) 4-42640
 conference at College Park, Maryland (November 1979) 4-13485
 Drake equation and planetary atmosphere evolution 4-17415
 Europa, native organisms and conditions for life 4-27038
 evolution and existence, implications of galactic evolution and nucleosynthesis 4-17041
 evolution from space to Earth (book) 4-53372
 interstellar coliform bacteria, UV absorbance spectrum rel. to extinction curve 4-4066
 on Mars, search by Viking landers 4-22340
 planets of solar system, suitability for origin of life 4-53143
 radiopanspermia, prevention by cosmic vacuum 4-47125
 SETI, use of microwave background 4-17414
 SETI, use of radio and IR 4-17413
 SETI at Nancy radiotelescope, search for artificial monochromatic signals 4-31768
 technological civilisations in Galaxy corotation zone (*Russian*) 4-27018

extraterrestrial radiofrequency radiation *see radiofrequency cosmic radiation*

extremum control *see optimal control*

extrusion

- cellulose fibre reinforced PVC, extrusion and performance 4-40824
 FET, extrusion flow characts., press. drop meas. 4-29037
 graphite particle reinforced Al-Si composite, deform. of graphite during hot extrusion 4-40905
 optical fibre, polymer right jacketed, zero linear expansion coeff., fabrication by extrusion coating 4-28891
 optical fibre extrusion coating, influence of nylon and process parameters on comprehensive strain 4-44263
 PET, extrusion flow visualisation, chain-ordering die geometries 4-24898
 polyethylene, high-density, density changes on drawing by solid-state extensions 4-12321
 polyethylene, oriented, production by hydrostatic extrusion 4-16368
 polyethylene, peroxide crosslinkable, power cable insulation, extrusion technology 4-35600
 polymers, extrusion, particle flow and sintering processes 4-51695
 polyoxymethylene, oriented, production by hydrostatic extrusion 4-16368
 porous materials extrusion, FORTRAN IV program for investigation (*Russian*) 4-25971
 PVC, rigid, extrusion conditions effect on fusion, struct. and impact props. 4-35602
 PVC melt, elastic behaviour under processing conditions 4-38779
 steel, extrusion and flow through tapered dies, finite element soln. (*Russian*) 4-29183
 steel, Ni-Cr-Ti, strengthening by hydroextrusion 4-40918
 thin fibres, prod. from powders 4-25911
 Ag-Cu-In (35, 5 wt.%), hot extrusion, structural superplasticity, strain rate and temp. depend. 4-3186
 Al alloy AK4-1, critical recrystallisation, original struct. influence 4-57249
 Al polycrystal under cyclic tension-compression loading, initial strain field and fatigue crack initiation mech. 4-3258
 Al/Cu conductors for ICs, electromigration induced extrusion, acoustic emission study 4-50593
 Al-Cr rapidly crystallised and extruded alloys, struct. and mech. props. (*Russian*) 4-25964
 Al-Cu-Mg, fracture toughness and strength, grain size influence 4-57330
 Al-Mg (10 wt.%), rapidly solidified powder, extrusion, microstruct. 4-30662
 Al-Mg (7 wt.%), dynamic recrystallisation after extrusion 4-12082

extrusion continued

- Al-Si-graphite particle composite, deform. of graphite during hot extrusion 4-40905
 Al-Zn-Mg, powder consolidated extruded plate, microstruct., tensile props. 4-30663
 Cu, alloyed and unalloyed, direct extrusion, surface cracks and defect form. 4-12089
 Cu, polycryst. struct. and strength during hydrostatic extrusion 4-30766
 Cu-Nb multifilamentary superconductors, powder metallurgy processed, cold hydrostatic extrusion 4-21185
 Fe-glass Ti-alloy bimetallic material, extrusion 4-46474
 Mo single crystal, extruded, texture anal. with orientation matrices 4-45042
 Nb-Al multifilamentary superconductors, powder metallurgy processed, cold hydrostatic extrusion 4-21185
 Nb₃Sn, laboratory extrusion, effect of hydrostatic press. on ductile fracture 4-16445
 Ni alloy, heat-resistant, hydrostatically extruded bars, failure mechanism 4-21322
 Sb₂-Bi₂Te₃, extruded melt, thermoelectric props. 4-56373
 Sn-Pb, semi-solid dendritic, compression at low strain rates, liquid-solid segregation 4-57301
 TiBrl KRS-5 extruded polycryst. fibres, loaded and unloaded, attenuation at 10.6 μ m 4-1481

eye

see also contact lenses; vision

- AC/A ratio and age, longit. study 4-26394
 accommodation, US as research tool 4-12735
 accommodation model for the young human eye, effects of lens elastic anisotropy 4-26393
 accommodation studies using white-light speckle optometer 4-52433
 acuity in young infant, max. in small retinal area 4-7994
 age rel. to visual image quality, standards of illumination 4-52329
 amblyopia, accommodative responses, spatial freq. dependence 4-26392
 amblyopia, human, static accommodative behaviour model 4-21653
 amblyopia, survey of recent treatment methods 4-12566
 apparent world, rel. to human eye and optics (*Italian*) 4-57881
 aquatic animal refraction, development of contact lens 4-12734
 aspheric curvatures, refr. indices and chromatic aberration, rat appl. 4-26389
 astigmatic and normal infants, photorefr. during viewing of patterned stimuli 4-7970
 astigmatism of oblique incidence in the human model eye 4-7971
 atomic bomb survivors in Hiroshima and Nagasaki, ophthalmological changes rel. to radiation exposure and age 4-41578
 biomedical research on corneal structure 4-16942
 bioregulation of the human pupillary motor system (*Russian*) 4-7978
 bipolar cells in monkey retina selective for the cones likely to be blue-sensitive 4-46993
 blink reflex, influence by tonic vibr. reflex, neurological deficit patients 4-16871
 blink reflexes in normals, quantitative assessment, EMG obs 4-16870
 cataract, radiation induced, annotated bibliography 4-17664
 cholinergic amacrine cells of rabbit retina, On and Off inputs 4-26407
 choroidal melanoma treatment appl. using ophthalmic microwave applicator 4-16945
 chromatic frequency shift, interocular transfer 4-7995
 clinical treatment, pot. risks of photo damage (*Italian*) 4-52420
 cone oil droplets, light intensification, EM considerations 4-26388
 cone pigment density difference spectra determ. in spatially resolved foveal regions, TV method 4-26564
 cone retina in vertebrate, systems analysis of analogue model 4-41513
 conference on expt. optometry, Birmingham, England (July 1983) 4-53339
 contact lens sensor (*Dutch*) 4-12723
 convergence insufficiency in patients taking medicines 4-57888
 corneal interference isochromes anal. and diagnostic indices derivation (*Russian*) 4-36101
 corneal light-scattering characts. mapping instrument 4-12733
 corneal topography of humans with congenital nystagmus 4-36100
 cytoplasmic membrane of dialysed external segment of retina rod, Na⁺ cond. 4-12554
 dark vergence and dark accommodation in human infants 4-26411
 diagnosis by stereophotogrammetry (*German*) 4-36195
 divergence excess: characteristics and results of treatment with orthoptics 4-36118
 endothelium biomicroscopy using modified model 211 Photoslitlamp 4-26494
 ERG and light peak of the perfused cat eye, differential effects of pCO₂ and pH 4-52326
 ERG c-wave, chicken and frog, evidence for both photopic and scotopic characts. 4-36105
 fixation and cognition for Japanese sentences (*Japanese*) 4-41525
 fixation eccentricity in normals and amblyopes, meas. by evoked pots. 4-26403
 fly visual system, adaptive strategies, image processing quality 4-41506
 foveal receptor aperture, illumination averaging to curtail aliasing 4-26390
 fundus of human eye, stereophotogrammetric meas. (*German*) 4-36196
 fusion lock diameter and the forced vergence fixation disparity curve 4-36103
 ganglion cell responses, carp, deduction of colour fundamentals 4-52324
 ganglion cells, tadpole and adult frog retinae, comparison of receptive field props. 4-7981
 ganglion cells in cat's retina, differences between X-and Y-type cells 4-12577
 gaze movements in scanning three horizontal targets, anal. (*Japanese*) 4-3557
 hazards of low-power lasers, functional approach to assessment 4-47031
 horizontal cell polarisation, anal. of neural mechanisms mediating effect 4-7985
 horizontal cells, turtle and catfish, dynamic response 4-36107
 horizontal cells in tiger salamander retina, receptive field props., contribs. of rods and cones 4-7983
 image processing algorithms for eye movement monitoring 4-21854
 image sampling properties of photoreceptors 4-52335
 increment thresholds with low background intensities at different locations in the peripheral retina 4-3558
 incremental sensitivity curve of turtle cone photoreceptors 4-26418
 intracoe volume hologram recording technique characts. 4-36200

eye continued

- intraocular pressure, effects of accommodation and repeated applanation tonometry 4-41502
 invertebrate eyes, microinterferometric method for refr. index gradient analysis in intact objects 4-4452
 IR oculometer, linear and accurate, for eye movements studies 4-3662
 iridocytes of neon tetra fish, visual pigment obs. 4-46995
 isolated retina bleaching, extension of photoreceptor bleaching theory 4-7992
 kinetics in normal and pathological subjects, bidimensional studies (*Italian*) 4-52319
 laser application in ophthalmology, cutting and coagulation techniques, summary (*German*) 4-8066
 laser operating microscope for ophthalmological appls. 4-8062
 laser ophthalmology using polymer optical elements 4-8061
 lens of ground squirrel, spherical aberration 4-12560
 longitudinal chromatic aberration of the vertebrate eye 4-26391
 macular pigment in Henle fibre membranes, model for Haidinger's brushes 4-36110
 malignant myopia: some geographic, environmental and nutritive concomitants 4-57883
 mammalian retina, on and off pathways through amacrine cells, review 4-12574
 mammalian retina, role of dopamine 4-12576
 microelectrode positioner for electrophysiology in intact mammalian eyes 4-41676
 microwave field meas. near eyes in models of humans 4-47058
 monocular amplitude of accommodation, effect of relative distance magnification 4-26385
 monocular occlusion, effect on lateral phoria 4-41503
 movements, precise noncontacting meas. using corneal reflex 4-36109
 movements and neural remapping during fusion of misaligned random-dot stereograms 4-31219
 neutral control of foveal pursuit versus saccadic movements 4-41511
 Nidek Autorefractor, clinical evaluation 4-57975
 NMR imaging of the vitreous body 4-52451
 oculometer employing a standard television camera 4-36204
 oculomotor control, slow, effect of expectations, anticipatory movements 4-52323
 oculomotor pursuit of target, comparison in circular real, beta and sigma motion 4-26410
 oculomotor system, accurate eye position information provision by corollary discharge 4-3555
 oculomotor system integrator, neural network 4-41504
 oil drops in cones of birds and reptiles, role in colour vision 4-26422
 ophthalmocoagulator, Nd laser, for clinical and public health expts. 4-8063
 ophthalmological device design principles for testing operator activity 4-58028
 optic flow computation using MATCH algorithm 4-26386
 optokinetic after uystagmus, postnatal development in human infants 4-26409
 optokinetic nystagmus, asymmetry in response in normal individuals 4-57885
 peripheral oculomotor system, unequal saccades generated by velocity interactions 4-26397
 perturbation analysis, appl. to eye, head, and arm movement models 4-41550
 photokeratoconjunctivitis, glossary of terms in photoergonomics, annotated bibliography 4-17665
 photoreceptive system mediating entrainment of mammalian circadian rhythms, spectral sensitivity 4-46996
 photoreceptor, single, membrane changes as cause of associative learning in *Hermissenda* 4-3556
 photoreceptor contributions to contrast sensitivity: applications in radiological diagnosis 4-41523
 photoreceptor light adaptation models: an evaluation 4-26417
 photoreceptors, fly, activation, of electrogenic Na-Ca exchange by light 4-36106
 photoreceptors, fly, sensitising pigment, rel. to UV sensitivity 4-31218
 photorefraction optics rel. to eye defocus, orthogonal and isotropic methods 4-26387
 phototransduction in vertebrate rods 4-46994
 physiological exophoria, obs. on optometric patients 4-12562
 position, long-term meas. in alert monkey and cat, comparison of EOG and search coil techniques 4-8171
 pressure injection of pl vols. into *Limulus* ventral photoreceptors, quantitative method 4-26553
 primate cones, light adapt., anal. based on extracellular data 4-26416
 primate retinal ganglion cells, responses to moving spectral contrast 4-7988
 pupil size effect, systems model 4-7976
 pupillometer with selfscanning photodiode array 4-26492
 refractive error rel. to accommodation mechanisms 4-12564
 retina, carp, bipolar cells, effects of GABA and glycine 4-12573
 retina, carp, horizontal cell response, information processing 4-12570
 retina, carp, light-induced and antidromic activation of ganglion cells 4-26412
 retina, cat, bipolar and ganglion cells, synaptic patterns and response props. 4-7989
 retina, cat, spatial anal. of on and offganglion cells 4-7986
 retina, dark-adapted, squid, rapid mech. responses to light pulses 4-52333
 retina, frog, melamine-embedded, electron microscopy and obs. of cryst. organisation of photoreceptor outer segments 4-41671
 retina, frog, rod outer segment disc shedding, inhibition by simple sugars 4-26398
 retina, rabbit, ERG and ganglion cell discharge, effects of 2-amino-4-phosphonobutyric acid 4-26406
 retina, thermochem. model for calc. of max. permissible exposure in near IR range 4-31285
 retina, *Xenopus*, blue-sensitive rod input to bipolar and ganglion cells 4-7980
 retina, *Xenopus*, identified photoreceptors and horizontal cells, intracellular recordings 4-7979
 retina, *Xenopus*, rod and cone inputs to bipolar and horizontal cells 4-12572
 retina of wide-angle theoretical eye, light distrib. 4-12561
 retinal cell types, various, response to light during spreading depression 4-12578
 retinal centrifugal fibres, functional significance (*Italian*) 4-57884

eye continued

- retinal ganglion cell responses, rhythmicity 4-26402
 retinal ganglion cells, cat, bimodal receptive fields 4-26404
 retinal ganglion cells, cat, functional transmitters 4-7987
 retinal ganglion cells, central responses, facilitation by antagonistic surround 4-7982
 retinal horizontal cells, rabbit, variations in struct. and response props. 4-12569
 retinal horizontal cells in culture, elec. props. 4-12567
 retinal horizontal cells in culture, rel. to photoreceptor neurotransmitter candidates 4-12568
 retinal inhomogeneity, spatial summation 4-52346
 retinal inhomogeneity, spatiotemporal contrast sensitivity 4-52345
 retinal neurocircuitry, cellular interaction, conf., Katata, Japan (Nov.-Dec. 1982) 4-8644
 retinal neurons with identified neurotransmitters, connections, review 4-12575
 retinal oil droplets, model of light collection and polarisation detect. in birds 4-36102
 retinal pigment epithelium, light-evoked response expts. 4-12579
 retinal rod outer segment disk membranes, bovine, phospholipid domains 4-36074
 retinal synaptic transmission mechanisms, review 4-12571
 rhodopsin, human, meas. using a TV-based imaging fundus reflectometer 4-52453
 rod coupling in isolated retina of *Bufo marinus* 4-36108
 rod saturation in b-wave of rat ERG for 2 different anaesthetics 4-31216
 saccade, microcomputer-based instrument for predicting final eye position halfway through 4-41658
 saccadic eye movements, multipulse controller signals, dynamic overshoot 4-7974
 saccadic eye movements, time optimisation of multipulse controller signals 4-7973
 saccadic eye movements mathematical model, multipulse controller signals, pulse width and saccade duration 4-7972
 safety aspects in fibre optic systems 4-8126
 single eye, considerations on use or lack of use (*Italian*) 4-57882
 single photon transduction in *Limulus* photoreceptors and the Borsellino-Fuortes model 4-46988
 smooth pursuit eye movements in response to predictable target motions 4-26405
 smooth pursuit eye movements under open-loop and closed-loop conditions 4-7984
 smooth pursuit system producing zero-latency target tracking, model 4-21655
 spatial vision of cats, role of area centralis 4-26414
 temporal pattern discrimination in the cat's retinal cells and Markov system models 4-41510
 tonic accommodation, adaptation 4-57886
 tracking performance, variables affecting 4-26395
 UV irradiation damages, ophthalmological considerations (*Italian*) 4-52384
 UV radiation Australian exposure standard, hazards to eyes and skin 4-21822
 far UV sensitivity of human eyes after removal of lenses 4-26801
 vertebrate retina, distal neurons, visual information processing 4-41509
 vertebrate retina, isolated, products of photoreversing rhodopsin bleaching 4-7993
 vertebrate retina, neural interactions, conf., Sarasota, USA (May 1982) 4-4151
 vertebrate retina, neuroactive substances localisation, evidence for inner plexiform layer lamination 4-7990
 viewing direction, apparatus for noncontact recording 4-47123
 visual perception mechanisms, review 4-36127
 K⁺, extracellular conc., effects of maintained illumination, toad expts. 4-12580

F-centres

- see also A-centres; M-centres; R-centres; Z-centres
 alcohol glasses, initial spectra of trapped electrons from 12 to 115K 4-11902
 alkali halides, defect formation efficiency, effects of homologous cation impurity (*Russian*) 4-34546
 alkali halides, F and F_A centres, unrestricted Hartree-Fock cluster anal. 4-20998
 alkali halides, NaCl-type, F_H-centres, absorption F-band study 4-2200
 alkali metal halide crystals, lattice constants, localised centre absorption band spectral location 4-56970
 alkaline earth oxides, Li⁺ or Na⁺ ion implanted, point defects, ESR, optical absorpt., luminesc. spectra 4-20269
 ionic crystals, irradi., metal colloid form., review 4-20234
 ionic crystals, radiative-tunnel hopping diffusion of electrons over system of F-centres 4-11530
 noncentral force systems, F-centres, spin-orbit and host-lattice effects 4-24814
 visible spectra Schrodinger eqn. appl. (*Italian*) 4-45131
 CaO powder, photoluminescence emission from surface states 4-46321
 CaO:Mg and undoped, coloured crystals, EPR, thermoluminesc. 4-51369
 KBr, KCl, hot luminesc. and ultrafast config. relax. of F-centres 4-46315
 KBr, radiation-induced vol. charge, dynamical studies 4-2199
 KBr, X-ray irradi. under high AC fields, F-band absorpt. and thermoluminesc. 4-25788
 KBr:Ca²⁺, X-irr., F- and Z₁-centres, thermolum., optical absorpt. spectra 4-11946
 KBr:Eu, X-ray irr., F-centres and Eu²⁺ cations vacancy dipoles 4-29429
 KBr:I, laser excitation, F-H pair creation from localised exciton 4-50283
 KCl, bent, dislocation photocond. and deform. mechanism 4-15917
 KCl, electrolytically coloured, F-centre mobility 4-2202
 KCl, electron spin echo envelope modulation spectroscopy, signal intensities anal. 4-7063
 KCl, F-centres, laser induced bleaching 4-29433
 KCl, molten, F-centre, binding energy, mag. susceptibility and pair correl. functions calc. 4-34391
 KCl single cryst., F-band absorption and thermolum., influence of X-ray irradiation 4-2972
 KCl, X-centres, quasi-metallic model, positron angular correlation study 4-55827
 KCl:Ca crystals, F centre to Z centre thermooptic conversion kinetics 4-35420

F-centres continued

- KCl:Li, pure and doped, triplet exciton absorption, radiation jarring and relax. kinetics 4-51309
 KCl:Li, F₂-centre absorpt. and emission 4-46292
 KCl:Mn, X-irrad., postirrad. deform. effect on thermolum. peaks 4-2971
 KCl:Na F₂(II) centre lasers, flashlamp pumped 4-23999
 KCl:Sr²⁺, Z-centre conversions, thermal decay kinetics, optical meas. 4-34488
 KCl:Br_{1-x}, gamma irrad., thermolum., optical absorpt. studies 4-30533
 KCl:Br_{1-x}:Ca²⁺, doped and undoped, thermolum., microhardness meas., quenching temp. depend., impurity dispersion state effect 4-11947
 KI, electrolytically coloured, F-centre mobility 4-2202
 K₂Eu, X-ray irrad., F-centres and Eu²⁺ cations vacancy dipoles 4-29429
 K₂Se²⁺, photochemical reaction studies, optical absorpt. meas. 4-35468
 KI(Br), F-centre excited state electron spin polarisation meas. 4-11475
 LiF, aggregate electron colour centres luminesc. for ionizing radiation dosimetry (*Russian*) 4-57005
 LiF radiatively coloured crystals for passive shutters in Nd lasers 4-5599
 LiF:O²⁻, F₂-centre stability, decay mech., rate constants, activation energy 4-39290
 LiNbO₃, F⁺-centres, improved point-ion pots. 4-56268
 LiTaO₃, F⁺-centres, improved point-ion pots. 4-56268
 MgAl₂O₄, neutron-electron irradiation, crystal defect study (*Russian*) 4-51379
 MgO powder, photoluminescence emission from surface states 4-46321
 MgO, reactor irrad., F-centre accumulation, optical absorpt. spectra, EPR, thermal cond. meas. 4-55884
 MgO:Mg, photochromic reactions 4-20929
 NaBr single crystals, X-irradiated, optical absorption study 4-2943
 NaBr(Cl):S, UV irrad., luminesc. and coloration 4-35473
 NaCl, exoelectron energy spectrum calc. 4-25853
 NaCl:Ca²⁺, impurity dispersion role in microhardness and thermolum. 4-11949
 NaCl:Ca²⁺:Cu⁺, X-irrad., recombination luminesc., photoacoustic emission 4-51315
 NaCl:Sn, thermoluminescence emission and decay kinetics 4-57007
 NaCl:Sr²⁺, X-ray irrad., glow curves, impurity aggregation state effect 4-2970
 NaF, X-ray irrad., F and F₂ centres excited states, radiative lifetimes 4-29432
 NaF:LiF, additively coloured, F-centre decay 4-11144
 NaI, hydrated, thermostimulated exoelectron emission (*Russian*) 4-51462
 NaMgF₃, flux-grown, X-irrad., glow curves, optical absorpt. spectra studies 4-11948
 RbCl, hot luminesc. and ultrafast config. relax. of F-centres 4-46315
 RbI:Na crystals, and pure crystals, excitations of F, F_A and F_B centres 4-2942
 SrS, near-IR luminescence from F⁺ centres and near anionic vacancies 4-46314
 ZnO, deep level struct. of O vacancies, semi-empirical calc. 4-34906
- F₂-centres** see *M-centres*
F₃-centres see *R-centres*
F_A-centres see *A-centres*
F-layer see *F-region*
F-region
 annual variations of F-layer height and electron content rel. to neutral composition 4-17340
 auroral zone F-region, struct. and morphology of irregularities 4-22254
 cavitons and related nonlinear phenomena 4-22232
 conjugate effects in TID generation 4-26930
 delta function excitation of waves, theory 4-22257
 dynamical model of equatorial F-region, elec. current and ion velocity 4-22223
 electric current flow between equatorial E- and F-regions 4-22222
 electron density and convection at high-latitudes 4-13132
 electron density distrib. at high-latitude, three-dimens. nonstationary model 4-22207
 electron temperature empirical model 100 to 200 km altitude 4-17333
 equatorial post-sunrise spread-F and radio scintillations 4-42260
 equatorial spread F due to gravity driven plasma instabilities 4-3866
 F₁-region at high latitudes, O⁺ relative abundance, EISCAT obs. 4-22238
 gravity driven instability causing irregularities in bottomside equatorial F-region 4-3866
 gravity wave interaction, F-region response, effect of plasma diffusion 4-22229
 height of electron content changes determined by ATS6 radiobeacon method 4-47489
 HF ionospheric propag., F-region variability effects 4-22262
 HF radiowaves reflection from ionospheric F-region, simplified estimation of ray-path mirroring height 4-52983
 high-latitude, obs. of neutral wind and ion convection 4-22197
 high-latitude ionospheric irregularities, radar results 4-22250
 high-latitude ionospheric irregularities, review of theories 4-22249
 irregularities of sinusoidal nature in bottomside equatorial F-region 4-8349
 lunar tidal oscillations of F₂-layer peak electron density 4-22228
 main trough, equatorward movement over Halley Bay, Antarctica 4-22242
 maintenance of night-time mid-latitude ionosphere, recombination and plasma flow 4-47492
 maintenance of night-time mid-latitude ionosphere above St. Santin 4-47493
 plasma, diurnal transport effects under quiet and disturbed conditions 4-26931
 plasma frequencies var. above Vietnam, behaviour 4-36534
 plasma heating-induced instability for inhomogeneities origin 4-22206
 plasma instability theory, EXB instability in long-wavelength limit 4-26928
 plasma irregularities at very-high latitudes, HF radar obs. 4-3867
 plasma trough and plasmasphere low-energy plasma characts. 4-13150
 plasma trough on dayside, obs. of thermal and suprathermal ions 4-13136
 radiowave heating expt., scatt. from inhomogeneities caused by heating wave 4-17344
 radiowave modification expt., subkilometre and 3-m irregularity generation 4-22224
 small-scale irregularities at very high latits., HF radar studies 4-22251
 solar cycle and seasonal vars., Chatanika incoherent scatter radar obs. 4-22239

F-region continued

- solar eclipse of Feb. 1979 and formation of midday F-region trough 4-58341
 solar wind sector boundary crossing rel. to F-region TEC obs. 4-22217
 spread F plasma bubble vertical rise velocity 4-22221
 spread-F, effect on A1 absorpt. meas. 4-13126
 spread-F and equatorial nighttime UHF/VHF scintillation 4-31716
 spread-F characts. at equatorial and mid-latitudes, comparison 4-47491
 spread-F occurrence at mid-latitude affected by geomag. activity and ionosphere height rises 4-47490
 spread-F on topside ionograms, assoc. with high-latit. ionospheric irregularities 4-22252
 storm-time disturbances, TEC and f_o F₂-layer obs. at Cuba 4-52982
 tropical F-region dynamics from nightglow obs. 4-17341
 tropical spread-F, radio waves scatt. from plasma density gradients 4-13127
 troughs in high latitude nighttime F-region, fossil theory 4-13131
 ULF waves excited by short atmos. whistlers in F-region 4-17335
 winter polar cap F-region, auroral struct. and dynamics 4-22203
 H⁺ and He⁺ ion replenishment following storms, influence of solar activity 4-17339
 N₂ vibrational temperature influence plasma parameters 4-17337
 O₂ chemistry of F-region and subtropical airglow anomaly 4-42253
- f-values** see *oscillator strengths*
faces (crystal) see *crystal faces*
facility location see *operations research*
facsimile
 see also *video signals*
 meteorological Czechoslovak experiences with MDA reception equipment (*Czech*) 4-47526
 vision adapted progressive image transmission 4-41528
- facsimile communication** see *facsimile*
facsimile document reproduction see *photocopying*
facsimile equipment
 electronic blackboard billiard scanner, design 4-10315
- facsimile signals** see *video signals*
facsimile transmission see *facsimile*
faculae see *Sun*
fading
 see also *radiowave propagation*
 MF night-time sky wave, field strength and fading for south-north propagation in Japan (*Japanese*) 4-36536
 microwave relays, meteorological effects on diurnal and seasonal fading variations 4-8306
 millimeter wave propagation through precipitation, relationship of cross polarisation discrimination to attenuation 4-22065
 optical fibre single mode, heterodyne time-domain reflectometry, backscatter and fading study 4-28846
 UHF in troposphere, propagation over arid regions (India), correl. with meteorological parameters 4-31612
- failure, electrical** see *electrical faults*
failure (mechanical)
 see also *fracture; mechanical strength; plastic deformation*
 composite, stat. theory of failure, topological aspects 4-44490
 composite materials, probabilistic static failure 4-46584
 heat-resistant materials, struct. stability, thermal activation anal., computer simulation of failure process 4-51675
 laminated composite, interlaminar stresses, failure prediction 4-19773
 materials, high temp., industrial applications 4-46515
 refractories, thermal strength evaluation, using failure temp. gradient 4-51803
 staircase tests, improved evaluation method (*German*) 4-41128
 testing and failure anal., conference, San Jose, CA, USA (Oct. 1982) 4-20
 Zircaloy 4 cladding, lifetime and failure strain under LOCA ramp temp. conditions 4-9268
 Zircaloy-4 fuel sheaths, failure during postulated LOCA, O₂ effect, BURST-3 program 4-9279
 Al-Mg alloy shells, elastic-plastic, cylindrical, failure under combined loading 4-44426
 ZrO₂-Y₂O₃ thermal barrier coatings, failure during thermal cycling 4-21167
- failure analysis**
 see also *electrical faults; wear*
 barrier diagrams a model for reliability anal. 4-23355
 Bayesian method for failure rate distrib. estimation 4-23349
 BWR plant, emergency operating instructions impact on severe accident sequences 4-23341
 common cause failure model 4-23353
 conference, San Jose, CA, USA (Oct. 1982) 4-20
 Edwin I. Hatch Nuclear Plant availability improvement studies using fault tree methodologies 4-54350
 IC manufacture, QC, Raman microprobe appl., organic contaminants identification 4-3368
 insulating materials, discharge damage, breakdown partial discharge mechanism and failure study 4-16158
 inverter failures anal. in nucl. power plants 4-23343
 LMFBR shutdown heat removal for transients up to HCDA, SASSYS code 4-48700
 Markov unreliability models, Monte Carlo simulation 4-33121
 moisture monitor instrument, failure anal. of electron beam weldment 4-12192
 nuclear power plant risk assessment, common cause failure, statistical depend., uncertainty calc. 4-33124
 nuclear power plants, factorial design for anal. of system interactions 4-23354
 pulse generator conductor, 304 stainless steel construction, failure analysis 4-12315
 PWR, steam explosions, Monte Carlo anal. 4-23347
 PWR instrument air system, reliability study 4-23342
 PWR large dry-containments, risk reduction by filtered venting 4-33123
 reactor protection system failure probability, measure of uncertainty importance 4-23351
 steam turbine rotors, metallurgical aspects 4-41313
 US transducers, failure in gamma radiation field 4-14866
 Al/Cu conductors for ICs, electromigration induced extrusion, acoustic emission study 4-50593
 Au electroplated electrical contacts, failure mechanisms study 4-12436

failure analysis continued

- GaAlAs visible lasers, failure mechanism rel. to formation of dark defects 4-10308
 PbO-B₂O₃ glass, Ag migration 4-11352

fallout

- see also air pollution*
 atmosphere, global consequences of multiple nucl. explosions 4-46911
 Black Sea, ¹³⁷Cs, ⁹⁰Sr in sediment and water column 4-52758
 Bombay, India radioactive pollution, Pu and Am concs. in coastal environment 4-41982
 dispersal and deposition following release from point source 4-12504
 environmental radiation monitoring in Japan (*Japanese*) 4-43663
 Great Britain and S Hemisphere fallout concs. in 1981 and 1982 AD 4-52238
 Nevada nuclear tests, radioactive fallout rel. to childhood leukaemia 4-47043
 nuclear war, long-term biological consequences 4-46912
 nuclear weapons fallout, Pu and Am at Thule, Greenland 4-46907
 ocean surface layer radioactivity concentration 4-41986
 particle-reactive nuclides in Californian soil profiles, conc.-depth profiles and long-term fate 4-8235
 quartz TLD, pre-dose technique for environmental dosimetry 4-52477
 radiation exposure forecasting for fallout caused by multiple, nonsimultaneous, upwind ground bursts 4-52487
 reactor accident, shielding factors for vehicles to γ -irradiation from deposited activity 4-31150
 samples collected during 1981, gamma-ray spectra 4-16818
 snow of Antarctica, radioisotopes used to determine meteorological phenomena 4-41992
 Yukon Territory, Canada, radioactivity levels in 40 year snow core 4-52810
²⁴¹Am in Japanese rice-field surface soils 4-31129
¹³⁷Cs fallout, distrib. in Hawaii, soils and lavas obs. 4-46905
¹³⁷Cs in Japanese rice-field surface soils 4-31129
²¹⁰Pb fallout rate in California, USA 4-46909
 Pu in Nagasaki soil, discrimination of Pu due to 1945 atomic explosion from global fallout Pu 4-31130
²⁴¹Pu, A=239, 240, fallout meas. and dose estimation for Tokaimura, Japan 4-47078
²⁴¹Pu, A=239,240, in Japanese rice-field surface soils 4-31129
⁹⁰Sr, prediction of fallout transport and vertical. profile in aerated zone (*Japanese*) 4-43664
 T-box model for N Atlantic thermocline 4-21983
²³⁴U/²³⁸U activity ratios in Hiroshima 'black rain' soil 4-31128

Faraday effect

- AC susceptibility measurements by magneto-optic Faraday effect 4-53711
 axial mag. fields in plasma from laser pulse interaction 4-2013
 dense plasma magnetic field meas., spectroscopic techniques 4-34320
 ferrimagnet, inverse Faraday effect, laser beam effects 4-20952
 ferromagnetic crystals, circumventing linear birefr. 4-51233
 fibre optic gyroscopes and related sensor systems 4-4397
 fibre optic sensor, single-mode, current meas. by Faraday rotation in mag. fusion devices 4-19583
 garnet films, domain-wall motion in strong mag. fields 4-25624
 garnets, phonon Raman scatt., selection rule, influence of Faraday rot. 4-11884
 gases, resonant and nonresonant Faraday effect study using equipment based on rotating polariser (*Rumanian*) 4-34233
 glass, type Hoya FR-5, Faraday rot. temp. depend. 4-46233
 mag. field, solenoidal condition in numerical calcs. 4-19334
 magnetic materials, phonon Raman scatt., selection rule, influence of Faraday rot. 4-11884
 magnetometry in pulsed fields 4-4427
 megampere current meas. with fibre optic sensors 4-17898
 MOS system, ellipticity and Faraday rot., memory function approach 4-7166
 multimode ribbon lightguides, Faraday effect props. 4-33757
 rare earth iron garnets, magneto-optical props., 1.1-1.7 μ m 4-51244
 sunspots, transverse mag. field orientation, Faraday rot. wavelength depend. 4-13280
 thiadiazoles, condensed, MCD spectra, PPP calcs. 4-16182
 transducer for electric current meas., performance limitations 4-32254
 Cd,Hg_{1-x}Te, nonresonant interband Faraday rotation study 4-46238
 Cd_{1-x}Mn_xTe, EPR meas. under extreme line broadening 4-35224
 Eu(NH₃)₆, low-temp. mag. susceptibility meas. 4-51036
 Eu_{0.4}Sr_{0.6}S, insulating spin glass, analyticity breakdown from dynamical meas. 4-56633
 Gd_{3-x}Bi_xFe_{10-x}Ga₂O₁₂ ferrimagnetic garnet films, optical switching using Faraday effect 4-20949
 InSb, free carrier Faraday rotation investig. using tunable CW CO₂ laser (*Chinese*) 4-20948
 Pb_{1-x}Mn_xTe, anomalous magneto-optical behaviour in interband transition range 4-2908
 PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
 RbMnF₃, magneto-optical props. 4-2906
 ReIG single crystal thin films, Faraday rotation meas. (*Chinese*) 4-46338
 Si:Gd, mag. susceptibility, Faraday method meas. 4-35142
 (YBiCa)₂(FeSi)₂O₁₂ epitaxial garnet films, Bi content, chemical analysis, Faraday rotation 4-2797
 Y_{3-x}Bi_xFe_{5-y}Al_{2y}O₁₂ film, mag. and magneto-optical props. 4-51108
 (YBi)₂(FeGa)₂O₁₂ LPE film waveguides, optical props., growth temp. effects 4-19561
 YIG:Co doped films, optical and magneto-optical props. 4-30444
 YIG:Ga, effect of ionic migration induced by heat treatment on Faraday rotation 4-25727
 YIG:Ga epitaxial film, magneto-optical obs. of Bloch lines 4-56746
 YIG:Gd epitaxial film, optical absorpt. study 4-30539
 Yb(NH₃)₆, low-temp. mag. susceptibility meas. 4-51036
 Yb epitaxial films, magneto-optical parameters, local distrib. over area of samples (*Russian*) 4-20947

farming

- N Kenya, natural vegetation of semi-arid rangeland, impact of men and domestic animals 4-21942

fast Fourier transforms

- 8-bit expandable bipolar bit-slice processor 4-10241
 acoustic emission linear pulse holography for non-destructive evaluation, FFT anal. 4-49625

fast Fourier transforms continued

- acoustic signal processing, 8-bit fixed point calculation and round-off error (*Japanese*) 4-55274
 approximate algorithm using approaching functions (*Chinese*) 4-42700
 climatic data harmonic anal. using FFT 4-52878
 computerised data acquisition and processing of moire fringe information 4-17886
 electron microscopy, phase retrieval from image and diffr. patterns (*Chinese*) 4-2039
 lossy transmission line transients, detect. of branch points by modified FFT 4-26813
 microaddress sequencer for 8-bit expandable bipolar bit-slice processor 4-10242
 prosthetic aortic heart valves, sounds prod., study method 4-21755
 pseudospectral methods, use of FFT, direct inversion and conjugate gradient methods 4-42692
 spectrum analyzers for acoustic vibrations meas. 4-5771
 speech and speaker recognition, FFT cepstrum and LPC cepstrum evaluation (*Japanese*) 4-55281
 speech recognition of Korean using band pass filters based on FFT 4-24305
 thermoluminescence thermogram reconstruction 4-58062
 tibial natural freq., direct and indirect determ., freq. domain anal. rel. to fast Fourier transform. 4-31357
 US narrow strip transducers, FFT anal. 4-49650
 weather prediction, numerical FFT algorithms 4-4203

fast ion conductors *see superionic conducting materials***fastening** *see joining processes***fatigue**

- for corrosion fatigue see stress corrosion cracking; for thermal fatigue see thermal stress cracking*
see also fatigue cracks; fatigue testing
 acoustic emission method for improved fatigue-life prediction 4-12279
 Al coating on Ni-base superalloys, thermal fatigue strength and heat resist. 4-12264
 bioceramics, advances, present and future research needs 4-51603
 brass, cold rolled, annealed, fatigue rel. to subgrain structure and orientation 4-16479
 α -brass, corrosion fatigue in aq. solns. 4-3283
 α -brass, fatigue, effect of NaNO₃ 4-12222
 butt joint, adhesive, impact fatigue behaviour (*Japanese*) 4-3232
 cemented carbides, wear, effect of comp., struct., and service conditions 4-40998
 ceramic, universal fatigue curves using indentation flaws 4-12277
 ceramics, fatigue life and failure strength prediction 4-3219
 ceramics, heterogeneous system, prediction of fatigue life and fracture stress 4-26036
 coatings, electrolytically and chemically deposited, mech. props. (*German*) 4-51553
 coatings, high temp., mech. aspects 4-16566
 composite, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
 composites, metal matrix, fatigue failure model 4-44491
 constructional material, block cyclic loading influence on deform. and strength character, plane stressed conditions 4-12125
 corrosion fatigue cracking in NaCl and HCl solns. (*Japanese*) 4-51874
 crack-defect demonstrator, paper devices for classroom demonstration 4-8697
 curves with nonconstant standard deviation, filtering to data with runouts 4-51914
 damage line of Wohlerdiagram (*German*) 4-46591
 edge crack specimen, fatigue anal., hysteresis strain energy density 4-29008
 elastomers, for artificial cardiac ventricles, mech. props. 4-51800
 energy balance approach to low-cycle fatigue 4-24378
 epoxide resin, highly filled, fatigue performance 4-35722
 epoxide synthetic fibre reinforced plastic, fatigue, moisture influence 4-46609
 epoxy resin bonded metal lap joints, fatigue performance and durability 4-35721
 FCC monocrystals, fatigued, cyclic hardening curves, two-phase model calc. 4-12080
 fibre reinforced Ni, effect of TiC and TiN on tensile and fatigue props. 4-40937
 fibreglass, woven, fatigue life prediction 4-12298
 fluoride glass optical fibres, strength and fatigue 4-5726
 glass, fatigue limit determ. 4-7570
 glass fabric epoxyphenol laminate, fatigue, moisture influence 4-46609
 glass fibre and ball reinforced polyamines, fatigue characts. 4-46608
 glass fibre composites, fatigue and fatigue degradation model investig. 4-35679
 glass fibre reinforced epoxy, mech. props. at cryogenic and elevated temp. 4-51772
 glassy materials, fatigue fracture of single particles 4-40986
 graphite fibre reinforced epoxy, accelerated environmental testing 4-26125
 hip joint endoprosthesis, fracture-proof anchorage stem development 4-31370
 hot rolled plates, mech. props., grain size and interstitials effect (*German*) 4-35657
 IN 718, forged gas turbine disk, high temp. fatigue strength 4-12186
 IN 738LC, Ni-base superalloy, cast, low cycle fatigue behaviour, effect of environment 4-57314
 Inconel 625, cyclic stress-strain relationships, creep, fatigue, TREAT Upgrade cladding 4-21294
 Inconel 625, fatigue cycling, fatigue strength, creep damage, TREAT Upgrade cladding 4-21327
 Inconel 625, high temp. reverse bend fatigue strength, TREAT Upgrade cladding 4-21328
 Inconel 718, oxidation influence on crack propag. at high temp. (*French*) 4-46653
 Inconel X-750, fatigue, high temp., freq. effects 4-7590
 Inconel X-750, precip. hardened, high temp. fatigue, effect on microstruct. and mech. props. 4-7561
 inelastic constitutive equations for plasticity creep interaction and fatigue life assessment (*Japanese*) 4-33955
 life prediction, under action of mean stresses, new approach 4-40962
 low-cycle, equiv. plastic strain range criteria 4-11223
 low-cycle fatigue under symmetrical nonproportional deformation 4-55374

fatigue continued

medium C steel, annealed, fatigue damage under fully reversed tension-compression cycling (*Japanese*) 4-35809
 medium C steel, heat treated, fatigue processes (*Japanese*) 4-35810
 metal surface, oxide layer form. in cyclic loading under fretting corrosion conditions 4-51890
 metallographic characterisation using Cu-Ag-P brazing alloys 4-35817
 metallurgy, conference, Paris, France (Oct. 1983) (*French*) 4-8642
 metals, anodising in molten salts, review 4-7647
 metals, damage and failure at elevated temperature 4-35704
 metals, fatigue damage development exam. by eddy current method 4-3359
 metals, plastic deformation and cracking, dissolution effects 4-7526
 natural hard fibre composites, fatigue and fatigue degradation model investig. 4-35679
 nuclear steam generators, Canadian experience, corrosion, denting and other damage (*Spanish*) 4-28088
 nylon 6 fibres, high energy irradi., mech. props., fracture morphology deterioration rel. to dose 4-26003
 optical fibre failure prediction for bent fibre (*Japanese*) 4-19596
 optical fibre fusion splices, internal stress evaluation and reliability 4-33790
 organic fibre reinforced plastic, temp. effect on high-cycle fatigue 4-46606
 PMMA, fatigue, effects of mol. wt., water content and test freq. 4-35714
 polyethylene, chain scission, mech. failure, Fourier transform IR spectra 4-3222
 polycarbonate, fatigue behaviour 4-35719
 polycarbonate, fatigue rel. to mechanical durability 4-46589
 polymer, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
 polymer composite, binder long-term deformability estimation during development stage 4-46488
 polymers, conf., London, England (June 1983) 4-31965
 polymers, fatigue damage monitoring 4-35718
 polymers, glassy, cyclic breakdown process of discontinuous growth bands 4-35717
 powder metallurgy, fatigue design of parts 4-40985
 probability evaluation of strength under variable loads from median endurance limits of different-size specimens 4-12300
 programs based on pavement design computations for use on microcomputer 4-12183
 PTFE-coated glass fabric, tear resist, influence of flexural fatigue 4-35720
 PVC pressure pipe, fatigue testing 4-35819
 PVC pressure pipe, fatigue testing 4-57495
 radioactive materials packaging and transportation, conf., New Orleans, LA, USA (May 1983) 4-31966
 stage II fracture, scaling laws 4-2263
 statistical fluctuations (*Japanese*) 4-24906
 steam turbine rotors, reliability and failure 4-41313
 steel, alloy, residual stresses in impulse hardening 4-57402
 steel, austenitic, metastable, weld joint, deform. martensite influence on low-temp. cyclic crack resist. 4-51805
 steel, austenitic stainless, 304, failure analysis of a control system hydraulic line 4-12191
 steel, austenitic stainless, creep deform. and damage, under fatigue loading (*Japanese*) 4-26051
 steel, austenitic stainless, fatigue, high temp. low cycle, influence of N content 4-40943
 steel, austenitic stainless, fatigue deformation, dynamic strain ageing 4-21312
 steel, austenitic stainless, fatigue in H₂ 4-7564
 steel, austenitic stainless, fatigue of annealed and cold-worked samples 4-7563
 steel, austenitic stainless, heat resisting, precipitation hardened, low cycle fatigue, temp. and strain rate depend. 4-3250
 steel, austenitic stainless, low cycle fatigue, at FBR temps., effects of strain rate and strain wave form. (*Japanese*) 4-3228
 steel, austenitic stainless, low cycle fatigue, creep sensitive temp. range 4-30796
 steel, austenitic stainless, low cycle fatigue life of SUS 321, thermal ageing effect 4-3249
 steel, austenitic stainless, low cycle life in reactor irradi., kinetic failure criteria 4-7576
 steel, austenitic stainless, Ni-Cr-Al-C, low-cycle fatigue (*French*) 4-30807
 steel, austenitic stainless, nonstabilised, Ni-Cr-(Mo), low-cycle fatigue strength 4-7544
 steel, austenitic stainless, type X6CrNi 1811, irradiated and non-irradiated samples, fatigue suppression for LMFBR materials (*German*) 4-12189
 steel, austenitic stainless, wire, torsion fatigue strength (*Japanese*) 4-46598
 steel, ball-bearing, performance in corrosive environment 4-21369
 steel, bearing, morphology and direction of nonmetallic inclusions effect (*Japanese*) 4-51788
 steel, bending fatigue cracks rel. to boronized layer thickness (*Japanese*) 4-35690
 steel, C, cyclic fatigue damage rel. to overstress ratio (*Japanese*) 4-26046
 steel, C, fatigue, changes in residual stress, domain size and microstrain 4-7558
 steel, car axles, cold surface rolling, fatigue strength rel. to strain ageing (*Japanese*) 4-21307
 steel, carbon, N⁺ implanted, surface modifications to wear and fatigue resistance, Mossbauer study 4-51873
 steel, cast, fatigue props. and tensile strength (*Swedish*) 4-7593
 steel, corrosion fatigue in Ca(OH)₂ solns. 4-35758
 steel, Cr, carburised, fatigue fracture surface, SEM obs. (*Japanese*) 4-26049
 steel, Cr, induction hardened, torsional fatigue strength rel. to case depth (*Japanese*) 4-26045
 steel, Cr-Mn and Cr-Ni, weld joints, low-temp. cyclic crack resist. 4-51809
 steel, Cr-Mo, fatigue fracture morphology, stress ratio effects 4-21316
 steel, Cr-Mo, low-cycle fatigue data files 4-12187
 steel, Cr-Ni, low C, rel. between fatigue limit, threshold and microstruct. 4-57313
 steel, Cr-Ni-Mo, constructional, loading freq. change influence on fatigue resist. in seawater 4-51894
 steel, Cr-V, crack formation and propag. rel. to high temp. thermomechanical treatment (*German*) 4-40939

fatigue continued

steel, eutectoid, pearlitic, crack resist., failure in cyclic loading, struct. sensitivity 4-51804
 steel, failure mechanism under low-cycle nonisothermal load 4-7543
 steel, fatigue failure, plastic deform. zones development 4-26057
 steel, Fe electrocoated, fatigue limit reduction 4-3234
 steel, ferrite-pearlite, crack tip plasticity, monotonic and cyclic 4-30792
 steel, hardened material, stability of props. under operating conditions 4-57344
 steel, heat resistant, thermal fatigue life in nonuniform plane stress state 4-51816
 steel, heat-resistant casing, accelerated crack development in hydrogen impregnating media 4-51895
 steel, high speed, prep. by hot isostatic pressing, struct. and contact fatigue (*Slovak*) 4-46469
 steel, high strength, cast and forged, comparative study of fracture and fatigue 4-57325
 steel, high strength, corrosion fatigue crack propag. rate, mech. and environmental effects (*Chinese*) 4-7624
 steel, high strength, fatigue and endurance tests (*French*) 4-12184
 steel, high strength, fatigue fracture morphology after exposure to various rel. humidities 4-30826
 steel, HSLA, fatigue behaviour, effect of Ti and post-rolling heat treatment 4-21313
 steel, KhOD-1 inhibitor of acid corrosion and corrosion-mech. failure 4-51896
 steel, low alloy, low cycle fatigue, cyclic response and inelastic strain energy 4-30791
 steel, low C, corrosion fatigue strength and crack growth, tensile prestrain effect (*Japanese*) 4-51877
 steel, low-alloy, flat parts strengthened by surface plastic deform., survivability 4-57338
 steel, microalloyed, mol. C, fatigue behaviour 4-21311
 steel, Ni-Cr-Mo, crack propag., load response in delayed failure, H diffusion (*Japanese*) 4-46595
 steel, Ni-V-Mo, maraging, struct. and props. 4-21323
 steel, plain C, fatigue behaviour, effects of N-ion implantation 4-30824
 steel, pressure vessel, fatigue life rel. to overload test 4-26017
 steel, stainless, austenitic, interstitial N content influence on low-cycle fatigue behaviour (*French*) 4-40983
 steel, stainless, austenitic, low-cycle fatigue life, combined influence of reactor irradi. and holds 4-12176
 steel, stainless, behaviour with alternating elastic-plastic cycling and relaxation 4-30812
 steel, stainless, corrosion fatigue in NaCl soln., heat treatment effect 4-41085
 steel, stainless lap joints, spot-welded, fatigue 4-30794
 steel, stainless type 304, N ion implanted surface layers, fatigue deformation behaviour 4-5757
 steel, structural, fatigue strength improvement rel. to cold work induced residual stress (*German*) 4-40938
 steel, structural, fracture toughness under cyclic loading 4-51814
 steel, type 52100 and stainless type 303, electrical arc-induced wear, surface anal. study 4-7601
 steel, welded joint, fatigue, effect of section thickness 4-46622
 steel lap joints, epoxy resin bonded, fatigue performance and durability 4-35721
 steel plate, fatigue damage, strain hardening index 4-12156
 steel samples under fatigue, scale factor and surface quality anal. (*Russian*) 4-1666
 steel weldments 4-40956
 steels, forged and cast, rot. bending fatigue, size effect, plastic strain 4-12144
 strain hardening materials, radial cracks, stress intensity factors 4-3254
 stress-life data, hyperbolic relationship 4-26028
 stress-strain methods, fatigue life estimation 4-16490
 structural elements with cracks, life distrib. functions calc. 4-24383
 structural materials fatigue at ultrasonic loading freq. 4-57349
 surface microgeometry, evaluated using statistical anal. (*Czech*) 4-41148
 surface residual stress, fatigue-induced changes 4-3241
 TRUPAC-I, transuranic waste packaging system, fatigue design 4-37806
 vacancy winds in cyclic deformation 4-20282
 Al alloys, cyclic fracture toughness 4-51810
 Al, fatigued, US absorpt. and testing (*French*) 4-51796
 Al, high temp. fatigue, low cycle, grain boundary migration, microstruct. obs. 4-12141
 Al, high temp. fatigue, low cycle, grain boundary migration meas. 4-12142
 Al, high temp. fatigue orthogonal grain config., expt. invest. 4-7548
 Al lap joints, epoxy resin bonded, fatigue performance and durability 4-35721
 Al, relative energy dissipated during fatigue testing (*French*) 4-51795
 Al-Cu, ageing, effect on struct. and props. 4-57266
 Al-Cu, Mg, 2024, residually stressed, fatigue strength rel. to preload 4-35676
 Al-Cu (3.3 wt.%), containing shearable precipitates, cyclic behaviour, effect of test interruption 4-57326
 Al-Cu-Mg, 2024, cumulative fatigue damage and fatigue life 4-46620
 Al-Cu-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12163
 Al-Cu-Mg, fatigue life, programmed loading, stresses beyond endurance limit 4-7583
 Al-Cu-Mg, fatigue strength improvement rel. to cold work induced residual stress (*German*) 4-40938
 Al-Cu-Mg, fracture toughness and strength, grain size influence 4-57330
 Al-Cu-Mg-Si forgings, struct. and props., Mg and Fe contents influence 4-57331
 Al-Mg butt welded joints, A5083, fatigue fractography 4-3248
 Al-Zn-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
 Al-Zn-Mg-Cu, 7075-T6, fatigue failure, prediction, crack initiation and propag. model 4-3259
 B fibre reinforced Al-Mg, fatigue props., effect of fibre-matrix interface (*Slovak*) 4-46602
 Be-Ni 360 alloy strip, mill hardened, considerations for connector design 4-46624
 C fabric laminate, notched, fatigue life and strength distrib. (*Japanese*) 4-21308
 C fibre reinforced epoxy laminates, impact and subsequent fatigue damage 4-57316

fatigue continued

- C fibre reinforced epoxy-polyethersulphone, fatigue behaviour, effect of morphology 4-51778
 C fibre reinforced plastics, fatigue life, statistical prediction and expt. tests 4-3203
 C fibre reinforced plastic, strength props. 4-26013
 C fibres mechanical and acoustic props., fabrication and appl. (Czech) 4-26034
 Co-Cr-Al-Y coating on Ni-base superalloys, thermal fatigue strength and heat resist. 4-12264
 Cr-C(N) cathodic sputtered coatings, hardness, wear and fatigue 4-7359
 Cu, cyclic stress-strain response and dislocation struct. in polycryst. 4-57290
 Cu, fatigue dislocation structures at elevated temperatures 4-12173
 Cu, fatigued, secondary cyclic hardening in monocryst. and polycryst. 4-57248
 Cu, OFHC, creep-fatigue interaction 4-3240
 Cu, polycrystalline, fatigue life, plastic deform., 12-293K 4-3220
 Cu, single crystals, US fatigue 4-46616
 Cu-Al-Ni shape memory alloys, 4-7588
 (Fe,Ni,Cu)V ordered alloys, high cycle fatigue, 25-850°C 4-7560
 Fe, cast, high Cr, wear technological parameters 4-35733
 Fe, cast spheroidal graphite, three-point bending fatigue, macrostruct. (Japanese) 4-3231
 Fe, corrosion fatigue in aq. environments 4-35758
 Fe, nodular and malleable, fatigue props. and tensile strength (Swedish) 4-7593
 Fe-Cr arc sprayed coating, fretting wear and fretting fatigue 4-7611
 FI, sintered compact, fatigue strength, intergranular fracture (Japanese) 4-35689
 Ge,Se_{1-x} glass, $y=0.05-0.38$, doped and undoped, optical absorpt., photoluminescence, photocond. meas. 4-25782
 Mo-V-C alloy, polycryst., deform. and fracture governing relationships in high-temp. cyclic creep 4-12178
 Mo-V-C alloy, polycryst., deform. and fracture governing relationships in high-temp. cyclic creep, struct. changes 4-12179
 Ni, polycryst., fatigue development mechanism during thermal cycling 4-35699
 Ni-Al arc sprayed coating, fretting wear and fretting fatigue 4-7611
 Ni-base superalloys, low cycle fatigue, effects of environment and struct. stability 4-40935
 Ni-P coating, electroless deposited on steel substrates, fretting wear and fretting fatigue 4-7597
 SIC, static fatigue limit at elevated temps. 4-26038
 SiO₂ glass for optical fibres, fatigue, stable crack growth (Japanese) 4-49547
 Ti-Al-Mn, fatigue, cyclic asymmetry in HF loading 4-7584
 Ti-Al-V, fatigue, cyclic asymmetry in HF loading 4-7584
 Ti-Al-V (6, 4 wt.%), fatigue damage, strain hardening index 4-12156
 Ti-Al-V (6, 4 wt.%), electroplated metal adhesion rel. to H absorption, notch sensitivity and fatigue 4-3290
 Ti-Al-V (6, 4 wt.%), prealloyed powder compacts, low cycle fatigue, influence of thermomech. processing 4-26053
 Ti-Al-V alloys, oxide layer form. in cyclic loading under fretting corrosion conditions 4-51890
 Ti-Al-Zr-Mo VT9 alloy, fatigue fracture toughness charact., strain history and load cycle asymmetry effect 4-12175
 Zr-Nb, reactor irradiation effect on cyclic strength 4-54272
 Zr-Sn-Nb-Fe, reactor irradiation effect on cyclic strength 4-54272

fatigue cracks

- alloys, photoacoustic microscopy fatigue crack detection 4-35822
 aramid fibre reinforced Al alloy laminate, flight simulation behaviour, fatigue crack growth 4-12282
 Astroloy, P/M, fatigue crack growth at 650°C, effect of microstruct. 4-16492
 BWR, nozzle corner crack under thermal transient loading condition, J integral eval. 4-786
 C-shaped and ring specimens, cracked, stress intensity factors 4-1676
 Candu reactor, incident summary: the Pickering 2 pressure tube crack 4-5002
 ceramics, thermal properties and thermal shock fracture (Japanese) 4-35691
 closure, model 4-10594
 compact tension specimen, round, use for developing fatigue crack growth data 4-3326
 composite plates, two-layered low C steel-stainless steel fatigue crack prop. 4-12143
 constructional alloys, crack closure effect and cyclic crack resist. eval. 4-57337
 contact fatigue crack initiation under repeated oblique force 4-30834
 corrosion, mass transport, influence of crack dimensions and geometry, theoretical anal. 4-24907
 crack growth rate prediction, under combined fatigue and creep 4-46674
 cumulative damage theory for fatigue crack initiation and prop. 4-55913
 cumulative model of fatigue crack growth and crack closure effect 4-29518
 double slip plane model, fatigue crack growth 4-55367
 elastic-plastic toughness testing, onset of stable crack growth, US obs. (Japanese) 4-21404
 epoxy, fatigue crack growth 4-35715
 Fe alloys, effect of carbide morphology on fatigue crack growth 4-3260
 fission reactor pressure vessel, rupture probability evaluation (French) 4-54275
 growth, computer controlled data collection system 4-3327
 growth of short and long cracks, crack closure 4-45258
 growth rate, stage I, dislocation model 4-44485
 interrupted cutting, brittle failure, tool life fracture mechanics anal. (Japanese) 4-49759
 laminate, fatigue cracks kinetics, analytical description 4-55377
 life estimation methods w.r.t. vibration effects 4-34571
 math. eqn. relating low cycle fatigue data to fatigue crack prop. rates 4-29517
 mathematical equation; relating low cycle fatigue data crack prop. rates 4-29517
 metallic materials, fatigue crack prop. thresholds, review (Czech) 4-7556
 metals, fatigue crack growth in corrosive environment 4-41060
 metals, near-threshold fatigue crack growth behaviour 4-12140
 metals, synchronised microscope illuminator appl. 4-26133

fatigue cracks continued

- mixed-mode fatigue crack growth under biaxial loading 4-55372
 NDE, conf., San Diego CA, USA (Aug. 1982) 4-22525
 nylon 66, fatigue crack prop., freq. and specimen config. effects 4-51777
 opening load, calc. using model 4-38759
 PET, fatigue crack prop., effect of thermal history and morphology 4-35711
 PMMA, fatigue crack growth 4-35715
 PMMA, fatigue loaded, crack prop., optical interference meas. 4-35712
 polybutyleneterephthalate, fatigue crack advance mechanisms 4-35682
 polymers, conf., London, England (June 1983) 4-31965
 polymers, fatigue crack growth 4-35715
 polymers, fatigue loaded, crack prop., optical interference meas. 4-35712
 polymers, glassy, fatigue crack prop. 4-35713
 polypropylene, fatigue crack layer, kinematic and statistical anal. 4-35710
 polypropylene, fatigue crack prop., damage dissemination effect 4-3221
 propagation process, statistical fluctuations (Japanese) 4-24906
 propagation under corrosion and creep, freq. effect mechanism 4-40930
 PVC, fatigue crack growth 4-35715
 PVC, fatigue loaded, crack prop., optical interference meas. 4-35712
 rotating disc with fatigue cracks or sharp notch, unstable fracture strength (Japanese) 4-21305
 segmented fitting of fatigue crack growth data 4-26027
 short, evaluation of recent models (German) 4-45256
 simulated PWR press., vessel sections, defect detection trials using automated US time-of-flight system 4-57515
 small, initiated from notch-root 4-10593
 stable crack shape of surface flaws under fatigue crack extension 4-34002
 steel, austenitic stainless, and A533B (Japanese) 4-51792
 steel, austenitic stainless, corrosion fatigue crack, growth Cl⁻ conc. influence on SUS 304 4-12237
 steel, austenitic stainless, fatigue crack growth in thin sections 4-30784
 steel, austenitic stainless, neutron irradi., fatigue crack prop., influence of He 4-57318
 steel, austenitic stainless, surface fatigue crack initiation and prop. on smooth cylindrical specimens (Japanese) 4-51790
 steel, austenitic stainless, type 316L, low cycle multiaxial fatigue, crack initiation 4-3257
 steel, austenitic stainless, US inspection of corrosion fatigue cracks in welds 4-26117
 steel, bearing, morphology and direction of nonmetallic inclusions effect (Japanese) 4-51788
 steel, bending fatigue cracks rel. to boronized layer thickness (Japanese) 4-35690
 steel, C, fatigue crack prop. rel. to initial residual stress (Japanese) 4-26047
 steel, C, fractographic features and fatigue crack development before failure 4-40978
 steel, C, impact fatigue crack growth 4-16473
 steel, C, impact fatigue crack prop., welding residual stress field 4-26032
 steel, C, surface crack growth during push-pull fatigue (Japanese) 4-26048
 steel, Cr-Mo-V, thermal fatigue crack initiation, SEM obs. (Japanese) 4-26050
 steel, dual phase, nonlinear fatigue crack growth, deflection model 4-16494
 steel, fatigue crack initiation at notch, H susceptibility and lifetime (German) 4-26066
 steel, fatigue crack prop., acoustic emission signal rel. to load 4-16605
 steel, fatigue crack prop. of pearlitic struct. (Chinese) 4-3206
 steel, fatigue crack propagation mechanism maps 4-30793
 steel, heat treated, fatigue damage, positron annihilation detection (German) 4-16586
 steel, HSLA, fatigue crack thresholds, internal H effect 4-3239
 steel, HSLA, small fatigue crack initiation and growth in various environments 4-12153
 steel, interactions with H in cyclic loading 4-21329
 steel, low alloy, fatigue crack growth in torsion, fracture transition model 4-7579
 steel, low alloy bainitic, fatigue crack threshold meas. 4-3347
 steel, low C, corrosion fatigue strength and crack growth, tensile prestrain effect (Japanese) 4-51877
 steel, low C, fatigue crack prop. under periodic oversteering (Japanese) 4-51791
 steel, low C, structural, short fatigue crack prop. at sharp notch 4-26023
 steel, low C, surface fatigue crack initiation and prop. on smooth cylindrical specimens (Japanese) 4-51790
 steel, low-alloy, fractographic features and fatigue crack development before failure 4-40978
 steel, medium C, crack closure and fatigue threshold, effect of environment 4-26022
 steel, medium strength, fatigue crack growth, low freq., effect of environment and stress ratio 4-57395
 steel, mild, critical stress intensity factor rel. to precracked load 4-16513
 steel, mild, fatigue crack arrest under const. amplitude loading 4-40944
 steel, mild, fatigue crack growth under load stepdown, effect of mean stress on delay 4-57315
 steel, Mn, numerical simulation of fatigue crack growth 4-3218
 steel, Ni-Cr-Mo, fatigue crack prop., retardation due to tensile overload (Japanese) 4-51793
 steel, Ni-Cr-Mo, near threshold mixed mode fatigue crack prop., parallel superposition model 4-35694
 steel, Ni-Cr-Mo, short crack prop. and closure effects 4-26025
 steel, rotor, mode III fatigue crack growth modelling 4-7545
 steel, Si, duplex ferrite-martensite microstruct., fatigue crack growth 4-30800
 steel, stainless, crack growth near-tip field strain distrib. in SUS 430 4-46588
 steel, stainless, low-cycle fatigue cracks, statistical anal. 4-46592
 steel, stainless, notched type 304, creep-fatigue fracture, FBR appl. (Japanese) 4-26016
 steel, stainless, type 316, lifetime anal. fusion reactor first wall 4-855
 steel, structural, corrosion fatigue, seawater effects 4-21395

fatigue cracks continued

- steel, structural, corrosion fatigue crack initiation and growth mechanism 4-46664
- steel, structural, ductile tearing resistance curves 4-12161
- steel, structural, plastic deform. around fatigue crack tip, thermal meas. (German) 4-16508
- steel, structure sensitive fatigue crack growth 4-40988
- steel, ultrahigh strength, fatigue crack closure, effect of H induced surface asperities 4-3238
- steel, welded joint, fatigue, effect of section thickness 4-46622
- stochastic nature of crack propagation and its implications in fatigue life prediction 4-3261
- surface defect characterisation using pulsed acoustic laser probe 4-51905
- test method for fatigue crack growth rate 4-29034
- thermodynamics of fatigue crack layer 4-34576
- three-point bend specimen, crack tip opening displacement at initiation of crack growth 4-12293
- threshold stress intensity factor prediction for fatigue crack propag. 4-33999
- welded pressure vessels subjected to external press. cycling, nondestructive fatigue crack detection 4-26165
- ⊙ Ti6Al4V alloy for steam turbine blades, microstructure and texture testing 4-46542
- Al alloy, D16cHt, extruded panels, residual strength of built-up one-piece structures 4-51806
- Al alloy, precipitation hardening, fractographic analysis of fatigue crack propagation by modulated pattern method (Japanese) 4-51913
- Al alloys, 7XXX, fatigue, variation of crack rate scatter 4-3215
- Al alloys, crack growth rate prediction, under combined fatigue and creep 4-46674
- Al alloys, fatigue crack growth curves, self-simulation conditions 4-26058
- Al alloys, residual strength test results treatment, fracture mechanics methods appls. 4-26146
- Al, closed internal fatigue cracks, US detection 4-26168
- Al polycrystal under cyclic tension-compression loading, initial strain field and fatigue crack initiation mech. 4-3258
- Al simulated joint specimens, acoustic emission data, pattern recognition anal. 4-30888
- Al-Cu, fatigue crack growth, micromechanisms 4-30790
- Al-Cu-Li, nonlinear fatigue crack growth, deflection model 4-16494
- Al-Cu-Mg, fatigue crack initiation under programmed block loading 4-40941
- Al-Cu-Mg, fatigue crack propag. acoustic emission 4-21309
- Al-Mg, fatigue crack propag., retardation due to tensile overload (Japanese) 4-51793
- Al-Mg-Si, 6061 plate, fatigue crack propag. near thickness interface 4-12160
- Al-Mg-Si, acoustic emission during fatigue crack propag. 4-57312
- Al-Mg-Si, peak aged, fatigue crack propag., dispersoid particles effect 4-21324
- Al-Zn-Mg, 7075, slow fatigue crack growth rel. to heat treatment, microstructure and humid environment 4-40973
- Al-Zn-Mg, math. eqn. relating low cycle fatigue data to fatigue crack propag. rates 4-29517
- Al-Zn-Mg, mixed-mode fatigue crack growth under biaxial loading 4-55372
- Al-Zn-Mg, powder consolidated extruded plate, microstruct., tensile props. 4-30663
- Al-Zn-Mg, powder metallurgy, near-threshold fatigue crack growth, crack closure effect 4-26026
- Al-Zn-Mg-Cu, 7075, fatigue crack propag. in vacuum, effect of age-hardening 4-26024
- Al-Zn-Mg-Cu, fatigue crack growth, micromechanisms 4-30790
- Al-Zn-Mg-Cu, powder metallurgy alloy, fatigue crack tip mechanics in vacuum and humid air 4-40942
- Al-Zn-Mg-Cu, US transmission, fatigue crack closure effect 4-26166
- B₂C-B reinforced Ti alloy composite, mixed mode fatigue crack propag., humid environment effect 4-40970
- Cu, polycryst., fatigue cracks, threshold stress intensity and dislocation struct. 4-40961
- Fe, cold worked, dislocation struct. adjacent to fatigue crack tips 4-14496
- Fe, fatigue crack propag. rel. to intermittent overstressing 4-21326
- Fe, pure, fatigue crack nucleation sites, grain orientation depend. (Japanese) 4-21306
- Fe-Ni base superalloys, fatigue crack propag. at elevated temps., overload effects (Chinese) 4-16468
- Fe-Si, fatigue crack growth in air and vacuum 4-7580
- Fe-Si (3 wt.%), fatigue cracks, 3-D obs. of plastic zones 4-26064
- Fe-Si (3 wt.%), fatigue crack propag. and plastic zone size 4-40992
- Fe-Si (3at.%), early fatigue crack propag., etch-pit study (Japanese) 4-3229
- Fe-Y₂O₃ dispersion strengthened, fatigue crack growth rate 4-35693
- SiO₂ glass for optical fibres, fatigue, stable crack growth (Japanese) 4-49547
- Ti-Al (24 wt.%), math. eqn. relating low cycle fatigue data to fatigue crack propag. rates 4-29517
- Ti-Al-Mo-Cr, CORONA 5, fatigue crack growth rate, microstruct., O content 4-40969
- Ti-Al-Sn-Zr-Mo, dwell fatigue crack growth rates 4-7566
- Ti-Al-Sn(V), fatigue crack growth, surface reactions with water vapour 4-30855
- Ti-Al-V (6.4 wt.%), fatigue crack growth, threshold range, opening stress intensity factor 4-3217
- Ti-Al-V (6.4 wt.%), dwell fatigue crack growth rates 4-7566
- α-β Ti-Mn, fatigue crack propag. rel. to phase comp. 4-40968

fatigue failure *see* **fatigue**

fatigue fracture *see* **fatigue**

fatigue life *see* **fatigue**

fatigue testing

- for corrosion fatigue testing, see corrosion testing*
- aramid fibre reinforced Al alloy laminate, flight simulation behaviour, fatigue crack growth 4-12282
- ceramic, universal fatigue curves using indentation flaws 4-12277
- compact tension specimen, round, use for developing fatigue crack growth data 4-3326
- compensator chains calc. for two skins of different rigidity and one separation tube 4-12312
- composite materials, accelerated tensile and cyclic testing 4-51908
- composite materials, equipment, with symm. and asymm. loading 4-3323

fatigue testing continued

- computer-aided verification of fatigue-machine performance 4-32256
 - crack growth, computer controlled data collection system 4-3327
 - crack growth rate prediction, under combined fatigue and creep 4-46674
 - crack growth rate test method 4-29034
 - endurance prediction in low and high cycle regions 4-51933
 - ferromagnetic damping alloys, appl. in gears for noise control 4-38664
 - fibre-glass, woven, fatigue life prediction 4-12298
 - fibres, false twist development in biaxial rotation fatigue testing 4-12288
 - inductive method for automatic crack length recording 4-35783
 - low-crystal method 4-7668
 - machinery with kinematic excitation, automation 4-35803
 - medium C steel, annealed, fatigue damage under fully reversed tension-compression cycling (Japanese) 4-35809
 - medium C steel, heat treated, fatigue processes (Japanese) 4-35810
 - metals, fatigue measurement and imaging, electrochem. method 4-35824
 - metals, S/N-sensors appl. 4-7669
 - metals, synchronised microscope illuminator appl. 4-26133
 - microbending equipment for hard and brittle material fatigue investig. with SEM (German) 4-16578
 - multiaxial fatigue criteria comparison (German) 4-41127
 - multisample test device for difficult-to-reach places 4-35806
 - piezoelectric ceramic elements, endurance prediction from subcrit. crack growth characts. 4-30876
 - polymer, automated fatigue testing system 4-57510
 - polymers, equipment, with symm. and asymm. loading 4-3323
 - polymers, fatigue damage monitoring 4-35718
 - probability evaluation of strength under variable loads from median endurance limits of different-size specimens 4-12300
 - PVC pressure pipe, fatigue testing 4-35819
 - PVC pressure pipe, fatigue testing 4-57495
 - rig, heating device for use to 1800°C 4-41140
 - rolling ball-cylinder and static ball-flat plate expts. cumulative plastic deform. obs. 4-35811
 - servohydraulic fatigue machine, variable amplitude loading, test speed increase 4-3328
 - servohydraulic-controlled load frame for SEM fatigue studies 4-3329
 - simulated PWR press., vessel sections, defect detection trials using automated US time-of-flight system 4-57515
 - steel, austenitic stainless, fatigue and fracture toughness testing at liquid He temp. 4-3310
 - steel, austenitic stainless, low-cycle method 4-7668
 - steel, constructional, corrosion damaged, treatment of fatigue test results 4-51930
 - steel, die, hardness rel. to strength and life in low-cycle loading 4-51931
 - steel, explosive-clad grade 35, testing of cylindrical specimens 4-51906
 - steel, fatigue crack propag., acoustic emission signal rel. to load 4-16605
 - steel, hardened material, stability of props. under operating conditions 4-57344
 - steel, low alloy bainitic, fatigue crack threshold meas. 4-3347
 - steel, low C, fatigue life distrib. (Japanese) 4-21405
 - steel, low C, S/N-sensors appl. 4-7669
 - steel, low C and high strength, resistance spot welded sheet, quality assessment 4-7687
 - steel, martensitic, high-strength, corrosion-fatigue crack growth 4-26099
 - steel, mild, fatigue crack arrest under const. amplitude loading 4-40944
 - steel, stainless, low-cycle fatigue cracks, statistical anal. 4-46592
 - steels for storage and transport of H₂, different tests method for determ. H embrittlement (French) 4-12305
 - strength in low-cycle loading 4-7667
 - structural material in corrosive medium, cyclical crack resistance determ. 4-16561
 - ⊙ Ti6Al4V alloy for steam turbine blades, microstructure and texture testing 4-46542
 - Al alloys, crack growth rate prediction, under combined fatigue and creep 4-46674
 - Al alloys, fatigue measurement and imaging, electrochem. method 4-35824
 - Al alloys, residual strength test results treatment, fracture mechanics methods appls. 4-26146
 - Al-Cu, fatigue resist. during HF programmed and random loading 4-7578
 - Al₂O₃, universal fatigue curves using indentation flaws 4-12277
 - C fibre reinforced plastics, fatigue life, statistical prediction and expt. tests 4-3203
 - SiC, universal fatigue curves using indentation flaws 4-12277
 - SiO₂-Al₂O₃-K₂O-Na₂O electroceramics, acoustic emission during cyclic loading 4-41129
 - Ti complex geometry parts, fatigue crack detection, elec. current perturbation method appl. 4-35832
- fault currents**
see also **flashover**; **leakage currents**; **short-circuit currents**
 MHD Faraday generators, fault current distrib. anal. 4-50092
- fault location**
 acoustic velocity measurements, used where normal sound level detection has failed (German) 4-19681
 monomode and multimode fibres, fault location using high dynamic range coherent reflectometer 4-33791
 multimode optical fibre, ultra-long, fault location using the stimulated Raman scattering effect (Japanese) 4-14817
 optical fibre, single-mode, 100 km length, fault detect. using Raman optical time-domain reflectometry 4-55194
 single mode fibre optical time domain reflectometer system for long wavelength region 4-32299
- fault-tolerant computing**
 nuclear power plants, fault tolerant control systems development 4-33086
- faults, electrical** *see* **electrical faults**
- f.d.m.** *see* **frequency division multiplexing**
- feature extraction** *see* **pattern recognition**
- feedback**
see also **control systems**
 artificial leg, fluidic foot-sole pressure sensory feedback device design (Japanese) 4-52531
 boiling heat transfer dynamics, negative feedback control 4-5890
 controller for electro-mechanical stimulation devices, neuroscience appl. 4-41679
 cooling/heating solar energy system for saving energy in air conditioning (Japanese) 4-36027
 coupled nonlinear rate eqns. anal. soln. for positive catalytic feedback loops (hypercycles) 4-12327

feedback continued

- Darrieus wind turbine, feedback control and produced energy optimisation 4-57781
 dimensional noncontacting comparator, using feedback capacitor gauge 4-48078
 dye laser, synchronously pumped, mode locking degradation via diffuse refl. feedback 4-19483
 dynamic-single-mode coupled-cavity lasers, stabilisation and optimum biasing 4-38468
 free electron collective tunable laser operation in stimulated Raman scatt. regime 4-33677
 quantum noise and active feedback 4-4266
 rhodamine 6G laser self-scanning due to feedback from BaTiO₃ phase-conjugate reflector 4-44130
 semiconductor laser, spectral linewidth reduction by external cavity with weak optical feedback 4-5588
 semiconductor laser linewidth analysis in optical feedback configs. 4-19454
 semiconductor laser with optical feedback, stability props. meas. 4-23975
 semiconductor lasers, optical feedback controlled, X-parameter meas. method 4-19453
 single-mode fibre coupling to semicond. lasers, efficiency and feedback charact. comparison 4-19573
 spectrometers, errors from preamplifiers with pulsed optical feedback 4-13738
 US projector, radiated pressure, computer control 4-49643
 water level control, hot water self-evaporation effects 4-10727
 AlGaAs/GaAs single mode CSP lasers with optical feedback, phase noise characts. 4-33650
 Ar ion laser, acousto-optically mode-locked, degradation via diffuse refl. feedback 4-19483
 CO₂ laser power stabilisation by feedback loop, freq. stability (*Chinese*) 4-55069
 Co-rare earth magnet, active magnetic suspension using feedback controller 4-5545
 GaAlAs current pulsed laser with dispersive external feedback, single mode operation 4-33649
 GaAlAs stabilised laser low freq. noise props. 4-33653
 He-Cd laser, output stabilisation using feedback with axial magnetic field 4-55078

feeds, antenna see antenna feeders

FEM see field emission electron microscopy

Fermi-Dirac statistics see quantum statistical mechanics

Fermi gas see fermion systems

Fermi level

- actinide nitrides, AnN, An=Th-Am, lattice parameters, electronic struct., LMTO, RLMO calcs. 4-56211
 alkaline earth metal monolayers, Be-Ba, electronic struct., cohesive energy, all-electron local density functional calcs. 4-45607
 alloys, binary liquid, atomic and electronic struct., self-consistent theory 4-44925
 amorphous materials, trap statistics and gap density of states calc. method 4-11488
 Anderson localisation transition, second-quantised theory in $d=2+\epsilon$ 4-20608
 chemisorbed molecules, bonds and bond lengths from EXAFS spectra 4-29783
 degenerate semiconductor, long-range interaction of mag. impurity states (*Russian*) 4-56275
 dilute fluctuating-valence systems, asymmetric Anderson model 4-11661
 disordered metal, Coulomb interaction, density of states 4-11489
 disordered system of localised electrons, Coulomb gap, mean field approach 4-45686
 gap-free semiconductor, fluctuation model, Fermi level 4-34857
 graphite, neutron irradi., CESR study 4-25638
 graphite SbCl₃ intercalation cpd., high resolution ¹³C NMR 4-40252
 graphite-alkali intercalation cpds., electronic props. (*French*) 4-45575
 graphite-AsF₆⁻ intercalation cpd., charge transfer and density of states 4-39749
 graphite-H₂SO₄ intercalation cpd., optical reflectivity and band struct. model 4-40404
 graphite-K intercalation cpd., C₆K, density of unoccupied states, bremsstrahlung studies 4-39748
 graphite-K intercalation cpd., high resolution ¹³C NMR 4-40252
 graphite-K intercalation cpd., NMR and CESR studies (*French*) 4-39757
 graphite-KHg intercalation cpd., KHgC₄ and KHgC₈, XPS core levels 4-39805
 graphite-Li intercalation cpd., C₆Li, density of unoccupied states, bremsstrahlung studies 4-39748
 graphite-tetrahydrofuran cpd., NMR and CESR studies (*French*) 4-39757
 intermetallic compounds, hybridisation and struct. instabilities 4-11470
 Kondo effect in conc. mag. alloys, collective mode and spectral shapes 4-6948
 Kondo lattice, superconductivity, Anderson model anal. 4-50980
 metallic glasses, electronic struct. determ., XPS, UPS and inverse photoemission methods 4-56197
 metals, granular density of electronic states, tight-binding model 4-45572
 MIS solar cells, Fermi level position 4-3460
 MIS structures, surface charge discreteness, influence on pot. barrier profile, interface states 4-35082
 narrow-bandgap semiconductor devices, Fermi energy expression as function of carrier conc. 4-29864
 oligonaphthols, elec. cond., naphthoxyl type paramag. centre contrib. 4-6787
 one-dimensional conductors, Umklapp processes and response functions 4-11515
 polypyrrole conducting films, valence electronic struct., UPS studies 4-50708
 semiconductor heterojunctions, interface electronic props., microscopic approach 4-6874
 semiconductor surfaces and interfaces, recomb. processes 4-6804
 semiconductor/electrolyte barriers, surface recombination and photovoltaic appls. 4-15958
 semiconductor/metal interface, Schottky barrier heights and the continuum of gap states 4-35066
 semiconductors, amorphous, defects, impurities and doping effects, statistical theory anal. (*Chinese*) 4-55723
 semiconductors, degenerate and non-degenerate, Peltier coeff. rel. to Fermi level position and carrier scatt. mechanism 4-50850

Fermi level continued

- semiconductors, surface defects, role in Fermi level pinning 4-6635
 thick film resistor, electrical conductivity, electron hopping and diffusion coeff. 4-6778
 threshold spectroscopy and appl. in SEM 4-50151
 transition metal diborides, electronic struct., Fermi levels, valence bands, solid-state and cluster calcs. 4-50724
 transition metal surfaces, chemisorb. atomic monolayers, orbital population and polarisation effects 4-15769
 transition metals, de Haas-van Alphen effect 4-56189
 V₂Ge-Co(Fe), X-ray emission spectra and electronic struct. (*Russian*) 4-51411
 Ag, empty electronic states by inverse photoemission 4-45611
 Ag-Cu-Mg metallic glasses, electron transport and density of states 4-45724
 Al, ion induced Auger emission and work function 4-46380
 Al-Cu, metastable, soft X-ray emission spectra, effect of heat treatment 4-7282
 BaMoS₃ films, ion irradi., effects on elec. resist. and supercond. transition temp. 4-45216
 BaPb_{1-x}Bi_xO₃ plasma energies and electronic struct. 4-25217
 CdIn₂Se₄ in polysulphide solns., surface state characterisation by electrolyte electrorreflectance spectroscopy 4-50922
 CdS bicrystal interface, localised charge density depend. on Fermi level position 4-6861
 CdTe thin films, elec. props. study 4-25461
 Ce, α and γ phases, 4f-related features, photoemission studies 4-57071
 Ce systems, mixed valent props., effect of d-f correl. 4-6746
 CeCu₂Si₂, magnetism and supercond. 4-56543
 CeRu₂(Ir₂), Fermi level reson. in electron addition spectrum 4-11958
 Co-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Co₉₂Fe₀₈, electronic struct., UPS and KKR calc. studies 4-29876
 CoO(Cr), elec. props. and defect struct. 4-39901
 Cr₂Si, phonon and electron densities of states, regularisation method 4-2291
 Cu-Al alloys, γ_2 and δ phases, electronic sp. ht. and electronic struct. 4-56046
 Cu-Pd alloys, electronic struct., density of states and photoemission spectra 4-45610
 Cu-Zr, crystalline and amorphous, specific heat meas. 4-25051
 Fe-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 Fe-P surfaces, valence band photoemission spectra, reson. effects 4-40604
 Fe-Si surfaces, valence band photoemission spectra, reson. effects 4-40604
 GaAs (100) surface band struct., surface photovoltaic study 4-56403
 GaAs (110)-metal interfaces, Fermi level pinning, role of chemisorption-induced defects 4-6889
 GaAs, radiation defect energy levels, light absorption and Hall effect studies 4-20602
 GaAs, semi-insulating, elec. transport parameters, three band model anal. 4-39899
 GaAs surface electronic props. of (100) face, thermally cleaned in UHV and O covered 4-56409
 GaAs:Mn, ion implanted, Mn accumulation, Fermi energy and annealing studies 4-34648
 GaAs:W, luminesc. spectra, cryst. field theory, Tanabe-Sugano diagrams 4-35486
 GaAs/Pd interface, Fermi level pinning and chem. reactivity, XPS study 4-40043
 GaAs-Al_{0.5}Ga_{0.5}As modulation doped quantum well heterostructs., carrier density distrib. 4-20712
 GaAs-dielectric interfaces, surface Fermi level 4-6904
 GaAs-GaInAs heterojunction, Fermi level pinning by misfit dislocations 4-6871
 GaAs-Ge heterostructures, band bending during formation, in situ study 4-30062
 Ga_{1-x}In_xAs-dielectric interfaces, surface Fermi level 4-6904
 GaSbSe, impurity donor states, galvanomag. and oscillatory effect meas. 4-11481
 Ge, heavily doped, impurity excited states effects 4-39817
 Ge:Ga(Sb), self-diffusion, doping effects, radioisotope studies 4-11336
 (GeTe)_{1-x}(AgSbTe)_x, solid solns., band edge struct. parameters 4-56213
 n-Hg_{0.96}Cd_{0.04}Te, Shubnikov-de Haas effect under pressure 4-29871
 Ho(Rh_{1-x}Ru_x)₂B₂ supercond., phase diagram and XPS studies 4-50467
 InP-Al(Au)(Ag) interface and Schottky diodes formation (*French*) 4-56430
 InP-dielectric interfaces, surface Fermi level 4-6904
 IrO₂ films, voltammetric anal. and open-circuit pH response 4-7732
 K, low-temp. elec. resist. and local density of states. 4-56314
 Li₂₃Si, energy band struct. calc. 4-25213
 Mg, ion induced Auger emission and work function 4-46380
 Mn_{1-x}Cr_x(Fe)₂S antiferromag. semicond., elec. props., stoichiometry and cation substitution effects 4-34978
 MnPt₃ ferromag. alloy, electronic struct., spin-polarised APW calc. 4-29874
 Na, ion induced Auger emission and work function 4-46380
 Na₂WO₃ bronze, electronic struct., UPS and EELS studies 4-11433
 NbH₃, valence electron energy spectra, X-ray emission 4-57042
 Ni, heavy particles interacting with degenerate fermions, mass correction 4-50715
 Ni, valence band photoemission resonant enhancement at 3s threshold 4-40603
 Ni-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
 (Ni_{0.5}Pt_{0.5})_{1-x}Pt_x metallic glass, density of unoccupied d states 4-45570
 (PbSe)_{1-x}(SnTe)_x epitaxial films, elec. props., band struct., depend. on composition 4-36208
 Pb_{1-x}Sn_xTe heavily doped ferroelec. semicond., Curie temp. effects 4-35392
 Pb_{1-x}Sn_xTe, multiply doped, electrophysical props. 4-29993
 PbTe:In, photoelectric effects study 4-56392
 PbTe:Ti,Na, influence of resonant states on Hall effect 4-56371
 Rh (001), S catalytic poison effects on electronic struct. 4-25414
 Ru ternary oxides, metal-semicond. transition, electron spectroscopy studies 4-11440
 Sb-Te liquid semicond., mag. contrib. to hyperfine field, Knight shift meas. 4-56802
 Se-Te, liquid, Hall coeffs., melting point to 750°C 4-6811

Fermi level continued

- Si (111) Ga and In adsorption, LEED, AES and photoemission spectra studies 4-45520
 Si (111) surface Fermi level pinning position determ. 4-25417
 Si (111)2X1, electronic surface states at steps, optical refl. meas. 4-6859
 a-Si, density of gap states, charged dangling bonds, crystn. studies 4-39833
 Si, heavily doped, impurity excited states effects 4-39817
 a-Si thin film, RF sputtered, electronic and optical props., conditions depend. 4-6784
 a-Si:H, band edges, Fermi level position, surface H conc. 4-39763
 a-Si:H, conduction mechanism and photocond. 4-25350
 a-Si:H, light-induced metastable defects 4-39284
 a-Si:H, P(B), film, surface states study 4-30036
 a-Si:H, photocond., Fermi level effect 4-39973
 a-Si:H, space-charge-limited I-V characts. and density of states 4-45798
 a-Si:H, trap statistics and gap density of states calc. method 4-11488
 a-Si:H,P(B) film, optically induced excess cond. 4-40088
 a-Si:H film Schottky barrier diodes, space charge capacitance, freq. and temp. depend. 4-40047
 a-Si:H films, IR photocond. and dark cond., annealing effects 4-35025
 a-Si:H MOSFET, photocond., Fermi level effects 4-6830
 Si/electrolyte interface, surface states induced by metal atoms 4-30068
 Si/liquid contact, 7.2% efficient photoanodes 4-50862
 a-Si-Ge alloys, photoconduct., prep. by glow discharge 4-40675
 Si-transition metal Schottky barriers, Fermi level pinning by Si dangling bonds at interfacial vacancies 4-30071
 a-Si_{1-x}Au_x:H films, metal-insulator transition, DC cond. and photoemission meas. 4-39994
 SiC:H, amorphous doped films, Fermi level, XPS study 4-15808
 a-SiC:H, diffusion of In and Sn from transparent electrode, XPS study 4-41344
 SnS₂ MIM struct., SCL cond., elec. characts. 4-30084
 TaS₂:Hf(W) (1T), commensurate CDWs, effects of doping, elec. resist. meas. 4-56328
 Ti thin film, effect of H sorption on work-function 4-40081
 TiH_x films, Fermi level change during FCC-face centred tetragonal transition, work function meas. 4-45622
 TiO₂-aqueous electrolyte interface, surface state characterisation by electrolyte electroreflectance spectroscopy 4-50922
 TiSe₂ 1T polytype, CDW state, electron-lattice interaction 4-56216
 UAs, electronic struct., lattice parameters, bulk moduli 4-45621
 UP, electronic struct., lattice parameters, bulk moduli 4-45621
 US(Se)(Te), electronic struct., lattice parameters, bulk moduli 4-45621
 USb, electronic struct., lattice parameters, bulk moduli 4-45621
 V₂GaH₃, short range order and electron structure, NMR studies (Russian) 4-51140
 Vh_{0.4}, valence electron energy spectra, X-ray emission 4-57042
 V₂O₃, surface electronic struct. and H₂O and O₂ chemisorption, UPS and XPS studies 4-25415
 V₂O₅-P₂O₅ glass, localised states energy spectrum (Russian) 4-56282
 VSe₂, NMR study of charge density wave state 4-2836
 V₂Si, band struct., electron-phonon coupling const. 4-45606
 V₂Si, phonon and electron densities of states, regularisation method 4-2291
 V₂Si-G(Fe)(Co), X-ray emission spectra and electronic struct. (Russian) 4-51411
 Xe, on metal surface, UV photoelectron spectra assignment 4-43857
 Zn_x clusters (x=1-6), electronic struct. rel. to bulk Zn 4-28583
 Zr-V(Mn)(Cr), metallic glasses, band struct. and mag. props. 4-45604
 ZrC-ZrN, electronic struct. parameters calc. to two-band approx. 4-25225
 Zr_{100-x}Cu_x alloys, amorphous, elec. and mag. props. 4-25316
 ZrH_x films, Fermi level change during FCC-face centred tetragonal transition, work function meas. 4-45622
 ZrH_x, tetragonal-cubic phase transform., mag. susceptibility 4-56562

Fermi liquid *see fermion systems***Fermi resonance**

- amorphous solid water, OH stretching spectra, theoretical anal. 4-29546
 bromotrifluoromethane, hot bands, Fermi reson., IR multiphoton absorpt. spectra 4-1153
 chloropentafluoroethane, hot bands, Fermi reson., IR multiphoton absorpt. spectra 4-1153
 ethylammonium bromide, internal vibr., isotope effects, Raman spectra 4-40433
 ethylammonium chloride-d₀(d₂)(d₃)(d₅)(d₆), internal vibr., isotope effects, Raman spectra 4-40433
 fluorophosphazethyne, Fermi reson., harmonic force field, vibr.-rot. IR obs. 4-5218
 ice Ih, OH stretching spectra, theoretical anal. 4-29546
 methane-d₀(d₂), vibr. transition moments, Fermi reson. overtones 4-9835
 polyatomic molecules, photon echo due to Fermi-reson. vibr. levels 4-28784
 n-propylamine, hydrogen bonding and Fermi resonance, Raman spectra 4-23680
 trifluoriodomethane, hot bands, Fermi reson., IR multiphoton absorpt. spectra 4-1153
 water, OH stretching spectra, theoretical anal. 4-29546
 BaTiO₃ crystals, polariton spectra, two-particle states and Fermi reson. (Russian) 4-25754
 CO₂, fundamental bands, CARS study 4-23705
 CO₂, vibr. transition moments, Fermi reson. overtones 4-9835
 H₂O, vibr. transition moments, Fermi reson. overtones 4-9835
 NH₄Cl crystals, polariton spectra, two-particle states and Fermi reson. (Russian) 4-25754

Fermi surface

- alloys, superconducting, with paramagnetic admixture, thermal conductivity at electronic topological transition 4-56490
 de Haas-van Alphen spectrometer, 40 T pulsed field, for Fermi surface studies 4-34860
 electron-phonon matrix element calc. using rigid muffin-tin approx. for nonlocal and nonself-consistent potentials 4-55947
 Fermi surface, hydrostatic press. and uniaxial stress derivatives 4-11429
 graphite acceptor compounds, stage 3 and 4, c-axis charge distrib. 4-20542
 graphite intercalation compounds, stage-7, Fermi surfaces anal. 4-45585
 graphite-KHg intercalation cpd., C₈KHg, magnetoplasma-helicon wave propag. 4-39950
 graphite-Rb intercalation cpd., C₈Rb, magnetoplasma-helicon wave propag. 4-39950

Fermi surface continued

- graphite-SbCl₅, C₃₆SbCl₅ and C₆₀SbCl₅, cyclotron resonance studies 4-39758
 magnetic dilute alloys, longitudinal static dielectric const. (Russian) 4-25673
 metal plate, resonant excitation of EM waves, surface scatt. of cond. electrons (Russian) 4-6817
 metals, angular correlation curve of annihilation γ-rays, Umklapp processes (Russian) 4-35512
 metals, anisotropic, supercond. transition temp. and CDW interactions (Russian) 4-45905
 metals, anisotropic Fermi surfaces, light scatter. 4-34864
 metals, cyclotron doppleron transmission (Russian) 4-25252
 metals, electron lifetime and elec. resist. at room temp., systematic trends 4-56322
 metals, electronic structure studies by positron annihilation (Polish) 4-45583
 metals, f-shell, localisation, Anderson model anal. 4-56260
 metals, Fermi surface, integral characts. in pseudopot. scheme 4-20543
 one-dimensional conductors, Hamiltonian for electron-phonon interactions 4-39794
 polyacene, band struct., one-dimensional conductivity 4-29866
 quasi-two-dimensional systems, mag. quantum oscils. 4-15893
 relativistic band structure calculations 4-34856
 semiconductor 4-15809
 semimetals, anisotropic Fermi surfaces, light scatter. 4-34864
 solid state positron physics, Varenna, Italy, July 1981 4-27247
 superconductors, impurity scatt. effect on critical temp. 4-20755
 (TMTSF)₂ClO₄, low field and anomalous high-field Hall effect 4-20637
 (TMTSF)₂ClO₄ organic supercond., magnetoresist. and Kohler's rule 4-56325
 (TMTSF)₂F₂PO₂, resist. meas., metal-insulator transition obs. 4-30031
 transition metal dichalcogenides, layer type, intercalated, phys. props., review 4-34865
 transition metals, electron-phonon coupling const. and resist. 4-29958
 Ag, electron-phonon coupling const. and resist. 4-29958
 Ag-Mn, Fermi surface changes of (111) surface states, UPS study 4-29872
 AsSb, Fermi surface and magnetothermoelec. EMF quantum oscils. 4-34863
 Au, Fermi surface, temp. depend., de Haas-van Alphen study 4-6691
 BaPb_{1-x}Bi_xO₃, electronic struct., self-consistent scalar relativistic linear APW calc. 4-6700
 Bi_{1-x}Sb_x, electron Fermi surface 4-2502
 Cd-Mg(Hg), press. effect on band struct. (Russian) 4-6697
 CeCu₂Si₂, single cryst., superconductivity and Fermi surface 4-35110
 CeH₃, proton spin-lattice relax. and metal-insulator transition 4-30313
 Cr, paramagnetic, Fermi surface press. depend., self-consistent calc. 4-11430
 Cs, spin susceptibility and conduction electron dynamical props. 4-15810
 Cu alloys, dilute, Dingle temp., Fermi surface area, de Haas-van Alphen effect 4-2504
 Cu, band structure, effect of Langreth-Mehl gradient correction 4-6694
 Cu, magnetoresistivity, Boltzmann eqn. calc. 4-20631
 Cu surface, (100) and (110), angle resolved bremsstrahlung isochromat spectroscopy studies 4-57022
 Cu-Ni, dilute, electron impurity scatt. rates, surface state reson. study 4-6771
 Cu-Ni, Fermi surface changes of (111) surface states, UPS study 4-29872
 Cu-Ni alloys, (111) surface states and Fermi surface neck radii 4-45850
 Cu_{1-x}Ge_x, single cryst., electronic struct., KKRCPA calc. and ARPES studies 4-29877
 Eu, Fermi surface, band struct. and de Haas-van Alphen freqs. calc. 4-2500
 Fe₂O₄, high temp. phase, band struct. calc. 4-45617
 Hg₃₋₄AsF₆, open orbits, induced torque method, Fermi surface model 4-45582
 Hg₃₋₄AsF₆, transverse magnetoresist. 4-56307
 p-Hg_{0.9}Cd_{0.09}Te, semimetal-semicond. transition under press., Shubnikov-de Haas effect study 4-34879
 In₂Bi, Fermi surface, de Haas-van Alphen study 4-45884
 In₂Bi₃, Fermi surface, de Haas-van Alphen meas. 4-11431
 Ir, cyclotron reson. anisotropy, electron-phonon interaction, relativistic APW Fermi surface calc. 4-29870
 K, energy spectrum of incommensurate CDW, energy gaps 4-56200
 LaCu₂Si₂, cryst. struct., band struct., and Fermi surface props. 4-6690
 Lu, de Haas-van Alphen meas. of Fermi surface 4-50704
 Na, energy spectrum of incommensurate CDW, energy gaps 4-56200
 Nb, superconducting, EM props., band struct. effects 4-30125
 Nb/Cu superlattices, supercond. transition temp. and critical fields 4-45911
 Nb-Mo, elec. props. and band struct. calcs. 4-11512
 Nb₂S₄, quasi-one-dimensional cond., elec. resist. meas. 4-45759
 Nb₂Se₃, quasi-one-dimensional cond., elec. resist. meas. 4-45759
 Nb₂Sn, superconducting, EM props., band struct. effects 4-30125
 NiMn, electronic struct., structural and mag. transitions 4-20551
 NiMn, mag. and structural transitions 4-20822
 PbSe, energy band struct. meas. 4-56190
 Ru, Fermi surface, uniaxial stress depend., magnetostriction quantum oscill. study 4-29869
 Sb whiskers, electronic struct. and Fermi surface, strain effects (Russian) 4-45613
 TaSe₃, quasi-one-dimensional cond., elec. resist. meas. 4-45759
 Ti dichalcogenides, thermal expansion, US velocity and attenuation meas. 4-20383
 TiN, de Haas-van Alphen effect and Fermi surface 4-34861
 U₃As₄, Fermi surface, de Haas-van Alphen meas. 4-6693
 U₃Pa, Fermi surface, de Haas-van Alphen meas. 4-6693
 V, band structure, effect of Langreth-Mehl gradient correction 4-6694
 V, Fermi surface, press. depend. 4-6692
 W, Fermi surface cyclotron reson. (Russian) 4-25202
 (Zr_{0.66}Ni_{0.33})_{1-x}B_x, amorphous, density, elec. resist., supercond. props. 4-6287

Fermi-Thomas model *see Thomas-Fermi model***fermion systems**

- see also electron gas; liquid helium-3*
 acoustic plasma modes in two-component Fermi liq. 4-39800
 acoustic plasma modes in two-component Fermi liq. with Coulomb forces 4-39799

fermion systems continued

- adsorbed atoms on anisotropic rectangular lattice, commensurate-incommensurate system, Schultz-Halperin-Henley model 4-20471
 bound state quantisation, HF solutions, RPA spectrum 4-22674
 bound states theory in many-body systems 4-53548
 condensed excited state in excited atom system 4-20587
 correlated-basis theory, linked-cluster perturbative expansion 4-48001
 crossing-symmetric rings, ladders and exchanges 4-13767
 degenerate Anderson impurity system, Fermi liq. theory 4-40140
 degenerate Anderson model, Fermi liq. relations, large-N expansion and Bethe-ansatz soln. 4-50768
 density-density response function for repulsive δ -function interaction 4-17821
 electron N-body Hamiltonian, partitions, degeneracy 4-22667
 Fermi gas, locally perturbed, unitary equivalence of temp. dynamics 4-4322
 Fermi liquids, superfluid, surface impedance and slip length 4-15730
 Fermi-Bose similarity and g-numbers 4-13826
 finite-dimensional systems, local symm. and phase space dynamics 4-42739
 free Fermi gas, convergence to equilibrium 4-53585
 ground state, distribution funct., cluster expans. 4-4324
 helimagnetic ordering of Fermi liquid (*Russian*) 4-25494
 interacting one-dimensional fermion system, 1-e expansion Piers divergence 4-45756
 Ising model, two-dimensional, with quenched site disorder, crit. sp. ht. 4-42870
 Ising spin $S=1$ model of f.c.c. lattice (*Chinese*) 4-2775
 Landau Fermi liq., relativistic formulation 4-53580
 large amplitude collective motions, variational approach 4-54058
 lattice fermions, thermal distrib. functions and finite-size effects 4-42851
 lattice gauge theory, finite size effects for noninteracting Fermi system 4-18054
 lattice model, discrete Hubbard-Stratonovich transformation 4-171
 many fermion models, one dimens., time depend. behaviour, recurrence relations 4-53532
 medium-dependent dynamics from a pair-composite viewpoint 4-37006
 metals, cyclotron doppler transmission (*Russian*) 4-25252
 microcanonical simulation of fermionic systems 4-22928
 nuclear excited states description using a statistical approach (*Russian*) 4-4761
 nuclear structure, continuous representation over real Slater determinants 4-9159
 one-dimensional backward-scattering fermion model with built-in cutoff 4-8814
 one-dimensional Fermi gas, correl. functions, low temp. asymptotic behaviour 4-20580
 one-dimensional Fermi system with mag. impurities, OK magnetisation 4-46065
 one-dimensional Fermi system with mag. impurities, thermodynamics 4-46043
 one-dimensional fermion system, insulator-ideal conductor transition, disorder and interaction combined effect 4-2569
 one-dimensional two-fermion model, bosonisation, Jordan's theory of boson representation 4-4323
 quasibound states of Dirac fermion in Schwarzschild metric (*Chinese*) 4-136
 second order phase transitions anal. (*Rumanian*) 4-27409
 spectral density method, damping of excitations 4-53579
 spinless fermion model, cluster approach 4-169
 static and dynamic many body problems, variational principles, linked cluster exp S expansions 4-17814
 strongly interacting fermion system, ground state, liquid ^3He appl. 4-56114
 superconductivity theory in Kondo lattice systems 4-40103
 three-body bound states on a lattice, vel. to magnetism and supercond. 4-42878
 time-dependent quantum mechanical many-particle problem and time depend. invariants 4-168
 two-level systems, pairs, correlations between orientations, spin 1/2 4-4328
 unified Heisenberg-Ising model and fermion system recursion relations (*French*) 4-47994
 unified nonlinear spinor field model with indefinite metric, two-fermion sector 4-13751
 Ni, heavy particles interacting with degenerate fermions, mass correction 4-50715
 UBe $_{13}$, heavy fermion supercond., effect of impurities on supercond. and normal state props. 4-56475

fermions

- see also *baryons; fermion systems; leptons*
 continuum field model for diatomic polymer, fermion fractionisation at finite temp. 4-32183
 CP $_2^{N-1}$ models with quarks, chiral symm. breakdown and PCAC reln. 4-43161
 Dirac-Kähler lattice regularisation of fermionic degrees of freedom 4-43220
 elementary fermions, bound state calc. in unified field model 4-407
 EM current, off-diagonal matrix elements, covariant parametrisation by multipole form factors 4-27740
 extended technicolour mass scale, fermion masses 4-22987
 finite temperature supersymmetry breaking, Goldstone fermion 4-48376
 gauge field theory, Fujikawa's path integral from chiral anomaly 4-27670
 gauged fermions from tensor fields 4-48280
 general relativistic degenerate fermion configurations, static struct., core effects, galaxy/clusters appl. 4-26987
 Kaluza-Klein theory, fermion chirality, instanton induced compactification, SU(2) Yang-Mills coupling 4-13840
 Kaluza-Klein theory, harmonic field expans., fermion mass problem 4-13562
 lattice degeneracies of geometric fermions 4-13792
 lattice fermions, alternative formulations 4-13793
 Majorana Kähler fermions, lattice gauge field theory 4-22940
 minimal SU(2)*U(1)*U(1) electroweak model with mirror fermions, Higgs sector and neutral currents 4-32531
 Minkowski lattice, consistent fermion formulation with operator Dirac eqn. approx. 4-9019
 pointlike with EM interactions, vorton structure model 4-13855
 QCD, single-point model, in topological limit, fermion dynamics 4-32604

fermions continued

- quantum statistics, elementary structure from bosons and fermions 4-22668
 Schwinger model, Coulomb-gauge, with multi-fermions, fermion structures of state vectors 4-32420
 standard model constraints on fermions 4-32514
 SU(3) lattice gauge theory, Monte Carlo simulations, dynamical quark inclusion by pseudo-fermion method 4-32449
 two-fermion sector in unified nonlinear spinor field model with indefinite metric 4-408
- fermium**
 see also *nuclei with*
 No entries
- fermium compounds**
 No entries
- ferrimagnetic properties of substances**
 see also *ferrimagnetism; ferrites; garnets; magnetic semiconductors*
 actinide chalcogenides, struct., electronic struct. and mag. props. 4-11072
 magnetised ferrimagnets shock loading, mag. effects 4-40210
 permeability, phase transition zone, temp. dependence, correl. 4-20836
 rare earth alloys, RFe $_2$ Al $_3$, R=Y, Sm to Lu, ferromagnetism and hyperfine studies 4-7010
 rare earth garnets, R $_3$ Fe $_5$ O $_{12}$, low temp. mag. susceptibility at optical freq. 4-11679
 rare earth-Co alloys, mag. domain struct., Kerr magneto-optical effect, powder method, wall grooving method 4-7003
 rare earth-transition metal alloys, RT $_3$, R $_2$ T $_{17}$, mag. anisotropy 4-6965
 rare earth-transition metal alloys with MgCl $_2$ struct. 4-20788
 rare earth-transition metal amorphous films for magneto-optical recording 4-30244
 spinel ferrite, low temp. mag. behaviour under laser irradi. (*Rumanian*) 4-40191
 tetramethylammonium hexacyanomanganates, Mn(III) or Fe(III) substituted, mag. props. 4-2761
 transition metal alloys, Mn $_{2-x}$ M $_2$ Sb, M=Ti-Cr, Fe, Co, ferrimagnetic-antiferromagnetic transitions 4-56619
 (BiTm) $_3$ (FeGa) $_3$ O $_{12}$ garnet films, mag. bubble lattices, thermal stability 4-51112
 Cd $_2$ Cu $_{1-x}$ Fe $_x$ O $_4$, ferrite, canted spin struct., Yafet-Kittel mag. ordering 4-51097
 CoFe $_2$ O $_4$ colloidal particles, magnetisation density distrib., neutron diffr. study 4-30236
 Co $_2$ Zn $_{1-x}$ Fe $_x$ O $_4$, polycryst., temp. and mag. field depend. of internal friction 4-2801
 Cr $_2$ Fe $_2-x$ Te $_x$, mag. props., 100 to 1100K, susceptibility meas. 4-11681
 Cu (111) with Co overlayers, mag. props. calcs. 4-11740
 ErFe $_2$ H $_2$, magnetisation behaviour, Curie temp. and mag. moments 4-30217
 Fe $_2$ (MoO $_4$) $_3$ powder, mag. susceptibility, 300-900K, molecular field parameters 4-20799
 (Fe $_2$ B $_{10}$) $_3$ La $_3$ Tb $_3$, amorphous alloy, magnetostriction, thermal variations 4-25623
 Fe $_{1-x}$ Cr $_x$ O $_4$, interacting Jahn-Teller and mag. transitions 4-56621
 FeH $_3$ (PO $_4$) $_2$ ·x.5H $_2$ O, hyperfine fields, Mossbauer spectra study 4-40304
 γ -Fe $_2$ O $_3$ microcrystals, vapour phase prep., magnetic moment, particle size effect 4-7036
 Fe $_2$ O $_3$, vacancy ordering and covalence effects, powder neutron diffr. study 4-6338
 Fe $_3$ O $_4$, heat capacity anomaly, DTA study 4-50535
 Fe $_3$ O $_4$, high temp. phase, band struct. calc. 4-45617
 FeTi powder, thermal activation, H absorption 4-2424
 Gd-Co amorphous films, double-layered, mag. props. anomalous loop obs. 4-35196
 (GdCe) $_2$ Fe $_2$ ferrimagnetic alloys, mag. compensation, Mossbauer effect hyperfine meas. 4-46063
 GdCo amorphous films, DC getter sputtered, mag. anisotropy and chem. comp. 4-56715
 Gd $_2$ Y $_{1-x}$ Co $_x$, magnetovolume effects 4-46081
 (GdY) $_2$ Fe $_2$ ferrimagnetic alloys, mag. compensation, Mossbauer effect hyperfine meas. 4-46063
 Ge $_2$ Cu $_{1-x}$ Fe $_x$ O $_4$ spinel, mag. props., Mossbauer spectra studies 4-30369
 HoCo $_2$, mag. struct., neutron diffr., magnetisation, and Mossbauer studies 4-6952
 Ho $_{0.01}$ Gd $_{0.99}$ Y $_{0.97}$ Fe $_2$, ferrimag., domain and domain wall spin echo NMR spectra 4-35193
 H $_2$ O $_2$ SO $_4$, mag. props., optical absorpt. spectroscopy study 4-35146
 Mn $_{1.88}$ Cr $_{0.12}$ Sb, thermal cond., elec. resist. meas. near antiferro-ferrimagnetic transition temp. 4-56618
 Mn $_3$ Fe $_2$ O $_{12}$ garnet films, orthorhombic anisotropy and domain wall dynamics 4-16077
 Mn $_4-x$ Ga $_x$ N solid soln., mag. AC susceptibility 4-11683
 Mn $_2$ Mn $_2$ O $_8$, ferrimagnetic, spontaneous magnetisation 4-56573
 Mn $_4$ N-Mn $_3$ GaN solid soln., mag. phase diagram and second order transition line 4-11711
 (MnO) $_{0.6}$ X0.4 Fe $_2$ O $_3$, ferrimagnetic study 4-35200
 Mn $_2$ IO $_8$, ferrimagnet, sp. ht., 5 to 350K, spin reorientation 4-40178
 Mn $_2$ Si $_2$ Te $_6$, cryst. struct., elec. and mag. props. 4-11091
 Mn $_3$ SnN(C), mag. transitions and cell parameters, X-ray diffr. studies 4-11098
 Ni $_{1-x}$ Cu $_x$ Cr $_2$ O $_4$, synthesis, mag. susceptibility, ferrimag. Curie temp. and magneton no. meas. 4-40149
 Ni $_{1-x}$ Zn $_x$ Fe $_2$ O $_4$, polycryst., ΔE effect, domain contribs. 4-2802
 RbCoCl $_3$, props. of mag. excitations, far IR spectra study 4-7180
 RbNi $_{1-x}$ Co $_x$ F $_3$ hexagonal ferrimag. plates, domain struct. anal. (*Russian*) 4-46077
 Sm $_2-x$ Co $_x$ amorphous films, domain walls and other mag. props. 4-25615
 SmFe $_2$, magnetisation process, elastic stress effects (*Russian*) 4-25586
 Sm $_2$ In, ferrimagnetic, spontaneous magnetisation 4-56573
 Tb-Fe amorphous film, thermomag. recording characts. and Kerr rot. angle 4-30245
 Tb $_{0.77}$ Dy $_{0.73}$ Fe $_2$ single cryst. magnetostriction and low temp. transition 4-30258
 TbFe $_2$ H $_2$, magnetisation behaviour, Curie temp. and mag. moments 4-30217
 TmFe $_2$ H $_2$, magnetisation behaviour, Curie temp. and mag. moments 4-30217
 Y $_3$ Bi $_2$ Fe $_{1-x}$ Al $_x$ O $_{12}$, film, mag. and magneto-optic props. 4-51108
 YCu $_2$ Mn $_2$ O $_{12}$ ferrimagnetic, synthesis, composition range and cryst. struct. 4-29408
 YIG, 'pseudo-acoustic' magnon dispersion, anomalous anisotropy 4-25530

ferrimagnetic properties of substances continued

- YIG epitaxial films, domain struct. and mag. props., annealing and high press. effects 4-25623
 YIG film disc, MSW resonance and tuning at MM-wave freq., expt. study (*Japanese*) 4-35208
 YIG films, spin-wave spectra, volume inhomogeneity model anal. (*Chinese*) 4-56779
 YIG, low temp. spin wave kinetic instability (*Russian*) 4-25525
 YIG, mag. bubble collapse under action of circularly polarised light 4-35212
 YIG, mag. dielectrics, mag. and elec. field obs. by electron diff., microwave absorpt. (*German*) 4-40148
 YIG, magnetostatic waves, relax. times 4-25535
 YIG plate, localised magnetisation waves 4-16075
 YIG: Mn thin films, noncubic anisotropy, ferromag. resonance studies 4-35207
 $\text{Y}_6\text{Mn}_{23}\text{H}_{10}$, mag. ordering, H_2 absorption effects 4-51096
 $\text{Y}_{3-x}\text{Nd}_x\text{Fe}_2\text{O}_{12}$ garnet single cryst., magnetostriction consts. 4-25626
 $\text{Yb}_2\text{Mn}_{23}$ intermetallic cpd., ferrimagnetic, neutron diff. study 4-40142
 $\text{ZnFe}_2\text{O}_4\text{-Fe}_2\text{O}_3$, mag. dielectrics, mag. and elec. field obs. by electron diff., microwave absorpt. (*German*) 4-40148

ferrimagnetic resonance

- DyFeO₃ orthoferrites, resonance absorption in domain walls, mag. field sign effects 4-56782
 TmFeO₃ orthoferrites, resonance absorption in domain walls, mag. field sign effects 4-56782

ferrimagnetism

see also *ferrimagnetic properties of substances*

- ferrimagnet, inverse Faraday effect, laser beam effects 4-20952
 garnet films, ion implanted, mag. distrib., stress relief effects 4-30248
 lsing antiferromagnet, hexagonal, randomly modulated phase 4-2716
 semiconductors, impurity centre electrons, electron-magnon interaction effects (*Russian*) 4-39831
 solid state chemistry predictive charact., relation between, chem. bonding, struct., and physical props. 4-15422
 surface and spectral complex waves excited on a grounded ferrimagnetic slab 4-56598
 two-sublattice ferrimagnetic system, exchange-corrected susceptibility in paramag. range 4-25509

ferrite applications

see also *ferrite devices*

- surface and spectral complex waves excited on a grounded ferrimagnetic slab 4-56598
 Li-Ti-Zn ferrites, props. for microwave appl. (*Polish*) 4-11744

ferrite devices

see also *ferrite applications; magnetostatic wave devices*

- eddy current probes with ferrite cores, model 4-35830
 EM wave prop., with quadrupole magnetisation, device appls. 4-35190
 magnetic head ferrite blocks manufacturing process 4-25925
 magnetostrictive ferrite vibrator, solder-jointing (*Japanese*) 4-1567

ferrites

see also *ferrimagnetic properties of substances; ferrimagnetism; ferrite applications; ferrite devices*

- anisotropic ferrites, nonlinear magnetisation waves 4-16064
 $\text{BaFe}_2\text{Ti}_2\text{O}_{11}$, R-type hexagonal ferrite, cryst. struct. and cationic distrib. 4-39239
 composite ferrite-resin material for vibration damping and appls. 4-35603
 coupled ferrite plates, surface MSW prop., dispersion characts. and effect of metallic shields 4-56732
 cubic, tangentially magnetized anisotropic ferrite layer, magnetostatic wave prop., 4-35158
 cubic crystals, acoustic transverse wave scatt. by cylindrical void in mag. field 4-29538
 ferrite-garnet epitaxial films, transition layer contrib. to coercivity 4-46076
 ferrite-garnet films, cylindrical magnetic domains formation 4-30254
 ferrite-garnet films, domain-wall motion, experimental detection 4-7000
 ferrite-semicond. film-ferrite layer struct., surface magnetostatic wave amplification calc. (*Russian*) 4-25524
 films, backward internal magnetostatic waves reflection from metal half-plane 4-35162
 films preparation by plating in aq. soln. 4-57115
 garnets, polycrystalline, magnetisation vector, transient oscillations 4-40194
 hexagonal ferrites, spin wave instability theory 4-56591
 inhomogeneously magnetized, magnetoelastic wave prop., variational calc. 4-46015
 ion-ion emission from implanted ferrite-garnet films 4-40586
 layered ferrite struct., magnetostatic and spin waves 4-30159
 magnetic head ferrite blocks manufacturing process 4-25925
 magnetisation, permeability and power losses 4-30209
 multilayer structures, magnetostatic waves anal. 4-6961
 orthoferrites, high freq. mag. susceptibility near tricritical point 4-35149
 perovskites, nonstoichiometric, Fe mixed valences stabilisation by microdomain formation (*French*) 4-39260
 plasma spraying, thermal dissoc. and oxygen diffusion nature 4-57362
 rare earth ferrites, RFe_2O_4 (R = Y, Ho, Er, Tm, Yb), valence fluctuation and Verwey transition, Mossbauer study 4-51164
 rare-earth ferrite garnet epitaxial films, magneto-optical apparatus for hysteresis loop recording 4-37121
 semiconductor-ferrite disc structures, thermoelectric in high freq. mag. field, theory 4-29996
 slab, magnetostatic wave dispersion relations, variational formulation 4-25527
 soft ferrite powders, ferritization degree meas. (*Bulgarian*) 4-16356
 spinel, low temp. mag. behaviour under laser irradi. (*Rumanian*) 4-40191
 spinel ferrites, prep. by decomposition of mixed metal oxalate hydrates 4-35595
 spinel-type ferrites, mag. hyperfine fields in sublattices 4-25496
 steel, ferrite-pearlite, microinhomogeneous deformation, hydrogenation effects (*Russian*) 4-51738
 substrates surface preparation, for deposition and plating 4-41063
 thin ferrite plates, vertically magnetized, magnetostatic modes (*German*) 4-16018
 $\text{BaFe}_{12-2x}\text{Co}_x\text{Ti}_2\text{O}_{19}$ single cryst., Fe^{3+} ion substitution, magnetisation and anisotropy const. studies (*Chinese*) 4-51092
 $\text{BaFe}_{12-2x}(\text{Nb}_{1/3}\text{Cu}_{2/3})_x\text{O}_{19}$ single cryst., Fe^{3+} ion substitution, magnetisation and anisotropy const. studies (*Chinese*) 4-51092
 $\text{BaFe}_{12}\text{O}_{19}$ epitaxial films, LPE growth and mag. props. 4-7039
 $\text{BaFe}_{12}\text{O}_{19}$, ferrite powder, low temp. prep., coercivity 4-25927

ferrites continued

- $\text{BaFe}_{12}\text{O}_{19}$ ferrite small particles, nucleation effects 4-16072
 BaFe_2O_4 press. sintered ferrite, static mag. props. 4-16066
 $\text{Cd}_x\text{Cu}_{1-x}\text{Fe}_2\text{O}_4$, ferrite, canted spin struct., Yafet-Kittel mag. ordering 4-51097
 $\text{Cd}_x\text{Mg}_{1-x}\text{Fe}_2\text{O}_4$, Mossbauer study at 4.2K 4-7109
 $\text{CoFe}_{2-x}\text{Al}_x\text{O}_4$, polar magneto-optical Kerr effect and dielec. tensor 4-46235
 CoFe_2O_4 spinel film, prep. by new plating method in aq. soln., structural, mag., magneto-optical props. 4-21170
 $\text{Co}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$ ferrites, Young's modulus, mag. field depend. 4-34561
 $\text{Co}_2\text{Zn}_{1-x}\text{Fe}_2\text{O}_4$, polycryst., temp. and mag. field depend. of internal friction 4-2801
 Cu-Li-Fe-O ferrites, mag. permeability dispersion mechanisms 4-51095
 CuFe_2O_4 ferrite, Jahn-Teller effect and mag. props. (*Russian*) 4-50774
 $\text{CuFe}_2\text{O}_4\text{-Cu}_3\text{Fe}_2\text{O}_5\text{-Fe}_2\text{O}_4$, ferrites, effect of composition on nature of carriers and elec. cond. mechanism 4-56399
 DyFeO₃ orthoferrites, resonance absorption in domain walls, mag. field sign effects 4-56782
 Fe-Na-O system, phase relationships, thermodynamics 4-35617
 FeBMO_4 (M = Mg, Cu, Ni, Co), boro-ferrites, synthesis and mag. props. (*Russian*) 4-6956
 FeBO_3 , domain walls, oscills., elastic wave interference 4-35219
 Fe_3O_4 , magnetite, activated sintering, role of nonequilibrium defects 4-12041
 Fe_3O_4 spinel film, prep. by new plating method in aq. soln., structural, mag., magneto-optical props. 4-21170
 Li ferrite, optical props., evidence for $3d^n\text{-}3d^{n-1}4s$ transitions 4-7163
 Li ferrite spinel layers, heteroepitaxial CVD growth, dislocation structures, inner stresses, SEM, X-ray studies 4-11414
 Li-Ti-Zn ferrites, props. for microwave appl. (*Polish*) 4-11744
 Li-Zn ferrite, spin wave stiffness const., Brillouin scatt. study 4-25526
 Li-Zn ferrite, substituted, localised canting models 4-6951
 $\text{Li}_2\text{Al}_2\text{Cu}_2\text{O}_{10}\text{Co}_{0.004}\text{Fe}_{2.495}\text{O}_4$, ferrite, prep., physicochemical props. 4-57144
 $\text{LiFe}_4(\text{Ga,Al})_5\text{O}_{13}$ ferrite, mag. props., impurity effects 4-56572
 LiFe_2O_8 single crystal spheres, dissoln. forms 4-50527
 $\text{Li}_2\text{Fe}_2\text{O}_5\text{-Fe}_2\text{O}_3$ (Mn, Bi), magnetic cation distrib. 4-40163
 $\text{Li}_{0.5}\text{Ge}_{1.27}\text{Fe}_{1.23}\text{O}_4$, nature of triangular spin struct. 4-35148
 $\text{Li}_{0.5+x}\text{Sb}_{1-x}\text{Fe}_{2.5-2-x}\text{O}_4$ ferrite, ^{121}Sb and ^{57}Fe Mossbauer spectra studies 4-2850
 LiTiZn ferrites, dielec. const. and mag. props., Zn conc. effects 4-56844
 Mg ferrite, optical props., evidence for $3d^n\text{-}3d^{n-1}4s$ transitions 4-7163
 Mg-ferrite, solid solns. with spinel structure, elec. cond. and cation ordering 4-2618
 Mg-Mn ferrite spinel layers, heteroepitaxial CVD growth, dislocation structures, inner stresses, SEM, X-ray studies 4-11414
 Mg-V-Fe-O spinel solid solns., mag. props. 4-56561
 Mn ferrite spinel layers, heteroepitaxial CVD growth, dislocation structures, inner stresses, SEM, X-ray studies 4-11414
 Mn-Mg, impact of irradiation on pulse reversal of magnetisation (*Russian*) 4-30220
 Mn-Zn ferrite, quenched from various temp., crystal defect struct., physical props. 4-55817
 Mn-Zn ferrites, mech. stresses in surface layers 4-45479
 Mn-Zn ferrites, phys. props. and structural imperfection 4-11678
 MnFe_2O_4 , negative magnetoresistance and mag. props. 4-15890
 MnFe_2O_4 , elec. cond. study of phase equilibrium 4-29971
 $\text{Mn}_{0.4}\text{Zn}_{0.3}\text{Fe}_{0.3}\text{Fe}_2\text{O}_4$, mag. surface props., effect of RF sputter etching, non-destructive anal. 4-41029
 $\text{Mn}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$ ferrites, mag. susceptibility and domain walls 4-6958
 $\text{Mn}_{0.56}\text{Zn}_{0.54}\text{Fe}_{2.08}\text{O}_4$ ferrite, mag. disaccommodation, press. dependence 4-35204
 MnZnTi ferrite, disaccommodation spectra, effects of Ti conc. 4-25580
 NdFeO_3 , AC susceptibility in spin reorientation region 4-20806
 Ni ferrite containing N, prep. struct., saturation magnetisation 4-50227
 Ni ferrites, mechanically activated, chem. and mag. props. 4-16029
 Ni ferrites, synthesis and characterisation 4-12040
 Ni-Zn, quenched, cracking due to rapid temperature change (*Polish*) 4-7569
 Ni-Zn ferrite, fast sintering mechanism 4-57157
 Ni-Zn ferrite, thermopower and cond., composition depend. 4-29998
 Ni-Zn ferrites, mag. permeability, microstruct. depend. 4-2789
 $\text{Ni}_{0.3}\text{Cd}_{0.7}\text{Fe}_2\text{O}_4$ ferrite, Mossbauer study 4-25663
 $\text{Ni}_{0.8}\text{Zn}_{0.2}\text{Fe}_2\text{O}_4$ (Mn, Co), magnetic cation distrib. 4-40163
 $\text{Ni}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$, polycryst., ΔE effect, domain contribs. 4-2802
 $\text{Ni}_2\text{Zn}_{1-x}\text{Fe}_2\text{O}_4$ ferrites, internal friction, composite oscil. method anal. 4-55920
 $\text{Sm}_{0.65}\text{Er}_{0.15}\text{Tb}_{0.2}\text{FeO}_3$, thermal cond. at reorientation phase transition 4-56625
 SmFeO_3 , thermal cond. at reorientation phase transition 4-56625
 $\text{Sm}_2\text{Gd}_{0.4}\text{FeO}_3$, thermal cond. at reorientation phase transition 4-56625
 $\text{SrFeO}_{3-\delta}$, gas sensor, elec. resist. rel. to O_2 partial press. 4-11520
 $\text{SrM}_2\text{Fe}_4\text{O}_{17}$ hexaferrites (M = Fe, Ni, Co, Zn), W and X types, mag. props. 4-56692
 $\text{Tb}_{3-x}\text{Y}_x\text{Fe}_2\text{O}_{12}$, cryst. struct. magnetoelastic distortions, magnetostriction, X-ray anal. 4-30262
 TmFeO₃ orthoferrites, resonance absorption in domain walls, mag. field sign effects 4-56782
 YFeO₃, domain walls, oscills., elastic wave interference 4-35219
 YFeO₃ orthoferrite, domain wall kinks 4-56683
 YFeO₃, surface mag. susceptibility and domain wall relax. 4-16015
 $\text{Y}_3\text{Fe}_2\text{O}_{12}$, magnetic phase transitions, modulation and thermomodulation spectroscopy (*Russian*) 4-6972
 (Y,Gd,YbBi)₃(FeAl)₂O₁₂ film, LPE, magnetostriction oscills., influence of domain struct. 4-11752
 YIG, Barkhausen noise, US depression 4-25590
 YIG, double-layer films, pulsed magnetisation props. 4-30255
 YIG films and plates, MSW dispersion characts., theoretical and expt. study 4-25611
 YIG epitaxial films, magneto-optical parameters, local distrib. over area of samples (*Russian*) 4-20947
 Zn ferrite, mechanically activated, chem. and mag. props. 4-16029
 $\text{ZnFe}_{1-x}\text{Mn}_x\text{CrO}_4$, antiferromagnetic behaviour, susceptibility, Curie const. 4-2736
 $\text{ZnFe}_2\text{O}_4\text{-Fe}_2\text{O}_3$, mag. dielectrics, mag. and elec. field obs. by electron diff., microwave absorpt. (*German*) 4-40148
 $\text{Zn}_2\text{Ni}_{1-x}\text{Fe}_x\text{O}_4$ ferrite 'burst' system for hysteresis loop study 4-7012
 $\text{Zn}_{0.1}\text{Ni}_{0.9+x}\text{Sn}_{1-x}\text{Fe}_{2-2x}\text{O}_4$ ferrites, solid solns., mag. transition, Mossbauer study 4-46153

ferritic steel *see steel*

ferroacoustic resonance
No entries

ferroelastic transitions *see ferroelasticity; solid state phase transformations*

ferroelasticity

- see also shape memory effects*
applications in optical, acoustoelectronic in electromechanical devices 4-28811
crystal chemistry analysis of inorganic pure ferroelastics 4-29390
domain structure of ferroelastics, interpretation method 4-29640
domains, scanning reflection acoustic microscopy study 4-24896
ionic molecular solids, ferroelectric phase transition, Landau theory 4-29512
lithium ammonium tartrate, ferroelastic, piezoelec. and piezooptical props. 4-46185
martensite transformations, thermoelastic, stress-strain behaviour 4-6424
 $Mn_2B_2O_{13}$, spontaneous birefringence studies of ferroelec./ferroelastic phase 4-7156
molecular crysts., ferroelastic transitions, mean field approach 4-34634
phase transitions, ferroelastic, domain structure form., influence of mech. stress 4-30698
polycrystalline ferroelectric-ferroelastics, elastic wave props. 4-35373
quartz, ferroelastic switching at high temp. 4-39366
rare earth pentaphosphates, synthesis, struct., sp. ht., ferroelastic phase transition temp. 4-2118
research, review 4-29509
Rochelle salt, ferroelectric, ferroelastic domains, light deflection 4-51211
strained cryst., elastic dipole model (*Chinese*) 4-50401
structural studies around phase transition points of ferroelastics and ferroelastics 4-29593
2,2,6,6-tetramethyl-piperidino oxy crystals, growth and ferroelastic phase transitions 4-2326
sym-triazine, mol. cryst., ferroelastic transitions, mean field approach 4-34634
s-triazine, mol. cryst., translational-rot. coupling, lattice dynamics, ferroelastic phase transform. 4-34630
uniaxial ferroelastics, switching in applied electric field or mechanical stress 4-40377
 $Bi_2Ti_3O_{12}$, ferroelectric, ferroelastic domains, light deflection 4-51211
 $BiVO_4$, acoustic soft modes and ferroelastic phase transition, Brillouin and Raman scatt. meas. 4-25771
 $BiVO_4$, ferroelastic transition, Brillouin scatt. study 4-25772
CsCN, dynamical processes in orientationally ordered and disordered phases, NMR study 4-16114
CsCN, orientationally ordered and disordered, dynamical processes, NMR study 4-11784
 $CsDy(MoO_4)_2$, ferroelastic transition 4-29592
 $CsHSO_4(SeO_4)_2$, ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
 $Cs_2NaNdCl_6$, single cryst., phase transform., thermal at. vibrs. 4-55996
 $Gd(MoO_4)_3$, ferroelec., internal friction near Curie point 4-11226
 $Gd_2(MoO_4)_3$, acoustic wave interaction with ferroelastic domain walls 4-39367
 $Gd_2(MoO_4)_3$, ferroelectric, ferroelastic domains, light deflection 4-51211
 $Gd_2(MoO_4)_3$, single cryst., Barkhausen effect and viscous phenomena 4-30406
 $K_2Ba(NO_3)_4$, cryst. struct., phase transitions 4-6336
 $K_2Cd(SO_4)_2$, elastic moduli determ., ferroelastic transition 4-29508
 $KD_3(SeO_3)_2$, ferroelastic, dielec.-permittivity tensor and its spontaneous rotation, submillimeter range 4-30422
 $KD_3(SeO_3)_2$, intrinsic ferroelastic, optical and dielec. props. 4-30421
 $KD_3(SeO_3)_2$, phase transition, Raman scatt. studies 4-25002
 $KFe(MoO_4)_2$, ferroelastics, features of domain struct. 4-29641
 KH_2PO_4 , Brillouin scatt. near tricritical point 4-24944
 KH_2PO_4 , ferroelec., internal friction near Curie point 4-11226
 KH_2PO_4 , γ -ray diff. near ferroelastic transition 4-39459
 $KH_2(SeO_3)_2$, ferroelastic, switching, influence of defects 4-30415
 $KH_2(SeO_3)_2$, ferroelastic, dielec.-permittivity tensor and its spontaneous rotation, submillimeter range 4-30422
 $KH_2(SeO_3)_2$, intrinsic ferroelastic, optical and dielec. props. 4-30421
 $KH_2(SeO_3)_2$, normal and deuterated, US attenuation and critical relax. rates 4-29537
 $KH_2(SeO_3)_2$, phase transition, Raman scatt. studies 4-25002
 $K_2H_2(SeO_4)_2$, dielectric study of phase transitions 4-20922
 $LaNbO_4$, acoustic soft modes and ferroelastic phase transition, Brillouin and Raman scatt. meas. 4-25771
 $LaNbO_4$, ferroelastic transition, Brillouin scatt. study 4-25772
 $LiCSO_4$, ferroelastic props., temp. depend. 4-6427
 $LiNbO_3$ crystals, grown by Czochralski technique, piezoelectric-dielectric props. 4-40625
 NH_4HSO_4 , ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
 $Na_{x-x}A_3W_2O_{11}$ ($A=Li, K$), Bridgman grown crystals, ferroelastic domains, polarisation microscopy (*French*) 4-45039
NaCN, dynamical processes in orientationally ordered and disordered phases, NMR study 4-16114
NaCN, first order martensite transformation, domains and surface morphology 4-29596
NaCN, orientationally ordered and disordered, dynamical processes, NMR study 4-11784
 $NaFe(MoO_4)_2$, ferroelastics, features of domain struct. 4-29641
 $NaH_2(SeO_3)_2$, ferroelec., ferroelastic domain struct. and Barkhausen effect 4-30416
 $Na_2K_{1-x}Fe(MoO_4)_2$ solid solns., ferroelastics, features of domain struct. 4-29641
 NaN_3 , Potts model phase transition, birefringence study 4-6488
 Pb_2KNbO_5 , SAW substrate material, cryst. growth and dielec. characs. 4-30617
 $Pb_3(P_{1-x}As_xO_4)_2$, ferroelastic phase transition, critical exponents, sp. ht. meas. 4-20349
 $Pb_3(PO_4)_2$, ferroelastic phase transition, critical exponents, sp. ht. meas. 4-20349
 Pb_2AdyF_6 ($A=Na, K$), struct. phase transitions, DTA and X-ray diff. studies 4-11267
RBCN, dynamical processes in orientationally ordered and disordered phases, NMR study 4-16114
RBCN, orientationally ordered and disordered, dynamical processes, NMR study 4-11784
 RbH_2PO_4 , γ -ray diff. near ferroelastic transition 4-39459

ferroelasticity continued

- $RbHSO_4(SeO_4)_2$, ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
 $RbHSeO_4$, domain struct. and light deflection at domain walls 4-25698
 $Rb_2(NH_4)_{1-x}HSeO_4$ mixed crystals, high temp. phase transition, domain struct. 4-46194
 Sr_2SiO_4 , $\beta \rightleftharpoons \alpha'$ phase transition and ferroelasticity 4-15417
 Sr_2SiO_4 , $\beta \rightleftharpoons \alpha'$ phase transition and order-disorder in α' phase 4-15416
- ferroelectric Curie temperature**
displacive type, composition, struct. and props. 4-40367
IV-VI semiconductors, dielectric props. and band struct. calcs. 4-35331
off-centre impurity ion induced ferroelec. transition, anomalous props. 4-2887
spin-lattice relax. rate, crit. increase by defects 4-30403
 $TGS_{0.10}$ - $TGS_{0.90}$ solid soln., ferroelec., thermodynamic state, press. effects 4-30414
TGS, pyroelec., dielec. and ferroelec. props., IR detector appl. 4-40360
tris-sarcosine calcium chloride, ferroelec. transition, soft-mode spectroscopy 4-25691
vinylidene fluoride-trifluoroethylene copolymers, Curie transitions study 4-40369
 $(Ba,Pb)SnO_3$ solid solns., posistor effect 4-50818
 $Ba_4Na_2Nb_{10}O_{30}$, ferroelectric, high-temp. dielec. relax. and phase transitions 4-30389
 $BaTiO_3$ ceramic, fracture studies 4-39372
 $BaTiO_3$ group ferroelastics, ferroelectricity from aspect of crystal chemistry 4-40378
 $BaTiO_3$, mode softening, Raman study 4-20926
 $BaTiO_3$, parameter variations in strong EM field 4-2862
 $BaTiO_3:Y_2O_3$, electrophysical and magnetochemical props. 4-56857
 $BaTiO_3$ -based ferroelectric ceramic, role of Ba_2TiO_4 during processing 4-30672
HCl-DCl mixed cryst., NQR study of quantum tunnelling 4-11793
 KH_2PO_4 , ferroelec. phase transition dynamics, Raman scatt. study 4-25689
 KNO_3 , ferro-paramagnetic transition, microwave radiometric study 4-35391
 $KNbO_3$, dislocation interactions with ferroelec. domains 4-24818
 $KNbO_3$ ferroelectric ceramics, positive temp. coeff. of resistivity 4-45767
 $K_2S_4(NbO_3)_8$ cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 K_2ZnCl_6 phase transitions, hydrostatic press. effects, DTA and permittivity meas. 4-51203
 $LiNbO_3:Ti(Mg)$, optical and ferroelec. props., electro-optical device appl. 4-30440
 $LiTaO_3$, Zr substitution effects on cryst. and dielec. props. 4-39229
 $LiTaO_3$ -based solid soln. with cation vacancies, prep. and ferroelec. props. 4-40373
 $(Pb,La)TiO_3$ ceramics, mech. props., ageing changes 4-35678
 $Pb_{1-x}(BiLi)_{x/2}TiO_3$ and $Pb_{1-x-y}(BiLi)_{x/2}(NaCe)_{y/2}TiO_3$ ferroelectric solid solutions, piezoelec. props. 4-25683
 $Pb(Fe_{1/2}Nb_{1/2})O_3$ - $Pb(Fe_{2/3}W_{1/3})O_3$, low firing multilayer capacitor material, dielec. props. 4-30404
 Pb_2GeO_{11} , cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 $PbHPO_4$, lattice parameter meas. in vicinity of T_c , X-ray diff. study 4-15437
 $Pb(Mg_{1/3}Nb_{2/3})O_3$, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 $Pb(Mg_{1/3}Nb_{2/3})O_3$, dielectric and electrostrictive props. 4-40321
 $Pb(Mg_{1-x}Ta_x)O_3$ ceramics, depolarisation and reversible pyroelectricity 4-40359
 $Pb_{1-x}Sn_xTe$, composition depend. of ferroelectric transition temp. 4-2888
 $Pb_{1-x}Sn_xTe$ heavily doped ferroelec. semicond., Curie temp. effects 4-35392
 $(Pb,Sr)_{1-x}(Fe_{2/3}Ge_{1/3})O_3$ solid solns., ferroelec. and antiferromag. props. 4-56859
 Pb_2TeO_6 , ferroelec., prep., X-ray diff., dielec., SHG, calorimetric props. 4-25697
 $PbTiO_3:La$ ceramic, internal stress anisotropy 4-39373
 $Rb_2(NH_4)_{1-x}HSeO_4$ mixed crystals, high temp. phase transition, domain struct. 4-46194
 Rb_2ZnCl_4 , incommensurate-commensurate phase transition, defect and thermal fluctuation effects 4-40372
 $SbNbO_4:TiO_2$ ferroelectric ceramics, phase comp. and dielec. props. 4-51202
 $SbS_{1-x}O_x$, ferroelec. and piezoelec. props. 4-51201
 $Sr_0.3Ba_{0.7}Nb_2O_6:La$ dislocation-free cryst., dielec., SAW, and electro-optical props. 4-30400
 $Sr(Fe_{2/3}(Te_xW_{1-x})_{1/3})O_3$ solid solns., ferroelec. and antiferromag. props. 4-56859
 Sr_2KNbO_5 , ferroelec., low and high freq. dielec. props. 4-51200
- ferroelectric devices**
conference, Gaithersburg, USA (June 1983) 4-31956
optical information processing, ferroelectric device apps., review 4-33623
SAW transducers using ferroelec. ceramic wedge with planar shear-wave transducer 4-24329
- ferroelectric domains** *see electric domains*
- ferroelectric materials**
see also antiferroelectric materials; electric domain walls; ferroelectric semiconductors; ferroelectric thin films; ferroelectric transitions; lattice dynamics of ferroelectric crystals
ammonium dichloroacetate, NQR, hydrostatic press. influence 4-7091
 $BaTiO_3$ - $PbTiO_3$ system, ferroelec. phase diagram, computer calc. 4-40374
ceramics, electrooptic, cryst. microstruct., piezoelec. and optical props. 4-35414
ceramics, piezoelec. charge generation by impact, expt. study (*German*) 4-46186
ceramics, soft modes and grain size effects 4-30408
ceramics, sound propagation rate prediction 4-51708
ceramics, structural engineering and tailormade materials 4-35374
chiral smectic C liq. crystals, helical pitch, elec. field effects 4-39106
chiral smectic C phase, macroscopic dynamics 4-55710
colloid, character of phase transition (*Russian*) 4-30410
ferroelectric thin film, pulse electrooptical light modulation (*Russian*) 4-20944
H-bonded crystals, NQR under high hydrostatic press. 4-30315
hexachalcogenophosphates, far IR spectra and vibrs. modes 4-40445

ferroelectric materials continued

- (R⁻)hexyloxybenzylidene p'-amino-2-chloropropyl cinnamate, phase transitions, sp. ht. studies 4-6504
hydrogen-bonded, pseudospin-phonon coupling, role of central peak in sound absorption (*Russian*) 4-34600
integrated optics, ferroelectric materials appl. review 4-33807
N-isopropylcarbazole, ferroelec. mol. cryst., pyroelec. and pyroluminesc. props. 4-35370
liquid crystals, light polarisation plane rotation, temp.-induced inversion 4-40406
liquid crystals, spontaneous polarisation, direct meas. 4-20085
lithium ammonium tartrate, ferroelastic, piezoelec. and piezooptical props. 4-46185
lithium ammonium tartrate, phase transition, Raman scatt. study 4-25690
lithium potassium tartrate, phase transition, Raman scatt. study 4-25690
Mn₃B₂O₇, spontaneous birefringence studies of ferroelec./ferroelastic phase 4-7156
(NH₄)_{1-x}K_xSO₄ mixed crystals, laser Raman spectra 4-2919
NMR spectral averaging, first and second order effects 4-30293
PLTZ, hot-pressed, translucent, prep., characterisation and props. 4-51607
PLTZ-10, ferroelectric ceramic, light modulation, linear operators (*Russian*) 4-28822
poly(vinylidene fluoride), ferroelec. phase transition, X-ray diffr. study 4-2884
poly(vinylidene fluoride-trifluoroethylene) copolymer thin films, ferroelec., piezoelec. and pyroelec. props. 4-11845
polyvinylidene fluoride, transduction phenomena 4-33889
polyvinylidene fluoride, ferroelec. polarisation and piezoelec. props. under shock wave action 4-40349
polyvinylidene fluoride, thermal pulse induced pyroelec. response and piezoelec. oscils. 4-7128
polyvinylidene fluoride films, rolled and poled, lamellar morphology, small-angle X-ray scatt. study 4-29341
quartz, phase transition study by far IR Fourier spectroscopy 4-25743
Rochelle salt, ferroelectric, ferroelastic domains, light deflection 4-51211
Rochelle salt, ferroelectric phase transition, elastic, dielectric and electromechanical nonlinearities 4-35386
smectic C* liq. crystals, mol. models 4-39105
smectic liquid crystal, ferroelectric, identification 4-44942
spin-lattice relax. rate, crit. increase by defects 4-30403
squaric acid, ferroelectric, soft modes and proton tunneling 4-35372
squaric acid, two-dimens. ferroelec., cryst. dynamical study 4-34596
ternary compounds, ferroelectricity 4-30407
tetramethylammonium iron tetrachloride, ferroelec. region in press.-temp. phase space, dielec. const. meas. 4-2883
tetramethylammonium tetrachlorozincate, elastic props. near commensurate-incommensurate transition, Brillouin scatt., US absorpt. meas. 4-40467
tetramethylammonium tetrachlorozincate, elastic stiffness coeffs. in incommensurate and commensurate phases, Brillouin scatt. meas. 4-15567
tetramethylammonium zinc tetrachloride, incommensurate phase, dielec. relax. 4-20923
TGS:AC(AB), ferroelectric, dielec. hysteresis loops and domain struct. 4-35395
TGS:alanine (As), pyroelec. props. 4-20919
TGS:Cr³⁺(VO²⁺), γ -irrad., permitt. relax., rel. to domain struct. 4-11838
TGS:Mn²⁺(Li), cryst. growth from soln., growth habit, domains config., dielec. props. 4-2125
TGS_{0.10}TGS_{0.90} solid soln., ferroelec., thermodynamic state, press. effects 4-30414
TGS, adiabatic elastic stiffness moduli, US wave vel. meas., hydrostatic press. depend. 4-24895
TGS, alanine and phosphate substituted, cryst. growth and dielec. props. 4-30399
TGS, aqueous photolithographic etching, pyroelec. detector appls. 4-39512
TGS, crit. dynamics, nonclassical or classical behaviour 4-7138
TGS, crystal growth from aq. soln. 4-40622
TGS, doped, pyroelectric meas. 4-16169
TGS, ferroelectric, anisotropic polarisation relax. time, 45° Brillouin scatt. study 4-51198
TGS, L-alanine doped, inhomogeneity 4-46190
TGS, light scatt. by dislocations, orientation depend. 4-56955
TGS, optical gyration and electrogyration 4-35415
TGS, phase transition in presence of temp. gradient 4-11850
TGS, pure and X-irradiated, electrogyration 4-46228
TGS, pyroelec., dielec. and ferroelec. props., IR detector appl. 4-40360
TGS crystal, gamma-irradiated, ferroelec. transition, hypersound propag., Brillouin light scatt. 4-35381
TGS crystals, acousto-optical props., near Curie point 4-35411
TGS plate, trigger medium for modelling automotive processes 4-7139
TGS-polystyrene composites, dielec., pyroelec., and thermal props. 4-11823
TGS-polystyrene composites, dielec. permittivity and pyroelec. props. 4-40361
TGS:Cr³⁺, deuterated, ferroelec. phase transition 4-35387
thiourea, ferroelec., commensurate-incommensurate transition and memory effect 4-35383
thiourea, high elec. field ferroelectric transitions 4-30411
thiourea, US attenuation and order parameter relax. near incommensurate phase transition (*French*) 4-39408
thiourea-d₄, field-induced commensurate phase, birefr. meas. and Landau-Ginzburg theory 4-2886
s-triazine, per-deuterated, lattice dynamics, neutron scatt. study 4-11237
triglycine sulphate, struct. phase transitions, electronic subsystem effects 4-7136
triglycine sulphate crystals, permittivity, DC electric field perpendicular to ferroelectric axis 4-46169
tris-sarcosine calcium chloride, ferroelec. transition, soft-mode spectroscopy 4-25691
tris-sarcosine calcium chloride bromide, solid solns., ferroelec., order parameter and soft mode 4-46197
trissarcosine calcium chloride:Mn²⁺ solid solns., EPR study, 130 to 300K 4-2807
uniaxial ferroelectrics, switching in applied electric field or mechanical stress 4-40377
variconometer, dynamic hysteresis loop meas. of ferroelectric materials (*Polish*) 4-42985

ferroelectric materials continued

- vinylidene fluoride-trifluoroethylene copolymer, dielectric relax. 4-25678
vinylidene fluoride-trifluoroethylene copolymers, Curie transitions study 4-40369
A₂BX₄ type, incommensurate-commensurate transitions, seminar, Bentenjima, Japan (June 1983) 4-22509
AgNb_{1-x}Ta_xO₃ solid solns., ferroelectricity 4-46195
(Ba,Sr)TiO₃-Si struct., memory effects 4-11574
BaCoF₄, optical phonon spectra, effect of magnetoelec. interaction (*Russian*) 4-2936
Ba_{6-1.5x}La_{2x}Nb₂Ti₂O₃₀ transparent ceramics for electro-optical appls. 4-35375
Ba₂NaNb₃O₁₃, optical props. in fundamental absorpt. band, cond. and valence band 4-51224
Ba₂NaNb₃O₁₅, acoustic phonon dispersion at incommensurate transition, Brillouin scatt. study 4-25770
Ba₂NaNb₃O₁₅, bronzes, optical, ferroelectric and electronic props. 4-35465
Ba₂NaNb₃O₁₅, second harmonic generation during ferroelectric transition 4-10375
Ba₄Na₂Nb₁₀O₃₀, ferroelectric, high-temp. dielec. relax. and phase transitions 4-30389
BaPbO₃(I)-BaBiO₃(II) solid solns., dielec. props. and superconductivity 4-25473
Ba_{2-x}Sr_xK_{1-y}Nb₂O₁₅, cryst. growth and ferroelec. props. 4-30402
Ba_{2-x}Sr_xK_{1-y}Nb₂O₁₅, dielectric props. meas. 4-40323
Ba₂Sr_{1-x}Nb₂O₆, bronzes, optical, ferroelectric and electronic props. 4-35465
Ba₂Sr_{1-x}Nb₂O₆, optical props. in fundamental absorpt. band, cond. and valence band 4-51224
Ba_{0.8}Sr_{0.2}TiO₃ solid solns., lattice dynamics, inelastic neutron scatt. study 4-55936
BaTiO₃ ceramic, ferroelec. props. and hot pressing 4-56858
BaTiO₃ ceramic, fracture studies 4-39372
BaTiO₃ ceramics, sintering, anomalous grain growth, twin lamellae 4-57159
BaTiO₃ coarse grained ceramics, dielec. const. 4-7111
BaTiO₃ crystal, electrostrictive high-temp. props. meas. 4-22795
BaTiO₃ crystals, polariton spectra, two-particle states and Fermi reson. (*Russian*) 4-25754
BaTiO₃ cubic, lattice dynamics, inelastic neutron scatt. study 4-55936
BaTiO₃, elec. degradation, composition and microstruct. effects 4-35349
BaTiO₃, ferroelec., computer modelling of defect struct. 4-20189
BaTiO₃, ferroelec. cryst., polariton spectroscopy 4-25741
BaTiO₃, ferroelec. transition, interface vel. estimation 4-24959
BaTiO₃, ferroelectric, point defect chemistry, nonstoichiometry and elec. cond. anal. 4-7132
BaTiO₃ ferroelectric crystals, with spiral dislocations, thermodynamic study above Curie point 4-30401
BaTiO₃, ferroelectric target, beta particle critical transmission at Curie temp. 4-55893
BaTiO₃ group ferroelectrics, ferroelectricity from aspect of crystal chemistry 4-40378
BaTiO₃, illumination influence on polarisation changes 4-25677
BaTiO₃, mode softening, Raman study 4-20926
BaTiO₃, para-ferroelectric phase change, spontaneous polarisation and Bloch orbital interactions (*French*) 4-7137
BaTiO₃, parameter variations in strong EM field 4-2862
BaTiO₃, perovskite struct., cubic phase, electronic struct. 4-2511
BaTiO₃, sintering in presence of LiF (*French*) 4-57165
BaTiO₃, structural phase transitions study by hyper-Raman and Rayleigh scatt. 4-25692
BaTiO₃ target, external bremsstrahlung due to β particles from ⁹⁰Sr-⁹⁰Y reaction 4-24882
BaTiO₃ type ferroelectric crystal, thermodynamics of deform. pot. under mech. stress 4-30405
BaTiO₃, Z 4-46199
BaTiO₃:Fe, cond., photocond. meas. 4-25341
BaTiO₃:Gd, ferroelec., permittivity meas. 4-51177
BaTiO₃:La(Mn), lifetime spectra of positrons 4-7267
BaTiO₃-type systems, ferroelectric transition theory 4-40376
BiFeO₃, ferroelec., elec. cond. reduction using TiO₂ and ZrO₂ additions 4-56343
Bi₂Ti₃O₁₂, ferroelectric, ferroelastic domains, light deflection 4-51211
Bi₂Ti₃O₁₂, forged ferroelectric ceramics, degree of preferred orientation (*Chinese*) 4-51685
CaTiO₃, perovskite struct., cubic phase, electronic struct. 4-2511
Cd₂Nb₂O₇, elec. polarisation characts., dielec. props. meas. 4-11833
Cd₂Nb₂O₇, electromechanical props. and thermal expansion, temp. depend. 4-11844
CdTiO₃, structural transition, PAC elec. quadrupole interaction 4-40297
Co₂B₂O₇, weakly ferromagnetic ferroelectric, orientational magnetoelec. effect 4-30263
Cs₂D₂PO₄, anomalous behaviour of heat capacity 4-25047
CsH₂PO₄, anomalous behaviour of heat capacity 4-25047
CsH₂PO₄, polarisation reversal, switching characts. 4-35389
CsH₂PO₄, ultrasonic attenuation, phase transitions 4-39401
CsHSO₄(SeO₄), ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
CsRbSeO₄, ferroelectric and thermal props. 4-25693
Gd(MoO₄)₃, ferroelec., internal friction near Curie point 4-11226
 β -Gd₂(MoO₄)₃, ferroelec. cryst., polariton spectroscopy 4-25741
Gd₂(MoO₄)₃, ferroelectric, ferroelastic domains, light deflection 4-51211
Gd₂(MoO₄)₃, single cryst., Barkhausen effect and viscous phenomena 4-30406
HCl-DCI mixed cryst., NQR study of quantum tunnelling 4-11793
(K_{0.5}Bi_{0.5})TiO₃, ferroelectric-paraelectric transition 4-25695
K₂D₂PO₄ crystals, heat conductivity meas. 4-29716
K₂D₂PO₄, permittivity at high conc. of elementary excitations 4-20897
K₂D₂PO₄:SeO₄²⁻, domain nucleation near ferroelec. transition, elec. field effects 4-35396
K₂D₂PO₄:KH₂AsO₄, ferroelectric domain switching, ESR studies 4-11849
KH₂AsO₄, X-irrad., crit. anomaly in electron spin-lattice relax. at ferroelec. phase transition 4-2821
KH₂AsO₄, X-irradiated, obs. of K hyperfine interaction, electron spin echo envelope modulation 4-46145
KH₂PO₄, birefringence study of tricritical point 4-46229
KH₂PO₄, Brillouin scatt. near tricritical point 4-24944
KH₂PO₄ crystals, heat conductivity meas. 4-29716
KH₂PO₄, ferroelec., internal friction near Curie point 4-11226
KH₂PO₄, ferroelec., tricritical phase transitions 4-20924

ferroelectric materials continued

- KH_2PO_4 , ferroelec. phase transition dynamics, Raman scatt. study 4-25689
 KH_2PO_4 , ferroelec. phase transition, Slater theory anal. and extension 4-46203
 KH_2PO_4 , ferroelec. domain form. 4-46207
 KH_2PO_4 , ferroelec. phase transition, order-disorder type, Raman spectra study (Japanese) 4-56862
 KH_2PO_4 , ferroelectric phase transition, D nucl. quadrupole double reson. study 4-30361
 KH_2PO_4 , ferroelectric, soft modes and proton tunneling 4-35372
 KH_2PO_4 , γ -ray diff. near ferroelastic transition 4-39459
 KH_2PO_4 , internal modes and PO_4 tetrahedron local symm., Raman scatt. study 4-2925
 KH_2PO_4 , melts and crystals, proton correlations assoc. with ferroelec. transition, H bonds, Raman bands 4-30472
 KH_2PO_4 , optical uniformity, effect of annealing 4-56883
 KH_2PO_4 , structural phase transitions, light scatt. studies, seminar, Bentenjima, Japan (June 1983) 4-22509
 KH_2PO_4 type ferroelectrics, phase transition, models, light scatt. spectra and polarisation fluctuations 4-40375
 $\text{KH}_2\text{PO}_4\text{:KH}_2\text{AsO}_4(\text{NH}_4\text{H}_2\text{PO}_4)$, dielec. behaviour, effect of impurities 4-2885
 $\text{KH}_2\text{PO}_4\text{-KD}_2\text{PO}_4$ mixed cryst., ferroelec., polarisation relaxation spectra of $(\text{H}_2\text{PO}_4)^-$ dipoles 4-25774
 KH_2PO_4 -type ferroelectrics, growth and characts. of coloured monodomain crystals. 4-30417
 $\text{K}_2\text{H}(\text{SeO}_4)_2$, dielectric study of phase transitions 4-20922
 $\text{K}_2\text{Li}_2\text{Nb}_2\text{O}_{15}$, cryst. growth and ferroelec. props. 4-30402
 $\text{K}_{1-x}\text{Li}_x\text{TaO}_3$, ferroelectric phase transitions induced by dipole effects 4-35378
 $\text{K}_2\text{Mn}_2(\text{SO}_4)_3$, langbeinites, Raman spectra and phase transitions 4-7135
 KNO_3 , ferro-paraelectric transition, microwave radiometric study 4-35391
 $\text{K}_{0.20}\text{Na}_{0.20}\text{Sr}_{0.60}\text{Ba}_{0.20}\text{Nb}_2\text{O}_6$, electroelastic const. determ. (Chinese) 4-2856
 KNbO_3 , (100) ferroelectric domain walls, high resolution electron microscopy studies 4-25699
 KNbO_3 ceramic, ferroelec. props. and hot pressing 4-56858
 KNbO_3 , dislocation interactions with ferroelec. domains 4-24818
 KNbO_3 , ferroelec. phase transitions, IR spectra studies 4-40371
 KNbO_3 , ferroelectric, spontaneous polarisation and band-edge phenomena, theory 4-46199
 KNbO_3 , para-ferroelectric phase change, spontaneous polarisation and Bloch orbital interactions (French) 4-7137
 KNbW_2O_6 , cryst. growth and ferroelec. characterisation 4-7134
 $\text{K}_2\text{S}_2(\text{NbO}_3)_6$, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 K_2SeO_4 , ferroelectric, incommensurate phase, shear stress effects 4-35384
 K_2SeO_4 , optical gyration and electrogyration 4-35415
 K_2SeO_4 , US attenuation and order parameter relax. near incommensurate phase transition (French) 4-39408
 $\text{KTa}_{0.982}\text{Nb}_{0.018}\text{O}_3$, IR soft mode study 4-20925
 KTaO_3 , incipient ferroelec., hyper-Raman scatt. 4-40459
 $\text{KTaO}_3\text{:Li}$, ferroelectric transition, optical SHF study 4-46202
 $\text{KTaO}_3\text{:Li}$, random site elec. dipole system, collective effects 4-11847
 $\text{KTaO}_3\text{:Li}$ crystals, ferroelec. phase transition, acoustic and dielec. props. 4-35380
 K_2ZnCl_4 crystal, ferroelec., LF internal friction and elastic props. 4-11227
 K_2ZnCl_4 , ferroelectric, incommensurate-commensurate transition, dielec. dispersion 4-51204
 K_2ZnCl_4 , phase transitions, hydrostatic press. effects, DTA and permittivity meas. 4-51203
 KNbO_3 , phase conjugate optics and dynamic holography appls. 4-33717
 $\text{Li}_2\text{Ce}_2(\text{MoO}_4)_7$, ferroelec. solid soln., cryst. struct., neutron diff. study 4-11060
 $\text{Li}_2\text{Ge}_2\text{O}_5$ crystals, phase transition study by far IR Fourier spectroscopy 4-25743
 LiKSO_4 ferroelectricity, polarisation-electric field hysteresis 4-40379
 $\text{Li}_{0.02}\text{Na}_{0.98}\text{NbO}_3$, cryst. struct. determ. (French) 4-50261
 LiNbO_3 ceramics, dielectric spectra, piezoelec. grain reson. 4-2879
 LiNbO_3 cryst. with laminar ferroelec. domains, second harmonic generation (Chinese) 4-55123
 LiNbO_3 crystals, grown by Czochralski technique, piezoelectric-dielectric props. 4-40625
 LiNbO_3 crystals, refractive indices, X-ray induced change 4-46213
 LiNbO_3 , defect chemistry and elec. props. 4-34479
 LiNbO_3 , doped and undoped, stoichiometry, point defects, absorpt. edges 4-2195
 LiNbO_3 , exoelectron emission under pyroelec. and piezoelec. conditions 4-25859
 LiNbO_3 ferroelec. cryst., dielec. anomalies and inelastic light scatt. 4-11848
 LiNbO_3 high press. shock wave arrival detectors 4-35361
 LiNbO_3 , impact loaded, anomalous piezoelec. current pulses 4-40347
 LiNbO_3 , linear electro-optical effect anisotropy 4-35410
 LiNbO_3 , proton exchange, integrated optics appl. 4-33808
 LiNbO_3 , relax. polarisation and thermally stimulated depolarisation currents 4-2870
 LiNbO_3 , single mode waveguide, refractive index, acoustooptical method 4-24172
 LiNbO_3 , surface topographical changes induced by low energy ion beam sputtering 4-16286
 $\text{LiNbO}_3\text{:Cr(Mn)(Fe)(Co)(Ni)(Cu)}$, refr. index dispersion, impurity ionic radius depend. 4-2890
 $\text{LiNbO}_3\text{:Eu(Cu)(Mn)(Ni)}$, X-ray irradi. and thermal reduction-induced defects 4-39286
 $\text{LiNbO}_3\text{:Fe}$, polarisation Raman spectra, impurity conc. effect 4-29904
 $\text{LiNbO}_3\text{:Ti}$, IR holographic gratings 4-33628
 $\text{LiNbO}_3\text{:Ti(Mg)}$, optical and ferroelec. props., electro-optical device appl. 4-30440
 LiTaO_3 , exoelectron emission under pyroelec. and piezoelec. conditions 4-25859
 LiTaO_3 , ferroelec. cryst., polariton spectroscopy 4-25741
 LiTaO_3 , photorefractive effect, competing mechanisms 4-11853
 LiTaO_3 , Zr substitution effects on cryst. and dielec. props. 4-39229
 $\text{LiTaO}_3\text{:Fe}$, two step excitation for optical data storage 4-49293
 LiTaO_3 -based solid soln. with cation vacancies, prep. and ferroelec. props. 4-40373

ferroelectric materials continued

- $\text{LiNbO}_3\text{:Ti}$ guided light interferometric modulators 4-33746
 $(\text{NH}_4)_2\text{BeF}_4$, ferroelectric, incommensurate phase, phase transitions 4-35385
 $(\text{NH}_4)_2\text{BeF}_4$, ferroelectric, γ -irrad., phase transitions, macroscopic quadrupole effects 4-46201
 $(\text{NH}_4)_2\text{BeF}_4$, optical gyration and electrogyration 4-35415
 NH_4HSO_4 , ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
 NH_4HSeO_4 , ferroelectric phase transition study 4-51206
 NH_4HSeO_4 , incommensurate antiferroelec., dislocations and time-dependent dynamics 4-35382
 NH_4IO_3 , ferroelectric, proton spin-lattice relax. studies 4-7085
 NH_4LiSO_4 , ferroelec., Brillouin scatt. study, relaxation and anomalous temp. depend. of elastic constants 4-25769
 $(\text{NH}_4)_2\text{SO}_4$, low temp. ferroelectric phase transition 4-51205
 $(\text{NH}_4)_2\text{ZnBr}_4$, ferroelec., incommensurate phase transition, X-ray diff. study 4-2882
 $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$, ferroelec., phys. props. 4-35325
 $\text{NaH}_2(\text{SeO}_3)_2$, ferroelec., ferroelastic domain struct. and Barkhausen effect 4-30416
 $\text{Na}_{0.5}\text{La}_{0.5}\text{Bi}_{0.5-x}\text{Ti}_{0.5}\text{O}_{1.5}$ layer-structured ferroelec. ceramics, pyroelec. props. (Japanese) 4-35371
 NaNO_2 , electrical conductivity meas. during heating and cooling, thermal hysteresis 4-34979
 NaNO_2 , incommensurate phase, press. and elec. field depend., neutron scatt. and dielectric meas. 4-25001
 $\text{NaNO}_2\text{:Mn}^{2+}$, electrical conductivity meas. during heating and cooling, thermal hysteresis 4-34979
 NaVO_3 , Raman spectra, ferroelectric behaviour below 380°C 4-35435
 $\text{PLZT } 9.2$ ferroelectric ceramic, photorefractive sensitivity study 4-25724
 PLZT ceramics, domain determ. by Ag photodeposition 4-35397
 PLZT electro-optic ceramic depolarisation at low temps. 4-44165
 PLZT ferroelec. ceramics, dielec. const., expt. study (German) 4-46171
 PLZT ferroelectric ceramics, transparent, dielec. props., electron- and γ -irrad. and mag. field effects 4-46191
 PLZT , space-charge-limited current study 4-34991
 PLZT transparent ferroelec. ceramics, electronic processes and phase transitions 4-11846
 PLZT:Al , photorefractive sensitivity enhancement by thermal diffusion and ion implantation 4-34728
 PZT , electrically excitable mech. resonance, effects of domain struct. 4-35398
 PZT ferroelectric ceramics, shock wave-explosive energy conversion 4-34580
 PZT , ferroelectric films, thermal decomp. prep., dielec. props. 4-40667
 PZT , solid solns., electrostrictive props. near tricritical point 4-46184
 PZT , temperature-composition-electric field phase diagram 4-46200
 PZT:Mn , electromechanical nonlinearity under reson. excitation 4-51192
 PZT:Mn,Ce , ferroelectric ceramic, stabilisation effects 4-46192
 $\text{PZT/polymer } 1-3$ and $1-3-0$ piezoelec. composites, hydrophone appl. 4-40352
 PZT/polymer composite sandwich transducer, hydrophone and NDT appls. 4-38682
 PZT/polymer composites, piezoelec. props. 4-40350
 PZT/polymer perforated composites, piezoelec. props., hydrophone appls. 4-40351
 $\text{PZT/silicone rubber composite}$, piezoelec. props. 4-40353
 $(\text{Pb, La})\text{TiO}_3$ ceramics, mech. props., ageing changes 4-35678
 $(\text{Pb, Ni})(\text{Zr, Ti, Zn, Nb})\text{O}_3$ piezoelectric ceramic, dynamic strength and dynamic nonlinearity 4-20917
 Pb-Te-O single cryst. growth from melt, electrophysical props. 4-30625
 $\text{Pb}_2\text{B}^*\text{O}_6$ ternary oxides, ferroelec., lattice ion ordering influence 4-30413
 $\text{Pb}_{1-x}(\text{BiLi})_{x/2}\text{TiO}_3$ and $\text{Pb}_{1-x-y}(\text{BiLi})_{x/2}(\text{NaCe})_{y/2}\text{TiO}_3$ ferroelectric solid solutions, piezoelec. props. 4-25683
 $\text{Pb}(\text{Fe}_{1/2}\text{Nb}_{1/2})\text{O}_3\text{-Pb}(\text{Fe}_{2/3}\text{W}_{1/3})\text{O}_3$, low firing multilayer capacitor material, dielec. props. 4-30404
 $\text{Pb}_3\text{Ge}_2\text{O}_{11}$, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 $\text{Pb}_3\text{Ge}_2\text{O}_{11}$, ferroelec., photovoltaic effect 4-45822
 $\text{Pb}_3\text{Ge}_2\text{O}_{11}$ pyroelectric glass-ceramics, oriented grain growth from germanate glass 4-30676
 $\text{Pb}_3\text{Ge}_2\text{O}_{11}\text{:Nd}^{3+}$, trigonal ferroelec., stimulated emission generation 4-46289
 $\text{Pb}_3\text{Ge}_2\text{O}_{11}\text{:Nd}^{3+}, \text{K}^+$ ferroelec., stimulated emission and laser action 4-44108
 PbHPO_4 , lattice parameter meas. in vicinity of T_c , X-ray diff. study 4-15437
 PbH_2PO_4 , ferroelectric, soft modes and proton tunneling 4-35372
 PbKNbO_3 , SAW substrate material, cryst. growth and dielec. characts. 4-30617
 $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{-PbSc}_{1/2}\text{Nb}_{1/2}\text{O}_3$ solid soln., electrostriction study 4-7127
 $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$, dielectric and electrostrictive props. 4-40321
 $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$, ferroelectric, diffused phase transition, refractive index study 4-30431
 $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$, ferroelec., with diffuse phase transition, phys. phenomena, review 4-35413
 $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
 $(\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3)_{1-x}(\text{PbSc}_{1/2}\text{Nb}_{1/2}\text{O}_3)_x$ solid soln., electrostriction study 4-35366
 $\text{Pb}_{0.15}(\text{NaBi})_{0.425}\text{Bi}_{0.425}\text{O}_{1.5}$ ferroelec. ceramic SAW device 4-10517
 $\text{Pb}_{1-x}(\text{NaBi})_{x/2}\text{Bi}_{x/2}\text{Ti}_{0.5}\text{O}_{1.5}$ layer-structured ferroelec. ceramics, pyroelec. props. (Japanese) 4-35371
 $\text{Pb}_{1-x}(\text{NaCe})_{x/2}\text{Bi}_{x/2}\text{Ti}_{0.5}\text{O}_{1.5}$ layer-structured ferroelec., grain orientation effects 4-46193
 $\text{PbNb}_{0.5}\text{In}_{0.5}\text{O}_3$, phase transition, X-ray and dielec. studies 4-25694
 $\text{PbNb}_{0.5}\text{Sc}_{0.5}\text{O}_3$, phase transition, X-ray and dielec. studies 4-25694
 $\text{Pb}_{0.99}\text{Nb}_{0.02}(\text{Zr}_{0.68}\text{Sn}_{0.25}\text{Ti}_{0.07}\text{O}_{0.98}\text{O}_3)$, pyroelec. energy conversion, hysteresis losses 4-7130
 $\text{Pb}(\text{Ni}_{1/2}\text{Sb}_{1/2})_3\text{, Ti, Zr, O}_3\text{:MnO}$ ferroelec. ceramics, dielec. const., expt. study (German) 4-46171
 $\text{Pb}(\text{Sc}_{0.5}\text{Nb}_{0.5})\text{O}_3$ ceramic, ferroelectric, dielec. and thermal props. 4-35388
 $\text{Pb}_2\text{ScNbO}_6$, single crystal growth, phase transitions, dielectric nonlinearity 4-51474
 $\text{PbSc}_{0.5}\text{Nb}_{0.5}\text{O}_3$ ferroelectric ceramics, transparent, dielec. props., electron- and γ -irrad. and mag. field effects 4-46191
 $\text{Pb}(\text{Se}_{1-x}\text{Ta}_x)\text{O}_3$ ceramics, depolarisation and reversible pyroelectricity 4-44359

ferroelectric materials continued

- PbSnTe piezoelec. ceramic interface, channelled acoustic wave propag. vel. meas. in polydomain ferroelec. 4-2421
 (Pb,Sr)_{1-x}(Fe₂/Ge_{1/3})O₃ solid solns., ferroelec. and antiferromag. props. 4-25689
 PbTeO₃, cryst. growth from melt, phase transition, to spontaneously polarised state, dielec., X-ray diffr., SHG meas. 4-25696
 Pb₂TeO₆, ferroelec., prep., X-ray diffr., dielec., SHG, calorimetric props. 4-25697
 PbTiO₃, amorphous and cryst. sp. ht., dielec. const. meas. (*Japanese*) 4-20921
 PbTiO₃, amorphous rapid and slow crystallisation, Raman spectroscopic study 4-24724
 PbTiO₃, elec. cond., optical absorpt., lattice disorder 4-51294
 PbTiO₃, optical gyration and electrogyration 4-35415
 PbTiO₃, phase transition at low temps., X-ray and optical studies 4-2330
 PbTiO₃, press. depend. Raman study of phonons 4-25738
 PbTiO₃, soft phonon linewidth, press. depend., Raman scatt. study 4-2924
 PbTiO₃, sp. ht. and dielec. const. study at low temps. 4-25737
 PbTiO₃, zone centre phonons and ferroelec. transition, high press. Raman study 4-29554
 PbTiO₃:La ceramic, internal stress anisotropy 4-39373
 Pb(Ti_{0.35}Zr_{0.33}Nb_{0.08}Mo_{0.023})O₃, ferroelectric films, cathode sputtering 4-57100
 Pb(Zn_{1/3}Nb_{2/3})O₃, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
 Pb(Zr,Ti)O₃ ferroelectric films, RF planar magnetron sputtering and dielec. props. 4-16166
 Pb(Zr,Ti)O₃ piezoelec. ceramic, photomechanical effects 4-7157
 PbZrO₃ ceramics, electrostrictive high-temp. props. meas. 4-22795
 PbZrO₃-PbTiO₃-Nb₂O₅ ceramic, FE₁-FE₂ phase transition, doping effects 4-40368
 PbZrTiO₃:Nb ceramic, phase transition props. (*Chinese*) 4-2881
 Pb(Zr_{0.53}Ti_{0.47})O₃ solid soln. struct.-sintering temp. relationships 4-29646
 Pb(Zr_{0.6}Ti_{0.4})O₃, ferroelectric transition study 4-40370
 PbZr_{1-x}Ti_xO₃ ceramic, elec. cond. and ageing 4-34970
 Rb₂Co₂(SO₄)₃, langbeinites, Raman spectra and phase transitions 4-7135
 RbH₂PO₄, γ-ray diffr. near ferroelastic transition 4-39459
 RbHSO₄, ferroelectric dynamics study 4-35394
 RbHSO₄, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 RbHSO₄(SeO₄), ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
 RbHSeO₄, domain struct. and light deflection at domain walls 4-25698
 Rb_{1-x}(NH₄)_xH₂PO₄, ferroelec.-antiferroelectric mixture, dipole-glass phase, dielec. const., X-ray diffr. profile meas. 4-20920
 Rb_{1-x}(NH₄)_xH₂PO₄ mixed cryst. proton glass, Vogel-Fulcher scaling of susceptibility 4-25670
 Rb_{1-x}(NH₄)_xH₂PO₄, ferroelec.-antiferroelec. crystal, short range ordering and freezing 4-34407
 Rb_{1-x}(NH₄)_xH₂PO₄, ferroelec.-antiferroelec. random mixture, dipole glass phase, X-ray study 4-44968
 Rb_x(NH₄)_{1-x}HSeO₄ mixed crystals, high temp. phase transition, domain struct. 4-46194
 Rb₂ZnBr₄, heat capacity, 3 to 300K, thermodynamic props. of incommensurate transitions 4-6517
 Rb₂ZnCl₄, ferroelec. phase transition and cryst. struct., neutron diffr. study 4-16171
 Rb₂ZnCl₄, incommensurate-commensurate phase transition, defect and thermal fluctuation effects 4-40372
 Rb₂ZnCl₄, low temp. ferroelectric phase, CI NQR studies 4-2838
 Rb₂ZnCl₄, optical gyration and electrogyration 4-35415
 SbNbO₄:TiO₂ ferroelectric ceramics, phase comp. and dielec. props. 4-51202
 SbS_{1-x}O₁, ferroelec. and piezoelec. props. 4-51201
 SbSeI crystals, optical props. 4-56961
 ScTaO₄, ferroelec. cryst., spontaneous polarisation and phase transition 4-35393
 Sn₂P₂(Se₂S_{1-x})₆ ferroelec. solid soln., lattice dynamics, Raman spectra studies 4-24932
 Sr₃(Al_{1/2}O_{2/3})(CrO₄)₂, ferroelec. transition and pyroelec. appls. 4-40366
 Sr_{0.5}Ba_{0.5}Nb₂O₆:La dislocation-free cryst., dielec., SAW, and electro-optical props. 4-30400
 Sr_{1-x}Ba_xNb₂O₆, cryst. growth and ferroelec. props. 4-30402
 Sr(Fe_{2/3}(Te,W_{1-x/3})_{1/3})O₃ solid solns., ferroelec. and antiferromag. props. 4-56859
 Sr₂KNb₃O₁₅, cryst. growth and ferroelec. props. 4-30402
 Sr₂KNb₃O₁₅, ferroelec., low and high freq. dielec. props. 4-51200
 Sr₂Nb₂O₇, ferroelec. cryst., polariton spectroscopy 4-25741
 SrTiO₃, perovskite struct., cubic phase, electronic struct. 4-2511
 SrTiO₃, polarons bound to defects, optical absorpt. weak coupling theory 4-11897
 SrTiO₃ single cryst., electroluminesc., at low temps. 4-11943
 SrTiO₃, structural phase transitions study by hyper-Raman and Rayleigh scatt. 4-25692
 SrTiO₃ surface layers, acoustical study of phase transition 4-46198
 TGS, ferroelectric target, beta particle critical transmission at Curie temp. 4-55893
 TGS, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773
 TGSe, uniaxial ferroelec., anisotropic polarisation fluctuation, Brillouin scatt. study 4-25773

ferroelectric phenomena *see* ferroelectricity

ferroelectric semiconductor materials *see* ferroelectric semiconductors

ferroelectric semiconductors

- antiferroelectric, thermodynamics and electron subsystem effects 4-6524
 IV-VI compounds, band edge struct., magneto-optical studies 4-25226
 IV-VI semiconductors, dielectric props. and band struct. calcs. 4-35331
 LF fluctuations and relax. 4-16147
 ternary compounds, ferroelectricity 4-30407
 (Ba,Pb)SnO₃ solid solns., posistor effect 4-50818
 BaTiO₃ ceramics, positive temp. coeff. of resist. with Curie points between 60 and 360°C 4-25383
 BaTiO₃, ferroelectric, point defect chemistry, nonstoichiometry and elec. cond. anal. 4-7132
 BaTiO₃:Fe, and undoped, cond. and photocond. meas. (*French*) 4-56346
 BaTiO₃:Y₂O₃, electrophysical and magnetochemical props. 4-56857
 BaTiO₃-based ferroelectric ceramic, role of Ba₂TiO₄ during processing 4-30672

ferroelectric semiconductors continued

- GeTe, transition to state with mag. moment in external EM field 4-30019
 KNbO₃ doped ferroelec. semicond., phase transitions and props. 4-46205
 KNbO₃ ferroelectric ceramics, positive temp. coeff. of resistivity 4-45767
 K(Nb_{1-x}Ta_x)O₃, ferroelec. semicond., elec. cond. 4-25340
 KTaO₃, semicond., Raman scatt. spectra due to ferroelec. soft phonon modes 4-25742
 NH₄HSeO₄, ferroelectric phase transition study 4-51206
 Pb_{1-x}Ge_xTe, anomalous resistivity near ferroelectric phase transition 4-46204
 Pb_{1-x}Sn_xTe, composition depend. of ferroelectric transition temp. 4-2888
 Pb_{1-x}Sn_xTe heavily doped ferroelec. semicond., Curie temp. effects 4-35392
 PbTe:Ga, strongly doped, photoelec. behaviour near Curie temp. 4-39981
 PbTiO₃ single cryst., photocond. and current-volt. characts. 4-11560
 SbSI-Si-metal structs., I-V and C-V characts. 4-11589
 SrTiO₃, IR absorpt. by mixed polarons 4-39792
 SrTiO₃, semicond., Raman scatt. spectra due to ferroelec. soft phonon modes 4-25742
 TiGaSe₂, ferroelectric soft mode, dielec. function dispersion 4-30409

ferroelectric switching

- dielectric constant variation during switching between two states 4-25667
 TGS plate, trigger medium for modelling autowave processes 4-7139
 uniaxial ferroelectrics, switching in applied electric field or mechanical stress 4-40377
 CsH₂PO₄, polarisation reversal, switching characts. 4-35389
 Gd₂(MoO₄)₃, single cryst., Barkhausen effect and viscous phenomena 4-30406
 KD₂PO₄-KH₂AsO₄, ferroelectric domain switching, ESR studies 4-11849
 KH₂(SeO₃)₂, ferroelastic, switching, influence of defects 4-30415
 SrTiO₃ single cryst., electroluminesc., at low temps. 4-11943

ferroelectric thin films

- poly(vinylidene fluoride-trifluoroethylene) copolymer thin films, ferroelec., piezoelec. and pyroelec. props. 4-11845
 Ba_{0.5}Sr_{0.5}Nb₂O₆ ferroelectric thin film, pulse electrooptical light modulation (*Russian*) 4-20944
 LiNbO₃:Ti, transparent thin films 4-30547
 PLZT films, RF diode sputtering prep., dielec. and optical props. 4-30394
 PLZT thin film waveguides for integrated optical device (*Japanese*) 4-55226
 PZT ferroelectric films, RF magnetron sputtering 4-30628
 PZT, ferroelectric films, thermal decomp. prep., dielec. props. 4-40667
 Pb₂GeO₃ films, doped and undoped, sputtering prep. and pyroelec. props. 4-30393
 Pb₂GeO₃ films, elec. and dielectric props. 4-35105
 PbTiO₃, heteroepitaxial sputtered films 4-40648
 Pb(Ti_{0.35}Zr_{0.33}Nb_{0.08}Mo_{0.023})O₃, ferroelectric films, cathode sputtering 4-57100
 SbSI film on Si substrate, elec. and dielectric props. 4-40346
 SbSI thin films, prep. and dielec. props. 4-30392
 Y₃Fe₂O₁₂:Pr, waveguide light propag., refractive index meas. 4-30547

ferroelectric transitions

- see also critical fluctuations; displacive transformations; ferroelectric Curie temperature; order-disorder transformations*
 BaTiO₃-PbTiO₃ system, ferroelec. phase diagram, computer calc. 4-40374
 bis-tetramethylammonium tetrachlorozincate-d₂₄, incommensurate phase, defect mobility 4-20413
 ceramics, soft modes and grain size effects 4-30408
 colloid, character of phase transition (*Russian*) 4-30410
 conference, Gaithersburg, USA (June 1983) 4-31956
 critical phenomena in ferroelectric crystals and liquid crystals 4-35376
 ferroelastics and ferroelectrics, struct. studies around phase transition points 4-29593
 ferroelectric vertex models on square lattice, long range order 4-7133
 fluctuations at phase transitions, macroscopic theory (*Russian*) 4-56860
 incommensurate-commensurate phase transitions, extended antiferroelec. interaction Ising model 4-6467
 induced in ferroelec. crystals with dipole defects 4-35378
 Ising model, damping of transverse and longit. excitations in transverse Ising 4-35390
 N-isopropylcarbazole, ferroelec. mol. cryst., pyroelec. and pyroluminesc. props. 4-35370
 IV-VI ferroelectric semicond., band edge struct., magneto-optical studies 4-25226
 IV-VI semiconductors, dielectric props. and band struct. calcs. 4-35331
 lithium ammonium tartrate, ferroelastic, piezoelec. and piezoelectrical props. 4-46185
 lithium ammonium tartrate, phase transition, Raman scatt. study 4-25690
 lithium potassium tartrate, phase transition, Raman scatt. study 4-25690
 Mn₂B₂O₇, spontaneous birefringence studies of ferroelec./ferroelastic phase 4-7156
 ((NH₄)_{1-x}K_x)₂SO₄ mixed crystals, laser Raman spectra 4-2919
 noncommensurate phase transitions, US studies 4-35379
 off-centre impurity ion induced ferroelec. transition, anomalous props. 4-2887
 one dimension, ferroelectric ordering, finite size theory 4-46196
 perovskites, ferroelectric complex, phys. phenomena, review 4-35377
 poly(vinylidene fluoride), ferroelec. phase transition, X-ray diffr. study 4-2884
 poly(vinylidene fluoride-trifluoroethylene) copolymer thin films, ferroelec., piezoelec. and pyroelec. props. 4-11845
 pseudo-Jahn-Teller impurities, effect on phase transitions 4-30412
 quartz, phase transition study by far IR Fourier spectroscopy 4-25743
 radio spectroscopic investigations of noncommensurate phases 4-35240
 Rochelle salt, ferroelectric phase transition, elastic, dielectric and electromechanical nonlinearities 4-35386
 semiconductors, antiferroelectric, thermodynamics and electron subsystem effects 4-6524
 structural phase transitions, light scatt. studies, seminar, Bentenjima, Japan (June 1983) 4-22509
 ternary compounds, ferroelectricity 4-30407
 tetramethylammonium iron tetrachloride, ferroelec. region in press.-temp. phase phase, dielec. const. meas. 4-2883
 tetramethylammonium zinc tetrachloride, incommensurate phase, dielec. relax. 4-20923

ferroelectric transitions continued

- TGS_{0.10}-TGS_{0.90} solid soln., ferroelec., thermodynamic state, press. effects 4-30414
 TGS, crit., dynamics, nonclassical or classical behaviour 4-7138
 TGS, phase transition in presence of temp. gradient 4-11850
 TGS crystal, gamma-irradiated, ferroelec. transition, hypersound propag., Brillouin light scatt. 4-35381
 TGS crystals, acousto-optical props., near Curie point 4-35411
 TGSe:Cr³⁺, deuterated, ferroelec. phase transition 4-35387
 thiourea, ferroelec., commensurate-incommensurate transition and memory effect 4-35383
 thiourea, high elec. field ferroelectric transitions 4-30411
 thiourea, US attenuation and order parameter relax. near incommensurate phase transition (*French*) 4-39408
 thiourea-d₄, field-induced commensurate phase, birefr. meas. and Landau-Ginzburg theory 4-2886
 s-triazine, per-deuterated, lattice dynamics, neutron scatt. study 4-11237
 tritrigonal phase transitions in ferroelectrics 4-20924
 triglycine sulphate, struct. phase transitions, electronic subsystem effects 4-7136
 tris-sarcosine calcium chloride, ferroelec. transition, soft-mode spectroscopy 4-25691
 tris-sarcosine calcium chloride bromide, solid solns., ferroelec., order parameter and soft mode 4-46197
 uniaxial ferroelectrics, soft optic modes, phonon relax. due to anharmonism and central peak 4-6465
 uniaxial ferroelectrics, switching in applied electric field or mechanical stress 4-40377
 vinylidene fluoride-trifluoroethylene copolymer, dielectric relax. 4-25678
 vinylidene fluoride-trifluoroethylene copolymers, Curie transitions study 4-40369
 vinylidene fluoride-trifluoroethylene copolymers, struct., ferroelec. transition 4-56861
 A₂BX₄ type crystals, incommensurate-commensurate phase transitions, statics and dynamics 4-25004
 AgNb_{1-x}Fa_xO₃ solid solns., ferroelectricity 4-46195
 Ba₂NaNb₂O₇, acoustic phonon dispersion at incommensurate transition, Brillouin scatt. study 4-25770
 Ba₂NaNb₂O₇, second harmonic generation during ferroelectric transition 4-10375
 Ba₂NaNb₂O₇, ferroelectric, high-temp. dielec. relax. and phase transitions 4-30389
 BaPbO₃(I)-BaBiO₃(II) solid solns., dielec. props. and superconductivity 4-25473
 BaTiO₃, ferroelec. transition, interface vel. estimation 4-24959
 BaTiO₃, para-ferroelectric phase change, spontaneous polarisation and Bloch orbital interactions (*French*) 4-7137
 BaTiO₃, parameter variations in strong EM field 4-2862
 BaTiO₃, structural phase transitions study by hyper-Raman and Rayleigh scatt. 4-25692
 BaTiO₃ target, external bremsstrahlung due to β particles from ⁹⁰Sr—⁹⁰Y reaction 4-24882
 BaTiO₃ type ferroelectric crystal, thermodynamics of deform. pot. under mech. stress 4-30405
 BaTiO₃-type systems, ferroelectric transition theory 4-40376
 Cd₂Nb₂O₇, elec. polarisation charact., dielec. props. meas. 4-11833
 CdTiO₃, structural transition, PAC elec. quadrupole interaction 4-40297
 Cs₂PO₄, anomalous behaviour of heat capacity 4-25047
 CsH₂PO₄, anomalous behaviour of heat capacity 4-25047
 CsHSO₄, ultrasonic attenuation, phase transitions 4-39401
 CsHSO₄(SeO₄), ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
 CsRbSeO₄, ferroelectric and thermal props. 4-25693
 Gd(MoO₄)₃, ferroelec., internal friction near Curie point 4-11226
 GeTe, transition to state with mag. moment in external EM field 4-30019
 H-bonded 'crystals', phase transition and isotope effect (*Japanese*) 4-56863
 (K_{0.5}Bi_{0.5})TiO₃, ferroelectric-paraelectric transition 4-25695
 KD₂PO₄, permittivity at high conc. of elementary excitations 4-20897
 KD₂PO₄SeO₄³⁻, domain nucleation near ferroelec. transition, elec. field effects 4-35396
 KH₂AsO₄, X-irrad., crit. anomaly in electron spin-lattice relax. at ferroelec. phase transition 4-2821
 KH₂AsO₄, X-irradiated, obs. of K hyperfine interaction, electron spin echo envelope modulation 4-46145
 KH₂PO₄, birefringence study of tricritical point 4-46229
 KH₂PO₄, Brillouin scatt. near tricritical point 4-24944
 KH₂PO₄, ferroelec., internal friction near Curie point 4-11226
 KH₂PO₄, ferroelec., tricritical phase transitions 4-20924
 KH₂PO₄, ferroelec. phase transition dynamics, Raman scatt. study 4-25689
 KH₂PO₄, ferroelec. phase transition, Slater theory anal. and extension 4-46203
 KH₂PO₄, ferroelec. phase transition, order-disorder type, Raman spectra study (*Japanese*) 4-56862
 KH₂PO₄, ferroelectric phase transition, D nucl. quadrupole double reson. study 4-30361
 KH₂PO₄, γ -ray diff. near ferroelastic transition 4-39459
 KH₂PO₄, internal modes and PO₄ tetrahedron local symm., Raman scatt. study 4-2925
 KH₂PO₄ melts and crystals, proton correlations assoc. with ferroelec. transition, H bonds, Raman bands 4-30472
 KH₂PO₄ type ferroelectrics, phase transition, models, light scatt. spectra and polarisation localisation 4-40375
 KH₂PO₄:KH₂AsO₄(NH₄H₂PO₄), dielec. behaviour, effect of impurities 4-2885
 KH₂PO₄-KD₂PO₄ mixed cryst., ferroelec., polarisation relaxation spectra of (H₂PO₄)⁻ dipoles 4-25774
 K₁H(SeO₄)₂, dielectric study of phase transitions 4-20922
 K_{1-x}Li_xTaO₃, ferroelectric phase transitions induced by dipole effects 4-35378
 K₂Mn₂(SO₄)₃, langbeinites, Raman spectra and phase transitions 4-7135
 KNO₃, ferro-paraelectric transition, microwave radiometric study 4-35391
 KNO₃, dislocation interactions with ferroelec. domains 4-24818
 KNO₃ doped ferroelec. semicond., phase transitions and props. 4-46205
 KNO₃, ferroelec. phase transitions, IR spectra studies 4-40371
 KNO₃ ferroelectric ceramics, positive temp. coeff. of resistivity 4-45767
 KNO₃, para-ferroelectric phase change, spontaneous polarisation and Bloch orbital interactions (*French*) 4-7137

ferroelectric transitions continued

- KNbW₂O₉, cryst. growth and ferroelec. characterisation 4-7134
 K₂S₂(NbO₃)₁₀, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 K₂SeO₄, ferroelectric, incommensurate phase, shear stress effects 4-35384
 K₂SeO₄, US attenuation and order parameter relax. near incommensurate phase transition (*French*) 4-39408
 KTaO₃-Li, ferroelectric transition, optical SHF study 4-46202
 KTaO₃-Li, random site elec. dipole system, collective effects 4-11847
 KTaO₃-Li crystals, ferroelec. phase transition, acoustic and dielec. props. 4-35380
 K₂ZnCl₄ crystal, ferroelec., LF internal friction and elastic props. 4-11227
 K₂ZnCl₄, ferroelectric, incommensurate-commensurate transition, dielec. dispersion 4-51204
 K₂ZnCl₄, phase transitions, hydrostatic press. effects, DTA and permittivity meas. 4-51203
 Li₂Ge₂O₇ crystals, phase transition study by far IR Fourier spectroscopy 4-25743
 LiHSO₄ ferroelectricity, polarisation-electric field hysteresis 4-40379
 LiNbO₃ ferroelec. cryst., dielec. anomalies and inelastic light scatt. 4-11848
 (NH₄)₂BeF₄, ferroelectric, incommensurate phase, phase transitions 4-35385
 (NH₄)₂BeF₄, ferroelectric, γ -irrad., phase transitions, macroscopic quadrupole effects 4-46201
 NH₄HSO₄, ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
 NH₄HSeO₄, ferroelectric phase transition study 4-51206
 NH₄HSeO₄, incommensurate antiferroelec., dislocations and time-dependent dynamics 4-35382
 NH₄IO₃, ferroelectric, proton spin-lattice relax. studies 4-7085
 NH₄LiSO₄, ferroelec., Brillouin scatt. study, relaxation and anomalous temp. depend. of elastic constants 4-25769
 (NH₄)₂SO₄, low temp. ferroelectric phase transition 4-51205
 (NH₄)₂ZnBr₄, ferroelec., incommensurate phase transition, X-ray diff. study 4-2882
 Na_{0.5}Bi_{0.5}TiO₃, ferroelec., phys. props. 4-35325
 NaNO₂, antiferromagnetic, elastic stiffness const. at normal-to-incommensurate phase transition, US study 4-50497
 NaNO₂, incommensurate phase, press. and elec. field depend., neutron scatt. and dielectric meas. 4-25001
 NaNbO₃, antiferroelectric, phase fronts at P-R transitions 4-51199
 NaVO₃, Raman spectra, ferroelectric behaviour below 380°C 4-35435
 PLZT transparent ferroelec. ceramics, electronic processes and phase transitions 4-11846
 PZT, solid solns., electrostrictive props. near tricritical point 4-46184
 PZT, temperature-composition-electric field phase diagram 4-46200
 Pb-Te-O single cryst. growth from melt, electrophysical props. 4-30625
 Pb₃B²⁺O₆ ternary oxides, ferroelec., lattice ion ordering influence 4-30413
 Pb₃Ge₂O₇, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 Pb₃GeO₁₁, ferroelec., photovoltaic effect 4-45822
 Pb_{1-x}Ge_xTe, anomalous resistivity near ferroelectric phase transition 4-46204
 Pb(Mg_{1/3}Nb_{2/3})O₃, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 PbMg_{1/3}Nb_{2/3}O₃, ferroelectric, diffused phase transition, refractive index study 4-30431
 PbMg_{1/3}Nb_{2/3}O₃, ferroelec., with diffuse phase transition, phys. phenomena, review 4-35413
 Pb(Mg_{1/3}Nb_{2/3})O₃, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
 PbNb_{0.5}In_{0.5}O₃, phase transition, X-ray and dielec. studies 4-25694
 PbNb_{0.5}Sc_{0.5}O₃, phase transition, X-ray and dielec. studies 4-25694
 Pb₉₉Nb₀₀₂(Zr_{0.6}Sn_{0.4}O_{0.94}Ti_{0.06}O_{0.98})₃, electrostriction study 4-40354
 Pb(Se_{0.3}Nb_{0.3})O₃ ceramic, ferroelectric, dielec. and thermal props. 4-35388
 Pb₂SeNbO₆, single crystal growth, phase transitions, dielectric nonlinearity 4-51474
 PbTeO₃, cryst. growth from melt, phase transition, to spontaneously polarised state, dielec., X-ray diff., SHG meas. 4-25696
 PbTiO₃, heteroepitaxial sputtered films 4-40648
 PbTiO₃, press. depend. Raman study of phonons 4-25738
 PbTiO₃, soft phonon linewidth, press. depend., Raman scatt. study 4-2924
 PbTiO₃, zone centre phonons and ferroelec. transition, high press. Raman study 4-29554
 Pb(Zn_{1/3}Nb_{2/3})O₃, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
 Pb(Zr,Ti)O₃ ferroelectric films, RF planar magnetron sputtering and dielec. props. 4-16166
 PbZrO₃-PbTiO₃:Nb₂O₅ ceramic, FE₁-FE₂ phase transition, doping effects 4-40368
 PbZrTiO₃:Nb ceramic, phase transition props. (*Chinese*) 4-2881
 Pb(Cr_{0.6}Ti_{0.4})O₃, ferroelectric transition study 4-40370
 Rb₂Cd(SO₄)₃, langbeinites, Raman spectra and phase transitions 4-7135
 RbH₂PO₄, γ -ray diff. near ferroelastic transition 4-39459
 RbHSO₄, ferroelectric dynamics study 4-35394
 RbHSO₄(SeO₄), ferroelectric ferroelastic crystals, phase transition to superionic state 4-45388
 RbHSeO₄, domain struct. and light deflection at domain walls 4-25698
 Rb_{1-x}(NH₄)_xH₂PO₄ mixed cryst. proton glass, Vogel-Fulcher scaling of susceptibility 4-25670
 Rb₂(NH₄)_{1-x}HSeO₄ mixed crystals, high temp. phase transition, domain struct. 4-46194
 Rb₂ZnBr₄, heat capacity, 3 to 300K, thermodynamic props. of incommensurate transitions 4-6517
 Rb₂ZnCl₄, ferroelec. phase transition and cryst. struct., neutron diff. study 4-16171
 Rb₂ZnCl₄, incommensurate-commensurate phase transition, defect and thermal fluctuation effects 4-40372
 Rb₂ZnCl₄, low temp. ferroelectric phase, Cl NQR studies 4-2838
 SbNbO₄-TiO₂ ferroelectric ceramics, phase comp. and dielec. props. 4-51202
 SbSI film on Si substrate, elec. and dielectric props. 4-40346
 SeTaO₄, ferroelec. cryst., spontaneous polarisation and phase transition 4-35393

ferroelectric transitions continued

- $\text{Sn}_2\text{P}_2(\text{Se,Si}_{1-x})_4$ ferroelec. solid soln., lattice dynamics, Raman spectra studies 4-24932
 $\text{Sr}_3(\text{Al}_2\text{O}_7)_2(\text{CrO}_4)_2$, ferroelec. transition and pyroelec. appls. 4-40366
 SrTiO_3 , structural phase transitions study by hyper-Raman and Rayleigh scatt. 4-25692
 SrTiO_3 surface layers, acoustical study of phase transition 4-46198
 TiGaSe_2 , ferroelectric soft mode, dielec. function dispersion 4-30409

ferroelectricity

- see also *antiferroelectricity; ferroelectric devices; ferroelectric materials; ferroelectric switching; ferroelectric transitions*
 bibliography of ferroelectrics, July-December 1982 4-47811
 coherent state in ferroelectrics, anomalous photogalvanic effects 4-35022
 conference, Gaithersburg, USA (June 1983) 4-31956
 conference, Minsk, USSR (Sept. 1982) 4-31953
 displacive type, composition, struct. and props. 4-40367
 fast electron bombardment, energy losses, temp. dependence 4-29497
 fracture micromechanisms, dislocation models 4-6436
 hysteresis loop tracer, with automatic sampling cct. 4-32273
 hysteresis obs., loop tracer with waveform storage 4-17900
 linear and nonlinear dielectrics, quasi-static capacitance and ultraslow relax. 4-35345
 low temperature pyroelectric properties 4-40358
 2-methylbutyl p-(p-n-decyloxybenzylideneamino)-cinnamate, smectic C phase, pitch, electric field influence 4-50505
 mixed quantum ferroelectric cryst., dielectric susceptibility 4-51180
 nuclear spin-lattice relax., Kobayashi model anal. 4-35242
 permittivity at millimetre-wave freq. 4-30375
 phase conjugate optics and dynamic holography appls. 4-33717
 plate, acoustic soliton propag., Love and Lamb waves 4-24918
 polycrystalline ferroelectric-ferroelastics, elastic wave props. 4-35373
 polymers, solid and liq., dielec. const., rigorous bounds 4-35327
 pseudospin-phonon coupling, role of central peak in sound absorption (Russian) 4-34600
 smectic liquid cryst., synthesis, props. and appls. 4-39093
 spectroscopy of ferroelectrics in submillimetre range 4-35521
 thermally-generated fields and linear transient pyroelec. response of ferroelec. media 4-40363
 thermopolarisation effect and dielec. relax. in ferroelectrics 4-35344
 thermopolarization effect in ferroelectrics 4-35335
 uniaxial ferroelectrics, kink model, domain wall contrib. to dielec. response 4-7140
 Z 4-7133
 BaTiO_3 group ferroelectrics, ferroelectricity from aspect of crystal chemistry 4-40378
 H-bonded ferroelectrics, Debye relax. time 4-55942

ferrofluids see *magnetic fluids***ferromagnetic-antiferromagnetic transitions**

- see also *metamagnetism; Morin temperature*
 dibromodichlorobis(4-methylpyridine)-iron, mag. susceptibility in temp. range 77-300K 4-20800
 TCNQ salt, spin-Peierls critical temp. 4-11517
 tetrachlorobis(4-methylpyridine)-iron, mag. susceptibility in temp. range 77-300K 4-20800
 $\text{Ce}_{1-x}\text{La}_x\text{Mn}_2\text{Si}_2$, mag. props., X-ray diffr., magnetometric meas. 4-11682
 $\text{Ce}(\text{Mn}_{1-x}\text{Tl}_x)_2\text{Si}_2$, $\text{T}=\text{Fe, Co, Cu}$, mag. props., X-ray diffr., magnetometric meas. 4-11682
 $\text{Co}_{1-x}\text{Zn}_x\text{F}_2$, mag. props. 4-16031
 Dy, magnetic cycling, mag. transitions, energy conversion 4-36020
 Dy, thermomag. energy conversion appls., rel. to struct. and mag. props. 4-45743
 $\gamma\text{-FeNiCr}$, antiferromagnetic order near stainless steel composition 4-35201
 $\text{Fe}(\text{Pd}_{1-x}\text{Au}_x)_3$, mag. struct. study 4-20795
 $\text{Fe}(\text{Pt}_{1-x}\text{Mn}_x)_3$, mag. struct. study 4-20795
 $\text{Hf}_{1-x}\text{Ta}_x\text{Fe}_2$, antiferromag. to ferromag. transition (Japanese) 4-40173
 $\text{Hf}_{1-x}\text{Ta}_x\text{Fe}_2$, itinerant electron magnets, mag. phase transitions study 4-11698
 $\text{KMn}_{1-x}\text{Ni}_x\text{F}_3$, susceptibility, antiferromag., Neel temp., phase transitions 4-46005
 $\text{LaMnO}_{3+\delta}$, concentrational antiferromagnetic-ferromagnetic transition 4-51047
 $\text{MnAs}_{1-x}\text{P}_x$, magnetic phases, initial mag. susceptibility study 4-35171
 Mn_2GaC perovskites, magnetic transitions, sp. ht. study 4-6986
 MnRhAs , antiferromagnetic-ferromag. transition, magnetisation and susceptibility meas. 4-11712
 $\text{Mn}_2\text{Sn}(\text{N,C})$, mag. transitions and cell parameters, X-ray diffr. studies 4-11098
 $\text{Mn}_{1-x}\text{Zn}_x\text{F}_2$, mag. props. 4-16031
 $\text{Ni}_3\text{Fe}(\text{Mn})(\text{Al})$, mag. moment distrib. and superlattice dislocations 4-11707
 NiMn , electronic struct., structural and mag. transitions 4-20551
 $\text{Ni}_{1-x}\text{Zn}_x\text{F}_2$, mag. props. 4-16031
 $\text{PdAu}_{25}\text{Fe}_{21}$, mag. transition and props. (Chinese) 4-2753
 $\text{PdAu}_{25}\text{Fe}_{21}\text{Al}_4$, mag. transition and props. (Chinese) 4-2753
 $\text{Pt}_2\text{Fe}(\text{Co})$, mag. moment distrib. and superlattice dislocations 4-11707
 $(\text{Sm}_{1-x}\text{Er}_x)\text{Rh}_2\text{B}_4$, supercond., antiferromag.-ferromag. transition study 4-40170
 TbMn_2Ge_2 , magnetic phase transition and cryst. struct. 4-40172
 $\text{UP}_{1-x}\text{Se}_x$ solid soln., specific heat and mag. transitions 4-6987

ferromagnetic Curie temperature see *Curie temperature***ferromagnetic-paramagnetic transitions**

- see also *Curie temperature*
 alloys, second-order phase transition, press. effects (Russian) 4-6975
 anisotropic semi-infinite ferromag., autocorrelation time 4-16041
 ferromagnets, HF eqn. with screening potential, effective mass discontinuity at Curie temp. 4-6974
 jellium model, paramagnetic-ferromagnetic transition point, Pade approx. calc. 4-51053
 Potts model in random fields 4-205
 thin ferromagnetic films, pure and dil., phase transitions, mean-field model 4-7040
 $\text{BaO-B}_2\text{O}_3$ glasses containing Ni micro-granules, mag. props., EPR spectra 4-35223
 CrBe_{12} , paramagnetic-ferromag. transition, elec. resist. study 4-11511
 ErRh_2B_4 ferromagnetic supercond., coexistence state, strain effects 4-11648
 $\text{Eu}_2\text{Sr}_{1-x}\text{S}$, reentrant spin glass, elastic light scatt. 4-56639

ferromagnetic-paramagnetic transitions continued

- $\text{Eu}_2\text{Sr}_{1-x}\text{S}_{0.5}\text{Se}_{0.5}$, ferromag. solid soln., crit. exponents, sp. ht. and magnetisation meas. 4-6984
 Fe, pseudo-discontinuities in the isomer shift near magnetic transitions 4-40311
 Fe-Cr-Ni, elec. and mag. props. at low temp. 4-56627
 Fe-V system, mag. phase diagram, thermodynamic anal. 4-46022
 $\text{Fe}_{0.7}\text{Al}_{0.3}$, anomalous mag. behaviour, inelastic neutron scatt. study 4-20808
 $\text{Fe}_2\text{B}_{100-x}$ sputtered amorphous film, mag. resonance study 4-25642
 Fe_3Ni , spin fluctuation effect on paramagnetic susceptibility 4-20786
 $\text{Fe}_2\text{Ni}_{78-x}\text{Si}_2\text{B}_{13}$, amorphous, mag. double transition, Mossbauer effect study 4-11724
 K_2CuF_4 , spin dynamics and phase transition, neutron scatt. study 4-11700
 $\text{LiTb}_{0.63}\text{Y}_{0.37}\text{F}_4$, smeared paramag. to ferromag. phase transition, susceptibility meas. 4-2759
 $\text{MnAs}_{1-x}\text{P}_x$, magnetic phases, initial mag. susceptibility study 4-35171
 Mn_2GaC perovskites, magnetic transitions, sp. ht. study 4-6986
 MnP , mag. phase transitions and Lifshitz point 4-30167
 MnSi , spin fluctuation effect on paramagnetic susceptibility 4-20786
 Ni, ferromagnetic transition, critical behaviour 4-2771
 Ni sputtered atoms, photon emission near Curie point, target temp. effects 4-11396
 $\text{NiSiF}_6\cdot 6\text{H}_2\text{O}$, mag. phase transitions under press. 4-25558
 $\text{Sn}_{1-x}\text{Cr}_x\text{Te}$, as-grown and Zn annealed, mag. phase transitions, mag. susceptibility meas. 4-51035

ferromagnetic properties of substances

- see also *ferromagnetic relaxation; ferromagnetic resonance; ferromagnetism; magnetic semiconductors*
 actinide alloys, R-Ni(Co), 3d ferromagnetism onset and spin fluctuations, expt. and band models 4-2755
 actinide chalcogenides, struct., electronic struct. and mag. props. 4-11072
 alloys, amorphous, magnetic props., flash annealing effects 4-56690
 amorphous metals, quadrupole interaction, Mossbauer spectra 4-35290
 bis-alkylphenylammonium tetrachlorocuprate, ferromag., relax. of zone boundary magnon 4-2745
 calculation of a rotating magnetic field and surface losses in a cylindrical region by optimum linearization (Russian) 4-51087
 cyclohexylammonium copper tribromide, quantum $S=1/2$ XY chain, solitons 4-56519
 damping alloys, appl. in gears for noise control 4-38664
 dimethylammonium copper tetrachloride, normal and deuterated ferromag., mag. props. 4-56581
 ferromagnetic tapes, metallic, amorphous, magnetic props., effects of electrically insulating coating (Czech) 4-40188
 ferromagnetic lyomesophase, calamitic, depletion layers, optical microscopic obs. 4-39100
 film, radiofrequency resonance field effects, nuclear echo (Russian) 4-51157
 internal field intensity meas. by cavity method 4-13659
 Invar, Mossbauer study, mag. moments (Chinese) 4-2846
 liquid, submicron domain struct., 4-51088
 local magnetic fields on ^{19}F , studied up to T_g , TDPAD meas. 4-39852
 magnetic induction meas. by cavity method 4-13659
 magnetised ferromagnets, shock loading, mag. effects 4-40210
 manganese (III) porphyrins, electronic struct., mag. props. 4-51032
 metallic glasses, ferromagnetic, quenched, defect distrib. 4-34413
 metallic glasses, fundamental mag. props. 4-56696
 metallic glasses, magnetostriction, annealing and temp. depend. (Chinese) 4-56750
 metallic very thin films, exchange interaction between ferromagnetic domain wall and elec. current 4-56736
 metals, bulk, ferromagnetic resonance, anal. theory, dispersion relations for parallel config. 4-16103
 metals, ferromagnetic, EM US transduction, interaction mechanisms (German) 4-51920
 metals, FMR linewidth in parallel config. 4-35231
 metals, mag. susceptibility, appl. to Ni 4-2742
 Metglas alloys, explosive compaction effects on ferromag. props., relative density and crystallisation 4-35591
 particles, aqueous suspension, mag. moments, ultramicroscopy study 4-40198
 rare earth alloys, $\text{R}_{1-x}\text{Gd}_x\text{Al}_2$ ($\text{R}=\text{La, Lu, Y}$), electronic and mag. props., bremsstrahlung isochromat spectra 4-21063
 rare earth alloys, R_2Fe_{17} , magnetostriction and thermal expansion 4-30256
 rare earth alloys, R-Fe_{95} , magnetostriction and magnetisation, stress effects 4-30257
 rare earth alloys, RAgGa , paramag. props., Curie and Neel temps. 4-56536
 rare earth alloys, rapidly quenched, mag. hysteresis 4-51099
 rare earth alloys, $\text{RCO}_{5-x}\text{M}_x$, $\text{M}=\text{Ni, Cu, Al, Si}$, mag. props. 4-7017
 rare earth alloys, RPd_2Si , $\text{R}=\text{Dy-Er}$, ferromagnetic, Curie temps., indirect exchange interactions, cryst. field effects 4-30169
 rare earth amorphous alloy film, R-Fe, mag. props. and hydrogenation 4-56717
 rare earth borides, $(\text{R}_{1-x}\text{Rh}_x)\text{Rh}_3\text{B}_2$, phase diagrams and itinerant mag. props. 4-6472
 rare earth borides, RFe_2B_4 ($\text{R}=\text{Ce, Pr, Nd, Sm, Gd, Tb}$), cryst. struct. and ferromag. props. 4-11099
 rare earth bromates, $\text{R}(\text{BrO}_3)_2\text{H}_2\text{O}$, mag. susceptibility and ferromag. transitions 4-56571
 rare earth metal hosts, Mossbauer study of mag. and elec. hyperfine interaction of dil. ^{57}Fe impurities 4-40286
 rare earth metallic glasses, R-Al, thermal stability, mag. and elec. props. 4-45727
 rare earth metallic glasses, random anisotropy, exchange fluctuations and phase transitions 4-2749
 rare earth permanent magnets, bonded, thermal stability characts. 4-7028
 rare earth permanent magnets, R_2Co_{17} , precip. hardened, microstructure, mag. domain struct., TEM study 4-7002
 rare earth permanent magnets, R-Co, domain wall pinning 4-7001
 rare earth rhodium silicides, R_2RhSi_3 , cryst. struct., elec. and mag. props. 4-50272
 rare earth silicides, $(\text{R,Th,U})\text{Os}_2\text{Si}_2$, mag. props. and cryst. struct. 4-2725
 rare earth ternary silicides, R-Rh-Si and R-Ir-Si, supercond. and mag. props. 4-11621

ferromagnetic properties of substances continued

- rare earth vanadates, RVO_4 ($\text{R}=\text{Gd, Tb, Dy, Ho, Er, Yb}$), magnetic susceptibility, 295-925K 4-20798
 rare earth-Co magnets, homogeneity rel. to coercivity characts. 4-7026
 rare earth-Co matrix magnets, air ageing characts. 4-7035
 rare earth-Co permanent magnet alloys, oxidation behaviour rel. to mag. props. 4-7034
 rare earth-transition metal alloys, $\text{R}_2\text{Co}_{17-x}\text{T}_x$, $\text{R}=\text{Ce, Pr, Sm, Er, Yb}$, $\text{T}=\text{Ti, Fe, Cu, Zr, Hf}$, anisotropy fields 4-6966
 rare earth-transition metal alloys, R_2M_{23} , mag. struct. and props., review 4-20791
 rare earth-transition metal alloys, $\text{R}(\text{Co}_{1-x}\text{M}_x)_2$, giant intrinsic mag. hardness 4-16068
 rare earth-transition metal alloys, RT_5 , R_2T_{17} , mag. anisotropy 4-6965
 rare earth-transition metal alloys with MgCo_2 struct. 4-20788
 rare earth-Co permanent magnet alloys, development and prod. 4-7027
 $\text{Sm}_{1-x}\text{Er}_x(\text{Co, Fe, Cu, Zr})_2$, permanent magnets, B-H loop meas. 4-56706
 spin glasses, high-temp. susceptibility and exchange interactions 4-11715
 steel, alloy, magnetisation, study of stress effects 4-25588
 steel, austenitic stainless, ferromagnetic traces at 4.2K 4-51100
 steel, Cr-Mo low alloy, coercivity and microstruct., TEM studies 4-7492
 steel, dual-phase, Barkhausen jumps, effect of heat treatment in intercrit. temp. range 4-56694
 steel, energy loss per cycle, freq. depend. 4-25583
 steel, high Cr, mag. phase anal., saturation magnetisation 4-46024
 steel, low C, NDT, correcting for chem. comp. 4-46681
 steel, mag. field effect on elasticity characts. 4-56755
 steel, Mn-Nb, dual phase, coercivity rel. to heat treatment (Chinese) 4-56686
 steel, Ni-Mo, permanent mag., surface roughness, mag. props., electrochem. machining, alloying additions effect (Russian) 4-21336
 steel, polishing with magnetoabrasive powders 4-26106
 steel, stainless, saturation magnetisation temp. depend., magnetometer with automatic recording meas. 4-42994
 steel components, ferritic, cold neutron radiographs, multiple refr. effects, grain size meas. 4-35794
 steel sheet, with arbitrary number of domains, eddy-current losses in arched bend (Polish) 4-25585
 structural relax. irreversibility and mag. props. 4-55739
 superconducting ferromag. thin films, magnetisation study 4-2795
 ternary magnetic semiconductors, prep. and charact. 4-29964
 tetraethylammonium iron(III) tetrachloride, EPR linewidth, anomalous temp. depend. 4-7048
 3d transition metal monoxides, cohesive props., KKR band calcs. 4-6312
 Au-Fe, FCC, Mossbauer spectrum and hyperfine splitting 4-56828
 Au-Fe FCC alloys, Mossbauer spectrum and mag. struct. 4-11812
 Au-Fe alloys, double mag. transitions and allied phenomena, metallurgical explanation 4-56616
 Au-Fe, Mossbauer spectra, mag. field effects 4-35275
 $\text{Au}_{1-x}\text{Fe}_x$, mag. hysteresis, irreversible effects below the 'de Almeida-Thouless temp. 4-40192
 BaCoF_4 , optical phonon spectra, effect of magnetoelec. interaction (Russian) 4-2936
 CdCr_2S_4 , dynamic behaviour of the s-d model 4-25532
 CdCr_2S_4 , spin wave longitudinal pumping, damping and relaxation 4-35160
 CdCr_2S_4 , ternary mag. semicond., coexistence of Cr^{2+} and Cr^{4+} ions, ferromag. reson. study 4-30287
 CdCr_2Se_4 , ^{111}Cd quadrupole coupling, TDPAC study 4-35295
 CdCr_2Se_4 , ferromag. semicond., magnetostatic waves, relax. times 4-25535
 CdCr_2Se_4 , ferromag. semicond., anomalous photomagnetoelectric effect 4-35217
 $\text{p-CdCr}_2\text{Se}_4$, mag. ordering influence on photoconductivity 4-15909
 CdCr_2Se_4 , magnetic phase transitions, modulation and thermomodulation spectroscopy (Russian) 4-6972
 CdCr_2Se_4 , nonlinear paramag. effect, crit. exponent 4-40154
 CdCr_2Se_4 , spin wave longitudinal pumping, damping and relaxation 4-35160
 $\text{n-CdCr}_2\text{Se}_4\text{In}$, switching effect based on N-shaped negative differential resist. 4-34993
 $\text{CDIn}_{2-x}\text{Cr}_x\text{S}_4$ solid soln., mag. props., EPR study, 4.2. to 300K 4-11765
 Ce mononitrides and monochalcogenides, mag. props. 4-11692
 (Ce mischmetal, Sm) Co_2 magnets, coercivity improvement by additions of transition metal powders 4-7031
 CeAg, cryst. fields and press. depend. of spin dynamics, inelastic neutron scatt. study 4-2744
 CeAg, magnetic and struct. props. at high press., elec. resist. study 4-30162
 $\text{Ce}_{1-x}\text{Gd}_x\text{Al}_3$, $x=0.05, 0.2$, effect of ferromagnetism on Kondo state 4-56753
 $\text{CeH}_x(\text{D}_x)$, mag. props. at low temps. 4-2739
 $\text{Ce}_{1-x}\text{La}_x\text{Mn}_2\text{Si}_2$, mag. props., X-ray diff., magnetometric meas. 4-11682
 $\text{Ce}(\text{Mn}_{1-x}\text{T}_x)_2\text{Si}_2$, $\text{T}=\text{Fe, Co, Cu}$, mag. props., X-ray diff., magnetometric meas. 4-11682
 CeNi_4Fe , ferromagnetic order, Curie temp., magnetisation 4-56542
 CeRh_2B_2 itinerant ferromagnet, elec. resist., temp. dependence 4-2612
 $\text{CeSi}_2-x\text{Ga}_x$, electronically driven volume transition, mag. susceptibility study 4-46033
 Co, electron-phonon interaction, point contact spectra studies (Russian) 4-56238
 Co film, recorded: magnetisation patterns obs. by electron holography 4-25601
 Co HCP plate-shaped fine particles, magnetisation configurations 4-40200
 Co, single crystal, magnetisation under high mag. fields to 180000 Oe (French) 4-7005
 Co-based Heusler alloys, Sn impurity hyperfine fields, Mossbauer effect 4-56826
 Co-Cr film, corrosion behaviour in Cl and S containing atms., rel. to mag. recording characts. 4-26088
 Co-Cr films, RF sputtered, magneto-optic props. 4-25607
 Co-Cr films, targets-facing sputtering prep. mag. props. rel. to perpendicular recording appls. (Japanese) 4-30633
 Co-Cr ion beam sputter deposited thin films, mag. and struct. characts. 4-25603
 Co-Cr RF sputtered films, saturation magnetisation, atomic distrib. effects 4-56720

ferromagnetic properties of substances continued

- Co-Cr sputtered thin films, microstruct. inhomogeneity and mag. props. 4-56167
 Co-Cr(Mo) sputtered films, domain struct. and mag. props. 4-25614
 Co-Fe-B metallic glass and cryst., hyperfine fields and mag. moments 4-56568
 Co-metalloid alloys, conc. amorphous and cryst., band gap theory of strong ferromagnetism 4-45992
 Co-Nb-B glasses, short-range order reversible transforms., mag. anisotropy changes 4-44997
 Co-P amorphous films, anisotropy fluctuations, laser diffraction study 4-30161
 Co-Pt alloy films, high coercivity, high-rate sputtering using Target-Facing type method 4-25883
 Co-Pt sputtered thin films for high density recording 4-25602
 Co-Zr(Nb)(Mo) amorphous and crystalline films, mag. props. 4-11750
 $\text{Co}_2\text{B-}^{57}\text{Fe}$, mag. struct. and Curie temp. (French) 4-51029
 CoCr sputtered films, mag. props. and microstruct., heat treatment effects 4-56721
 $\text{Co, Cr}_{1-x}\text{S}_x$, elec. and mag. props., anomalies 4-34976
 $\text{Co}_{92}\text{Fe}_{08}$, electronic struct., UPS and KKR calc. studies 4-29876
 $\text{Co}_{92}\text{Fe}_{08}\text{Ni}_{10}\text{Si}_{10}\text{B}_{16}$ amorphous alloy annealed, mag. props., effect of tensile stresses 4-40215
 $\text{Co}_{93}\text{Fe}_{05}\text{Si}_{10}\text{B}_{15}$ composite, high freq. mag. props. 4-46068
 CoNi, residual anomalous Hall coeff., and magnetisation, CPA calc. (Russian) 4-34949
 $\text{Co}_{93}\text{Ni}_{10}\text{Fe}_{05}\text{Se}_{11}\text{B}_6$ ribbons, amorphous, coercive field, surface roughness effect 4-7011
 CoP amorphous ferromag. broad hyperfine field distrib., NMR enhancement factor 4-56816
 Co, Pt_{1-x} thin films, mag. and transport props. 4-56718
 $\text{Co}(\text{Si}_x\text{Se}_{2-x})_2$ spin glass, low field mag. props. and relax. effects 4-40179
 $\text{Co}_{95-x}\text{Si}_x\text{B}_5$ metallic glasses, mag. aftereffect, permeability disaccommodation meas. 4-40205
 $\text{Co}_2\text{TiAl}(\text{Ga})$, ferromagnetic Heusler alloys, hyperfine field, Knight shift 4-50778
 Cr, thermal expansion, mag. contrib. above T_c 4-51116
 Cr-Co solid solution, vapour phase growth by closed tube technique 4-7341
 CrBe_{12} , paramagnetic-ferromag. transition, elec. resist. study 4-11511
 $\text{Cr}_2\text{Fe}_{2-x}\text{Te}_x$, mag. props., 100 to 1100K, susceptibility meas. 4-11681
 $\text{Cr}(\text{III})$ complex, $\text{Cr}(\text{L-histidine})_2(\text{OH})_2$, ferromag. interactions, mag. susceptibility and EPR 4-51122
 $(\text{Cr}(\text{NH}_3)_6)(\text{Cr}(\text{CN})_6)$ and $(\text{Cr}(\text{H}_2\text{O})(\text{NH}_3)_5)(\text{Cr}(\text{CN})_6)$ ordered bimetallic magnets, ferromag. props. 4-56576
 CrNiAs , cryst. struct. and mag. props. 4-11675
 CsNiF_3 , 1 D ferromagnet with planar anisotropy, spin dynamics, inelastic neutron scatt. study 4-16034
 CsNiF_3 , Heisenberg ferromagnetic chain, easy-plane, spin-wave damping and two-spin-wave bond state 4-56594
 CsNiF_3 , linear and non-linear spin fluctuations, polarised neutron study 4-40185
 CsNiF_3 , mag. soliton study by nucl. mag. relax. 4-16116
 CsNiF_3 , one-dimens. easy-plane ferromag., nucl. spin lattice relax., 1.5 to 20K 4-20882
 Cu (111) with Co overlayers, mag. props. calcs. 4-11740
 Cu II dimeric complexes, two-bridge exchange mechanism, EPR study 4-2809
 Cu-Ni-Fe superparamagnets, magnetocaloric effects (Russian) 4-51059
 Cu-Ni-Sn ternary system, phase diagram and mag. props. (German) 4-35614
 $\text{Cu, Cd}_{1-x}\text{Fe}_x\text{O}_4$ ferrosinels, thermopower and resist., B site mag. ordering correlation 4-56354
 CuCr_2S_4 , film, elec. and galvanomagnetic props. 4-56454
 $\text{Cu}_2\text{Cr}_2\text{Se}_4-x\text{Br}_x$, ferromag. spinel single cryst., transport phenomena and mag. ion exchange 4-29988
 $(\text{CuCr}_2\text{Se}_4)_x(\text{Cu}_0.5\text{Me}_{0.5}\text{Cr}_2\text{Se}_4)_{1-x}$ ($\text{Me}=\text{In, Ga}$) spin glass state suppression by indirect exchange 4-35182
 CuMnFe spin glass, NMR mean ferromagnetic enhancement factor 4-35177
 $\text{Cu, Ni}_{1-x}\text{Fe}_x\text{O}_4$ ferrosinels, thermopower and resist., B site mag. ordering correlation 4-56354
 $\text{Cu, Zn}_{1-x}\text{Cr}_x\text{Se}_4$, transition from helimag. to ferromag., mag. props. study 4-25557
 $\text{Cu, Zn}_{14-x}\text{Cr}_x\text{Se}_4$, mag. props., double exchange effects 4-20812
 Dy, magnetic cycling, mag. transitions, energy conversion 4-36020
 Dy, magnetic props. and cryst. struct. (Russian) 4-51094
 DyFe_3 , mag. props. and domain struct. 4-51089
 DyZn , indirect multipolar interactions, ab initio calc. 4-56302
 $\text{ErCo}_{5-x}\text{Cu}_x$ alloys, permanent mag. props. 4-35203
 $\text{Er, Gd}_{1-x}\text{Rh}_x\text{B}_4$, Gd mag. moment orientation, Mossbauer studies 4-56564
 $\alpha\text{-ErH}_3$ solid solns., mag. order, magnetisation study 4-7008
 ErNi, ferromagnetic, thermal cond. and elec. resist. 4-50791
 ErRh_2B_4 , coexistent superconductor, single cryst. growth by flux method 4-25873
 ErRh_2B_4 , ferromag. semicond., re-entry condition 4-35112
 ErRh_2B_4 , ferromag. supercond. critical fields and phase transition 4-11624
 ErRh_2B_4 , ferromag. thin film supercond., dissipative intermediate state study 4-40123
 ErRh_2B_4 , ferromagnetic supercond., coexistence state, strain effects 4-11648
 ErRh_2B_4 , film, tunnelling anomalies and coexistence of ferromagnetism and supercond. 4-15999
 ErRh_2B_4 , superconducting, magnetic phase transitions, neutron scatt. study 4-2684
 Eu monochalcogenides, pure and mag. diluted, Mossbauer study 4-16128
 $\text{EuFe}_2\text{P}_{12}$, mag. and elec. props. Mossbauer spectra 4-11684
 Eu, IrH_3 , ferromagnetism and ^{151}Eu Mossbauer effect 4-51165
 EuLiH_3 , synthesis, cryst. growth and optical absorption 4-40638
 EuO, appl. of theory of mag. excitations in ferromag. semiconds. 4-25534
 EuO, insulator-metal transition and valence instability near 130 kbar, optical refl. spectra 4-45639
 $\text{EuO}(\text{S})$ (Se), mag. interactions, band model study 4-11662
 Eu, Se_{1-x} spin glass, mag. props. study 4-16039
 $\text{Eu}_{0.5}\text{Sr}_{0.45}\text{S}$, spin flip Raman scatt. 4-56908
 $\text{Eu, Sr}_{1-x}\text{S}$, ferromag. and reentrant, domain obs. 4-56687
 $\text{Eu, Sr}_{1-x}\text{S}$, reentrant spin glass, elastic light scatt. 4-56639

ferromagnetic properties of substances continued

- Eu, Sr_{1-x}S , spin correlations near ferromag.-to-spin glass crossover 4-56631
 Eu, Sr_{1-x}S , thermal cond., mag. field depend. 4-15729
 Eu, $\text{Sr}_{1-x}\text{S}_0.5\text{Se}_{0.5}$, ferromag. solid soln., crit. exponents, sp. ht. and magnetisation meas. 4-6984
 Fe (001) seven layer film, surface magnetism, self consistent calc. 4-25610
 Fe (110), exchange-split empty energy bands 4-6699
 Fe (110) whiskers, ferromag. domains 4-46061
 Fe alloys, chem. short-range order effects rel. to electronic band struct. 4-6983
 Fe alloys, mag. field effect on elasticity characts. 4-56755
 Fe, amorphous, spin polarised electronic density of states and mag. moments 4-25198
 Fe, Armco, saturation magnetisation temp. depend., magnetometer with automatic recording meas. 4-42994
 Fe, BCC and FCC, ferromagnetism, lattice parameter depend. 4-20803
 Fe catalyst on mordenite, mag. and Mossbauer meas. 4-25660
 Fe, core level excitations, spin-depend., spin polarised APS study 4-30567
 Fe, demagnetising fields at grain boundaries, law of approach to saturation at intermediate fields 4-11743
 Fe, ferromagnet, hyperfine interaction of Ce and La impurities, NMR-ON meas. 4-39855
 Fe, ferromagnetic, bulk electronic props., XPS study 4-56202
 Fe, ferromagnetic, exchange splitting of electronic states 4-56602
 Fe, ferromagnetic, hyperfine field of heavy impurities, temp. depend., effect of lattice vibrs. 4-40164
 Fe, ferromagnetic, mag. excitations at high energy transfers, neutron scatt. studies 4-56588
 Fe films, MBE grown, diminished magnetisation 4-56726
 Fe, isomer shift in Mossbauer spectra near Curie temp. (Chinese) 4-56823
 Fe, isotropic ferromagnetic, breakdown of dynamic scaling anal. 4-46044
 Fe, itinerant ferromagnets, spin dynamics above T_c 4-56642
 Fe MBE films on GaAs substrates, mag. props. 4-25608
 Fe, magnetic domain wall motion and magnetomech. damping (French) 4-40214
 Fe, magnetic excitations, spin waves and nonspin-flip excitations 4-6959
 Fe, neutron scatt., crit., temp. shift of max. 4-2035
 Fe, pseudo-discontinuities in the isomer shift near magnetic transitions 4-40311
 α -Fe, self-diffusion and Co heterodiffusion, mag. anomalies 4-56085
 Fe, sintered, mag. props. rel. to porosity 4-11747
 Fe, sintered parts, mag. props. rel. to sintering atm. 4-11748
 Fe, spin susceptibility near Curie temp., wavevector and temp. depend. 4-20784
 Fe surface and thin film, mag. props. 4-16074
 Fe, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
 Fe, surface magnetisation and closure domains, PAC study 4-40189
 Fe, surface magnetisation processes, Mossbauer study 4-40190
 Fe, surface states, mag. exchange splitting and band dispersion 4-20700
 Fe, thermal expansion, mag. contrib. above T_c 4-51116
 Fe, three-spin correlation dynamics study by neutron polarisation 4-20793
 Fe-Ag high conc. alloys, sputtering prep., mag. and Mossbauer studies 4-57101
 Fe-B metallic glasses, struct. relax. and Curie temp. 4-20112
 Fe-B-Tb-La, prod. of hard mag. materials 4-56699
 Fe-based amorphous alloys, magneto-volume effects, comparison with cryst. alloys 4-56756
 Fe-based metallic glasses, mag. hysteresis, temp. depend. 4-16063
 Fe-based metallic glasses, saturation and engineering magnetostriction, power appls. 4-56752
 Fe-Co-Cr, damping capacity, mag. props., pitting corrosion resist. (Japanese) 4-46549
 Fe-Co-Cr containing various admixtures, struct., NMR, nucl. gamma reson. (Russian) 4-25961
 Fe-Co-Cr sputtered films, mag. and corrosion props., magneto-optical meas. 4-56719
 Fe-Co-Ta, Recalloy, mag. props., thermal expansion, elec. resist., hardness (Japanese) 4-46069
 Fe-Cr-Co-M (M=Mo, Ti, Zr) permanent mag. additions effect on ductility and mag. props. 4-11749
 Fe-Cr-Co-Mn, deteriorating effect of Mn on mag. props. 4-25589
 Fe-Cr-Co-Mo-Ti permanent mag., spinodal decomposition and mag. hardening 4-56017
 Fe-Cr-Co-Si-Ti, permanent mag. alloy, microstruct., mag. props. rel. to treatment and comp. 4-16065
 Fe-Cr-Co-Ti, stress ageing, spinodal decomp., mag. props. 4-46513
 Fe-Cr-Ni, elec. mag. props. at low temp. 4-56627
 Fe-Cu high conc. alloys, sputtering prep., mag. and Mossbauer studies 4-57101
 Fe-FeO, layer films, reactively sputtered, mag. props. 4-56730
 Fe-metalloid alloys, conc. amorphous and cryst., band gap theory of strong ferromagnetism 4-45992
 Fe-Nb-Si-B amorphous alloys, magnetostriction and mag. core loss 4-16078
 Fe-Nd rapidly quenched alloys, mag. hardening, magnetisation and thermomag. studies 4-56704
 Fe-Ni, elec. resist., Hall effect, magnetoresist. meas., martensitic transform. 4-56316
 Fe-Ni, quenched, annealed, L1₀-type superstructure form., mag. anisotropy const. determ. (Russian) 4-25545
 Fe-Ni, thermodynamics of martensitic transform. (Russian) 4-7453
 Fe-Ni dilute alloy, electron irradi., annealing behaviour, mag. aftereffect study 4-46073
 Fe-Ni films, spin-wave spectra, volume inhomogeneity model anal. (Chinese) 4-56779
 Fe-Ni Invar alloy, forced vol. magnetostriction near Curie temp. 4-51115
 Fe-Ni-Au, microstruct. and mag. props. 4-25043
 Fe-Ni-Cr, elastic and mag. props. (Russian) 4-6419
 Fe-Ni-Cr(Mn), low temp. mag. sp. ht. meas. 4-30186
 Fe-Ni-Mn, dilute, diatomic impurity cluster effects (Russian) 4-51045
 Fe-Ni-Mn hydrogenated state, Mossbauer effect and mag. order (Russian) 4-25656
 Fe-Ni-Mo microduplex semihard magnet alloys, processing and mag. props. 4-57359
 Fe-Ni-P, struct. and phys. props., P influence 4-30168

ferromagnetic properties of substances continued

- Fe-Ni-(Co) film on LiNbO_3 mag. anisotropy studies 4-56716
 Fe-P based ferromagnetic glasses, Mossbauer Zeeman spectra 4-35310
 Fe-P(Si) alloy powder, mag. props. depend. on interparticle spacing 4-51105
 Fe-P rapidly quenched alloys, mag. hardening, magnetisation and thermomag. studies 4-56704
 Fe-Pr-B-Si, rapidly quenched, mag. and struct. props., permanent magnet appls. 4-2790
 Fe-rare earth based Co-free permanent magnetic materials, mag. props., chem. comp. depend. 4-56701
 Fe-Sb, dil., mag. and static lattice perturbation, diffuse neutron scatt. study 4-20794
 Fe-Si, grain oriented electrical steel, domain struct., core loss, permeability, surface coating stress effect (Japanese) 4-35192
 Fe-Si (3 wt.%), grain oriented sheets, domain struct., tensile stress effect (Chinese) 4-2787
 Fe-Si-Al ferromagnetic alloy, mech. strength in mag. fields (Russian) 4-35677
 Fe-Si-B metallic glasses, struct. after rapid heat treatment 4-20107
 Fe-Si-B(Co-B), (Ni-B), amorphous alloys, mag. props. 4-46010
 Fe-Sn-B-Si amorphous alloys, crystn. and mag. props. 4-46064
 Fe-V system, mag. phase diagram, thermodynamic anal. 4-46022
 Fe-V-B-Si alloys, N-bearing, amorphous, effects of annealing on Curie temp. 4-46028
 Fe-V-B-Si amorphous alloys, N-bearing, crystn. processes, mag., thermal, and transport props. 4-45006
 Fe-W system, mag. phase diagram, thermodynamic anal. 4-46023
 Fe-Zr amorphous alloys, Hall effect and magnetisation 4-56317
 Fe-Zr amorphous ferromag. alloy, anomaly in Young's modulus 4-45246
 Fe-Zr metallic glasses, thermopower, inelastic mag. scattering 4-45746
 $\text{Fe}_{0.7}\text{Al}_{0.3}$, anomalous mag. behaviour, inelastic neutron scatt. study 4-20808
 $\text{Fe}_{1-x}\text{Al}_x$, mag. vacancies, ^{19}F TDPAD expts. and simulations 4-35265
 Fe_2Al single cryst. and polycryst., magnetostriction and thermal expansion 4-40211
 $(\text{Fe}_{1-x}\text{Al}_x)_2\text{Gd}$ (Dy), mag., elec. and thermal props., local disorder effects 4-51056
 FeB , cryst. and amorphous sputtered films, ferromag. and paramag. phases 4-30251
 $\text{Fe}_{100-x}\text{B}_x$ amorphous ribbons, microwave mag. props., temp. and freq. depend. 4-56780
 $\text{Fe}_{100-x}\text{B}_x$ ferromagnetic glasses, Mossbauer Zeeman spectra 4-35310
 $\text{Fe}_{30}\text{B}_{70}$, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
 $\text{Fe}_{30}\text{B}_{70}$ metallic glasses, Mossbauer Zeeman spectrum, linewidth asymmetries 4-46159
 $\text{Fe}_{30}\text{B}_{70}$, Metglas 2605, activation energy spectra in relax., crossover and reversibility 4-44999
 $\text{Fe}_{32}\text{B}_{17}$, ferromag., electron spin polarisation in inner-shell excitations 4-30571
 $\text{Fe}_{35}\text{B}_{13}$, mag. permeability aftereffect relax. and shear transforms. 4-25600
 $\text{Fe}_{50}\text{B}_{50-x}$ amorphous film, mag. regimes, DC magnetisation studies 4-46074
 $\text{Fe}_{50}\text{B}_{50-x}$ sputtered amorphous film, mag. resonance study 4-25642
 $\text{Fe}_{71}\text{B}_{14}\text{Au}_2$ metallic glass ribbons, Mossbauer spectra and crystallisation products 4-56825
 $\text{Fe}_{81}\text{B}_{14}\text{Si}_4$ ferromag. glass, spin polarised electron scatt. studies 4-46070
 FeB_{50}C annealed amorphous ribbons, mag. and struct. props. 4-30203
 $\text{Fe}_{80}\text{B}_{14}\text{Si}_{3.5}\text{C}_2$ amorphous ribbon, mag., thermal and mech. props. 4-56617
 $\text{Fe}_{81}\text{B}_{13}\text{Si}_{1.5}\text{C}_2$ amorphous alloy, C migration studied by mag. anisotropy meas. 4-46021
 $\text{Fe}_{81}\text{B}_{13}\text{Si}_{1.5}\text{C}_2$, Metglas 2605SC, giant magnetoelastic effects by exciting standing torsional waves 4-2800
 $\text{Fe}_{81}\text{B}_{13}\text{Si}_{1.5}\text{C}_2$ metallic glass, piezomag. and elastic props. 4-16079
 $\text{Fe}_{83}\text{B}_{14}\text{Si}_{1.5}\text{C}_{1.5}$ metallic glass, structural evolution rel. to magnetoelastic effect and magnetomechanical damping (French) 4-40213
 $\text{Fe}_2\text{C-H}$, mag. struct. and Curie temp. (French) 4-51029
 FeCo , residual anomalous Hall coeff., and magnetisation, CPA calc. (Russian) 4-34949
 FeCo_2B , mag. struct. and Curie temp. (French) 4-51029
 $(\text{FeCo})_{80}\text{B}_{20}$, amorphous, ^{11}B NMR relax. study 4-40265
 $\text{FeCo}_{18}\text{B}_{16}\text{Si}$ metallic glass, mag. props., tensile stress effect (French) 4-35202
 $\text{Fe}_{67}\text{Co}_{18}\text{B}_{14}\text{Si}_1$ amorphous ferromagnet, mag. permeability aftereffect 4-46072
 $\text{Fe}_{67}\text{Co}_{18}\text{B}_{14}\text{Si}_1$ metallic glass, piezomag. and elastic props. 4-16079
 $\text{Fe}_2\text{-Co}_3\text{O}_3$ acicular particles, mag. annealing, relax., and anisotropy 4-56709
 $\text{Fe}_2\text{Co}_7\text{Si}_{10}\text{B}_{12}$, amorphous ribbons, quenched, mag. anisotropy rel. to rotational field annealing (Chinese) 4-56714
 $\text{Fe}_2\text{Co}_7\text{Si}_{10}\text{B}_{10}$ amorphous, relax. processes occurring below Curie temp. (Russian) 4-26070
 FeCoV , magnetisation and mag. moments 4-35199
 $\text{Fe}_{85-x}\text{Cr}_{15}\text{B}_x$, $x=10-20$, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
 $\text{Fe}_{85-x}\text{Cr}_{15}\text{B}_x$, $x=5-30$, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
 $\text{Fe}_{34}\text{Cr}_{41}\text{Co}_{25}$, mag. props. following thermomagnetic treatment 4-46162
 $(\text{Fe}_7\text{Cr}_{23})_{75}\text{P}_{16}\text{B}_6\text{Al}_3$, amorphous, ferromag.-spin glass transition study 4-56615
 $(\text{Fe}_{1-x}\text{Mn}_x)_{75}\text{P}_{16}\text{B}_6\text{Al}_3$ spin glass, reentrant props. 4-11721
 $(\text{Fe}_{1-x}\text{Mn}_x)_{75}\text{P}_{16}\text{B}_6\text{Al}_3$, amorphous, reentrant spin glass behaviour 4-51057
 $(\text{Fe}_x\text{Mn}_{1-x})_{75}\text{P}_{16}\text{B}_6\text{Al}_3$, spin correlations near ferromag.-to-spin glass crossover 4-56631
 Fe_2N particles, reactive gas evaporation prep., mag. props., mag. recording appls. 4-25598
 FeNi Invar alloys, model for mag. abnormalities 4-25542
 FeNi Invar alloys, model for mag. abnormalities, ^{57}Fe Mossbauer effect 4-25655
 FeNi , residual anomalous Hall coeff., and magnetisation, CPA calc. (Russian) 4-34949
 $\text{Fe}_{21}\text{Ni}_{78-x}\text{Si}_2\text{B}_{13}$, amorphous, mag. double transition, Mossbauer effect study 4-11724
 $(\text{FeNi})_{80}\text{B}_{20}$, amorphous, ^{11}B NMR relax. study 4-40265
 $(\text{Fe}_{20}\text{Ni}_{80})_{83}\text{B}_{17}$ glass, relax. behaviour during annealing 4-45002
 $\text{Fe}_{20}\text{Ni}_{80}\text{B}_{20}$, amorphous, elec. cond. critical behaviour 4-11507

ferromagnetic properties of substances continued

- Fe₄₀Ni₄₀B₂₀, amorphous, Mossbauer study 4-35314
 Fe₄₀Ni₄₀B₂₀, metallic glass, structural relax., Young's modulus, internal friction, mag. energy loss meas. 4-39153
 Fe₆₇Ni₁₉B₁₄, mag. permeability aftereffect relax. and shear transforms. 4-25600
 Fe_{80-x}Ni₂₀, amorphous, intrinsic defects, mag. aftereffect meas. 4-40204
 Fe_{85-x}Ni₁₅, X=5-30, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
 Fe₈Ni₈₀-B₁₉Si, amorphous, elec. cond. critical behaviour 4-11507
 Fe₆₅Ni₃₅Cr₁₀ spin glass, mag. struct., viscous change in mag. field, neutron scatt. 4-35181
 Fe₆₅(Ni_{1-x}Mn_x)₃₅, Invar, hyperfine field distrib. curves, Mossbauer spectra 4-51166
 Fe₃₉Ni₃₉Mo₄Si₆B₁₂, metallic glass, mag., elec. and thermoelec. studies 4-46158
 (Fe_{0.9}Ni_{0.1})₈₀P₂₀, neutron critical scattering in dilute ferromagnets 4-56640
 (Fe_{0.9}Ni_{0.1})₈₀P₂₀ metallic glass, spin wave stiffness, percolation-like behaviour 4-56583
 Fe₄₀Ni₄₀P₁₄B₆, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
 Fe₄₀Ni₄₀P₁₄B₆, Metglas 2826, ferromagnetic, quadrupole splitting, Mossbauer spectra 4-2852
 (Fe_{0.9}Ni_{0.1})₇₅P₁₆Al₃ ribbon, low field magnetisation studies 4-56614
 FeNiSi amorphous thin films, ESR meas. in ferromag.-spin glass transition regime 4-56735
 FeNiV, magnetisation and mag. moments 4-35199
 Fe₇₀Ni₂₀Zr₁₀ metallic glass ribbons, magnetisation and FMR studies 4-56691
 Fe₂O₃, hematite, mag. susceptibility and mag. moments, temp. depend. (Russian) 4-25521
 γ-Fe₂O₃/Os sputtered thin film, microstruct. and high coercivity mag. props. 4-56722
 FeO.OH, goethite, mag. susceptibility and mag. moments, temp. depend. (Russian) 4-25521
 Fe₂P_{1-x}B_x, crystalline, hyperfine field interactions 4-35289
 Fe₂P_{1-x}Si_x, cryst. struct. and mag. props. 4-11109
 Fe_{1+x}P_{3-x}, magnetic percolation calc. and Mossbauer study 4-40141
 Fe₂Pt, ground state mag. props. of ordered and disordered alloys 4-20801
 Fe₂Si, annealed and quenched, mag. anisotropy study 4-20813
 (Fe_{0.8}Si_{0.2})₈₃Si₈B₁₀, amorphous, structural relax., crystn., internal friction, shear modulus meas. 4-39381
 Fe_{1-2x}Tb_xGd₃, amorphous sputtered films for perpendicular recording 4-25604
 Fe₂Ti_{100-x} sputtered films, cryst. and amorphous, Mossbauer studies 4-56824
 Fe₉₀V₁₀ alloy, coupling between mag. and chem. interactions 4-30180
 Fe₉₀Y_{10-x} metallic glasses, mag. props. hydrogenation effects 4-56563
 Fe_{1-x}Zr_x metallic glasses, ferromagnets, magnetoresist. meas. 4-56318
 Fe_{100-x}Zr_x, amorphous, low temp. sp. ht. meas. 4-46040
 Fe_{100-x}Zr_x, amorphous ferromagnets, crit. behaviour 4-51085
 Fe₉₀Zr₁₀ metallic glass ribbons, magnetisation and FMR studies 4-56691
 Fe₉₉Zr₁H₂₀ glass, mag. props., effect of hydrogenation 4-2730
 Gd, Curie temp., anomaly of emissivity and absorptivity 4-2757
 Gd, polycrystalline, high temp. AC critical mag. susceptibility 4-46013
 Gd, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
 Gd-Ge amorphous alloy, mag. and transport props., conc. depend. 4-30210
 GdAl₃, ferromagnetic intermetallic cpd., ¹¹⁹Sn impurity, hyperfine interaction, Mossbauer study 4-34937
 Gd_{1-x}Dy_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Er_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Er_xAl₂, low hysteresis materials for mag. refrigeration 4-56629
 Gd_{1-x}Ho_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
³He BCC solid, exchange parameters and mag. transitions 4-6610
³He, liq., spontaneous ferromagnetism, high temp., and other mag. phenomena 4-56112
 Hf_{0.8}Ta_{0.2}Fe₂, magnetisation process in strong pulsed mag. fields 4-56695
 Hf_{1-x}Ta_xFe₂, antiferromag. to ferromag. transition (Japanese) 4-40173
 HgCr₂Se₄, ferromag. semicond. thin films, prep. and optical absorpt. spectra 4-16321
 HgCr₂Se₄ ferromag. semicond., magnetostatic waves, relax. times 4-25535
 HgCr₂Se₄, ferromag. semicond. thin film, elec. props. and prep. 4-29837
 HgCr₂Se₄, ferromag. semicond., high press. elec. resist. 4-50809
 HgCr₂Se₄, nonlinear paramag. effect, crit. exponent 4-40154
 HgCr₂Se₄ thin film, ferromag. semicond., optical-absorption spectra 4-30538
 Hg_{1-x}Zn_xCr₂Se₄, ferromag. semicond., elec. props. and stoichiometry, heat treatment effects 4-6777
 Ho, magnetic structure, neutron diff. study 4-56547
 Ho_{0.7}Co_{0.3}-M_x (M=Ni,Fe,Mn,Cr,V,Ti,Cu,Al), cryst. struct. and mag. props. 4-40169
 Ho_{0.7}Gd_{0.3}-Rh₂B₄, Gd mag. moment orientation, Mossbauer studies 4-56564
 HoMoO₃, superconducting, magnetic phase transitions, neutron scatt. study 4-2684
 K₂CuF₄, spin dynamics and phase transition, neutron scatt. study 4-11700
 K₂CuF₄, two-dimensional planar ferromag.-mag. phase transition, neutron scatt. study of spin dynamics 4-25554
 K₂Cu₂Mn_{1-x}F₄, temp. depend. of EPR fields 4-20853
 La-Pr-Nd-Co-Cu-Fe-Mg, La-Pr-Nd-Co-Cu-Mg, synthetic mischmetal alloys, mag. props. 4-7013
 La_{1-x}Ba_xMnO₃ system, mag. and crystallographic props. 4-30142
 La(Fe,Al)₁₃, Mossbauer spectroscopy, magnetisation, zero field susceptibility meas. 4-35287
 La(Fe,Al)₁₃, cubic intermetallic cpds., mag. props. 4-56623
 LaMnO_{3+x}, concentrational antiferromagnetic-ferromagnetic transition 4-51047
 LaNi₂Fe, ferromagnetic order, Curie temp., magnetisation 4-56542
 LaRh₂B₄, absence of itinerant-electron ferromagnetism 4-25511
 LiHoF₄, uniaxial ferromag. elec. susceptibility anal. and crit. behaviour using correlated-effective-field theory 4-30176
 LiTb_{0.6}Y_{0.3}F₄, smeared paramag. to ferromag. phase transition, susceptibility meas. 4-2759
 Mn-Al-C magnets, microstruct., effect of Ni addition, SEM and TEM study 4-29642

ferromagnetic properties of substances continued

- MnAlC hard mag. alloy, cryst. and mag. struct., neutron diff. study (Chinese) 4-51025
 MnAlC, hard mag. alloy, mag. and cryst. struct., neutron diff. study 4-56553
 MnAlC permanent magnets, magnetic circuit temp. behaviour (German) 4-40197
 MnAs intermetallic cpd., mag. props., spin fluctuation theory, APW calc. 4-51062
 MnAs_{1-x}P_x, magnetic phases, initial mag. susceptibility study 4-35171
 Mn_{1-x}Cr_xSb, press. effect on Curie temp. (Russian) 4-6975
 Mn₂GaC perovskites, magnetic transitions, sp. ht. study 4-6986
 Mn_{1-x}M_xAlGe (M=3d metal), mag. props. 4-56577
 MnP, mag. phase transitions and Lifshitz point 4-30167
 MnPt₃ ferromag. alloy, electronic struct., spin-polarised APW calc. 4-29874
 MnRhAs, antiferromagnetic-ferromag. transition, magnetisation and susceptibility meas. 4-11712
 Mn_{1-x}Sb_x, mag., elec., and struct. props. after high press. high temp. treatment 4-11753
 MnSi, ferromagnetic, exchange hole, neutron scatt. study 4-56546
 MnSi, spiral mag. correl., neutron scatt. study 4-20796
 (Mn_{1-x}Ta_x)₃B₄ ferromag. solid soln., exchange striction 4-30260
 Nd-Fe-B, amorphous permanent magnet, high-energy product 4-40196
 Nd-Fe-B high performance permanent magnets, mag. props., struct. 4-56702
 Nd-Fe-B permanent magnets, anisotropy, magnetisation and Curie temp. 4-56703
 NdAl₃, cubic ferromag., ¹⁴³Nd NMR hyperfine spectrum 4-56799
 Ni (100), adsorption of ethylene, multiple scatt. Xα calc. 4-34801
 Ni (110), surface magnetism, spin-polarised metastable He atom deexcitation spectroscopy 4-35539
 Ni (111) and (110), dissociative adsorption of H₂, absence of magnetocatalytic effect 4-34797
 Ni (111) ferromag. film in contact with Pd (111) film, Pd magnetisation 4-46075
 Ni, annealed, quenched and cold worked, low field viscomag. behaviour 4-16073
 Ni clusters, silica supported, magnetisation and FMR intensity studies 4-2792
 Ni, correl. effects, mag. props. 4-30158
 Ni, critical behaviour of ¹⁹F hyperfine fields near Curie temp., TDPAD study 4-40289
 Ni, demagnetising fields at grain boundaries, law of approach to saturation at intermediate fields 4-11743
 Ni, elastic stress and demagnetising field effects, magnetoelastic studies 4-16062
 Ni, exchange splitting, temp. depend., spin-polarised photoemission study 4-40162
 Ni, ferromag., spin polarised Compton profile 4-16268
 Ni, ferromagnetic, exchange splitting of electronic states 4-56602
 Ni, ferromagnetic, hyperfine field of heavy impurities, temp. depend., effect of lattice vibr. 4-40164
 Ni, ferromagnetic, mag. susceptibility and spin wave energies 4-2742
 Ni, isotropic ferromagnetic, breakdown of dynamic scaling anal. 4-46044
 Ni, itinerant ferromagnets, spin dynamics above T_c 4-56642
 Ni, magnetic excitations, spin waves and nonspin-flip excitations 4-6959
 Ni, near-surface US absorpt. meas. by thermo-emissivity 4-55929
 Ni, Neel-type, Knight shift, hyperfine field, NMR freq., and magnetisation meas. 4-40255
 Ni sputtered atoms, photon emission near Curie point, target temp. effects 4-11396
 Ni, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
 Ni, thermal expansion, mag. contrib. above T_c 4-51116
 Ni thin film on nonmag. metals, mag. proximity effect 4-56731
 Ni-Al(Si)(Ge), elec. cond. and mag. transition temp. 4-34945
 Ni-B alloys, amorphous and crystalline, mag. and NMR study 4-46139
 Ni-Co magnetoresistive sensors using ferromagnetic thin films 4-22770
 Ni-Co-P films used in rotating disc, elastic stress-induced coercive field changes 4-30243
 Ni-Fe bars, ferromagnetic memory effect 4-20837
 Ni-Fe evaporated films for bubble domain memory, mag. props. 4-51106
 Ni-Fe film, corrosion behaviour in Cl and S containing atms., rel. to mag. recording charact. 4-26088
 Ni-Fe using ferromagnetic thin films 4-22770
 Ni-Mn, disordered alloy, spin glassiness and ferromagnetism 4-56630
 Ni-Mn, ferromag. spin waves in reentrant state, inelastic neutron scatt. study 4-11688
 Ni-Mn reentrant alloy, spin dynamics, anomalous behaviour 4-56582
 Ni-Mn-Sn alloys solid and liq., mag. props. and struct. 4-16016
 Ni₃Al, itinerant electron ferromag., magnetisation and elec. resist. 4-45731
 Ni₃Al₂ itinerant electron ferromagnet, Curie temperature 4-51051
 NiCl₂-graphite intercalation cpd., second-stage, ESR studies 4-16085
 Ni₆₃Fe₂Co₂₅ thin film, coercive force determ. (Russian) 4-51107
 NiMn, electronic struct., structural and mag. transitions 4-20551
 NiMn-Fe, exciton ferromagnet, mag. and structural transitions 4-20822
 Ni_{0.784}Mn_{0.216}, re-entrant, ferromagnetic spin waves in spin glass state 4-35154
 Ni_{0.75}Mn_{0.25}, low temp. mag. state, magnetisation and magnetoresist. studies 4-30216
 Ni₃₉Mn₂₁, mag. hysteresis, irreversible effects below the de Almeida-Thouless temp. 4-40192
 Ni_{1-x}Pd_x, itinerant ferromag., spin polarisation of tunnelling electrons 4-7041
 Ni_{1-x}Pt_x, itinerant ferromag., spin polarisation of tunnelling electrons 4-7041
 NiSiF₆H₂O, mag. phase transitions under press. 4-25558
 Pd-Fe, ferromagnetism 4-56578
 Pd-Fe alloys, magnetostriction 4-46080
 Pd-Fe films, Curie temp. 4-56724
 Pd-Fe films, DC sputtered, disorder and mag. props. 4-56725
 Pd-Mn, dil., muon spin relax. meas. in ferromag. and paramag. states 4-20894
 Pd-Ni alloys, spin-glass-like distrib. of interaction fields, heat capacity meas. 4-2769
 PdAu₂₅Fe₂₁, mag. transition and props. (Chinese) 4-2753
 PdAu₂₄Fe₂₁Al₄, mag. transition and props. (Chinese) 4-2753
 Pd_{77.5-8}Cu₆Si_{16.5}Fe_x amorphous alloys, mag. double transitions 4-30165

ferromagnetic properties of substances continued

- Pr-Fe-B high performance permanent magnets, mag. props., struct. 4-56702
- PrAl₃, spontaneous resist. anisotropy due to quadrupole scatt., magnetoresist. study 4-2604
- Pr(CO)_{1-x}M_x (M=Zn, Fe, Mn, Cr, V, Ti), magnetic props. and cryst. struct. 4-46066
- Pr₂(Co_{1-x}Cr_x)₁₇, lattice parameters and mag. props. 4-30160
- Pr₂(Co_{1-x}Fe_x)₁₇, lattice parameters and mag. props. 4-30160
- Pr₂(Co_{1-x}Mn_x)₁₇, lattice parameters and mag. props. 4-30160
- Pr₂(Co_{1-x}Mn_x)₁₇, mag. anisotropy, saturation magnetisation, Curie temp. 4-6968
- Pr₂Co_{17-x}T_x, T=Al, Cr-Fe, Cu, mag. and structural props. 4-51042
- PtFe, dil. model of ferromagnetic behaviour 4-56567
- Pt₂(Mn_{0.5}Cr_{0.5})_{1-x}, spin wave stiffness constant, magnetisation meas. 4-16022
- PuSb, mag. props. study 4-30151
- R-Ni(Co), 3d ferromagnetism onset and spin fluctuations, expt. and band models 4-2755
- Rb₂CrCl₄, ionic ferromag., optically detected ferromag. reson. 4-56819
- Rb₂CrCl₄, two-dimensional ionic ferromag., crystal and mag. structure, neutron diff. study 4-6950
- Rb₂Cr_{1-x}Mn_xCl₄ single cryst., mag. phase diagram, neutron diff. study 4-51052
- Rb₂Mn_{1-x}Cr_xCl₄ insulating antiferromagnet-ferromagnet random mixture, AFMR, EPR obs. 4-56784
- RhFeP, cryst. struct., mag. props., and Mossbauer parameters 4-11102
- SiFe, domain wall eddy-current limited ruckling initiated at maximum shear stress points on bracket wall 4-51090
- Sm-Alnico V alloys, mag. anisotropy props. 4-51043
- Sm-Co amorphous films with perpendicular anisotropy, RF sputtering and mag. props. 4-20839
- Sm-Co based polymer bonded magnets, mag. props., ageing behaviour 4-7029
- Sm-Co magnets, sintered, coercivity mag. anisotropy 4-7016
- Sm-Co permanent magnets, precip. hardened, reversed domains, nucleation and propag. 4-7014
- Sm-Co-Cu-Fe-Zr thin sheets, domain struct. during magnetisation reversal 4-56737
- Sm-Co(Fe) amorphous films, prep. by oblique incidence method, mag. props. 4-25605
- Sm-Er-Fe Laves phase alloys, struct. and magnetostriction 4-35215
- Sm-Fe metastable phase, selectively thermalised sputtering and mag. props. 4-56693
- Sm-Fe-Co-Ni-Al-Cu alloys, struct. and mag. props. 4-6322
- Sm₂(Co_{0.9}Cu_{0.1}Fe_{0.1}Zr_{0.1})₁₇ permanent magnets, coercivity, energy product improvement 4-7021
- Sm(Co_{0.9}Cu_{0.1}Fe_{0.1}Mn_{0.1})₈ permanent magnet, coercivity rel. to Cu segregation and as cast struct. (Chinese) 4-56685
- Sm(Co_{0.9}Cu_{0.1}Fe_{0.1}Zr_{0.1})_{7.4} magnets, annealed and quenched cellular microstructure 4-6383
- Sm(Co_{0.9}Cu_{0.1}Fe_{0.1}Zr_{0.1})_{7.4}, coercivity, microstruct., ageing effects 4-7020
- Sm₂(Co_{0.9}Cu_{0.1}Fe_{0.1}Zr_{0.1})₁₇-type permanent mag. alloys, hardness rel. to coercivity 4-30223
- Sm(Co_{0.9}Cu_{0.1}Fe_{0.1}Zr_{0.1})_{7.2} magnet, microstructure, mag. props., heat treatment effect 4-7018
- Sm(Co_{0.9}Cu_{0.1}Fe_{0.1}Zr_{0.1})_{7.5} magnets, coercivity enhancement by heat treatment 4-7015
- Sm(Co_{0.9}Cu_{0.1}Fe_{0.1}Zr_{0.1})_{7.5} hard magnetic alloys, metallurgical behaviour 4-57358
- SmCo₅, mag. anisotropy near point defects 4-6967
- SmCo₅ magnets, mag. props., role of grain size 4-7032
- SmCo₅ magnets, sintered, heat treatments, mag. hysteresis, microstructure 4-7022
- SmCo₅ permanent mag., mag. domains and reversal mechanisms 4-56707
- SmCo₅ permanent magnets, ageing, positron annihilation, electron microscopy, elec. resist., mag. meas. 4-7019
- SmCo₅ resin-bonded magnets, ageing characts. 4-7030
- SmCo₅ single-domain particles, mag. domains obs. by colloid-SEM 4-16070
- Sm_{1-x}Co_x films, amorphous, hysteresis props., magnetisation reversal, applications 4-7043
- Sm₂Co₁₇ high-coercivity magnets, magnetisation characts. 4-7025
- Sm₂Co₁₇, mag. anisotropy near point defects 4-6967
- Sm₂Co₁₇-type resin-bonded magnets, ageing characts. 4-7030
- Sm(Co_{0.67}Fe_{0.08}Co_{0.22}Zr_{0.03})₂ sintered magnets with coercive force up to 30 kOe 4-7033
- Sm(Co_{0.745-x}Fe_{0.2}Co_{0.055}Zr_x)_{7.5} permanent mag., coercive force and microstruct. 4-56705
- Sm₂(CoFeCuZr)₁₇, permanent magnets, mag. props., temp. characts. 4-11741
- (Sm_{1-x}Er_x)Rh₂B₄, supercond., antiferromag.-ferromag. transition study 4-40170
- SmPrCo₅ permanent magnets, mag. props., temp. characts. 4-11741
- Sm_{2-x}Pr_xCo_{16.4}Zr_{0.6}, crystallography and mag. props. 4-7024
- Sn_{1-x}Cr_xTe, as-grown and Zn annealed, mag. phase transitions, mag. susceptibility meas. 4-51035
- Ta₂(IT), Anderson localised state, ferromagnetism obs. 4-51050
- Tb, magnetic ordering, anisotropy, magnetostriction 4-51044
- Tb-Fe, amorphous, electronic density of states, photoemission and inverse photoemission studies 4-45594
- TbAl₃, mag. anisotropy in paramag. and ferromagnetic phases 4-51021
- TbAsO₄, ferromagnetic phase, relaxation 4-2855
- Tb(CuNi)₂ alloys, mag. struct., Ni conc. effects, neutron diff. study 4-46003
- TbFe₂, amorphous, crit. behaviour and mag. ordering 4-56544
- TbMn₂Ge₂, magnetic phase transition and cryst. struct. 4-40172
- Tb₂Y_{1-x}Co_x, magnetisation and AC susceptibility 4-25523
- Tb₂Mn₂D₃, mag. and cryst. struct. neutron diff. study 4-40143
- TiBe₂ based cpds., mag. susceptibility temp. and field depend. under high press. 4-20845
- TiFe₂Te₃, anisotropic ferromagnetic props. 4-11694
- TiFe₂Te₃, mag. props. and anisotropy 4-46067
- TmFe₂₃, pure and hydride, mag. interactions, Mossbauer study 4-30155
- TmZn ferromag. tetragonal phase, mag. props., neutron diff. studies 4-30219
- U mononitrides and monochalcogenides, mag. props. 4-11692
- U₃As₄, Fermi surface, de Haas-van Alphen meas. 4-6693
- U(Fe_{1-x}Co_x)₂, mag. props., press. effects 4-20817
- UGaNi, mag. susceptibility, magnetisation and hysteresis 4-46012
- UNi₂, mag. props., press. effects 4-20817

ferromagnetic properties of substances continued

- U₃P₄, critical mag. behaviour, susceptibility and spontaneous magnetisation 4-25561
- U₃P₄, Fermi surface, de Haas-van Alphen meas. 4-6693
- Y-Fe, amorphous, electronic density of states, photoemission and inverse photoemission studies 4-45594
- Y₂Ni₇, mag. props., H₂ sorption effects 4-46009
- YCo₃, ordered and amorphous, local mag. moments and mag. instability 4-20804
- YCo₃, mag. supercond., NMR, NQR studies 4-2834
- YFe₃, ordered and amorphous, local mag. moments and mag. instability 4-20804
- (Y_{0.995}Gd_{0.005})₉Co₇, long-range ferromagnetic-like order, mag. susceptibility, magnetisation meas. 4-56566
- (Y_{0.97}Hf_{0.03})Fe₂, hyperfine mag. field, γ-ray study 4-6992
- Y₆Mn₂₃, mag. struct., effect of stoichiometric variations 4-6954
- YNi₄Fe, ferromagnetic order, Curie temp., magnetisation 4-56542
- ZrFe₂,⁸⁹Ym, mag. hyperfine interaction and nuclear spin-lattice relax. 4-25550
- Zr_{1-x}Fe_x amorphous alloy, mag. susceptibility, temp. and field depend. 4-40153
- (Zr_{1-x}Nb_x)Fe₂, NMR study 4-11796
- ferromagnetic relaxation**
see also *ferromagnetic resonance*
- Fe₂Co₇Si₁₅Bi₁₀, amorphous, relax. processes occurring below Curie temp. (Russian) 4-26070
- ferromagnetic resonance**
see also *ferromagnetic relaxation*
- amorphous ferromagnet, ferromag. reson. 4-56783
- bulk metals, FMR penetration depth 4-25640
- classical and quantum theories of radiation damping 4-46114
- coaxial cylindrical mag. domain, magnetostatic waves 4-35156
- longitudinal spin waves, magnetic second sound probe 4-30288
- magnetic thin films, spin wave resonance excitation models (Chinese) 4-56778
- metallic thin films, spin-wave reson. linewidth, reson. mode study 4-46113
- metals, bulk, ferromagnetic resonance, anal. theory, dispersion relations for parallel config. 4-16103
- metals, FMR linewidth in parallel config. 4-35231
- nonresonance parallel pumping conditions 4-51137
- sensor for remote wireless temp. meas. in organic tissue 4-12719
- spin-echo NMR spectrometers, frequency-variable, for ferromagnet anal. (Chinese) 4-13661
- ternary magnetic semiconductors, prep. and charact. 4-29964
- BaFe₂O₉ epitaxial films, LPE growth and mag. props. 4-7039
- CdCr₂S₄, ternary mag. semicond., coexistence of Cr²⁺ and Cr⁴⁺ ions, ferromag. reson. study 4-30287
- CuMnFe spin glass, NMR mean ferromagnetic enhancement factor 4-35177
- EuYIG films, Ga substituted, laser annealed, thermal variation in mag. props. 4-25619
- Fe MBE films on GaAs substrates, mag. props. 4-25608
- Fe-Ni films, spin-wave spectra, volume inhomogeneity model anal. (Chinese) 4-56779
- Fe_{100-x}B_x amorphous ribbons, microwave mag. props., temp. and freq. depend. 4-56780
- Fe₂Co₈P₁₀B₁₀, thin amorphous wires, fine struct. of spin-wave instabilities, FMR 4-16102
- Fe₂Ni₈P₁₀B₁₀, thin amorphous wires, fine struct. of spin-wave instabilities, FMR 4-16102
- Fe₇₀Ni₃₀Zr₁₀ metallic glass ribbons, magnetisation and FMR studies 4-56691
- Fe₉₀Zr₁₀ metallic glass ribbons, magnetisation and FMR studies 4-56691
- (La, Sm, Lu, Tm, Ca)₃(Fe, Ge)₂O₁₂ bubble garnet film, mag. props. study 4-56740
- (La, Sm, Lu, Tm)₃(Fe, Ga)₂O₁₂ bubble garnet film, mag. props. study 4-56740
- LiTiZn ferrites, dielec. const. and mag. props., Zn conc. effects 4-56844
- Ni clusters, silica supported, magnetisation and FMR intensity studies 4-2792
- Ni films on Si, SiO₂ or glass ceramic substrates, monitoring of heat treatment by FMR 4-51136
- Ni-Cr₂O₃ catalyst, isotropic, superparamagnetic, ferromag. reson. linewidth 4-40237
- Pt-Ni-Si bimetallic condensates, monitoring of heat treatment by FMR 4-51136
- Rb₂CrCl₄, ionic ferromag., optically detected ferromag. reson. 4-56819
- YIG, acoustic FMR and nonlinear magnetoelastic props. 4-51138
- YIG, double-layer films, pulsed magnetisation props. 4-30255
- YIG epitaxial films, mag. props. and structural defects (Russian) 4-25612
- YIG, ferromagnetic resonance and spin wave spectrum 4-35232
- YIG film, ferromagnetic resonance study 4-56781
- YIG films, spin-wave spectra, volume inhomogeneity model anal. (Chinese) 4-56779
- YIG, resonant trapping of particles with spin orbital motion, ferromagnetic reson., reson. trapping 4-49249
- YIG:Ga, spin-wave instabilities, period doubling and chaos 4-46016
- YIG:Ho³⁺, FMR, laser irr. effect 4-2827
- YIG:Mn thin films, noncubic anisotropy, ferromag. resonance studies 4-35207
- (YSmLuCa)₃(FeGe)₂O₁₂:Xe(As) bubble garnet films, mag. and struct. props. 4-56744
- ferromagnetism**
see also *ferromagnetic properties of substances; ferromagnetic relaxation; ferromagnetic resonance; Ising model; spin waves*
- 3d metal surfaces and thin films, mag. props. 4-16074
- φ lattice models, ferromag., correlation inequalities from random walk rep. 4-2712
- aerosols, mag. charge phenomenon 4-7047
- alloys, amorphous, ferromagnetism, LMTO-ASA calc. 4-45593
- alloys, dilute, ferromagnetism, mag. polarisation clouds, percolation and crit. conc. 4-56644
- alloys, disordered, elec. cond. with s-f exchange interaction (Russian) 4-34944
- alloys, domain wall tunneling 4-46060
- alloys, second-order phase transition, press. effects (Russian) 4-6975
- amorphous, magnetic phase transition, mol. field theory 4-16028
- amorphous ferromagnet, ferromag. reson. 4-56783

ferromagnetism continued

- amorphous ferromagnets, mag. hyperfine field distribution from Mossbauer data 4-15863
- amorphous Heisenberg ferromagnet, 2-D, long-range order and magnetisation 4-30138
- amorphous Ising ferromagnet, spontaneous magnetisation temp. depend. 4-40155
- anisotropic semi-infinite ferromag., autocorrelation time 4-16041
- bidimensional spin-1/2 Ising model in a random field 4-40131
- binary ferromagnetic alloy, anisotropy, mag. states, phase diagrams, mol. field approx. 4-56611
- birefringence, linear, circumvention in ferromag. crystals 4-51233
- bond-mixed quantum Heisenberg ferromagnet, critical props. 4-40187
- bond-random Ising model, transition from spin-glass to ferromagnetic state 4-30195
- CDW, SDW and ferromagnetism, coexistence 4-25507
- chain in random mag. field, mag. solitons (*Russian*) 4-35153
- chaotic states in driven ferromagnets 4-11686
- classical chain, easy-plane, with in-plane mag. field, thermodynamics 4-2713
- classical easy plane Heisenberg ferromag. chain, static form factors 4-56677
- classical Heisenberg ferromag., bilinear soliton eqns. generation 4-42735
- classical Ising model using correl. inequalities, upper bounds on Tc 4-40183
- compressible, impurity effects close to four dimensions 4-50311
- cubic ferromagnets, crit. spin dynamics, effect of pseudodipolar interaction 4-6994
- cylindrical conductor, slight nonlinearity skin effect (*French*) 4-2628
- degenerate Hubbard model, spin susceptibility and alloy analogy approx. 4-56528
- dilute ferromagnets, crit. neutron scatt. 4-56640
- dilute Heisenberg chain, dynamic scaling near percolation threshold 4-16057
- dilute Ising ferromagnet, mag. props. calcs. 4-51081
- dipolar isotropic ferromagnet, recursion relations near dipolar critical point 4-25560
- disordered, elastic wave-spin wave three-freq. interaction (*Russian*) 4-35152
- double exchange ferromagnet, spin-flip scatt. 4-11693
- dynamic properties with single ion anisotropy 4-56523
- dynamic study by polarised neutron scatt. 4-20792
- easy plane ferromagnet, nonlinear collective excitations 4-11726
- easy plane ferromagnets, one dimensional, spin wave energy quantum renormalisations, appl. using CsNiF_3 expt. data 4-11689
- easy plane type, spin wave spectrum in presence of impurities with competing anisotropy 4-25537
- easy-axis ferromagnet, impurities, anisotropy, spin waves 4-56595
- easy-plane ferromagnetic chain, soliton spectrum 4-46038
- elastic wave scatt. by two coplanar Griffith cracks 4-33971
- electron-ferromagnet elastic scatt. and emission, electronic struct., relativistic multiple scatt. theory 4-11425
- EM nondestructive inspection of ferromag. components, oscills. of induced EMF harmonics 4-16593
- EM nondestructive inspection of ferromagnetic components, oscills. of induced EMF harmonics 4-16594
- EM solitons, propagation and struct. (*Russian*) 4-6962
- ferroelectric, ferromag. permeability calc., orientation of ellipsoidal confections (*Russian*) 4-30221
- ferrofluid mag. drops, bistability under mag. field 4-29190
- ferrofluids, initial susceptibility and magnetisation 4-30235
- ferrofluids, magnetisation, cavity mag. field meas. 4-30229
- ferrofluids, magneto-optics, fibre optics meas. 4-30239
- ferrofluids, magnetodielectric anisotropy dispersion 4-30261
- ferrofluids, ordering temps., Monte Carlo study 4-30228
- ferrofluids, particle size anal., electron microscopy study 4-30241
- ferrofluids, preparation by spark erosion, struct. and mag. props. 4-30656
- ϕ^4 -ferromagnet, crit. exponent relations, Fisher's inequality 4-40186
- ferromagnetic film, P-odd long range action of ions 4-16024
- ferromagnetic metallic glass, magnetisation temp. depend. 4-25591
- ferromagnetic-spin glass transition, localised mag. moment interactions 4-35169
- film, ferromagnetic, nonexchange magnetostatic spin waves, nonlinear props. 4-20809
- fine-particle system, time-dependent magnetisation 4-7037
- fluid, demagnetising waves, flow regimes anal. 4-44742
- fluids, magnetisable, US and flow props. 4-30234
- generalised continuum Heisenberg spin chain eqn. and generalised Hirota's eqn. with linear inhomogeneities, equiv. forms 4-20778
- glass, extremely disordered, inhomogeneous transitions 4-11723
- gyrotropic media, optical problems in electrodynamics 4-7168
- half-bounded ferromagnets, magnetoelastic slit waves (*Russian*) 4-7046
- Heisenberg anisotropic chain, solitons and two-magnon bound states, dynamic form factor 4-25503
- Heisenberg chain, continuous, as constrained harmonic motion, inverse scatt. and Schrodinger eqn. equivalence 4-42749
- Heisenberg ferromagnet, anisotropic, $S=1/2$, thermodynamic props., unified first-order Green's function theory 4-2786
- Heisenberg ferromagnet, Dyson equation for spin Green's functions 4-56521
- Heisenberg ferromagnet, magnetoelastic easy plane, solitary wave 4-7045
- Heisenberg ferromagnet, two-dimensional, spin wave dynamics, density of states exponent at percolation threshold 4-51086
- Heisenberg ferromagnet, with single-ion planar anisotropy, perturbative Dyson-Maleev transform. approach 4-40133
- Heisenberg ferromagnetic chain, easy-plane, spin-wave damping and two-spin-wave bond state 4-56594
- Heisenberg model, ferromagnetic classical, spin-wave mode at high temp. 4-11685
- Heisenberg model, spin-wave dispersion, small dilution correction 4-46017
- Heisenberg quantum systems, existence of gap in energy spectrum 4-16006
- Heisenberg-Ising chain, spin-1, with uniaxial anisotropy, finite size scaling study 4-2785
- HF eqn. with screening potential, effective mass discontinuity at Curie temp. 4-6974
- hyperthermia by mag. induction heating of ferromag. implants 4-52418
- infinitely coordinated systems, large-size crit. behaviour 4-203
- inhomogeneous surface mag. states near Curie point (*Russian*) 4-35191

ferromagnetism continued

- initial magnetisation curve and hysteresis loops, mean field approx. 4-30212
- interacting fine ferromag. particles, dynamic and static props. 4-30242
- intermediate valence ion fluctuations between two mag. configurations 4-29933
- Ising ferromagnet, crit. exponent relations, Fisher's inequality 4-40186
- Ising ferromagnet, Curie temp. theory 4-46025
- Ising ferromagnet, eqn. of state, quantal crossover 4-6997
- Ising ferromagnet, quadratic, two-dimensional, with mixed spins ($S=1/2, 1$) Curie temp. calc. 4-51075
- Ising ferromagnet, three-dimens., generalised difference eqn. 4-45986
- Ising ferromagnet, two-dimensional bond-disordered, numerical study 4-46057
- Ising ferromagnet, with enhanced surface couplings, phase diagram 4-35185
- Ising ferromagnet with $S=\infty$, heat capacity study by Monte Carlo simulation 4-56515
- Ising ferromagnets, magnetisation concavity 4-20779
- Ising model, 3-D, equilibrium cryst. shapes 4-29375
- Ising model, diluted free surface, surface magnetism 4-20834
- Ising model, finite spin, in ferromag. regime, scaling behaviour, region of validity 4-56660
- Ising model, four dimensions, critical behaviour in ferromagnetic systems 4-9012
- Ising model, random-field, low-temp. behaviour 4-2776
- Ising model, three-dimensional, in a random field, lower crit. dimensionality 4-16053
- Ising model with modified surface exchange, magnetisation profile and multicritical point 4-35183
- Ising spin 1 system with dipolar and quadrupolar interactions, effective-field model 4-42883
- isotropic Heisenberg ferromagnetic chain, energy fluctuations 4-2783
- itinerant electron magnetism, electron-phonon interactions effect 4-56524
- itinerant ferromagnets, superconductivity mean-field approx. anal. 4-50977
- liquid, domain walls 4-11742
- losses in highly non-linear ferromagnetic media subjected to alternating magnetisation 4-56698
- mag. phase diagram Ising lattice, hexagonal 4-16047
- magnetic texture meas. using Mossbauer spectroscopy (*Chinese*) 4-46147
- magnetisation, effect of high-intensity sound 4-40193
- magnetisation curves and hysteresis loops, analytical prediction 4-7007
- magnetization distribution in an ideally soft sphere 4-51034
- magnetostatic leakage fields, three-dimens. finite element predictions 4-28592
- magnetostriiction effect on Bloch and Neel wall vibrs. 4-56684
- mathematical magnetisation model of a ferromagnetic in a unidirectional field (*Russian*) 4-16061
- mean field theory, approach to antiferromagnetism, mapping to ferromagnetism 4-30133
- metal, equations of motion, Hubbard model 4-35138
- metal surface, mag. struct. and mag. moments, ab initio calcs. 4-16012
- metallic thin films, spin-wave reson. linewidth, reson. mode study 4-46113
- metals, hidden ferromagnetism theory 4-35174
- metals, isotropic tube shaped, elastic consts., ultrasonic vel. meas. 4-45241
- metals, mag., low density electron gas props., collective excitations, quasi-particles 4-25508
- NMR enhancement factor in ferromag. materials with broad hyperfine field distrib. 4-56816
- noise, ferromag., industrial appls., CETIM research (*French*) 4-16083
- nonlinear conducting ferromagnetic media, plane EM wave penetration, polarisation 4-33591
- nonmetallic solids, magnetism, magnons, phonons and solitons 4-25541
- one-dimensional chains, magnon condensation and solitons 4-40161
- one-dimensional ferromagnet, statistical mechanics 4-46054
- one-dimensional random Ising ferromagnets and antiferromagnets 4-2715
- oriented nuclei misalignment in ferromagnets 4-39851
- parallel ordered ferromagnetic magnetised wire matrix, mag. fields 4-5534
- parametric spin waves, excitation by two freq. transverse pumping 4-25538
- periodic Anderson Hamiltonian with orbital degeneracy, ordered states 4-25506
- phase transitions in anisotropic magnet with field 4-40165
- phase transitions perturbed by spatially periodic sources (*French*) 4-16033
- plate, bubble domain lattice vibr. excitation by electroelastic waves in piezoelec. semicond. substrate (*Russian*) 4-25613
- plate, soft-ferromag. elastic, static and dynamic stability, magnetoelastic buckling 4-49727
- plates, cubic anisotropy effect on phase transition into inhomogeneous state 4-30253
- plates, thin, in transverse mag. field, magnetoelastic stability and vibr. 4-55357
- plates near phase transition, dipolar forces and stripe domain struct. 4-16059
- polar ferromagnet, coexistence of charge and mag. ordering 4-46046
- Potts ferromagnet, critical point in triangular and honeycomb lattices 4-2764
- Potts ferromagnet, surface and defect crit. behaviour, renormalisation group approach 4-6996
- q-state antiferromagnetic Potts model with competing interactions 4-46053
- random anisotropic spin models, non-uniform long-range order 4-25498
- random-bond Ising model, boundary between spin glass and ferromagnetic states 4-11703
- random-field Ising systems, ferromagnetic ordered state instability 4-11732
- rare-earth-transition-metal alloys, elementary excitations spectrum 4-2774
- relativistic multiple scatt. theory of electrons 4-15352
- rods, twist deformation of helical springs (*Russian*) 4-25997
- rods, Wiedemann effect and magnetoelastic coupling (*Russian*) 4-51114
- scaling theory predictions, comparisons with Sherrington-Kirkpatrick-like model 4-46039
- Schrodinger spin-exchange ferromagnet, thermodynamic props. 4-40134
- second sound damping due to scattering of magnons by dislocations 4-25536

ferromagnetism continued

- semi-spin glass, stability in presence of anisotropic interactions 4-30179
 semiconductor, doped, spin wave spectra, Green's function calc. 4-56590
 semiconductor, ferromagnetic, energy-gap between spin branches, influence of intense EM field 4-50868
 semiconductor, magnetically dead surface layers, cond. band spin struct. calc. 4-2717
 semiconductors, ferromagnetic, s-f exchange model, electron states in spin wave region 4-40159
 semiconductors, ferromagnetic theory of mag. excitations 4-25534
 semiconductors 4-20820
 semimetals, superconducting, ferromagnetism theory (*Russian*) 4-6942
 single domain ferromag. particles, mag. props. 4-30232
 single-ion anisotropic ferromagnet in mag. field, single-particle Green's funct. 4-2751
 solid state chemistry predictive charact., relation between, chem. bonding, struct., and physical props. 4-15422
 solids, spin polarisation of Auger electrons 4-11975
 spin systems, ferromag., finite-size effects at first-order transitions 4-30193
 spin-wave theory, possible fundamental inadequacies, NMR evidence 4-56589
 superconductor, ferromag. cylindrical, non-equilib. behaviour, role of thermal transport 4-15994
 surface mag. long- and short-range order, Ising model calc. 4-2780
 suspension, optical anisotropy in alternating mag. field 4-30435
 textured ferrofluid, magnetisation curve, statistical theory 4-30226
 thin ferromagnetic films, pure and dil., phase transitions, mean-field model 4-7040
 three-dimensional, weakly coupled mag. chains with local anisotropy, mag. phase transition, soliton induced 4-2760
 three-dimensional Ising model, equilibrium cluster distrib. in one phase region 4-27436
 three-state chiral clock model, melting and wetting transitions 4-17847
 transition metal alloys, magnetisation transitions, generalized Slater-Pauling model 4-56525
 transition metals, ferromagnetism and correlation effects 4-30183
 two-dimensional classical Heisenberg model with easy-plane anisotropy, Monte Carlo simulation 4-11730
 two-dimensional Potts model with ferromagnetic and antiferromag. interactions, critical behaviour 4-40181
 uniaxial, with high single-ion anisotropy, low temp. phase transitions 4-35172
 uniaxial crystals, anisotropy, magnetisation, thermodynamic behaviour 4-56609
 uniaxial ferromagnet, gauge invariance of dynamics eqn. 4-45985
 vector spin glass in mag. field 4-16037
 volume acoustic wave excitation in ferromag. materials by quasisteady EM field 4-16082
 weak itinerant ferromagnets, spin fluctuations near T_c 4-2768
 Co ferrofluid, struct., neutron scatt. studies 4-30238
 Co, ferromagnetic, bulk and surface props., spin polarised electron spectroscopy 4-6698
 Fe, ferromagnetic, bulk and surface props., spin polarised electron spectroscopy 4-6698
 $\text{Fe}_x\text{Ni}_{1-x}\text{C}_x$, prep., crystal morphology, coercive field and use as mag. recording materials (*French*) 4-51103
 H_2 , polarised, low temp. confinement, mag. field profiling 4-56120
 ^3He superfluid B phase, vortices with ferromag. superfluid core 4-20428
 Ni, ferromagnetic, bulk and surface props., spin polarised electron spectroscopy 4-6698

ferromagnets see *ferromagnetic properties of substances; ferromagnetism*

ferrous alloys see *iron alloys*

Feshbach resonances see *atomic resonant states; molecular resonant states*

f.e.t. see *field effect transistors*

few-nucleon reactions see *nuclear reactions involving few nucleon systems*

few-nucleon scattering see *nuclear scattering involving few nucleon systems*

few-nucleon systems see *nuclei with mass number 1 to 5*

Feynman diagrams

- crossing-symmetric rings, ladders and exchanges 4-13767
 electron gas, high density, appl. of variational approach to many-body problem 4-170
 electron-impurity-centre interactions, velocity correlation funct. calc. 4-29940
 equivalence theorem and gauge theory at finite temp. 4-4552
 exclusive hadron scatt. amplitudes in QCD, $O(\alpha_s^2)$ Feynman diagrams calc. 4-447
 gauge fields in presence of dielectric medium, Feynman rules 4-4564
 heavy-mass power counting, decoupling in momentum-subtraction scheme 4-27663
 many-fermion Feynman-Goldstone diagrams in time-depend. basis, HF eqns. determ. 4-54051
 multiloop massless, calc. algorithm 4-324
 Polyakov string theory, diagrammatic interpretation 4-4657
 quantum field theory, finite-temp., in Minkowski space, ghost field and symm. breaking 4-27639
 relativistic scalar particle moving in gravit. field, Feynman path integral 4-47946
 renormalised Feynman amplitudes, elementary proof of $\epsilon \rightarrow 0$ 4-13755
 thermo field dynamics, nonlinear response 4-37290
 thermo field dynamics, renormalisation and perturbation 4-43160
 two-loop Higgs-Yukawa beta function in arbitrary α gauge, complete calc. 4-4559
 Yang-Mills theory, supersymmetric, stochastic struct. 4-32446
 μN interactions, final state study in deep inelastic scatt. 4-32659
 μN -quarks, fragmentation function, QCD anal. 4-32661
 $^4\text{He}(p,p)$, 200-400 MeV, elastic scatt. through large angles in reson. energy range 4-23102
 $^{18}\text{O}(\pi^-, \pi^+)^{18}\text{Ne}$, Δ_{33} dynamics 4-37664

FFT see *fast Fourier transforms*

fibre optics

- Used for fibre optic instruments and their components e.g. fibre optic gyroscopes, endoscopes and fibre lasers. For optical fibre waveguides used in telecommunications, see *optical fibres*
 see also *optical fibres*
 accelerometer, tilting-mirror fibre-optic 4-38585
 accelerometer design using Mach-Zehnder interferometer 4-13624
 accelerometers, interferometric type 4-17318

fibre optics continued

- accelerometers for vibration monitoring, GaAs-Al_xGa_{1-x}As micromechanical elements appl. 4-53667
 acoustic sensors, interferometer arrangements 4-19696
 acoustic transduction, fibre optic, review, book contrib. 4-19598
 analog video transmission, semicond. laser diode intensity noise 4-24213
 angular rotation sensor market forecast 4-44219
 astronomical spectrograph for obs. of galaxies, Medusa instrument using fibre optics 4-22327
 astronomical uses of optical fibres at Anglo-Australian Observatory 4-8392
 bundles with ground ends for endoscope use 4-16937
 carrier-induced phase noise in angle-modulated optical-fiber systems 4-55195
 catheter-tip micromanometer utilising a single polarisation fibre and He-Ne laser (*Japanese*) 4-31313
 clinical headlamp, surgery appl. 4-8065
 coated fibre ultrasonic sensitivity 4-24200
 conference, guided wave and coherent optics, Cargese, Italy (July 1982) 4-53357
 conference, London, England, (Apr. 1983) 4-4143
 connector performance improvements 4-10430
 connectors and interconnection technology, conf. Philadelphia, PA, USA, Nov. 1983 4-42594
 converters of mechanical quantities, current state of the art and future prospects 4-33779
 coronary blood flow meas. using double fibre optic system and dye dilution tracings (*German*) 4-16936
 current and voltage meters, sensor design using Faraday and Pockels effects (*Japanese*) 4-27539
 data acquisition systems, practical problems in field appl. 4-14812
 demodulation schemes for fibre optic sensors 4-5720
 detachable connectors for single-strand and multistrand fiber-optic cable 4-10435
 diaphragm deflection sensing with fibre optic method 4-38590
 diaphragm reflectance pressure transducer, environmentally insensitive, fibre optic sensor appl. 4-38591
 directional coupler using polarisation maintaining monomode fibres 4-38618
 displacement meas. appl. 4-4398
 distance sensor based on speckle velocity detect. 4-44225
 distributed temperature sensor based on liq.-core optical fibres 4-24201
 electric current measurement, enclosed-path optical fibre device 4-5719
 electro-optic and photoelastic sensors 4-32242
 electro-optic devices for fibre optic sensors 4-33804
 EM sensor using integrated optic channel waveguide modulator and polarisation preserving fibres 4-38599
 endoscopes, fibre optics use 4-5715
 Fabry-Perot resonator as temp. sensor and optical spectrum analyser 4-38602
 ferrofluids, magneto-optics, fibre optics meas. 4-30239
 fibre-optic-based tracking sensors for solar installations 4-31071
 fibre optic temperature transducer (*Swedish*) 4-5723
 fibre reinforced plastics, nondestructive damage assessment system using fibre optics 4-30917
 flow miniature transducers, fibre optic transmission principles 4-44212
 fluidised bed dilute particle concentrations meas. using optic fibre probes 4-38621
 fluorescence sensor for algae fluorescence meas. 4-41660
 fluoroprobe for biological meas. 4-58047
 gas detection system for methane conc. meas. 4-27512
 geothermal borehole temp. and pressure meas., applicability of fibre optics (*French*) 4-46855
 glass fibre sensors, state of the art (*Dutch*) 4-5700
 glass-metal seal light detection obs., possible optical fibre light detectors 4-48203
 grating, high-efficiency optical fibre, for multiple beam prod. of uniform intensity 4-38564
 GRIN optical fibre transfer characteristics (*Croatian*) 4-10450
 GRIN-fibre array as a pseudo-conjugator (*Chinese*) 4-49528
 groundwater contaminant monitoring, feasibility of fibre optics use 4-7917
 gyrometer in gravitational field 4-28857
 gyros, integrated optical components 4-44214
 gyroscope, direct rotation-rate detection, digital DP system 4-17881
 gyroscope, Sagnac interferometer, review 4-44221
 gyroscope with highly birefr. fibre and integrated-optic $\text{LiNbO}_3:\text{Ti}^+$ phase shifter 4-33799
 gyroscope with phase-modulated single-sideband detect. 4-33777
 gyroscopes, integrated optics components 4-33803
 gyroscopes, phase-nulling, dispersion induced nonreciprocal effects 4-49553
 gyroscopes, principle and technological solns. 4-55212
 gyroscopes, principles and performance limitations 4-5718
 gyroscopes and related sensor systems 4-4397
 hologram production using fibre optics 4-5555
 hydrophone, sensitive polarisation single-fibre 4-38596
 hydrophone, use of optical waveguide couplers 4-28874
 hydrophone array, pulsed Michelson interferometer config., design and characts. 4-28908
 hydrophones, press. and press. gradient fibre optic levers 4-38594
 injection laser, fibre resonator loaded, autostabilisation technique for stable resonant optical feedback 4-24023
 insertion loss meas. of optical fibre connectors (*Czech*) 4-55200
 integrated and fibre optical monomode sensors, a review (*German*) 4-55191
 interferometer, Michelson-type equal-arm laser, with holographic wavefront correction 4-10446
 interferometer, passive accurate phase meas. system 4-38601
 interferometer, passively stabilised, using (3×3) fibre directional couplers 4-38597
 interferometer, phase instabilities elimination 4-5772
 interferometer based on a multimode waveguide excited by an injection heterolaser 4-14807
 interferometer for remote subangstrom vibration meas. 4-44232
 interferometer sensors, laser noise props. 4-5716
 interferometers, zero path-length difference 4-22829
 interferometric DC magnetometer 4-22805
 interferometric remote fibre sensor, close loop FM 4-44216
 interferometric SAW sensor for NDT 4-35847

fibre optics continued

interferometric sensor, fibre end, using cooperative retroreflectors 4-10443
 interferometric sensor demodulation using a fibre-optic passive quadrature demodulator 4-22830
 interferometric sensors, passive quadrature demodulation 4-38598
 IR fibres, middle range, review of technology and applications (*Polish*) 4-1506
 laser and fibre optic sensor, conf., Arlington, VA, USA (Apr. 1983) 4-31954
 laser-Doppler velocimeter, compact, fibre type, using laser diode 4-44780
 Mach-Zehnder fibre interferometer fringe movement obs. technique 4-43041
 magnetic gradiometer 4-24202
 magnetometers for geomag. field mapping 4-17317
 medical applications, fibre optic delivery systems 4-57989
 medical applications, flexible waveguides and sensors 4-57990
 megampere current meas. with fibre optic sensors 4-17898
 Michelson interferometer sensor, all single-mode fibre directional coupler 4-24212
 microbending strain sensing 4-33770
 microphone, optical fibre probe, development (*Japanese*) 4-10441
 military applications of fibre optics 4-5713
 monomode fibres, active polarisation stabilisation systems for coherent transmission systems or fibre optic sensors 4-28872
 multi-object spectroscopy at Anglo-Australian telescope 4-31762
 multimode fibre sensors, review (*German*) 4-5722
 multimode fibre-optic systems modal noise evaluation 4-55196
 multiphase flow fields, optical meas. of particle size, velocity and concentration 4-49908
 NDT of composites using embedded fibre based interferometric technique 4-35845
 nuclear reactor heat exchanger repairs, temp. control using fibre optics 4-4993
 optical single sideband detection applied to fiber-optic sensors 4-33798
 outer mirror type fibre optic passive device using single rod lens (*Japanese*) 4-55215
 passive temperature sensing using unimode optical fibres (*Japanese*) 4-49556
 phase modulator, single mode fibre, using piezoelec. plastic jacket, high freq. response 4-38603
 photoconductor-liquid crystal structure with glass fibre component as spatial and temporal light modulator 4-55186
 photorefractometer for fluid flow meas. 4-37150
 point sensors for process control, conf., London, England (Jan. 1984) 4-36805
 polarimetric sensor, differential polarisation-maintaining fibre config., design and compensation 4-27506
 polarisation coupler for polarisation maintaining fibres (*Japanese*) 4-28863
 polarisation maintaining monomode fibre directional couplers, fabrication 4-28873
 polarisation-maintaining birefringent fibres 4-55210
 polarisers with high excitation ratio 4-28871
 pulsed acoustic laser probe for surface defect characterisation 4-51905
 rare earth doped fiber optic temperature sensor 4-14811
 ray equations for non-circular cross section fibres 4-1503
 remote fibre-optic microdosimetry reader for radiotherapy appls. 4-58008
 remote interferometer using an optical fiber 4-32305
 remote laser-induced fluoresc. meas. in UF_6 using fibre optic system 4-19585
 remote temperature sensing using polarisation-preserving fibre 4-27521
 review of developments at CSIO, Chandigarh, India 4-43000
 ring interferometer, optical nonreciprocity induced by nonstationary processes 4-55201
 ring interferometer with rot. accel., light guide dispersion effect on wave phase 4-19593
 rotation sensor, high-sensitivity fibre optic 4-14803
 Sagnac and Mach Zehnder fibre interferometers, effects of directional coupler asymm. losses 4-44215
 Sagnac interferometer fibre gyroscopes, compensation of linear sources of nonreciprocity 4-44218
 Sagnac passive gyro, use of 1.3 μm optical devices 4-44217
 Schmidt telescope wide-field fibre-optical probe for spectroscopy, differential atm. refr. effects 4-36584
 scintillation counting system, use of optical fibre cable 4-43764
 sensing with optical fibres 4-38605
 sensor, single-mode, current meas. by Faraday rotation in mag. fusion devices 4-19583
 sensor devices using single-mode fibres 4-24187
 sensor envelope fabrication from porous film 4-22765
 sensor for water penetration detect. in optical fibre cables, atten. meas. 4-14792
 sensor review, principles of operation 4-55211
 sensors, all-fibre technology appl., evanescent field interactions 4-38588
 sensors, amplitude modulated and intensity modulated, overview 4-33769
 sensors, design, characts. and meas. appl. (*Italian*) 4-13630
 sensors, multimode fibre, based on photoelastic effect 4-38593
 sensors, temperature desensitisation of delay 4-24188
 sensors, total internal reflection, designs and pot. appls. 4-5721
 sensors, transduction mechanisms 4-14809
 sensors development and appl. (*Czech*) 4-244
 sensors using fibre optics (*Polish*) 4-44231
 signal processors driven by relatively incoherent multimode semicond. lasers, dynamic range limitations due to laser phase induced noise 4-33771
 signs for communication and safety in transportation 4-5714
 single mode fibre couplers, batch fabrication technique 4-44265
 single mode fibre magnetometer for DC and LF AC magnetic fields detection 4-42996
 single mode fibre optic interferometric sensors 4-4396
 single mode polarisation-maintaining fibre resonator 4-19590
 single-mode fibre light pipe, excited, induced acoustooptical interaction 4-44233
 single-mode fibres with polarisation-mode coupling, impulse response 4-10439
 sintered element relative grinding hardness 4-33780
 soliton laser incorporating single-mode polarisation preserving fibre into mode-locked colour-centre laser feedback loop, 1.4-1.6 μm 4-33680
 spectrophone for laser absorpt. in gases meas. 4-38600
 spectrum analyser appl. 4-24214

fibre optics continued

stabilised optical fibre Fabry-Perot interferometer for semiconductor laser spectrum meas. 4-33662
 stimulated Raman radiation high-energy soliton generation in fibre light guides 4-38530
 temperature sensor, dual-mode interferometric config., design and operation 4-38611
 temperature sensor, modified cladding wavelength depend. 4-38589
 temporally coherent fibre optics 4-55208
 thermometer as microwave power probe 4-38592
 Thomson scatt. profile meas. using nonimaging technique, electron temp. and density 4-50073
 time domain multiplexed analog fiberoptic telemetry system for use with a large area array 4-14810
 transducer systems, intrinsic and extrinsic sensors, principles and appls. 4-5717
 ultra low frequency holographic interferometry using fibre optics 4-54980
 US sensing from 100 kHz to 50 MHz using single mode fibre 4-38595
 Utrecht EN tandem injector 4-54475
 GaAlAs broad band super radiant diode fibre optic sensor and communication appls. 4-33683
 GaAlAs single-mode laser freq. fluctuation stabilisation using fibre interferometer, noise props. 4-24045
 Nd^{3+} :YAG intracavity fibre laser, CW Raman oscill. 4-49370
 SiO_2 -cored monomode fibre, temp. depend. of Kerr effect, temp. and elec. field sensor appls. 4-1498
 TlBr KRS-5 extruded polycryst. fibres, loaded and unloaded, attenuation at 10.6 μm 4-1481

fibre reinforced composites

see also carbon fibre reinforced composites; glass fibre reinforced plastics
 aircraft industry uses 4-41166
 angle-ply laminate, antisymm., design sensitivity anal. 4-49740
 anisotropic materials, interactive program for anal. of US modulus data 4-11214
 aramid fibre reinforced Al alloy laminate, flight simulation behaviour, fatigue crack growth 4-12282
 Aramid fibre microplastics, strength realisation calc. models anal. 4-46572
 beams, fibre reinforced laminates, thin-walled open cross sections, Vlasov theory of buckling 4-49728
 borsic fibre reinforced Ti alloy, fracture and tensile strength of fibres after high temp. annealing 4-57347
 brittle material, crack propag., direct obs. method using SEM 4-3309
 brittle solid, toughening with fibres, fracture model 4-12169
 cellulose fibre cements, bleached fibre content, slow crack growth 4-35675
 cellulose fibre reinforced cement, slow crack growth 4-35687
 cellulose fibre reinforced PVC, extrusion and performance 4-40824
 ceramic composites, high temp., research in Shanghai Inst. of Ceramics 4-57166
 composite tube specimens, internal press., failure modes, radial compressive stress 4-3225
 compressive strength determ. 4-7502
 concrete, prediction of bending rupture strength of nonlinear materials 4-12108
 cord-rubber composites, nonlinear stress-strain behaviour 4-16431
 crack arrest by fibre reinforcement, yielded zones 4-10605
 damaged composites, stresses expt. determ. using elec. analogue 4-5853
 damping props. 4-40849
 debonding and pull-out from elastic matrix, effect of embedded fibre length 4-51672
 design models, analysis and optimisation on basis of multicriterial approach 4-44387
 devitroceramic fibre reinforced Al alloys, prod. scale squeeze casting and mech. props. 4-30667
 dilute suspensions, numerical prediction of fibre orientation 4-1817
 directionally reinforced plates, stress conc. near holes 4-49690
 dynamic fracture in idealised fibre-reinforced composites 4-14921
 elastic matrix, finitely deformed, instabilities 4-1635
 elastic plane, strongly anisotropic, with parabolic notch, stress distrib. 4-24351
 elasticity and thermoelasticity relationships 4-49689
 epoxide synthetic fibre reinforced plastic, fatigue, moisture influence 4-46609
 epoxy bonded, thermal stability (*Russian*) 4-7497
 fibre orientation meas. with diffraction patterns 4-57496
 filament-wound, strength testing methods 4-46699
 flat inclusion, partially debonded surface, crack initiation 4-34568
 fracture, fibre separation effect 4-44392
 fracture and tensile strength of fibres coated with brittle layers, theoretical model 4-57346
 glass fibre cement, total porosity, diffusion coeff. and strength 4-51615
 glass fibre composite interfaces, nondestructive FT IR sampling technique investigation 4-57491
 glass-ceramic fibre reinforced cement, alkali-resistant fibres development 4-40736
 holographic moire method exam. of anisotropic problems 4-44511
 hybrid, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
 hybrid composites, unidirectionally arrayed sheet, statistical approach to strength 4-51746
 hybrid unidirectional, elasticity characts. 4-12095
 impact-damaged, residual strength 4-46593
 industrial applications of present and future materials 4-41169
 inelastic, effective behaviour 4-45238
 inelasticity, development under repeated static loading 4-46574
 Kevlar 49 fibre reinforced epoxy, biaxial stress behaviour, creep and recovery tests 4-46585
 Kevlar fibre reinforced epoxy, failure modes and fracture mechanisms in flexure 4-35681
 Kevlar reinforced epoxy, controlled interfacial bonding, tensile strength and fracture toughness 4-12147
 Kevlar-glass fibre reinforced polymer, intermingled hybrid composites, elastic props. 4-40846
 laminates, bilinear failure analysis 4-16510
 laminates, multidirectional, thin-walled structural elements, failure modelling 4-10607
 layered composite beams, loss factor, fibre content ratio effects 4-46551
 load transfer from pin to wound strip 4-33937

fibre reinforced composites continued

- mechanical energy accumulator of shell type prepared by winding 4-49662
 metal layer composites, thermoelasticity, thermal cond. and strength 4-45367
 metal matrix composite materials, fibre vol. and void fraction meas. methods 4-51912
 metal matrix composites, nondestructive inspection and evaluation techniques, review 4-30902
 multilayer metals, strength properties calculation 4-46562
 multiparametric characterisation of cracking 4-26033
 natural hard fibre composites, biodegradation kinetics and mechanism 4-35589
 natural hard fibre composites, fatigue and fatigue degradation model investig. 4-35679
 NDT, video-thermography technique appl. 4-3367
 notched composite laminates, failure strength 4-35634
 organic fibre reinforced plastic, temp. effect on high-cycle fatigue 4-46606
 organic fibre reinforced polycapromide, failure mechanisms 4-30815
 permeable fibre reinforced polymer composites, Fickian diffusion model 4-50582
 phenolic fibre reinforced polypropylene, mech. and phys. props. 4-46576
 planar random composites, hygrothermomech. behaviour, composite mechanics 4-16511
 planar randomly distributed short fibre composites, ultimate tensile strength, edge effect 4-16462
 plastic matrix, circular cylinders, axial compressive buckling, surface imperfections effect 4-38745
 plastic matrix, crack propagation, SEM technique 4-30865
 plastic matrix, for use in automotive industry 4-41168
 plastic matrix, mag. polarisation influence on electrophys. props. in wide temp. range 4-46174
 plastic matrix, mechanochem. reactions at high press. (*Japanese*) 4-2268
 plastic matrix, technological advancements in reinforcements, filters, resins and processes 4-46489
 plastic structures, nondestructive damage assessment system using fibre optics 4-30917
 plate with equally stressed fibres of const. cross section, design problem 4-44388
 Poisson's stresses, finite element analysis 4-38726
 polyheteroarylene fibre reinforced epoxy composite, IR spectra and struct. 4-12054
 polymer fibre reinforced cement, stress transfer between fibrillated film and matrix 4-51707
 polymer matrix, cylinder, thermal stresses during heating and cooling 4-44416
 polymer-based, surface treatment for fibres, evaluation 4-41113
 polymeric, strength, relax. processes effect 4-12096
 porosity, estimation by oblique incidence ultrasound 4-30907
 powder-fibre composite, high-porosity, vol. changes reduction during sintering 4-7398
 research developments and applics. trends 4-41170
 shells, laminated, composite, cylindrical, optimisation for axial buckling 4-33962
 short fibre reinforced plastics and elastomers, mech. prop. improvement through control of fibre orientation during fabrication 4-51616
 silk fibre reinforced nitrile rubber composites, mech. props. rel. to fibre-matrix bonding 4-51747
 space applications, material developments 4-41167
 steel cord reinforced rubber, prediction of bending rupture strength of nonlinear materials 4-12108
 steel fibre reinforced Al, composite prep. by vacuum infiltration technique, interface stability 4-3107
 steel fibre reinforced Al alloy, effect of surface treatment of fibre (*Korean*) 4-57141
 steel fibre reinforced composites, prep. by explosion technique, study of low temp. props. (*Slovak*) 4-46601
 strongly anisotropic media, plane contact problems of elasticity theory 4-44497
 technology, developments, uses, standards need 4-41165
 thermoplastic matrix, failure mechanisms 4-30815
 thermoplastic matrix, fibre fracture during processing 4-16370
 transverse stiffness, model of couple stress effect 4-49682
 tribology rel. to filler material (*German*) 4-16514
 tubular rod, thin-walled, load-bearing capacity, optimum strut design 4-44417
 ultrafine filament metallic matrix composites, prep. and props., book contrib. 4-7401
 unidirectional, fracture process with matrix failure 4-40949
 US porosity detection, elastodynamic backscatter 4-30893
 wood fibre reinforced polystyrene 4-40741
 woven fabric composite, elastic const. micromechanical anal. 4-51703
 woven fabric composites, nonlinear elastic behaviour 4-35663
 Al₂O₃ fibre reinforced Mg alloy, nondestructive evaluation by US scanning and X-ray radiography 4-30901
 B fibre reinforced Al, physico-chem. interaction 4-57275
 B fibre reinforced Al-Mg, fatigue props., effect of fibre-matrix interface (*Slovak*) 4-46602
 B fibre reinforced epoxy, symm. cross-ply laminates, three-dimens. curing stress 4-35642
 B fibre reinforced plastic, failure mechanism under interlamellar shear 4-46605
 B plastic reinforced D16T alloy rod elements, short-term strength under room and low temp. conditions 4-12180
 B₄C coated B fibre reinforced Ti, interfacial compositions Auger electron spectroscopy 4-3372
 B₄C-B reinforced Ti alloy composite, mixed mode fatigue crack propag., humid environment effect 4-40970
 Mo fibre reinforced MgO, prop. method and mech. props. 4-57169
 Ni-Cr fibre reinforced Al, composite prep. by vacuum infiltration technique, interface stability 4-3107
 SiC fibre reinforcement, prep. and mech. props. 4-26019
 SiC fibres, potential for use in metal matrix composites 4-51586
 SiC whisker reinforced Si₃N₄ ceramic composite, hot pressing, mech. props. (*Japanese*) 4-40927
 SiC whisker reinforced Al composite, creep rupture, microstruct. 4-40966
 W fibre reinforced Cu, helical fibres, fracture toughness 4-40953
 W fibre reinforced MgO, prop. method and mech. props. 4-57169

fibre reinforced composites continued

- W fibre reinforced Ni, effect of TiC and TiN on tensile and fatigue props. 4-40937
 W wire reinforced Ni-base superalloy, fracture during isothermal forging 4-57329
- fibres** *see also carbon fibres; composite materials; fibre reinforced composites; glass fibres; optical fibres*
 absorbing fibre sizing using scatt. intensity-ratio technique, eikonal approx. 4-32232
 Aramid fibre threads, strength realisation calc. models anal. 4-46572
 Aroclor fibre drawing flow field, upper jet region, finite element anal. 4-24460
 asbestos fibre analysis by TEM, filter collection transfer 4-21608
 coated with brittle layers, fracture and tensile strength, theoretical model 4-57346
 cotton fibres, electron emission optical thermal stimulation, accident dosimetry 4-3622
 elastic properties determination method using lasers 4-41139
 false twist development in biaxial rotation fatigue testing 4-12288
 glass-like materials from ethyl silicate, prep. 4-57123
 graphite intercalation compounds, conf., Pont-a-Mousson, France (May 1983) 4-42591
 homopolymers, thermotropic, melt spinning, fibre formation, viscosity, temp. depend. 4-12053
 isothermal fibres spinning, analysis with Doi-Edwards constitutive eqn. 4-14934
 Kevlar 49 fibre, compressive and torsional behaviour 4-26002
 metal, porous, sintered, contact phenomena, compact quality 4-51583
 metal gauze packs, deform. effect on porosity 4-7396
 metallic fibre solids, porous struct. generalised characts. 4-46466
 neutron fibres as appl. of neutron optics 4-49252
 nylon 6 fibres, high energy irradi., mech. props., fracture morphology deterioration rel. to dose 4-26003
 nylon fibres, tie chain length distrib., NMR obs. 4-30297
 PET fibres, crystallite orientation, X-ray diff. obs. 4-24739
 PET fibres, melt spun, isothermal heat treatment, microstructure rearrangement, birefringence, X-ray scatt. 4-12091
 poly-p-phenylene terephthalamide fibres, fibrillar morphology 4-11005
 poly-p-benzamide, fibre struct., water vapour sorption method (*Russian*) 4-29338
 poly-p-phenyleneterephthalamide, fibre struct., water vapour sorption method (*Russian*) 4-29338
 polyamide fibres, molecular chain orientation, mag. anisotropy obs. (*Russian*) 4-29333
 polycapromide fibres, creep deform. in liquid media (*Russian*) 4-30747
 polyethylene, radiation-crosslinked, lamellar crystn. of pendant chains 4-34421
 polyethylene, ultra-high mol. wt., gel spinning, elastic flow instability, shish-kebab morphology, tensile props. 4-25940
 polyheteroarylene based high-modulus fibres, inelastic deform. 4-46573
 polymer, orientation order, acoustical study 4-20126
 polymer solns., flow-induced fibrillar form. in Poiseuille flow 4-35409
 polyparaphenylene terephthalamide based high-modulus fibres, inelastic deform. 4-46573
 polypropylene fibres, mol. mobility, drawing influence, NMR 4-46116
 porous fibre materials, contact phenomena 4-25923
 porous fibre materials, free and contact surface determs. 4-26104
 PTFE fibres, creep deform. in liquid media (*Russian*) 4-30747
 quartz, fibre based ceramic material, acoustic props. and test methods 4-12297
 short-fibre composites, fibre orientation meas. with diffraction patterns 4-57496
 silk, fine struct. characts. correl. with textile props., small-angle X-ray scatt. obs. 4-12391
 steel, stainless, reinforcing filaments, cold drawn 4-3190
 textile fibres, light absorption coeff., heat treatment process effects 4-20934
 thin fibres, prod. from powders 4-25911
 viscoelastoplastic bodies, of fibres, dynamic spreading simulation (*French*) 4-55350
 viscose, thermal decomp., small additives effect, IR spectroscopic obs. 4-51990
 viscose-hydroxyethylcellulose, fibre-forming mixt., rheological behaviour 4-29045
 wetting balance, accuracy, cross-sectional geometry effect 4-320
 Al₂O₃ fibres, polycryst., prod. 4-12046
 Al₂O₃ fibrous insulators, thermal cond. at high temps. (*Japanese*) 4-50600
 C fibre precursors prep., solubility and susceptibility of carbonaceous quinoline insoluble substances 4-16360
 Cu, porous fibre material, contact phenomena 4-25923
 Cu porous fibre materials, free and contact surface determs. 4-26104
 Ni permeable materials from powders and fibres, comparison 4-3104
 Ni porous fibre materials, free and contact surface determs. 4-26104
 SiC fibre, synthesis by polycarbosilane pyrolysis, struct. rel. to precursor mol. struct. 4-16357
 SiC fibres, prep. and mech. props. 4-26019
 SiO₂, fibrous, cryst. growth on Si surface, electron microscopy study (*French*) 4-15410
 SiO₂ fibrous ceramics, Space Shuttle tile, nondestructive evaluation, sonic vel. meas. 4-30897
 W filament, polycryst., deform. characts., effect of Cu and Ta coatings 4-57391
 ZrO₂ fibrous insulators, thermal cond. at high temps. (*Japanese*) 4-50600

fibrinogen *see proteins***field, crystal internal** *see crystal field interactions***field effect devices**

- see also field effect integrated circuits; field effect transistors; metal-insulator-semiconductor devices*
 No entries

field effect integrated circuits

- see also charge-coupled device circuits*
 CMOS, microelectronic thin film deposition by UV laser photolysis 4-12032
 CMOS capacitive pressure transducers with integrated circuits 4-53670
 CMOS magnetic field sensor 4-13657
 MOS device testing, X-ray and ⁶⁰Co gamma-ray effects 4-48271
 MOS processor Z8002, γ -ray effects in zero-bias condition 4-24867

field effect integrated circuits continued

- MOSFET IC exposed in ^{60}Co facilities, dose enhancement effects 4-48801
- optoelectronic transmitter containing TJS laser, driver FET and multiplexer 4-55067
- scanning laser microscope for inspection of microelectronic devices 4-37168
- SSTV test equipment, design 4-37231
- GaAs FET preamplifier and photodiode, planar monolithic integration 4-10465
- GaAs MESFET driver monolithically integrated with AlGaAs/GaAs multi-quantum-well laser 4-19470
- InGaAsP-InP laser integration with FET 4-55068
- Si MOS VLSI, forward-biased p-n junction electroluminesc., leakage current study 4-30060
- Si piezoelectric-film FET accelerometer, with proof mass 4-37083
- Si_3N_4 thin gate insulators, thermal nitridation of Si and SiO_2 4-6920
- ZrN thin film, oxidation kinetics 4-3403

field effect transistor circuits

- Used for general papers and papers where the use of field effect transistors is significant*
- dual JFET converter, pA currents comparison appl. 4-42989

field effect transistors

- see also field effect integrated circuits; insulated gate field effect transistors; junction gate field effect transistors; Schottky gate field effect transistors*

- 2D electron gas FETs, high speed-low power circuit integration 4-25439
- chemically sensitive, electrochemical aspects and appl. 4-26235
- chemically sensitive FET sensors, operation as function of insulator-electrolyte interface 4-27507
- extended gate chemically sensitive FER, multi-species microprobe appl. 4-26237
- fabrication by electron beam lithography in 100 nm region 4-32392
- heterojunction FET, theoretical and expt. study (French) 4-11584
- ISFET in analytical chemistry, pH sensitive mechanism 4-31041
- short channel FETs using Si MBE, review 4-16331
- superlattices, MBE grown, electron device appls. 4-45870
- surface-accessible FET for gas sensing 4-26236
- thin film transistors, elec. props., temp. depend. 4-50961
- (AlGa)As-GaAs 2-D electron gas devices, deep-level anal. by low-freq. noise measurement 4-50909
- n-Al_{0.1}Ga_{0.9}As/GaAs heterostruct., electron gas for FET 4-50821
- n-Al_{0.1}Ga_{0.9}As/GaAs selectively doped heterostructs. for high electron mobility transistors 4-35048
- Al₂O₃ insulator surface, ISFET struct., counter-ion adsorption effect on surface pot., pH characts. 4-39683
- GaAs/n-AlGaAs heterojunction, MBE growth, FET appls. 4-16327
- a-Si, elec. props. study, interface and surface effects study 4-39976
- Si-insulator-electrolyte ISFET structures, pH sensitivity, surface potential, interfacial impedance 4-45858
- SiO₂ insulator surface, ISFET struct., counter-ion adsorption effect on surface pot., pH characts. 4-39683

field electron microscopy *see field emission electron microscopy***field emission, electron** *see electron field emission***field emission, ion** *see field ion emission***field emission electron microscopes**

- see also field emission electron microscopy*
- liquid He cryostat for supercond. objective and cold stage 4-22885
- microscope with base press. of 10^{-10} Pa (Japanese) 4-18008

field emission electron microscopy

- see also field emission electron microscopes*
- Al oxide layers on W and Mo faces, thermal dissolution, FEM obs. 4-39698

- Ni surface, C deposition, growth and reactivity, field emission microscope studies 4-29751

- Ni, surface self-diffusion, effect of adsorbed S 4-34767
- Rh, adsorption of N₂, surface struct. effect, FEM, TDS studies 4-39679
- W surface, Ge coated, Ba adsorption, field emission microscopy 4-20465

field emission ion microscopes

- see also field emission ion microscopy*
- universal design, with rotating cassette for six specimen 4-32384

field emission ion microscopy

- see also atom probe field ion microscopy; field emission ion microscopes*
- adatom cluster, surface diffusion, field ion microscopy studies 4-29820
- adsorbate surface diffusion, field emission studies, review 4-29822
- adsorbed atom surface diffusion, correlation with concentration and step struct. 4-29823

- semiconductor surfaces, field ion microscopy 4-39069
- single adatom and diatomic cluster surface migration, FIM studies 4-29821

- single atom surface diffusion, field emission ion microscopy 4-29819
- surface, mass transport, tip morphology evolution in FIM 4-29676
- surface model for non-planar surfaces 4-30612

- Al-Cu (1.7 at.%), single crystal, room temp. ageing, GP zone struct. 4-3146

- Cu-Pd, phase transitions, field ion microscopy study (Russian) 4-25951
- Fe-Mo-C, ageing, interstitial phase formation, kinetics and morphology 4-21228

- Fe-V-C, ageing, interstitial phase formation, kinetics and morphology 4-21228

- Re, rearranged surface struct., FIM study 4-39643

- Si, field ion microscopy and atom probe microanal. 4-20062

- Si-W(Ni)(Pt) interface, silicide formation, atom probe and field ion microscopy study 4-34804

- Ta surface, W adatoms, medium range interactions 4-6651

- W, ion irradiation damage, FIM study 4-39352

field evaporation

- dielectrics, high volt. vacuum breakdown, flashover and arcs (French) 4-51189
- ions, pulsed laser field desorbed and field evaporated, energy distribts. 4-34789
- metals, evaporation field, effect of adsorbed H₂ 4-30611
- sucrose, field desorpt. study by optical microscopy and mass spectrometry 4-51460
- CoB metallic glass, field evaporation charge-state of B ions, isotopic variations 4-35554
- FeB metallic glass, field evaporation charge-state of B ions, isotopic variations 4-35554
- Re, rearranged surface struct., FIM study 4-39643

field evaporation continued

- Si, field ion microscopy and atom probe microanal. 4-20062
- W ions, field evaporated, charge state in pulsed-field at. probe 4-57078

field intensity patterns (antenna) *see antenna radiation patterns***field interactions (condensed matter)**

- see also crystal field interactions; hyperfine field interactions (condensed matter)*
- glass:Cr III, absorpt., excitation and emission spectra, ligand field 4-40493
- rare earth alloys, $\text{RCO}_5\text{-xM}_2$, M=Ni, Cu, Al, Si, mag. props. 4-7017
- Nd^{3+} complexes in soln., optical absorption spectra 4-2935

field ion emission

- liquid metal ion source, heating effects 4-35553
- metal, liq., ion emission in strong elec. field 4-46427
- metal ions, emission from Ga₂O₃ in field desorpt. mode 4-21113
- metals, evaporation field, effect of adsorbed H₂ 4-30611
- sucrose, field desorpt. study by optical microscopy and mass spectrometry 4-51460
- surface model for non-planar surfaces 4-30612
- Al oxide layers on W and Mo faces, thermal dissolution, FEM obs. 4-39698

field ion microscopy, atom-probe *see atom probe field ion microscopy***field ionisation**

- hydrogenic Rydberg atoms, elec. field ionis., complex energy states calcs. 4-23633
- trajectory theory of strong electric field ionisation 4-19289
- He, mass anal. by atom-probe field ion microscopy 4-37260
- Li, circular Rydberg states, prod. in at. beam 4-1076
- Na, d-state fine struct. in electric field 4-5514
- $\text{Na}+\text{Ar}^+(\text{Na}^+)$, charge transfer, final state distrib. M and L. depend. 4-19252
- $\text{Na}+\text{K}^+$, Rydberg states, collisional ang. momentum mixing 4-19146
- Na(34d), fine struct., elec. field depend., field ionisation quantum beat technique 4-19290
- Rb+Rb, quenching of Rydberg state, appl. to elastic electron scatt. 4-19214
- S^{4+} , beam foil excited Rydberg states, field ionisation techniques 4-19213
- Si:P, field ionisation of P atoms, MIS struct. study 4-40611
- W wires, activation of field ionisation using pyridine microneedles 4-16297

field measurement, electric *see electric field measurement***field measurement, magnetic** *see magnetic field measurement***field plotting**

- see also field strength measurement*

No entries

field strength measurement

- see also electric field measurement; magnetic field measurement*
- EM dosimetry, computer-based scanning system 4-52549
- passive dosimeters for RF and microwave fields 4-58012

field theories, unified *see unified field theories***field theory, classical** *see classical field theory***field theory, crystal** *see crystal field interactions***field theory, electromagnetic** *see electromagnetic field theory***field theory, meson** *see meson field theory***field theory, quantum** *see quantum field theory***fields, electric** *see electric fields***fields, magnetic** *see magnetic fields***filament lamps**

- incandescent lamp, instrument for distrib. temp. setting and light intensity meas. 4-27568
- light output increase by use of transparent heat reflecting filters 4-19533
- line filament W lamp, Schmalz microscope simplification 4-290
- Ta and alloys, development history, prod. and applics., ASTM standards 4-51573
- W-halogen lamp for operator-safe infrared light source 4-5677
- W-halogen lamps containing dibromomethane, role of CO, chem. equilib. calc. 4-16645

file management *see file organisation***file organisation**

- see also data handling; data structures; database management systems; virtual storage*
- laboratory data management, processing and display, integrated approach for marine research 4-22092

filled polymers

- acrylic composite, C filled, fracture toughness 4-40933
- acrylonitrile-butadiene copolymer, glass-filled, thermal cond. meas. at high temps. using line source technique 4-37107
- binder long-term deformability estimation during development stage 4-46488
- conductive plastics, microstruct., elec. and mech. props. 4-15407
- dispersely filled composite, elastoplastic deform. modelling 4-44424
- elastomers, relaxation processes and filler particles thermal mobility 4-35649
- epoxide resin, highly filled, fatigue performance 4-35722
- epoxide-phenol polymer based composite anticorrosion materials, strength and deform. props. 4-46640
- epoxies, Al filled, dielec. props., elec. susceptibilities 4-40380
- epoxy polymers, hybrid particulate filled, fracture energy, flexural modulus 4-30783
- epoxy resin, glass-particle-filled, crack propag., effect of particle vol. fraction and size 4-35685
- epoxy resin, glass-particle-filled, crack propag., effect of particle-matrix adhesion 4-35686
- ethylene adipate oligomer, filled, thermodynamic state of macromolecules in boundary layers 4-39539
- ferrite-resin composite material for vibration damping and its applications 4-35603
- fibre reinforced epoxy bonded composites, thermal stability (Russian) 4-7497
- mechanical characteristics, probability distribts. 4-16507
- melt polymer composites, bulk moduli and thermal expansivity, statistical vs. macro-mechanics 4-50393
- metal filled, surface layers form. on sliding 4-46628
- natural rubber vulcanisates, regenerated cellulose filled, props. 4-7507
- nylon 6 filled composites, tensile yield stress, filler content, strain rate and temp. effects 4-51751

filled polymers continued

- phenolformaldehyde resin, glass- and talc-filled, thermal cond. meas. at high temps. using line source technique 4-37107
 polyamide-12, carbon filler effects on mol. mobility and struct. (*Russian*) 4-15402
 polyamines, glass fibre and ball reinforced, fatigue characts. 4-46608
 polybutadiene, c black filled, crystn., phys. and chem. forces (*Russian*) 4-6293
 1,4-cis-polybutadiene, filled, crystallisation and melting (*Russian*) 4-15623
 polycarbonate, C black filled, elec. conductivity 4-46487
 polyethylene, mica-filled, extensional flow 4-51704
 polyethylene films, filled, paper-like, fabrication 4-51617
 polyethylene melts, mica-filled, rheology 4-50555
 polyheteroarylene fibre reinforced epoxy composite, IR spectra and struct. 4-12054
 polyisoprene, c black filled, crystn., phys. and chem. forces (*Russian*) 4-6293
 polyorganosilicone rubber-oligo-hydrate siloxane composite, TiO₂ filled, mech. props. (*Russian*) 4-7506
 polypropylene, filled, tensile behaviour, comparison of various reinforced fillers 4-51706
 polypropylene, mica-filled, factors affecting mech. props. 4-46552
 polystyrene, coated spheres filled, crazing modes under impact, matrix-filler adhesion effect 4-12149
 polystyrene, wood-filled 4-40741
 polystyrene-thermotropic liquid crystal composite, rheological and thermal props. 4-46553
 PVC/C black conductor-insulator composite, struct. anal. by charging SOM 4-13731
 reinforced thermoplastics, rheology, book contrib. 4-7501
 SBR regenerated cellulose filled, props. 4-7507
 SBR-ground asbestos system, mech. props., filler shape effect 4-3330
 strength, relax. processes effect 4-12096
 technological advancements in reinforcements, filters, resins and processes 4-46489
 tribology rel. to filler material (*German*) 4-16514
 C loaded polymers, stereo TEM of C particles dispersion 4-44906

film badges see *dosimeters***films**

- see also *adsorbed layers*; *coatings*; *foils*; *helium films*; *Langmuir films*; *liquid films*; *monolayers*; *optical films*; *polymer films*; *replicas*; *thin films*; *thin films*
 No entries

filtering and prediction theory

- see also *information theory*; *Kalman filters*; *random processes*; *Walsh functions*
 ARMA—filtering of evoked potentials 4-57877
 atmosphere global grid-point models, high-latitude filtering 4-47421
 atmosphere temperature profiles, appl. of Kalman filter to ground-based microwave sensing 4-22137
 climatic extreme value and return period for small samples, statistical prediction method 4-58318
 earthquake signals, robust detection 4-41781
 edge detection method using two stage procedure 4-41529
 environmental systems identification: problems for the development of recursive estimation algorithms 4-58208
 Kalman filtration algorithms for evaluating ionosphere parameters (*Russian*) 4-47494
 linear filtering problems, integration by means of canonical transformations 4-8761
 multichannel auto-regressive data models, new recursive procedure 4-26812
 nerve membrane, single channels anal. method 4-12558
 olfactory system, spatial filtering 4-52368
 optical/digital signal processing, apparatus and applications 4-49273
 pattern recognition, form-invariant 2D filtering appl. 4-38412
 real-time data processor based on residue number system using near-term optical waveguide devices 4-28877
 satellites, orbital parameter estimation using extended Kalman filter (*German*) 4-22306
 spatial feature extraction methods in multispectral classification 4-52901
 Wiener-Hopf integral equation, explicit soln. technique 4-10216
 wind field from dual-Doppler radar data, filtering/interpolation by variational method 4-13050

filters

- see also *active filters*; *band-pass filters*; *digital filters*; *Kalman filters*; *matched filters*; *microwave filters*; *notch filters*; *optical filters*; *passive filters*; *spatial filters*
 infrasonic detector array signal detection filters 4-13056
 magnetic-sector GC/MS instruments, top-hat filter adaptation for data acquisition 4-48246
 shaping filter design for incoherent scattering process of radiowaves in ionosphere (*Russian*) 4-22259

filters, optical see *optical filters***filtration**

- 9-aminoacridine hydrochloride monohydrate, fluoresc. and ultrafiltration by membranes 4-43911
 aqueous saline streams, radioactive Co removal 4-18587
 BWR cooling water, insoluble species rejection using diffusion-bonded HGMS filter 4-18588
 canal system to horizontal drain system, filtration calcs. (*Ukrainian*) 4-38872
 cyclic operation of underground gas store 4-24471
 DNA, fluoresc. and ultrafiltration by membranes 4-43911
 fibrous filters with electrical enhancement, internal collection efficiency, perturbation method 4-5952
 filter material prep. from metal powder milled and mixed with pore-forming agent 4-7394
 fluid velocity variation in filter cakes 4-10760
 gravity driven two phase filtration, Backlund transformation appl. 4-44717
 highly rejecting filters, mol. wt. spectra investig. 4-7749
 inhomogeneous medium, matter diffusion and liq. filtration (*Ukrainian*) 4-24466
 laminar dilute suspension flows in plate-and-frame ultrafiltration units 4-10638
 liquid flow in porous solid, heat and mass transfer, surface phenomena 4-34073
 maltodextrins, mol. wt. effects on rejection on ultrafilters 4-7749

filtration continued

- nonideal porous media, filtration of liquid with a free boundary 4-10761
 nonlinear transfer processes, localised structs., self-insulation 4-33921
 polymer, stress/strain, moistening effect theory 4-44428
 polymeric non-woven fibrous materials (*Russian*) 4-10759
 spherical particles, intercepal and gravitational collision efficiencies of single collectors 4-1815
 triboelectrically charged fluidised bed, airborne dust filtration 4-29173
 two-dimensional steady filtration of incompressible fluid with limiting gradient 4-44713
 two-phase liquid dispersion, phase separation techniques 4-55437
 ultrafiltration membranes, porosity meas. methods 4-7752
 ultrafiltration membranes, rejection of macromols., adsorpt. effects 4-7747
 water filtration into heterogeneous multilayer beds, mathematical model (*Ukrainian*) 4-41989
 B, atmospheric, determ. and sampling 4-16809
¹³⁷Cs aerosol filtration through silica gel layer, radwaste appl. 4-43666
 SiO₂ membranes, prep. from alkoxysilanes on porous supports 4-57125

FIM see *field emission ion microscopy***FIM, atom-probe** see *atom probe field ion microscopy***financial administrative data processing** see *financial data processing***financial data processing**

- radwaste volume reduction systems, computer economic modelling 4-23232

fine structure, atomic see *atomic fine structure***fine structure, molecular** see *molecular fine structure***finite automata**

- cellular automata, alternative to differential eqns. in modelling physics 4-47858
 cellular automata, appl. to ergodic theory and sofic systems 4-47857
 cellular automata, asynchronous, structure 4-48010
 cellular automata, conf., Los Alamos, NM, USA (March 1983) 4-47747
 cellular automata, deterministic, chaos and diffusion 4-48009
 cellular automata, DNA sequence modelling 4-52256
 cellular automata, growth rates and fractional dimensions 4-48042
 cellular automata, modelling with partial differential eqns. 4-48044
 cellular automata, physics simulation 4-48043
 cellular automata, random, complex, emergent props. 4-48011
 cellular automata, universality, complexity 4-47856
 cellular automata in cytoskeletal lattices 4-52269

finite element analysis

- acoustic choking, one-dimensional gas dynamic eqns., numerical model 4-1532
 acoustic intensity measurements, cross-spectral density method, stochastic anal. 4-19685
 acoustic propagation in ducts, three-dimensional problem, finite element anal. 4-38649
 acoustic wave generation in anisotropic piezoelectric materials 4-30395
 acoustic waveguides, finite element analysis, symmetric and antisymmetric conditions 4-44268
 acoustic waveguides, use of symmetric and antisymmetric conditions (*Japanese*) 4-19635
 active mirror segment figure control 4-1458
 alloys, materials design, stress and strain state eval. 4-40916
 anisotropic waveguides, optical and microwave, finite element anal. 4-49521
 aortic bifurcation, 3D model, numerical simulation of steady flow 4-31262
 asphalt concrete, Marshall test, nonlinear plane stress finite element analysis 4-12292
 atmospheric boundary layer flow model, finite element anal. of log-linear element 4-53455
 atomic and mol. props., finite element method calcs. 4-18895
 bars, thin walled, of open cross-section, energy eqns., nonlinear analysis 4-1606
 beaches, gently sloping, percolation and flow through porous medium 4-3752
 beam, thermoelastic deflection, two-dimens. finite element idealisation 4-5796
 beam collapse, viscoplastic and large deformation anal. by finite element method 4-28984
 beam vibrations analysis, Ritz finite element formulation 4-44443
 beams, curved laminated, of bimodulus material, finite element anal. 4-33938
 beams, free-free, of circular cross section, bending as result of transverse projectile impacts 4-19744
 beams, inhomogeneous, orthotropic, cantilever type, subjected to shear forces, shear stress distribution and shear stiffness (*German*) 4-55320
 beams, laminated anisotropic, of bimodulus materials, finite element analysis 4-49696
 beams, nonlinear vibr., Ritz finite element approach 4-44450
 bend specimen, three-point, stress intensity factor and J integral numerical evaluation 4-34004
 binary alloys, cellular interface morphologies during directional solidification, one-sided model 4-45310
 blade vibrational displacement and stress meas. using time-average holographic interferometry (*Chinese*) 4-49786
 block compression, three dimens. finite element anal. 4-49711
 boreholes, tailored pulse stimulation anal. 4-17157
 brick finite element, 8-node 4-53485
 Bridgeman growth, vertical, radial segregation induced by natural convection and melt/solid interface shape 4-20132
 Bridgeman growth, solid-liquid interface shape, thermal cond. effect 4-45036
 brittle material structures loaded with external pressure, stress state and fracture conditions eval. 4-33958
 Brown Boveri reactor steam generator, flow induced oscill. calc. (*German*) 4-9383
 buckling finite element analysis of flat plates with a rectangular hole 4-14905
 BWR, nozzle corner crack under thermal transient loading condition, J integral eval. 4-786
 BWR benchmark problems, coarse mesh finite element method 4-37763
 C⁰ structural elements, bending and shear mode decomposition 4-19739
 casting solidification process 4-57210
 Cauchy method of finite differences for nonlinear Schrodinger type eqns. (*Russian*) 4-32070

finite element analysis continued

ceramics, macrocrack trajectory in orthogonal cutting by finite element method (*Japanese*) 4-55915
 Chiles-T program, fracture mechanics anal. 4-19769
 Cholesky method, substructuring, application to fracture mechanics, FINEL 4-19768
 coercivity numerical calc., using exponential-periodic graded mesh 4-30198
 cold stamping process mechanics, numerical analysis (*Russian*) 4-10560
 components subjected to creep and ratcheting, finite element anal. 4-57309
 composite, thin shell of revolution, method of removed elements applic. to residual stresses investig. 4-44510
 composite material anisotropic plates, boundary-value problems, finite element approx. 4-10546
 contact problem, elasticity theory, soln. by finite element anal. 4-34014
 contact problems, mixed finite element method 4-49769
 contact problems, two-dimens. elastic and plastic, modified finite element method 4-55383
 convective transport problems, Taylor-Galerkin method 4-34077
 Coulomb plasticity material model for nodal tie element 4-24352
 crack stress intensity factors, virtual extensions, substructuring appl. 4-14918
 crack-face nodal weight functions with singularity element, determ. using stiffness derivative finite element technique 4-29010
 cracked bend specimens subjected to mixed mode loading, fracture behaviour 4-29007
 cracks, finite element modelling 4-24372
 creep, predictor-corrector and finite element models (*German*) 4-5816
 creep rupture analysis of structures 4-46590
 curvilinear orthotropic inhomogeneous bodies of revolution, thermostress state 4-55327
 cylinders with holes and normally intersecting cylinders, stress distrib., finite element soln. 4-28979
 cylindrical tubes, hyperelastic, simultaneous gyroscopic and radials oscillations 4-44446
 defence HLW transportation casks, 2-and 3-dimens. dynamic anal. 4-37809
 deformation processes, digital simulation, finite element method appl. (*German*) 4-42721
 die compaction, inhomogeneous density, expts. and finite element calcs. 4-7381
 die indentation into elastic-plastic foundation under conditions of plane deform. 4-49772
 diffused slab channel waveguides in uniaxial crystals, multimode struct. 4-49513
 diffusion-convection one-dimensional eqn. soln. by Galerkin-Petrov finite element method (*German*) 4-48049
 disc, thermally stressed, vibratory control by intermediate heating, finite element anal. 4-1540
 discs, thick, flexural vibr., annular finite element efficiency 4-33975
 double diffusive convection, finite element model 4-53492
 ducts, rectangular, acoustic transmission through walls, finite element scheme 4-38648
 ducts sound propagation computation using finite difference method (*Chinese*) 4-49596
 dynamic analysis of viscoelastic structures using incremental finite element method 4-16430
 dynamic contact problems, numerically efficient procedures 4-34013
 dynamic structure evaluation by finite element analysis 4-1541
 eddy current calc. and structural loading, computer programs 4-54918
 eddy current calculations in plane and axisymm. multiconductor systems 4-54905
 eddy current low-freq. solns., finite-element methods 4-54914
 eddy currents, three-dimens., network method 4-49228
 eddy currents, three-dimensional formulation using mag. vector pot. and total mag. scalar pot. 4-49226
 elastic finite deformation, contact and limit-point behaviour 4-49679
 elastic finite elements, quadrature and singular finite elements 4-53484
 elastic notch stress analysis using boundary and finite element methods, economy and convergence 4-53486
 elastic stages of body, convergence of finite element methods (*German*) 4-36907
 elastic wave scattering, by inclined surface void, T-matrix approach 4-1662
 elastic waveguide boundary element analysis of discontinuities 4-24285
 elastic-plastic analysis on stable crack growth for centre-cracked plates, benchmark study 4-29014
 elastic-plastic void containing material, necking type bifurcations, numerical analysis 4-49712
 elasticity problems with singularities, uniform finite element refinements 4-32048
 elasticity theory, statistical problems, finite element method soln. (*Russian*) 4-8747
 elastodynamics problems with friction, numerical anal. 4-14925
 elastoplastic material, complex loading and extrusion with saturating work hardening (*Japanese*) 4-2260
 elastoplasticity, plate with circular hole 4-44422
 electrical engineering appl. (book) 4-53386
 electrodynamic boundary-value problems digital solution (*Polish*) 4-19344
 electrodynamic transient problems solution using finite element anal. (*Polish*) 4-33600
 electromagnetic wave scattering from periodic structures, analysis using finite element method 4-38376
 electrostatic field computation, complementary energy methods 4-49210
 electrostatic fields, computation using finite element and finite difference methods 4-54901
 elliptic plane problems, equilibrium finite element method appl. 4-28965
 EM field, interactive post-processing techniques 4-28599
 EM field eqns., variational formulations, dual and complementary energy methods 4-49227
 EM fields, three-dimensional finite element computation, boundary Galerkin method 4-49229
 EM methods of nondestructive testing, numerical field modelling appl. 4-57494
 EM RF field three-dimens. anal. by finite element method 4-54909
 EM wave diffraction calculation using finite differences method (*French*) 4-44028
 EM wave scatt., finite element-boundary integral formulation 4-54939
 EMP caused by ground level nuclear explosion, calc. (*French*) 4-48743

finite element analysis continued

excited Wannier excitons in half-space geometry, finite element anal. 4-20570
 failure models of brittle materials, computer program 4-19770
 fibre drawing flow field, upper jet region, finite element anal. 4-24460
 fibre reinforced composite, symm. cross-ply laminates, three-dimens. curing stress 4-35642
 FINERC code, assessment of finite element synthesis model for nuclear reactors 4-9244
 finite deformation anal., rate constitutive eqn. numerical integration 4-1617
 finned heat exchanger, heat transfer, two dimens. anal., soln. techniques 4-33913
 fire, thermal flow, finite element anal. and simulation 4-49816
 fission reactor containment vessel, 1/30 steel scale model, 3-D finite element anal. 4-23138
 fission reactors, SNR-300 vessel components, mechanical behaviour from HCDA 4-54335
 floating body in regular waves, comput. of wave drift forces 4-55415
 flow round airfoil, unsteady separated viscous flow, expt. and numerical anal. (*French*) 4-14978
 flow separation, finite element model 4-19781
 fluid and fluid-structure systems, freq. calc., displacement-based finite elements study 4-29112
 fluid flow and heat transfer, control vol. finite element method, two dimens. problem 4-44582
 fracture specimen, mode II, finite element analysis 4-29032
 free surface flows, isoparametric finite elements analysis 4-14943
 free transient convective heat transfer between cable and its surrounding pipe or duct wall 4-55311
 Friedrich and Poincare inequalities, constant eval. using finite element theory (*German*) 4-47848
 FTU Tokamak, toroidal and poloidal mag. struct. 4-48725
 fully developed axial turbulent-flow in rod bundles, finite element model 4-15031
 glass fibre drawing process, finite element method simulation 4-30675
 global reactor core calc., finite element response matrix method 4-14032
 granular materials, tensile fracture, wave propag. 4-24373
 graphite fibre reinforced epoxy laminate, transient wave propag. produced by steel ball impact 4-14916
 gravitational radiation emission calc. using finite difference eqns. 4-32128
 half-space, elastoplastic, quasi-static normal indentation by a rigid sphere 4-34010
 half-space indentation with rigid indenter 4-5847
 halo-thermal simulation of the dead sea for application to solar energy projects 4-46883
 heat emitting rad. waste depository, groundwater flow in hard rock region, finite element modelling 4-43567
 heat transfer in dry sliding of polymeric composites 4-12196
 heat transfer numerical props., conf., College Park, USA, Sept. 1981 4-31973
 hemiellipsoidal domes, underwater, vibrations, finite element anal. 4-19759
 hexagonal element scheme in finite element anal. 4-37688
 hydroelastic vibrational modes of tanks or immersed structures, added mass computations by integral eqn. methods 4-1641
 hyperelastic incompressible body anal. by finite element method 4-19718
 incompressible fluid flow and heat flow, two dimens., control vol. finite element method 4-44583
 incompressible Navier-Stokes eqns., appl. of mixed finite element methods 4-29049
 inelastic body, large quasistatic deform. anal. using new hybrid-stress finite element algorithm 4-1618
 inelastic liqs., flow through axisymmetric sudden contraction inertia and shear-thinning 4-24476
 interlayers in joints of different moduli under static tensile loading, crack resist. 4-34007
 intervertebral disc, simple finite element model, mech. response under complex loading 4-57928
 intervertebral disc, surgical herniation effects on viscoelastic props., finite element 4-12607
 ionising radiation EM field calc., at ground level, verification using nucl. explosion (*French*) 4-49209
 juxtaarticular stress changes due to localised subchondral stiffening, finite element studies 4-47022
 kinematic wave motion, discontinuous numerical solns. 4-53495
 Lamb wave scattering in elastic plate waveguide, finite element anal. 4-49597
 Lamb waves, elastic plate waveguide, discontinuities, finite element anal. 4-24274
 laminates, multilayer, anal. using three-dimens. super-elements 4-55323
 Laplace equation solution in a square with mixed boundary conditions, boundary element method and finite element method efficiency and accuracy 4-53454
 laser mirrors, cooled, advanced technological, rapid trade study anal. method 4-44180
 linear diffusion with reversible trapping and eroding boundary, finite element anal. 4-9245
 linear porous-elasticity, boundary integral eqn. method, soil consolidation appls. 4-44383
 loudspeakers, acoustic radiation, finite element anal. 4-28956
 magnetic field anal., finite element and boundary elements methods combination 4-49216
 magnetic fringe field due to flux source near large permeable block, computation 4-28591
 magnetostatic leakage fields, three-dimens. finite element predictions 4-28592
 magnets, Fe-air lamination, 3-D finite element model (*French*) 4-37122
 mast antenna structs., response to non-stationary random excitations, time depend. variance and covariance 4-49615
 melt-solid phase boundary, buoyancy-driven convection, finite element calcs. 4-33914
 MHD channel flow, effect of mag. field orientation and wall conductivity, finite element method 4-1842
 Minkowski lattice, consistent fermion formulation with operator Dirac eqn. approx. 4-9019
 Minkowski space finite element approximation in quantum theory 4-53886
 miscible displacement simulation, pressure approx. by mixed method 4-29177

finite element analysis continued

mixed mode bi-material fracture mechanics, finite element analysis 4-49755

multi-connected domain Navier-Stokes eqns., stream function-vorticity finite element formulation 4-1694

multi-objective systems, optimal structural remodelling 4-44379

multilayered composite, low press. plasma deposition, finite element modelling, stress analysis 4-3068

Navier-Stokes equation, penalty finite element method 4-49799

Navier-Stokes equations, mixed finite element solution 4-38783

Navier-Stokes problem, three-dimens., penalty variational formulation using optimal control finite element approx. 4-34031

NDT, eddy current probe design using finite element analysis 4-16583

neutron diffusion, codes development, 2D and 3D, 2DFEM and FEDM 4-54217

neutron diffusion, FEED2D 2D finite element code 4-54218

neutron diffusion, FINELM possible future developments 4-54214

neutron diffusion, FINELM program, architecture and usage 4-54213

neutron diffusion, FINELM program mathematics 4-54212

neutron diffusion, finite element method, review 4-37760

neutron diffusion, multidimensional diffusion codes, conf., Saclay, France (Sept. 1983) 4-53347

neutron diffusion, multigroup diffusion equation, FENDER finite-element code appl. 4-54216

neutron diffusion, streaming ray method, finite element formulation 4-37693

neutron diffusion and transport 4-54210

neutron static diffusion eqns., nodal schemes and finite element method relationship 4-37761

neutron steady state transport eqn., 2D soln. by reduction to coupled diffusion order eqns. 4-54211

neutron transport theory, finite elements appl. and TRIDENT code 4-54215

nonisothermal thermoplasticity, algorithm based on finite element method 4-49723

nonlinear behaviour of nonintegral infilled frames 4-19747

nonlinear two-dimens. field problems with sinusoidal excitation sources, soln. using first-order finite elements 4-54913

nuclear explosions, ground level, overhead lines/EMP coupling (*French*) 4-48745

nuclear reactor building dynamic anal. using simplified finite element mesh 4-776

nuclide migration through fissured geological media, numerical anal., rad-waste disposal anal. 4-54261

numerical methods comparisons 4-32031

optical fibres, mode calculation using finite element method and FISPAC 4-28840

optical waveguide, anisotropic, scalar finite element anal. (*Japanese*) 4-28836

orthotropic micropolar elastic material, finite element stress analysis 4-38722

petroleum reservoir, finite element simulation, surface subsidence 4-36362

phase, diffraction of horizontally polarized shear waves by normal edge cracks 4-24393

phase space finite element neutron transport solns. 4-37749

piezoelectric plate, local vibrations with energy losses, finite element anal. 4-14836

pipes and shells, nonlinear anal. 4-33930

plane stress-strain problem soln. using conjugate gradient algorithm 4-97

plane transient elastodynamic problem solutions 4-44406

plasma deposition process, low pressure, finite element modelling, temp. analysis 4-3067

plasma deposition process, low pressure, finite element modelling, stress analysis 4-3068

plastic deformation simulation by finite element method with spatially fixed elements 4-10562

plasticity problems, rate-depend., large deform., computational aspects 4-24354

plastics, C-fibre and glass-fibre reinforced, damping capacity and natural freqs. 4-40878

plate, crack extension force distrib., three dimens. elastic-plastic analysis 4-5837

plate, elastic-plastic quadratic programming problem, finite element soln. 4-17698

plate, finite size laminated composite, uniaxial tension, stress distrib. around semi-circular edge notch 4-1675

plate, isotropic, triangular, flat, elastic buckling 4-19745

plate, rectangular sandwich, bending anal. by finite element method (*Japanese*) 4-1622

plate, simply-supported, Babuska circle paradox, penalty resolution 4-17697

plate, triangular, vibr. anal. using finite element tech. 4-10580

plate bending, assumed stress hybrid curvilinear triangular finite element 4-55347

plate bending, C^1 continuity problem soln. 4-1620

plate bending, singular finite element for analysis 4-44410

plates, anisotropic, rectangular, unsymm. laminated, transient response, symm. considerations 4-33935

plates, composite, bifurcation and post-buckling anal., multiple-parameter reduced basis technique 4-33966

plates, layered, dynamical theory construction, finite element method 4-49681

plates, multilayer, laminated, thick, and thin, invariant eight-node hybrid-stress element 4-55322

plates, thick and thin, half-elliptical surface cracks, welding residual stress intensity factors 4-29017

plates, thin cracked, bending analysis by hybrid displacement finite element model 4-44409

plates, unilaterally supported anal. by finite element models 4-33952

plates composite, laminated, moderately thick, triangular shear-flexible finite element 4-14882

porous materials extrusion, FORTRAN IV program for investigation (*Russian*) 4-25971

porous media, coupled convective transport processes, finite element upwinding methods 4-5898

potential flow, three dimens., in centrifugal turbomachines, numerical anal. 4-14940

powder compaction, predictor method for finite element analysis of sliding friction 4-25907

finite element analysis continued

pressure vessels strength tests, microcomputer based data system appl. 4-14078

PWR LOCA simulation, HDR blowdown expt. anal. using coupled fluid-structural dynamic method 4-27926

quasi-stationary field problem soln. by means of mag. scalar pot. 4-54911

quasistatic elastoviscoplasticity, implicit-explicit time integration using finite and infinite elements 4-49704

Rayleigh convection problem, symm. breaking bifurcations, numerical approx. 4-10672

reactor components, mech. failure concepts using elasto-plastic finite element anal. (*German*) 4-9286

reactor dynamic problems, Galerkin finite element method appl., multi-group diffusion eqns. 4-37699

rod-wall elastomict stress anal., two-dimens., dynamic substructuring method 4-10612

rods, elastomict contact, virtual work principle, finite element anal. 4-44499

rotating disc stress analysis with FEM 4-44403

scalar potential problems, boundary integral eqn. methods, axisymmetric formulation 4-49219

Sewage Solids Irradiator Transportation System, packaging 3-dimens. finite element anal. 4-37927

shallow water eqns., appl. of Numerov-Galerkin technique 4-4235

shallow water eqns., one dimensional model 4-4234

shear and membrane locking in curved C^0 elements 4-22587

shear band computation using new variational approach, crack problem, use of weight functions 4-55345

shear band computation using new variational approach theory and elementary examples 4-55344

shear effect, inclusion in the ACM finite element 4-17695

shell, impulsively loaded, nonlinear dynamics, explicit algorithm 4-49660

shells, buckling under press. loading, unsymmetric eigenproblem 4-1634

shells, complete spherical and truncated spherical, under axial compressive loads, buckling anal. 4-33963

shells, orthotropic, axisymm., asymm. bending anal. 4-33953

shells of revolution with arbitrary local deviations, finite element model 4-44364

shoulder joint replacement, stress analysis at scapula (*German*) 4-17018

sintering, pressure, anal. by computer simulation 4-51564

solidification of melt, natural convection, two-phase Rayleigh-Benard problem 4-34618

solids, splitting damage, finite element anal. 4-49763

spherically symmetric fluid bodies in general relativity, finite element methods 4-8795

St.-Venant's torsion problem, integral eqns. (*German*) 4-38723

Standard Galerkin finite element method appl. to groundwater flow, incongruity anal. 4-17202

stationary fields, continuation problems finite element technique 4-49218

steel, C, materials design, stress and strain state eval. 4-40916

steel, C, tensile necking, operant strain rate sensitivity 4-16448

steel, extrusion and flow through tapered dies, finite element soln. (*Russian*) 4-29183

steel, structural, cleavage fracture stress, struct. and stress state effects 4-40929

stenosis severity effects for unbalanced simple-pulsatile bifurcation flow 4-21716

stratified magnetoplasma, 1D, EM wave propag., variational finite element soln. 4-34266

stream function vorticity 4-24403

stretched net with solid body in flow stream, oscillation invest. (*Russian*) 4-29103

surface crack, half-elliptical, subjected to complex crack face, stress intensity factors 4-29016

swept plates, structural reduction, using transition element concept 4-19736

tension members, plane strain cracked, J integral determ. using finite element creep solutions 4-24374

thermal convection simulation in three dimens., modified finite element method 4-34095

thermoelasticity equation, numerical method 4-49687

three-dimensional neutron transport eqn. soln. by double finite element method 4-692

three-dimensional static field problems, finite element computations 4-49214

three-dimensional stress analysis, axi-symmetric and solid elements 4-44380

tidal computations, finite element, wave eqn. model, two-dimens. anal. 4-47277

Tokamak, Tore Supra, eddy current calcs. 4-55586

trapezoidal specimen, edge cracked, mixed mode stress intensity factor correction factors 4-10596

tube, narrow, acoustic propag., effective densities and resistivities, finite element anal. 4-38647

two-phase jets, turbulent pulsations energy transport 4-5929

unbounded field problems, infinite boundary element method combined with finite elements 4-36892

US power transducers, temp. distribution, finite element computer model 4-49645

vertical magnetic field diffusion study in toroidal stabilising shell and plasma of ZT-40M reversed field pinch device 4-55587

vertical rod partially submerged in liq., coarse discretisation finite element algorithm 4-34091

vibrations of moving structures, time dependent traveling load problem, finite element anal. 4-19649

viscoelastic fluid flow through an abrupt contraction, numerical simulation 4-34145

viscoelastic material, oscillatory behaviour under const. load, compressible flow between parallel discs 4-34120

viscoplastic modelling with strain rate-history dependency 4-1631

viscoplastic stress analysis, tangent modulus tensor explicit forms 4-44408

viscous flow, finite element calculation 4-49811

vortices, viscous fluid flows, finite element calcs. 4-1737

water supercooled solidification process, numerical anal. (*Japanese*) 4-15622

wave diffraction into model basin, finite and infinite element program 4-19852

woven fabric composite, elastic constns. micromechanical anal. 4-51703

zero energy deformation mode suppression 4-32046

finite element analysis continued

- Al/Cr(Si)(C), bilayer films, laser irradi., hole formation, finite element anal. 4-28793
 C fibre reinforced plastic ring with nonlinear section, compressive behaviour 4-49782
 Cu, polycrystals, indentation damages, work hardening, residual stress, elastic-plastic analysis 4-16450
 Fe, fracture, computer simulation using long-range pair potentials 4-50416
 GaAs-GaAlAs laser diodes, stress compensation 4-1392
 Ni crystals, finite element modeling of ultrasonic inspection of weldments 4-26162
 Ni-Cr thermocouples, thermoelectric drift due to inhomogeneous comp. changes, finite element anal. 4-27525
 Si₃N₄, Weibull statistics, used to correl. modulus-of-rupture, bill-on-ring and rotational fast fracture tests 4-24389

finite impulse response filters *see digital filters***finite state automata** *see finite automata***Finlay-Freundlich red-shift hypothesis** *see gravitational red shift***FIR filters** *see digital filters***fires**

- see also accidents; combustion; flames; safety*
 cooking woodstove and heat transfer, modelling 4-52015
 forest crown fires, horizontal roll vortices over differentially heated surface 4-17240
 forest fires, SHF emission, radiometric detect., tree canopy effects 4-31705
 heat transfer numerical procs., conf., College Park, USA, Sept. 1981 4-31973
 high-level forest fires spreading, mathematical modelling 4-21478
 LMFBR, NaHCO₃ based dry chem. powder for extinguishing pool fires 4-33125
 nuclear fuel reprocessing, accidental events, criticality, fires and explosions, probability (*German*) 4-4982
 nuclear materials type B package in Caldecott tunnel fire thermal environment 4-43697
 nuclear power plant, ventilation and fire protection systems, combined anal. (*Spanish*) 4-28149
 nuclear power plants electric cables, hazards 4-52012
 nuclear reactor compartment fire modelling, COMPBRN computer code 4-18754
 open fires for cooking, expts. and theory 4-52014
 radioactive material shipping casks, thermal response to engulfing fires 4-37921
 radioactive materials transportation packages, pool fire testing 4-37925
 reactor safety, Na-concrete reaction, Na fire effect on concrete failure (*German*) 4-5012
 repeatable fire testing facility for radioactive material container tests 4-37920
 Sewage Solids Irradiator Transportation System, packaging 3-dimens finite element anal. 4-37927
 thermal flow of fire, finite element anal. and simulation 4-49816
 TRUPACT, TRU waste transportation, thermal testing 4-37792
 type B packages for radioactive materials, <500 kg, crush conditions, fire resistance 4-33206

firmware *see microprogramming***fission***see also fission of plutonium; fission of uranium; photofission; spontaneous fission*

- ²³⁵Th(α, fission), I isotope yields 4-54194
 A=200 compound nuclei, high-spin fission, rotating liquid drop model fission barrier heights study 4-54188
 actinide fission foils, plasma neutron diagnostics 4-50070
 adiabatic fission, hydrodynamic approx., decay width of metastable many-body system 4-18489
 barrier heights and nucl. surface tension const. systematics 4-43453
 charge distrib. theory of nucl. fission 4-27861
 chemical nucl. data libraries, evaluated nucl. decay data for reactor appl. 4-36817
 compound nucleus disintegration widths for fission and neutron emission 4-589
 conference on nuclear spectroscopy and nuclear structure, Kiev, USSR (Apr. 1982) 4-2
 diffusion model with large friction 4-54116
 DIOGENES double torus ionisation chamber for light charged particle accompanied fission expts. 4-18875
 fissioning nuclei, single-particle states structure, deformed Woods-Saxon potential anal. 4-27777
 fragment angular distribution formula, validity, high spin nuclei fission 4-32941
 glass nuclear track detector, fission fragments, track diameter and etching time, empirical relationship 4-9632
 heavy ion central collisions at large excitation energies, fusion and competing reactions 4-18456
 heavy ion induced fission, ang. distrib., transition state theory, flexible rotor model 4-48604
 heavy-ion reactions, neutron emission to fission reduced widths ratio Γ_n/Γ_f from cross sections 4-4902
 (Hf, 4n), fission and neutron emission competition near N=126, shell and collective effects 4-18469
 highly dissipative heavy ion reactions, complete fusion, fast fission (*French*) 4-686
 kinetic energy of fission fragments, dynamical description of variances 4-27911
 Kramers's formula, fission over multidimensional barrier 4-9194
 muonic atom prompt fission, muon energy levels and final probability 4-38356
 neutron nuclear data for science and technology, conf., Antwerp, Belgium (Sept. 1982) 4-36785
 nuclear temp. effects in scission-point model 4-4839
 particle-to-fission competition at high excitation energies in heavy ion reactions 4-48556
 preactinide nuclei, 170 ≤ A ≤ 210, in (¹²C, f), statistical model anal. with shell effects 4-18490
 prompt and delayed fission probabilities in actinides in doorway state model 4-48557
 rare earth nuclei, fission, mean field description, HF calcs. 4-4917
 rare earth region, ang. momentum depend. fission barriers 4-54191
 rate calculation from Fokker-Planck eqn. (*Chinese*) 4-48559
 scission point configuration determ. (*Chinese*) 4-48560

fission continued

- soggy saddle theory of fission 4-48558
 symmetric fission mode, (α, f), (³He, f) mass distrib. meas. 4-48561
 transmurmion elements, fission barrier calc. using Woods-Saxon potential with shape asym. 4-18411
 transuranics, MeV fission cross sections inferred from measurable isotopes 4-18844
 transuranium nuclei, neutron emission to fission ratio, energy depend. 4-4918
 (n, f), aggregate delayed neutron intensities and spectra using augmented ENDF/B-V precursor data 4-14010
 (n, f), delayed neutron precursor data compilation 4-36815
 (n, fission) cross-section calculation method for fast neutrons 4-54201
²²⁶Ac fission prob. structure, ²²⁶Ra(n, f) cross sect. meas. 4-18491
²⁴¹Am(n, f), A=241, 243, integral cross section meas. 4-37582
²⁴¹Am(n, f), A=241-243, cross section evaluation 4-37676
²⁴¹Am(n, f), A=241-243, reson. integrals and postirradiation fuel anal., critical review 4-37585
²⁴¹Am(n, f), fast n, fragment yield figures from semiconductor γ-spectrometry 4-37672
²⁴¹Am(n, f), 100 keV to 5 MeV, fission cross section meas. and calcs. 4-37677
²⁴¹Am(n, f), 5-250 keV, fission cross section 4-13986
¹⁹⁷Au(¹²C, X), 720 MeV, highly excited compound-like nuclei formation 4-680
¹⁹⁷Au(¹²C, X), 86 MeV/N, semirelativistic reaction, fission and total observable cross sections 4-4894
¹⁹⁷Au(¹⁶O, X), 107 MeV/N, semirelativistic reaction, fission and total observable cross sections 4-4894
¹⁹⁷Au(²⁰Ne, f), 292 MeV, fission fragments ang. correl., linear momentum transfer limitation 4-4921
¹⁹⁷Au(α, f), fission products formation, excitation functions meas. 4-18486
¹⁹⁷Au(p, X)Kr, 0.15-24 GeV, production mechanism for Kr and Xe isotopes 4-23118
¹⁹⁷Au(p, X)Xe, 0.15-24 GeV, production mechanism for Kr and Xe isotopes 4-23118
²⁰⁹Bi(²⁰Ne, f), Z 4-4921
¹⁷²Cf(¹⁶O, X), 215 MeV, fission and emission of H and He 4-37659
²⁴⁹Cf(n, f), fast neutron fission cross section 4-54192
²⁴⁰Cm A=242, 244, prompt neutron average number and distrib. from spontaneous fission 4-54187
²⁴⁰Cm(n, f), cross section evaluation 4-37676
²⁴⁰Cm(n, f), reson. integrals and postirradiation fuel anal., critical review 4-37585
²⁴⁰Cm(n, f), 100 keV to 5 MeV, fission cross section meas. and calcs. 4-37677
¹⁵⁸Er, fission cross-section excitation functions 4-9233
¹⁷⁰Er(¹⁶O, fission) fission fragment ang. dist. 4-37671
¹⁶⁵Ho(²⁰Ne, f), 292 MeV, fission fragments ang. correl., linear momentum transfer limitation 4-4921
¹⁶⁵Ho(³⁶Fe, α, f), pre- and near-scission α-emission, isotropic evaporation mech. 4-4919
¹⁴²Nd(¹⁶O, fission) fission fragment ang. dist. 4-37671
¹⁴⁴Nd, rotationally constrained Hartree-Fock calcs., fission barrier 4-27815
²³⁷Np(n, f), © H, He and T prod. cross section 4-37577
²³⁷Np(n, f), 0.1-9.4 MeV, fission cross section relative to ²³⁵U(n, f) 4-14011
²³⁷Np(n, f), 1 to 15 MeV, prompt neutrons and average γ-ray energies (*French*) 4-37571
²³⁷Np(n, f), 2.5 MeV, absolute fission cross section meas. 4-37564
²³⁷Np(n, f), integral cross section meas. 4-37582
²³⁷Np(n, f), \bar{p}_0 meas. discrepancies 4-14014
²³⁷Np(n, f), subthreshold fission coupling 4-32891
¹⁸⁶Os, fission cross-section excitation functions 4-9233
¹⁹²Os(¹⁶O, fission) fission fragment ang. dist. 4-37671
 (p, f), neutron and isotope prod. at high energies, model predictions 4-37682
²⁰⁸Pb(¹⁶O, X), 215 MeV, fission and emission of H and He 4-37659
²⁰⁸Pb A=204, 206, 208, 210, fission cross-section excitation functions 4-9233
 Pt isotope fission procs., large ang. momenta effects from ¹⁷⁰Yb(¹⁶O, X), Sm(³²S, X) 4-43535
¹⁹⁸Pt(¹²C, fission) fission fragment ang. dist. 4-37671
²²⁷Ra fission prob. structure, ²²⁶Ra(n, f) cross sect. meas. 4-18491
¹⁸¹Ta(¹⁶O, X), 215 MeV, fission and emission of H and He 4-37659
¹⁸¹Ta(²⁰Ne, f), 292 MeV, fission fragments ang. correl., linear momentum transfer limitation 4-4921
¹⁵⁹Tb(²Ne, f), 113-161.5 MeV, fission and evaporation residue excitation functions, fission barriers 4-54191
²³²Th(n, f), A=230, 232, fission cross section and fission fragment anisotropy meas. 4-37670
²³²Th(n, f), A=230, 232, fission fragment characs. (*French*) 4-43547
²³⁰Th(n, f), directional bias of mass asymmetry 4-43552
²³²Th(e, f), virtual photon spectra from fission fragment ang. distrib. 4-27912
²³²Th(¹²C, X), 720 MeV, highly excited compound-like nuclei formation 4-680
²³²Th(¹⁹F, X)²⁵¹Es, fission neutron ang. distrib. following fusion, accelerated fission fragments 4-48594
²³²Th(α, f), ¹³²Pm⁴ isomeric cross section ratios 4-32809
²³²Th(e, f), E2 fission decay obs. 4-37674
²³²Th(n, f), 1 to 15 MeV, prompt neutrons and average γ-ray energies (*French*) 4-37571
²³²Th(n, f), 100 eV to 1.6 MeV, subthreshold and near-subthreshold cross section 4-4920
²³²Th(n, f), 1.3-6.35 MeV, \bar{p}_0 meas. 4-14015
²³²Th(n, f), 50 keV-20 MeV, fission cross section evaluation 4-37684
²³²Th(n, f), aggregate delayed neutron intensities and spectra using augmented ENDF/B-V precursor data 4-14010
¹⁶⁹Tm(¹²C, f), 78.2-122.6 MeV 4-54191
²³⁵U(n, f), A=235, 238, cross sections, covariance matrices in data evaluation 4-37548
²³⁵U(n, f), 0.5, 5.55 MeV, fragment velocities, energies and masses 4-54189
²³⁸U(¹²C, fission) fission fragment ang. dist. 4-37671
²³⁸U(¹⁶O, fission), fission fragment ang. dist. 4-37671
²³⁸U(¹⁶O, f), fission anisotropies and sequential fission 4-32917
¹⁷⁴Yb(¹²C, fission) 4-37671

fission counters

- epitope fission track detector, etching technique 4-28297

fission counters continued

- Makrofol after long storage time in air, critical angle for fission fragment registration 4-28296
 tracks in apatite, thermal history and length distrib. 4-28295
 vacuum fission chamber with compensation of γ -induced current 4-9636
³He filled detector for neutron detection in spontaneous fission events 4-48868

fission of plutonium

- fission foils, plasma neutron diagnostics 4-50070
^APu, A=240,242,244, fission fragments energy and mass distrib. 4-43548
^APu(n,f), A=239,241, thermal neutron constants evaluation 4-43545
^APu(n,f), A=239,241, thermal, fission fragments energy and mass distrib. 4-43548
^APu(n,f), A=239,242, fission fragment characts. and fine structures in fragment parameter distrib. 4-43546
^APu(n,f), A=240, 242, 2.5 MeV, absolute fission cross section meas. 4-37564
^APu(n,f), A=238-242,244, second chance fission cross section study 4-43550
²³⁸Pu(n,f), 5 eV to 10 MeV, fission cross section meas. 4-37675
²³⁸Pu(n,f), cross section evaluation 4-37619
²³⁹Pu, antineutrino spectrum calcs. in reactor core, ν - $\bar{\nu}$ oscillations 4-27687
²³⁹Pu(n, fission) ^ARu A=107, 108, 109 fission product yields 4-54198
²³⁹Pu(n, fission) ^ATc A=101, 103, 104, 105 fission product yields 4-54199
²³⁹Pu(n,f), © H. He and T prod. cross section 4-37577
²³⁹Pu(n,f), 0.5-7.5 MeV, fast fission, delayed neutron spectral meas. and covariance error anal. 4-37680
²³⁹Pu(n,f), 14 MeV fission cross sections 4-37566
²³⁹Pu(n,f), 14.7 MeV, absolute fission cross sections 4-37565
²³⁹Pu(n,f), 1.0-1.6 and 3.4-5.6 MeV, fast neutron cross sections 4-37561
²³⁹Pu(n,f), fission product decay heat, expt. and theoretical data survey 4-37679
²³⁹Pu(n,f), fission-product decay heat meas. for fast reactors 4-37678
²³⁹Pu(n,f), total and fission cross sections, multilevel parametrisation 4-54193
²⁴⁰Pu, prompt neutron average number and distrib. from spontaneous fission 4-54187
²⁴⁰Pu, spontaneous fission, neutron multiplicity 4-54204
²⁴⁰Pu(n,f), 5-300 keV, subthreshold neutron-induced fission cross section relative to ²³⁵U 4-14012
²⁴¹Pu(n, fission) ^ASn A=121, 123, 125 fission yields 4-54197
²⁴¹Pu(n, fission) ^ATe A=131, 133 fission fragment ang. momentum values 4-54203
²⁴¹Pu(n,f), thermal n, fragments mass and kinetic energy distrib. 4-43536
²⁴¹Pu(n,f) 10⁻² eV to 10⁵ eV, cross section and normalisation 4-37569
²⁴¹Pu, spontaneous fission fragment characts. and fine structures in fragment parameter distrib. 4-43546
²⁴²Pu(SF), fragments mass and kinetic energy distrib. 4-43536
²⁴²Pu(γ ,f), 12-30 MeV, fragments mass and kinetic energy distrib. 4-43536
²⁴²Pu(n,f), fast n, fragment yield figures from semiconductor γ -spectrometry 4-37672
²⁴⁴Pu(n,f), 1 keV-8 MeV, cross section structures 4-37570
²⁴⁹Pu(n,f), cross section and covariance simultaneous evaluation 4-37683

fission of uranium

- fission foils, plasma neutron diagnostics 4-50070
²³⁵U(n,f), 1 to 15 MeV, prompt neutrons and average γ -ray energies (French) 4-37571
^AU(e,f), A=234, 236, 238, 5.5-13 MeV E2 strength conc. near fission barrier 4-9242
^AU(γ ,f), A=235,238, 12-30 MeV bremsstrahlung, isotopic distrib. and element yields 4-43551
^AU(n, fission) A=233, 235, ^ARu A=107, 108, 109 fission product yields 4-54198
^AU(n, fission) A=233, 235 4-54199
^AU(n,f), A=233, 235, © H. He and T prod. cross section 4-37577
^AU(n,f), A=233,235, fission fragment characts. and fine structures in fragment parameter distrib. 4-43546
^AU(n,f), A=233,235, thermal neutron constants evaluation 4-43545
^AU(n,f), A=233,235,238, fission-product decay heat meas. for fast reactors 4-37678
^AU(n,f), A=235, 238, cross section and covariance simultaneous evaluation 4-37683
²³³U(n, fission), P-nonconservation in total cross-section 4-14009
²³³U(n, fission) ^AAg A=111, 112, 113, fission yields 4-54196
²³³U(n,f), integral cross section meas. 4-37582
²³⁵U, antineutrino spectrum calcs. in reactor core, ν - $\bar{\nu}$ oscillations 4-27687
²³⁵U, mass and energy distributions of products of thermal neutron fission 4-4925
²³⁵U, thermal neutron fission, fission yield of ⁸⁸⁻⁹¹Br and ¹³⁸⁻¹⁴¹I 4-18493
²³⁵U+n, ²³⁶U nucleus lifetime meas. at excitation energies 6.7-10.6 MeV 4-4922
²³⁵U(n, f), 0.3 to 3 MeV, cross section meas. using NBS electron linac 4-43539
²³⁵U(n, f), fission fragment ang. distrib. data 4-43540
²³⁵U(n, fission) fission product mass and energy yields 4-54200
²³⁵U(n,f), 0.1-9.4 MeV, fission cross section relative to ²³⁷Np(n,f) 4-14011
²³⁵U(n,f), 0.18-8.83 MeV, fission fragment ang. distrib. and total kinetic energy 4-43549
²³⁵U(n,f), 0.5-7.5 MeV, fast fission, delayed neutron spectral meas. and covariance error anal. 4-37680
²³⁵U(n,f), 14 MeV fission cross sections 4-37566
²³⁵U(n,f), 14.7 MeV, absolute fission cross sections 4-37565
²³⁵U(n,f), 5-300 keV, subthreshold neutron-induced fission cross section relative to ²³⁵U 4-14012
²³⁵U(n,f), delayed neutron average energies, integral meas. 4-37681
²³⁵U(n,f), fission cross section, Hauser-Feshbach statistical calc. 4-37677
²³⁵U(n,f), fission spectrum averaged cross section 4-37602
²³⁵U(n,f), nucl. temp. effects in scission-point model 4-4839
²³⁵U(n,f), thermal, charge distrib., fine struct., odd-even effects as dynamical fragmentation 4-54190
²³⁵U(n,f), thermal, fragment mass, charge and kinetic energy distrib. 4-18488

fission of uranium continued

- ²³⁵U(n,f), thermal, precise fission cross section meas. with gridded ionisation chamber, fission layers 4-48603
²³⁵U(n,f), thermal neutron data (French) 4-37560
²³⁵U(n,f), use of DIOGENES ionisation chamber for multiparameter expts. 4-18875
²³⁵U(n,f) cross section rel. to ²³⁵U(n, γ), alpha value meas. at reson. 4-43486
²³⁵U(n,f) fission product decay heat, expt. and theoretical data survey 4-37679
²³⁶U, fission, diffusion model using Fokker-Planck eqn. (Chinese) 4-43537
²³⁶U, fission, model if charge fragmentation for dist. yields 4-54202
²³⁶U fission, nuclear inertia from linear response theory, pairing and shell effects (Chinese) 4-54027
²³⁸U (μ , fission), probability of muon attachment to fission fragments 4-14013
²³⁸U deep subthreshold photofission, doorway state formalism 4-18492
²³⁸U, spontaneous fission nucl. parameters of safeguards interest 4-32942
²³⁸U(¹²C,X), 720 MeV, highly excited compound-like nuclei formation 4-680
²³⁸U(¹⁶O,X), 215 MeV, fission and emission of H and He 4-37659
²³⁸U(²⁰Ne,f), 292 MeV, fission fragments ang. correl., linear momentum transfer limitation 4-4921
²³⁸U(⁴⁰Ar, X), 334 MeV, fusion fission reaction, ⁴He emission study 4-14005
²³⁸U(α , fission) anal. of energy and mass dist. of fission products 4-54195
²³⁸U(e,e,f), coincident-inclusive electrofission ang. correl. 4-27910
²³⁸U(γ ,f), fission probabilities in doorway state model 4-48557
²³⁸U(n,f), 1 eV to 20 MeV, capture rate and widths, scattering and fission cross sections 4-37559
²³⁸U(n,f), aggregate delayed neutron intensities and spectra using augmented ENDF/B-V precursor data 4-14010
^U(μ ,f), p, α , emission from fission fragments 4-37669
^U(n,Sn,f), stable long-lived isotope prod. 4-18487

fission products

- ²³²Th(α , fission), I isotope yields 4-54194
^ATe A=131, 133 fission fragment ang. momentum values from ²⁴¹Pu(n, fission) 4-54203
 beta decay phenomenology 4-27840
 borosilicate glasses, highly active fission waste products solidification, thin soluble layers anal. and fracture behaviour (German) 4-9298
 CEA library of radioactive data and PEPIN code (French) 4-36814
 chemical nucl. data libraries, evaluated nucl. decay data for reactor appl. 4-36817
 fallout over Great Britain and in S Hemisphere, AD 1981 and 1982 conc. obs. 4-52238
 fast reactors, fission product activation meas. (French) 4-37776
 fission reactors, HTR, fission product behaviour in pressure loss accident (German) 4-9373
 fission reactors HTR, deposition rates of fission products, effects of surface and chemical state (German) 4-9372
 fragment angular distribution formula, validity, high spin nuclei fission 4-32941
 heavy ion induced fission, ang. distrib., transition state theory, flexible rotor model 4-48604
 HTGR fuel particles, SiC coating interaction with fission products 4-54247
 HTR fuel elements, metallic fission products release (German) 4-18663
 JENDL-2, Japanese Evaluated Nuclear Data Library, present status and benchmark test 4-36821
 JNDC nucl. data library of fission products 4-47786
 kinetic energy of fission fragments, dynamical description of variances 4-27911
 LMFBR, lumped fission product neutron cross sections from ENDF/B-V 4-703
 LWR severe accidents, fission product retention 4-28155
 LWR severe accidents, fission product vapour transport 4-54368
 Makrofol after long storage time in air, critical angle for fission fragment registration 4-28296
 noble metal recovery from fission products in spent fuel 4-54290
 nuclear fission, nucl. temp. effects in scission-point model 4-4839
 oxide nuclear-fuels, fission gas release, flow modelling 4-9265
 planetary ellipsoid bubble model for fission product scrubbing 4-28157
 polycarbonate SSNTD, Chinese made, α -particle and fission fragment registration (Chinese) 4-43763
 reactor fuel, accumulation of Kr, Br and Br compounds for small working times, calc. method (Russian) 4-14069
 reactor fuel burn-up, balance determ. by γ -spectrometry of fission products 4-28041
 reactor fuel reprocessing, nonsoluble fission product residues, behaviour 4-54289
 short-lived fission product release during shutdown and start-up transients 4-33142
 spontaneous fission isotopes mass determination by neutron signal multi-plet anal. 4-53795
 steam condensation effect on fission particle scrubbing 4-28160
 transport in BWR small break LOCA 4-27932
 μ attachment after ²³⁸U(μ , fission), probability 4-14013
^AAg A=111, 112, 113, fission yields from ²³³U(n, fission) 4-54196
¹⁹⁷Au(¹²C,X), 720 MeV, highly excited compound-like nuclei formation 4-680
¹⁹⁷Au(α ,f), fission products formation, excitation functions meas. 4-18486
¹⁹⁷Au(n, γ), keV neutrons, cross section and γ -spectrum for reactor fuel fission products 4-32871
¹⁴⁰Ba fission product decay, γ -ray emission probabilities meas. by β - γ coincidence techniques 4-33269
^ABr A=88-91, fission yield from thermal neutron fission of ²³⁵U 4-18493
²⁵²Cf fission fragments, Ag stopping power meas. 4-53403
²⁵²Cf fission fragments energy deposition in gases and solids 4-38021
²⁵²Cf spontaneous fission, fragment mass distrib. fine struct. (Chinese) 4-27907
²⁵²Cf spontaneous fission, fragment-long range α -particle spectra correlation 4-37668
²⁵²Cf spontaneous fission, light charged particle energy-fragment correlations (Chinese) 4-27908
²⁵²Cf, spontaneous fission, neutron energy spectrum in range 2-14 MeV 4-43544

fission products continued

- ²⁵²Cf spontaneous fission, $\bar{\nu}(Z)$ meas., fragment kinetic energy, prompt neutrons, K X-rays (*Chinese*) 4-54186
- ²⁵²Cf, spontaneous fission, prompt neutron spectrum and average prompt neutron multiplicity calc. 4-43542
- ²⁵²Cf spontaneous fission, prompt n multiplicity distrib., fragment mass ratio and kinetic energy rel. (*Chinese*) 4-54185
- Cs, release from irradi. UO_2 LWR fuel, temp. depend. 4-27968
- ¹³⁷Cs, A=143-146, fission products, delayed neutron emission spectra, high resolution meas. 4-37501
- ¹³⁷Cs(n, γ), keV neutrons, cross section and γ -spectrum for reactor fuel fission products 4-32871
- ¹⁷⁰Er(¹⁶O, fission) fission fragment ang. dist. 4-37671
- ⁷H, search in ternary fission of ²⁵²Cf 4-4923
- ¹⁰He, search in ternary fission of ²⁵²Cf 4-4923
- I fission product, irradiation effects upon activities in reactor (*Japanese*) 4-23149
- I, release from irradi. UO_2 LWR fuel, temp. depend. 4-27968
- ¹³¹I, A=132-4, yields in ²³⁸U fast neutron fission 4-32940
- ¹³¹I, A=138-141, fission yield from thermal neutron fission of ²³⁵U 4-18493
- ¹⁴⁰La fission product decay, γ -ray emission probabilities meas. by β - γ coincidence techniques 4-33269
- Nb, quarked, primordial formation from free anti-quark and nucleus provided by vacuum 4-4645
- Nd, isotopic abundance anal., coupling constants from Oklo natural reactor, limits on variability 4-19292
- ¹⁴²Nd(¹⁶O, fission) fission fragment ang. dist. 4-37671
- ¹⁹²Os(¹⁶O, fission) fission fragment ang. dist. 4-37671
- ¹⁴⁰Pd(n, γ), A=104-106,108,110, average capture cross section meas. 4-37588
- ¹⁹⁸Pt(¹²C, fission) fission fragment ang. dist. 4-37671
- ²⁴¹Pu, A=238, 241, fission fragments energy deposition in gases and solids 4-38021
- ²⁴¹Pu, A=240,242,244, fission fragments energy and mass. distrib. 4-43548
- ²⁴¹Pu(n,f), A=239,241, thermal, fission fragments energy and mass distrib. 4-43548
- ²⁴¹Pu(n,f), A=239,242, fission fragment characts. and fine structures in fragment parameter distrib. 4-43546
- ²³⁹Pu(n,f), fission product decay heat, expt. and theoretical data survey 4-37679
- ²⁴⁰Pu, spontaneous fission, neutron multiplicity 4-54204
- ²⁴¹Pu(n,f), thermal n, fragments mass and kinetic energy distrib. 4-43536
- ²⁴²Pu reactor irradiation, comparison of meas. and calc. yields of ²⁴⁴Pu, ²⁴⁵Am, ²⁴⁴Cm, fission products yields 4-37773
- ²⁴²Pu, spontaneous fission fragment characts. and fine structures in fragment parameter distrib. 4-43546
- ²⁴²Pu(SF), fragments mass and kinetic energy distrib. 4-43536
- ²⁴²Pu(γ ,f), 12-30 MeV, fragments mass and kinetic energy distrib. 4-43536
- ⁴Rb, A=93-97, fission products, delayed neutron emission spectra, high resolution meas. 4-37501
- ⁴Ru, A=107, 108, 109 fission product yields from ²³³U(n, fission) ²³⁵U(n, fission) ²³⁹Pu(n, fission) 4-54198
- Sm, isotopic abundance anal., coupling constants from Oklo natural reactor, limits on variability 4-19292
- ⁴Sn, A=117, 118, 119, 120, 122, 124, isotopes from neutron-induced fission 4-18487
- ⁴Sn, A=121, 123, 125 fission yields from ²⁴¹Pu(n, fission) 4-54197
- ⁹⁰Sr content in Na coolant 4-33008
- ⁸¹Ta(n, γ), keV neutrons, cross section and γ -spectrum for reactor fuel fission products 4-32871
- ⁴Tc, A=101, 103, 104, 105 fission product yields from ²³³U(n, fission) ²³⁵U(n, fission) ²³⁹Pu(n, fission) 4-54199
- ⁴Th(n,f), A=230, 232, fission cross section and fission fragment anisotropy meas. 4-37670
- ⁴Th(n,f), A=230,232, fission fragment characts. meas. (*French*) 4-43547
- ⁴Th(n,f), directional bias of mass asymmetry 4-43552
- ²³²Th(¹²C,X), 720 MeV, highly excited compound-like nuclei formation 4-680
- ²³²Th(¹⁹F,X)²⁵¹Es, fission neutron ang. distrib. following fusion, accelerated fission fragments 4-48594
- UO_2 irradiated CANDU fuel, leaching of ¹³⁴,¹³⁷Cs and ¹²⁹I, safety and fuel disposal appls. 4-9274
- ⁴U, A=233, 235, fission fragments energy deposition in gases and solids 4-38021
- ⁴U(γ ,f), A=235,238, 12-30 MeV bremsstrahlung, isotopic distrib. and element yields 4-43551
- ⁴U(n,f), A=233,235, fission fragment characts. and fine structures in fragment parameter distrib. 4-43546
- ⁴U(n,f), A=233,235,238, fission-product decay heat meas. for fast reactors 4-37678
- ²³⁵U, mass and energy distributions of products of thermal neutron fission 4-4925
- ²³⁵U(n, f), fission fragment ang. distrib. data 4-43540
- ²³⁵U(n, fission) fission product mass and energy yields 4-54200
- ²³⁵U(n,f), 0.18-8.83 MeV, fission fragment ang. distrib. and total kinetic energy 4-43549
- ²³⁵U(n,f), thermal, charge distrib., fine struct., odd-even effects as dynamical fragmentation 4-54190
- ²³⁵U(n,f) fission product decay heat, expt. and theoretical data survey 4-37679
- ²³⁶U, fission, model if charge fragmentation for dist. yields 4-54202
- ²³⁸U(¹²C, fission) fission fragment ang. dist. 4-37671
- ²³⁸U(¹²C,X), 720 MeV, highly excited compound-like nuclei formation 4-680
- ²³⁸U(¹⁶O, fission), fission fragment ang. dist. 4-37671
- ²³⁸U(α , fission) anal. of energy and mass dist. of fission products 4-54195
- ¹³⁵Xe, fission recoiled, release from Zircaloy-2 4-29700
- ¹⁷⁴Yb(¹²C, fission) 4-37671

fission reactor cooling and heat recovery

- see also cooling; fission reactor core control and monitoring
- 5X5 fuel rod bundle, flow velocity meas. by laser Doppler anemometry (*German*) 4-14116
- 1000MW fast reactor design, heat exchangers and pumps 4-23144
- acoustic leak detection system 4-23320
- acoustic leak detection system for Na-water steam generators 4-14092

fission reactor cooling and heat recovery continued

- advanced BWR plants, nuclear and thermohydraulic calcs., conversion rates (*German*) 4-14046
- advanced simulator for real time simulation of two-phase flow transients 4-37846
- AGR fuel, improving thermal-hydraulic performance 4-707
- AGR heat transfer, 2D flow channel with backward facing step and rib roughening, axial vel. 4-14108
- American Nuclear Society conference, San Francisco, CA, USA (Oct.-Nov. 1983) 4-13477
- annular flows in air-water loop, nonintrusive stochastic anal. 4-23286
- annular two-phase flow in horizontal pipe, pulsed photon activation technique meas. 4-23285
- ANO-2, steam supply system transient tests for PWR 4-14146
- auxiliary feedwater system fault tree anal. (*Croatian*) 4-28147
- AVR HTR, ¹⁴C meas. effect on fuel elements, graphite and gas loop (*German*) 4-18725
- AVR HTR, safety conception with natural heat removal in accidents (*German*) 4-43640
- AVR primary circuit, water leakage effects (*German*) 4-18722
- AVR-II HTR, primary circuit design with attention to maintenance, repair and decommissioning (*German*) 4-9260
- B control nuclear power station, deacator design 4-48689
- Beloyarsk Unit 1, cooling conditions during shutdown 4-9327
- binary mixture, pool boiling phenomena 4-11263
- BN-600 nuclear reactor, mag. field self-excitation 4-43622
- BN-600 reactor, physical characteristics 4-54242
- BWR, coolant radionuclide and filter demineraliser behaviour during shutdown power transient 4-28100
- BWR, corrosion/erosion countermeasures 4-23170
- BWR, H₂ in coolant to suppress intergranular stress corrosion cracking, supply and safety 4-33145
- BWR, iodine spiking followed by main steam isolation valve event 4-28168
- BWR, LOCA, parallel channel effects, broken jet pumps effect 4-54367
- BWR, low radiation exposure, water chemistry, radiation build-up 4-23166
- BWR, on-line three dims. core simulation, plant prediction model 4-37710
- BWR, Peach Bottom turbine test trip anal. using RELAPS code 4-23375
- BWR, primary coolant pipe whip test under LOCA 4-23335
- BWR, radiation buildup on structural materials 4-4950
- BWR, radionuclide transport, deposition, decontamination 4-23180
- BWR, two-phase flow velocity meas. in upper part 4-23287
- BWR coolant density wave oscillations, nodal anal. 4-697
- BWR cooling water, insoluble species rejection using diffusion-bonded HGMS filter 4-18588
- BWR core, void fraction meas., X-ray CT scanner appl. 4-4992
- BWR core channel two-phase-flow anal. soln., CONDOR verification 4-9323
- BWR core thermal-hydraulics anal. with VIPRE-01 code 4-32972
- BWR fluid velocity meas. by noise anal., comments and reply 4-28087
- BWR fuel channel instability using 3-dims. core dynamics program PARADYN 4-28129
- BWR fuel rods, minimal distance for boiling power, stat. anal. (*German*) 4-14123
- BWR inherent coolant boiling noise, freq. composition anal. 4-28086
- BWR LOCA, calc. methodology 4-28163
- BWR LOCA, ROSA III integral test run 7341 data, single failure test, ECCS 4-14155
- BWR LOCA, ROSA III test run 912, split break in inlet line to recirculation pump 4-14149
- BWR LOCA, single failure tests with ROSA-III, ECCS capability 4-777
- BWR LOCA, steam generation rate from falling film on heater rod 4-23332
- BWR LOCA in recirculation line, simulation at ROSA-III 4-9368
- BWR plant diagnosis system using noise anal. for core, controls and pumps 4-23266
- BWR pressure suppression pool, noncondensable gas effects on LOCA steam condensation loads 4-5009
- BWR primary system, corrosion product characterisation 4-23168
- BWR safety, RPV cracks and coolant behaviour, K-FIX (3D,FLX) verification (*German*) 4-14051
- BWR simulator, ON-LINE PRESTO, basic 4-37711
- BWR small break LOCA, thermo-hydraulic transient anal., THYDE-B1/MOD1 code 4-14042
- BWR steam supply system response to transient and accident conditions from DYNODE-B code 4-32963
- BWR thermal-hydraulic anal. methodology in SIMULATE-E code 4-28130
- BWR turbulent fluid model for suppression pool temp. determ. 4-23300
- BWR water chemistry, computer simulation 4-23179
- CANDU water circuit chemistry, effect on corrosion 4-23177
- CHF prediction for low quality fluids and intermediate flows 4-28138
- choked flow modeling in TRAC for PWR PORVs 4-27931
- circulation loop, scaling criteria for two-phase flow 4-54340
- COBRAIV-1 flow distrib. code, convergence modifications 4-23148
- cold trap in Na loop, trapping efficiency determ. (*Czech*) 4-18704
- coolant pressure fluctuation as failure or degrading performance monitor 4-23423
- coolant purification tests 4-23185
- coolant radioactivity monitoring (*Japanese*) 4-33181
- cooldown and depressurisation capabilities after loss of off-site power 4-23273
- cooling water fission product contamination monitor 4-929
- core analysis by nodal expansion method, Combustion Engineering Inc. experience, codes 4-37762
- core heat driven natural circulation tests, operator training 4-28104
- core power tilt in Oconee-1 plant under asymmetric loop thermal-hydraulic conditions 4-28120
- core with asymmetric fuel element distrib., temperature fields, heat transfer (*Russian*) 4-14101
- corrosion product dispersal composition suspended in coolant (*Russian*) 4-43572
- corrosion product formation and deposition mechanism (*Russian*) 4-23182
- corrosion products, removal from Na convection loop 4-4990
- critical heat flux of forced convection boiling in oscillating accel. field 4-23334
- criticality, shielding and heat transfer anal., using scale code 4-37732

fission reactor cooling and heat recovery continued

crud development during hot boric acid injection, high speed filtration removal (*French*) 4-23175
 cylindrical geometry with reentrant coolant flow, steady state heat transfer, integral eqn. 4-28132
 debris beds, dryout heat flux model 4-54337
 DIDO water loop corrosion product transport studies 4-23304
 dissociating coolant, nonstationary channel processes, chemical reaction onset, modelling (*Russian*) 4-43563
 Dresden-1 primary system decontamination test programs, corrosion by NS-1 solvent 4-18738
 Edwin I. Hatch Nuclear Plant availability improvement studies using fault tree methodologies 4-54350
 EPRI condenser related research projects for fossil-fired and nuclear power plants 4-33100
 fast prototype reactor heat exchanger repairs, temp. control using fibre optics 4-4993
 fast reactor safety, loss-of-heat-sink risk considerations 4-23337
 fast reactors, heat flow across fuel-cladding interfaces, acoustic mismatch theory 4-746
 fast reactors, safety potential of Na cooling (*German*) 4-9347
 FBR, buoyant plume in plenum, periodic large amplitude thermal oscillations, safety anal. 4-28178
 FBR, natural circulation capability of heterogeneous core 4-23270
 FBR, radiant heat transfer through aerosol in cover-gas region 4-4984
 FBR, reliability of safety system in coolant flow failure (*German*) 4-9375
 FBR multiphase flow thermal-hydraulic anal., averaging procedures for multiphase conservation eqns. 4-28133
 feedwater valve transfer simulations, NSSS thermohydraulic response, training appl. 4-23282
 FFTF heat transport system performance during cycles 1 and 2 4-28136
 fission product transport in a BWR small-break LOCA 4-27932
 flow transit time meas. stat. error from cross correlation of 2 detector signals 4-14084
 fluid flow with nonlinear waves, moving finite element method anal. 4-33109
 French plants, valves and pumps, operating experience 4-4985
 fuel element failures, fluid dynamic CALIPSO code for fast breeder (*German*) 4-9282
 fuel rod eval., thermomech. behaviour, heat transfer, FREY-01 program 4-14044
 fully developed axial turbulent flow in rod bundles, finite element model 4-15031
 gamma thermometers as inadequate core cooling monitors 4-23295
 gas circuit component condition monitoring using vibration signals 4-23316
 GCR, vibrational stress/strain effects of straight and curved heat exchanger tubes (*German*) 4-9301
 GERDA test facility for PWRs with straight tube steam generators, LOCAs (*German*) 4-9362
 GPR1 modular modelling system, BWR module 4-27957
 HDR, fluid struct. coupled and uncoupled calcs. using PISCES codes (*German*) 4-9336
 HDR, FLUX code calcs. for blowdown in pressure vessel (*German*) 4-9339
 heat exchange tube bank, vibr. eval. (*Czech*) 4-43616
 heat exchanger, crossflow countercurrent, involute tube type, design calcs. (*French*) 4-54341
 heat exchanger and steam generator vibrs., PIPEAU-2 code 4-48692
 heat exchangers, economic effects of exchanger-regenerator with after-cooler (*Czech*) 4-43618
 heat transfer in packed and fluidised beds, boundary conditions 4-23288
 HENDEL, He engineering demonstration loop for VHTR components, 1982 overview 4-9332
 HENDEL, hot gas duct, temp. distrib. HTGR appl. 4-43627
 hot surface rewetting during reflood after LOCA 4-23412
 HTGCR, rise-to-power tests, diverted cool primary coolant effects 4-23269
 HTGCR, thermohydraulics in early phases of unrestricted core heatup accidents 4-23413
 HTGCR, thermohydraulics in prestressed concrete reactor vessel during unrestricted core heatup accidents 4-23414
 HTGR, anal. of Xe feedback on core dynamics during transients 4-54357
 HTGR, fission product deposition in laminar and slug flow, anal. models 4-28174
 HTGR, heat transfer meas. in fission tube bundle (*German*) 4-14118
 HTGR, high porosity materials on heat transfer surfaces, radiative props. 4-14085
 HTGR hot gas duct system, pressure fluctuations, turbulence length parameter eqn. (*German*) 4-14120
 HTR, fission product behaviour in fast shut down (*German*) 4-9345
 HTR, gas-dynamic anal. during cooling failures (*German*) 4-9346
 HTR, natural convection with power off, model (*German*) 4-9340
 HTR, thermo-hydraulics of spherical granule assembly, comparison with THERMIX code (*German*) 4-9341
 HTR-PNP-500, graphite corrosion in massive air break-in accidents (*German*) 4-9370
 inlet flow and driven cavity problems, partial diff. eqn. soln., nodal integral approach 4-37756
 interactive nuclear plant analysis, emergency response, thermal-hydraulics 4-27959
 interactive operator guideline evaluation using RELAP5 4-27958
 interchannel exchange in reactor fuel rods with dissociating coolant (*Russian*) 4-43624
 irreversible pressure drops in single phase flows through sharp-edged, perforated structures, PWR, FBR appls. (*German*) 4-14115
 JEN-III PWR, preliminary anal., use for safety research, radioisotope prod., modelling (*Spanish*) 4-28148
 JOYO fast reactor, natural circulation test, outlet coolant temps. (*Japanese*) 4-18733
 KANUPP reactivity control and heat transport systems, limited scale digital simulation 4-43561
 KNK-II LMFBR plant conditions simulation using SSC-L program (*German*) 4-14121
 KWU steam generators, operating experience for Incoloy 800 tubes (*German*) 4-9316
 laminar isometric flow of liquid in eccentric ring channels (*Russian*) 4-43626
 large vessel blowdown simulation with TRAC-PF1 and RELAP5/MOD1 codes 4-23419

fission reactor cooling and heat recovery continued

liquid alkali metal coolant systems, on-line monitoring equipment 4-9320
 LMFBR, accelerated coolant flow through perforated plates during HCDA 4-54327
 LMFBR, core design considerations for unscrammed loss of flow transient 4-23271
 LMFBR, hypothetical loss of flow accidents, transient-phase, theoretical anal. and modelling (*German*) 4-9381
 LMFBR, hypothetical loss-of-heat-sink accidents, assessment of accident energetics pot. 4-23339
 LMFBR, intra-assembly flow redistrib. computational approach 4-28134
 LMFBR, natural convection after Na boiling 4-37839
 LMFBR, reactor core thermohydraulic transients, heat redistribution effects 4-37698
 LMFBR, steam generator leak detection 4-54339
 LMFBR, steel decarburisation in liquid Na 4-43619
 LMFBR, thermohydraulic analysis code ORIFS-TRANSIENT 4-23136
 LMFBR, THORS-SHRS assembly, degraded shutdown heat removal tests, pretest predictions 4-23340
 LMFBR, two-dimensional numerical modelling of nonisothermal flows for unsteady thermal-hydraulic analysis 4-781
 LMFBR, wire-wrapped rod bundle heat transfer anal., thermal-hydraulic behaviour 4-28137
 LMFBR component failure rates derived from licensee event reports 4-33115
 LMFBR coolant channel flow distribution planning 4-23264
 LMFBR cooling defects acoustic detection, pattern recognition appl. 4-782
 LMFBR fuel bundles, Na boiling in HCDA, CAPRICORN subchannel code 4-28179
 LMFBR steam generator tubes, dynamic stability expts. 4-28135
 LMFBR subassembly Na voiding dynamics, LIMBO-2 predictions 4-37758
 LMFBR transient simulation with Super System Code 4-32960
 LMFBR under LOF conditions, incipient Na boiling superheats in bundle geometry 4-14132
 LOCA, anal. of large-break expts. using RELAP5/MOD1 code 4-23378
 LOCA, blind predictions for HDR steam blowdown using CONTAIN code 4-23140
 LOCA, flow regimes and carryover during reflooding 4-23380
 LOCA, operational behaviour model of BBR overflow valve (*German*) 4-9333
 LOCA, semiscale small break, thermal-hydraulic response using COBRA/TRAC code 4-23382
 local heat transfer in tube bundle stagnant zones in heat-stress heat exchangers (*Russian*) 4-43625
 LOFT intermediate-break experiments L5-1 and L8-2 4-28094
 LOFT reactor core sensors, fault anal. using decision theory and data-driven modelling 4-28164
 LOFT using DRUFAN-02 program, multichannel anal. (*German*) 4-9380
 loop seal expts. at Cylindrical Core Test Facility, PWR LOCA reflood 4-43629
 loop transients simulation with simplified fast-running system code 4-33119
 loop-type LMFBR, core coolability following loss-of-heat sink accidents 4-23338
 loss of fluid large break tests using TRAC-PD2/MOD1 code 4-23383
 loss-of-coolant simulation with NOTRUMP 4-23420
 LWR, ⁶⁰Co buildup from component corrosion into coolant 4-4949
 LWR, chemical decontamination of coolant, CEGB developments, international status 4-18736
 LWR, corrosion particle dispersion in nuclear reactor primary cycle water, experimental (*Polish*) 4-9318
 LWR, dryout heat flux in inductively heated bed 4-54330
 LWR, dryout in particulate bed 4-54334
 LWR, fuel rod debris from severe transient tests, cooling 4-54338
 LWR, heat removal from heat generating debris bed 4-54331
 LWR, horizontal pipe thermal-transient induced flow stratification persistence 4-28175
 LWR, model crud deposition on boiling Zircaloy surfaces at high temp. 4-9322
 LWR, molten fuel-coolant interactions 4-54356
 LWR, pipe rupture accident, two-phase jet impingement on wall 4-23272
 LWR, quench front propag. during bottom reflood for fuel temp. determ. 4-23336
 LWR, two-phase flow model for system codes 4-54234
 LWR, water chemistry and corrosion 4-23183
 LWR, water cooled power reactors, emergency cooling effectiveness 4-14097
 LWR, water penetration into hot particle bed 4-54332
 LWR heat transfer during core melt (*German*) 4-9335
 LWR LOCA anal., coolant boiling accompanying pressure vessel depressurisation 4-37844
 LWR operational transient anal., RETRAN-02 code results 4-37754
 LWR primary loop pipeline contaminated layer investigation using high-resolution Ge-gamma ray detector (*German*) 4-37827
 LWR spent fuel transport container, criticality code validation 4-37817
 LWR steam supply system, thermal-hydraulic anal. with RETRAN-02 code 4-32973
 LWR transient thermohydraulic anal., RELAP5 code results 4-37755
 LWR transient two-phase flow, THERMIT program verification (*German*) 4-14050
 mechanical snubbers from TMI-2 coolant system, examination 4-805
 MHD couplings, longitud. edge effect 4-37824
 mixing chambers, coolant mixing, nonstationary heat transfer 4-44567
 mixing of molten core material and water in LWR meltdown accident 4-54352
 molten salt reactor using liquid lead 4-4989
 MULTIVOL, an extension of BIVOL blowdown code 4-9253
 natural-circulation cooldown simulation 4-23291
 natural-circulation test, low-power, at SONGS2, RETRAN anal. 4-23299
 Navier-Stokes eqns. numerical soln., mathematical foundations, TEACH/TURF code 4-37752
 noise diagnostics, integration into control and safety system 4-23307
 nuclear fuel rods transient heat transfer, TRANS program results and analytical solutions (*Italian*) 4-33080
 nuclear power plant, cooling agent flow dynamics for WWR-440 type reactor (*Polish*) 4-9247

fission reactor cooling and heat recovery continued

nuclear power plant steam generator tube vibr. induced by jet flows from baffle plates 4-43628
 nuclear power stations, horizontal steam generators water condition standards 4-48690
 parallel steam generated channels, coolant flow parameters stability 4-14093
 partially uncovered core, cooling conditions calcs. using RELAP and MELSIM (German) 4-5016
 partially uncovered core under natural circulation, rod. temp., coolant quality 4-37838
 particulate debris, 1-D model of heat removal 4-54336
 PBF in pile LOCA expts., post test fuel behaviour, FRET-B code anal. 4-14073
 perturbations, in-core and ex-core, detector kinetic sensitivities calc. 4-33147
 PHWR, primary coolant purification system 4-23184
 PHWR, radionuclide transport, deposition, decontamination 4-23180
 pipe rupture tests for primary coolant circuits in BWR LOCA conditions 4-14151
 pipe shock wave calcs. using control variables method 4-37757
 piping system under LOCA conditions, BLOWDOWN code for blowdown force anal. 4-9367
 planetary ellipsoid bubble model for fission product scrubbing 4-28157
 PNP HTGR for nuclear process heat, fibre mat insulator for secondary ducts (German) 4-14119
 postaccident heat removal, downward heat transfer from heat-generating boiling pools 4-23362
 power plant once-through cooling system hydraulic problems and solns. (French) 4-9319
 pressure vessel wall embrittlement from pressurised thermal shock, reduction by fuel management 4-18740
 pressure wave propagation in tube duct systems: theory and experiment (German) 4-14160
 pressurised thermal shock calcs. using TRAC-PFI code 4-23143
 primary circuit temp. meas., selection criteria and correction factors (German) 4-9358
 primary system component failure diagnosis, conf., Prague, Czechoslovakia (June 1982) 4-22523
 pumps with increased reliability for nuclear after-cooling and safety feeding systems (German) 4-9352
 PWR, ²¹A = 131, 133, 135 contamination of primary coolant, conc. anal. (Japanese) 4-43615
 PWR, Brown Boveri type, thermohydraulic conditions at overflow valves, expts. (German) 4-14158
 PWR, Brown Boveri type, thermohydraulic features, statistical methods appl. (German) 4-14122
 PWR, Brown-Boveri type, EC water mixing procedures in infeed line and ring space region (German) 4-14157
 PWR, cold leg break blowdown tests, thermal-hydraulic phenomena 4-23377
 PWR, corrosion product formation and transport models (French) 4-23178
 PWR, corrosion products as source of radiation field buildup 4-23191
 PWR, emergency cooling system layout for small leakage (German) 4-9377
 PWR, ferritic and austenitic steel circuits 4-23176
 PWR, flow film boiling heat transfer regime in reflood phase of LOCA 4-5004
 PWR, FLUX computer code, core deformation in LOCA (German) 4-9338
 PWR, fuel bundle protection against baffle jetting 4-23406
 PWR, high-pressure safety injection system availability 4-23344
 PWR, Ko-Ri Unit 1 water chemistry 4-23172
 PWR, local and global core and plant parameter, simulation of transient behaviour 4-54353
 PWR, loss-of-feedwater, anticipated transient without scram anal. 4-23276
 PWR, mixed high press. injection water and primary loop water, transit time in cold legs 4-54365
 PWR, multidimensional simulation of highly stratified pipe flow, 90° elbow, COMMIX-1A code 4-23275
 PWR, natural circulation after LOCA using FLECHT-SEASET code 4-23384
 PWR, natural convection scaling following a severe accident 4-28177
 PWR, phase velocities distrib. by two-fluid model, expt. and calc. comparison (German) 4-14159
 PWR, pipe whipping in LOCA conditions, overhang length effects (Japanese) 4-37840
 PWR, primary circuit corrosion products (French) 4-23181
 PWR, radial power distrib. monitoring using thermocouples (French) 4-764
 PWR, shutdown effects on cooling and oxidation (French) 4-23171
 PWR, single phase pressure drop in T-junction, meas. and calcs. (German) 4-14114
 PWR, steam-generator heat flux behaviour, natural circulation cooling modes 4-23274
 PWR, thermal and fluid mixing, volume-weighted skew-upwind differencing anal. 4-23290
 PWR, thermal-hydraulic predictions of streamline break using TRAC-PFI code 4-23142
 PWR, water chemistry tests, corrosion product monitoring (French) 4-23173
 PWR and ROSA-IV LSTF, loss of feedwater transient calcs. with RELAP5/MOD1 4-18766
 PWR and ROSA-IV LSTF, single PORV failure calcs. with RELAP5/MOD1 4-23422
 PWR BBR overflow devices, rapid flooding tests in LOCA (German) 4-9334
 PWR containment spray, heat removal tests 4-5007
 PWR coolant flow in annulus, inlet, upper plenum and piping (German) 4-54325
 PWR coolant flow meas., transit time flowmeter system 4-765
 PWR coolant level meas., need for instrumentation 4-33072
 PWR coolant purification, ¹³⁷Cs removal 4-23186
 PWR core fuel elements thermohydraulic flow measurement by laser Doppler anemometry (German) 4-37826
 PWR core thermal-hydraulics anal. with VIPRE-01 code 4-32972
 PWR dropped control rod events, nuclear methodology for core behaviour prediction 4-18755
 PWR emergency cone cooling, feed and bleed mode 4-28092

fission reactor cooling and heat recovery continued

PWR feedwater system, ultrasonic flowmeter development 4-23277
 PWR LOCA, blowdown characteristics, thrust forces 4-14106
 PWR LOCA, CCTF reflood test, overall system thermohydraulics, base case test 4-14152
 PWR LOCA, CCTF reflood tests, baffle plate and instrumented spool piece effects 4-43635
 PWR LOCA, CCTF reflood tests, containment pressure effects on cooling and systems 4-43634
 PWR LOCA, CCTF reflood tests, downcomer wall initial superheat effects, core cooling 4-43633
 PWR LOCA, CCTF reflood tests, ECC water injection rate effects 4-14156
 PWR LOCA, CCTF reflood tests, FLECHT coupling tests-FLECHT SET tests comparison 4-18764
 PWR LOCA, CCTF reflood tests, safety anal. evaluation model assessment 4-14154
 PWR LOCA, CCTF reflood tests, thermally multidimens. effects on thermohydraulics 4-14153
 PWR LOCA, core reflood, droplet generation and droplet size determ. 4-28173
 PWR LOCA, heat transfer, droplet flow in core top at reflood phase 4-14107
 PWR LOCA, initial clad temp. effects on reflood phenomena, CCTF tests 4-14131
 PWR LOCA, reflooding, core inlet water subcooling effects, SCTF tests 4-43639
 PWR LOCA, reflooding, REFLA-1D thermohydraulics model assessment with CCTF data 4-43637
 PWR LOCA, reflooding with forced feed, upper plenum water accumulation, SCTF tests 4-43638
 PWR LOCA, SCTF Core-I forced flooding test, system pressure effects on reflooding 4-37845
 PWR LOCA, simulated reflood phase, upper plenum flow behaviour 4-14133
 PWR LOCA, TRAC-PDII reflood thermo-hydraulic model assessment by CCTF test 4-14147
 PWR LOCA reflood, core thermohydraulic behaviour, radial power profile effects 4-23331
 PWR LOCA reflood anal., REFLA-1DS code from coupling REFLA-1D and multiloop system model 4-43566
 PWR LOCA simulation, hydraulic/structural prediction 4-23421
 PWR LOCA with combined ECC injection, TRAC-PFI best estimate anal. 4-28176
 PWR loss of flow transient, space-time kinetic anal. 4-33148
 PWR once-through steam generator, lane-blocker assessment, THEDA code verification 4-752
 PWR out-of-core radiation control, Co deposition in primary coolant systems 4-33144
 PWR primary circuit leaks, saturation detector using resistance thermometer (German) 4-9359
 PWR primary circuit simulators, corrosion product formation and transport (French) 4-23190
 PWR primary coolant leak perturbations, PKL studies, advanced meas. techniques (German) 4-14161
 PWR primary loop cold leg with circumferential crack, dynamic elastic-plastic behaviour anal. 4-28183
 PWR primary tubular conduits, safety optimisation for KKW Mulheim-Karlich (German) 4-9385
 PWR saturation temp., direct meas. detectors (German) 4-9360
 PWR secondary chemistry effects, expt. study in high temp. and press. rig 4-23302
 PWR secondary circuit, seawater constituents solubility (French) 4-23303
 PWR steam generator, γ -exposure rate distrib., maintenance personnel dose appl. 4-928
 PWR steam generator, corrosive faults at baffleplate 4-9331
 PWR steam generator, Hall-plane meas. of magnetite buildup 4-28090
 PWR steam generator and tube degradation countermeasures 4-4986
 PWR steam generator repair/replacement workshop 4-14104
 PWR steam generators, condensate demineraliser performance during high condenser leakage 4-751
 PWR steam generators, remote digital in-service inspection 4-28128
 PWR steam generators tube ruptures, operating experience (German) 4-48704
 PWR steam supply system response to transient and accident conditions from DYNODE-P code 4-32962
 PWR thermohydraulic anomaly diagnostics by neutron noise anal. 4-23326
 PWR water level meas., NRC requirements, techniques 4-23292
 PWR water level meas. using fast neutron detectors 4-23298
 PWRs, 3-D analysis of thermal and fluid mixing in cold leg and downcomer 4-37834
 radiative contribution to heat transfer in liquid uranium 4-54333
 radioactive corrosion products transport in high temp. water, dissolved Co interaction with heated surface 4-14136
 RBMK-1500 reactor, critical heat flux calc. for rod bundles with local turbulators 4-37833
 reactor kinetic-thermal systems, coupled space-depend. systems 4-4932
 reactor kinetic-thermohydraulic system, multivariable stochastic models 4-4931
 reactor vessel level instrumentation for PWRs, installation and startup 4-23297
 reactor vessel level meas. with heated junction thermocouple probe 4-23294
 reactor vessel liquid level monitoring with self-powered neutron detectors 4-23296
 refill/reflood expts. at Cylindrical Core Test Facility 4-54344
 reflood, initial core temp. effect in cylindrical Core Test Facility 4-18721
 reflood, quench behaviour of superheated core debris 4-23387
 reflood anal. after LOCA using KREWET code 4-23379
 RELAY 4/2 STD verification by LOFT 6-1 expt., transient thermohydraulic anal. (German) 4-54349
 reliability of slow after cooling after losses of coolant (German) 4-9378
 research reactors, kinetics and thermal-hydraulics anal. 4-54361
 residual heat removal system, system reliability 4-33066
 ribbed heat transfer tubes, thermohydraulics at large Reynolds number (German) 4-9337
 rod fuel element with eccentric fuel distrib., temp. profile calcs. (Russian) 4-43564
 ROSA IV LSTF and ref. PWR, loss-of-load transient calcs. with RELAP5/MOD1 4-43636

fission reactor cooling and heat recovery continued

- rotating fluidised bed reactor, parametric effects from drift flux model 4-23289
- safety/relief valves discharge piping thermal-hydraulic load reduction 4-27933
- scaling criteria for modeling natural- and forced-convection loops 4-23283
- secondary water chemistry in Ringhals PWRs 4-23301
- semi-implicit Navier-Stokes difference eqns., iterative solns. 4-32980
- SGHWR, crud characterisation studies 4-23169
- shell-and-tube heat exchangers, 2-dimens. isothermal flow computation, nuclear plant appls. 4-28140
- Simulant Boiling Flow Visualisation loop, boiling phenomena comparison and assessment with LOOP-W code 4-23268
- single steam bubble oscillating in water, natural freq. and damping const. 4-33068
- skew upwind differencing scheme, stability problems, fluid dynamics computing appl. 4-18752
- Slab Core Test Facility, reflood test programme, design, PWR LOCA appl. 4-18765
- SLOWPOKE-3*, large signal dynamic simulation 4-32959
- SLPACK editing and result plotting program for transient anal. 4-14043
- small break LOCA and slow transient anal., TRAC-PF1 results 4-37753
- SNR, LOCA, bubble behaviour and aerosol release (German) 4-9374
- SNR 300, behaviour of heterogeneous and homogeneous cores with coolant failure (German) 4-9348
- SNR-300 vessel components, mechanical behaviour from HCDA 4-54335
- steam generator replacement, maintenance of ALARA radiation levels 4-28214
- steam generator replacement, repair, maintenance, radiation exposure consequence 4-28215
- steam generator sleeving, personnel radiation exposure minimisation 4-28230
- steam generator tube performance for water cooled reactors during 1981 4-28141
- steam generator tube repair using tubular sleeves (German) 4-18728
- steam generator tube rupture, primary system depressurisation 4-23376
- steam generator tube vibrations due to turbulent jets from baffle plates 4-9330
- steam generator tubes, denting mechanism, kinetic studies 4-4987
- steam generator with chemically reacting coolant, heat transfer mechanism (Russian) 4-14100
- steam generators, Canadian experience, corrosion, denting and other damage (Spanish) 4-28088
- steam generators, radiation exposure and job-related dose reduction (German) 4-48804
- steam generators, tube-to-tube interaction characts. determ., wear, fretting 4-33101
- steam temperature control system 4-43631
- steel, austenitic stainless 304, pressurised pipe under bending, J determ. by VCE method, PWR appl. 4-30823
- subchannel hydrodynamics model, boundary-value problem and qualitative solns. behaviour 4-33110
- temperature pulsations in the heat-transmitting wall of a steam generator model with heated sodium 4-33130
- thermal coolant noise for flow rate meas. in RBMK channels 4-14091
- thermal-hydraulic anal. truncation error reduction by two-step characteristic method 4-32981
- THTR-300, anal. of reactivity from control rod failure (German) 4-9342
- THTR-300, availability of emergency coding system in after-heat failure (German) 4-9344
- THTR-300, long term failure of afterheat removal in emergency procedures (German) 4-9343
- TMI-2, primary coolant decontamination, radionuclide anal., general circulation indications 4-9273
- top blowdown vessel expt., RELAP5/MOD1 code anal. 4-23147
- TRAC-PF1 feed-and-bleed calculations for TMI-1 4-28093
- transient fluid flow, multidimens., conservation eqns. soln. by control variable method 4-33108
- transient forced convective heat transfer anal. by boundary layer approx. 4-33099
- transit time correlations for PWR overcooling transients 4-27930
- trends in the design of LWR decay heat removal systems 4-704
- tube arrays in crossflow, stability, math. model and tests 4-795
- tube rewetting by falling film and pressurised downflow in nucl. reactor core 4-28089
- turbine meter for two-phase flow, evaluation model 4-33069
- turbine trip test of ANO-2 plant, RELAP6/MOD1 code simulation 4-23374
- turbulent cross-transfer intensity variation in complex shaped subchannels, expt. 4-14098
- two-phase critical flow through slits for LWR LOCA anal. 4-23284
- two-phase flow, homogeneous equilb. model, mixed finite element anal. 4-33111
- two-phase flow in inverted U-bend, flow behaviour and phase distrib. 4-38878
- ultrasonic water level and temp. sensor for BWR and PWR 4-23293
- unprotected LMFBR loss-of-flow accident, lead subassembly simulation, in-pile TREAT test L04 4-23369
- Vermont Yankee stability tests during Cycle 8 4-28122
- vertical channels, countercurrent flow conditions using TRAC-BD1 4-28131
- vibrations from turbulence and vortex shedding in cylinders and heat exchanger tube bundle (Czech) 4-744
- volumetric steam content of two phase flows, gamma Compton scatt. meas. (German) 4-14117
- VVER, axial power dist., DNBR (Slovak) 4-33070
- VVER 440, axial power dist. from DNBR (Czech) 4-43617
- VVER nuclear power plants in USSR, construction, operation and engineering improvements 4-37828
- water chemistry experience with BWRs at Olkiluoto 4-23167
- water technology, corrosion protection in cooling systems 4-23188
- water-moderated water-cooled reactor plants, flexibility 4-48688
- water-steam-air, transient two-phase two-component flow 4-15020
- Westinghouse Advanced PWR, public safety enhancement, LOCAs, steam generator tube rupture 4-23403
- Windscale AGR, particle deposition in coolant circuit, safety appl. 4-18763
- WWR, coolant boiling, acoustic monitoring methods 4-23324

fission reactor cooling and heat recovery continued

- WWR-440, corrosion product behaviour, modified shutdown procedure effects 4-23174
 - WWR-440, in-service diagnostic system, vibro-acoustic method 4-23308
 - WWR-440 fuel assembly, vibration and boiling diagnosis using neutron noise 4-23314
 - WWR-440 primary circuit dynamic behaviour simulation 4-43630
 - WWR-440 untreated and hydrazine water chemistry (Russian) 4-23189
 - Zion 1 PWR, severe loss of feedwater transient anal. 4-28154
 - Zircaloy PWR fuel element cladding, azimuthal temp. variation under LOCA conditions 4-33001
 - Zircaloy sheath strain during an in-reactor LOCA transient test 4-27972
 - Co cooled fuel elements, transient coolant conditions, BACCUS-3D program (German) 4-14052
 - Co removal from high temp. water by TiO₂ 4-54270
 - Cu alloy condenser tubes, corrosion prevention 4-23193
 - Ga drop hydrodynamic fragmentation by means of heat flow (German) 4-9350
 - He-He heat exchanger modification for PNP reactors (German) 4-9351
 - I partition coeff. for equilb. distrib. determ. 4-28099
 - N₂O-NO coolant, chemically reacting turbulent flow, heat and mass transfer (Russian) 4-43574
 - Na coolant sampling, representativeness 4-37843
 - Na flow rate correlation meas. by mag. transducers in BN-600 assembly 4-9328
 - Na, liq., reaction with UO₂-CeO₂ solid soln. 4-14053
 - Na, liquid, C movement from type 304 steel reactor vessel (Spanish) 4-28150
 - Na, liquid, H₂ pressure, Li effects on H₂ removal 4-725
- fission reactor core control and monitoring**
see also fission reactor safety; fission research reactors; nuclear engineering; nuclear reactor instrumentation
- 1300 MW nuclear power station control room organisation for post accident operation (French) 4-43621
 - actuator mechanism drives, for self-contained power unit control and protection systems (Russian) 4-43623
 - advanced BWR plants, nuclear and thermohydraulic calcs., conversion rates (German) 4-14046
 - American Nuclear Society conference, San Francisco, CA, USA (Oct.-Nov. 1983) 4-13477
 - Annular Core Research Reactor, fuel motion detection system, performance characts. 4-9324
 - APWR, tight lattice design, physics and safety aspects 4-28170
 - AVR, pebble bed HTR, weakly enriched fuel charge simulation (German) 4-14112
 - axial shape control in PWR cores using full-length Inconel control element assemblies 4-28121
 - BIBLIS B reactor, computer control system (German) 4-9356
 - BN-600 reactor, physical characteristics 4-54242
 - BWR, fuel management, core monitoring POWERPLEX system 4-37835
 - BWR, on-line noise anal. 4-23306
 - BWR, on-line three dimens. core simulation, plant prediction model 4-37710
 - BWR, partial convergence of sources in void iteration 4-54237
 - BWR automatic plant start-up and shut-down system 4-758
 - BWR benchmark problems, coarse mesh finite element method 4-37763
 - BWR core, Power Shape Monitoring System performance prediction 4-37713
 - BWR core, void fraction meas., X-ray CT scanner appl. 4-4992
 - BWR core modeling validation, TVA 4-27946
 - BWR core performance calculation program for on-line core management (Japanese) 4-14086
 - BWR core performance monitoring and predicting systems 4-33087
 - BWR fluid velocity meas. by noise anal., comments and reply 4-28087
 - BWR hybrid power shape monitoring system 4-14103
 - BWR in-core detector residual analysis 4-775
 - BWR incore neutron noise, one-group heterogeneous theories, adequacy 4-43559
 - BWR inherent coolant boiling noise, freq. composition anal. 4-28086
 - BWR management simulator TARMIS, core physics simulation 4-37712
 - BWR operating experience with axially two-zoned fuel core 4-28119
 - BWR plant diagnosis system using noise anal. for core, controls and pumps 4-23266
 - BWR power density distributions determ. by traversing gamma-ray chamber (German) 4-37825
 - BWR power distrib. accuracy using gamma dosimeter (German) 4-14110
 - BWR simulator, ON-LINE PRESTO, basic 4-37711
 - BWR standby reactivity control using B₂C microspheres 4-23401
 - CANDU-PHWR equilibrium core characts. 2-dimens. anal., WBURN code 4-9321
 - CELL-2 code, predictor-corrector depletion capability 4-27943
 - Compton emission neutron detector, radiation and thermal testing 4-14094
 - control and instrumentation system design, IAEA and IEC recommendations 4-767
 - control by neutrinos at Rovenki nuclear power station, USSR (Russian) 4-469
 - control functions allocation to human or automatic control 4-18716
 - control instrument panel display, intelligent pictures (German) 4-18729
 - control panel modifications, effects on dynamic response, EDASP software implementation 4-23410
 - control rod movement simulation, 3-D computer code 4-54347
 - core analysis by nodal expansion method, Combustion Engineering Inc. experience, codes 4-37762
 - core melt probability, precursors in Bayesian estimation 4-54236
 - core model verification 4-27949
 - core power tilt in Oconee-1 plant under asymmetric loop thermal-hydraulic conditions 4-28120
 - core with asymmetric fuel element distrib., temperature fields, heat transfer (Russian) 4-14101
 - COSIMA, fast core-simulator for PWR online control (German) 4-9357
 - criticality safety anal., Monte Carlo code MULTI-KENO 4-18508
 - cylindrical reactor cell, neutron flux spatial distrib., P_N approx., Lee series use (Russian) 4-14099
 - digital controller appl. 4-33104
 - digital instrumentation for reactor control (French) 4-759
 - distributed computer control system for reactor optimization 4-755
 - Dodewaard BWR core disturbance meas. (Dutch) 4-23265
 - Dounreay PFR, under-sodium ultrasonic viewer 4-18702
 - dynamic power distrib. control, fuel cycle cost advantages 4-18707

fission reactor core control and monitoring continued

Edwin I. Hatch Unit 1, fuel bundle ^{140}La γ -scan meas. following cycle 3, benchmark data 4-753
 emergency procedure monitoring using safety parameter display system 4-18718
 emergency shutdown using absorber rods for nuclear reactor protection (French) 4-33127
 EPRI ARMP code system validation for PWRs 4-27951
 fast reactor analysis, group constant generation method 4-18509
 fast reactor lattice neutron leakage, Na voiding effect model, formalism 4-48617
 fast reactor lattice neutron leakage, Na voiding effect model, hexagonal lattice results 4-48618
 fast reactors, power distrib. and control rod worth, calculational model based on influence function method 4-14087
 FBR, reactivity transient data from module drop test 4-23385
 feedback effects on boiling-induced neutron noise 4-698
 FFTF zero power tests, ENDF/B-V anal. impact 4-28123
 fissile sample worths in the uranium/iron benchmark 4-27956
 flow transit time meas. stat. error from cross correlation of 2 detector signals 4-14084
 fuel, accumulation of Kr, Br and Br compounds for small working times, calc. method (Russian) 4-14069
 gamma thermometers as inadequate core cooling monitors 4-23295
 gas-graphite cylindrical cells, diffusion coeff. calcs. 4-37751
 generic core monitoring system concept 4-33088
 geometric parameter of regular polygonal prisms 4-32956
 global reactor core calc., finite element response matrix method 4-14032
 GPR1 modular modelling system, BWR module 4-27957
 HCLWR, BeO effect on reactivity 4-48683
 high reliability control system development 4-754
 HTGR, anal. of Xe feedback on core dynamics during transients 4-54357
 HTGR, control rod worth meas., space-time anal., neutron detector signals 4-48686
 HTR low enrichment grids, Pu working cross sections, calc. and meas. (German) 4-14077
 HTR pebble bed reactor, two zone core, gas outlet temp. enhancement (German) 4-14111
 in-core signals multiplexing and data processing (French) 4-33076
 instrumentation and control, personal view 4-43620
 interactive operator guideline evaluation using RELAPS 4-27958
 interface effects in multiregion reactors, effective cross section spatial depend. 4-43556
 k_{eff} bias in critical assembly calcs. 4-27953
 KANUPP reactivity control and heat transport systems, limited scale digital simulation 4-43561
 kinetic equations for slowly varying reactivity, soln. asymptotic expansion 4-14033
 KKP-1 BWR, 2-cycle, CCC design, control rod variation reduction during loading (German) 4-14109
 KNK-II LMFBR plant conditions simulation using SSC-L program (German) 4-14121
 Korea Nuclear Unit reactor core stability against Xe induced spatial power oscils. 4-33089
 large Na cooled reactors, expt. verification in BIZET programme at ZEBRA (German) 4-14113
 large pebble bed reactors, second shutdown system with Gd fluid absorber (German) 4-33143
 LMFBR, axially heterogeneous core, control rod worth, nuclear characteristics 4-28124
 LMFBR, distributed control systems, local area networks 4-757
 LMFBR, heterogeneous, Doppler coeff., sensitivity anal. 4-28171
 LMFBR, heterogeneous core, 3-dimens. calcs. in hexagonal geometry, nodal method 4-37764
 LMFBR, lumped fission product neutron cross sections from ENDF/B-V 4-703
 LMFBR, microcomputer based protection system 4-806
 LMFBR, neutron noise transmission characteristics 4-54226
 LMFBR component failure rates derived from licensee event reports 4-33115
 LMFBR cooling defects acoustic detection, pattern recognition appl. 4-782
 LMFBR core calcs., improved weighting procedures for energy group condensation (German) 4-14049
 LMFBR core performance parameters, errors due to nuclear data uncertainties, comment and reply 4-48687
 LMFBR design and critical assembly anal., calculational methodology and associated uncertainties, book contrib. 4-48632
 LMFBR shutdown heat removal for transients up to HCDA, SASSYS code 4-48700
 LMFBR spatial homogenization for plate-type critical assemblies 4-27955
 local nonlinear vibration effect on neutron field space-time behaviour 4-43554
 local pin powers from nodal coarse-mesh solns. by normalisation, flux-lupe, and superposition 4-33107
 LOFT reactor core sensors, fault anal. using decision theory and data-driven modelling 4-28164
 LRA-BWR benchmark problem, power distrib., modified Borrensen's coarse mesh soln. 4-9249
 LWHCR lattice, mean k_{∞} void coeff. meas. 4-4994
 LWR, heat removal from heat generating debris bed 4-54331
 LWR core power distrib. from NODE-P code 4-32970
 LWR core power distrib. from SIMULATE-2 code 4-32964
 LWR core simulations, one-group diffusion eqns. soln., analytic technique 4-14027
 LWR fuel pin powers from nodal results 4-33106
 LWR pool reactor, X-Y geometry benchmark problem, 2D transport methods comparison 4-37748
 Monte Carlo small-sample perturbation calculations 4-37716
 multi-indicator probe in water, slow neutron rad. capture rates, energy-depend. collision probab. 4-54326
 multigroup consts. calc. from evaluated data libraries for reactor calc. 4-37707
 multigroup thermal neutron flux, transmission probability method determ. (Russian) 4-43562
 multiple regression equation for calculated k_{eff} bias errors by criticality code system 4-54241
 neutron characteristics meas. at Kozlodui Nuclear Power Plant (Russian) 4-32947

fission reactor core control and monitoring continued

neutron distribution stabilisation and control system, theory 4-37832
 neutron measurement core monitoring and protection-900 and 1300 MW power stations (French) 4-33074
 neutron spectra unfolding with LOUHI82 program, Triga research reactor data appl. 4-4930
 noise diagnostic methods in German LWRs 4-23305
 noise diagnostics, integration into control and safety system 4-23307
 Oldbury-on-Severn power station, distributed monitoring and control system 4-54345
 operator decision aid design using reactor control modelling 4-18719
 operator decision aids, design and evaluation 4-18715
 operator support systems, error tolerance design 4-18717
 pattern recognition method for nuclear reactor core surveillance (French) 4-23315
 PBR power distrib. unfolding, side reflector instrument signals, ZELT-3D code test 4-54329
 perturbations, in-core and ex-core, detector kinetic sensitivities calc. 4-33147
 potential and role of computer utilisation 4-28091
 power limiting controls and safety, ISKAMATIC control system (German) 4-18727
 power plant control, role optimisation of man and computer 4-18720
 power station control rooms, remedial human factors engineering 4-33064
 power stations, control and instrumentation systems, computer development (German) 4-9317
 POWERPLEX core monitoring system 4-4995
 primary circuit temp. meas., selection criteria and correction factors (German) 4-9358
 probabilistic risk assessment in the design of instrumentation and control systems 4-706
 prompt and delayed responding self-powered in-core neutron detectors, performance in PWR 4-48685
 protection system for French 1300 MW(e) power stations (French) 4-809
 PWR, fuel and struct. monitoring using neutron noise 4-23312
 PWR, fuel assembly, noise investigations 4-23322
 PWR, local power meas. using gamma thermometer 4-763
 PWR, low-leakage core management optimisation and anal. 4-54240
 PWR, optimal poison management problem, iterative soln. 4-9325
 PWR, radial power distrib. monitoring using thermocouples (French) 4-764
 PWR, sensor fault anal., decision theory and data-driven modeling 4-54328
 PWR's gray mode control at Tricastin power station (French) 4-9326
 PWR's in-core instrumentation (French) 4-33075
 PWR axial blanket optimisation, fuel cost benefits 4-18542
 PWR control rod periodic vibrs., neutron noise diagnostics 4-14089
 PWR control rod vibration diagnostics by neutron noise 4-23311
 PWR core barrel motion, neutron noise detection 4-23313
 PWR cores containing Gd, modeling and validation 4-27948
 PWR fuel depletion trajectories optimisation TMI-1 calcs. 4-33105
 PWR fuel rod absolute pressure measurements in a thermal transient environment 4-14124
 PWR low leakage charges using high burnup fuel elements with Gd_2O_3 (German) 4-14076
 PWR neutron flux during control rod insertion, kinetics eqns., numerical anal. 4-9248
 PWR on U/Pu cycle, conversion rate and fuel rod grid packing density (German) 4-14047
 PWR poisoning by ^{135}Xe , calc. method and alignment chart (Russian) 4-14068
 PWR primary circuits, diagnostic of supervision and control system 4-749
 PWR radial blanket design for neutron leakage reduction 4-18709
 PWR simulator control concept (German) 4-18726
 PWR steady state core models, TVA verification 4-27947
 PWR thermohydraulic anomaly diagnostics by neutron noise anal. 4-23326
 PWR water level meas., NRC requirements, techniques 4-23292
 PWR water level meas. using fast neutron detectors 4-23298
 PWR with subcritical core values, fuel cycle sequence changes, anal. (German) 4-14048
 PWR XY core anal., peaking parameters, PSEUDAX method 4-33102
 RBMK-1000 reactors, energy distrib. optimisation, iterative algorithm for control rods 4-37831
 reactivity effects of fuel rearrangement in fast reactor rod bundles 4-28125
 reactor criticality Monte Carlo as a paradigm for the quantum many-body problem 4-37714
 reactor time constant at criticality 4-700
 reactor vessel level instrumentation for PWRs, installation and startup 4-23297
 reactor vessel level meas. with heated junction thermocouple probe 4-23294
 reactor vessel liquid level monitoring with self-powered neutron detectors 4-23296
 replacement of a nuclear power plant's process computer 4-28095
 research reactors, kinetics and thermal-hydraulics anal. 4-54361
 RPV internal wall neutron flux meas. using pneumatic sampling device (German) 4-9353
 scattering anisotropy and neutron leakage in reactor lattices 4-48619
 Skoda SR-O experimental reactor, power plant personnel training appls. 4-748
 space, energy and anisotropy effects on diffusion coefficients in the resonance region 4-43557
 spatial convergence properties of some characteristic methods for the S_N equations in x, y geometry 4-37719
 stability region for prompt power variation of coupled-core system 4-54232
 streaming matrix hybrid method for discrete-ordinates calculations 4-37717
 sub-structure method for multidimensional integral transport calculations 4-37720
 Superphenix AU2 emergency shut-down system, logic system (French) 4-808
 surveillance dosimetry anal., time-depend. core source variations 4-28218
 test fuel power coupling, time depend. during TREAT irradiation expts. 4-54355
 three-dimensional steady-state model of the Connecticut Yankee core 4-27945

fission reactor core control and monitoring continued

- THTR-300, anal. of reactivity from control rod failure (*German*) 4-9342
 tight lattice water reactor, stationary seed-blanket core 4-43558
 time of day subsystem for distributed control and instrumentation system 4-756
 TR-0, WWER-type lattices study using light water moderated inserted zones (*Czech*) 4-745
 TREAT Upgrade, optimal core fissile loadings determ. 4-27952
 triangular linear characteristic scheme for transport eqn. numerical soln. 4-37718
 TRIGA Mark-III core power distrib. from fuel temp. meas. 4-33071
 ultrasonic water level and temp. sensor for BWR and PWR 4-23293
 vectorized Monte Carlo methods for reactor lattice analysis 4-37715
 Vermont Yankee stability tests during Cycle 8 4-28122
 VVER pressure vessels, radiation loading determ., Skoda test model and expts. 4-747
 VVER vibration monitoring theoretical analysis of some typical deviations 4-23317
 VVER-440, neutron field meas. in circumvessel space 4-14095
 WWER, neutron physical characteristics, perturbation anal. (*Russian*) 4-32948
 WWER-440 fuel assembly, vibration and boiling diagnosis using neutron noise 4-23314
 WWER-440 primary circuit dynamic behaviour simulation 4-43630
 WWER-440 vibration and vibration-acoustic control rod tests at test section 4-23323
 ZPPR-13A LMFBR benchmark core, expt. studies 4-28126
 Gd loaded fuel, Swedish BWR core operation and calcs. 4-28118
 NaBO₂-UO₂ solutions, density, thermal expansion and viscosity at high temps. 4-15565
 Na₂B₄O₇-UO₂ solutions, density, thermal expansion and viscosity at high temps. 4-15565
 (U, Pu)O₂ clusters in ZED-2 reactor, neutron activation meas. 4-28139

fission reactor decommissioning

- see also *fission reactor safety; radiation protection; radioactive waste*
 AVR-II HTR, primary circuit design with attention to maintenance, repair and decommissioning (*German*) 4-9260
 cost, extraordinary fuel revenue requirement in last few operating cycles 4-18827
 cost evolution 4-14237
 Edgemont uranium mill, decommissioning 4-23439
 electrochemical decontamination and polishing (*German*) 4-18830
 environmental implications of decontamination and decommissioning nuclear facilities 4-14240
 explosive demolition of biological shielding of the nuclear power station Niederrachbach (*German*) 4-18829
 FR-2 reactor block, removal feasibility (*German*) 4-18828
 HTGR decommissioning, dose levels for activation, component and structure contact 4-18812
 low-level waste volumes from the decommissioning of commercial nuclear power plants 4-18520
 LWR decommissioning study in Germany 4-5052
 NS Otto Hahn nuclear ship, packaging, transportation and disposal of nuclear parts 4-43702
 nuclear facility decommissioning, book contrib. 4-43701
 nuclear power technology, fuel cycle, book 4-42624
 radioactive concrete and steel structures, thermal and mechanical dismantling processes (*German*) 4-48805
 radwaste management aspects 4-18647
 ratemaking practice 4-14239
 reactor vessel/internals, transportation for burial as single package 4-43687
 scrap disposal into a mine, module container system for LLW 4-33214
 Shippingport Station Decommissioning Project engineering results 4-14238

fission reactor fuel

- see also *claddings; fission of plutonium; fission of uranium; fission reactor fuel preparation and reprocessing; isotope separation; radioactive waste*
 accumulation of Kr, Br and Br compounds for small working times, calc. method (*Russian*) 4-14069
 actinides, one-group consts., in fast reactor test model 4-14034
 advanced BWR plants, nuclear and thermohydraulic calcs., conversion rates (*German*) 4-14046
 advanced PWR, design influences of neutron physical props., fuel utilisation (*German*) 4-14045
 advanced PWR, fuel cycle strategy (*German*) 4-18701
 AGR fuel, improving thermal-hydraulic performance 4-707
 American Nuclear Society conference, San Francisco, CA, USA (Oct.-Nov. 1983) 4-13477
 AVR, pebble bed HTR, weakly enriched fuel charge simulation (*German*) 4-14112
 AVR fuel burn-up measuring system (*German*) 4-18724
 AVR HTR, ¹⁴C meas. effect on fuel elements, graphite and gas loop (*German*) 4-18725
 axial interaction between fuel and shell (*German*) 4-18661
 birdcage containers of U, storage and transportation, nuclear criticality safety anal. 4-37796
 block dry storage facility for the intermediate storage of spent fuel assemblies and vitrified high level waste 4-48660
 BN-600 reactor, physical characteristics 4-54242
 burn-up, balance determ. by γ -spectrometry of fission products 4-28041
 BWR, extended burnup fuel bundle design 4-54257
 BWR, fuel management, core monitoring POWERPLEX system 4-37835
 BWR, fuel pellet cracking and relocation during rise to power 4-23157
 BWR fuel rod centre-line temp. obs. and FCODE-BETA computations compared 4-33022
 BWR high burnup fuel rod conceptual design using annular low density UO₂ pellets 4-54263
 BWR Zircaloy fuel cladding, H₂ injection effects on H₂ uptake 4-736
 CABRI test reactor, fuel element behaviour under accident conditions (*German*) 4-9283
 Canadian uranium policies and objectives 4-57701
 CANDU defected UO₂ fuel elements, post-irradiation behaviour in air, dry storage appl. 4-54281
 CANDU power reactor fuel performance, research and development, safety 4-27996
 CANDU-PHWR equilibrium core characts. 2-dimens. anal., WBURN code 4-9321
 CASUP, cell calc. code for fast reactor anal. 4-37697

fission reactor fuel continued

- cement solidification of BWR and PWR bead resins 4-732
 commercial operation of reactor, elementary guide 4-48624
 compacted spent fuel, natural convection, three-dimens. anal. 4-4945
 computer program for simulating fuel rods with heated shroud (*German*) 4-9292
 conference, uranium and nuclear energy, London, England, (August 1983) 4-53363
 conference on nuclear technology, Berlin, Germany (June 1983) 4-4154
 conference on spent fuel/cladding reactions during dry storage, Gaithersburg, MD, USA (Aug. 1983) 4-53364
 crud deposit removal in BWR (*German*) 4-18653
 cylindrical fuel rod performance under normal and accident conditions, TRAFIC code 4-14038
 damage, abnormal conditions in handling and transport 4-37788
 development and safety for various reactor types, present status (*Japanese*) 4-18515
 drained spent fuel storage, self-sustaining Zr oxidation propag. 4-18568
 dry fuel assembly storage arrays, potential criticality safety 4-5010
 dynamic power distrib. control, fuel cycle cost advantages 4-18707
 EBR-II, search and recovery of lost fuel subassembly from reactor vessel 4-23404
 EBR-II driver fuel elements, eutectic penetration induced cladding rupture of 316 stainless steel 4-18605
 EBR-II metallic driver fuel, high ramp rate transient performance 4-18607
 Edwin I. Hatch Unit 1, fuel bundle ¹⁴⁰La γ -scan meas. following cycle 3, benchmark data 4-753
 extended-capacity high-speed disk recording system for the TREAT hodoscope 4-18714
 fast power reactors with high breeding factor, development paths in USSR 4-37696
 fast reactor, fuel rod failure coolant flow breakdown accident (*German*) 4-9284
 fast reactor fuel irradiation devices (*Spanish*) 4-723
 fast reactor fuel management scheme using REBUS-3 code 4-37726
 fast reactor fuel pin power to melt values 4-54274
 fast reactor fuel subjected to simulated thermal transients, macroscopic behaviour 4-23357
 fast reactors, fission product activation meas. (*French*) 4-37776
 fast reactors, heat flow across fuel-cladding interfaces, acoustic mismatch theory 4-746
 FBR, breeder characteristics of German-Belgian-Dutch fast breeder 4-28113
 FBR carbide fuel, Na binding concept (*German*) 4-18667
 FBR oxide fuel, casing expansion during load cycle (*German*) 4-18665
 FBR pellet relocation model 4-37766
 FBTR fuel pin end plug welds, radiographic evaluation, defect standard, microdensitometry 4-12285
 FCYCLS program for fuel element replacement in core (*German*) 4-18510
 first-flight neutron collision probabilities in annular region containing fuel rods 4-14057
 fissile sample worths in the uranium/iron benchmark 4-27956
 fluid-fuel reactors, novel design concepts 4-48630
 FRETA-B code, two-dimensional ballooning model appl. to out-pile and in-pile simulation expts. 4-32954
 fuel cycle, international, problem areas 4-48673
 fuel cycle, questions and answers 4-4170
 fuel cycle material transportation 1971-1982 accidents and incidents 4-43686
 fuel cycles, conf., Geneva, Switzerland, (May-June, 1982) 4-47751
 fuel element bundle failure, time rate, SUPER SARA expts., SSSYT, EXMEL and MELSIM anal. (*German*) 4-5019
 fuel element casing tests, on-line data processing (*German*) 4-12314
 fuel element failures, fluid dynamic CALIPSO code for fast breeder (*German*) 4-9282
 fuel element materials, design and fabrication, performance requirements, book contrib. 4-43578
 fuel motion, internal, annular fuel design, comparative anal. 4-23160
 fuel rod eval., thermomech. behaviour, heat transfer, FREY-01 program 4-14044
 fuel rod thermal-mechanical performance anal. with FEMAXI-III code 4-23156
 fusion breeder reactor design studies, fissile fuel prod. 4-9568
 heating calculations for in-core fuel rigs in DIDO and PLUTO 4-9254
 high-burnup isotopes benchmarking of the ARMP system 4-27984
 HTGR coated fuel particles, isothermal behavior 4-4967
 HTGR fuel particles, SiC coating interaction with fission products 4-54247
 HTR fuel elements, metallic fission products release (*German*) 4-18663
 HTR low enrichment grids, Pu working cross sections, calc. and meas. (*German*) 4-14077
 HTR module fuel elements construction requirements (*German*) 4-18664
 HTR spent fuel units intermediate storage, present technological state (*German*) 4-9299
 HTR-LEU, irradiation test, data evaluation (*German*) 4-18670
 inorganic anion detection with ion exchange chromatography 4-46844
 ion exchange separation and spectrofluorometric determination of lanthanides in nuclear grade material 4-9267
 irradiated fuel inventories calculated by FISPIN code, expt. validation 4-37774
 Japanese nuclear power programme policy and developments (*German*) 4-28142
 JUPITER HTR, fuel element tests (*German*) 4-18652
 KANUPP, fuel management programme for on-power fuelling 4-43571
 laser double focus measuring probe for investigation of flow through closely spaced fuel rod grids (*German*) 4-38491
 laser use at Los Alamos Hot Cell Facility 4-18703
 LMFBR, breeding performance of Phenix reactor 4-28111
 LMFBR, type 316 stainless steel cladding, controlled biaxial strain-rate testing 4-4946
 LMFBR fuel pins failure response, W-2 SLSF expt., posttest examination obs. 4-23366
 LMFBR fuel vaporisation simulations in FAST facility 4-23364
 LMFBR fuels, cladding component chemical transport simulation (*Japanese*) 4-23149
 LMFBR hyperstoichiometric carbide fuel, Na-bonding pin concept, swelling up to 12% burnup 4-9272
 LMFBR metallic fuels and blankets 4-54268
 LOCA, Cu barrier fuel cladding burst strength at high temp. 4-33117

fission reactor fuel continued

LOCA, fuel can distortion, emergency coolant flow direction effects, REBEKA testing (*German*) 4-5015
 LWBR, breeding program at Shippingport 4-28112
 LWR, extended burnup, incentive, technological aspects 4-48661
 LWR, fuel rod debris from severe transient tests, cooling 4-54338
 LWR, fuel-cladding mechanical interaction of fuel designs 4-4947
 LWR, model crud deposition on boiling Zircaloy surfaces at high temp. 4-9322
 LWR, molten fuel-coolant interactions 4-54356
 LWR, quench front propag. during bottom reflow for fuel temp. determ. 4-23336
 LWR and FBR fuel elements, ^{236}Pu formation, neutron cross section anal. 4-37586
 LWR fissile material recycling, fuel costs (*German*) 4-48639
 LWR fuel assembly burnup calcs. with CPM code 4-32968
 LWR fuel assembly storage, nuclear criticality safety 4-18681
 LWR fuel cycles, relative worth of ^{235}U and ^{238}U 4-4951
 LWR fuel depletion calc., perturbation model 4-14031
 LWR fuel element operation and replacement behaviour (*German*) 4-18659
 LWR fuel relocation and pellet-cladding interaction, FUMAC model 4-54239
 LWR fuel rod evaluation in steady-state and transient conditions with FREY code 4-32971
 LWR scenarios possible for current U resource base 4-21534
 mechanical strength control (*German*) 4-18660
 MOX fuel, EPR-II irradiated, high burnup, fuel-cladding chemical interaction 4-54260
 neutron background, separation from fissile nuclides neutrons 4-4980
 neutron monitor for control of clandestine Pu diversion, safeguards (*German*) 4-54456
 nuclear energetics, conf., Vienna, Austria (Sept. 1982) (*Hungarian*) 4-22508
 nuclear fuel cycle safety (*Spanish*) 4-43602
 nuclear fuel cycles, worldwide development trends 4-9276
 nuclear fuel transportation package, PUCON type 4-37864
 nuclear material accountability at JAERI 4-18611
 nuclear materials transportation within fuel cycle, radiological impacts, generic eval. 4-33212
 nuclear power technology, fuel cycle, book 4-42624
 nuclide buildup and depletion in fuel pins from EPR1-CELL code 4-32967
 oxide nuclear-fuels, fission gas release, flow modelling 4-9265
 partial meltdown conditions, fuel behaviour, PAUKER simulation program (*German*) 4-5018
 PBF in pile LOCA expts., post test fuel behaviour, FRET-A code anal. 4-14073
 pebble-bed reactor, unirrad. fuel element identification, X-ray fluoresc. spectrometry appl. 4-954
 percolation model for bubble interlinkage in ceramic nuclear fuels 4-27965
 performance modelling, adjoint sensitivity appl. to FCODE-ALPHA using SCODE code 4-18498
 Phoenix/Sapphire fuel production for irradiation test (*German*) 4-18666
 pins, mixed carbide Sphere-Pac, thermal-mechanical model 4-54254
 postirradiation fuel anal. for isotopes of Am and Cm, critical review 4-37585
 power deposition and transport efficiency using ^{10}B and ^{235}U coatings 4-54255
 pressure vessel fluence reduction by selective fuel assembly replacement 4-28167
 pressure vessel wall embrittlement from pressurised thermal shock, reduction by fuel management 4-18740
 providing the options for spent fuel storage 4-4943
 PWR, fuel and struct. monitoring using neutron noise 4-23312
 PWR, fuel bundle protection against buffle jetting 4-23406
 PWR, fuel management flexibility in Babcock and Wilcox cores 4-18676
 PWR, low-leakage core management optimisation and anal. 4-54240
 PWR, perturbation theory for fuel management 4-28103
 PWR axial blanket optimisation, fuel cost benefits 4-18542
 PWR calculations, FISPIN code, version 5 validation, Sizewell B appl. 4-14041
 PWR core loading patterns to maximise core reactivity and minimise fuel cycle costs 4-18708
 PWR fuel, nuclear props., methods and data validation 4-27950
 PWR fuel bundles, radiative heat transfer under accident conditions 4-5005
 PWR fuel management options with extended burnup 4-43569
 PWR fuel rod absolute pressure measurements in a thermal transient environment 4-14124
 PWR low leakage charges using high burnup fuel elements with Gd_2O_3 (*German*) 4-14076
 PWR manufacturing faults and fuel element costs (*Hungarian*) 4-23152
 PWR poisoning by ^{135}Xe , calc. method and alignment chart (*Russian*) 4-14068
 PWR pressure vessel damage fluence reduction by low-leakage fuel management 4-28166
 PWR radial blanket design for neutron leakage reduction 4-18709
 PWR transient fuel performance code TRAFIC 4-48637
 PWR with subcritical core values, fuel cycle sequence changes, anal. (*German*) 4-14048
 radioactive materials transportation by rail in UK, radiological impact 4-28210
 radionuclide inventories in extended burnup LWR fuels 4-27971
 reactivity effects of fuel rearrangement in fast reactor rod bundles 4-28125
 reactor vessel irradiation reduction by fuel management 4-18739
 rod accountability system, ^{235}U location 4-27992
 rod bowing, viability of margin to departure from nucleate boiling 4-27981
 rod fuel element with eccentric fuel distrib., temp. profile calcs. (*Russian*) 4-43564
 safeguards, nonproliferation, verification of nondiversion 4-27991
 safeguards samples, packaging for transport 4-43685
 safeguards technology, conf., Hilton Head Island, SC, USA (Nov-Dec. 1983) 4-27237
 self shielding factors, theoretical and meas. values comparison for ^{239}Pu , ^{235}U , Fe and Na 4-37703
 shielded ion microprobe analyser for fast reactor fuel elements 4-4988

fission reactor fuel continued

special nuclear material transportation, physical security measures 4-37815
 special nuclear material transportation technology, US DoE/Japan PNC joint programme 4-37874
 spent, disposal as SYNROC-F wasteform 4-4937
 spent fuel elements interim storage and reprocessing for LWR power plants (*German*) 4-48638
 spent fuel waste packages, maximum temp. estimates via generalised correl. for convective heat transfer 4-18571
 spent nucl. fuel units direct final storage (*German*) 4-9297
 spent nuclear fuel, isotope correl. anal. 4-28040
 Sphere-Pac mixed carbide fuel pins, thermal-mechanical behaviour using SPECKLE-III 4-18609
 Sphere-Pac mixed-carbide fuels, particle size, performance implications, SPECKLE III calcs. 4-18608
 standard and MOX fuels for LWR, ^{232}U and ^{236}Pu content expt. determ. (*German*) 4-9295
 steel, austenitic Cr-Ni, radiation swelling pattern for GCR, neutron effects (*Russian*) 4-15547
 steel, austenitic stainless, claddings, cold worked, ion irradi., void swelling, and dose depend. 4-39351
 steel, stainless, FBR fuel pins, fuel-cladding chemical interaction due to I_2 4-21383
 SVEA fuel assembly for BWR 4-4966
 test fuel power coupling, time depend. during TREAT irradiation expts. 4-54355
 thermal accommodation coeffs. for inert gases 4-1576
 thermal and thermal-fast reactor fuel recycling, book contrib. 4-43606
 THTR-300, long term failure of afterheat removal in emergency procedures (*German*) 4-9343
 THTR-300 fuel burn-up meas. system non-nuclear commissioning (*German*) 4-18723
 transport, security aspects, comparative assessments 4-37814
 TREAT Upgrade, optimal core fissile loadings determ. 4-27952
 U_6Fe , comminuted, density hardness, microstructure 4-30797
 USA U industry viability 4-57702
 USA U production, current status 4-54277
 vapour press. and composition in equilib. at high temp. 4-15627
 VHTR fuel and materials development, high temp. irradiation facilities 4-43582
 VHTR reference fuel coating failure by irradiation 4-724
 VVER-1000 fuel assembly operating experience in Novovoronezh Unit 5 4-14059
 Zircaloy 4 cladding, lifetime and failure strain under LOCA ramp temp. conditions 4-9268
 Zircaloy clad fuel rods, temp. escalation under severe nucl. damage conditions (*German*) 4-9293
 Zircaloy cladding bundles, rapid oxidation in air, expt. studies 4-18569
 Zircaloy fuel can- UO_2 fuel, chemical reactions in severe reactor accident conditions (*German*) 4-5017
 Zircaloy fuel cladding in LWRs, halogen pellet-cladding interaction failure, thermodynamics 4-21384
 Zircaloy LWR spent fuel rods, nondestructive meas. of oxide thickness in hot cell 4-28053
 Zircaloy-2, stress corrosion cracking by metal iodides 4-3284
 Zircaloy-4 cladding, oxidised, failure-bearing capability in LWR LOCA 4-37765
 Zircaloy-4 fuel sheathings, failure model for LOCA, steam or inert atm., 900-1600K 4-54248
 Zircaloy-4 fuel sheaths, failure during postulated LOCA, O_2 effect, BURST-3 program 4-9279
 Zircaloy-4 tubing, I_2 induced crack growth between 500 and 700°C, fracture mech. anal. 4-3289
 $^{235}\text{U}(n,f)$, 1 to 15 MeV, prompt neutrons and average γ -ray energies (*French*) 4-37571
 Gd_2O_3 in LWR fuel, Exxon designs for economic requirements 4-18529
 $\text{Mg}_2\text{U}_{1-x}\text{O}_{2+x}$, ternary oxides, equi-chem.-pot. curves 4-29656
 $\text{NaBO}_2\text{-UO}_2$ solutions, density, thermal expansion and viscosity at high temps. 4-15565
 $\text{Na}_2\text{B}_2\text{O}_7\text{-UO}_2$ solutions, density, thermal expansion and viscosity at high temps. 4-15565
 $^{237}\text{Np}(n,f)$, 2.5 MeV, absolute fission cross section meas. 4-37564
 $(\text{Pu,Th})\text{O}_{2-x}$, LMFBR fuel pin irradiation performance at EBR-II 4-18606
 Pu, contamination of stainless steel in aqueous soln. 4-54291
 Pu determ. in irradiated nucl. fuel 4-31048
 Pu, FBR and LWR driven, decontamination requirements 4-18680
 Pu, spent nucl. fuel assay accuracy using lead slowing down spectrometer 4-18570
 Pu-Ga (3.2 at.%), high temp. heat capacity, 330-700K 4-15659
 Pu-O system, phase equilibria and thermodynamics, LMFBR fuel 4-20334
 $\text{PuC}_{1.5}$, thermodynamic values assessment, improved method 4-25057
 $\text{PuO}_{1.5}$, thermodynamic values assessment, improved method 4-25057
 PuO_2 , self-diffusion and chem. diffusion characs., review 4-50573
 PuO_2 transport container filling assembly 4-37862
 $\text{Pu}_2\text{U}_{1-x}\text{O}_{2+x}$, ternary oxides, equi-chem.-pot. curves 4-29656
 $^A\text{Pu}(n,f)$, $A=240, 242, 2.5$ MeV, absolute fission cross section meas. 4-37564
 $^A\text{Pu}(n,n')$, $A=239, 240$, differential neutron emission cross sections 4-37562
 $^A\text{Pu}(n,x)$, $A=239, 241$, thermal neutron constants evaluation 4-43545
 ^{239}Pu , probability tables for neutron and nuclei collisions in unresolved resonance region (*Russian*) 4-43467
 $^{239}\text{Pu}(n,X)$, resonance neutron cross section structure 4-37567
 $^{239}\text{Pu}(n,f)$, 14 MeV fission cross sections 4-37566
 $^{239}\text{Pu}(n,f)$, 14.7 MeV, absolute fission cross sections 4-37565
 $^{239}\text{Pu}(n,f)$, 1.0-1.6 and 3.4-5.6 MeV, fast neutron cross sections 4-37561
 $^{239}\text{Pu}(n,f)$, fission product decay heat, expt. and theoretical data survey 4-37679
 $^{239}\text{Pu}(n,f)$, fission-product decay heat meas. for fast reactors 4-37678
 $^{239}\text{Pu}(n,f)$, 10^{-2} eV to 10^5 eV, cross section and normalisation 4-37569
 ^{242}Pu reactor irradiation, comparison of meas. and calc. yields of ^{244}Pu , ^{243}Am , ^{244}Cm , fission products yields 4-37773
 $^{244}\text{Pu}(n,f)$, 1 keV-8 MeV, cross section structures 4-37570
 Th fuel cycles for fast and thermal reactors, mining to reprocessing, book contrib. 4-43609
 Th fuelled CANDU reactors, optimal fuel management 4-18675
 Th, metallic, pulverisation process through hydriding 4-37769

fission reactor fuel continued

- Th utilisation in LWRs, U-seed/Th blanket fuel management scheme 4-48659
- ThO₂, polycryst., grain boundary depressed O ion diffusion 4-56070
- ThO₂, self-diffusion and chem. diffusion characts., review 4-50573
- ThO₂ slurries as blankets for fissile producing fission reactors 4-9508
- Th₂UO₂ solid solutions, enthalpy, 2300-3400K 4-15660
- ²³²Th(n,f), 1 to 15 MeV, prompt neutrons and average γ -ray energies (French) 4-37571
- ²³²Th(n,n'), (n,n), 144 keV, scatt. cross section meas. 4-48571
- ²³²Th(n,n'), differential neutron emission cross sections 4-37562
- ²³²Th(n,n'), inelastic scatt. to higher excited levels 4-37563
- (U, Ce)O_{2-x}, O potential and lattice parameter studies, lattice defects 4-15446
- (U,Nd)O_{2-x}, solid soln., O potentials 1000 to 1500°C 4-14054
- (U, Pu)O₂ clusters in ZED-2 reactor, neutron activation meas. 4-28139
- (U,Pu)O₂ fuel cycle economics for advanced PWRs (German) 4-18700
- (U,Pu)O₂, inhomogeneous compacts, mixed comp. fractions, X-ray diff. analysis 4-16715
- (U, Pu)O₂, pore migration, actinide redistribution in fuel element operation 4-54271
- (U, Pu)O₂, radiation enhanced diffusion 4-15696
- U and Th raw materials and resources for fuel, prospecting, book contrib. 4-43576
- U, forward contracting, historical perspective 4-57700
- U fuel packaging loaded on vehicles, impact characts. tests and anal. 4-33209
- U, laser spectroscopy 4-43585
- U mining, financing new ventures 4-57703
- U, neutron-irradiated, ²³⁵U enriched, decay heat and decay rate of actinides 4-14056
- U prototype nondestructive assay reference materials, interlaboratory comparison program 4-33016
- U supply and demand 4-57699
- U supply and demand for reactor fuel, book contrib. 4-43577
- U-Mo(2wt.%), ageing, strain rate sensitivity rel. to cooling rate from γ phase 4-40928
- U-Pu carbide fuel system in FBR 4-4944
- U-Si dispersion fuel alloy development for research and test reactors 4-9271
- U-Si-Al dispersion fuel alloy development for research and test reactors 4-9271
- U_{0.5}Am_{0.5}O_{2+x}, thermodynamic study 4-14055
- UF₆ 4-43585
- UO₂, ²³⁴U tracer surface diffusion 4-20447
- UO₂, anodic oxidation in carbonate soln., electrochem. studies 4-57376
- UO₂, defected and undefected, postirradiation behaviour when heated in air 4-4952
- UO₂ fuel fragments from irradiated CANDU elements, behaviour in air, dry storage appl. 4-54282
- UO₂ fuel simulating high burnup, oxygen potentials, lattice parameters 4-32995
- UO₂ fuel-Zircaloy fuel can, chemical reactions in severe reactor accident conditions (German) 4-5017
- UO₂ in pulsed fluidised bed, simulated conversion, dynamic behaviour (Chinese) 4-48656
- UO₂, ion exchange separation of Pu, U, Nd, burnup determ. 4-48654
- UO₂, irradi. fuel, fission gas release, effect of initial grain size 4-4940
- UO₂, irradiated CANDU fuel, leaching of ^{134,137}Cs and ¹²⁹I, safety and fuel disposal appls. 4-9274
- UO₂, LMFBR fuel pin irradiation performance at EBR-II 4-18606
- UO₂, LWR fuel, irradi., Cs and I release, temp. depend. 4-27968
- UO₂, neutron irradiated, microhardness meas. 4-48657
- UO₂, radiation enhanced diffusion 4-15696
- UO₂, self-diffusion and chem. diffusion characts., review 4-50573
- UO₂, slightly hyperstoichiometric, sintering behaviour in oxidative atmosphere 4-35596
- UO₂, small void elimination during irradiation 4-4965
- UO₂, solubility in fluoride melts 4-11308
- UO₂, tensile specimens, fabrication, creep testing 4-30871
- UO₂, Triso coated fuel particles, irradi., crushing strength 4-27969
- UO₂-CeO₂ solid soln., reaction with liq. Na 4-14053
- UO₂-Gd₂O₃ reactor fuel in PWR, nuclear calculation techniques 4-27983
- UO₂-MgO, inhomogeneities, temp. depend., small angle neutron scatt. obs. 4-30702
- UO₂-PuO₂, FBR test fuel pins, cladding strain due to power cycles 4-27967
- UO₂-PuO₂, ion exchange separation of Pu, U, Nd, burnup determ. 4-48654
- UO₂-PuO₂, sintered mixed compacts, homogenisation and cation interdiffusion, X-ray obs. 4-54249
- UO₂-PuO₂ mixed oxide reactor fuel, thermodynamic props., computer simulation 4-6527
- UO₂-stainless steel fuel fabrication for fast reactor safety test 4-18750
- UO₂-Zircaloy 4 chemical reaction, wetting behaviour, annealing times 4-54264
- UO₂-Zircaloy elements, purposely defected, irradiation tests in PWR 4-9277
- UO_{2+x} micropin, CO pressure development 4-33006
- U₃O₈ production, investment and operating costs 4-57704
- U₃O₈-MnO₃, equilibrium relationships at various temps. in air 4-54253
- ²³⁵U(n,f), A=233,235,238, fission-product decay heat meas. for fast reactors 4-37678
- ²³⁵U(n, γ), A=235, 238, thermal neutron data (French) 4-37560
- ²³⁵U(n,n'), A=233, 235, 238, differential neutron emission cross sections 4-37562
- ²³⁵U(n,x), A=233,235, thermal neutron constants evaluation 4-43545
- ²³⁵U, accumulation in fuel cycle for VVER-440 4-33003
- ²³⁵U, photon emission radiation parameters 4-33005
- ²³⁵U enrichment determ. via the container wall of transporting cylinder (German) 4-9294
- ²³⁵U with reduced enrichment, fuel elements for research and materials testing of reactors (German) 4-9315
- ²³⁵U(n,f), 14 MeV fission cross sections 4-37566
- ²³⁵U(n,f), 14.7 MeV, absolute fission cross sections 4-37565
- ²³⁵U(n,f), thermal, precise fission cross section meas. with gridded ionisation chamber, fission layers 4-48603
- ²³⁵U(n,f), thermal neutron data (French) 4-37560
- ²³⁵U(n,f) fission product decay heat, expt. and theoretical data survey 4-37679

fission reactor fuel continued

- ²³⁵U, resonance parameters, sensitivity coeffs. of self-shielded cross-sections 4-27917
- ²³⁵U, uncertainties in resonance parameters on performance of thermal lattices 4-27982
- ²³⁵U(n,X), resonance neutron cross section structure 4-37567
- ²³⁵U(n,f), 1 eV to 20 MeV, capture rate and widths, scattering and fission cross sections 4-37559
- ²³⁵U(n, γ), 1 eV to 20 MeV, capture rate and widths, scattering and fission cross sections 4-37559
- ²³⁵U(n, γ), effective capture cross sections space, energy and anisotropy effects 4-43568
- ²³⁵U(n,n'), inelastic scatt. to higher excited levels 4-37563
- ²³⁵U(n,n), 1 eV to 20 MeV, capture rate and widths, scattering and fission cross sections 4-37559
- fission reactor fuel preparation and reprocessing**
see also *isotope separation; radioactive waste*
- Accelerator Molten Salt Breeder, single fluid type using molten fluorides 4-18690
- advanced PWR, fuel cycle strategy (German) 4-18701
- advanced safeguards philosophy for a commercial reprocessing plant 4-28056
- aerosols emission in waste gas container of reprocessing plant (German) 4-12522
- American Nuclear Society conference, San Francisco, CA, USA (Oct.-Nov. 1983) 4-13477
- analytical measurement techniques 4-28069
- assay instrumentation performance, safeguards 4-28083
- Barnwell plant, operability and maintainability 4-4978
- breeder fuel pin automated fabrication, safeguards 4-28081
- breeding by dense plasma focus, appl. in advanced nuclear power plants 4-33063
- breeding with electrically-generated free neutrons 4-28043
- burn-up, balance determ. by γ -spectrometry of fission products 4-28041
- BWR fuel cycle length, meeting utility needs 4-18678
- CANDU defected UO₂ fuel elements, post-irradiation behaviour in air, dry storage appl. 4-54281
- CANDU irradiated fuel, transportation cask, design, licensing and procurement 4-37911
- CANDU irradiated fuel transportation cask design, thermal anal. 4-37919
- CANDU-Th/Pu CANDU nuclear power system, explorative anal. (Rumanian) 4-48671
- case-type spent fuel dry storage, operating experience, spent fuel performance 4-33033
- CASTOR SPX storage cask for SUPER PHENIX spent fuel 4-33032
- cell buret development at Savannah River Plant 4-28065
- certified reference materials, availability for nuclear fuel cycle measurements standardisation 4-14081
- chemical control, X-ray fluorescence anal. 4-28080
- co-conversion facility for Pu-U fuel, design and safety considerations (Japanese) 4-37818
- conference, uranium and nuclear energy, London, England, (August 1983) 4-53363
- conference on spent fuel storage options, Savannah, GA, USA (Sept. 1982) 4-53356
- conference on spent fuel/cladding reactions during dry storage, Gaithersburg, MD, USA (Aug. 1983) 4-53364
- consolidated spent fuel casks, criticality control concepts 4-18689
- countercurrent extraction process, dynamic modelling with microcomputer (Chinese) 4-28042
- criticality detection systems at Sellafield 4-18687
- criticality emergency planning at Oak Ridge National Laboratory 4-18685
- criticality emergency preparedness at Oak Ridge Gaseous Diffusion Plant 4-18686
- criticality of low-moderation U₃O₈, benchmark calcs. 4-18688
- criticality safety, interdisciplinary safety experience 4-18682
- criticality safety calcs. with WIMS-KENO code system 4-18507
- criticality safety methods, use in LOFT loading and Rover neutron poison detection system calcs. 4-18506
- criticality safety technology transfer at UNC Nuclear Industries 4-18817
- developing double deflection systems for advanced nozzle enrichment 4-4975
- DIORIT spent fuel, dry storage planning and experience, CASTOR cask 4-33031
- dissolution of fuels for analytical purposes (Czech) 4-33045
- dry AFR spent fuel storage in the Federal Republic of Germany 4-54317
- dry casks for spent fuel storage transportation and disposal 4-18532
- dry horizontal spent LWR fuel assembly, heat transfer, RIGG code validation 4-37822
- dry spent fuel consolidation demonstration at Barnwell Nuclear Fuel Plant 4-54324
- Duke Power Company spent fuel storage programs 4-54298
- emergency planning and exercises at Los Alamos Critical Assemblies Facility 4-18819
- EMFOR gas filled cask, FBR spent fuel transport, heat transfer problems 4-37812
- enrichment monitor for Portsmouth Gas Centrifuge Enrichment Plant 4-28061
- enrichment plant, safeguard data system 4-28343
- evaporator explosions in nuclear waste and Pu-concentration processes, possibilities (German) 4-4971
- fabrication and reprocessing with SAFAR concept 4-4977
- facility-transportation system interface at COGEMA reprocessing plant 4-37871
- failed spent fuel handling, considerations at Barnwell Nuclear Fuel Plant 4-54303
- fast reactor fuel cycles (French) 4-37821
- FBR fuel shell casings, electron beam welding (German) 4-18668
- French FBR fuel reprocessing facility, latest development trends 4-4976
- fuel concentration change in process tank, subcriticality meas. with ²⁵²Cf-source-driven noise anal. 4-18683
- fuel cycle, bulk measurements for accountancy and safeguards 4-28064
- fuel cycle, international, problem areas 4-48673
- fuel cycle development, implications for economic recovery 4-48674
- fuel cycles, conf., Geneva, Switzerland, (May-June, 1982) 4-47751
- fuel element factories in Germany, radiation protection laws appl. problems (German) 4-4981

fission reactor fuel preparation and reprocessing continued

fuel element materials, design and fabrication, performance requirements, book contrib. 4-43578
 fuel management flexibility, fuel cycle design and planning 4-18677
 fusion breeder/fission client and fusion breeder/fission client systems comparison for elec. energy prod. 4-9306
 fusion-fission hybrid reactor, plasma focus driven 4-33175
 GAI-VAULT, reference design dry spent fuel storage vault 4-54323
 gamma-ray assays for ^{235}U solns. 4-28070
 gas centrifuges up to 1962, review, principles of high speed rot. 4-43604
 gas centrifuges up to 1962, review, principles of separation physics 4-43603
 gas-phase sampling of UF_6 cylinders in international safeguards 4-28062
 German nuclear fuel cycle back end 4-48680
 high converter PHWR, fuel cycle calcs. 4-9307
 Hot Fuel Examination Facility, field maintenance of radiation shielding windows 4-28238
 HTR fuel retreatment, exit gas cleaning (*German*) 4-18691
 HTR pebble bed reactor, two zone core, gas outlet temp. enhancement (*German*) 4-14111
 hydrocarbon diluent radiation chemistry in spent fuel solvent-extraction process 4-33050
 Idaho Chemical Processing Plant, automated accountability meas. systems 4-33060
 in-process inventory in solvent-extraction contractors, near-real-time estimation 4-33053
 information systems, safeguards/process interface 4-28340
 infrared photometer for HF meas. during U enrichment in separation nozzle plants (*German*) 4-54283
 instrumentation and control system for an automated fuel fabrication process 4-28045
 intermediate dry spent fuel storage in FRG, qualification and certification criteria 4-33030
 International Spent Fuel Management Study, IAEA study 4-54301
 irradiated fuel, large-scale transportation experience of CEBG 4-43592
 irradiated fuel inventories calculated by FISPIN code, expt. validation 4-37774
 irradiated fuel shipping cask, toroidal shell-type shock absorber development 4-43598
 irradiated fuel transportation to La Hague reprocessing plant 4-43610
 irradiated fuel transportation to reprocessing plants 4-43613
 irradiated nuclear fuel, rail transport, TN-12Y packaging 4-37914
 irradiated nuclear fuel transport, ship design for international transport 4-37810
 isotope correlation technique feasibility 4-9313
 isotope correlation techniques at La Hague 4-28076
 KKP-1 BWR, 2-cycle, CCC design, control rod variation reduction during loading (*German*) 4-14109
 LMFBL, technical feasibility, safety 4-18771
 LMFBR fuel reprocessing, French experience 4-48681
 LMFBR spent fuel, water storage in Consolidated Fuel Reprocessing Programme 4-54308
 local radiation action of atmospheric emissions from radiochemical plants 4-16819
 LWR fissile material recycling, fuel costs (*German*) 4-48639
 LWR fuel assembly storage, nuclear criticality safety 4-18681
 LWR fuel cycles, isotope correl. for safeguards and accountability 4-33051
 LWR irradiated fuel transport casks, maintenance and reinspection experience 4-37931
 LWR spent fuel, drywell storage potential 4-54314
 LWR spent fuel, French reprocessing experience 4-48679
 LWR spent fuel and waste storage, US government programmes 4-54295
 LWR spent fuel handling and reconstitution, rod consolidation 4-54312
 LWR spent fuel transport packaging, impact behaviour of shell-type shock absorber 4-43599
 LWR spent fuel transportation experience, transshipments and storage casks 4-54309
 management and disposal of used nuclear fuel and reprocessing wastes 4-54278
 material accountability, L_{111} edge densitometer, fabrication and evaluation 4-28057
 material balance control, techniques for monitoring input 4-28073
 material control and accounting data, evaluation methodology 4-28084
 material control in enrichment and reprocessing plants 4-28055
 material control processes at COGEMA 4-28074
 materials control and accounting systems, evolutionary pressures 4-28078
 metal integrated container for irradiated fuel management 4-37797
 mixer-settlers, Pu third phase accumulation 4-54287
 model 200 MT/yr reprocessing facility, advanced safeguards approach 4-33059
 MODREX dry storage facility for LWR spent fuel and HLW 4-54321
 Monitored Retrievable Storage Programme for spent fuel, overview 4-54305
 Monte Carlo criticality safety calcs. for identical arrays of fissile materials 4-18684
 Morris Operation, independ. spent fuel storage installation, ten years experience, overview 4-54300
 near-real-time material accountability, evaluation method of inventory in pulse columns 4-33054
 near-real-time material accountability in nucl. reprocessing facilities, operator-inspector interface 4-33062
 noble metal recovery from fission products in spent fuel 4-54290
 nondestructive assay instrumentation at Rocky Flats Processing Facility 4-28067
 nondestructive assay instruments, measurement control program 4-28082
 nondestructive assay instruments for HEU accounting 4-28068
 nondestructive meas., hulls monitoring and burnup determination 4-28077
 nonsoluble fission product residues, behaviour 4-54289
 nuclear criticality emergency planning at Lawrence Livermore National Laboratory 4-18818
 nuclear fuel cycle, waste treatment (*Spanish*) 4-43570
 nuclear fuel cycle safety (*Spanish*) 4-43602
 nuclear fuel reprocessing plants, use of conventional instrumentation (*French*) 4-33048
 nuclear fuel reprocessing plants in-line control (*French*) 4-33049
 nuclear fuel transport flasks, internal decontamination, hands-off technique 4-43689

fission reactor fuel preparation and reprocessing continued

nuclear materials loss-detection sensitivities using process grade meas. at AGNS BNFP 4-33061
 nuclear power, energy gain (*Dutch*) 4-33073
 nuclear power energy policy, cost control, safety, management 4-57693
 nuclear power technology, fuel cycle, book 4-42624
 nuclear solutions containing U, Th and fission products, AAS determ. of metallic and rare earth impurities 4-46810
 Nukem HEU fuel fabrication plant, safeguards implementation 4-9312
 off-site spent fuel storage alternatives 4-54304
 Phoenix/Sapphire fuel production for irradiation test (*German*) 4-18666
 portable load-cell-based system for weighing UF_6 cylinders 4-28058
 Portsmouth Gas Centrifuge Enrichment Plant safeguards system 4-28060
 powder operations in secure automated fabrication 4-28046
 process information system for commercial reprocessing plant 4-28339
 process plant control (*French*) 4-33047
 process tank calibration data, acquisition program 4-28066
 Pu (III) oxidation by HNO_3 in tri-n-butyl phosphate, oxidation suppression in contactor separation 4-9310
 PUREX reprocessing, tributylphosphate solvent clean-up using $(\text{NH}_4)_2\text{CO}_3$ and NH_3 (*German*) 4-54284
 PWR, fuel management flexibility in Babcock and Wilcox cores 4-18676
 PWR and fuel cycle, situation in France, nuclear power development (*Japanese*) 4-14079
 PWR old fuel, conceptual design of large spent fuel shipping casks 4-37913
 PWR on U/Pu cycle, conversion rate and fuel rod grid packing density (*German*) 4-14047
 radioactive waste vitrification in power stations, comparison with other processing methods (*Czech*) 4-729
 radwaste management, reprocessing decisions and implications 4-28024
 RBMK-1000 nuclear power plants in USSR, operational experience, fuel cycle, plant characteristics 4-37829
 reference materials for quality assurance of chemical analysis 4-14080
 remote breeder fuel fabrications, secure automated fabrication 4-28044
 reprocessing, accidental events, criticality, fires and explosions, probability (*German*) 4-4982
 reprocessing equipment component testing (*German*) 4-18696
 reprocessing plant, probabilistic risk anal. with dynamic accident progress (*German*) 4-4983
 reprocessing techniques, plants and equipment in UK, book contrib. 4-43608
 responsive fuel management by Westinghouse 4-18679
 safeguards, experience at Exxon Nuclear GmbH 4-28075
 safeguards, nondestructive meas. systems for fuel cycles 4-27989
 safeguards against diversion of material 4-28079
 safeguards and engineering design 4-28054
 safeguards and near-real-time material accountability, fuel reprocessing simulation 4-48672
 secure automated fabrication, Boat Unloading/Pellet Storage 4-28048
 secure automated fabrication, sintering Boat Transport system 4-28049
 secure automated fabrication line analytical chemistry system 4-28052
 secure automated fabrication line pellet gauging 4-28050
 secure automated fabrication system for fuel pin loading 4-28051
 solid extraction agents, mono-2-ethylhexylphosphoric acid removal 4-9311
 solution tank, replacement decontamination process (*German*) 4-18694
 solution tank damage due to nitric acid (*German*) 4-18693
 special nuclear material road transport in FRG, physical protection and security 4-37813
 spent fuel, life of plant storage system 4-54315
 spent fuel and HLW storage and transportation using dry storage casks 4-54319
 spent fuel and HLW transport packaging, design rules 4-43596
 spent fuel and HLW transportation packagings, construction and inservice inspection rules 4-43595
 spent fuel and other radioactive materials, highway routing in US 4-54297
 spent fuel cask loading at European LWRs, operational experience 4-37785
 spent fuel casks awaiting shipment, Japanese storage facility 4-37786
 spent fuel cells shipment 4-43593
 spent fuel consolidation, applicability of fuel inspection and reconstitution experience 4-54318
 spent fuel cutting equipment (*German*) 4-18698
 spent fuel dry storage, expected rod performance 4-54311
 spent fuel dry storage, limiting temp. calc. for UO_2 oxidation control 4-18534
 spent fuel dry storage, modular container designs 4-54316
 spent fuel dry storage, US DOE R and D programmes 4-18530
 spent fuel dry storage casks, facility handling and operational considerations 4-54320
 spent fuel elements interim storage and reprocessing for LWR power plants (*German*) 4-48638
 spent fuel integrity during dry storage, requirements 4-18533
 spent fuel management, ENEL experience 4-48662
 spent fuel monitored retrieval storage, technical basis and economics 4-18531
 spent fuel on-site and AFR storage problems, utilities view 4-54302
 spent fuel packaging and transportation systems, optimum options selection 4-37794
 spent fuel racks, nonlinear time history seismic anal. 4-54299
 spent fuel shipping cask, 100-ton, design and fabrication 4-37795
 spent fuel shipping cask, Pb pour fabrication process, thermal anal. 4-37807
 spent fuel shipping cask, stress anal. 4-37808
 spent fuel shipping cask, thermal testing with furnace 4-37793
 spent fuel shipping cask HZ-75T, operational experience 4-43611
 spent fuel shipping casks, impact limiter design methodology 4-43601
 spent fuel shipping costs, transportation logistics anal. 4-37805
 spent fuel solution tank, supply and assembly quality control (*German*) 4-18692
 spent fuel storage, private sector support for Independent Spent Fuel Storage Facility 4-54294
 spent fuel storage and transport casks, materials selection and certification 4-37915
 spent fuel storage at the Western New York Nuclear Service Center 4-54307
 spent fuel storage economics 4-54296
 spent fuel storage in Switzerland 4-54313
 spent fuel storage regulatory activities, recent developments 4-54293

fission reactor fuel preparation and reprocessing continued
 spent fuel storage situation at US reactors 4-54292
 spent fuel transport casks, circumferentially finned, natural convection heat dissipation 4-37823
 spent fuel transport packaging, design of shock absorbing end covers 4-43600
 spent fuel transportation, safety against sabotage 4-37799
 spent fuel transportation to repository, cost and risk anal. 4-37801
 spent fuel verification by ultraviolet Cherenkov emission 4-28059
 spent fuel waste instrument in FAST facility 4-33098
 spent nuclear fuel reprocessing, fission products solidification using borosilicate glasses, fracture behaviour (*German*) 4-9298
 spent nuclear fuel, isotope correl. anal. 4-28040
 spent nuclear fuel, sea transport system 4-37811
 spent nuclear fuel and HLW storage and transportation using dry storage casks 4-33035
 spent nuclear fuel cask, JINS safety anal. code systems 4-37937
 spent nuclear fuel packagings, criticality control, neutron absorbers 4-37816
 spent nuclear fuel shipping flask, shielding, exptl. and anal. study 4-37936
 spent nuclear fuel transportation, safety, safeguards, handling and packaging 4-37787
 spent nuclear fuel transportation in water, radiolysis and H₂ prod. problems 4-33036
 spent reactor fuel, handling, storage and transportation in USSR, reprocessing 4-37767
 Swedish fuel cycle, policy and planning 4-48675
 temporary spent fuel storage by Japanese utilities 4-54306
 thermal and thermal-fast reactor fuel recycling, book contrib. 4-43606
 TN 1300 spent fuel transport/storage cask system, design qualification, appls. 4-33034
 TN 17/3 irradiated nuclear fuel transport cask, design problems and solns. 4-33037
 TN cask capabilities for transport of extended burnup fuel assemblies 4-37912
 transuranic isotope availability from nuclear fuel reprocessing 4-28013
 tritiated process water monitoring using ³H(γ,n) detector 4-54451
 truck transportation in the nuclear fuel cycle 4-43683
 U reprocessing from PWR fuel, different recycling methods resume (*French, English*) 4-43605
 underwater nuclear fuel disassembly and rod storage 4-54322
 uranyl gel intermediate fuel product, emanation thermal anal. characterisation (*Czech*) 4-741
 Vepco interim spent fuel storage program 4-54310
 waste nucl. fuel reprocessing plants, effects of fire caused by kerosene (*German*) 4-9314
 Zircaloy LWR spent fuel rods, nondestructive meas. of oxide thickness in hot cell 4-28053
 I₂ removal from dissolver off-gas, use of 13X, 5A and Ag exchanged zeolites 4-23438
 Pu, contamination of stainless steel in aqueous soln. 4-54291
 Pu extraction from tributylphosphate in electroreduction column (*German*) 4-18695
 Pu, FBR and LWR driven, decontamination requirements 4-18680
 Pu isotopic composition meas. by automated γ-ray spectroscopy system 4-28071
 Pu isotopic ratio determ. using low energy gamma-ray spectroscopy 4-28072
 Pu nondestructive assay in isotopically heterogeneous materials 4-33056
 Pu reclamation facility, continuous process incinerator experience 4-33012
 Pu recycling in LWRs, economic aspects 4-33046
 Pu/U nitrate mixed soln. co-conversion to mixed oxide powder, microwave heating, review 4-739
 Pu-²³⁹U fuel systems, fuel production 4-28085
 PuO₂-UO₂ fuel pins prod., modelling and simulation for process and safeguards system design 4-33058
 T assisted D-D based fusion breeders 4-9509
 Th fuel cycles for fast and thermal reactors, mining to reprocessing, book contrib. 4-43609
 Th fuelled CANDU reactors, optimal fuel management 4-18675
 Th utilisation in LWRs, U-seed/Th blanket fuel management scheme 4-48659
 (U, Pu)C, carbothermic synthesis of mixed carbide 4-740
 (U,Pu)O₂, carbothermic reduction to (U,Pu)C, reaction mech. 4-33044
 (U,Pu)O₂ fuel cycle economics for advanced PWRs (*German*) 4-18700
 (U,Pu)O₂ irradiated fast breeder fuel recovery, composition effects (*German*) 4-18697
 (U,Pu)O₂ manufacture using secure automated fabrication line furnaces 4-28047
 U, 3% enriched, recovery by chemical method 4-54288
 U and Th raw materials and resources for fuel, prospecting, book contrib. 4-43576
 U enrichment industry 4-48678
 U enrichment market, USA DoE role and prospects 4-48682
 U holdup meas. in gaseous diffusion enrichment plant 4-28063
 U industry in USA 4-48677
 U isotope separation by redox chromatography 4-9308
 U, low-enriched scrap assay using end-crop box counter 4-33057
 U ore extraction and processing in USSR, by-product use 4-37819
 U recovery facility, off-line nondestructive anal. 4-33055
 U reserves, mining costs and isotope separation methods (*Hungarian*) 4-26280
 U supply programs of German nuclear industry 4-48676
 U Z 4-43607
 U-Pu fuel cycle development, nucl. data needs 4-37820
 UF₄, neutron yields from (α,n) in fuel rod prod. 4-48670
 UF₆, compatibility tests with low vapour pressure perfluoropolyether oils 4-54286
 UF₆, highly enriched, direct fissile assay 4-33052
 UF₆ in gas centrifuge, vacuum core boundary conditions effects on separation 4-9309
 UF₆ toll enriched, packaging deficiencies and maintenance 4-43612
 UF₆-D mixtures, possibility of spark-initiated explosion 4-12369
 U(IV) in Purex, testing and economical evaluation of Pu reductant 4-28025
 UO₂ fuel fragments from irradiated CANDU elements, behaviour in air, dry storage appl. 4-54282
 UO₂ pellet, manufacturing tolerance and struct. in hot compression process (*German*) 4-18699

fission reactor fuel preparation and reprocessing continued
 UO₂ powders, particle size distrib. rel. to sintering 4-25931
 UO₂ solubility in fluoride melts 4-11308
 UO₂-NH₃-H₂O, ADU family, space group determ. from single cryst. 4-29407
 U₃O₈ powders, dissolution rates in nitric acid 4-54285
 U₃O₈ production, investment and operating costs 4-57704
²³⁵U, accumulation in fuel cycle for VVER-440 4-33003
²³⁵U, photon emission radiation parameters 4-33005
²³⁵U with reduced enrichment, fuel elements for research and materials testing of reactors (*German*) 4-9315
fission reactor instrumentation *see nuclear reactor instrumentation*
fission reactor materials
see also claddings: fission reactor fuel; fusion reactor materials; materials handling; moderators; radioactive waste
 acoustic emission for vessel integrity and equipment monitoring 4-23319
 advanced safeguards philosophy for a commercial reprocessing plant 4-28056
 assessment by experimentation and tearing instability fracture mechanics anal. 4-4997
 bituminous seals, dynamic stress behaviour (*German*) 4-18673
 BN-600 reactor, physical characteristics 4-54242
 BWR, corrosion/erosion countermeasures 4-23170
 BWR, low radiation exposure, water chemistry, radiation build-up 4-23166
 BWR, primary coolant pipe whip test under LOCA 4-23335
 BWR, radiation buildup on structural materials 4-4950
 BWR, radionuclide transport, deposition, decontamination 4-23180
 BWR coolant, radiolysis yields evaluation 4-54251
 BWR cooling water, insoluble species rejection using diffusion-bonded HGMS filter 4-18588
 BWR mechanics and materials technology update 4-788
 BWR pressure bearing envelope reequipment using leak before fracture criterion (*German*) 4-9287
 BWR primary system, corrosion product characterisation 4-23168
 BWR safety, RPV cracks and coolant behaviour, K-FIX (3D,FLX) verification (*German*) 4-14051
 BWR water chemistry, computer simulation 4-23179
 BWR Zircaloy fuel cladding, H₂ injection effects on H₂ uptake 4-736
 calorimetric studies 4-56043
 CANDU components, mechanical development for reliability 4-33026
 CANDU water circuit chemistry, effect on corrosion 4-23177
 coatings for components in fission and fusion reactors 4-18774
 commercial operation, elementary guide 4-48624
 component catalogued tubular conduits, component production rationalisation (*German*) 4-9305
 computerised nucl. material inventory, audit trail 4-33020
 concrete, creep and thermal shrinkage at high temp., math. model 4-27970
 concrete, multiaxial behaviour when exposed to high temps., fracture, stress-strain 4-3236
 concrete, neutron induced activity anal. 4-4962
 concrete, reinforced, Meppen slab tests interpretation, aircraft impact load treatment 4-790
 concrete, steel enforced damping factors, suitability tests for reactor structures (*German*) 4-18672
 concrete structures, modelling and code development, overview 4-794
 conference on structural mechanics in reactor technology, Chicago, USA (Aug. 1983) 4-11
 coolant purification tests 4-23185
 corrosion fatigue aspects, LWR pressure contaminants safety assessment 4-18674
 corrosion fatigue aspects in design 4-21399
 corrosion product dispersal composition suspended in coolant (*Russian*) 4-43572
 corrosion product formation and deposition mechanism (*Russian*) 4-23182
 creep and long-term strength, effect of reactor radiation, automated meas. and recording system 4-12304
 crud development during hot boric acid injection, high speed filtration removal (*French*) 4-23175
 decision procedures for material balance sequences 4-54256
 defect detection trials, UKAEA test pieces 3 and 4 4-4959
 defects, time-of-flight ultrasonic techniques 4-4958
 ditolylmethane, acid number determ. 4-33004
 ditolylmethane, cold neutron scatt. cross section, temp. depend. 4-14023
 EBR-II driver fuel elements, eutectic penetration induced cladding rupture of 316 stainless steel 4-18605
 fast neutron damage in ceramic-to-metal seals 4-20261
 fast reactor component technical performance and control, embrittlement monitoring (*German*) 4-12188
 FBR fuel shell casings, electron beam welding (*German*) 4-18668
 FBR structural materials, integral neutron capture cross sections 4-37771
 FBR structural materials, neutron cross section adjustments (*French*) 4-37772
 FBTR fuel pin end plug welds, radiographic evaluation, defect standard, microdensitometry 4-12285
 FFTF ducted assemblies, structurally based core management 4-18751
 gamma radiographic testing, automated system (*German*) 4-12313
 graphite, fracture characteristics, low-temp. neutron irradiation effect 4-30813
 graphite, nuclear grade isotropic dynamic Young's modulus, tensile and compressive stress effects 4-29506
 graphite, radiation induced changes in properties 4-54273
 Hastelloy X, high temp. carburisation in HTGR He, Ni-Al layer protection 4-16570
 Hastelloy X, high temp. ductility loss due to thermal neutron irradiation 4-43584
 HENDEL, He engineering demonstration loop for VHTR components, 1982 overview 4-9332
 HTGR, high porosity materials on heat transfer surfaces, radiative props. 4-14085
 HTR module under breakdown conditions, ceramic component examination (*German*) 4-12311
 HTR-1160 PCRV top cap, behaviour under extremely high core temp. loading 4-791
 Hungarian Nuclear Energy Agency safety systems and safeguards (*Hungarian*) 4-23329
 IN600, steam generator tubing, eddy current probe detection of defects, temp. effects 4-16584
 Inconel 600-steel systems, crevice corrosion in seawater 4-12249

fission reactor materials continued

Inconel 625, cyclic stress-strain relationships, creep, fatigue, TREAT Upgrade cladding 4-21294
 Inconel 625, fatigue cycling, fatigue strength, creep damage, TREAT Upgrade cladding 4-21327
 Inconel 625, high temp. reverse bend fatigue strength, TREAT Upgrade cladding 4-21328
 intergranular SCC recognition, adaptive learning network approach reviewed 4-33023
 JENDL-2, Japanese Evaluated Nuclear Data Library, present status and benchmark test 4-36821
 large pipes, dynamic props., modal anal. (German) 4-9285
 LMFBR, effects of reactor struct. on primary containment response 4-23162
 LMFBR cladding alloys, screening for FCCI and fission induced LME 4-18595
 LMFBR cladding alternatives, screening for FCCI susceptibility 4-18596
 LMFBR claddings, susceptibility to fission product induced embrittlement 4-18597
 LMFBR metallic fuels and blankets 4-54268
 LWR, ⁶⁰Co buildup from component corrosion into coolant 4-4949
 LWR, chemical decontamination of coolant, CEGB developments, international status 4-18736
 LWR, model crud deposition on boiling Zircaloy surfaces at high temp. 4-9322
 LWR, water chemistry and corrosion 4-23183
 LWR pressure vessel crack propagation and arrest under thermal shock conditions 4-3253
 LWR pressure vessel materials, neutron irradiation prediction of brittle-ductile transition temp. shift 4-730
 magnets, highly-irradiated high-performance, design practice and operational experience 4-28266
 material control in enrichment and reprocessing plants 4-28055
 mechanical failure concepts using elasto-plastic finite element anal. for reactor components (German) 4-9286
 mechanical properties in nonsteady reactor radiation, invest. using Neutron-12 system 4-12303
 migration in irradiation, structural materials, cavity form. 4-56079
 molten reactor core/concrete interaction, concrete ablation and decomposition, transient model 4-9364
 Nimonic 86, Ni-base superalloy, corrosion in nuclear He, study by X-ray diff. and electron probe microanal. 4-51865
 nondestructive evaluation, validation of procedures and techniques 4-4960
 nuclear materials accountability, systematic error identification via Kalman filtering 4-33021
 nuclear materials regulations, safety, engineer/constructor company perspective 4-18604
 nuclear power station component connecting pieces, stress caused by internal press. and piping dimens. (German) 4-9288
 nuclear reference materials, safeguards meas. control deficiencies for SALE and GAE program data 4-33017
 nuclear waste actinides as fissile fuel in hybrid blankets 4-54425
 PHWR, primary coolant purification system 4-23184
 PHWR, radionuclide transport, deposition, decontamination 4-23180
 physical techniques of analysis, review 4-23164
 pipe, straight, failure bending moments, simple approach 4-32998
 pipe line, dynamic loading calc. using Fourier transform (German) 4-9291
 pipe rupture tests for primary coolant circuits in BWR LOCA conditions 4-14151
 piping systems, fluid-dynamic parameters influence upon fluid-hammer forces and spectra 4-32999
 postirradiation mechanical behaviour determ. with miniaturised disk bend test 4-7681
 power deposition and transport efficiency using ¹⁰B and ²³⁵U coatings 4-54255
 pressure vessel, rupture probability evaluation (French) 4-54275
 pressure vessel hydraulic testing, acoustic emission source location, cluster anal. 4-23263
 pressure vessels strength tests, microcomputer based data system appl. 4-14078
 prestressed concrete, use in US nuclear power plants, problems and inspection, overview 4-733
 principal deterrent systems and material accounting, optimal interface 4-33018
 prompt accountability data anal. to establish alarm thresholds 4-33019
 PWR, 1300 MW series, convoy type tubework, standardisation using component catalogue (German) 4-9302
 PWR, automatic steel section inspection, ultrasonic TOF technique 4-4956
 PWR, corrosion product formation and transport models (French) 4-23178
 PWR, corrosion products as source of radiation field buildup 4-23191
 PWR, ferritic and austenitic steel circuits 4-23176
 PWR, fuel and struct. monitoring using neutron noise 4-23312
 PWR, Ko-Ri Unit 1 water chemistry 4-23172
 PWR, material integrity, acoustic emission technique appl. 4-23318
 PWR, primary circuit corrosion products (French) 4-23181
 PWR, shutdown effects on cooling and oxidation (French) 4-23171
 PWR, ultrasonic defect detect., elastic scatt. theory 4-4957
 PWR, ultrasonic techniques 4-4955
 PWR, water chemistry tests, corrosion product monitoring (French) 4-23173
 PWR coolant purification, ¹³⁷Cs removal 4-23186
 PWR pressure vessel, fracture mechanics from thermal shock expts. 4-3252
 PWR primary circuit simulators, corrosion product formation and transport (French) 4-23190
 PWR primary tubular conduits, safety optimisation for KKW Mulheim-Karlich (German) 4-9385
 PWR secondary chemistry effects, expt. study in high temp. and press. rig 4-23302
 PWR structural surface decontamination 4-23194
 rem-dose levels in reactor pipelines (German) 4-18767
 safeguard effectiveness assessment methodology 4-27990
 safeguards, national and international, evolutionary process 4-27987
 safeguards, nondestructive meas. systems for fuel cycles 4-27989
 safeguards and engineering design 4-28054
 safeguards and operating practices 4-27988
 safeguards technology, conf., Hilton Head Island, SC, USA (Nov-Dec. 1983) 4-27237

fission reactor materials continued

safety-related coating work for LWR plants 4-37836
 secondary water chemistry in Ringhals PWRs 4-23301
 self shielding factors, theoretical and meas. values comparison for ²³⁹Pu, ²³⁵U, Fe and Na 4-37703
 SGHWR, crud characterisation studies 4-23169
 simulated PWR press. vessel sections, defect detection trials, automated US system 4-57515
 SNR-300 vessel components, mechanical behaviour from HCDA 4-54335
 sprayed-dowel anchor for safety demanding constructions (German) 4-18511
 stainless steel, ⁶⁰Co buildup in BWR 4-54259
 stainless steel, type 304 4-54267
 steam, thermodynamic props., data tables 4-43583
 steel, alloy, reactor shell, few cycle loading effects on radiation embrittlement 4-16505
 steel, alloy, SCC in high temp. water, effect of fluid flow 4-51850
 steel, alloy, Ultrafort 6998, HTR cast pressure vessels (German) 4-9300
 steel, austenitic Cr-Ni, radiation swelling pattern for GCR, neutron effects (Russian) 4-15547
 steel, austenitic stainless, 304, C movement by liquid Na (Spanish) 4-28150
 steel, austenitic stainless, 316, void swelling, solute Ti effects in electron irradiation 4-15535
 steel, austenitic stainless, claddings, cold worked, ion irradiation, void swelling, and dose depend. 4-39351
 steel, austenitic stainless, Co release rate in neutral water, temp. depend. 4-48658
 steel, austenitic stainless, crack distribution under creep 4-35698
 steel, austenitic stainless, failure analysis of welded helium tanks 4-23158
 steel, austenitic stainless, irradiation, cavity nucleation calcs. 4-29487
 steel, austenitic stainless, low cycle fatigue, at FBR temps., effects of strain rate and strain wave form. (Japanese) 4-3228
 steel, austenitic stainless, low cycle life in reactor irradiation, kinetic failure criteria 4-7576
 steel, austenitic stainless, neutron irradiation, fatigue crack propagation, influence of He 4-57318
 steel, austenitic stainless, nonstabilised, Ni-Cr-(Mo), low-cycle fatigue strength 4-7544
 steel, austenitic stainless, oxidation and decontamination mechanisms in LWRs 4-26114
 steel, austenitic stainless, oxide film morphology and struct. in dissociating N₂ 4-35776
 steel, austenitic stainless, pipe welds, discrimination of US indications 4-26140
 steel, austenitic stainless, shakedown tests at elevated temp. 4-46703
 steel, austenitic stainless, thermal neutron irradiation, solution annealed, microstruct. rel. to the content 4-29483
 steel, austenitic stainless, thermodynamics of formation of NaCrO₂ corrosion product 4-30851
 steel, austenitic stainless, type X6CrNi 1811, creep curve eval. technique (German) 4-12135
 steel, austenitic stainless, type X6CrNi 1811, irradiated and non-irradiated samples, fatigue suppression for LMFBR materials (German) 4-12189
 steel, austenitic stainless, weld metal, microstruct., neutron diffraction study 4-16422
 steel, austenitic stainless, X6CrNi 1811, creep resistance and time depend. of LMFBR structural elements (German) 4-12134
 steel, austenitic stainless 304, pressurised pipe under bending, J determ. by VCE method, PWR appl. 4-30823
 steel, BWR riser piping, intergranular SCC, radiographic inspection system 4-41163
 steel, C, corrosion in chemical cleaning solns., inhibition by magnetite addition 4-41051
 steel, Cr-Mo, creep cavitation in neighbourhood of stress concentrations 4-3194
 steel, Cr-Mo, irradiated and unirradiated plates and weldment, fracture toughness behavior 4-57333
 steel, defect detection trial plate, near surface defects, US inspection 4-41122
 steel, defect detection trials, NDT of test pieces 4-41121
 steel, defect detection trials, US inspection 4-41120
 steel, defect detection trials plate, simulated PWR nozzle, US time of flight technique 4-41119
 steel, defect detection trials plate, US inspection of clad inlet nozzle 4-41118
 steel, heat-resistant casing, accelerated crack development in hydrogen impregnating media 4-51895
 steel, low alloy, nuclear press. vessel, anal. of impact props. by Charpy test 4-12151
 steel, low alloy, nuclear press. vessel, fracture characts. obtained from impact tests 4-12152
 steel, Ni-Cr-Mo, short crack propagation and closure effects 4-26025
 steel, nuclear press. vessel, local criterion for cleavage fracture 4-16491
 steel, pressure vessel, AS33 B, irradiated, dynamic fracture toughness 4-57334
 steel, pressure vessel, neutron irradiation, APFIM study 4-45192
 steel, pressure vessel, yield stress and cleavage fracture stress, influence of microstruct. 4-40982
 steel, pressure vessel nozzle plate, defect electron trials, US flaw detection 4-46720
 steel, pressure vessels, thick walled, surface cracks, lifetime evaluation, ASME codes thick walled, surface cracks, lifetime evaluation, ASME codes (German) 4-7559
 steel, reactor pressure vessel, dominant mechanism of irradiation embrittlement 4-12171
 steel, reactor pressure vessel, radiation embrittlement, physically based surveillance programs 4-51819
 steel, reactor pressure vessel, reconstituting irradiation. Charpy V specimens 4-12291
 steel, reactor pressure vessel, SA533B and SA508, heat treatment microstructure rel. to structural integrity 4-16427
 steel, stainless, austenitic, low-cycle fatigue life, combined influence of reactor irradiation and holds 4-12176
 steel, stainless, boilup in high temp. UO₂, out-of-pile expts. 4-23359
 steel, stainless, Cr-Ni and Cr-Mn, radiation-stimulated transforms. in struct. 4-57230
 steel, stainless, FBR fuel pins, fuel-cladding chemical interaction due to I₂ 4-21383
 steel, stainless, notched type 304, creep-fatigue fracture, FBR appl. (Japanese) 4-26016

fission reactor materials continued

steel, stainless, piping system, SCC, crack extension anal. 4-43580
 steel, stainless, radioactive contamination inhibition in BWR, by ^{60}Co deposition 4-32996
 steel, stainless, radioactive corrosion product deposition in BWRs 4-21385
 steel, stainless, stress relaxation, unified deformation rate law for type 316, LMFBR safety 4-21261
 steel, stainless, structural, irradiation, in-pile nucleation and growth of gas bubbles on grain boundaries 4-15544
 steel, stainless, swelling, effect of previous heat treatment and mechanical working 4-12088
 steel, stainless, toughness improvement of AISI 403 by double austenitizing heat treatment 4-7592
 steel, stainless, type 304, creep cavitation in neighbourhood of stress concentrations 4-3194
 steel, stainless, type 316, annular channel, TRAN expt. B-1, fuel crust stability study 4-23367
 steel, stainless, VVER-1000 nuclear reactor weld embrittlement obs. and countermeasures 4-14067
 steel, structural, nuclear, A203D, dynamic strain ageing 4-30727
 steel, US flaw inspection, defect detection trial plate 4-26118
 steel, US inspection of defect detection trial plates 4-7660
 steel martensitic stainless, HT-9, fracture toughness, influence of specimen size and microstruct. 4-12150
 steel structure erosion by high-temp. melts 4-23416
 steels, shutdown and ratcheting below creep range 4-12132
 structural, void swelling and creep during irradiation, VS6 code calcs. 4-9281
 structural components supported on structure liable to vibrate, dynamic behaviour assessment (German) 4-9290
 structural materials, apparatus for creep testing in varying neutron flux 4-57511
 structural materials, fast neutron capture (French) 4-37775
 structural materials, integral and differential cross section data convergence 4-37704
 structural materials, neutron cross-section data, integral check 4-37770
 support columns cross-sectional buckling during HCDA 4-23161
 surface inspection techniques for reactor vessel and internal attachments 4-737
 surface properties in molten salt nuclear reactor environment (French) 4-27966
 swelling suppression by cold work 4-29470
 THTR, stressed concrete pressure vessel, pressure tests (German) 4-18671
 THTR 30, leak rate meas. on concrete press. vessel (German) 4-18768
 TM1-2 pressure boundary, thermal analys., component thermal response 4-802
 TM1-2 stainless steel leadscrew, adherent activity of deposited crud 4-18749
 tubular conduits, component catalogues prod. and format (German) 4-9304
 tubular containers, component catalogues prod. and format (German) 4-9303
 ultrasonic inspection techniques, defect sizing 4-4961
 VHTR fuel and materials development, high temp. irradiation facilities 4-43582
 water chemistry and corrosion, conf., Vienna, Austria (Nov. 1982) 4-22517
 water chemistry experience with BWRs at Olkiluoto 4-23167
 water supply pipe with impact loads, stress testing (German) 4-9289
 water technology, corrosion protection in cooling systems 4-23188
 Wuergrass Nuclear Power Plant condensation chamber recoating with anticorrosive material (German) 4-32986
 WVER-440, corrosion product behaviour, modified shutdown procedure effects 4-23174
 WVER-440 untreated and hydrazine water chemistry (Russian) 4-23189
 zeolite 13X, methyl iodide absorption, zeolites appl. to I removal from dissolver off-gas 4-52048
 Zircaloy, in-reactor iodine SCC, LWR fuel pin failure 4-16547
 Zircaloy, liquid, oxidation kinetics in steam, modelling of fission fuel cladding melting 4-30850
 Zircaloy, nodular corrosion mechanism 4-30849
 Zircaloy, sputter coated, out of reactor nodular corrosion in steam 4-30848
 Zircaloy 4 cladding, lifetime and failure strain under LOCA ramp temp. conditions 4-9268
 Zircaloy fuel can- UO_2 fuel, chemical reactions in severe reactor accident conditions (German) 4-5017
 Zircaloy fuel cladding, crack initiation during environmentally induced cracking 4-51904
 Zircaloy fuel cladding, high burnup, microstruct. and fracture examinations 4-20373
 Zircaloy fuel cladding in LWRs, halogen pellet-cladding interaction failure, thermodynamics 4-21384
 Zircaloy LWR fuel rod cladding tubes, creep anisotropy effect on ballooning 4-33000
 Zircaloy PWR fuel element cladding, azimuthal temp. variation under LOCA conditions 4-33001
 Zircaloy sheath strain during an in-reactor LOCA transient test 4-27972
 Zircaloy tubes, SCC, 350-450°C, crack pattern development 4-16546
 Zircaloy-2, release of fission recoiled ^{133}Xe 4-29700
 Zircaloy-2, stress corrosion cracking by metal iodides 4-3284
 Zircaloy-4, stress-relieved, creep at 673K 4-16441
 Zircaloy-4, stress-relieved, creep controlled by jog-drag and cell-form., apparent activation energy 4-30756
 Zircaloy-4, thermally activated deform., 298-798K 4-57286
 Zircaloy-4 fuel sheaths, failure during postulated LOCA, O_2 effect, BURST-3 program 4-9279
 Zircaloy-4 tubing, I_2 induced crack growth between 500 and 700°C, fracture mech. anal. 4-3289
 ^{40}Ag , A=107, 109, multigroup consts. calc. from evaluated data libraries for reactor calc. 4-37707
 Al, electron transport calc., two discrete ordinates methods comparison 4-37742
 Al-Mg alloy for reactor construction, radiation durability, verification (Russian) 4-18610
 Al_2O_3 , compatibility with liquid Na, mech. and thermal props. 4-30841
 $\text{Al}(\text{n},\text{n})$, 0.001-0.3 eV, total neutron cross sections, reactor appl. 4-23107
 $^{197}\text{Au}(\text{n},\gamma)$, keV neutrons, cross section and γ -spectrum for reactor fuel fission products 4-32871

fission reactor materials continued

BC control element, ^3H content study (German) 4-18662
 Be reflected minimum critical mass systems, Bragg cutoff phenomena, improved albedo 4-54227
 Cd, natural, multigroup consts. calc. from evaluated data libraries for reactor calc. 4-37707
 ^{252}Cf , spontaneous fission nucl. parameters of safeguards interest 4-32942
 Co contamination resulting from valve maintenance and seat grinding 4-14144
 Co formation in FBR and LWR and role of initial Co in structural materials 4-37586
 Co removal from high temp. water by TiO_2 4-54270
 Cr 12% steel, fuel casing, thermo-mechanical studies (German) 4-18669
 Cr containing alloys, oxide film development for PWR primary circuits 4-23192
 Cr-Mo, stress corrosion cracking in 200° and 300°C water 4-26113
 Cr_{23}C_6 coatings for use in high temp. nucl. reactors, development 4-16568
 $^{13}\text{Cs}(\text{n},\gamma)$, keV neutrons, cross section and γ -spectrum for reactor fuel fission products 4-32871
 Cu alloy condenser tubes, corrosion prevention 4-23193
 $^{64}\text{Cu}(\text{n},\gamma)$, 0.7-10.5 MeV, A=63,65, differential cross-sections, γ -spectra, reactor appl. 4-731
 Fe shields, γ -ray anal. from (n,γ) reactions 4-9602
 Fe spheres, fast neutron spectra calcs. using Vitamin-C file 4-54205
 Fe-Cr alloys, irradi. hardening 4-15543
 Fe-Ni-Cr austenitic alloys, He embrittlement, effect of pre-injection thermomech. treatment 4-16481
 Fe-Ni-Cr LMFBR cladding, microstruct. and irradiation swelling, rare earth addition effects 4-20270
 Fe-Ni-Mo-B, Metglas 2826 MB, He^+ implantation, bubble growth and blistering 4-15551
 Fe-Ni-Mo-B, Metglas 2826 MB, He^+ implantation, free-vol. relax model for bubble growth 4-15552
 $^A\text{Fe}(\text{n},\text{n})$, A=54, 56, reson. structure from high resolution total cross section meas. 4-37574
 $^{56}\text{Fe}(\text{n},\gamma)$, s-wave resonances, capture widths, fast reactor appl. 4-54135
 H depth dist. in metals by p-p scatt. 4-4963
 $\text{Hf}(\text{n},\gamma)$, thermal and fast n, gamma-ray spectra evaluation 4-23108
 ^{115}In , multigroup consts. calc. from evaluated data libraries for reactor calc. 4-37707
 $\text{Mg}(\text{n},\text{n})$, 0.001-0.3 eV, total neutron cross sections, reactor appl. 4-23107
 $\text{Mo}(\text{n},\text{n})$, 0.001-0.3 eV, total neutron cross sections, reactor appl. 4-23107
 N_2O_4 coolant, dose rate from absorbed γ -rays in active zone (Russian) 4-43575
 N_2O_4 coolant flow, NO adsorption (Russian) 4-43573
 N_2O_4 , dissociating reactor coolant, 295 to 650K thermal cond. meas. (Russian) 4-44790
 N_2O_4 - NO coolant, chemically reacting turbulent flow, heat and mass transfer (Russian) 4-43574
 N_2O_4 - NO liquid mixture, absorption spectra in near IR region (Russian) 4-14428
 Na coolant, ^{90}Sr meas. 4-33008
 Na coolant purification from radiocesium in BR-10 reactor 4-14060
 Na coolant sampling, representativeness 4-37843
 Na, liquid, C movement from type 304 steel reactor vessel (Spanish) 4-28150
 Na, liquid, H_2 pressure, Li effects on H_2 removal 4-725
 Na, solubility of O_2 , reactor coolant appl. 4-33007
 Na-K (22 wt.%-78 wt.%), O solubility determ. by vacuum distillation method 4-50526
 NaHCO₃ based dry chem. powder for extinguishing pool fires in LMFBR 4-33125
 ^ANb , A=92, 93, level density parameters, cross section calcs., decision method for reactions 4-23054
 $\text{Nb}(\text{n},\text{n})$, 0.001-0.3 eV, total neutron cross sections, reactor appl. 4-23107
 Ni, irradi., dislocation loop growth and void swelling, quantitative anal. 4-55876
 Ni-Cr-Mo, short crack propag. and closure effects 4-26025
 NiAl coatings for use in high temp. nucl. reactors, development 4-16568
 $^A\text{Ni}(\text{n},\gamma)$, A=58, 60, s-wave resonances, capture widths, fast reactor appl. 4-54135
 $\text{Si}(\text{n},\text{n})$, 0.001-0.3 eV, total neutron cross sections, reactor appl. 4-23107
 $^{181}\text{Ta}(\text{n},\text{X})$, cross sections, resonances, s-wave neutron strength function, reactor appl. 4-13970
 $^{181}\text{Ta}(\text{n},\gamma)$, keV neutrons, cross section and γ -spectrum for reactor fuel fission products 4-32871
 $^{181}\text{Ta}(\text{n},\gamma)$, thermal and fast n, gamma-ray spectra evaluation 4-23108
 Ti, deformation study using positron annihilation spectroscopy 4-55910
 $\text{Ti}(\text{n},\text{x})$, 10 keV to 1 MeV, total cross section meas. 4-48572
 U opacity determ. as tool for studying high temp. equilibria 4-17915
 ^{238}U , spontaneous fission nucl. parameters of safeguards interest 4-32942
 ^AY , A=89, 90, level density parameters, cross section calcs., decision method for reactions 4-23054
 Zr alloy, corrosion in superheated steam in power reaction 4-12261
 Zr and alloys, development history, prod. and applics., ASTM standards 4-46467
 Zr, deformation study using positron annihilation spectroscopy 4-55910
 Zr, isotopic enrichment in plasma centrifuge 4-33027
 α -Zr, single cryst., diffusion of ^{51}Cr 4-29699
 Zr-Nb, reactor irradiation effect on cyclic strength 4-54272
 Zr-Nb (2.5 wt.%), cold drawn tubes, deform. after 7 years in-reactor 4-15579
 Zr-Sn, solubility of Sn in α and β Zr below 1000°C 4-15645
 Zr-Sn-Nb-Fe, reactor irradiation effect on cyclic strength 4-54272
 ^AZr , A=92, 93, level density parameters, cross section calcs., decision method for reactions 4-23054
 $\text{Zr}(\text{n},\text{n})$, 0.001-0.3 eV, total neutron cross sections, reactor appl. 4-23107

fission reactor operation

see also fission reactor cooling and heat recovery; fission reactor core control and monitoring; fission reactor safety
 1300 MW nuclear power station control room organisation for post accident operation (French) 4-43621
 advanced simulator for real time simulation of two-phase flow transients 4-37846
 at-power neutron noise, unified model using multigroup diffusion theory 4-48613

fission reactor operation continued

- AVR HTR, ^{14}C meas. effect on fuel elements, graphite and gas loop (*German*) 4-18725
- BWR, fuel pellet cracking and relocation during rise to power 4-23157
- BWR, Kuosheng power plant startup 4-28102
- BWR, load-following operation experience and anal. 4-28101
- BWR, nonlinear behaviour and stability tests 4-28115
- BWR, statistical techniques, appl. in reload licensing 4-28107
- BWR, Susquehanna-1 startup test program 4-28105
- BWR, thermal-hydraulic-reactivity stability using ODYSY code 4-28117
- BWR behaviour anal. with RASP (BWR) code 4-32976
- BWR fuel cycle length, meeting utility needs 4-18678
- BWR operational radiation control experiences 4-33083
- BWR start-up guidance, knowledge based man-machine communication 4-32950
- CANDU, probabilistic assessment of errors—uncertainties in protection trip system 4-28169
- CANDU components, mechanical development for reliability 4-33026
- CANDU reactor system, remotely controlled maintenance activity, worker/machine integration 4-28127
- commercial operation, elementary guide 4-48624
- component failure detection, data base diagnosis method (*Japanese*) 4-32951
- conference on nuclear technology, Berlin, Germany (June 1983) 4-4154
- containment air temperature control, design and management issues 4-23279
- current status, summary of key aspects 4-48625
- delayed neutron data, compilation for reactor design and operation 4-27918
- EBR-II, search and recovery of lost fuel subassembly from reactor vessel 4-23404
- engineered maintenance concept for cost reduction and unit performance improvement 4-23281
- Farley nucl. plant, startup engineering support 4-33092
- fast reactor development and operating experience in USSR 4-37830
- FBR, breeder characteristics of German-Belgian-Dutch fast breeder 4-28113
- FBR, breeding ratio for Clinch River reactor 4-27940
- FBRs, characteristics, future development 4-48628
- FCVCLS program for fuel element replacement in core (*German*) 4-18510
- feedwater valve transfer simulations, NSSS thermohydraulic response, training appl. 4-23282
- Forschungs- und Messreaktor Braunschweig, operating experience 1982 (*German*) 4-48691
- FUACS, computerised fuel and core component records management system 4-33091
- generalised perturbation techniques sensitivity methods for reactor life and control anal. 4-18505
- heat tubes, operational possibilities in nuclear technology (*German*) 4-9355
- heavy water, UKAEA reactor technology development 4-48629
- HTGCR, rise-to-power tests, diverted cool primary coolant effects 4-23269
- LMFBR, breeding performance of Phenix reactor 4-28111
- LMFBR, impacts of data covariances on breeding ratio calcs. 4-27941
- LWBR, breeding program at Shippingport 4-28112
- LWR, characteristics and commercial design development 4-48627
- LWR, power shape monitoring system 4-28109
- LWR, transient anal. using BEAGL-01 code 4-27942
- maintenance and work activities, control at Seabrook 4-28116
- McGuire-2 nucl. station startup 4-33093
- neutron detector, spatial characteristics of response to vibration absorber 4-28110
- North Anna-1, upper internals guide tube replacement 4-33135
- nuclear plant simulators, implementation of configuration management program 4-23278
- nuclear plant startup, preplanned engineering timetable 4-33095
- nuclear plants, analytical chem. support by central laboratory 4-33081
- nuclear power, energy gain (*Dutch*) 4-33073
- nuclear power plant, computer program for power changes and load following 4-33015
- nuclear power plant emergencies, verification and validation program 4-33137
- nuclear power plants, fault tolerant control systems development 4-33086
- nuclear power plants, linear stochastic systems, malfunction isolation 4-14088
- nuclear power station, optical remote multiplexing system, gamma-ray irradiation test 4-33090
- nuclear power station PWR secondary circuit, operating experience with all volatile treatment operating regime (*German*) 4-54371
- on-site reactor transient anal. and operator training, compact simulator 4-28180
- operating data use in power plant planning and operation (*German*) 4-48696
- operating experience analysis, objectives and approach (*German*) 4-48695
- plant life extension, comprehensive approach to plant improvements 4-23280
- potential and role of computer utilisation 4-28091
- power ascension testing optimization program for St. Lucie-2 4-33094
- power plant operating experience evaluation, conf., Munich, Germany (Oct. 1983) (*German*) 4-47755
- power technology, book 4-47783
- PWR, core performance safety limit calcs. 4-28108
- PWR, fuel management flexibility in Babcock and Wilcox cores 4-18676
- PWR, perturbation theory for fuel management 4-28103
- PWR behaviour anal. with RASP (PWR) code 4-32977
- PWR core loading patterns to maximise core reactivity and minimise fuel cycle costs 4-18708
- PWR primary circuits, diagnostic of supervision and control system 4-749
- PWR protection system, limiting conditions of operation, probabilistic anal. 4-23345
- quality assurance in the operation of nuclear reactor plant 4-43632
- RBMK-1000 nuclear power plants in USSR, operational experience, fuel cycle, plant characteristics 4-37829
- reliability modeling for components and systems 4-18756
- responsive fuel management by Westinghouse 4-18679
- rod drop expts., space-time anal. of neutron flux in gas cooled reactors 4-28114

fission reactor operation continued

- Shearon Harris nucl. station simulator, core phys. models qualification 4-32957
- simulators of nuclear power stations, review 4-54343
- Skoda SR-O experimental reactor, power plant personnel training appls. 4-788
- SLOWPOKE reactors, first decade and beyond 4-48693
- startup engineering, architect/engineer's operation viewpoint 4-28106
- statistical appl. to core design and operations 4-27937
- statistical applications to Prairie Island Core Design 4-27938
- steady-state reactor control, decision anal. techniques demonstration 4-33085
- Super Phenix 1200 MW ultra fast breeder reactors in French Atomic Energy programme 4-33067
- Three Mile Island-2 progress report 4-33138
- transient safety analysis, event tree method (*Croatian*) 4-28146
- VVER nuclear power plants in USSR, construction, operation and engineering improvements 4-37828
- VVER pressure-temperature transients, TRACO V computer code 4-43560
- ^{238}U neutron capture rate meas. at fast flux test facility 4-27921
- fission reactor safety**
see also *fission reactor cooling and heat recovery: fission reactor core control and monitoring*
- 1E-qualified, normal and post-accident, containment atmosphere monitoring system 4-18746
- 1300 MW nuclear power station control room organisation for post accident operation (*French*) 4-43621
- accident risk assessment for SNR, HTR, BWR and PWR (*German*) 4-5014
- accident source terms for reactor core damage 4-33112
- acoustic leak detection system 4-23320
- acoustic leak detection system for Na-water steam generators 4-14092
- aggregates for concrete reactor shield 4-54354
- aircraft crash, resistance of nuclear reactor buildings to sliding movements (*German*) 4-5023
- American Nuclear Society conference, San Francisco, CA, USA (Oct.-Nov. 1983) 4-13477
- ANO-2, steam supply system transient tests for PWR 4-14146
- applying Pius to power generation: the Secure-P LWR 4-23333
- APWR, tight lattice design, physics and safety aspects 4-28170
- auxiliary feedwater system fault tree anal. (*Croatian*) 4-28147
- AVR HTR, safety conception with natural heat removal in accidents (*German*) 4-43640
- AVR primary circuit, water leakage effects (*German*) 4-18722
- barrier diagrams a model for reliability anal. 4-23355
- Bayesian method for failure rate distrib. estimation 4-23349
- Beloyarsk Unit 1, cooling conditions during shutdown 4-9327
- big nucl. accidents probability and consequences 4-48702
- blind and open containment standard problems leased on two model containment tests (*German*) 4-9379
- blowdowns, reactor vessel anal. using COMPARE and BEACON codes 4-23141
- BN-600 radiation environment, technological activity 4-33129
- breeder reactor, Na spray conflagrations effects study using PULSAR computer code (*German*) 4-9382
- Brown Boveri reactor steam generator, flow induced oscill. calc. (*German*) 4-9383
- BWR, control rod drop accident anal. using RAMONA-3B and BNL-TWIGL codes 4-23381
- BWR, coolant radionuclide and filter demineraliser behaviour during shutdown power transient 4-28100
- BWR, drywell failure during degraded core accidents 4-23373
- BWR, fuel pellet cracking and relocation during rise to power 4-23157
- BWR, H_2 in coolant to suppress intergranular stress corrosion cracking, supply and safety 4-33145
- BWR, iodine spiking followed by main steam isolation valve event 4-28168
- BWR, LOCA, parallel channel effects, broken jet pumps effect 4-54367
- BWR, low radiation exposure, water chemistry, radiation build-up 4-23166
- BWR, nozzle corner crack under thermal transient loading condition, J integral eval. 4-786
- BWR, on-line three dims. core simulation, plant prediction model 4-37710
- BWR, Peach Bottom turbine test trip anal. using RELAP5 code 4-23375
- BWR, primary coolant pipe whip test under LOCA 4-23335
- BWR, radiation buildup on structural materials 4-4950
- BWR, statistical techniques, appl. in reload licensing 4-28107
- BWR approach to reducing plant investment risk 4-27934
- BWR automatic plant start-up and shut-down system 4-758
- BWR crud deposition, radiation levels 4-28231
- BWR emergency conditions, event oriented method for determining operation guides 4-54362
- BWR fuel channel instability using 3-dimens. core dynamics program PARADYN 4-28129
- BWR LOCA, calc. methodology 4-28163
- BWR LOCA, ROSA III integral test run 7341 data, single failure test, ECCS 4-14155
- BWR LOCA, ROSA III test run 912, split break in inlet line to recirculation pump 4-14149
- BWR LOCA, single failure tests with ROSA-III, ECCS capability 4-777
- BWR LOCA, steam generation rate from falling film on heater rod 4-23332
- BWR LOCA in recirculation line, simulation at ROSA-III 4-9368
- BWR mechanics and materials technology update 4-788
- BWR plant, emergency operating instructions impact on severe accident sequences 4-23341
- BWR plant diagnosis system using noise anal. for core, controls and pumps 4-23266
- BWR pressure bearing envelope reequipment using leak before fracture criterion (*German*) 4-9287
- BWR pressure suppression pool, noncondensable gas effects on LOCA steam condensation loads 4-5009
- BWR safety, RVP cracks and coolant behaviour, K-FIX (3D,FLX) verification (*German*) 4-14051
- BWR small break LOCA, thermo-hydraulic transient anal., THYDE-B1/MOD1 code 4-14042
- BWR standby reactivity control using B_4C microspheres 4-23401

fission reactor safety continued

BWR steam supply system response to transient and accident conditions from DYNODE-B code 4-32963
 BWR thermal-hydraulic anal. methodology in SIMULATE-E code 4-28130
 BWR-6 Mark III, General Electric, standard plant probabilistic risk assessment 4-23391
 cable electrical properties during LOCA simulations 4-18712
 CABRI test reactor, fuel element behaviour under accident conditions (German) 4-9283
 CANDU, probabilistic assessment of errors—uncertainties in protection trip system 4-28169
 CANDU power reactor fuel performance, research and development, safety 4-27996
 Candu reactor, incident summary: the Pickering 2 pressure tube crack 4-5002
 CANDU-PHWR, LOCA 4-9248
 cavity type pressure transducers, dynamic response evaluation test 4-14105
 choked flow modeling in TRAC for PWR PORVs 4-27931
 common cause failure model 4-23353
 compartment fire modelling, COMPBRN computer code 4-18754
 complex valley meteorology, off-site dose assessment for emergency preparedness, ZPS-1 4-18806
 component failure detection, data base diagnosis method (Japanese) 4-32951
 computer-based nuclear reactor protection systems, fail-safe design criteria 4-54370
 concrete, creep and thermal shrinkage at high temp., math. model 4-27970
 concrete, multiaxial behaviour when exposed to high temps., fracture, stress-strain 4-2326
 concrete, reinforced, Meppen slab tests interpretation, aircraft impact load treatment 4-790
 concrete structures, modelling and code development, overview 4-794
 conference on nuclear technology, Berlin, Germany (June 1983) 4-4154
 conference on structural mechanics in reactor technology, Chicago, USA (Aug. 1983) 4-11
 containment H-burn anal., pressure-temp. response models 4-23139
 containment loads from severe accident interactions 4-23415
 containment parameter impact on plant risk, probabilistic risk assessment anal. 4-28158
 containment performance analysis during several accidents 4-28159
 containment under accident conditions, effects on H₂ distrib. (German) 4-5020
 containment vessel, 1/30 steel scale model, 3-D finite element anal. 4-23138
 control and instrumentation system design, IAEA and IEC recommendations 4-767
 control functions allocation to human or automatic control 4-18716
 control panel modifications, effects on dynamic response, EDASP software implementation 4-23410
 coolant post-accident anal., on-line and grab sample systems 4-18745
 coolant pressure fluctuation as failure or degrading performance monitor 4-23423
 cooldown and despressurisation capabilities after loss of off-site power 4-23273
 cooling circulation loop, scaling criteria for two-phase flow 4-54340
 cooling water fission product contamination monitor 4-929
 core concrete, enthalpy of melting, appl. to meltdown accident (German) 4-28152
 core damage assessment procedures based on post-accident chemistry and radiation sample analysis 4-18748
 core melt freq. calc. based on seismic risk anal., unified approach 4-23350
 core melt probability, Bayesian estimation for commercial power reactor 4-48701
 core melt probability, precursors in Bayesian estimation 4-54236
 correlated load processes, combined dynamic effects, load combination rules, safety 4-783
 corrosion of ferritic steels in gas cooled nuclear reactors 4-14125
 cracked piping, assessment by experimentation and tearing instability fracture mechanics anal. 4-4997
 critical heat flux of forced convection, boiling in oscillating accel. field 4-23334
 criticality safety anal., Monte Carlo code MULTI-KENO 4-18508
 criticality safety methods, use in LOFT loading and Rover neutron poison detection system calcs. 4-18506
 criticality safety technology transfer at UNC Nuclear Industries 4-18817
 current status, summary of key aspects 4-48625
 cylindrical fuel rod performance under normal and accident conditions, TRAFIC code 4-14038
 cylindrical structure vibrs. in turbulent parallel flows, asymmetric effects 4-14029
 damage evaluation for structural reliability assessment 4-785
 damaged fuel removal at TMI-2, radiation modelling before removing head 4-28232
 debris beds, dryout heat flux model 4-54337
 decision procedures for material balance sequences 4-54256
 defect detection trials, UKAEA test pieces 3 and 4 4-4959
 defects, time-of-flight ultrasonic techniques 4-4958
 dependent failure anal. in risk assessment and reliability evaluation 4-5000
 diagnostic system design, safety aspects 4-23309
 digital controller appl. 4-33104
 digital picture processing for evaluating tests on reactor safety (German) 4-9384
 direct hodoscope monitoring of flux and power-coupling at TREAT 4-23370
 Dresden-1 primary system decontamination test programs, corrosion by NS-1 solvent 4-18738
 dry fuel assembly storage arrays, potential criticality safety 4-5010
 EBR-II, search and recovery of lost fuel subassembly from reactor vessel 4-23404
 EBR-II driver fuel elements, eutectic penetration induced cladding rupture of 316 stainless steel 4-18605
 EBR-II metallic driver fuel, high ramp rate transient performance 4-18607
 Edwin I. Hatch Nuclear Plant availability improvement studies using fault tree methodologies 4-54350

fission reactor safety continued

elastic-plastic analysis, asymptotic techniques for nuclear structures 4-784
 elastic-plastic structs., buckling and ratchetting interaction under cyclic additional loading, progressive deform. 4-787
 electrical equipment, safety-related, life determ. with commercial standards 4-28165
 electronic components used in safety-related nucl. power plant, ageing survey 4-48684
 emergency exercises, problems in scenario development 4-23398
 emergency exercises, utilisation of plant simulators 4-23397
 emergency planning and preparedness for nuclear accidents, IAEA role 4-14129
 emergency planning lessons learned around Commonwealth Edison nuclear station sites 4-23399
 emergency preparedness, role and work of Institute of Nuclear Power Operations 4-23400
 emergency preparedness, US NRC's role and responsibilities 4-23393
 emergency procedure monitoring using safety parameter display system 4-18718
 emergency response capability, integration methodology 4-28162
 emergency shutdown using absorber rods for nuclear reactor protection (French) 4-33127
 engineered maintenance concept for cost reduction and unit performance improvement 4-23281
 environmental γ -radiation, continuous monitoring around Japanese nuclear power plants (Japanese) 4-18803
 equipment qualification programme development and maintenance, computer aided approach 4-23408
 failure early diagnosis research 4-23310
 fast floor response spectra generation technique for reactor equipment 4-28182
 fast reactor, fuel rod failure coolant flow breakdown accident (German) 4-9284
 fast reactor fuel subjected to simulated thermal transients, macroscopic behaviour 4-23357
 fast reactor lattice neutron leakage, Na voiding effect model, formalism 4-48617
 fast reactor lattice neutron leakage, Na voiding effect model, hexagonal lattice results 4-48618
 fast reactor physical characteristics, limiting role in hypothetical accidents 4-9366
 fast reactor safety, loss-of-heat-sink risk considerations 4-23337
 fast reactors, fire risks for building developments using NABRAND code (German) 4-9376
 fast reactors, safety potential of Na cooling (German) 4-9347
 fault tree method in qualitative reliability anal. (Croatian) 4-28144
 fault tree method in quantitative reliability anal. (Croatian) 4-28145
 FBR, buoyant plume in plenum, periodic large amplitude thermal oscillations, safety anal. 4-28178
 FBR, core disruptive accident anal. at Clinch River 4-23137
 FBR, natural circulation capability of heterogeneous core 4-23270
 FBR, radiant heat transfer through aerosol in cover-gas region 4-4984
 FBR, reactivity transient data from module drop test 4-23385
 FBR, reliability of safety system in coolant flow failure (German) 4-9375
 FBR, saturated vapour pressure availability for damage in accident conditions 4-28143
 FBR fuel pins, fuel-cladding chemical interaction due to I₂ of stainless steel 4-21383
 FBR HCDA, hot liquid pool penetration into melting miscible substrate 4-54364
 FBRs, characteristics, future development 4-48628
 feedwater valve transfer simulations, NSSS thermohydraulic response, training appl. 4-23282
 FFTF ducted assemblies, structurally based core management 4-18751
 FFTF characterisation program 4-14143
 fire loss data 4-804
 fission product retention in LWR systems under severe accident conditions 4-28155
 fission product transport in a BWR small-break LOCA 4-27932
 fission reactors, ULOF simulation using SIMMER-II code in SNR-300 4-9256
 flexible electrical conduit connections, adequacy during seismic events 4-23402
 fluid flow with nonlinear waves, moving finite element method anal. 4-33109
 fluid-fuel reactors, novel design concepts 4-48630
 free-standing welded steel reactor containment vessel, buckling, stability anal. 4-792
 French approach to nuclear power safety 4-4996
 FRET-B code, two-dimensional ballooning model appl. to out-pile and in-pile simulation expts. 4-32954
 Fry-Robinson steam explosion expt. simulation using dynamic thermic detonation model (German) 4-5021
 fuel development and safety for various reactor types, present status (Japanese) 4-18515
 fuel element bundle failure, time rate, SUPER SARA expts., SSYST, EXMEL and MELSIM anal. (German) 4-5019
 fuel element failures, fluid dynamic CALIPSO code for fast breeder (German) 4-9282
 fuel motion, internal, annular fuel design, comparative anal. 4-23160
 gamma thermometers as inadequate core cooling monitors 4-23295
 GAP-4 molten-fuel intersubassembly gap drainage expt. 4-23358
 GCR, vibrational stress/strain effects of straight and curved heat exchanger tubes (German) 4-9301
 General Electric standard plant, severe accident response analysis 4-28161
 generic safety issues for power plants, US NRC prioritisation 4-23389
 GERDA test facility for PWRs with straight tube steam generators, LOCAs (German) 4-9362
 Ginna nuclear power station, loose parts monitoring experience 4-33133
 GPRI modular modelling system, BWR module 4-27957
 hard missile impact on reinforced concrete 4-33120
 HCDA, above-core struct. support column buckling and post-buckling behaviour 4-793
 HDR, FLUX code calcs. for blowdown in pressure vessel (German) 4-9339
 health risks of energy technologies 4-7794
 heat exchange tube bank, vibr. eval. (Czech) 4-43616
 heat exchanger and steam generator vibrs., PIPEAU-2 code 4-48692

fission reactor safety continued

- HENDEL, He engineering demonstration loop for VHTR components, 1982 overview 4-9332
- HENDEL, hot gas duct, temp. distrib. HTGR appl. 4-43627
- High Radiation Sampling System for post-accident anal. 4-18744
- high reliability control system development 4-754
- homogeneous core, 33 MW(electric), SIMMER-II recritically anal. 4-5008
- hot surface rewetting during reflood after LOCA 4-23412
- HTGCR, thermohydraulics in early phases of unrestricted core heatup accidents 4-23413
- HTGCR, thermohydraulics in prestressed concrete reactor vessel during unrestricted core heatup accidents 4-23414
- HTGR, air ingress accidents, graphite/O₂ reaction kinetics, A3-3 and A3-27 materials (*German*) 4-43641
- HTGR, anal. of Xe feedback on core dynamics during transients 4-54357
- HTGR, CHAP-2 code for anticipated transients and accidents 4-37737
- HTGR, fission product deposition in laminar and slug flow, anal. models 4-28174
- HTR, deposition rates of fission products, effects of surface and chemical state (*German*) 4-9372
- HTR, fission product behaviour in fast shut down (*German*) 4-9345
- HTR, fission product behaviour in pressure loss accident (*German*) 4-9373
- HTR, gas-dynamic anal. during cooling failures (*German*) 4-9346
- HTR, hazards associated with accidental breakdown (*German*) 4-9369
- HTR, natural convection with power off, model (*German*) 4-9340
- HTR, safety aspects of gas line failure causing break-in (*German*) 4-9371
- HTR, thermo-hydraulics of spherical granule assembly, comparison with THERMIX code (*German*) 4-9341
- HTR core bottom exam. using 1:10 model, element thermal stress (*German*) 4-9388
- HTR modular concept, safety and cost effectiveness (*German*) 4-18513
- HTR module under breakdown conditions, ceramic component examination (*German*) 4-12311
- HTR-1160 PCRV top cap, behaviour under extremely high core temp. loading 4-791
- HTR-PNP-500, graphite corrosion in massive air break-in accidents (*German*) 4-9370
- Hungarian Nuclear Energy Agency safety systems and safeguards (*Hungarian*) 4-23329
- integral boiling water pressure relief experiments in nuclear reactors to verify calculations (*German*) 4-5024
- interactive nuclear plant analysis, emergency response, thermal-hydraulics 4-27959
- interactive operator guideline evaluation using RELAP5 4-27958
- international nuclear safety body establishment 4-14126
- international nuclear safety standards, development and implementation 4-14130
- inertor failures anal. in nucl. power plants 4-23343
- ion exchanger resin, thermostability study (*Czech*) 4-728
- Japanese nuclear power programme policy and developments (*German*) 4-28142
- JEN-III PWR, preliminary anal., use for safety research, radioisotope prod., modelling (*Spanish*) 4-28148
- JOYO fast reactor, natural circulation test, outlet coolant temps. (*Japanese*) 4-18733
- kinetics and thermal-hydraulics anal. 4-54361
- KNK-II LMFBR plant conditions simulation using SSC-L program (*German*) 4-14121
- Korea Nuclear Unit reactor core stability against Xe induced spatial power oscils. 4-33089
- La Crosse BWR, emergency planning since TMI 4-23394
- large pebble bed reactors, second shutdown system with Gd fluid absorber (*German*) 4-33143
- large vessel blowdown simulation with TRAC-PFI and RELAP5/MOD1 codes 4-23419
- Limerick Generating Station, importance anal. of safety systems 4-23356
- liquid-liquid film boiling of Freon-11 on liquid metal 4-27929
- LMFBL, technical feasibility, safety 4-18771
- LMFBR, accelerated coolant flow through perforated plates during HCDA 4-54327
- LMFBR, boilup transients in closed system 4-23360
- LMFBR, core degradation freq. for internal accident initiators, PWR comparison 4-9365
- LMFBR, core design considerations for unscrammed loss of flow transient 4-23271
- LMFBR, distributed control systems, local area networks 4-757
- LMFBR, effects of reactor struct. on primary containment response 4-23162
- LMFBR, FOSTER dynamic anal. program 4-23135
- LMFBR, fuel-dominated bubble rising in Na pool after HCDA 4-5003
- LMFBR, heterogeneous, Doppler coeff., sensitivity anal. 4-28171
- LMFBR, hypothetical core disruptive accident, conditions inside bubble, laser simulation 4-14135
- LMFBR, hypothetical guillotine primary pipe rupture, design anal. 4-23372
- LMFBR, hypothetical loss of flow accidents, transient-phase, theoretical anal. and modelling (*German*) 4-9381
- LMFBR, hypothetical loss-of-heat-sink accidents, assessment of accident energetics pot. 4-23339
- LMFBR, loss-of-heat-sink accident, core disruption 4-18762
- LMFBR, microcomputer based protection system 4-806
- LMFBR, NaHCO₃ based dry chem. powder for extinguishing pool fires 4-33125
- LMFBR, natural convection after Na boiling 4-37839
- LMFBR, reactor core thermohydraulic transients, heat redistribution effects 4-37698
- LMFBR, seismic anal., evaluation of fluid-modelling techniques 4-23365
- LMFBR, slow transient overpower accident, PFR/TREAT test L03 results 4-23368
- LMFBR, steam generator leak detection 4-54339
- LMFBR, thermohydraulic analysis code ORIFS-TRANSIENT 4-23136
- LMFBR, THORS-SHRS assembly, degraded shutdown heat removal tests, pretest predictions 4-23340
- LMFBR, two-dimensional numerical modeling of nonisothermal flows for unsteady thermal-hydraulic analysis 4-781
- LMFBR, type 316 stainless steel cladding, controlled biaxial strain-rate testing 4-4946

fission reactor safety continued

- LMFBR, wire-wrapped rod bundle heat transfer anal., thermal-hydraulic behaviour 4-28137
- LMFBR component failure rates derived from licensee event reports 4-33115
- LMFBR cooling defects acoustic detection, pattern recognition appl. 4-782
- LMFBR fuel bundles, Na boiling in HCDA, CAPRICORN subchannel code 4-28179
- LMFBR fuel pins failure response, W-2 SLSF expt., posttest examination obs. 4-23366
- LMFBR fuel vaporisation simulations in FAST facility 4-23364
- LMFBR shutdown heat removal for transients up to HCDA, SASSYS code 4-48700
- LMFBR steam generator tubes, dynamic stability expts. 4-28135
- LMFBR subassembly Na voiding dynamics, LIMBO-2 predictions 4-37758
- LMFBR under LOF conditions, incipient Na boiling superheats in bundle geometry 4-14132
- LMFBR with axially heterogeneous core, HCDA behaviour 4-5006
- load combination by partial safety factors 4-799
- LOCA, anal. of large-break expts. using RELAP5/MOD1 code 4-23378
- LOCA, blind predictions for HDR steam blowdown using CONTAIN code 4-23140
- LOCA, Cu barrier fuel cladding burst strength at high temp. 4-33117
- LOCA, flow regimes and carryover during reflooding 4-23380
- LOCA, fuel can distortion, emergency coolant flow direction effects, REBEKA testing (*German*) 4-5015
- LOCA, heat transfer in containment building, mechs., correlations and models 4-9363
- LOCA, operational behaviour model of BBR overflow valve (*German*) 4-9333
- LOCA, semiscale small break, thermal-hydraulic response using COBRA/TRAC code 4-23382
- LOFT intermediate-break experiments L5-1 and L8-2 4-28094
- LOFT using DRUFAN-02 program, multichannel anal. (*German*) 4-9380
- logic generator program for nucl. plant 4-33136
- loop seal expts. at Cylindrical Core Test Facility, PWR LOCA reflood 4-43629
- loop transients simulation with simplified fast-running system code 4-33119
- loop-type LMFBR, core coolability following loss-of-heat sink accidents 4-23338
- loose part impact signal, stochastic treatment 4-33132
- loose parts detection and monitoring system 4-23321
- loss of fluid large break tests using TRAC-PD2/MOD1 code 4-23383
- loss-of-coolant simulation with NOTRUMP 4-23420
- low-temperature reactors for space heating 4-54351
- LWR, ⁶⁰Co buildup from component corrosion into coolant 4-4949
- LWR, characterisation of pressure vessel environment 4-14142
- LWR, characteristics and commercial design development 4-48627
- LWR, chemical decontamination of coolant, CEBG developments, international status 4-18736
- LWR, dryout heat flux in inductively heated bed 4-54330
- LWR, dryout in particulate bed 4-54334
- LWR, fuel rod debris from severe transient tests, cooling 4-54338
- LWR, fuel-cladding mechanical interaction of fuel designs 4-4947
- LWR, heat removal from heat generating debris bed 4-54331
- LWR, horizontal pipe thermal-transient induced flow stratification persistence 4-28175
- LWR, model crud deposition on boiling Zircaloy surfaces at high temp. 4-9322
- LWR, molten fuel-coolant interactions 4-54356
- LWR, neutron flux monitoring equipment 4-4991
- LWR, pipe rupture accident, two-phase jet impingement on wall 4-23272
- LWR, quench front propag. during bottom reflood for fuel temp. determ. 4-23366
- LWR, thermal explosions 4-9597
- LWR, water cooled power reactors, emergency cooling effectiveness 4-14097
- LWR, water penetration into hot particle bed 4-54332
- LWR accident conditions, I₂ volatility 4-28156
- LWR containment, airborne radioactivity, sources and solutions 4-33141
- LWR fuel relocation and pellet-cladding interaction, FUMAC model 4-54239
- LWR heat transfer during core melt (*German*) 4-9335
- LWR LOCA, turbulent condensation on cold wall in noncondensable gas, containment 4-54360
- LWR LOCA anal., coolant boiling accompanying pressure vessel depressurisation 4-37844
- LWR low oxidation metal ion reagents for decontamination technology 4-803
- LWR operational transient anal., RETRAN-02 code results 4-37754
- LWR plants, safety-related coating work 4-37836
- LWR pressure contaminants safety assessment, corrosion fatigue aspects 4-18674
- LWR pressure vessel crack propagation and arrest under thermal shock conditions 4-3253
- LWR pressure vessel materials, neutron irradiation prediction of brittle-ductile transition temp. shift 4-730
- LWR pressure vessel surveillance dosimetry, uncertainty anal. 4-43669
- LWR primary loop pipeline contaminated layer investigation using high-resolution Ge-gamma ray detector (*German*) 4-37827
- LWR severe accidents, fission product vapour transport 4-54368
- LWR transient thermohydraulic anal., RELAP5 code results 4-37755
- LWR transient two-phase flow, THERMIT program verification (*German*) 4-14050
- Markov Monte Carlo reliability analysis 4-18758
- Markov unreliability models, Monte Carlo simulation 4-33121
- measurement needs following accident 4-18742
- mechanical failure concepts using elasto-plastic finite element anal. for reactor components (*German*) 4-9286
- mechanical snubbers from TMI-2 coolant system, examination 4-805
- metallic loose parts location in press. vessels using pattern recognition technique 4-33134
- meteorological aspects of the choice of sites for nuclear power plants 4-33128
- mixing of molten core material and water in LWR meltdown accident 4-54352
- modular modelling system code development for safety anal. 4-27960

fission reactor safety continued

molten core penetration into concrete foundations, computer simulations (*German*) 4-5022
 molten fuel-coolant interaction modelling with Sn-water thermal interaction 4-48697
 molten reactor core/concrete interaction, concrete ablation and decomposition, transient model 4-9364
 MOX fuel, EPR-II irradiated, high burnup, fuel-cladding chemical interaction 4-54260
 multicompartment containment pressure transients, CONTEMP-4, CONTEMP-LT and COMPARE fully implicit algorithm 4-18753
 multigroup neutron cross section, deep penetration integral expts., error matrices adjustment 4-37705
 multinode reactor stability and optimal estimates of domains of attraction 4-54229
 multiregional reactor kinetics, operational anal., transients 4-701
 MULTIVOL, an extension of BIVOL blowdown code 4-9253
 natural-circulation cooldown simulation 4-23291
 neutron and gamma transport Monte Carlo code MORSE-CG 4-37738
 neutron capture gamma ray spectra for shielding and γ -heating 4-23108
 neutron measurement core monitoring and protection-900 and 1300 MW power stations (*French*) 4-33074
 neutronics and multiphase fluid dynamic code, SIMMER-II 4-37724
 noise diagnostics, integration into control and safety system 4-23307
 nondestructive evaluation, validation of procedures and techniques 4-4960
 North Anna-1, upper internals guide tube replacement 4-33135
 nuclear data requests, Japanese list 4-43565
 nuclear energetics, conf., Vienna, Austria (Sept. 1982) (*Hungarian*) 4-22508
 nuclear fuel cycle safety (*Spanish*) 4-43602
 nuclear materials regulations, safety, engineer/constructor company perspective 4-18604
 nuclear plant, loose parts and loose parts monitoring systems, regulatory viewpoint 4-33139
 nuclear plant closure, value impact assessment, risks and costs 4-27936
 nuclear plant startup, preplanned engineering timetable 4-33095
 nuclear power energy policy, cost control, safety, management 4-57693
 nuclear power plant emergencies, verification and validation program 4-33137
 nuclear power plant risk assessment, common cause failure, statistical depend., uncertainty calc. 4-33124
 nuclear power plant steam generator tube vibr. induced by jet flows from baffle plates 4-43628
 nuclear power plants, factorial design for anal. of system interactions 4-23354
 nuclear power plants, internal flood hazard model 4-23352
 nuclear power plants, linear stochastic systems, malfunction isolation 4-14088
 nuclear power plants, methodology for evaluation of fire protection system 4-28153
 nuclear power plants, trends in chem. anal. procedures 4-33131
 nuclear power plants, USSR, radiation-safety of personnel and the public 4-37858
 nuclear power station, optical remote multiplexing system, gamma-ray irradiation test 4-33090
 nuclear power station licensing procedures in Spain (*Spanish*) 4-43700
 nuclear power station man-machine interfacing and safe operation (*Hungarian*) 4-23328
 nuclear power station safety improvements and precautions (*Hungarian*) 4-23327
 nuclear reactor technology, safety and radioactivity containment (*Dutch*) 4-23330
 nuclear reactors, post-accident heat removal from particulated fuel debris 4-54369
 nuclear safety systems, allowed outage times evaluation, optimisation approach 4-23348
 numerical integration protection system, rating procedure 4-810
 occupational radiation exposure at nuclear power plants in Japan and the United States 4-33178
 occupational radiation exposure reduction in nuclear power plants, cost effectiveness of ALARA principle 4-33177
 off-site emergency preparedness training 4-23395
 off-site hazardous materials, risk methodology for nuclear power plants 4-18377
 on-site reactor transient anal. and operator training, compact simulator 4-28180
 operator decision aid design using reactor control modelling 4-18719
 operator decision aids, design and evaluation 4-18715
 operator support systems, error tolerance design 4-18717
 optimizing heterogeneous shielding compositions by a sequential simplex method 4-54243
 oxide nuclear-fuels, fission gas release, flow modelling 4-9265
 partial meltdown conditions, fuel behaviour, PAUKER simulation program (*German*) 4-5018
 partially uncovered core, cooling conditions calcs. using RELAP and MELSIM (*German*) 4-5016
 partially uncovered core under natural circulation, rod. temp., coolant quality 4-37838
 particulate debris, 1-D model of heat removal 4-54336
 pattern recognition method for nuclear reactor core surveillance (*French*) 4-23315
 PBF in pile LOCA expts., post test fuel behaviour, FRETA-B code anal. 4-14073
 Peach Bottom Power Station, hydraulic snubber failures 4-23405
 periodic inspections of German nuclear power plants (*German*) 4-48705
 personnel reliability, MAPPS a maintenance model 4-14141
 perturbations, in-core and ex-core, detector kinetic sensitivities calc. 4-33147
 pH, post-LOCA, of containment spray and sump water in Korea nuclear units 4-33118
 PHWRs with continuous refuelling, ^{60}Co generation, general empirical model 4-54358
 pipe rupture tests for primary coolant circuits in BWR LOCA conditions 4-14151
 pipe shock wave calcs. using control variables method 4-37757
 pipe whipping behaviour estimation, outer surface max. strain, critical overhang length (*Japanese*) 4-14134
 piping system under LOCA conditions, BLOWDOWN code for blowdown force anal. 4-9367
 piping system under LOCA conditions, blowdown force anal. using BLOWDOWN code 4-27927

fission reactor safety continued

planetary ellipsoid bubble model for fission product scrubbing 4-28157
 pool-type fast reactor containment strength, HCDA 3D aspects, SEURB-NUK code calcs. 4-789
 post-accident core damage assessment using radionuclide analysis 4-18747
 post-accident reactor coolant chemical anal. methods 4-18743
 post-accident sampling and measurement experience at TMI-2 4-18741
 postaccident heat removal, downward heat transfer from heat-generating boiling pools 4-23362
 potential and role of computer utilisation 4-28091
 potential severe core damage accident precursors, NUREG/CR-2497 4-33116
 power ascension testing optimization program for St. Lucie-2 4-33094
 power limiting controls and safety, ISKAMATIC control system (*German*) 4-18727
 power plant, ventilation and fire protection systems, combined anal. (*Spanish*) 4-28149
 power plant control, role optimisation of man and computer 4-18720
 power plant operating experience evaluation, conf., Munich, Germany (Oct. 1983) (*German*) 4-47755
 power plant performance in strong-motion earthquakes 4-5011
 power plant regulation, probabilistic risk assessments and safety goals 4-800
 power plant safety concepts in the Federal Republic of Germany 4-33113
 power plants, operational safety improvement, IAEA efforts 4-14127
 power plants, reliability and availability (*German*) 4-48703
 power technology, book 4-47783
 PRA, human reliability anal. 4-14137
 PRA, modeling methods in reliability anal. 4-14140
 PRA, review of human reliability anal. 4-14139
 PRA, reviewing human interactions 4-14138
 PRA potential for evaluation and regulation of nuclear safety 4-27935
 pressure vessel, flaw detection, acoustic holographic imaging system 4-41164
 pressure vessel, rupture probability evaluation (*French*) 4-54275
 pressure vessel flue reduction by selective fuel assembly replacement 4-28167
 pressure vessel wall embrittlement from pressurised thermal shock, reduction by fuel management 4-18740
 pressure vessels, structural integrity assessment procedure 4-28181
 pressure vessels strength tests, microcomputer based data system appl. 4-14078
 pressure wave propagation in tube duct systems: theory and experiment (*German*) 4-14160
 pressurised melt ejection, aerosol generation 4-23417
 pressurised thermal shock anal., mass weighted skew upwind appl., finite difference technique 4-27928
 pressurised thermal shock calcs. using TRAC-PFI code 4-23143
 prestressed concrete, use in US nuclear power plants, problems and inspection, overview 4-733
 primary system component failure diagnosis, conf., Prague, Czechoslovakia (June 1982) 4-22523
 probabilistic risk anal., Bayesian methods 4-33149
 probabilistic risk anal. of plant technical specifications 4-18761
 probabilistic risk assessment, architect-engineers use in power plants 4-23392
 probabilistic risk assessment, modelling uncertainty 4-4998
 probabilistic risk assessment, quality, peer review, consensus achievement 4-33114
 probabilistic risk assessment, statistical uncertainty anal. methods 4-32983
 probabilistic risk assessment in the design of instrumentation and control systems 4-706
 probabilistic risk assessments, in-plant and ex-plant consequence anal. 4-33151
 probabilistic risk assessments, summary and interpretation 4-33140
 protection system failure probability, measure of uncertainty importance 4-23351
 protection system for French 1300 MW(e) power stations (*French*) 4-809
 protective containment for atomic power station with WWER reactors (*Czech*) 4-18735
 protective systems, unavailability under periodic test 4-780
 public protection strategies for accident management 4-23396
 Pulse Coded Logic automatic shut-down system 4-807
 pumps with increased reliability for nuclear after-cooling and safety feeding systems (*German*) 4-9352
 PWR, air exhaust minimisation, simulation model (*German*) 4-18769
 PWR, automatic steel section inspection, ultrasonic TOF technique 4-4956
 PWR, boundary-layer effect on press. variations in expansion waves 4-33122
 PWR, Brown Boveri type, thermohydraulic conditions at overflow valves, expts. (*German*) 4-14158
 PWR, Brown-Boveri type, EC water mixing procedures in infeed line and ring space region (*German*) 4-14157
 PWR, cold leg break blowdown tests, thermal-hydraulic phenomena 4-23377
 PWR, core performance safety limit calcs. 4-28108
 PWR, corrosion products as source of radiation field buildup 4-23191
 PWR, degraded core accidents, effects of pressure vessel and core geometry 4-23386
 PWR, emergency cooling system layout for small leakage (*German*) 4-9377
 PWR, flow film boiling heat transfer regime in reflood phase of LOCA 4-5004
 PWR, FLUX computer code, core deformation in LOCA (*German*) 4-9338
 PWR, fuel and struct. monitoring using neutron noise 4-23312
 PWR, fuel bundle protection against baffle jetting 4-23406
 PWR, high-pressure safety injection system availability 4-23344
 PWR, local and global core and plant parameter, simulation of transient behaviour 4-54353
 PWR, loss-of-feedwater, anticipated transient without scram anal. 4-23276
 PWR, material integrity, acoustic emission technique appl. 4-23318
 PWR, mixed high press. injection water and primary loop water, transit time in cold legs 4-54365
 PWR, multidimensional simulation of highly stratified pipe flow, 90° elbow, COMMIX-1A code 4-23275

fission reactor safety continued

PWR, natural circulation after LOCA using FLECHT-SEASET code 4-23384

PWR, natural convection scaling following a severe accident 4-28177

PWR, phase velocities distrib. by two-fluid model, expt. and calc. comparison (*German*) 4-14159

PWR, pipe whipping in LOCA conditions, overhang length effects (*Japanese*) 4-37840

PWR, pressure vessel thermal shock, severity causes and freqs. in USA 1963-81 4-796

PWR, protection system, automatic testing equipment 4-769

PWR, radial power distrib. monitoring using thermocouples (*French*) 4-764

PWR, reactor vessel pressurised thermal shock, decision making quantitative methodology 4-798

PWR, sensor fault anal., decision theory and data-driven modeling 4-54328

PWR, steam explosions, Monte Carlo anal. 4-23347

PWR, steam-generator heat flux behaviour, natural circulation cooling modes 4-23274

PWR, thermal-hydraulic predictions of streamline break using TRAC-PF1 code 4-23142

PWR, ultrasonic defect detect., elastic scatt. theory 4-4957

PWR, ultrasonic techniques 4-4955

PWR's in-core instrumentation (*French*) 4-33075

PWR accidents (*Dutch*) 4-33126

PWR and ROSA-IV LSTF, loss of feedwater transient calcs. with RELAP5/MOD1 4-18766

PWR and ROSA-IV LSTF, single PORV failure calcs. with RELAP5/MOD1 4-23422

PWR auxiliary feedwater system, design anal., value impact methodology appl. 4-54363

PWR BBR overflow devices, rapid flooding tests in LOCA (*German*) 4-9334

PWR calculations, FISPIN code, version 5 validation, Sizewell B appl. 4-14041

PWR containment spray, heat removal tests 4-5007

PWR control rod periodic vibrs., neutron noise diagnostics 4-14089

PWR control rod vibration diagnostics by neutron noise 4-23311

PWR core barrel motion, neutron noise detection 4-23313

PWR dropped control rod events, nuclear methodology for core behaviour prediction 4-18755

PWR emergency core cooling, feed and bleed mode 4-28092

PWR fuel bundles, radiative heat transfer under accident conditions 4-5005

PWR instrument air system, reliability study 4-23342

PWR irradiation calc. method for neutron exposure parameters 4-18497

PWR large dry-containments, risk reduction by filtered venting 4-33123

PWR LOCA, 4-inch pipe chip tests, pipe rupture results 4-14148

PWR LOCA, blowdown characteristics, thrust forces 4-14106

PWR LOCA, CCTF reflood test, overall system thermohydraulics, base case test 4-14152

PWR LOCA, CCTF reflood tests, baffle plate and instrumented spool piece effects 4-43635

PWR LOCA, CCTF reflood tests, containment pressure effects on cooling and systems 4-43634

PWR LOCA, CCTF reflood tests, downcomer wall initial superheat effects, core cooling 4-43633

PWR LOCA, CCTF reflood tests, ECC water injection rate effects 4-14156

PWR LOCA, CCTF reflood tests, FLECHT coupling tests-FLECHT SET tests comparison 4-18764

PWR LOCA, CCTF reflood tests, safety anal. evaluation model assessment 4-14154

PWR LOCA, CCTF reflood tests, thermally multidimens. effects on thermohydraulics 4-14153

PWR LOCA, core reflood, droplet generation and droplet size determ. 4-28173

PWR LOCA, direct contact condensation anal. of flowing steam onto injected water 4-48699

PWR LOCA, H₂ distrib. in containment, expt. results (*German*) 4-54348

PWR LOCA, heat transfer, droplet flow in core top at reflood phase 4-14107

PWR LOCA, initial clad temp. effects on reflood phenomena, CCTF tests 4-14131

PWR LOCA, reflooding, core inlet water subcooling effects, SCTF tests 4-43639

PWR LOCA, reflooding, REFLA-1D thermohydraulics model assessment with CCTF data 4-43637

PWR LOCA, reflooding with forced feed, upper plenum water accumulation, SCTF tests 4-43638

PWR LOCA, SCTF Core-1 forced flooding test, system pressure effects on reflooding 4-37845

PWR LOCA, simulated reflood phase, upper plenum flow behaviour 4-14133

PWR LOCA, TRAC-PDII reflood thermo-hydraulic model assessment by CCTF test 4-14147

PWR LOCA reflood, core thermohydraulic behaviour, radial power profile effects 4-23331

PWR LOCA reflood anal., REFLA-1DS code from coupling REFLA-1D and multiloop system model 4-43566

PWR LOCA reflood phase, upper core quench, pressure and flow effects 4-779

PWR LOCA simulation, HDR blowdown expt. anal. using coupled fluid-structural dynamic method 4-27926

PWR LOCA simulation, hydraulic/structural prediction 4-23421

PWR LOCA with combined ECC injection, TRAC-PF1 best estimate anal. 4-28176

PWR loss of flow transient, space-time kinetic anal. 4-33148

PWR manufacturing faults and fuel element costs (*Hungarian*) 4-23152

PWR out-of-core radiation control, Co deposition in primary coolant systems 4-33144

PWR pressure vessel, fracture assessment for LOCA 4-797

PWR pressure vessel, fracture mechanics from thermal shock expts. 4-3252

PWR pressure vessel damage fluence reduction by low-leakage fuel management 4-28166

PWR primary circuit leaks, saturation detector using resistance thermometer (*German*) 4-9359

PWR primary coolant leak perturbations, PKL studies, advanced meas. techniques (*German*) 4-14161

fission reactor safety continued

PWR primary loop cold leg with circumferential crack, dynamic elastic-plastic behaviour anal. 4-28183

PWR primary tubular conduits, safety optimisation for KKW Mulheim-Karlich (*German*) 4-9385

PWR protection system, limiting conditions of operation, probabilistic anal. 4-23345

PWR radiation control, effects of cold shutdown, Co releases 4-14145

PWR saturation temp., direct meas. detectors (*German*) 4-9360

PWR secondary circuit break, armature testing under operational and breakdown conditions, GAP method (*German*) 4-9389

PWR steam generator, γ -exposure rate distrib., maintenance personnel dose appl. 4-928

PWR steam generators tube ruptures, operating experience (*German*) 4-48704

PWR steam supply system response to transient and accident conditions from DYNODE-P code 4-32962

PWR water level meas., NRC requirements, techniques 4-23292

PWR water level meas. using fast neutron detectors 4-23298

PWR-LOCA, 4-inch pipe whip tests anal., pipe constraints dynamic response (*Japanese*) 4-18734

PWR-LOCA, reflood phase, simulated heater rods heat transfer calc. program 4-778

quality assurance in the operation of nuclear reactor plant 4-43632

radiation safety, dose limits, emissions, γ -doses for USSR power plants 4-37857

radiation transport analysis computer codes 4-37721

radiative contribution to heat transfer in liquid uranium 4-54333

radioactive corrosion products transport in high temp. water, dissolved Co interaction with heated surface 4-14136

radioactive waste disposal, long-term safety determ. 4-4938

reactor building dynamic anal. using simplified finite element mesh 4-776

reactor pressure vessel wall neutron flux, reduction option benefits on vessel integrity 4-801

reactor vessel irradiation reduction by fuel management 4-18739

reactor vessel level instrumentation for PWRs, installation and startup 4-23297

reactor vessel level meas. with heated junction thermocouple probe 4-23294

reactor vessel liquid level monitoring with self-powered neutron detectors 4-23296

REDNET failure detection and recovery in distributed systems 4-811

refill/reflood expts. at Cylindrical Core Test Facility 4-54344

reflood, initial core temp. effect in cylindrical Core Test Facility 4-18721

reflood, quench behaviour of superheated core debris 4-23387

reflood anal. after LOCA using KREWET code 4-23379

RELAY 4/2 STD verification by LOFT 6-1 expt., transient thermohydraulic anal. (*German*) 4-54349

reliability, bibliography of literature 4-36845

reliability analysis and its role in risk management 4-31079

reliability modeling for components and systems 4-18756

reliability of slow after cooling after losses of coolant (*German*) 4-9378

rem-dose levels in reactor pipelines (*German*) 4-18767

risk assessment, role in US NRC safety programmes 4-23388

risk assessment in nuclear safety 4-48698

risk concept, limitations and applicability in nuclear reactor safety assessments (*German*) 4-5013

risk importance measures, appl. to reactor safety 4-23390

ROSA IV LSTF and ref. PWR, loss-of-load transient calcs. with RELAP5/MOD1 4-43636

ROSA IV two-phase Flow Test Facility (TPTF), system description, LWR SB-LOCA appl. 4-14150

RPV internal wall neutron flux meas. using pneumatic sampling device (*German*) 4-9353

safety goal compatibility, probabilistic risk anal., core melt criteria 4-18760

safety system unavailability, test and repair strategy effects 4-4999

safety technology and public acceptance (*German*) 4-9361

safety-related equipment, environmental qualification 4-5001

safety-related equipment, qualification maintenance programme for power plants 4-23409

safety-related equipment, spare parts requirements determ. 4-28098

safety-related equipment qualification by in situ testing 4-28096

safety-related equipment qualification maintenance, US NRC future plans 4-23411

safety-related equipment qualification maintenance programme development 4-23407

safety/relief valves discharge piping thermal-hydraulic load reduction 4-27933

scaling criteria for modeling natural and forced-convection loops 4-23283

sealed nuclear material containers, weld verification with ultrasonic fingerprints 4-9280

seismic probability distrib. of reactor site, experts' opinions 4-18759

sensitivity theory of reactor performance parameters, book contrib. 4-48636

sensor fault anal. using decision theory and data-driven modelling, LOFT reactor appl. 4-28164

short-lived fission product release during shutdown and start-up transients 4-33142

SIMQUAKE-II explosive test for nuclear power plant earthquake analysis 4-33146

skew upwind differencing scheme, stability problems, fluid dynamics computing appl. 4-18752

Slab Core Test Facility, reflood test programme, design, PWR LOCA appl. 4-18765

SLOWPOKE reactors, first decade and beyond 4-48693

SLOWPOKE-3*, large signal dynamic simulation 4-32959

SLPACK editing and result plotting program for transient anal. 4-14043

small break LOCA and slow transient anal., TRAC-PF1 results 4-37753

small reactors, safety props., design specification and cost reduction (*German*) 4-9258

SNR, LOCA, bubble behaviour and aerosol release (*German*) 4-9374

SNR 300, behaviour of heterogeneous and homogeneous cores with coolant failure (*German*) 4-9348

SNR-300 off-site accident consequence, risk anal. 4-54366

SNR-300 vessel components, mechanical behaviour from HCDA 4-54335

spare parts management, technical and quality documentation 4-28097

spent fuel, disposal as SYNROC-F wasteform 4-4937

sphere pile reactor for heat supply (*German*) 4-21537

fission reactor safety continued

- splayed-dowel anchor for safety demanding constructions (German) 4-18511
- statistical applications to Prairie Island Core Design 4-27938
- steam condensation effect on fission particle scrubbing 4-28160
- steam generator sleeving, personnel radiation exposure minimisation 4-28230
- steam generator tube rupture, primary system depressurisation 4-23376
- steam generator tube vibrations due to turbulent jets from baffle plates 4-9330
- steel, austenitic stainless 304, pressurised pipe under bending, J determ. by VCE method, PWR appl. 4-30823
- steel, stainless, boilup in high temp. UO_2 , out-of-pile expts. 4-23359
- steel, stainless, radioactive contamination inhibition in BWR, by ^{60}Co deposition 4-32996
- steel, stainless, stress relaxation, unified deformation rate law for type 316, LMFBR safety 4-21261
- steel structure erosion by high-temp. melts 4-23416
- structural components supported on structure liable to vibrate, dynamic behaviour assessment (German) 4-9290
- superheated debris bed quench model for severe accident containment 4-23418
- Superphenix AU2 emergency shut-down system, logic system (French) 4-808
- support columns cross-sectional buckling during HCDA 4-23161
- temperature pulsations in the heat-transmitting wall of a steam generator model with heated sodium 4-33130
- test fuel power coupling, time depend. during TREAT irradiation expts. 4-54355
- thermal reactor safety research, international cooperation 4-14128
- Three Mile Island reactor data analysis based on ambient air temp. sensor meas. 4-18730
- Three Mile Island-2 progress report 4-33138
- THTR, stressed concrete pressure vessel, pressure tests. (German) 4-18671
- THTR 30, leak rate meas. on concrete press. vessel (German) 4-18768
- THTR-300, anal. of reactivity from control rod failure (German) 4-9342
- THTR-300, availability of emergency coding system in after-heat failure (German) 4-9344
- THTR-300, legal approval under federal atomic safety legislation (German) 4-9257
- THTR-300, long term failure of afterheat removal in emergency procedures (German) 4-9343
- time dependent unavailability analysis 4-33150
- time of day subsystem for distributed control and instrumentation system 4-756
- time-dependent accident sequences including human actions 4-54359
- TMI LOCA effect on cables and connector compounds 4-18713
- TMI type accidents including human actions, probabilistic anal. 4-23346
- TMI-2, core debris samplers 4-28172
- TMI-2 pressure boundary, thermal anal., component thermal response 4-802
- TMI-2 stainless steel leadscrew, adherent activity of deposited crud 4-18749
- top blowdown vessel expt., RELAP5/MOD1 code anal. 4-23147
- TRAC-PFI feed-and-bleed calculations for TMI-1 4-28093
- TRAN expt. B-1 on annular channel, fuel crust stability study 4-23367
- transient forced convective heat transfer anal. by boundary layer approx. 4-33099
- transient safety analysis, event tree method (Croatian) 4-28146
- transit time correlations for PWR overcooling transients 4-27930
- TREAT upgrade reactor, reactivity insertion accidents anal. 4-23371
- tube arrays in crossflow, stability, math. model and tests 4-795
- tubular conduit systems under earthquake and aircraft crash conditions, expt. research (German) 4-9386
- tubular conduit-vessel-concrete base system, safety and vibr., aircraft crash simulation (German) 4-9387
- turbine trip test of ANO-2 plant, RELAP6/MOD1 code simulation 4-23374
- two-phase critical flow through slits for LWR LOCA anal. 4-23284
- two-phase flow in inverted U-bend, flow behaviour and phase distrib. 4-38878
- ultrasonic inspection techniques, defect sizing 4-4961
- ultrasonic pipe weld inspection, remotely controlled system for nuclear power plant piping 4-51942
- ultrasonic water level and temp. sensor for BWR and PWR 4-23293
- uncertainty propagation through large fault trees, method comparison 4-18757
- unprotected LMFBR loss-of-flow accident, lead subassembly simulation, in-pile TREAT test L04 4-23369
- USSR power plants, safety standards, siting, dose limits 4-37842
- vapour press. and composition in equil. at high temp. 4-15627
- Vermont Yankee stability tests during Cycle 8 4-28122
- vertical channels, countercurrent flow conditions. using TRAC-BD1 4-28131
- VVER, axial power dist., DNBR (Slovak) 4-33070
- VVER nuclear power plants in USSR, construction, operation and engineering improvements 4-37828
- VVER pressure-temperature transients, TRACO V computer code 4-43560
- VVER vibration monitoring theoretical analysis of some typical deviations 4-23317
- VVER-1000 nuclear reactor weld embrittlement obs. and countermeasures 4-14067
- water-steam-air, transient two-phase two-component flow 4-15020
- Westinghouse Advanced PWR, public safety enhancement, LOCAs, steam generator tube rupture 4-23403
- Windscale AGR, particle deposition in coolant circuit, safety appl. 4-18763
- WVER-440, in-service diagnostic system, vibro-acoustic method 4-23308
- WVER-440 fuel assembly, vibration and boiling diagnosis using neutron noise 4-23314
- WVER-440 primary circuit dynamic behaviour simulation 4-43630
- zero reactor, device for shutdown (Czech) 4-18705
- Zion 1 PWR, severe loss of feedwater transient anal. 4-28154
- Zircaloy 4 cladding, lifetime and failure strain under LOCA ramp temp. conditions 4-9268
- Zircaloy fuel cladding in LWRs, halogen pellet-cladding interaction failure, thermodynamics 4-21384
- Zircaloy LWR fuel rod cladding tubes, creep anisotropy effect on ballooning 4-33000

fission reactor safety continued

- Zircaloy PWR fuel element cladding, azimuthal temp. variation under LOCA conditions 4-33001
- Zircaloy sheath strain during an in-reactor LOCA transient test 4-27972
- Zircaloy-4 cladding, oxidised, failure-bearing capability in LWR LOCA 4-37765
- Zircaloy-4 fuel sheathings, failure model for LOCA, steam or inert atm., 900-1600K 4-54248
- Zircaloy-4 fuel sheaths, failure during postulated LOCA, O_2 effect, BURST-3 program 4-9279
- Zircaloy-4 tubing, I_2 induced crack growth between 500 and 700°C, fracture mech. anal. 4-3289
- ^{90}Na cooled fuel elements, transient coolant conditions, BACCHUS-3D program (German) 4-14052
- ^{14}C , formation, behaviour, emission from LWR power plant (German) 4-37841
- Co contamination resulting from valve maintenance and seat grinding 4-14144
- Fe shields, γ -ray anal. from (n, γ) reactions 4-9602
- ^{131}I removal under reactor accident conditions using active charcoal (German) 4-7912
- N_2O_4 coolant, dose rate from absorbed γ -rays in active zone (Russian) 4-43575
- Na coolant sampling, representativeness 4-37843
- Na, liquid, C movement from type 304 steel reactor vessel (Spanish) 4-28150
- Na-concrete reaction, Na fire effect on concrete failure (German) 4-5012
- Sn molten, in water, thermal interaction, reactor accident molten fuel-coolant simulation 4-37837
- UO_2 fission-heated molten pool expt. DC1 4-23361
- UO_2 fuel-Zircaloy fuel can, chemical reactions in severe reactor accident conditions (German) 4-5017
- UO_2 irradiated CANDU fuel, leaching of $^{134,137}Cs$ and ^{129}I , safety and fuel disposal appls. 4-9274
- UO_2 /magnetite concrete interaction and penetration following reactor accidents 4-23363
- UO_2 -stainless steel fuel fabrication for fast reactor safety test 4-18750
- UO_2 -Zircaloy 4 chemical reaction, wetting behaviour, annealing times 4-54264
- ^{238}U (n,X), 24 keV-1 MeV, neutron total cross section meas. 4-37568
- Zr-Nb press. tubes during LOCA, high temp. transverse creep model verification tests 4-54276

fission reactor theory and design

- see also fission reactors; fission research reactors; neutron transport theory
- 1000MW fast reactor design, heat exchangers and pumps 4-23144
- actinides, one-group consts., in fast reactor test model 4-14034
- advanced BWR plants, nuclear and thermohydraulic calcs., conversion rates (German) 4-14046
- advanced PWR, design influences of neutron physical props., fuel utilisation (German) 4-14045
- albedo characteristics of homogeneous and heterogeneous zones, transmission probability method (Russian) 4-14025
- analytical multiregion multigroup P_N transport solutions 4-18501
- aperiodic behaviour from period-doubling pitchfork bifurcations 4-54235
- approximate fission source matrices, calc. uncertainties, comment and reply 4-48621
- APWR, tight lattice design, physics and safety aspects 4-28170
- AVR, pebble bed HTR, weakly enriched fuel charge simulation (German) 4-14112
- AVR II nuclear process heat installation concept (German) 4-18514
- AVR-II HTR, primary circuit design with attention to maintenance, repair and decommissioning (German) 4-9260
- bare and reflected slabs and spheres, critical problems, high order P_N calcs. 4-54231
- blowdowns, reactor vessel anal. using COMPARE and BEACON codes 4-23141
- BN-600 reactor, physical characteristics 4-54242
- breeder reactor, Na spray conflagrations effects study using PULSAR computer code (German) 4-9382
- Brown Boveri reactor steam generator, flow induced oscill. calc. (German) 4-9383
- BWR, control rod drop accident anal. using RAMONA-3B and BNL-TWIGL codes 4-23381
- BWR, drywell failure during degraded core accidents 4-23373
- BWR, extended burnup fuel bundle design 4-54257
- BWR, fuel management, core monitoring POWERPLEX system 4-37835
- BWR, nonlinear behaviour and stability tests 4-28115
- BWR, nozzle corner crack under thermal transient loading condition, J integral eval. 4-786
- BWR, on-line three dims. core simulation, plant prediction model 4-37710
- BWR, partial convergence of sources in void iteration 4-54237
- BWR, Peach Bottom turbine test trip anal. using RELAP5 code 4-23375
- BWR, spectral mismatch and discontinuity in single group diffusion theory 4-27922
- BWR, statistical techniques, appl. in reload licensing 4-28107
- BWR, thermal-hydraulic-reactivity stability using ODYSY code 4-28117
- BWR approach to reducing plant investment risk 4-27934
- BWR benchmark problems, coarse mesh finite element method 4-37763
- BWR coolant density wave oscillations, nodal anal. 4-697
- BWR core, Power Shape Monitoring System performance prediction 4-37713
- BWR core modeling validation, TVA 4-27946
- BWR fuel cycle length, meeting utility needs 4-18678
- BWR fuel rods, minimal distance for boiling power, stat. anal. (German) 4-14123
- BWR high burnup fuel rod conceptual design using annular low density UO_2 pellets 4-54263
- BWR incore neutron noise, one-group heterogeneous theories, adequacy 4-43559
- BWR inherent coolant boiling noise, freq. composition anal. 4-28086
- BWR LOCA, calc. methodology 4-28163
- BWR management simulator TARMs, core physics simulation 4-37712
- BWR mechanics and materials technology update 4-788
- BWR simulator, ON-LINE PRESTO, basic 4-37711
- BWR turbulent fluid model for suppression pool temp. determ. 4-23300
- BWR water chemistry, computer simulation 4-23179
- CANDU, probabilistic assessment of errors-uncertainties in protection trip system 4-28169

fission reactor theory and design continued

CANDU-PHWR, LOCA 4-9248
 CASUP, cell calc. code for fast reactor anal. 4-37697
 CELL-2 code, predictor-corrector depletion capability 4-27943
 CHF prediction for low quality fluids and intermediate flows 4-28138
 choked flow modeling in TRAC for PWR PORVs 4-27931
 commercial operation, elementary guide 4-48624
 compensator chains calc. for two skins of different rigidity and one separation tube 4-12312
 complex grid with clusters, neutron field, single group P_3 approx. calc. 4-37690
 component catalogued tubular conduits, component production rationalisation (German) 4-9305
 computational advances, conf., Salt Lake City, UT, USA, (March 1983) 4-36786
 Computational Benchmark Problem Committee, present activities and new problem areas 4-37723
 computer codes, selection and benchmarking for research reactor core conversion 4-54238
 concrete, creep and thermal shrinkage at high temp., math. model 4-27970
 conf., Tokyo, Japan (Oct. 1981) 4-14
 conference on nuclear technology, Berlin, Germany (June 1983) 4-4154
 conference on structural mechanics in reactor technology, Chicago, USA (Aug. 1983) 4-11
 constant power reactor, neutron gas energy distrib. function 4-23133
 construction and assembly in Czechoslovakia (Czech) 4-32953
 containment air temperature control, design and management issues 4-23279
 containment H-burn anal., pressure-temp. response models 4-23139
 containment parameter impact on plant risk, probabilistic risk assessment anal. 4-28158
 containment performance analysis during several accidents 4-28159
 containment vessel, 1/30 steel scale model, 3-D finite element anal. 4-23138
 containment vessel, construction and assembly for Paks plant (Czech) 4-32952
 control and instrumentation system design, IAEA and IEC recommendations 4-767
 control functions allocation to human or automatic control 4-18716
 control rod movement simulation, 3-D computer code 4-54347
 cooldown and depressurisation capabilities after loss of off-site power 4-23273
 core analysis by nodal expansion method, Combustion Engineering Inc. experience, codes 4-37762
 core calcs. in periodic lattices, neutron flux 4-54207
 core melt freq. calc. based on seismic risk anal., unified approach 4-23350
 core melt probability, Bayesian estimation for commercial power reactor 4-48701
 core melt probability, precursors in Bayesian estimation 4-54236
 core model verification 4-27949
 core power tilt in Oconee-1 plant under asymmetric loop thermal-hydraulic conditions 4-28120
 core structure deformation, dynamic response of pulse-loaded ring immersed in acoustic medium 4-5815
 core with asymmetric fuel element distrib., temperature fields, heat transfer (Russian) 4-14101
 correlated load processes, combined dynamic effects, load combination rules, safety 4-783
 coupled-particle transport anal., energy conservation and local energy deposition 4-14022
 covariance matrices in nuclear data evaluation of neutron-induced reactions 4-37548
 criticality, shielding and heat transfer anal., using SCALE code 4-37732
 criticality of low-moderation U_2O_8 , benchmark calcs. 4-18688
 criticality safety methods, use in LOFT loading and Rover neutron poison detection system calcs. 4-18506
 criticality safety technology transfer at UNC Nuclear Industries 4-18817
 cross section structure influence on unfolded neutron spectra 4-37706
 current status, summary of key aspects 4-48625
 cylinders with holes and normally intersecting cylinders, stress distrib., finite element soln. 4-28979
 cylindrical geometry with reentrant coolant flow, steady state heat transfer, integral eqn. 4-28132
 cylindrical reactor cell, neutron flux spatial distrib., P_N approx., Lee series use (Russian) 4-14099
 cylindrical structure vibrs. in turbulent parallel flows, asymmetric effects 4-14029
 damage evaluation for structural reliability assessment 4-785
 data bank design 4-37709
 decay data library, γ -ray spectrum, ENSDF data appl. 4-14040
 delayed neutron data, compilation for reactor design and operation 4-27918
 diagnostic system design, safety aspects 4-23309
 diagnostic systems, parameter selection at design stage 4-23325
 discrete ordinates transport codes, time absorption eigenvalue calcs. 4-37746
 dissociating coolant, nonstationary channel processes, chemical reaction onset, modelling (Russian) 4-43563
 Doppler broadening conservation laws for cross-section curve, comments and replies 4-48622
 dynamic neutronic anal. finite element space-time reactor kinetics eqns. soln. codes comparison 4-32979
 dynamic problems, Galerkin finite element method appl., multigroup diffusion eqns. 4-37699
 elastic-plastic analysis, asymptotic techniques for nuclear structures 4-784
 elastic-plastic structs., buckling and ratchetting interaction under cyclic additional loading, progressive deform. 4-787
 electron energy deposition module, DEPOS code 4-37728
 electron transport theory, time-depend., anal. benchmark solns. from Boltzmann eqn. 4-37743
 electron-photon showers, 200 MeV to 1 GeV, energy deposition, Monte Carlo code 4-37739
 electron/photon transport, computational methods 4-32985
 emergency response capability, integration methodology 4-28162
 EPRI ARMP code system validation for PWRs 4-27951
 fast floor response spectra generation technique for reactor equipment 4-28182
 fast hybrid thermionic blankets with actinide waste fuel 4-54397
 fast neutron data meas. facility in Brazil 4-37961

fission reactor theory and design continued

fast nodal neutron diffusion method for cartesian geometry, SEXI, LWR appl. 4-696
 fast power reactors with high breeding factor, development paths in USSR 4-37696
 fast reactor, integral expt. information, book contrib. 4-48633
 fast reactor analysis, group constant generation method 4-18509
 fast reactor dosimetry, neutron spectrum estimation code (Japanese) 4-23132
 fast reactor fuel management scheme using REBUS-3 code 4-37726
 fast reactor fuel pin power to melt values 4-54274
 fast reactor group constant set JFS-3-J2 4-14039
 fast reactor lattice neutron leakage, Na voiding effect model, formalism 4-48617
 fast reactor lattice neutron leakage, Na voiding effect model, hexagonal lattice results 4-48618
 fast reactor physical characteristics, limiting role in hypothetical accidents 4-9366
 fast reactors, comparative neutron physics calcs. 4-9252
 fast reactors, fire risks for building developments using NABRAND code (German) 4-9376
 fast reactors, heat flow across fuel-cladding interfaces, acoustic mismatch theory 4-746
 fast reactors, power distrib. and control rod worth, calculational model based on influence function method 4-14087
 fault tree method in quantitative reliability anal. (Croatian) 4-28145
 FBR, breeding ratio for Clinch River reactor 4-27940
 FBR, core disruptive accident anal. at Clinch River 4-23137
 FBR, future prospects as power stations 4-27939
 FBR, natural circulation capability of heterogeneous core 4-23270
 FBR, saturated vapour pressure availability for damage in accident conditions 4-28143
 FBR HCDA, hot liquid pool penetration into melting miscible substrate 4-54364
 FBR multiphase flow thermal-hydraulic anal., averaging procedures for multiphase conservation eqns. 4-28133
 FBR structural materials, neutron cross section adjustments (French) 4-37772
 FBR-APWR symbiotic strategy 4-5048
 FBRs, characteristics, future development 4-48628
 FCYCLS program for fuel element replacement in core (German) 4-18510
 feedback effects on boiling-induced neutron noise 4-698
 FFTF zero power tests, ENDF/B-V anal. impact 4-28123
 finite element code FINERC, finite element synthesis model evaluation 4-9244
 first wall erosion during a plasma disruption in Tokamak 4-14221
 first-order perturbation formula in transport theory and diffusion approx. 4-14030
 fissile sample worths in the uranium/iron benchmark 4-27956
 fission product neutron capture cross sections and spectra, reactor appl. 4-32871
 fission product retention in LWR systems under severe accident conditions 4-28155
 fission product transport in a BWR small-break LOCA 4-27932
 fission reactors, ULOF simulation using SIMMER-II code in SNR-300 4-9256
 fluid and fluid-structure systems, freq. calc., displacement-based finite elements study 4-29112
 fluid flow with nonlinear waves, moving finite element method anal. 4-33109
 fluid-fuel reactors, novel design concepts 4-48630
 four bundle reactor core, time-depend. neutron diffusion eqn., collocation method appl. 4-37701
 FRETA-B code, two-dimensional ballooning model appl. to out-pile and in-pile simulation expts. 4-32954
 Fry-Robinson steam explosion expt. simulation using dynamic thermic detonation model (German) 4-5021
 fuel, accumulation of Kr, Br and Br compounds for small working times, calc. method (Russian) 4-14069
 fuel element failures, fluid dynamic CALIPSO code for fast breeder (German) 4-9282
 fuel element materials, design and fabrication, performance requirements, book contrib. 4-43578
 fuel management flexibility, fuel cycle design and planning 4-18677
 fuel motion, internal, annular fuel design, comparative anal. 4-23160
 fuel rod bowing, viability of margin to departure from nucleate boiling 4-27981
 fuel rods with heated shroud computer program for simulation (German) 4-9292
 fully developed axial turbulent flow in rod bundles, finite element model 4-15031
 gas-cooled reactors, review of technology 4-48626
 gas-graphite cylindrical cells, diffusion coeff. calcs. 4-37751
 gaseous core reactor using UF_6/CF_4 fuel mixture, core physics 4-9250
 GCFR, three-dimens. neutron diffusion, hexagonal element scheme in finite element anal. 4-37688
 General Electric standard plant, severe accident response analysis 4-28161
 generalised perturbation techniques sensitivity methods for reactor life and control anal. 4-18505
 generalized perturbation formula versus classic perturbation formula 4-54228
 generalized probabilistic rejection test for multivariable sensitivity analysis 4-43555
 geometric parameter of regular polygonal prisms 4-32956
 global reactor core calc., finite element response matrix method 4-14032
 GPMI modular modelling system, BWR module 4-27957
 hard missile impact on reinforced concrete 4-33120
 HDR, fluid struct. coupled and uncoupled calcs. using PISCES codes (German) 4-9336
 HDR, FLUX code calcs. for blowdown in pressure vessel (German) 4-9339
 heat exchange tube bank, vibr. eval. (Czech) 4-43616
 heat transfer, transient of reactor solids with surface convection and radiation, boundary element anal. 4-23134
 heating calculations for in-core fuel rigs in DIDO and PLUTO 4-9254
 heavy water, thermalisation, weighted dynamics method for neutronics 4-54222
 heavy water, UKAEA reactor technology development 4-48629

fission reactor theory and design continued

heterogeneous nucl. reactors, homogenisation method, finite difference eqns. development 4-14028
 high converter PHWR, fuel cycle calcs. 4-9307
 high-burnup isotopics benchmarking of the ARMP system 4-27984
 HTGR, CHAP-2 code for anticipated transients and accidents 4-37737
 HTGR, control rod worth meas., space-time anal., neutron detector signals 4-48686
 HTGR, fission product deposition in laminar and slug flow, anal. models 4-28174
 HTGR hot gas duct system, pressure fluctuations, turbulence length parameter eqn. (German) 4-14120
 HTR, fission product behaviour in fast shut down (German) 4-9345
 HTR, gas-dynamic anal. during cooling failures (German) 4-9346
 HTR, natural convection with power off, model (German) 4-9340
 HTR, thermo-hydraulics of spherical granule assembly, comparison with THERMIX code (German) 4-9341
 HTR core bottom exam. using 1:10 model, element thermal stress (German) 4-9388
 HTR low enrichment grids, Pu working cross sections, calc. and meas. (German) 4-14077
 HTR modular concept, safety and cost effectiveness (German) 4-18513
 HTR-1160 PCRV top cap, behaviour under extremely high core temp. loading 4-791
 hTR-500 installation concept (German) 4-18512
 HTR-PNP-500, graphite corrosion in massive air break-in accidents (German) 4-9370
 HWR lattice cell parameters, LATREP code calc. 4-32958
 inhomogeneous transport eqns., boundary perturbation theory 4-693
 initial value problems, piecewise continuous discretisation techniques for neutron kinetics and transport 4-37691
 inlet flow and driven cavity problems, partial diff. eqn. soln., nodal integral approach 4-37756
 interactive nuclear kinetics and nonlinear dynamics 4-27924
 interactive simulation in engineering courses using DARE P and VAX 4-14036
 interchannel exchange in reactor fuel rods with dissociating coolant (Russian) 4-43624
 interface effects in multiregion reactors, effective cross section spatial depend. 4-43556
 internal interface perturbations in neutron transport theory 4-48615
 irreversible pressure drops in single phase flows through sharp-edged, perforated structures, PWR, FBR appls. (German) 4-14115
 JEN-III PWR, preliminary anal., use for safety research, radioisotope prod., modelling (Spanish) 4-28148
 k_{eff} bias in critical assembly calcs. 4-27953
 k -effective determ., multigroup Monte Carlo method using KENO V.a 4-37731
 KANUPP reactivity control and heat transport systems, limited scale digital simulation 4-43561
 kinetic equations for slowly varying reactivity, soln. asymptotic expansion 4-14033
 KKP-1 BWR, 2-cycle, CCC design, control rod variation reduction during loading (German) 4-14109
 layered media, electron transport computation by invariant imbedding 4-37740
 linear diffusion with reversible trapping and eroding boundary, finite element anal. 4-9245
 liquid-liquid film boiling of Freon-11 on liquid metal 4-27929
 LMFBR, axially heterogeneous core, control rod worth, nuclear characteristics 4-28124
 LMFBR, core degradation freq. for internal accident initiators, PWR comparison 4-9365
 LMFBR, core design considerations for unscrammed loss of flow transient 4-23271
 LMFBR, effects of reactor struct. on primary containment response 4-23162
 LMFBR, FOSTER dynamic anal. program 4-23135
 LMFBR, heterogeneous, Doppler coeff., sensitivity anal. 4-28171
 LMFBR, heterogeneous core, 3-dimens. calcs. in hexagonal geometry, nodal method 4-37764
 LMFBR, hypothetical guillotine primary pipe rupture, design anal. 4-23372
 LMFBR, hypothetical loss of flow accidents, transient-phase, theoretical anal. and modelling (German) 4-9381
 LMFBR, impacts of data covariances on breeding ratio calcs. 4-27941
 LMFBR, intra-assembly flow redistrib. computational approach 4-28134
 LMFBR, lumped fission product neutron cross sections from ENDF/B-V 4-703
 LMFBR, neutron noise transmission characteristics 4-54226
 LMFBR, reactor core thermohydraulic transients, heat redistribution effects 4-37698
 LMFBR, seismic anal., evaluation of fluid-modelling techniques 4-23365
 LMFBR, thermohydraulic analysis code ORIFS-TRANSIENT 4-23136
 LMFBR, two-dimensional numerical modeling of nonisothermal flows for unsteady thermal-hydraulic analysis 4-781
 LMFBR, wire-wrapped rod bundle heat transfer anal., thermal-hydraulic behaviour 4-28137
 LMFBR coolant channel flow distribution planning 4-23264
 LMFBR core, design and heterogeneity, economic implications 4-27954
 LMFBR core calcs., improved weighting procedures for energy group condensation (German) 4-14049
 LMFBR core performance parameters, errors due to nuclear data uncertainties, comment and reply 4-48687
 LMFBR design and critical assembly anal., calculational methodology and associated uncertainties, book contrib. 4-48632
 LMFBR spatial homogenization for plate-type critical assemblies 4-27955
 LMFBR with axially heterogeneous core, HCDA behaviour 4-5006
 load combination by partial safety factors 4-799
 LOCA, anal. of large-break expts. using RELAPS/MOD1 code 4-23378
 LOCA, blind predictions for HDR steam blowdown using CONTAIN code 4-23140
 LOCA, operational behaviour model of BBR overflow valve (German) 4-9333
 LOCA, semiscale small break, thermal-hydraulic response using COBRA/TRAC code 4-23382
 local heat transfer in tube bundle stagnant zones in heat-stress heat exchangers (Russian) 4-43625
 local nonlinear vibration effect on neutron field space-time behaviour 4-43554

fission reactor theory and design continued

local pin powers from nodal coarse-mesh solns. by normalisation, flux-lupe, and superposition 4-33107
 LOFT intermediate-break experiments L5-1 and L8-2 4-28094
 LOFT reactor appl. 4-28164
 LOFT using DRUFAN-02 program, multichannel anal. (German) 4-9380
 loss of fluid large break tests using TRAC-PD2/MOD1 code 4-23383
 low absorber cross-section meas. using FEMPZD neutron transport code 4-27920
 low power reactor operating equations, formulation, application 4-14037
 low-temperature reactors for space heating 4-54351
 LRA-BWR benchmark problem, power distrib., modified Borrensen's coarse mesh soln. 4-9249
 LWR, characteristics and commercial design development 4-48627
 LWR, Exxon designs for economic requirements 4-18529
 LWR, few-group cross section and reaction rates calc., perturbation model 4-14031
 LWR, pipe rupture accident, two-phase jet impingement on wall 4-23272
 LWR, power shape monitoring system 4-28109
 LWR, transient anal. using BEAGL-01 code 4-27942
 LWR, two-phase flow model for system codes 4-54234
 LWR core simulations, one-group diffusion eqns. soln., analytic technique 4-14027
 LWR fuel pin powers from nodal results 4-33106
 LWR heat transfer during core melt (German) 4-9335
 LWR pool reactor, X-Y geometry benchmark problem, 2D transport methods comparison 4-37748
 LWR primary loop pipeline contaminated layer investigation using high-resolution Ge-gamma ray detector (German) 4-37827
 LWR-APWR symbiotic strategy 4-5049
 Markov Monte Carlo reliability analysis 4-18758
 Markov unreliability models, Monte Carlo simulation 4-33121
 mechanical structures for nucl. reactors, vibr. behaviour, expt. modal anal. (German) 4-9259
 mixing of molten core material and water in LWR meltdown accident 4-54352
 modified scattering matrices to improve transport calculations with approximate fission-source matrices 4-37702
 modular HTGR for industrial energy, design and economic eval. 4-23146
 molten salt reactor using liquid lead 4-4989
 Monte Carlo criticality safety calcs. for identical arrays of fissile materials 4-18684
 Monte Carlo eigenvalue calcs., bias determ. 4-18504
 Monte Carlo small-sample perturbation calculations 4-37716
 multigroup const. calc. from evaluated data libraries for reactor calc. 4-37707
 multigroup diffusion eqn., multigroup method soln. 4-32945
 multigroup diffusion from extrapolated use of Gordon's projector, LWR and fast reactor appl. 4-32946
 multigroup neutron cross section, deep penetration integral expts., error matrices adjustment 4-37705
 multigroup thermal neutron flux, transmission probability method determ. (Russian) 4-43562
 multinode reactor stability and optimal estimates of domains of attraction 4-54229
 multiple regression equation for calculated k_{eff} bias errors by criticality code system 4-54241
 multiplying systems, critical dimens., approx. soln. to transport eqn. with linear anisotropic scatt. 4-32944
 multiregional reactor kinetics, operational anal., transients 4-701
 national energy software centre program and software collection 4-37722
 Navier-Stokes eqns. numerical soln., mathematical foundations, TEACH/TURF code 4-37752
 NEA Data Bank 4-38022
 neutron, multigroup diffusion theory using DIF3D code 4-37734
 neutron activation and transmutation cross sections of nuclides in FBR primary cooling cct. 4-36823
 neutron and gamma transport Monte Carlo code MORSE-CG 4-37738
 neutron and photon transport theory in steady state 3-D geometry using VIM code 4-37733
 neutron characteristics meas. at Kozlodui Nuclear Power Plant (Russian) 4-32947
 neutron cross sections in allowed resonance region, calculation algorithms (Russian) 4-13977
 neutron cross-section calcs., appl. of nuclear models for reactor fission products 4-37510
 neutron diffusion, finite element method, review 4-37760
 neutron diffusion, flux in 2-D, DOT 4 code 4-37725
 neutron diffusion, streaming ray method, finite element formulation 4-37693
 neutron diffusion eqns., fission spectra, D3D and D3E codes 4-37729
 neutron distribution stabilisation and control system, theory 4-37832
 neutron flux synthesis calcs. for fast reactors 4-48609
 neutron group diffusion eqns., cubic Hermite interpolant orthogonal collocation 4-37700
 neutron kinetics problems, shape factors, recalc. criterion 4-54219
 neutron multigroup steady state diffusion eqn., hexagonal geometries using DIF3D(NODAL) code 4-37735
 neutron nuclear data for science and technology, conf., Antwerp, Belgium (Sept. 1982) 4-36785
 neutron static diffusion eqns., nodal schemes and finite element method relationship 4-37761
 neutron transport, discrete ordinates flux dip in 1D spherical geometry, anal. and elimination 4-37750
 neutron transport, nodal method and moments characteristic method, relationships and errors 4-37747
 neutron transport, optimal multistage sequential Monte Carlo method 4-54224
 neutron transport eqn., collocation method 4-37692
 neutron transport eqn., discrete ordinates 1-D plane geometry, finite difference approx. 4-54208
 neutron transport theory, ONEDANT code, 1-D 4-37727
 neutron wave distribution and expansion coeffs. using multi-group diffusion theory, multi-region system 4-54221
 neutron-flux fluctuation excited by strong absorber 4-9246
 neutron-photon flux codes using XSDOSE code 4-37736
 neutronics and multiphase fluid dynamic code, SIMMER-II 4-37724
 neutrons, number of collisions to slow down, Dancoff's soln. 4-48616
 nodal reactor analysis, recent developments, review 4-37759
 nodal reactor analysis methods, review 4-54223

fission reactor theory and design continued

- non-Markovian stochastic point-reactor kinetic eqns. 4-27925
- nonorthogonal meshes for neutronics, diamond differencelike spatial difference scheme 4-18500
- nonplanar geometries, F_N method for neutron transport 4-18502
- nuclear data requests, Japanese list 4-43565
- nuclear database NEA, description 4-37708
- nuclear fuel rods transient heat transfer, TRANS program results and analytical solutions (Italian) 4-33080
- nuclear plant closure, value impact assessment, risks and costs 4-27936
- nuclear power plant, computer program for power changes and load following 4-33015
- nuclear power plant, cooling agent flow dynamics for WWER-440 type reactor (Polish) 4-9247
- nuclear power plant risk assessment, common cause failure, statistical depend., uncertainty calc. 4-33124
- nuclear power plants, factorial design for anal. of system interactions 4-23354
- nuclear power plants, linear stochastic systems, malfunction isolation 4-14088
- nuclear safety systems, allowed outage times evaluation, optimisation approach 4-23348
- numerical integration protection system, rating procedure 4-810
- numerical transport problems, rapidly convergent iterative methods 4-18499
- operator decision aid design using reactor control modelling 4-18719
- operator support systems, error tolerance design 4-18717
- optimal energy distribution calcs. 4-32955
- optimizing heterogeneous shielding compositions by a sequential simplex method 4-54243
- oxide nuclear-fuels, fission gas release, flow modelling 4-9265
- PBF in pile LOCA expts., post test fuel behaviour, FRET-B code anal. 4-14073
- performance parameters of reactor design model, combination of differential and integral, book contrib. 4-48635
- perturbations, in-core and ex-core, detector kinetic sensitivities calc. 4-33147
- phase space finite element neutron transport solns. 4-37749
- photon flux spectra through cylindrical ducts in shielding 4-48747
- photon transport, Klein-Nishina probability density function, nonuniform sampling rejection 4-54233
- PHWRs with continuous refuelling, ^{60}Co generation, general empirical model 4-54358
- pipe line, dynamic loading calc. using Fourier transform (German) 4-9291
- pipe shock wave calcs. using control variables method 4-37757
- piping system under LOCA conditions, blowdown force anal. using BLOWDOWN code 4-27927
- planetary ellipsoid bubble model for fission product scrubbing 4-28157
- pool type research reactor using multireflectors, critical mass calc. 4-37695
- postaccident heat removal, downward heat transfer from heat-generating boiling pools 4-23362
- power plant performance in strong-motion earthquakes 4-5011
- power plant safety concepts in the Federal Republic of Germany 4-33113
- power profile studies, diffusion theory model 4-27923
- power technology, book 4-47783
- PRA potential for evaluation and regulation of nuclear safety 4-27935
- pressure vessels, structural integrity assessment procedure 4-28181
- pressure wave propagation in tube duct systems: theory and experiment (German) 4-14160
- pressurised thermal shock anal., mass weighted skew upwind appl., finite difference technique 4-27928
- pressurised thermal shock calcs. using TRAC-PF1 code 4-23143
- probabilistic risk anal., Bayesian methods 4-33149
- probabilistic risk anal. of plant technical specifications 4-18761
- probabilistic risk assessment, architect-engineers use in power plants 4-23392
- probabilistic risk assessment, statistical uncertainty anal. methods 4-32983
- probabilistic risk assessment for plant design to reduce investment risk 4-31080
- probabilistic risk assessment in the design of instrumentation and control systems 4-706
- probabilistic risk assessments, in-plant and ex-plant consequence anal. 4-33151
- public risk modelling for LMFBRs, event free synthesis 4-33189
- PWR, 1300 MW series, convoy type tubework, standardisation using component catalogue (German) 4-9302
- PWR, air exhaust minimisation, simulation model (German) 4-18769
- PWR, boundary-layer effect on press. variations in expansion waves 4-33122
- PWR, Brown Boveri type, thermohydraulic features, statistical methods appl. (German) 4-14122
- PWR, cold leg break blowdown tests, thermal-hydraulic phenomena 4-23377
- PWR, computation accuracy and efficiency of polynomial nodal diffusion method 4-48608
- PWR, core performance safety limit calcs. 4-28108
- PWR, corrosion product formation and transport models (French) 4-23178
- PWR, degraded core accidents, effects of pressure vessel and core geometry 4-23386
- PWR, flux and dose rate level prediction from 1-dimens. representation (Chinese) 4-54225
- PWR, FLUX computer code, core deformation in LOCA (German) 4-9338
- PWR, fuel management flexibility in Babcock and Wilcox cores 4-18676
- PWR, local and global core and plant parameter, simulation of transient behaviour 4-54353
- PWR, loss-of-feedwater, anticipated transient without scram anal. 4-23276
- PWR, low-leakage core management optimisation and anal. 4-54240
- PWR, multidimensional simulation of highly stratified pipe flow, 90° elbow, COMMIX-1A code 4-23275
- PWR, natural circulation after LOCA using FLECHT-SEASET code 4-23384
- PWR, optimal poison management problem, iterative soln. 4-9325
- PWR, perturbation theory for fuel management 4-28103

fission reactor theory and design continued

- PWR, phase velocities distrib. by two-fluid model, expt. and calc. comparison (German) 4-14159
- PWR, single phase pressure drop in T-junction, meas. and calcs. (German) 4-14114
- PWR, steam explosions, Monte Carlo anal. 4-23347
- PWR, steam-generator heat flux behaviour, natural circulation cooling modes 4-23274
- PWR, thermal-hydraulic predictions of streamline break using TRAC-PF1 code 4-23142
- PWR auxiliary feedwater system, design anal., value impact methodology appl. 4-54363
- PWR BBR overflow devices, rapid flooding tests in LOCA (German) 4-9334
- PWR coolant flow in annulus, inlet, upper plenum and piping (German) 4-54325
- PWR core loading patterns to maximise core reactivity and minimise fuel cycle costs 4-18708
- PWR cores containing Gd, modeling and validation 4-27948
- PWR emergency core cooling, feed and bleed mode 4-28092
- PWR fuel, nuclear props., methods and data validation 4-27950
- PWR fuel depletion trajectories optimisation TMI-1 calcs. 4-33105
- PWR fuel management options with extended burnup 4-43569
- PWR irradiation calc. method for neutron exposure parameters 4-18497
- PWR large dry-containments, risk reduction by filtered venting 4-33123
- PWR LOCA, CCTF reflood tests, safety anal. evaluation model assessment 4-14154
- PWR LOCA, direct contact condensation anal. of flowing steam onto injected water 4-48699
- PWR LOCA simulation, HDR blowdown expt. anal. using coupled fluid-structural dynamic method 4-27926
- PWR loss of flow transient, space-time kinetic anal. 4-33148
- PWR neutron flux during control rod insertion, kinetics eqns., numerical anal. 4-9248
- PWR on U/Pu cycle, conversion rate and fuel rod grid packing density (German) 4-14047
- PWR poisoning by ^{135}Xe , calc. method and alignment chart (Russian) 4-14068
- PWR power plant simulation on a microcomputer 4-14035
- PWR primary loop cold leg with circumferential crack, dynamic elastic-plastic behaviour anal. 4-28183
- PWR radial blanket design for neutron leakage reduction 4-18709
- PWR steady state core models, TVA verification 4-27947
- PWR transient fuel performance code TRAFIC 4-48637
- PWR with subcritical core values, fuel cycle sequence changes, anal. (German) 4-14048
- PWRs, 3-D analysis of thermal and fluid mixing in cold leg and downcomer 4-37834
- radiation transport analysis computer codes 4-37721
- radionuclide inventories in extended burnup LWR fuels 4-27971
- rank random variables for decision making under uncertainties 4-32984
- RBMK-1000 reactors, energy distrib. optimisation, iterative algorithm for control rods 4-37831
- RBMK-1500 reactor, critical heat flux calc. for rod bundles with local turbulators 4-37833
- reactor criticality Monte Carlo as a paradigm for the quantum many-body problem 4-37714
- reactor kinetic-thermal systems, coupled space-depend. systems 4-4932
- reactor kinetic-thermohydraulic system, multivariable stochastic models 4-4931
- reactor time constant at criticality 4-700
- reactor vessel irradiation reduction by fuel management 4-18739
- real symmetric eigensystems and symm. indefinite linear systems, numerical soln. 4-32982
- REDNET failure detection and recovery in distributed systems 4-811
- reflood, quench behaviour of superheated core debris 4-23387
- reflood anal. after LOCA using KREWET code 4-23379
- reliability analysis and its role in risk management 4-31079
- replacement of a nuclear power plant's process computer 4-28095
- residual power calc. using CEA library of radioactive data and PEPIN code (French) 4-36814
- resonance parameters, sensitivity coeffs. of self-shielded cross-sections 4-27917
- rod drop expts., space-time anal. of neutron flux in gas cooled reactors 4-28114
- rod fuel element with eccentric fuel distrib., temp. profile calcs. (Russian) 4-43564
- rotating fluidised bed reactor, point designs and design characts. 4-23145
- roundoff error problems in diffusion calculations 4-699
- safety/relief valves discharge piping thermal-hydraulic load reduction 4-27933
- scaling criteria for modeling natural- and forced-convection loops 4-23283
- scattering anisotropy and neutron leakage in reactor lattices 4-48619
- seismic analysis of structures with Coulomb friction 4-705
- self shielding factors, theoretical and meas. values comparison for ^{239}Pu , ^{235}U , Fe and Na 4-37703
- semi-imperial Navier-Stokes difference eqns., iterative solns. 4-32980
- sensitivity and uncertainty anal. of reactor performance parameters, book 4-47804
- sensitivity functions for uncertainty anal. of reactor performance parameters, book contrib. 4-48634
- sensitivity theory of reactor performance parameters, book contrib. 4-48636
- Shearon Harris nucl. station simulator, core phys. models qualification 4-32957
- shell-and-tube heat exchangers, 2-dimens. isothermal flow computation, nuclear plant appls. 4-28140
- SIMQUAKE-II explosive test for nuclear power plant earthquake analysis 4-33146
- Simulant Boiling Flow Visualisation loop, boiling phenomena comparison and assessment with LOOP-W code 4-23268
- single steam bubble oscillating in water, natural freq. and damping const. 4-33068
- slab geometry, electron transport calcs. using Chandrasekhar's method 4-37741
- SLOWPOKE reactors, first decade and beyond 4-48693
- SLOWPOKE-3*, large signal dynamic simulation 4-32959
- small reactors, safety props., design specification and cost reduction (German) 4-9258

fission reactor theory and design continued

- space, energy and anisotropy effects on diffusion coefficients in the resonance region 4-43557
- space-time neutron flux perturbation by spatial harmonics 4-54220
- spatial convergence properties of some characteristic methods for the S_N equations in x, y geometry 4-37719
- spherical harmonics method utilising polynomials which are ang. and spatially depend. 4-48620
- spayed-dowel anchor for safety demanding constructions (German) 4-18511
- stability region for prompt power variation of coupled-core system 4-54232
- statistical appl. to core design and operations 4-27937
- statistical applications to Prairie Island Core Design 4-27938
- steam generator tube rupture, primary system depressurisation 4-23376
- steam generator with chemically reacting coolant, heat transfer mechanism (Russian) 4-14100
- streaming matrix hybrid method for discrete-ordinates calculations 4-37717
- strongly coupled pulsed reactor kinetics 4-9251
- structural materials, integral and differential cross section data convergence 4-37704
- structural materials, neutron cross-section data, integral check 4-37770
- sub-structure method for multidimensional integral transport calculations 4-37720
- subchannel hydrodynamics model, boundary-value problem and qualitative solns. behaviour 4-33110
- subcritical problems in spherical geometry, one speed albedo and Milne problems 4-54230
- support columns cross-sectional buckling during HCDA 4-23161
- SVEA fuel assembly for BWR 4-4966
- synthetic method, alternative differencing technique 4-18503
- temperature corrected photon-Maxwellian electron cross sections for radiation transport 4-37744
- thermal hydraulic analysis code COBRA-PI 4-37730
- thermal reactors, methods for analysing substitution expts. 4-54244
- thermal-hydraulic anal. truncation error reduction by two-step characteristic method 4-32981
- three dimensional geometry neutron transport eqn., direct integration soln. method 4-14026
- three-dimensional neutron transport eqn. soln. by double finite element method 4-692
- three-dimensional steady-state model of the Connecticut Yankee core 4-27945
- THTR-300, anal. of reactivity from control rod failure (German) 4-9342
- THTR-300, availability of emergency coding system in after-heat failure (German) 4-9344
- THTR-300, legal approval under federal atomic safety legislation (German) 4-9257
- THTR-300, long term failure of afterheat removal in emergency procedures (German) 4-9343
- tight lattice water reactor, stationary seed-blanket core 4-43558
- time dependent unavailability analysis 4-33150
- TMI-2 pressure boundary, thermal anal., component thermal response 4-802
- TRAC-PF1 feed-and-bleed calculations for TMI-1 4-28093
- transient fluid flow, multidimens., conservation eqns. soln. by control variable method 4-33108
- transit time correlations for PWR overcooling transients 4-27930
- transport theory, diffusion-synthetic acceleration methods for the discrete-ordinates equations 4-37745
- TREAT Upgrade, optimal core fissile loadings determ. 4-27952
- trends in the design of LWR decay heat removal systems 4-704
- triangular linear characteristic scheme for transport eqn. numerical soln. 4-37718
- tube arrays in crossflow, stability, math. model and tests 4-795
- tubular conduits, component catalogues prod. and format (German) 4-9304
- tubular containers, component catalogues prod. and format (German) 4-9303
- turbine trip test of ANO-2 plant, RELAP6/MOD1 code simulation 4-23374
- turbulent cross-transfer intensity variation in complex shaped subchannels, expt. 4-14098
- two-dimensional geometries, boundary-fitted coordinate transformation in neutron diffusion calcs. 4-14018
- two-phase flow, homogeneous equilb. model, mixed finite element anal. 4-33111
- UK Chemical Nuclear Data Committee radioactive decay data libraries 4-18518
- uncertainty in nucl. data use for reactor calcs., book contrib. 4-48631
- uncertainty propagation through large fault trees, method comparison 4-18757
- uniform slab lattice, Koebke's equivalence theory and Benoist's cell homogenisation relations 4-694
- vectorized Monte Carlo methods for reactor lattice analysis 4-37715
- VVER 440, axial power dist. from DNBR (Czech) 4-43617
- VVER pressure-temperature transients, TRACO V computer code 4-43560
- VVER vibration monitoring theoretical analysis of some typical deviations 4-23317
- water-steam-air, transient two-phase two-component flow 4-15020
- Westinghouse Advanced PWR, public safety enhancement, LOCAs, steam generator tube rupture 4-23403
- WWR, neutron physical characteristics, perturbation anal. (Russian) 4-32948
- WWR 1000 power plant, design (Russian) 4-702
- WWR-440 primary circuit dynamic behaviour simulation 4-43630
- Yankee experience in validation of reactor physics models 4-27944
- zero variance Monte Carlo path-stretching schemes 4-695
- Zion 1 PWR, severe loss of feedwater transient anal. 4-28154
- (n, γ), reactor activation anal., compiled activation and decay data library 4-37625
- ARb.A=93-97, delayed neutron energy spectra 4-27919
- Al, electron transport calc., two discrete ordinates methods comparison 4-37742
- ²⁴¹Am(n, f), fast n, fragment yield figures from semiconductor γ -spectrometry 4-37672
- Be reflected minimum critical mass systems, Bragg cutoff phenomena, improved albedo 4-54227
- Fe spheres, fast neutron spectra calcs. using Vitamin-C file 4-54205

fission reactor theory and design continued

- N_2O_4 -NO coolant, chemically reacting turbulent flow, heat and mass transfer (Russian) 4-43574
- ²⁴²Pu(n, f), fast n, fragment yield figures from semiconductor γ -spectrometry 4-37672
- Th utilisation in LWRs, U-seed/Th blanket fuel management scheme 4-48659
- UO₂-Gd₂O₃ reactor fuel in PWR, nuclear calculation techniques 4-27983
- ²³⁸U(n, γ), effective capture cross sections space, energy and anisotropy effects 4-43568
- fission reactors**
- see also *fission reactor decommissioning; fission reactor materials; fission reactor operation; fission reactor theory and design; fission research reactors; hybrid reactors; nuclear engineering; nuclear physics; nuclear power stations*
- American Nuclear Society conference, San Francisco, CA, USA (Oct.-Nov. 1983) 4-13477
- breeder and a gas-cooled reactor achievements and Tokamak prospects (Hungarian) 4-23424
- computer codes, selection and benchmarking for research reactor core conversion 4-54238
- deuterium-based, as power source comparison with fission reactors 4-35988
- fast breeders, perspectives and prospects 4-18770
- fast reactor, fuel rod failure coolant flow breakdown accident (German) 4-9284
- fast reactors, fire risks for building developments using NABRAND code (German) 4-9376
- fast reactors, safety potential of Na cooling (German) 4-9347
- FBR, reliability of safety system in coolant flow failure (German) 4-9375
- gas-cooled reactors, review of technology 4-48626
- high converter PHWR, fuel cycle calcs. 4-9307
- high-temperature He reactors, hydraulic calculation 4-48623
- HTR, deposition rates of fission products, effects of surface and chemical state (German) 4-9372
- HTR, fission product behaviour in fast shut down (German) 4-9345
- HTR, fission product behaviour in pressure loss accident (German) 4-9373
- HTR, gas-dynamic anal. during cooling failures (German) 4-9346
- HTR, hazards associated with accidental breakdown (German) 4-9369
- HTR, natural convection with power off, model (German) 4-9340
- HTR, safety aspects of gas line failure causing break-in (German) 4-9371
- HTR, thermo-hydraulics of spherical granule assembly, comparison with THERMIX code (German) 4-9341
- HTR-PNP-500, graphite corrosion in massive air break-in accidents (German) 4-9370
- LMFBL, technical feasibility, safety 4-18771
- power plant performance comparisons 4-54373
- PWR's in-core instrumentation (French) 4-33075
- PWR accidents, deep metal fibre filters for at. contamination prevention (German) 4-12521
- PWR plant development for marine propulsion 4-43642
- remote US testing of pressure vessels, Skoda equipment 4-750
- Skoda SR-O experimental reactor, power plant personnel training appls. 4-748
- Skoda VVER reactors, pressure vessel design and manufacture 4-813
- small reactors, safety props., design specification and cost reduction (German) 4-9258
- SNR, LOCA, bubble behaviour and aerosol release (German) 4-9374
- SNR 300, behaviour of heterogeneous and homogeneous cores with coolant failure (German) 4-9348
- space vehicle power plants (French) 4-14162
- synthetic H fuel production 4-35990
- THTR-300, anal. of reactivity from control rod failure (German) 4-9342
- THTR-300, availability of emergency coding system in after-heat failure (German) 4-9344
- THTR-300, legal approval under federal atomic safety legislation (German) 4-9257
- THTR-300, long term failure of afterheat removal in emergency procedures (German) 4-9343
- USSR nuclear power programme states and prospects (German) 4-28184
- VVER pressure vessels, radiation loading determ., Skoda test model and expts. 4-747
- fission research reactors**
- see also *fission reactor core control and monitoring; fission reactor theory and design; nuclear reactor instrumentation*
- Annular Core Research Reactor, fuel motion detection system, performance characts. 4-9324
- AVR, pebble bed HTR, weakly enriched fuel charge simulation (German) 4-14112
- AVR-II HTR, primary circuit design with attention to maintenance, repair and decommissioning (German) 4-9260
- CABRI test reactor, fuel element behaviour under accident conditions (German) 4-9283
- DIDO water loop corrosion product transport studies 4-23304
- EBR-II, real-time signal validation implementation 4-33084
- extended-capacity high-speed disk recording system for the TREAT hodoscope 4-18714
- fast reactor dosimetry, neutron spectrum estimation code (Japanese) 4-23132
- fast reactor evolution (Spanish) 4-812
- fast reactor fuel irradiation devices (Spanish) 4-723
- FFTF ducted assemblies, structurally based core management 4-18751
- FFTF heat transport system performance during cycles 1 and 2 4-28136
- FFTF zero power tests, ENDF/B-V anal. impact 4-28123
- fluid-fuel reactors, novel design concepts 4-48630
- Forschungs- und Messreaktor Braunschweig, operating experience 1982 (German) 4-48691
- heating calculations for in-core fuel rigs in DIDO and PLUTO 4-9254
- heavy water, UKAEA reactor technology development 4-48629
- HFR reactor vessel replacement (Dutch) 4-54372
- IR-100 reactor, neutron field research 4-9329
- Japan Materials Testing Reactor, irradiation facilities 4-12309
- JEN-III PWR, preliminary anal., use for safety research, radioisotope prod., modelling (Spanish) 4-28148
- JÖYO fast reactor, natural circulation test, outlet coolant temps. (Japanese) 4-18733
- k_{eff} bias in critical assembly calcs. 4-27953
- kinetics and thermal-hydraulics anal., PARET code 4-54361

fission research reactors continued

- large Na cooled reactors, expt. verification in BIZET programme at ZEBRA (*German*) 4-14113
- LOFT intermediate-break experiments L5-1 and L8-2 4-28094
- low power reactor operating equations, formulation, application 4-14037
- neutron detector, spatial characteristics of response to vibration absorber 4-28110
- pool type research reactor using multireflectors, critical mass calc. 4-37695
- power technology, book 4-47783
- PWR, fuel assembly, noise investigations 4-23322
- PWR primary circuit simulators, corrosion product formation and transport (*French*) 4-23190
- refill/reflood expts. at Cylindrical Core Test Facility 4-54344
- rod drop expts., space-time anal. of neutron flux in gas cooled reactors 4-28114
- SLOWPOKE reactors, first decade and beyond 4-48693
- test fuel power coupling, time depend. during TREAT irradiation expts. 4-54355
- thermal neutron flux density adjustment in research reactors channels 4-14096
- TRAN expt. B-1 on annular channel, fuel crust stability study 4-23367
- TREAT Upgrade, optimal core fissile loadings determ. 4-27952
- WWER-440 vibration and vibration-acoustic control rod tests at test section 4-23323
- ZPPR-13A LMFBR benchmark core, expt. studies 4-28126
- Al-Mg alloy for reactor construction, radiation durability, verification (*Russian*) 4-18610
- (U, Pu)₂O₇ clusters in ZED-2 reactor, neutron activation meas. 4-28139
- U-Si dispersion fuel alloy development for research and test reactors 4-9271
- U-Si-Al dispersion fuel alloy development for research and test reactors 4-9271

fissures see cracks**flame sprayed coatings**

- ceramic and cermet powder particles, flame spraying, interface interaction, struct. transform. 4-51485

flame spraying

- No entries

flames

- see also chemically reactive flow; combustion; fires*
- aerosol particles, Stokes-Cunningham diffusion const. in flames 4-24514
- alkali earth metal ions in hydrocarbon flames, C₃H₃⁺ reduction in relation to soot suppression 4-51975
- alkali earth metal ions in hydrocarbon flames, H⁺ transfer reactions and mass spectra 4-51974
- alkali metal ions in hydrocarbon flames, C₃H₃⁺ reduction in relation to soot suppression 4-51975
- alkali metal ions in hydrocarbon flames, H⁺ transfer reactions and mass spectra 4-51974
- bluff-body diffusion flame dynamic behaviour steady 4-12366
- candle flame, longitudinal tomographic interferograms 4-28643
- combustion processes obs., using CARS technique 4-4484
- combustion systems obs. using CCTV 4-264
- curved flame front, break lines, detect. property 4-38911
- detachment of the flame of a burning liquid by an air flow 4-7722
- detection methods for atoms and radicals of gas phase (*German*) 4-16724
- diagnostics using optoacoustic laser beam deflection and freq. modulation spectroscopy 4-48208
- diffusion flame, fast-time instability 4-26175
- distorted flame front propagation in gas flow field 4-44763
- ethylene-O₂ mixtures, flame propag. in tubes with orifice (*German*) 4-29207
- flame optogalvanic spectroscopy, charge prod. and collection mechanisms 4-19928
- free radicals in flames, reson. multiphoton, optogalvanic spectrosc. 4-17956
- front motion, hydrodynamic coupling with upstream gas flow 4-1850
- fuel, liquid, surface diffusion combustion of heterogeneous systems (*Russian*) 4-12372
- gas flames, 2-D quasiharmonic dissipative structures and their stability 4-16657
- gas flames, stability of two-dimensional quasiharmonic dissipative structures 4-16658
- hexane flame, struct., cyclohexyl nitrate effects 4-7724
- instantaneous two-directional velocity measurement by sensitive pressure detecting method 4-15041
- ion density meas. using electrostatic probe techniques 4-21469
- laminar, cylindrical stationary in vortical medium, linear longwave stability 4-7726
- laminar, propag. in closed container, anal. using finite difference scheme 4-34041
- laminar flames, curvilinear stationary, linear long-wavelength stability 4-7725
- laser Doppler velocimetry, refractive index change effect 4-44771
- laser Doppler velocimetry meas. of flame propag. 4-49896
- laser enhanced ionisation, physical mechanism investigation 4-19915
- luminous, particle size diagnostics, fast Fourier transform method for dynamic light-scatt. 4-21473
- luminous flames, flow meas. with photoelectron correl. laser Doppler method 4-30988
- methane-air flames, self-spreading front, temp. meas. by spark-induced fluoresc. (*German*) 4-27519
- methane-air premixed flames, N₂ CARS thermometry of temp. profiles through flame fronts 4-35904
- methane-N₂O flames, lean and stoichiometric, CARS spectra 4-21472
- methane-N₂O flames, N₂ and CO vibr. CARS and H₂ rot. CARS spectroscopy 4-19060
- methane-O₂ atmospheric press. flame, laser-induced fluoresc. polarisation in OH 4-52009
- methane-pulverised coal flames, spectroscopic obs. 4-46766
- natural gas, velocity and unburned hydrocarbon measurements in a vertical turbulent-free jet diffusion flame 4-21474
- nonsteady flame spreading in two-dimensional ducts 4-30986
- one-dimensional stability of combustion in a magnetic field 4-38902
- opposed jet flame holder, blow-off vel. prediction 4-29141
- optoacoustic detection of flame species using pulsed laser excitation 4-26232
- periodic vortex formation in wake behind flame stabilisers 4-44764
- porous plug burner flame, stability 4-44536

flames continued

- premixed, laminar, extinction by stretch and radiative loss 4-41215
 - propagation between flanged disks, quenching distance, flanged electrode method meas. 4-3408
 - propane flame seeded with NaOH, ion density meas. using electrostatic probe techniques 4-21469
 - propane-air flame, combustion in a turbulent mixing layer formed at a rearward-facing step 4-29109
 - propane-air flame temp. and species concentration, CARS obs. 4-26208
 - propane-air turbulent-jet diffusion flame temp. and species concentration, CARS obs. 4-26209
 - slot burner with thermal evaporator for flame atomic absorption spectrophotometer 4-52074
 - soot particles, diffusion coefficient meas. 4-24515
 - spray flames, alternative model comparison 4-1820
 - spread through fuel droplets under zero gravity condition 4-35905
 - standing sound wave effect on turbulent flame flow 4-44762
 - temperature meas. by laser Raman spectroscopy 4-27518
 - trace anal. by laser optogalvanic spectroscopy 4-26251
 - trace element anal., laser-enhanced ionisation spectra 4-26249
 - trace metal anal., laser-enhanced ionisation spectrometry 4-26248
 - trace metal anal. by flame-graphite furnace OG spectroscopy 4-26252
 - trace metal anal. by laser enhanced ionisation microwave detection 4-26250
 - turbulent burning vel. and flame straining in explosions 4-41219
 - turbulent diffusion flames, nonequilib. effects, statistical props. 4-29206
 - CH+N₂ reaction kinetics and mechanism, temp. and press. depend. studies and transition state theory anal. 4-12350
 - H₂/O₂/N₂ flames, chemical kinetics and thermodynamics 4-57560
 - He-acetylene flame, diffusion reaction, spectroscopic studies 4-21471
 - NO in NH₃/O₂ and methane/air flames, laser induced fluoresc. and absorpt. meas. 4-35906
 - Na, radiatively excited levels in acetylene-O₂ flames collisional population redistrib. 4-1085
 - O₂-H₂ flames, Na D line emission intensity, mag. field effect 4-52010
 - OH in turbulent nonpremixed flames, single pulse laser saturated fluoresc. meas. 4-46845
 - SiH₄+F₂, laser induced fluorescence in diffusion flames 4-49082
- flares, solar see solar flares**
- flash lamps**
- dye laser system, flash lamp pumped, with oscillator and amplifier (*Chinese*) 4-55071
 - voltage and light-pulse shifts caused by gas heating 4-38543
 - vortex gas flow stabilised flash lamp, high power, for dye laser pumping (*Chinese*) 4-55062
 - Xe flash tubes for lasers (*Bulgarian*) 4-49383
 - Xe, synchronised microscope illuminator for fatigue testing of metals 4-26133
- flash photolysis see photolysis**
- flashover**
- air gaps, discharge propag., barrier effects, voltage-time characts. (*Japanese*) 4-2028
 - dielectrics, high volt. vacuum breakdown, flashover and arcs (*French*) 4-51189
 - positive impulse corona in air, behaviour of space charge 4-20055
 - rod-plane gap, switching impulse voltage in atmospheric air, positive corona charge and elec. field 4-44879
- flaw detection see crack detection**
- flexible manufacturing systems see manufacturing computer control**
- flexoelectricity**
- chiral smectic C phase, macroscopic dynamics 4-55710
 - cholesteric liquid cryst., flexoelectric instability in alternating elec. field 4-34404
 - ferroelectric smectic C* liq. crystals, mol. models 4-39105
 - lyotropics and biomembranes, flexoelectricity 4-50184
 - pretranslational effects in isotropic phases close to nematic, nematic discoid and columnar phases 4-50188
- flexural strength see bending strength**
- flicker noise see random noise**
- flight control see aerospace control**
- flip-chip devices**
- see also thin film circuits*
 - interconnection, metallographic techniques for soft solder 4-35815
- flip-flops**
- ionising radiation automatic measuring set-up based on DRG2-01 radiation monitor 4-5112
- floating zone method (crystal growth) see zone melting**
- floating zone refining see zone refining**
- floculation**
- see also colloids; sedimentation*
 - disperse systems, flocculation by water soluble polymers, regularities, kinetics and mech. (*Russian*) 4-41266
 - minerals, magnetic flocculation in secondary minimum 4-3429
 - orthokinetic flocculation, role in flotation extraction of fine particles 4-16687
 - suspensions, concentration anal. using dielec. constant meas. (*Japanese*) 4-16699
 - Fe oxide particles from freshwater lake, bridging flocculation rel. to colloid stability 4-52767
- flop discs see magnetic disc and drum storage**
- flow**
- see also boundary layers; chemically reactive flow; compressible flow; Couette flow; electrophydrodynamics; external flows; flow instability; flow measurement; flow through porous media; Knudsen flow; laminar flow; magnetohydrodynamics; multiphase flow; non-Newtonian flow; pipe flow; plasma flow; Poiseuille flow; pulsatile flow; rotational flow; shear flow; stratified flow; supersonic flow; transonic flow*
 - high-temperature He reactors, hydraulic calculation 4-48623
 - multi-layer groundwater basin, solute transport model development 4-22030
 - polyethylene, mica-filled, extensional flow 4-51704
 - resistance eqn. for gravel bed rivers, uniform and turbulent flow analysis (*Italian*) 4-52765
- flow birefringence**
- fluid, liq. to amorphous solid or glass range, generalised hydrodynamic theory 4-49860
 - liquids, depolarised wing in light scatt., relation to Maxwell and Kerr effects 4-35459

flow birefringence continued

- microemulsions, ultrasonic absorpt. and flow birefringence, salinity effect 4-41270
- molecular liquid, orienting field effect on viscosity 4-39555
- PET, extrusion flow visualisation, chain-ordering die geometries 4-24898
- polymer sols., flow-induced fibrillar form. in Poiseuille flow 4-35409
- polymer solutions, nematic, longitudinal flow, mean field theory 4-39122
- polymer solutions, phase modulated flow birefringence 4-49797
- xanthan gum soln., moderately conc., time depend. Flow response, two colour birefringence obs. 4-49795
- Ar+H₂, transport and relax. cross sections, close coupling calcs., Raman spectra 4-38279
- H₂ isotopes and mixtures with noble gases, nonspherical interactions 4-23839

flow control

- solar absorber-convertors with forced circulation heat transfer agent, regulation 4-16794
- variable area flowmeter with spring controlled piston and magnetic follower 4-34209

flow instability

- adiabatic flat plate flow, spatial instability to oblique disturbances, Mach number effect 4-44535
- antisymmetric waves on two-dimens. liq. sheets, effects of finite amplitude 4-1771
- atmosphere, stability of stationary Rossby wave embedded in barotropic monsoon zonal flow 4-52848
- axial vortex, acoustic instability 4-1736
- axisymmetric flow of ideal flow with interphase, hydrodynamic instability 4-44533
- baroclinic instability in stars, quasi-geostrophic approximation 4-58424
- binary mixtures, reactive, amplitude eqns. of onset of convection in porous medium 4-29085
- Blasius flow over horizontal flat plate, thermal stability 4-44532
- boundary layer transition, control using wave-superposition principle 4-34043
- boundary-layer stability, numerical expts. 4-49802
- bubble motion in nonlinear Rayleigh-Taylor instability 4-1701
- cambered blade under periodic gusts, unsteady press. 4-10767
- channel, flexible, two-dimensional flow, subsonic flapping flutter, theory 4-38879
- chaotic regime of convective systems, strange attractors 4-10670
- chemically active medium, steady plane-parallel convective motion, stability 4-44766
- combustion modes in boundary layer with strong injections, nonuniqueness and instability 4-5971
- compressible two-dimensional vortex stability under three-dimensional perturbation 4-49827
- conducting fluid, unsteady motion with free boundary in alternating mag. field 4-38909
- convection, finite-amplitude, stability 4-5897
- convection instability, roll and hexagon formation, transient solns. calc. 4-24433
- convective instabilities, strange attractor dimensions in chaotic regimes (French) 4-14948
- convective motion stability in vertical layer in presence of longitudinal vibrs. 4-44564
- crystallography, Benard convection cells, struct. in cylindrical symmetry 4-29372
- cylindrical capillary jets in external flow, stability 4-10720
- decelerating laminar boundary layer stability 4-38790
- decelerating turbulent pipe flows, unsteady frictional losses 4-38888
- destabilization of flows with free surface by high-frequency waves 4-44531
- detached flow stability in flow over surface with kink 4-44528
- developing flow and transport above a suddenly heated horizontal surface in water 4-38815
- dislocation motion, Rayleigh-Benard convection, wavenumber selection mechanism 4-29705
- divergent channel flow stability, numerical approach 4-49883
- doubly periodic flow to chaos transition via successive freq. lockings 4-38791
- dusty gas, unsteady flow in elliptical annulus 4-1835
- EHD energy stability anal. incorporating charge-diffusion effects 4-34196
- EHD stability of insulating liq. lying between two concentric spheres (French) 4-15034
- elastico-viscous liq., unsteady axisymmetric rot. flow 4-44596
- ferrofluid mag. drops, bistability under mag. field 4-29190
- film condensation on vertical wall, convective instability, phase transition, reaction force effect 4-10664
- film flowing down inclined oscillating plane, stability problem (Russian) 4-44538
- final state sensitivity, predictability obstruction, chaos, Benard instability 4-22686
- flame, laminar, cylindrical stationary in vortical medium, linear longwave stability 4-7726
- flat fluid layer rotating about horizontal axis, convection study 4-14985
- flat plate heating in supersonic flow, unsteady laminar boundary layers 4-29124
- fluctuations near convective instability, kinetic theory 4-38821
- fluid amplifier, freq. response anal. using unsteady flow characs. 4-10803
- fluid flow along a channel with an asymmetric oscillating constriction 4-1838
- fluid layer, thermal convection onset, time depend. temp. distrib. 4-44572
- fluid layer flowing down inclined plane, instability solitary waves 4-14988
- fluidic vortex amplifiers, instabilities associated with outlet flow 4-55462
- fluidised beds, external heat transfer coeffs. 4-19878
- 2D free boundary flows, 3D linear stability anal. by finite-element method 4-10644
- free surface modes of circular fluid layer, pattern competition 4-49803
- front between fluids, instability in porous medium 4-1822
- galactic discs, two-fluid gravit. instabilities 4-47693
- gas-solid flow stability with electrostatic forces 4-49878
- Hele-Shaw flow with sharp interface, fingering instability 4-29062
- Helmholtz instability in stratified flows with mag. fields 4-34194
- Helmholtz instability in stratified shear flows with magnetic fields 4-10642
- Hopf bifurcation with constraints 4-38794

flow instability continued

- horizontal layer of fluid, 2D flow, stability, temp. field, spatial modulation influence 4-44530
- hydrodynamic stability with completely perturbed data 4-44534
- intermittencies, type III, Pomeau-Manneville, assoc. with subharmonic bifurcation 4-182
- internal gravity waves in large Reynolds number Boussinesq fluids, parametric instability 4-10692
- ionic melts, convection buildup, thermo-EMF electric field effect 4-38903
- jet, baroclinic instability inducing mean motions, atm. appl. 4-24459
- jet shear layer instability waves, amplitude modulation 4-14950
- Kelvin-Helmholtz instability in relativistic hydrodynamics 4-44769
- laminar film flow over sphere, hydrodynamic stability 4-29056
- laminar flames, curvilinear stationary, linear long-wavelength stability 4-7725
- laminar MHD channel flow with anisotropic conductivity, stability anal. 4-10789
- laminar premixed supersonic free shear, with chem. reactions, stability 4-44638
- linear stability in flow between two concentric rotating spheres 4-34048
- liquid film flow with air in horizontal duct, viscous wave and film breakdown 4-29150
- liquid flow, film boiling, instability 4-14967
- liquid layers heated underneath, thermal and thermohaline instability 4-34078
- low Reynolds number oscillatory flow past a slowly rotating sphere 4-34110
- magnetic fluid, constitutive eqns., stability, shear and pipe flow 4-34045
- magnetic fluids, labyrinthine instability theory 4-29195
- magnetic fluids, superposed, nonlinear surface instability 4-29194
- magnetic liquid instability in rot. mag. field 4-38893
- magnetostatic equilibrium, compressibility effect on instability growth rates 4-14951
- mean flows, generation by thermal convection 4-24411
- membrane, viscoelastic, hydrodynamic stability 4-1700
- MHD jet, modulational instability 4-24479
- MHD stability of viscous and resistive flow, computed by spectral techniques 4-1847
- MHD waves in differentially rotating annulus, stability anal., appl. to Earth core 4-24480
- multilayered liquid films flow down inclined plate, stability, surface solidification effect 4-11387
- Navier-Stokes equation, penalty finite element method 4-49799
- nematic layered structures, elliptical shear instability, dislocation motion 4-15378
- nematic layers, edge dislocations in roll hydrodynamic instability, static limit 4-15377
- nematic liq. cryst., plane shear flow instabilities, vertical temp. gradient, effects, linear anal. 4-20091
- nematic liquid crystal, orientational optical nonlinearity near flow instability over inclined plate 4-49801
- nematic liquid crystals, Benard-Couette instabilities, theory 4-55713
- nematic liquid crystals, freely suspended layers, vortex-EHD instability 4-15374
- nematic tilted sample, homogeneous instability under free convection 4-10645
- Newtonian and non-Newtonian fluids rot., nonlinear stability 4-24438
- nonhomogeneous hydromagnetic fluid in stratified layer, thermal instability 4-10788
- nonlinear hydrodynamic stability theory 4-34047
- nonlinear overstable convection rolls in a rotating system 4-44602
- nonlinear viscoplastic fluid, hydrodynamic stability under plane gradient flow 4-44659
- nylon 6.6, filled and unfilled melts, unstable capillary flow 4-24475
- Oldroyd-B fluid, coaxial disk flow, exact soln. and stability 4-24455
- one-dimensional stability of combustion in a magnetic field 4-38902
- Orr-Sommerfeld eqn., solns. for hydrodynamic stability, research (Rumanian) 4-5872
- Orr-Sommerfeld eqn. soln. for large Reynolds numbers 4-10723
- oscillations of flow in loop with natural circulation of boiling fluid 4-34044
- oscillator motion in hydrodynamics, anomalous Doppler effect and radiative instability 4-10646
- parallel plate duct flow, forced convection heat transfer 4-24423
- parallel Rayleigh-Benard rolls, optimal merging near plane boundary 4-24435
- pipe, axially rotating, flow pattern, hydraulic resist. and stability 4-55448
- pipe flow, instability associated with sudden expansion 4-5874
- pipe nonparallel developing flow, stability to nonaxisymm. disturbances 4-5964
- plane Poiseuille flow stability, computation (Russian) 4-38792
- plane shear layer, instabilities nonlinear evolution, vortex transition 4-14980
- Poiseuille flow, thermally modulated, nonlinear energy stability 4-10783
- polypropylene, filled and unfilled melts, unstable capillary flow 4-24475
- porous medium, nonlinear thermal convection, stability 4-5887
- porous medium, stability of unsteady thermal diffusion zone, linear analysis (French) 4-38804
- porous plug burner flame, stability 4-44536
- potential fluid flow through planar circular grid, flow visualisation 4-29097
- radiating gas dynamics, 2-dimens. unsteady-state problems, numerical soln. (Russian) 4-5977
- radiating instabilities of thin baroclinic jets 4-52736
- rapidly rotating fluid, thermal/mag. instabilities anal., appl. to Earth core 4-26594
- Rayleigh variational principle appl. 4-44537
- Rayleigh-Benard convection and maximum entropy production 4-5873
- Rayleigh-Taylor instability, interface between cond. and noncond. fluids in alternating mag. field 4-5968
- Rayleigh-Taylor instability normal mode interactions 4-24409
- Rayleigh-Taylor unstable, ablatively driven targets, X-ray backlighting method for areal density meas. 4-50058
- Reynolds' problem and stability in MHD 4-38899
- Rossby solitons: stability, collisions, asymmetry and generation by flows with velocity shear 4-34108
- self gravitating polytropic cylinders with magnetic field, equilib. 4-44741
- shear discontinuity instability of vel. in compressible gases 4-44620
- shear flow instability in circular geometry 4-29063
- shear flows, piecewise linear velocity profile, induced motions 4-5903
- shear layer in MHD flows, Kelvin-Helmholtz instabilities 4-8384

flow instability continued

- shear layers, free, natural instability 4-29059
 sinusoidal channel, two-phase flow 4-44730
 slightly viscous magnetic Maclaurin spheroids, secular instability 4-26988
 smectic liq. cryst. layered structures, dislocation motion 4-15378
 sound generated by instability waves of supersonic flows, axisymm. jets 4-38848
 sound generation by instability waves of supersonic flows, two dimens. mixing layers 4-38847
 stability, nonlinear, constant vorticity solns. of plane Euler eqn. 4-19850
 stationary flows of barotropic ideal fluid, variational principles and stability 4-47275
 stationary instability in axisymm. flow excited by rot. HF mag. field 4-38901
 steady motion of fluid, stability, effect of small forced oscils. 4-44609
 steam-water countercurrent flow in inclined channel, flooding 4-38795
 stratified, general relativistic configurations with phase transition, neutron star appl. 4-13184
 stratified fluid, double-diffusive interleaving due to horizontal gradients 4-36368
 stratified shear flow, stability 4-1799
 streamlined oscillator, wake domain, velocity field soln. (German) 4-49804
 supersonic boundary layer, Tollmien-Schlichting waves excitation by sound 4-44631
 supersonic compression ramp flowfield, shock wave turbulent boundary layer interaction 4-49846
 swirled coaxial jets from nozzles with divergent quarks, aerodynamic study 4-10719
 Taylor-Couette flow, wavy vortex state, optical meas. 4-1734
 thermally conducting dissociating gases, unsteady flow, weak discontinuity evolution 4-10643
 thermodiffusive flow, elec. anisotropic effects on thermal instability 4-44680
 thermosyphon, closed toroidal fluid loop 4-24473
 thin films, Rayleigh-Taylor instability, nonlinear saturation 4-14949
 three-dimensional baroclinic instability of a Hadley cell for small Richardson number 4-34046
 three-dimensional steady flows, vortex skeleton model 4-1741
 trailing vortices, in homogeneous and density-stratified media 4-29092
 trailing vortices, instabilities, flow visualisation using hot-wire anemometry 4-1743
 transonic diffuser flows, unsteady separated, laser Doppler velocimeter meas. 4-49843
 transonic flow, unsteady oscils., mean values and transient decay times 4-49844
 tube bundles in crossflow, fluid-elastic instability, effect of tube layout 4-38694
 turbulent boundary layer, struct. using flow visualisation methods 4-19790
 two dimens. fluid, Couette flow, nonequilibrium mol. dynamics simulation 4-5875
 two-layer systems, convective regimes, Rayleigh-Taylor instability 4-44529
 unsteady flow past heated impulsively started circular cylinder 4-34089
 unsteady incompressible viscous flow in enclosures, numerical soln., Mehrstellen techniques 4-34049
 unsteady laminar flow round circular cylinder 4-34037
 unsteady turbulent two-phase pipe flow, thermal two-phasedness parameter 4-1840
 vertical buoyancy induced flow in cold water, stability 4-38796
 viscoelastic fluid, unsteady laminar flow through hexagonal ducts under time-varying pressure gradient 4-1836
 viscoelastic Maxwellian liquid, flow stability in plane channel 4-19891
 viscous and inviscid stability of flat-plate compressible boundary layers 4-44543
 viscous fluid, steady flow, limit for vanishing luminosity (French) 4-49911
 viscous liq., stenosed elastic tube, unsteady flow with attenuation 4-24408
 viscous liquid unstable oscils. in channel flow 4-44738
 viscous motion, small-amplitude, imposed on arbitrary pot. flows 4-44545
 vortex instability of horizontal and inclined natural convection flows from simultaneous thermal and mass diffusion 4-38841
 vortex ring, vapour phase, static and dynamic equilb. (French) 4-38835
 vortex-sheet type flows, stability characts. 4-29093
 vortices, adverse pressure gradient effects, destabilisation (French) 4-1764
 wall plume, two dimens., instability charact. 4-44540
 water horizontally confined layer, density extremum and boundary condition effect on stability 4-55399
 waves on vortex cores, rel. to vortex breakdown 4-1765
 He, boundary stability at supercrit. param. in heated channels 4-15735
 He II subcooled channels, temp. and flow instabilities 4-50603
 He, superfluid, between coaxially rotating cylinders, hydrodynamic stability 4-44604
³He, superfluid, flow dissipation and breakdown of superfluidity 4-6595
³He, superfluid A and B phases, crit. currents and dissipation 4-6596
 Hg, liquid, Rayleigh-Benard oscillatory instability in horizontal mag. field 4-34197
 Hg, spiral vortices in a Taylor instability subjected to an external magnetic field (French) 4-38793

flow measurement

- see also anemometers; flow visualisation; flowmeters; laser velocimeters
 abdomen blood flow vol. rate, US Doppler meas. 4-57972
 annular two-phase flow in horizontal pipe, pulsed photon activation technique meas. 4-23285
 aortic flow, foetal and maternal, Doppler-velocimetry and US multiple array obs. 4-31304
 averaging impact tubes, for flow meas. (Polish) 4-44781
 axis-symmetric air jet, anemometer techniques comparison 4-24501
 BKZ fluid flow in orthogonal rheometer, flow modelling 4-14936
 blood flow determination using recursive processing, digital radiographic method 4-8105
 blood flow measurement indices using Doppler US, computerised evaluation 4-31307
 boiler tube bank, wind tunnel air flow meas. using laser Doppler anemometry 4-49907
 boundary layer meas. in hypersonic high enthalpy test facilities, mass spectrometer appl. 4-24508

flow measurement continued

- brain, regional blood flow, parametric imaging with the short-lived isotope ^{193m}Au 4-21782
 bubble dynamics, laser-Doppler meas. 4-44708
 bubbly two-phase flow, split-fibre probe calibration 4-55455
 calibration of flowmeters, industrial appl. (Dutch) 4-10794
 channel flow, static pressure measurement, pitot tube appl. 4-8136
 closed basin, mass transfer processes meas. using holographic interferometry 4-26851
 closed flow of convection, velocity profiles meas. by laser Doppler velocimetry (Spanish) 4-5980
 coherent structures in wall region, conditionally sampled meas. 4-1707
 combustions flows, optimisation, measurement techniques 4-49906
 combustion diagnostics, uncertainties propag., IR band models 4-38918
 combustion system particle size number density and vel. meas. using particle-sizing interferometer and spectrometer 4-8948
 combustible flows in IC engine, velocity meas., laser diagnostic methods 4-38922
 compressible unsteady flow meas., using hot-wire temp. and pressure probe 4-24494
 concentration meas. using light absorption law 4-12418
 conditioned sampling instrumentation for coherent flow structures 4-15048
 continuous flow analysis, segmented peak amplitudes meas., efficient algorithm 4-55464
 coronary blood flow and myocardial metabolism studies, short-lived radionuclides 4-12696
 coronary blood flow meas. using double fibre optic system and dye dilution tracings (German) 4-16936
 developing flow and transport above a suddenly heated horizontal surface in water 4-38815
 development trends 4-4387
 diagnostics of flowfields using system utilising single Q-switched ruby laser 4-29223
 differential pressure cells in turbulent flow, single-channel data validation technique 4-15050
 DISA flow probes performance obs. 4-55457
 eddy current sensor for liquid Na flow meas. 4-15047
 electrochemical flow transducer, cerebrospinal fluid flow meas. 4-17040
 electrochemical method for vel. meas. 4-10796
 electromagnetic flow meas., flowmeter design 4-29224
 EM, in open channel, electrode arrangement criteria (German) 4-38921
 EM pumps and flow couplers for pool type LMFBRS 4-29225
 EM stirring in coreless induction furnace 4-44608
 explosions, turbulent burning vel. and flame straining 4-41219
 FET, extrusion flow characts., press. drop meas. 4-29037
 fibre optics use in flow meas. instruments 4-44212
 flames, laser Doppler velocimetry, refractive index change effect 4-44771
 flat supersonic underexpanded jets boundary layers, laser schlieren method study 4-29146
 fluid velocity meas. and flow pattern identification by light-beam signal noise anal. 4-10742
 fluidised bed dilute particle concentrations meas. using optic fibre probes 4-38621
 gas flow, direct accurate meas. in the patient, unavoidable error compensation 4-3640
 gas flow measurement, corrections (Spanish) 4-38917
 gas flow through packed beds at high Reynolds numbers, resistance meas. 4-10762
 gas stream, velocity vector meas. using three wire probe and const. current thermoanemometer 4-15043
 hot film anemometer used for measuring mass flow ion gases (German) 4-29219
 hot-wire meas. of high-turbulent three-dimensional flows, data analysis 4-55456
 hot-wire method for high-intensity turbulent flows 4-24510
 injected semi-bounded jet impingement on boundary layer, laser anemometer meas. (Russian) 4-29142
 instantaneous two-directional velocity measurement by sensitive pressure detecting method in turbulent jet flame 4-15041
 internal combustion engine gasdynamic investigations, finite-amplitude solitary-wave generator design and operation (Russian) 4-55463
 jet stream nozzles invest., CW dye laser appls. (German) 4-34207
 jets in crossflow, meas. by hot-wire probe 4-38857
 kerosene atomised vapourising spray, droplet size and vel. meas. 4-34159
 laminar isothermal free jet, buoyancy and diffusion (German) 4-5939
 laminar separation point meas. by laser Doppler anemometer 4-38789
 large volume flow measurement (Hungarian) 4-24491
 laser beam methods using Doppler effect (French) 4-34210
 laser Doppler anemometer, dual-wavelength, simultaneous particle size and velocity meas. 4-24505
 laser Doppler anemometer, for two-phase flow meas. 4-15049
 laser Doppler anemometry, errors due to voltage level trigger effects 4-24502
 laser Doppler anemometry in turbulent flow, mean vel. shift (Russian) 4-10795
 laser Doppler velocity meas., in low-speed wind tunnel 4-24504
 laser double focus measuring probe for investigation of flow through closely spaced fuel rod grids (German) 4-38491
 laser probe system for vel. and temp. meas. in fluids 4-10800
 limb blood flow measurement, radioisotope plethysmography technique (Japanese) 4-31321
 linear-resistance flowmeter for low Re two-phase flow meas. 4-15046
 liquid metal flows and magnetohydrodynamics, conference, Beer-Sheva, Israel (March 1981) 4-27246
 liquid metals, conduction-type flowmeter with alternating mag. field 4-38920
 luminous flames, flow meas. with photoelectron correl. laser Doppler method 4-30988
 lung, regional blood flow, meas. by videodensitometry 4-3606
 measurement of skin blood flow, methods 4-52516
 meters for liquid and gas flow meas. (Spanish) 4-38916
 micrometer, fully automatic, microcomputer-based approach to automation of flow rate meas. 4-12716
 multiphase flow, velocity and particle size measurements by a laser technique 4-29222
 multiphase flow fields, optical meas. of particle size, velocity and concentration 4-49908
 natural convection, laminar regime, vel. profiles along heated wall of rectangular enclosure 4-38826
 NEL facilities in August (1983) 4-29221

flow measurement continued

non-Doppler laser velocimetry advances 4-49895
 nonsteady gas jet flow, rotation temp. meas. by Raman spectra 4-19903
 nuclear reactor instrumentation, review 4-23267
 ocean flow measurements using acoustic scintillation 4-24295
 optical fibre photofractometer for fluid flow meas. 4-37150
 optical point sensors for process control, conf., London, England (Jan. 1984) 4-36805
 optical transducers with fibre-optic links using incoherent light 4-53760
 oscillating tank, laminar to turbulent flow transition, laser Doppler anemometer meas. 4-38798
 particle mass flow rates, optical meas. method 4-44777
 Pelton Wheel type flowmeter, good linearity 4-49897
 periodic flow meas. by spherical yawmeter fluid dynamical error and flow separation (*Japanese*) 4-34211
 photoacoustic spectroscopy, optical probes for noncontact meas. 4-37196
 plane triplet jet, regular struts., vortices, shear layer 4-10717
 plant water flow, noninvasive meas. by NMR 4-41656
 polymer melt flow measurements by laser Doppler velocimetry 4-15040
 polymer melts, flow activation energy determ. method 4-15676
 pressure and velocity distribution around an obstacle immersed in liquid metal subjected to electromagnetic forces 4-44756
 pulsed field EM flowmeter response to velocity profile change 4-10798
 PWR primary coolant leak perturbations, PKL studies, advanced meas. techniques (*German*) 4-14161
 ramjet engine development, optical meas. 4-49899
 reactor 5X5 fuel rod bundle, flow velocity meas. by laser Doppler anemometry (*German*) 4-14116
 river flow, instantaneous vel. vector components, expt. determ. methods 4-44779
 sediment-laden flow velocity meas. using laser Doppler anemometer (*Chinese*) 4-55459
 separated and reattached flow over blunt flat plates, turbulence, nose shape effects (*German*) 4-5880
 skeletal blood flow measured with ^{18}F in patients with osteomalacia and hyperparathyroidism 4-3609
 sloshing flow in circular cylindrical tank, meas. using laser Doppler velocimeter 4-1828
 spherical particles diffusing in fluid, local size distrib., meas. technique (*French*) 4-15032
 strain gauge venous occlusion plethysmography 4-26544
 strain-gauge plethysmography in post-ischemic flow meas., crit. considerations 4-58023
 streak photography, use in fluid flow meas. 4-53398
 supersonic, turbulent, constant-current and constant-temp. hot noise anemometers comparison 4-15045
 Taylor-Couette flow, wavy vortex state, optical meas. 4-1734
 techniques, instruments and optical methods 4-49910
 thermal mass flowmeter, fast response, for corrosive gases and high temp. applications (*German*) 4-49901
 thermoelectric transducer for meas. liquid metal flow, design and characteristics 4-24490
 Transducer Tempcon, conf., London, England (June-July 1982) 4-53350
 transverse Pitot tube, investig. into suitability for two phase flow measurements 4-34206
 triple hot-wire probe signals evaluation by calibration field technique (*German*) 4-49904
 turbulence diagnostics by laser anemometer spectral anal. 4-44775
 turbulent, by triple hot-wire anemometry, statistical errors determ. 4-24488
 turbulent air flow meas. by laser Doppler anemometer, internal combustion engine appl. 4-19899
 turbulent channel flow, effects of imperfect spatial resolution on hot film and hot-wire meas. 4-34056
 turbulent flow distrib. in piping manifolds 4-29184
 two dimens. supersonic flow, axisymmetric density field, moiré deflectionometry 4-49893
 two-phase flow in straight/curved channels, particle size and velocity distribution simultaneous meas. using optical system (*German*) 4-49884
 two-phase flow measurement using laminar flowmeter (*Italian*) 4-49867
 ultrasonic flowmeter for gas flow meas. (*German*) 4-49902
 uniformly moving object vel. meas. using time-lapse holographic technique 4-10266
 US cross correlation flowmeter, preliminary field trials 4-5984
 US flow measurements using transit-time difference method (*German*) 4-24483
 variable area flowmeter with spring controlled piston and magnetic follower 4-34209
 velocity distrib., Ar laser meas. (*French*) 4-55466
 velocity field around Prandtl-probe, measurement using laser-Doppler anemometry (*German*) 4-49903
 velocity measurement in small glass tube, differential-type velocimeter with spatial grating filter (*Japanese*) 4-1855
 velocity profile meas., laser anemometry appls., jet dissipation, turbomachine flow 4-55465
 viscoelastic fluids, die entry flow, upper wall influence 4-29138
 volumetric steam content of two phase flows, gamma Compton scatt. meas., reactor appl. (*German*) 4-14117
 vortex effect based flowmeter, in permanent and nonpermanent flows 4-1854
 vortex shedding strut mounted in pipe laser Doppler velocimeter meas. 4-10684
 wakes, turbulent, of circular cylinder, meas. using hot-wire anemometers 4-34103
 CO₂-gasdynamic laser medium with wedge and profiled nozzles, apparatus, pulse gain meas. 4-23953
 Na flow rate correlation meas. by mag. transducers in BN-600 assembly 4-9328
 NaK loop, interaction parameter studies flow meas. 4-29189
 O₂ gas analyser, electrochemical (*Russian*) 4-31049

flow resistance see viscosity**flow separation**

2D flow channel with backward facing step and rib roughening, axial vel., AGR appl. 4-14108
 accelerating flow around airfoil at high angles of attack, visualisation, turbulent vortex struct. (*German*) 4-34111
 airfoil, unsteady separated viscous flow, expt. and numerical anal. (*French*) 4-14978
 axisymmetric Stokes flow, separation, press. effects 4-44786

flow separation continued

bielliptic bodies, three dimens. turbulent boundary layers in compressible gas stream 4-44552
 bluff objects, tumbling and burning effects on drag 4-10711
 boundary layer segmentation on sharp highly swept leading edges, effects on secondary vortices 4-1778
 convected two dimens. vortex, induced boundary layer flow 4-49826
 critical separation Reynolds number for streaming flow past a circular cylinder 4-44597
 density discontinuity interaction with turbulent boundary layer at permeable channel surface, heat transfer 4-10666
 detached flow stability in flow over surface with kink 4-44528
 diffusers with diverging channel, normal shock response 4-10705
 eddy viscosity models for wakes and separated flows 4-44591
 finite element model for obstruction in 2D flow field 4-19781
 flow around 3D turret, soln. of compressible Navier-Stokes eqns. in mass averaged variables 4-29108
 flow over low aspect-ratio rectangular wing 4-1780
 flows with strong interaction and separation, global press. relax. anal. 4-10629
 high-wing nacelle models, viscous 3-dimens. flow separation 4-1858
 incompressible laminar-separating flow, Navier-Stokes eqn. approx. 4-49800
 laminar flow anal. in corrugated tubes, appl. to arterial prostheses 4-38880
 laminar separation point meas. by laser Doppler anemometer 4-38789
 magnetic fluids, flow separation control 4-29193
 marginal separation, integral eqn. 4-34036
 matrices, friction coeffs. redefinition 4-19876
 nondilute suspension with particles of two different sizes, centrifugal separation 4-44702
 periodic flow meas. by spherical yawmeter fluid dynamical error and flow separation (*Japanese*) 4-34211
 phase separation phenomena anal. in branching conduits 4-44695
 poststall flow over unswept wings cellular patterns, vortices separation 4-49839
 prolapse spheroid, flow separation and vortices 4-1751
 radial flows between two parallel disks, flow separation and heat transfer 4-44569
 reattached turbulent flow over blunt flat plate 4-14957
 rectangular diffuser, local flow detachment in corner region 4-10801
 separated and reattached flow over blunt flat plates, turbulence, nose shape effects (*German*) 4-5880
 separation flows on a concave conical wing 4-44617
 sharp corner, angle of separation in Stokes flow 4-44518
 steam-water mixtures, critical flow, separated flow model 4-1810
 stratified accelerating shear flow over a rough boundary 4-38860
 streamline behaviour of 2-D viscous flow (*Chinese*) 4-49824
 supersonic compression ramp flowfield, shock wave turbulent boundary layer interaction 4-49846
 supersonic flow, comparison between thin-layer and Navier-Stokes eqn. 4-29122
 supersonic separated flow, inverse boundary-layer inviscid iteration technique (*French*) 4-14997
 thin profile motion near a wave boundary (*Russian*) 4-10647
 transonic diffuser flows, unsteady separated, laser Doppler velocimeter meas. 4-49843
 transonic separation flow of water past a circular cone 4-44625
 transverse flow in cylinder with longitudinal ribs, boundary-layer separation 4-14947
 turbine blade row, transonic flow compatibility at thick trailing edge 4-44623
 turbulent boundary layer interaction with shock wave at transonic vel. 4-44551
 turbulent flow downstream of abrupt pipe expansion, heat transfer 4-10650
 turbulent separated and reattached flow over blunt flat plate, spatial correl. and autocorrel. meas. 4-29072
 turbulent separation bubble along sides of blunt flat plate, struct., vortices 4-34052
 turbulent shock-boundary layer interaction at curved walls, length of separation bubble 4-1708
 unsteady laminar boundary layers with separation, numerical anal. using on param. integral method 4-14946
 upstream moving wall, boundary layer separation singularities 4-24405
 vortex sheet shortening in Smith model for slender delta wings with leading-edge separation (*German*) 4-1739
 vortical flow management for improved config. aerodynamics 4-1766
 vortices and flow separation, in 3-dimens., review 4-1740
 wavy fully developed gas-liquid flow, kinematic struct. (*French*) 4-49869

flow through porous media

aquifers, macrodispersion, three-dimens. anal. 4-17191
 alloy, solidification, convection in two phase zone 4-57212
 annular porous layer with internal heat generation, natural convection 4-44571
 backbone fractal at percolation threshold 4-34181
 beaches, gently sloping, percolation and flow through porous medium 4-3752
 binary mixtures, reactive, amplitude eqns. of onset of convection in porous medium 4-29085
 boundary condition at fluid-porous interface 4-29167
 buoyancy-induced flows in porous medium near impermeable surface, similarity solns. 4-19884
 buoyancy-induced laminar flow in porous media, multiple steady-state solns. 4-44720
 cavity, porous, horizontally heated, vertical boundary-layer eqn. numerical soln. 4-19829
 coupled convective transport processes, finite element upwinding methods 4-5898
 cyclic operation of underground gas store 4-24471
 cylinder covered with close fitting fabrics, heat transfer on stagnation point 4-10662
 cylindrical concrete vessel, moisture migration, thermal gradient 4-1824
 dam, porous, discharge calc. 4-44783
 Darcy's flow through porous media boundary conditions 4-1825
 density discontinuity interaction with turbulent boundary layer at permeable channel surface, heat transfer 4-10666
 dry poro-elastic layer, fluid injection, compaction 4-44711
 dynamic of moving interface, rheological effect of non-Newtonian fluids 4-38780

flow through porous media continued

Ekman layer on a porous plate in slip flow regime 4-14979
 fibrous filters with electrical enhancement, internal collection efficiency, perturbation method 4-5952
 film condensation in porous medium, lateral mass flux effect 4-5947
 filtration modes in polymeric non-woven fibrous materials (*Russian*) 4-10759
 finite amplitude convection states in boxes of porous media, pattern selection 4-29175
 flow through random aggregates of spheres, variational bounds calc. 4-5951
 fluid displacement by another in capillary duct network 4-15027
 fluid flow in thin pores, surface forces effects, review 4-44718
 fractured geothermal reservoirs boiling, heat transfer and flow 4-17193
 free boundaries in one dimensional flow 4-34189
 free boundary in porous medium, initial motion for nonlinear diffusion eqn. 4-29168
 free convective flow, effects of magnetic field 4-15024
 free convective turbulent flow on vertical permeable surface 4-34081
 free surface flows through nonhomogeneous media, numerical solns. 4-34164
 front between fluids, instability in porous medium 4-1822
 froth press. on perforated plates without downcomers, statistical anal. 4-44705
 gas diffusion in porous solids, Knudsen and ordinary diffusion regimes, Monte Carlo simulations 4-10708
 gas diffusion through capillary, local heating effects 4-50559
 gas flow through packed beds at high Reynolds numbers, resistance meas. 4-10762
 gas motion in porous medium, heat transfer 4-24470
 gravity driven two phase filtration, Backlund transformation appl. 4-44717
 groundwater two-dimensional flow towards storage tunnels beneath water table 4-17197
 high-speed gas motion in porous medium 4-29176
 hydrodynamic dispersion in unsaturated porous media 4-29174
 impulsively started porous plate, oscillatory MHD flow 4-49888
 incompressible second-order fluid flow between two infinite porous rot. disks 4-15023
 incompressible viscous flow through porous-walled channel, Brinkman model appl. 4-34182
 incompressible viscous fluid free convective flow and mass transfer through porous medium 4-19881
 laminar flow through packed column, wall effect 4-10751
 laser mirror, porous substrate, cooling and heat transfer 4-10524
 light-induced drifting of particles in bodies with capillary pores 4-29132
 liquid flow in porous solid, heat and mass transfer, surface phenomena 4-34073
 liquid-liquid dispersions, drop coalescence by flow through glass fibre beds 4-44712
 magnetohydrodynamic flow between two horizontal plates in a rot. system, the lower plate being a stretching sheet 4-1849
 membranes, nonsieving, bounds on solute flux and pore-size distrib. 4-52053
 MHD convection and mass transfer through horizontal porous channel 4-1823
 MHD convective flow of rarefied gas along vertical porous plate, thermal and mass diffusion 4-53025
 MHD flow, fluctuating, of viscous liquid through porous elliptic tube 4-1844
 MHD flow, mass transfer effects 4-44751
 MHD Poiseuille flow through porous medium 4-44719
 MHD unsteady free convective flow through a porous medium 4-19882
 miscible displacement simulation, pressure approx. by mixed method 4-29177
 molecular gas flow through porous wall, laser irradi. effects 4-55445
 n-layer stratified system, particle asymptotic dispersion 4-1800
 natural convection experiments in a liquid-saturated porous medium bounded by vertical coaxial cylinders 4-38828
 natural convection in a rectangular porous cavity with one permeable endwall 4-38829
 natural convection in a vertical porous annulus 4-38812
 natural convection in vertically and horizontally layered porous media heated from the side 4-19818
 natural convection with coupled mass transfer in porous media 4-38806
 nonideal porous media, filtration of liquid with a free boundary 4-10761
 nonlinear convective diffusion eqn., asymptotic soln., porous medium flow appl. 4-29169
 nonlinear heat cond. with absorpt., space localisation and extinction in finite time 4-44588
 nonlinear thermal convection, stability 4-5887
 nonlinear Verigin problem in 2D radial case, press. distrib. 4-44714
 nonNewtonian fluid particle mass transfer in granular beds 4-10752
 ocean wave surf zone, wave set-up, percolation and undertow 4-31522
 oil, viscoplastic, residual vol. estimation after flooding 4-5949
 oil displacement by carbonated water, strated water salts influence 4-5948
 oscillatory MHD flow in Stokes problem past infinite vertical porous plate, Hall effects 4-44710
 oxide nuclear-fuels, fission gas release, flow modelling 4-9265
 penetrable plate, integral turbulence scale in flow 4-19791
 porous annulus, laminar flow and heat transfer 4-14962
 porous layer convection, Prandtl number effect 4-24415
 pulsed system dispersion, heterogeneous reaction and reversible adsorpt. in capillary tubes 4-10754
 pulsed system dispersion, passive dispersion in porous media 4-10755
 pulsed systems dispersion, theory and expts. comparison for packed beds 4-10756
 pure gases under pressure, membrane characterisation and performance prediction 4-55441
 rigid porous wall, regular refl. of weak shock wave 4-44651
 rock beds velocity profile measurements, non-uniform flow effect on solar contribution 4-52211
 second order fluid flow between two rotating porous discs of moderate rotation 4-1789
 selective suction at boundary layer, heat and mass transfer 4-19831
 shape of porous region to control cooling along curved exit boundary 4-38701
 solid-fluid reactions, numerical simulation in isothermal porous spheres 4-19896

flow through porous media continued

solutions, flow through multilayer membranes, separation and concentration 4-38871
 solutions containing a solid phase, flow into a porous medium 4-44716
 spherical particles, interceptional and gravitational collision efficiencies of single collectors 4-1815
 stagnation point flow in a diffusion cell 4-29172
 Stokes and elasticity theory eqns., asymptotic resolution (*Russian*) 4-32055
 subterranean reservoirs, hydraulic calcs., rock permeability influence 4-5950
 suspensions, flow through fissures, differential eqn. solns. 4-49880
 suspensions, flow through fissures, math. model 4-49879
 thermal diffusion zone, unsteady, stability in porous medium, linear analysis (*French*) 4-38804
 transient free convection about a vertical flat plate embedded in a porous medium 4-38873
 transmission of waves in a liquid through absorbing layers and subsequent interaction of the waves with an obstacle 4-44611
 two-phase liquid dispersion, phase separation techniques 4-55437
 unsteady flow of anomalous fluids in a nonuniform layered stratum 4-44715
 unsteady flow through a porous medium with the presence mass transfer 4-49881
 vertical natural convection flow in porous media 4-24467
 viscosity renormalisation in Brinkman eqn. 4-5954
 viscous flow into a membrane filter composed of randomly situated pores 4-5953
 viscous incompressible fluid flow through straight pipe of porous material, flow rate bounds 4-44732
 water flow through porous metals, evaporation 4-19877
 wetted sphere assembly in multiphase flow, permeability const. 4-1821
 wind tunnel facility, asymmetric blowing model design and testing 4-24472
 Si compact, flow of nitriding atmosphere through pores, second component gases effect 4-51591
 U in situ mining, numerical simulation 4-10757

flow visualisation

accelerating flow around airfoil at high angles of attack, visualisation, turbulent vortex struct. (*German*) 4-34111
 aerospace simulation facilities, conf., St. Louis, France (Sept. 1983) 4-22520
 annular jets, vortices coherent struct. meas. 4-1794
 attached end of cylinder in crossflow, heat transfer coeff. 4-38814
 axisymmetric body with and without spin, boundary layer development 4-29058
 backwash vortex form, under waves running up slope 4-14982
 Blasius flow over horizontal flat plate, thermal stability 4-44532
 blood flow meas. In microcirculation, intravenous injection effects obs. 4-3642
 boundary layer transition visualisation, using liquid crystal technique 4-24495
 bubble dynamics obs. using ultra high speed holocinematography 4-24499
 bubble fields dynamics obs., digital picture processing on high speed holograms 4-23932
 buoyant vortex rings, flow visualisation 4-29096
 combustion gas meas. using quantitative flow visualisation technique 4-49890
 confined flow around rectangular cylinder, wakes, vortices 4-34188
 developing flow and transport above a suddenly heated horizontal surface in water 4-38815
 distilled water boiling on tube bundles, heat transfer 4-19803
 Doppler picture technique 4-24509
 edge-tone oscillation, pattern anal. by Moire topography 4-55461
 fluidised bed, air, heat transfer, flow visualisation on flat surface 4-38830
 high-wing nacelle models, viscous 3-dimens. flow separation 4-1858
 holographic and speckle interferometry, book 4-53375
 hot plume, salinity gradient heating 4-15014
 impinging jet issuing from circular planform, flow pattern visualisation 4-49892
 instantaneous fluid velocity meas., using chromophotography in coherent light 4-24496
 jet, turbulent, surrounded by highly flexible duct, buckling 4-15012
 jet blown through convex cylindrical surface into supersonic stream, penetration 4-5933
 laser moire-schlieren system of variable sensitivity, fluid flow pattern visualisation appls. 4-44190
 liquid, partially filling rot. cylinder, free surface oscills., reson. mode visualisation, inviscid theory 4-44592
 low speed flow around multi-airfoils, calc. and expt. (*Japanese*) 4-29216
 mixed convection heat transfer in a horizontal open-channel flow with uniform bottom heat flux 4-38831
 moire pattern of vortices behind cylinders in steady flow, computer image processing (*Japanese*) 4-29220
 natural convection in a partially divided enclosure 4-19822
 natural convection in enclosures with partitions, flow visualisation 4-55402
 natural convection of horizontally vibrating cylinder 4-1713
 n-octadecane, solid liquid. interface morphology, convection during melting 4-50468
 oscillatory convection in vertical slots 4-49818
 Poiseuille flow, finite-amplitude perturbations 4-5956
 polymer melt, vel. profile using transparent dye and streak photography 4-10799
 potential fluid flow through planar circular grid, flow visualisation 4-29097
 propane-air flame, combustion in a turbulent mixing layer formed at a rearward-facing step 4-29109
 pulsating flow through circular pipe orifice, flow pattern and wall shear stress 4-10768
 radial flows between two parallel disks, flow separation and heat transfer 4-44569
 rectangular diffuser, local flow detachment in corner region 4-10801
 sea ice, flow regimes for water layer adjacent to melting ice surfaces 4-52724
 secondary flow and turbulence in a cone-and-plate device 4-38838
 shear flow instability in circular geometry 4-29063
 shock waves, electric discharge, radiation intensity ratio calc. 4-38849

Flow visualisation continued

- Space Shuttle aero-analysis 4-26980
 speckle velocimetry, unsteady flow instantaneous velocity fields meas. 4-24497
 sphere motion in fluid at low Reynolds numbers, drag meas. 4-44683
 spiral vortex flow over swept-back wing, generation and development 4-1744
 steady-unsteady visualization technique for wake-flow studies 4-49898
 stratified flow over three dimens. ridges 4-15015
 streak photography, use in fluid flow meas. 4-53398
 suspension, concentration measurement with digital image processing 4-24498
 swirling confined jet, turbulence meas., single hot-wire technique 4-49891
 three-dimensional buoyant surface jet, expt. on spread 4-38859
 time evolution of flow pattern induced by circular cylinder submitted to combined translation and rot. motion for $Re=200$ (French) 4-38834
 trailing vortices, instabilities, flow visualisation using hot-wire anemometry 4-1743
 tube bank in presence of upstream cross-sectional enlargement, heat transfer 4-19817
 turbulence, density fluctuations obs. by Rayleigh scatt. (French) 4-14952
 turbulent boundary layer, struct. using flow visualisation methods 4-19790
 turbulent free axisymmetric shear streams, circular vortex generation 4-14984
 turbulent shear flow, visual obs. on amplification of artificial disturbances 4-5882
 vapour bubble shape in subcooled boiling, light refraction 4-19873
 vapour-liquid system, shock splitting obs. photographically in shock-tube expt. 4-15002
 vortex, pair form. near orifices 4-14981
 vortex flow field interactions of forebody and wing leading edge, at high angles of attack 4-1748
 vortex flow over delta and double-delta wing, low speed, exptl. investig. 4-1745
 wake interference of normal plates at low Reynolds flat numbers 4-34104
 water flow through porous metals, evaporation 4-19877
 wavefield behind moving cylinder in stratified fluid, interferometric visualisation methods 4-10693

flowmeters

- see also *anemometers; flow measurement; laser velocimeters*
 acoustic liquid velocity meter using a liquid delay line oscillator 4-15042
 air mass flowmeter for test cell instrumentation 4-49909
 calibration, industrial appl. (Dutch) 4-10794
 calibration using prover loops 4-44778
 conduction-type flowmeter with alternating mag. field 4-38920
 design and development, solid state, New Zealand 4-29211
 differential pressure cells in turbulent flow, single-channel data validation technique 4-15050
 Doppler US flowmeters, CW, anal. of PLL system as analogue processor 4-16931
 eddy current sensor for liquid Na flow meas. 4-15047
 electromagnetic flow meas., flowmeter design 4-29224
 EM flowmeter with six point electrodes 4-24487
 flow measurement techniques, instruments and optical methods 4-49910
 induction, theory and appl. (Hungarian) 4-24492
 laser Doppler anemometer, with automatic traversing system, wind tunnels and jets appl. 4-24503
 linear-resistance flowmeter for low Re two-phase flow meas. 4-15046
 magnetic flowmeter with potential distrib. over conducting pipe wall (Japanese) 4-55469
 momentum type weight flowmeter 4-1856
 nonuniform field type, coils dimension estimation (Chinese) 4-29212
 Pelton Wheel type flowmeter, good linearity 4-49897
 pneumotachograph with Pitot tube 4-3637
 pulsed field EM flowmeter response to velocity profile change 4-10798
 PWR coolant flow meas., transit time flowmeter system 4-765
 rotor-dynamic system (Russian) 4-29217
 thermal mass flowmeter, fast response, for corrosive gases and high temp. applications (German) 4-49901
 turbine, advantages and drawbacks 4-5982
 turbine flowmeters working with cryogenic liquids, conversion charact. eval. 4-5979
 turbine meter for two-phase flow, evaluation model 4-33069
 ultrasonic flowmeter development for PWR feedwater system 4-23277
 ultrasonic flowmeter for gas flow meas. (German) 4-49902
 US, based on Doppler and time-of-flight principles 4-5983
 US cross correlation flowmeter, preliminary field trials 4-5984
 US vortex flow monitoring system 4-55470
 variable area, Tokyo Keiso range 4-49894
 variable area flowmeter with spring controlled piston and magnetic follower 4-34209
 Volumetric flowmeter for precise monitoring of volumes and flows (French) 4-44774
 vortex effect based flowmeter, in permanent and nonpermanent flows 4-1854
 vortex-type flowmeters (German) 4-44782

fluctuations

- see also *Brownian motion; critical fluctuations; current fluctuations; noise; random processes*
 Aleksandrov and Zapasskii experiment and the Raman effect 4-9708
 amorphous structure local elasticity props., evidences for typical sites and shell struct., dynamic stability 4-39360
 bistable potential, diffusion study with nonlinear Langevin and Fokker-Planck eqns. 4-17857
 bistable two-mode laser, first-passage time distrib. and switching statistics 4-1380
 Brownian motion, eigenvalues rel. to transition rates in inclined cosine pot. 4-175
 chemical generalised excess entropy, probability density for conc. fluctuations near stable steady state (German) 4-21420
 chemically active plasma, electron density fluctuation, kinetic theory 4-24528
 chlorophyll a, hydrated, delayed fluoresc., quantum oscils., electron tunnelling matrix element 4-14465
 circular cylinders in tandem arrangement, surface press. fluctuations 4-10683
 colloidal suspensions undergoing steady shear flow, fluctuations theory 4-55439

fluctuations continued

- concentration fluctuations and fluxes, turbulent-transport model 4-49807
 contrasting dissipative structs., formation peculiarities 4-53598
 dielectric constant, freq. depend. calc. in computer simulation 4-25666
 dye lasers, photon statistics, non-Marcovian analytical model 4-5582
 dynamical fluctuating systems, bifurcations, centre-manifold reduction anal. 4-37017
 electron gas in LF elec. field, cond. due to large-scale fluctuations 4-56304
 EM wave scatt. from random discrete scatterers layer, strong fluctuation theory 4-54930
 ferroelectrics, fluctuations at phase transitions, macroscopic theory (Russian) 4-56860
 field-induced chaos in the Toda lattice 4-8837
 fluctuation-dissipation theorems for nonequilibrium steady states without detailed balance 4-48048
 fluoranthene, D fluctuations in photoemission spectra and broad fluoresc. bands resolution 4-35475
 general relativistic theory of continuous media, thermodynamic fluctuations 4-36972
 heat transfer coeffs. fluctuations in fluidised and pulsed beds 4-19812
 hot-wire meas. of high-turbulent three-dimensional flows, data analysis 4-55456
 hydrodynamic forces derivation from stochastic fluid eqns. 4-27304
 instantaneous two-directional velocity measurement by sensitive pressure detecting method 4-15041
 metal/insulator/metal tunnel junctions, quantum shot noise 4-20739
 MHD flow, fluctuating, of viscous liquid through porous elliptic tube 4-1844
 microemulsions, cylindrical, polymer-like phase possibility 4-35947
 nonadiabatic transitions in level crossing with energy fluctuations, analytical investig. 4-43851
 nonadiabatic transitions in level crossing with energy fluctuations, numerical investig. 4-43852
 nonlinear fluctuation-dissipation theorem from closed time path Green's function 4-37004
 nonlinear stochastic models with cubic interactions, critical behaviour 4-8821
 normal metal point contacts, nonequilib. fluctuations and electron-phonon interactions (Russian) 4-56418
 normal-normal junctions, resist. and quantum voltage fluctuations 4-20707
 one-dimensional disordered systems, Brownian motion 4-32168
 one-dimensional strings, random fluctuations and complex chaotic structs. 4-48008
 optical bistability, dispersive, with amplitude and phase fluctuations, activation rates 4-38523
 optical bistability, laser amplitude and phase fluctuation effect 4-38524
 particles in solids, short-lived large energy fluctuations, kinetic many-body theory, reviews 4-34687
 primordial fluctuations, dark matter and photon oscil. 4-36762
 quantum correlated particles separation by heat bath 4-8812
 quantum spin systems, low dimensional, with planar symmetry, existence of long range order 4-51015
 quantum-optical systems, single-mode laser model, fluctuation theory 4-23943
 remote sensing, correlation functions for random granular media in strong fluctuation theory [remote sensing] 4-52715
 shear flow far from equilib., test of thermodynamic fluctuation theory 4-55393
 sloshing in rectangular tanks, nonlinear responses of surface elevation 4-14942
 spin glasses, fluctuations, correlation funct. calc. around Parisi mean field solns. 4-46041
 statistical dynamics generated by fluctuations of local Lyapunov exponents 4-42859
 statistical mechanics fluctuation theory, meas. accuracy (Russian) 4-4321
 strong poloidal current heating in Tokapole II 4-15179
 thermokinetic systems, small amplitude periodic parameter variations 4-30991
 transition metals, ferromagnetism and correlation effects 4-30183
 H₂ gas, quantum fluctuations in transient stimulated Raman scatt. 4-28761
⁴He, liq., spatial correlation and isothermal compressibility in interacting bosons at low temp. 4-11363
 Rb liq., quadrupolar relax. rates, mode-coupling theory of field-gradient correl. functions 4-2839

fluctuations in superconductors

- used only for *thermal (thermodynamic) fluctuations around the order parameter near the critical point*
 anisotropic mag. superconductor, fluctuations study 4-50989
 channel, resistive state and min. entropy production 4-15988
 DC SQUIDS, fluxoid and voltage states, thermal activation 4-15996
 dirty supercond., 2-D, mag. field scaling and vortex fluctuations 4-45962
 dirty superconductors, phase-slip processes very near T_c, deviations from local equilibrium 4-2691
 disordered metals, higher-field magnetoresist. from supercond. interaction effects 4-35119
 disordered systems, supercond. and localisation, local gauge invariant approach 4-6923
 electron system, quasi-one-dimens., fluctuations competition 4-15993
 granular films, long-range phase coherence, zero-point fluctuation effects 4-56496
 granular superconductor, superfluid density, penetration depth, and integrated fluctuation cond. 4-11637
 granular superconductors, ultrasonic attenuation calcs. 4-30110
 Josephson junction, hysteretic, transitions from equilib. state induced by self-generated shot noise 4-25484
 Josephson junctions, nonuniform, bifurcations of soliton bound states 4-6934
 Josephson tunnel junctions, supercurrent decay 4-20769
 Josephson-coupled one-dimensional supercond. systems, quantum tunnelling 4-2703
 magnetic superconductors, fluctuation theory 4-56495
 superconductors with quenched impurities, fluctuation-induced phase transition 4-25470
 thermodynamic potential near critical point (Chinese) 4-56494
 thin films, vortex quantum tunnelling (Russian) 4-45954
 (TMTSF)₂X compounds, organic supercond., fluctuation model 4-25481

fluctuations in superconductors continued

- (TMTSF)₂X family, quasi-one-dimens. conductors, long-range Coulomb interactions, bosonisation method 4-29951
 (TMTSF)₂X salts, band struct. anisotropy and supercond. fluctuations 4-25480
 (TMTSF)₂X salts, quasi-one-dimensional supercond., quantum fluctuations 4-2692
 Al clean films, magnetoresist. data, localisation and supercond. fluctuations 4-56497
 CuZr amorphous alloys, anomalous magnetoresist., weak localisation 4-50794
 In superconducting network, two-dimens., crit. temp. oscils. 4-2669
 Sn, small superconducting particles, thermodynamic transition 4-45917
 V, thermodynamic props. calcs. 4-56488
 VN, superconductivity under hydrostatic press. 4-45920
 W-Re amorphous films, localisation and interaction effects, supercond. props. and magnetoresistance 4-25472

fluctuations of cross sections *see statistical theory of nuclear reactions and scattering***fluid composition control** *see chemical variables control***fluid composition measurement** *see chemical variables measurement***fluid dynamics**

- see also aerodynamics; biological fluid dynamics; drag reduction; flow; hydrodynamics; liquid oscillations; Navier-Stokes equations; rarefied fluid dynamics; relativistic fluid dynamics; surface waves (fluid); turbulence; wakes*
 axisymmetric Stokes flow, separation, press. effects 4-44786
 axisymmetrical hydromechanics problems, p-analytical function theory methods (*Russian*) 4-29053
 Burgers equation, deterministic and statistical, UV behaviour in inviscid limit (*French*) 4-36912
 conformal mapping of a multiply-connected domain onto a semi-infinite strip with slits 4-27302
 conservation laws for one-dimensional isentropic gas flows 4-8750
 continuum mechanics, Eulerian and Lagrangian descriptions, canonical maps between Poisson brackets, examples 4-17699
 couple stress fluids, exterior problem, uniqueness theorem 4-17701
 curvilinear coord. system generation having arbitrary line densities 4-14941
 dam, porous, discharge calc. 4-44783
 Davey-Stewartson eqns. in intermediate water depth, oblique envelope solns. 4-5866
 dune movement caused by wind, theory 4-36363
 energy conservative fluid particle scheme, 2nd order accuracy in advection 4-5865
 engineering sciences and mechanics, conf., Tainan, Taiwan (Dec. 1981) 4-13484
 flow of liq. metal and solid phases in suspension-casting into R-10 ingot mold, hydraulic simulation 4-1790
 flow past impulsively started infinite isothermal vertical plate, mass transfer effects 4-1692
 force balance eqns., energetics and dissipation in connection with drag (*German*) 4-34034
 forced Burgers eqn., steady soln. 4-19782
 gas flow, unidimens., with arbitrary entropy distrib., SU(3) symm. 4-42724
 geophysical fluid dynamics, conf. at Vienna, Austria (August 1982) 4-8639
 Hamilton's principle and certain problems of dynamics of perfect fluid 4-44515
 Hopf bifurcation of rotating Benard problem 4-29055
 hydroelastic vibrational modes of tanks or immersed structures, added mass computations by integral eqn. methods 4-1641
 hydromechanical systems, wave processes (*Russian*) 4-29214
 ideal liq., solid bodies array dynamics (*Russian*) 4-29052
 incompressible fluid flow and heat flow, two dimens., control vol. finite element method 4-44583
 Kadomtsev-Petviashvili eqn., inverse scatt. transform 4-8753
 liquid bridges, axisymm., one dimens. self-similar soln. of dynamics 4-38785
 Lorenz eqns., hysteresis, period doubling and intermittency at high Prandtl number 4-8751
 macromolecular extension in flow fields 4-19312
 micropolar incompressible fluid, Flaxen's laws 4-55389
 mixed flow of an ideal fluid on a plane containing a recess 4-44516
 Navier-Stokes eqn., variational principle 4-1696
 near critical free surface flow past an obstacle 4-34033
 nematic liquid crystals equation of motion, fluid dynamics 4-29051
 nonlinear convection-diffusion eqns., topological derivation using network theory 4-19835
 nonstandard nonlinear boundary-value problem for harmonic functions 4-32054
 particle detachment by flow 4-10802
 potential flow, three dimens., in centrifugal turbomachines, numerical anal. 4-14940
 potential flow about arbitrary body, computation (*Chinese*) 4-29227
 predictability theory, entropy appl. 4-53491
 pulsatile spheres motion in ideal incompressible fluid, interaction forces 4-44785
 ray methods in multidimensional gasdynamics 4-1693
 screen-type wave generator, design method (*Russian*) 4-29215
 single-particle approach for anal. flow systems 4-10628
 sloshing in rectangular tanks, nonlinear responses of surface elevation 4-14942
 Stokes and elasticity theory eqns., asymptotic resolution (*Russian*) 4-32055
 subsonic strong interaction flow over cone-cylinder boattail configuration, global parabolised Navier-Stokes eqn. 4-10699
 thin film flows, third order boundary value problems, asymptotic soln. 4-34038
 torus, mass flux past and through hole in Stokes flow 4-10637
 two dimensional fluid flow and heat transfer, control vol. finite element method 4-44582
 viscometer, flared capillary, flow eqn. 4-38786
 viscous flows near sharp corners, biharmonic eqn. solns. 4-10630
 viscous fluid, linearised flow, partial differential eqns. appl. 4-4231
 viscous incompressible fluid, difference method for steady flow (*Chinese*) 4-1859
 viscous liquids, numerical simulation of flow (*French*) 4-14939
 weakly nonlinear objects, scatt. 4-42733

fluid dynamics continued

- wind tunnels, wall interference effects on aerodynamic phenomena 4-34212
 CO₂ CW laser, kinetic and fluid dynamic model 4-19420

fluid flow *see flow***fluid instability** *see flow instability***fluid mechanics**

- see also capillarity; cavitation; compressibility of gases; compressibility of liquids; fluid dynamics; hydrostatics; Mach number*
 Chebyshev solution to boundary value problems 4-55446

fluid rheology *see rheology***fluid theory, dense** *see liquid theory***fluid valves** *see valves***fluidic amplifiers**

- see also hydraulic amplifiers*
 frequency response anal. using unsteady flow characts. 4-10803
 vortex amplifiers, instabilities associated with outlet flow 4-55462

fluidic devices

- artificial leg, fluidic foot-sole pressure sensory feedback device design (*Japanese*) 4-52531
 edge-tone oscillation, pattern anal. by Moire topography 4-55461

fluidised beds

- air, heat transfer, flow visualisation on flat surface 4-38830
 atmospheric fluidised-bed combustion facility test results 4-12439
 boiler furnace, fine-grained material mixing and internal heat transfer 4-19883
 bubble formation on gas-solid fluidised bed, stochastic modelling 4-29154
 coal combustion, convective transport in air fluidised bed 4-21476
 computer simulation of a cold fluidised bed 4-34172
 dilute particle concentrations meas. using optic fibre probes 4-38621
 dispersed systems, conc., of fluidised layer type, elastic press. waves, acoustic effects 4-34169
 electric charge neutralization by addition of fines to a fluidized bed composed of coarse dielectric particles 4-35852
 external heat transfer coeffs. in air- and vibro-fluidised beds 4-19878
 ferromagnetic particles, air fluidised beds, heat transfer, mag. field effect 4-19880
 fine particles, Group A powders, gas flow, pressure effect 4-29170
 flow over immersed bodies in air fluidised beds, heat and mass transfer 4-34180
 fluidisation, particulate and delayed bubbling regimes 4-10758
 fluidized-bed coal combustion: in-bed sorbent sulfation model 4-12368
 fuel beds, pulsating air flow, mass transfer and combustion 4-41216
 fuel state combustion in pseudopotential layer (*Russian*) 4-46852
 furnaces, heat transfer on staggered tube bundles 4-19814
 gas bubble detect. by pneumatic probe 4-55442
 gas bubble detect. by pneumatic probe 4-55443
 gas bubbles, residence time distrib. effect on slurry reactor performance 4-10753
 gas flow through packed beds at high Reynolds numbers, resistance meas. 4-10762
 gas jet penetration, variable control anal. 4-55444
 granular solids, pseudoturbulent bed, convective heat transfer, differential eqns. 4-34072
 heat and mass transfer, conf., Minsk, USSR, Sept. 1980 4-17627
 heat transfer, mechanistic theory 4-24468
 heat transfer between fluidised bed and immersed wall 4-19811
 heat transfer coeff. meas. for liq.-liq. and liq.-solid fluidised beds 4-29081
 heat transfer coeffs. fluctuations in fluidised and pulsed beds 4-19812
 heat transfer from an immersed vertical tube to a gas fluidized bed 4-34179
 heat transfer from immersed heater in air-fluidised bed at subatmospheric press. 4-19813
 heat treatment of granular silicate particles, heat and mass transfer 4-19879
 horizontal tube in freeboard region of fluidized bed, heat transfer 4-29166
 liquid-liquid mass transfer in three phase fluidised beds, measurement of individual fluid phase resistances 4-55434
 natural gas-air, coaxial turbulent jets, mixing, combustion, heat and mass transfer 4-34063
 nonfoaming gas-liquid systems in packed bed, cocurrent downflow study, flow regimes 4-55432
 nonfoaming gas-liquid systems in packed bed, cocurrent downflow study, pressure drop considerations 4-55433
 nonhomogeneous, vertical transport of heat and solid particles 4-24469
 operation experience with solar powered 10 M3 per day MSF-plants in Kuwait and results of upscaling experiments 4-12451
 particle-surface contact, thermal resist. 4-55440
 particulate solids, comparison between distillation and fluidisation 4-34178
 pseudoliquefaction, magnetic stabilisation (*Russian*) 4-44014
 three-phase fluidised beds, heat transfer 4-10750
 triboelectrically charged fluidised bed, airborne dust filtration 4-29173
 vertical tube bundles, high press. heat transfer 4-1715
 water softening by continuous counter-current ion-exchange single-column technique 4-51969
 Ca-based sorbent for pressurized fluidized-bed combustion systems 4-57561
 NH₃, photocatalytic synthesis in fluidised bed reactor 4-12331

fluidised powders *see powders***fluidity** *see viscosity***fluids**

- see also bubbles; classical theories of fluid structure; disperse systems; fluid mechanics; fluidised beds; gases; gravity waves; liquids; non-Newtonian fluids; quantum fluids; quantum theories of fluid structure*
 No entries

fluorescence

- see also atomic fluorescence; fluorescent lamps; fluorescent screens; molecular fluorescence; nonradiative transitions; X-ray fluorescence analysis*
 β -alumina, divalent-cation, preparation, struct. and Raman spectra 4-24795
 anionic dye trace diffusion coeff. through cationic polyelectrolyte soln., fluoresc. photobleaching study 4-6536
 anisotropic molecular liquids, guest-host system, fluoresc. meas., tilt angle effects 4-20102

fluorescence continued

- anthracene, cryst., luminesc. quantum efficiency, photoacoustic spectrosc. obs. 4-49630
- anthracene, meso and dimeso derivatives, luminesc. quantum efficiency, photoacoustic spectrosc. obs. 4-49630
- anthracene crystal, N₂-coated, monolayer surface Raman and fluoresc. spectroscopy 4-56134
- anthracene crystal (001) face, monolayer surface Raman and fluoresc. spectroscopy 4-56134
- aqueous media, remote laser probing, fluorescence decay time effects 4-48104
- 1-azacarbazole dimers, solid state and soln. excited state double H⁺ transfer, luminesc. 4-57551
- benzene thin films, luminesc. emission and excitation spectra under slow electron impact at 77K 4-11923
- benzo[*f*]quinoline-biphenyl mixed crystals. delayed fluoresc., temp. independ. 4-25801
- biological materials, optical fibre fluoroprobe investig. 4-58047
- body fluids, optical fibre fluoroprobe investig. 4-58047
- 3C 273, quasar, fluoresc. mechanism for Na I 589.3 nm emission 4-22479
- caesium pentacyanopropenide salt, glass and cryst. state, adsorpt. and fluoresc. thermal modulation spectra 4-30509
- cinnamyl (1-phenyl-allyl) radicals, fluorescence excitation spectra obs. 4-2964
- closely spaced fluorescence decays meas. using RCA 8850 photomultiplier, meas. errors minimisation 4-13680
- combustion diagnosis by laser induced fluorescence, Raman scatt. and CARS 4-21501
- cyanooctyloxybiphenyl liq. cryst., phase transitions, picosec. time-resolved fluoresc. spectra 4-46298
- cytofluorimetry, multi-beam and single-beam, automated screening system for gynecologic cytology 4-21767
- deformable macromolecules, wt. diffusion with mean local cylindrical symmetry 4-38362
- doped cryst., exciplex form., host electronic excitation energy trapping 4-25792
- drugs, luminesc., X-ray and UV excited 4-5264
- epifluorescence microscopy system, scanning, improved resolution 4-53747
- epifluorescence microscopy system with pulsed nitrogen tunable dye laser source 4-53746
- flow-microfluorometric equipment with laser excitation for investigation of microscopic particles (*German*) 4-13743
- fluoranthene, D fluctuations in photoemission spectra and broad fluoresc. bands resolution 4-35475
- fluorescein in frozen solns., fluoresc. and phosphoresc. obs. 4-30504
- glass:Cr III, absorpt., excitation and emission spectra, ligand field 4-40493
- glass:Yb³⁺, stimulated emission cross section depend. on host glass comp., absorpt. and fluoresc. spectra 4-25783
- 6-hydroxy 9-phenyl fluoron in frozen solns., fluoresc. and phosphoresc. obs. 4-30504
- indole derivatives, fluorescence, absorpt. and excitation spectra 4-19101
- L-shell photoelectric cross sections at 6 keV on Zr, Nb, Mo, Ag, Cd, In, Sn, I 4-51451
- large area scintillators, fluorescence light transmission (*Chinese*) 4-43761
- laser glass, types and investigation methods 4-28798
- laser-based studies of CVD 4-12420
- level crossing detect. by multichannel analysis and n⁽²⁾(T) meas., error comparison 4-37185
- liposomes containing dipalmitoyl phosphatidylcholine, phase transition, effect of physiologically relevant press. 4-3531
- luminescence spectroscopy, review 4-4482
- magnetic field modulated time-resolved fluoresc., appls. (*French*) 4-27600
- methane-air flames, self-spreading front, temp. meas. by spark-induced fluoresc. (*German*) 4-27519
- multiparametric detection in modern luminescence spectrometry 4-4477
- naphthalene, mol. cryst., exciton states, intraband scatt., luminesc. study 4-7222
- naphthalene chloroderivatives, vibr. and luminescence spectra (*Russian*) 4-23702
- naphthalene-biphenyl mixed crystals. delayed fluoresc., temp. independ. 4-25801
- octadecyl rhodamine B clustered transport system in Triton-X-100 micelles, excitation transport, ps. fluoresc. study 4-40499
- oil film thickness meas. using airborne laser-induced oil fluoresc. backscatter 4-12514
- optical multichannel analyser meas. of fast changes in absorption and fluorescence spectra 4-27597
- organic dye soln., double exponential decay processes investigated by phase fluorimetry 4-16230
- oriented lipid membranes, orientational order parameters, angle-resolved fluoresc. depolarisation obs. 4-21492
- pentacene monomers and dimers in mixed mol. crystals., intersystem crossing, photon echo meas. 4-40495
- phosphate: Nd³⁺ glass, ⁴F_{3/2} state nonradiative relaxation, water effects 4-40490
- phospho-tungstate glass:Eu (III), vitreous and partly crystallised, site-selective fluoresc. 4-21005
- phospholipids, phase diagram investigated using fluoresc. microscopic and thermodynamic techniques 4-16845
- photometrical techniques for ionic strength and H ion activities meas. 4-57613
- photosynthesising systems, bimolecular luminescence quenching 4-11937
- PMMA colloids, sterically stabilised, fluoresc. energy transfer, microphase model 4-35946
- poly(N-epoxypropylcarbazole), fluorescence, γ -ray irradi. and additive effects 4-21025
- poly(propylene oxide) melt, self-diffusion, tube renewal versus reptation 4-25067
- poly-2-isopropenylnaphthalene, anionically polarised, luminesc. in soln. 4-7224
- poly-L-lysine mols., mobilities in low-scatt solns. 4-52254
- poly-N-epoxypropyl carbazole, photo-oxidation influence on spectral and electrophotographic parameters (*Russian*) 4-17988
- polyacetylene, femtosecond excited state relax. 4-21035
- polydiacetylene bilayer films, fluoresc. 4-40501
- polymer colloids, sterically stabilised, fluoresc. energy transfer, microphase model 4-35946

fluorescence continued

- polynuclear aromatic hydrocarbons, luminesc., X-ray and UV excited 4-5264
- powder mixture, CaCO₃ decomp. (*Rumanian*) 4-30927
- pyrene- β -cyclodextrin in aqs. soln. studied by fluoresc. spectral meas., association const. 4-3435
- rare earth tantalates, struct. and luminescent props. 4-34454
- rhodamine 6G-malachite green solns., anti-Stokes fluoresc. obs. 4-2955
- rhodamine B, adsorbed on naphthalene and glass, fluoresc. meas. 4-11916
- rhodamine dye ionic associates with org. liqs., fluoresc. quenching, elemental analysis methods development 4-52033
- rhodium (III) porphyrins, triplet-triplet absorpt. spectra, luminesc. study 4-51317
- ruby, ²E state relax., photoacoustic modulation freq. depend. study 4-40518
- ruby particles embedded in Al, fluoresc. line shifts for stress and strain distrib. determ. 4-7686
- ruthenium tris-bipyridine adsorbed on Ag-island films, light scatt., electromagnetically induced changes in intensities, spectra and temporal behaviour 4-51395
- sampling correlator for fluorescence decay measurements using free-running, CW laser excitation 4-13681
- spectroscopy methods 4-37213
- t-stilbene-1,2,4,5-tetracyanobenzene (1:2) complex, photoexcited triplets, ESR and DF ODMR studies 4-56818
- string in fluorescent light, standing wave pattern 4-53407
- strycyanine dye, unsymmetrical, solvent polarity indicator, solvatochromism, polarography and MO calcs. (*German*) 4-1054
- styrene-methyl methacrylate copolymers in soln., crit. conc., fluoresc. meas. 4-2960
- α -styryl radicals, fluorescence excitation spectra obs. 4-2964
- subnanosecond waveform analysis in the presence of fading by means of a random sampling technique [biomolecule application] 4-53666
- suspended particle solutions, fluorescence enhancement by Rayleigh and Mie scatt. (*Chinese*) 4-51313
- TCNQ crystals., reson. Raman effect 4-20956
- p-terphenyl cryst., charge carrier generation, two-photon absorpt. coeff. 4-56381
- p-terphenyl cryst., zero field splitting of triplet excitons, fluorescence studies 4-6707
- tetracene, in soln., rot. diffusion anisotropy, solvation structural depend. 4-10945
- tetrachlorophthalic-hexamethylbenzene charge transfer crystals., delayed thermal fluoresc. 4-56981
- time development of trap fluorescence following pulsed excitation 4-21021
- time-resolved laser-induced fluoresc., polarisation effects 4-22844
- two-photon processes, nonimpact unified theory 4-19503
- UV-excited fluorescence used for core alignment in fibre connectors and splices prep. 4-44266
- Al/octaethylporphyrin/Ag film sandwich cells, UV electroluminescence study 4-21041
- β -Al₂O₃-EuO(Eu₂O₃), synthesis, ion transport and fluorescence lifetimes 4-39576
- β^* -Al₂O₃-Nd₂O₃, fluorescent solid electrolytes 4-29681
- BaClF:Sm²⁺, cryst., fluoresc. spectra, mag. field effects 4-46332
- BaClF:Sm²⁺, phonon annihilation and excited state desorption processes, anti-Stokes fluorescence 4-46323
- Bk³⁺ aquo ions, band struct., absorpt. and fluoresc. spectra 4-56976
- CaF₂:Mn, fluorescence spectra, temp. depend. 4-51316
- CaF₂:Pr³⁺, Zeeman effect and hyperfine struct. of ¹D₂-³H₄ transition 4-50775
- Ca³⁺ in matrices, lower d band edge energy, stimulated emission 4-51302
- Cr III complexes, aqs. soln., time resolved fluoresc. spectra, phosphoresc. 4-21006
- Cr III in glass ceramics, ligand field strengths, fluoresc. and absorpt. spectra obs. 4-56965
- CsMnCl₃·2D₂O antiferromag., pure and Mg²⁺, Ni²⁺, Co²⁺ doped, energy transfer of exciton 4-39788
- CsMnCl₃·2D₂O, energy transfer of exciton (*Chinese*) 4-2950
- Cs₂Na(Er_{0.4}Y_{0.4}Yb_{0.4})Cl₆, cryst., Er³⁺ IR to visible conversion study 4-49456
- Cs₂NaLa_{1-x}Nd_xCl₆, cryst., fluoresc. conc. quenching, IR and Raman study 4-40496
- Cs₂NaLa_{1-x}Nd_xCl₆ crystal, fluoresc., conc. and temp. quenching 4-46316
- Eu²⁺ in matrices, lower d band edge energy, stimulated emission 4-51302
- GdAlO₃:Cr³⁺, mag. Franck-Condon effect, absorpt. and emission spectra 4-11910
- Gd₃Ga₅O₁₂, Raman and luminescence study (*Russian*) 4-56947
- Ge single cryst., phonon pulse detection by fluorescence meas. 4-50452
- H + O₂, hot atom-laser induced fluoresc. expts. 4-46753
- KBr:Pb²⁺, A-band emission, decay kinetics temp. meas. 4-11918
- KNd(PO₃)₄, flux growth, absorpt. spectra, fluoresc. branching coeffs. 4-51293
- KY₃F₁₀:Eu³⁺(Tb³⁺), energy migration, decay times, luminesc. 4-11917
- LaCl₃:Nd³⁺, laser induced fluoresc. line narrowing 4-7226
- LaCl₃:Pr³⁺, laser excited fluoresc. IR absorpt. study 4-20963
- LaF₃:Gd³⁺, two-photon absorption lines, polarisation depend. 4-2938
- LaF₃:Nd³⁺, energy transfer up-conversion, UV fluoresc. detect. 4-25796
- A-La₂O₃:Eu³⁺, fluorescence spectrum anal. 4-21023
- La_{1-x}P_xO₄:Nd³⁺, fluorescence quenching and spectral diffusion 4-51335
- Li₂Nd(BO₃)₃, conc. quenching of Nd³⁺ emission 4-25784
- LiPrP₄O₁₂, optical absorpt. and emission spectra of Pr³⁺ ions 4-56959
- LiPrP₄O₁₂ single crystal fluoresc., laser oscillations 4-1398
- Na₈Nd(BO₃)₇, conc. quenching of Nd³⁺ emission 4-25784
- Na₂Nd(BO₃)₃, conc. quenching of Nd³⁺ emission 4-25784
- Na₂Nd(BO₃)₃, conc. quenching of Nd³⁺ emission 4-25784
- PbF₂:Eu³⁺, ²D₁-²F₀ transition, homogeneous linewidth, anomalous temp. depend. 4-11930
- PbMoO₄, X-ray excited luminescence and cond. 4-40526
- Pb₂OFBr, prep., luminesc. spectra 4-2126
- Pb₂OFCl, prep., luminesc. spectra 4-2126
- Pb₂OFl, prep., luminesc. spectra 4-2126
- Si single cryst., phonon pulse detection by fluorescence meas. 4-50452
- SrClF:Sm²⁺, cryst., fluoresc. spectra, mag. field effects 4-46332
- Sr₂Gd₂□W₂O₂₄:Eu³⁺ luminesc., low-lying charge-transfer transition 4-2951

fluorescence continued

- Tb_{1.8}Eu_{0.2}(MoO₄)₃ 4-51280
 TbF₃, exciton-exciton annihilation and saturation effects, fluorescence obs. 4-2963
 ThBr₄U⁴⁺, site-selective excitation in visible region 4-11760
 ThBr₄U⁴⁺, site-selective excitation in visible region 4-11929

fluorescence of atoms *see atomic fluorescence*fluorescence of molecules *see molecular fluorescence*

fluorescent lamps

- colour-rendering capacity of illumination 4-22821
 lighting rel. to skin cancer and malignant melanoma 4-52388
 relative fluorescent luminaire goniospectrometry, calibration 4-4450
 Ar-Hg, fluorescent lamp discharges, plasma kinetics 4-24639
 Ar-Hg, fluorescent lamp discharges plasma kinetics 4-24640

fluorescent screens

see also electroluminescence

- radiographic screen-film receptors, recent advances, clinical considerations 4-31324
 radiographic screen-film receptors, recent advances, technical aspects 4-31323
 X-ray intensifying screens, mech. energy effect during phosphor dispersion 4-8995
 X-ray screens, X-ray energy absorpt. and quantum noise props., Monte Carlo simulation 4-41619

fluorimetry *see spectrochemical analysis*

fluorine

see also nuclei with

- adsorbed on Si surface, electronic struct. and associated nucl. quadrupole interaction 4-39663
 alcohols, F⁻ containing, ¹⁹F mag. reson. solvate isotope shifts 4-14368
 algae, F⁻ influence on growth, PIXE and PIGME anal. 4-46954
 atom, photoionisation from ionisation threshold, ion yield curve 4-43855
 gas, electron attachment rate coeffs. calc. 4-19255
 Ge:F, implanted, quadrupole interactions gamma-ray spectra 4-34932
 isolated ions, at spin precessions obs. on recoil through weak transverse mag. fields 4-33553
 Kilauea volcanic plume F content rel. to Ir enrichment in airborne particles 4-31463
 laser, discharge, with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 molecule, appl. of multifrequency CI, sex extensivity corrections using random phase average procedure 4-33335
 molecule, elec. hyperfine interaction, TDPAC method 4-28428
 molecule, pot. energy curves and spectroscopic consts., second order electron correl. calc. scaling 4-23622
 molecules, degree of photodissoc. determ. from temp. measured by intracavity laser spectroscopy 4-16676
 PIGME anal., precision determ. 4-46835
 polarised gas jet targets 4-54501
 X-ray lasers, pumping by transition metals, X-ray spectral line coincidences meas. 4-14673
 Am/F(α,n) sources, neutron spectral meas. 4-37980
 F I-VII photoionisation cross-section spectra 4-48994
 F IX ions, H like, in recombining laser plasma, inversion of level populations 4-19996
 F ions + ⁷⁹Au(⁸²Pb)(⁸³Bi)(⁹²U), direct ionisation and electron capture in M-shell X-ray prod. 4-11980
 F VII spectra and energy levels in 400 to 6000 Å range 4-38120
 F VIII, MCDP-EAL method appl., higher-order relativistic corrections 4-5148
 F₂⁺, electron impact ionisation cross-sections meas. 4-5459
 Fⁿ⁺, (n=2,3,4), excitation by C foil, metastable function yield 4-12003
 F+BrN₃, chemiluminesc. reactions, vibr. excitation 4-12336
 F+D₂, pot. energy surface, reaction attributes, cross sections and reson. features depend. 4-30925
 F+D₂(H₂) reactive scatt., infinite order sudden approx. 4-46751
 F+D₂→FD+D, product ang. distrib., quasiclassical trajectory study 4-21441
 F+ethylene reaction prod. fluoroethyl radical, HF mol. elimination study 4-30931
 F+H₂, 2D hindered internal rots. 4-46754
 F+H₂, HF product state distrib. at enhanced collision energies 4-21465
 F+H₂, pot. energy surfaces calc. 4-30924
 F+H₂, reactive scatt., variation of direct process contrib. with collision energy 4-49127
 F+H₂, role of angular momentum match in state-to-state reactive scattering and product rotational state distributions 4-51996
 F+H₂, state to state reactive scatt., product rot. state distrib. 4-21457
 F+H₂ collisions, in laser field, rot. wave approx. limitations 4-38278
 F+H₂ reactions in a laser field 4-3388
 F+H₂O, OH and OD radical form., UV photoelectron spectra 4-43920
 F+H₂Se, IR chemiluminesc. obs. 4-21435
 F+H₂(HD)(D₂), hot atom reaction, cross-sections, trajectory method 4-3422
 F+HBr, IR chemiluminesc. obs. 4-21435
 F+I₂, I₂(P_{1/2}) form., branching fraction and rate consts. 4-30950
 F+ICI (IBr)(I₂), IF vibr. product state distrib. laser induced fluoresc. 4-35886
 F+methyl nitrite-d₀(-d₃), reaction, FON stabilisation in Ar matrix, IR spectrosc. obs. 4-30963
 F+NH₃(ND₃) reaction, vibr. energy partitioning 4-51967
 F⁺+He(N₂)(CO₂) collisions, electron detachment study by differential time of flight energy loss study 4-9970
 F⁺+inert gas collisions, double electron detachment 4-54849
 F⁺+Mg(Al)(Si) ionis. cross-section and X-ray emission 4-12002
 F⁺+N₂(H₂)(CO₂) collisions, autodetaching states, electron spectra study 4-9972
 F⁷⁺+He(Ne), electron capture, F K-Auger emission spectra meas. 4-23805
 Fⁿ⁺+metal surface, ionisation and electron transfer for K-, L- and M-shells 4-9988
 F^{q+}+He, (q=6,7,8), electron capture processes, energy-gain spectroscopy 4-54859
 F^{q+}+He, electron capture, final state anal., translational energy spectra 4-14549
 F^{q+}+Ne(q=6, 8, 9) δ -electron emission, triple differential probabilities meas. 4-19186
 F₂, bond dissoc. energies, ab initio calcs. 4-33290
 F₂, electric hyperfine interaction, TDPAD study 4-40298
 F₂ electronegative gas, electron swarm param. calc. 4-34230

fluorine continued

- F₂⁺, A²I_u level, radiative lifetime meas. method 4-49094
 F₂-H₂ chemical laser, F atom absolute conc. determ. from UV absorpt. by F₂O radicals 4-28677
 F₂+Al, crossed beam collisions, AlF(a² π) vibr. distrib. 4-12342
 F₂+H collinear chem. reaction, uniform asymptotic swallowtail approx. 4-41190
 F₂+SiH₄, laser induced fluorescence in diffusion flames 4-49082
 FIX dielectronic satellite resonance-line intensities in recombining plasma 4-24538
¹⁸O production using ¹⁸O target 4-52475
¹⁹F, mag. coupling to liq. ³He at low temps., relax. phenomena 4-15737
 GeO₂-SiO₂:F single mode fibre fabrication using VAD method 4-24269
 He-F₂ laser mixtures, stable impurity species, mass spectrometric meas. 4-23961
 Si:F, porous, distrib. determ. using nuclear reactions, XPS and Auger anal. 4-45170
 a-Si:F, vibr. resonance modes 4-39428
 a-Si:F film, ion implanted, elec. cond. study 4-15969
 a-Si:F films, deposition, elec. and optical props. 4-51541
 a-Si:F films, prep. by glow-discharge decomp., impurity content, IR transmission spectra, bond stretching vibrs. 4-2983
 a-Si:F films, Raman scatt. of SiF₄ mols. 4-40437
 a-Si:H, F, dopant states, tight-binding calc. 4-6742
 Si:H, F amorphous thin films, RF glow discharge deposition from SiF₄ plasma anal. 4-21169
 a-Si:H, F film, deposition and photoconductivity 4-51540
 Si:H,F, amorphous film, glow discharge deposition and high resistive props. 4-16342
 a-Si:H,F,P alloys, high conductivity, percolation process, effect of P-doping 4-39907
 a-Si:H,F high cond. film, performance for power sensor and strain gauge 4-50813
 SiO₂:F, refractive index and material dispersion 4-1452
 SiO₂:F glass optical fibres, Raman scatt. anal. 4-49527
 SnO₂:F films, sprayed on glass substrates, elec. and optical props. 4-57021
 SnO₂:F(Sb) heat reflecting layer formation on glass, optical props. (Czech) 4-50685
 SnO₂:Sb,F, thin layer thermoelectric, prep. and props. (Polish) 4-2484

fluorine compounds

- aluminofluorophosphate glasses, durability and props. 4-15396
 BaF₂-GdF₃-ZrF₄ fluoride glass optical fibre prep. (Japanese) 4-49590
 fluorine compounds+Mg(Ar) ions, K X-ray spectra, chemical bonds effect 4-19203
 intercalation cpd. with graphite, EPR study 4-40219
 intercalation cpd. with graphite and LiF, elec. cond. and intercalation reaction study 4-41200
 trifluorides, electric hyperfine interaction, TDPAD study 4-40298
 FC(O)SCl, normal coord. anal., IR and Raman spectra 4-5209
 FCP, PES and ionisation pot. calc. by Green's function theory 4-5281
 FD+H, pot. energy surface, hyperspherical description, nonadiabatic effects 4-46741
 FD+Li, quantum and quasiclassical collinear reactive probabilities calc., isotope effects 4-46740
 FH, commutative coupling approx., appl. to bond form. and dissoc. 4-33292
 FH, density shaping to fit one-electron props., constrained RHF calcs. 4-23585
 FH, electric props., electron correls. and many-body perturbation theory approach 4-33332
 FH-H⁺(Li⁺), interaction energies, SCF and Moller-Plesset levels 4-54831
 FH+H, pot. energy surface, hyperspherical description, nonadiabatic effects 4-46741
 FH+Li, quantum and quasiclassical collinear reactive probabilities calc., isotope effects 4-46740
 FH₂, reactive scatt., variation of direct process contrib. with collision energy 4-49127
 FO radical, elec. dipole moment, laser mag. reson. spectra 4-14455
 FO₂ radicals, UV absorpt. for F atom absolute conc. determ., F₂-H₂ laser photoionisation 4-28677
 FON, reaction product from F+methyl nitrite, stabilisation in Ar matrix, IR spectrosc. obs. 4-30963
 tetrafluorides, electric hyperfine interaction, TDPAD study 4-40298

fluoroscropy *see radiography*flux (magnetic) *see magnetic flux*flux (neutron) *see neutron flux*

flux creep

see also flux pinning

No entries

flux crystal growth *see crystal growth from solution*

flux flow

see also flux pinning

- A15 supercond., flux pinning mechanism at high field (Chinese) 4-51004
 hard superconductor losses with local imperfections 4-2708
 hard superconductors, limited flux jumps 4-25489
 Josephson transmission lines, traveling fluxon waves, analytical solns. 4-20766
 superconductors, amorphous, flux flow resist. and crit. fields 4-45956
 two-dimensional inversion layers, quantised Hall resistance 4-15888
 two-dimensional Josephson tunnel junctions, fluxon motion (Russian) 4-45934
 type I superconducting, thin films, time-depend. flux flow voltage 4-56508
 Nb₃Ge supercond. film bridge and tunnel contacts 4-25488
 NbTi composite superconductors, elec.-field transport current characteristics 4-51005
 V₃Si thin film vortex motion microbridges, current oscills. (Russian) 4-45933
 Zr₃Ni, ideal type II amorphous supercond., flux flow resist. and upper crit. field 4-40124
 Zr₃Rh, ideal type II amorphous supercond., flux flow resist. and upper crit. field 4-40124

flux-line lattice

- A15 supercond., flux pinning mechanism at high field (Chinese) 4-51004
 DC SQUIDS, fluxoid and voltage states, thermal activation 4-15996
 fluxon dynamics on the circular Josephson oscillator 4-30127
 Josephson junction, dynamics of rigid vortex translations 4-20770

flux-line lattice continued
superconducting films, surface effects; quantised flux line EM struct. 4-20773
superconducting slabs, flux line lattice 4-11651
type II superconductors, metastable state formation at defects and pinning 4-11653
type II superconductors, surface effects, quantised flux line EM struct. 4-20773
Mo₂Si amorphous films, collective flux pinning 4-11652
Nb₂Si (Ge) amorphous films, collective flux pinning 4-11652
PbMo₂S₈, total flux meas., AC method 4-35127

flux line motion *see flux flow*

flux pinning

see also flux creep; flux flow

A15 supercond., flux pinning mechanism at high field (*Chinese*) 4-51004
composite supercond., interface flux pinning and critical currents 4-16002
phase segregation regions, elementary pinning force (*Russian*) 4-56513
superconductor under strain, magnetic flux trapping theory (*Russian*) 4-56512
type II superconductors, hysteresis losses, field independent surface barriers effects 4-45970
type II superconductors, metastable state formation at defects and pinning 4-11653
type II superconductors, surface permanent current and surface defect pinning (*Chinese*) 4-2688
type II superconductors characts. recording, using semiautomated system 4-8919
Mo₂Ge₃ superconducting films, amorphous, flux pinning and inhomogeneities or defects 4-45963
Mo₂Si amorphous films, collective flux pinning 4-11652
Mo₂Si amorphous films, collective flux pinning, probe of struct. defects 4-45964
Nb bicrystals, vortices interaction with grain boundaries, crit. current meas. 4-2711
Nb-Ta superconducting alloy, surface pinning 4-16001
Nb-Ti (50 wt.%), neutron irradi., pinning vol. force, materials treatment effects (*Russian*) 4-25493
Nb-Ti (56 wt.%), supercond., flux pinning on normal precipitates 4-40127
Nb-Ti superconducting composite wire, props. 4-45982
Nb₂Ge(Si) amorphous films, collective flux pinning, probe of struct. defects 4-45964
Nb₂Si (Ge) amorphous films, collective flux pinning 4-11652
Nb₂Sn, bronze-processed, chem. comps. near grain boundaries, AES study 4-2212
Nb₂Sn multifilamentary superconductors, composition, struct. and current carrying capacity 4-45976
NbTi supercond. with anisotropic defects, volume pinning forces 4-45965
NbTi(65 wt.%), critical current density, influence of precipitation and alloying 4-30130
PbMo₂S₈, crit. current density, magnetisation meas., grain size, neutron irradi. and doping effects 4-35128
PbMo₂S₈, total flux meas., AC method 4-35127
SnMo₂S₈, crit. current density, magnetisation meas., grain size, neutron irradi. and doping effects 4-35128
Ta₇₀Nb₃₀, superconducting props. meas. (*Russian*) 4-56511
Ti-Nb-Ta-Zr, supercond., flux pinning, role of α precipitates 4-45966
Zr based amorphous superconductors, flux entry fields 4-40126

flux vortex flow *see flux flow*

flux vortex lattice *see flux-line lattice*

fluxmeters

see also magnetic field measurement; magnetic flux
superconductor superfluxmeter (*Russian*) 4-17904
teslameter, standard, strong, mag. field meas. 4-13658

fluxoid array *see flux-line lattice*

FMR *see ferromagnetic resonance*

foams

see also bubbles

aqueous foam, liq. distrib. and elec. cond. 4-11565
brittle cellular solids, fracture toughness modelling 4-55917
bubbles, coalescence times meas., optical electronic technique 4-55436
channels and films, liquid distribution meas. 4-16688
phenol-urethane foam plastic with distorted cells, elastic and strength props. 4-12114
plastic foams, acoustic insulation, analogous circuits 4-44286
polyurethane foam cylindrical rigid blocks, mech. props. nonuniformity 4-51759
porous foam type material, viscoelastic, nonlinear compressive deform. 4-24356

focused collision sequences *see sputtering*

focusing

see also self-focusing

accelerator lattices, non-linear effects 4-28244
achromatic and sharp real imaging of a point by a single aspheric lens 4-1457
acoustic finite-amplitude focusing source, sound field 4-19639
adaptive light beam shaping systems, phase conjugation method 4-19518
aperture plane/focal plane system, optimum illumination derivation by system-theoretic approach 4-54954
atmospheric laser beams, focused, thermal distortions, numerical modelling 4-3825
automatic focus control, the astigmatic lens approach 4-44188
axions for flat top laser beam profile generation 4-19487
Caledonian Quadruplet, ion lenses, geometric aberration correction 4-939
cathode lenses, axisymm., image defocusing rel. to small defect presence, MTF 4-19352
circular accelerators, design concepts 4-28250
colour facsimile CRT system focus correction 4-49490
computer programs, successful areas of application 4-28243
conference, physics of high-energy particle accelerators, Stanford, CA, USA (Aug. 1982) 4-27225
corrugated focusing gratings for coupling radiation in and out of diffused LiNbO₃ waveguides 4-10426
Coulomb effects in linear ion accelerator with quadrupole RF focusing 4-43719
diffraction patterns in low-Fresnel-no. focusing systems 4-24133
electron beam column for 50×50 mm² deflection 4-49254

focusing continued

electrostatic mirror, two-electrode, space-time focusing, time and spatial aberrations 4-1332
ellipso-interferometry, elimination of de-focusing blur (*Japanese*) 4-27579
energy preponderance in the geometrical focal plane, diffracting aperture Fresnel no. 4-23894
entropy estimation from image histogram, appl. to image focusing 4-54970
focusing, small angle scatt., curved monochromator 4-5080
foil-focused relativistic electron beam equilibrium 4-18841
galvanometer scanner, precision post-objective two-axis system 4-24128
Gaussian focused light beam undergoing total internal refl. in prism, evanescent intensity 4-49262
gradient lenses in fibre optical devices, simulation 4-49555
gradient-index rod, defocusing, imaging props., aberration analytic expressions 4-1358
heavy-ion beam transport, stability of Kapchinskij-Vladimirskij distrib. 4-18839
intense light ion beam generation, focusing and transport 4-33247
inverse free electron laser accelerator, design 4-28246
ion and electron lenses, aberration corrected systems of planar electrostatic deflection elements 4-44036
iron optics, first order systems 4-23888
laser beam, elliptical, focusing, optimised spot 4-49410
laser beam axial irradiance and optimum focusing 4-1425
lens, two-dimens., light distrib. near focal point 4-42658
lens refractive index meas., nondestructive nonmiscible liq. immersion focusing with shearing interferometry 4-10400
linear accelerators, beam formation and dynamics 4-43718
linear proton accelerator, 1 MeV, with variable-phase focusing 4-33216
liquid crystal cell, focusing by elec. modulation of refr. 4-38368
magnetic periodic focusing structure, behaviour of ions with ang. momentum 4-33236
magnetic spectrometer resolution, online optimisation 4-54523
medical endoscope cameras, automatic focusing system 4-26493
Mossbauer gamma quanta, diffr. focusing 4-22899
optical benches, motorised focusing system 4-44184
optical microscope automated focusing 4-4459
p-i-n photodiode in photodetector for auto-focus systems (*Japanese*) 4-53791
phase imaging by the transport equation of intensity 4-44064
photorefraction optics rel. to eye defocus, orthogonal and isotropic methods 4-26387
polyvinylidene US transducers with broadband transmission and focusing props. (*German*) 4-24322
quadrupole probe-forming system beam optics, book 4-31978
relativistic bunched beam, coherent instabilities 4-28262
SAW, focusing method for nondestructive evaluation appl. 4-35792
scanning MeV-ion microprobe for light and heavy ions 4-43130
SELFOC lens characts., elec. compensation 4-19536
speckle holograms, focused, imaging props. 4-5559
speckle photography fringe formation, cross-correlation function 4-49270
stimulated Brillouin scattering, apodisation and spatial filtering of light beams 4-55135
storage rings, LEP main ring magnet system, construction techniques 4-48821
surface waves nonlinear focusing 4-14989
US focused plane waves obliquely incident at plane interface, aberrations anal. 4-14827
US imaging, synthetic aperture focusing, transverse and longitudinal resolution 4-19671
volume phase gratings, multiwave regime of light diffr. and focusing effect 4-24153
X-ray spectrometer, line type curved crystal fully focusing, new focusing mechanism (*Chinese*) 4-13739
zone plates; high numerical aperture, fabrication using deep UV lithography 4-38640
e⁺e⁻ storage ring, design description 4-28252
Ag, surface roughness, transverse electron focusing study 4-6632
Cu, surface roughness, transverse electron focusing study 4-6632
W, surface roughness, transverse electron focusing study 4-6632

focusing, particle *see focusing; particle optics*

fog

advective evaporation, props. calc. using horizontally nonuniform boundary layer model 4-31584
chemistry of fog in polluted Californian atmosphere 4-42094
Europe, dry fogs, 1500 BC to AD 1500, rel. to historical volcanism 4-17128
forecasting of marine fog probability using model output statistics scheme 4-52825
Germany, fog freq. in Federal Republic (1951-80) (*German*) 4-31621
ice particles in the atmosphere 4-31572
Lacq industrial region, France, gas-particle conversion, role of fog (*French*) 4-26334
laser beam backscattering, radiative transfer eqn. 4-1349
laser beam propagation, study of pulsed blue-green beam 4-26808
laser transmission through laboratory generated fog at visible, IR wavelengths, CO₂ laser pulse effect 4-1348
lidar remote sensing of wind and optical backscatt., influence of snow and fog 4-31635
Los Angeles, USA, chemistry of urban fog and mist 4-16813
optical attenuation rel. to fog liq. water content, UV to far infrared 4-13020
radiation fog nighttime observations at Albany, NY, USA 4-31571
review of fog structure and occurrence 4-26791
soil moisture, pollution and vertical exchange influence on radiation fog 4-47353
sound dispersion and absorption in atmospheric fog 4-3812
sound wave scatt. by random inhomogeneities in atmos. fog 4-19644
urban fog chemistry, model for production of H⁺, NO₃⁻, SO₄²⁻ 4-42076

foils

magnetic domain structure obs. by electron microscopy 4-56682
metal foils, unbacked cylindrical, of submicron thickness, production 4-16322
polymer, X-ray irradi. induced foil electret 4-35338
polymer electrets, radiation-induced charge transport, Teflon FEP, Hostaphan PETP and Solef PVDF 4-16142
Teflon FEP foils, negative charge transport, const. current method 4-34985

foils continued

- Al, cathodolum. simple collectors in SEM 4-17036
- Al foil, K edge EXAFS spectra 4-7280
- Al foil laser evaporation, laser-evaporation instability 4-29475
- Al, layer thickness estimation using glancing inclined X-ray beams 4-42919
- Au ultrathin foil, combined refl. and transmission ellipsometry 4-43021
- C, elastic multiple scatt. of transmitted electrons, energy loss straggling 4-45236
- Cu foil, proton stopping cross section meas., Rutherford backscattering spectra, foil thickness determ. 4-50383
- Fe-Ni-V (28, 1.5 wt.%) foils, residual austenite layers (*Russian*) 4-7415
- Nb_{0.8}Ti_{0.2} foils, surface supercond. (*Russian*) 4-2709
- U alloys, sample preparation for TEM 4-13732

Fokker-Planck equation

- Φ^4 model, kink dynamics, thermostat influence 4-13609
- asymptotic equivalence to diffusion eqn. 4-4360
- averages of quantities using Langevin eqn. formalism 4-13576
- bistable potential, diffusion study with nonlinear Langevin and Fokker-Planck eqns. 4-17857
- bistable reaction-diffusion system, stochastic bifurcations with Neumann boundary conditions 4-22731
- bistable systems, master eqn., Fokker-Planck modeling 4-22693
- Boltzmann-Fokker-Planck transport eqn., inverse problem solns. 4-4361
- Brownian motion, boundary conditions associated with reduced distrib. functions 4-173
- chain reduction to canonical form via Backlund transforms. 4-13601
- cosmology, stochastic model of universe, Fokker-Planck solution 4-27375
- current drive by ECR heating, electron mass relativistic correction effects 4-15191
- damped harmonic oscillator, quantum solns. 4-22557
- dechanneling, orientation depend., using Rutherford backscattering and charact. X-ray yields 4-15561
- dissipative collective motion, time-depend. projection method anal. 4-37468
- dissipative dynamical systems, existence of pot. 4-22691
- dissipative models without manifest detailed balance, nonequilibrium potentials and stationary probability distrib. 4-8845
- dissipative systems, nonlinear Schrödinger type field equation 4-47891
- dithered-ring laser gyroscope, mean beat freq. quantum noise 4-24030
- dynamical Fokker-Planck models without manifest detailed balance, nonequilib. pots. and stationary probability distrib. 4-13579
- ECRH current drive, relativistic effects, Fokker-Planck treatment 4-55499
- electron energy transport in laser producing ablating plasma 4-6012
- electrostatically confined particles in mag. mirror field, collisional end loss 4-44849
- first-passage time memory index, simple measure of non-Markovian character 4-22689
- fluctuation-dissipation theorems for nonequilibrium steady states without detailed balance 4-48048
- flux-limited diffusion and Fokker-Planck eqns. 4-14020
- generalised Fokker-Planck eqn. derivation from Boltzmann transport eqn. 4-37019
- gravitation field stochastic quantisation and Gribov problem 4-42811
- heat transport in steep temp. gradient 4-4365
- imperfectly ionised plasma, kinetic eqn. from Boltzmann eqn., inelastic processes 4-55487
- interacting Brownian particles, Fokker-Planck eqn., derivation of N-particle analogue 4-4337
- intramolecular vibr. energy redistrib. and dissoc. in presence of radiation, Stochastic theory 4-26187
- kinetic energy of fission fragments, dynamical description of variances 4-27911
- Kramers theory extension of chem. relax. to nonwhite noise case 4-35857
- laser oscillator, injection-locked, quantum noise 4-55007
- linear and nonlinear solutions using Trotter's formula 4-4355
- longitudinal bunched-beam instabilities, theory based on Fokker-Planck eqn. 4-33238
- magnetised, collision integral, conservation laws and H theorem 4-10816
- molecular liquid, orienting field effect on viscosity 4-39555
- multilevel atom motion in reson. light fields 4-18998
- neutron thermalisation in heavy gas moderator, Fokker-Planck eqn. soln. 4-48611
- nonequilibrium systems, Fokker-Planck conditional operators, Onsager-Machup-Laplace approx. 4-8818
- nonlinear stochastic models with cubic interactions, critical behaviour 4-8821
- nuclear fission rate calculation from Fokker-Planck eqn. (*Chinese*) 4-48559
- one dimensional, eigenfunction half-range completeness 4-4356
- optical bistability, dispersive, with amplitude and phase fluctuations, activation rates 4-38523
- optical bistability, laser amplitude and phase fluctuation effect 4-38524
- optical bistability, positive correl. time effect 4-38522
- perturbative derivation for coloured multiplicative noise 4-53594
- plasma ICRF waves, current generation by interaction with α particle 4-6032
- plasma transport theory, velocity distrib. function, energy spread 4-44808
- quantum Brownian motion, path integral approach 4-17832
- quantum-optical systems, single-mode laser model, fluctuation theory 4-23943
- random walks, generalised, most-probable paths 4-4340
- restricted stochastic processes, Fokker-Planck eqns. path integral solns. numerical evaluations 4-8822
- ripple-induced radial diffusion of fast ions in tokamaks 4-15072
- scalar theory, functional-integral approach to Parisi-Wu stochastic quantisation 4-4551
- stochastic electrodynamics, perturbed harmonic oscillator zero-point field system 4-18145
- stochastic Langevin type equations, stationary distrib. functions, const. 4-48007
- stochastic process, closed-loop-controlled, for quantum particle dynamics 4-32082
- stochastic quantisation and mean field approx., XY and Z_N system Fokker-Planck eqn. 4-32438
- superconductor stability, effect of random localised thermal disturbances (*Russian*) 4-56485
- tandem mirror reactors, end cells, heating and pumping 4-55593

Fokker-Planck equation continued

- thermal-barrier tandem mirrors, electrostatically trapped electrons 4-44848
 - Tokamak, influence of runaways on current drive, numerical studies 4-20013
 - Tokamaks and compact tori, RF current drive 4-6150
 - toroidal plasma, fast ions, kinetic eqn., Fokker-Planck eqn. 4-49930
 - two-mode ring laser, multivariable stochastic processes, first passage times and hysteresis 4-55008
 - α -particle confinement in EBT-R bumpy torus 4-55594
 - ²³⁵U fission, diffusion model using Fokker-Planck eqn. (*Chinese*) 4-43537
- food processing industry**
- complex industrial wastewater treatment by reverse osmosis 4-36043
 - functional membranes, review 4-52054
- forbidden gap** *see energy gap*
- Forbush decreases** *see cosmic ray variations*
- force**
- see also atomic forces; coercive force; Coriolis force; force measurement; molecular force constants; nuclear forces*
 - body with tail fins, in ideal gas supersonic flow 4-5915
 - composite winding, continuous model for force analysis 4-44365
- force constants** *see lattice dynamics; molecular force constants*
- force measurement**
- see also dynamometers*
 - 'A vibrating quartz force sensor' 4-4394
 - biomedical force transducers for the evaluation of labial, lingual, and mandibular motor impairments 4-52512
 - bite force meas. method for primates 4-12737
 - conversion of the force unit to the international system, Soviet experiences 4-32259
 - electrical force/strain gauge transducers for force measurement 4-48112
 - electronic/mechanical weighers, characts. and weighing principles 4-48088
 - gravitational constant determ., fine displacement of cylindrical masses meas. (*German*) 4-37267
 - gyro force measuring transducer, biomedical appls. 4-52520
 - knee extensors and flexors functional capacity meas. apparatus, research and clinical appls. 4-12739
 - magnetostriuctive force transducer (*Bulgarian*) 4-242
 - optical point sensors for process control, conf., London, England (Jan. 1984) 4-36805
 - periodic force moments meas., acting on high-quality mechanical resonator 4-32257
 - recalibration of third-rank standard facilities, for meas. in SI units 4-32258
 - standard direct-loading dynamometer machine 4-32260
 - strain gauge, force sensor, low load 4-27511
 - thin film strain gauges, low-cost pressure/force transducer appl. 4-22767
 - two-range semiconductor tensoresistive force transducer 4-32252
 - vascular smooth muscle cells, single, isolated, sensitive force transducer system 4-47117
- force meters** *see force measurement*
- forecasting, technological** *see technological forecasting*
- forging**
- ductile material, frictionless ring forming 4-55348
 - IN 718, forged gas turbine disk, high temp. fatigue strength 4-12186
 - steel, Cr-Ni-Mo, economically alloyed, for large forgings 4-40919
 - steel, high strength, cast and forged, comparative study of fracture and fatigue 4-57325
 - strain distribution of interior grains 4-39369
 - Al-Cu semiproducts, hardening 4-57267
 - Al-Cu-Mg-Si forgings, struct. and props., Mg and Fe contents influence 4-57331
 - Bi₄Ti₃O₁₂, forged ferroelectric ceramics, degree of preferred orientation (*Chinese*) 4-51685
 - Co-Cr-Mo, surgical implant alloys, microstructural changes during isothermal forging 4-40833
 - Ni, polycryst., fatigue development mechanism during thermal cycling 4-35699
 - Ni-Mo, sintered, struct. and mech. props. after hot plastic working and heat treatment 4-26014
 - TiC powder, hot drop forging, density depend. (*Russian*) 4-30671
 - W wire reinforced Ni-base superalloy, fracture during isothermal forging 4-57329
- form factors, atomic** *see atomic structure*
- form factors (elementary particles)**
- see also form factors (nuclear)*
 - $\pi^0 \rightarrow e^+e^- \gamma$, radiative corrections, two photon exchange effects 4-18267
 - inelastic leptonprod. struct. functions in quasielastic region, QCD double log. approx. 4-43366
 - deuteron, relativistic EM form factors calcs. (*Russian*) 4-37383
 - deuteron asymptotic D state, form factor effects, quark degrees of freedom 4-32573
 - EM current, off-diagonal form factors, covariant parametrisation by multiple form factors 4-27740
 - extended hadron model, weak form factors 4-53924
 - hyperons, correlation and polarisation effects in leptonic decays (*Russian*) 4-4678
 - isovector electric nucleon form factor, vector meson contributions 4-53968
 - Lorentz boost transformation for soliton bag model in mean field approx. 4-18194
 - meson annihilation form factor and relativistic wave function for bound states 4-53993
 - neutron elec. form factors and π NN vertex functions related to electron-deuteron polarisations 4-48475
 - nucleon axial form factor and π N vertex function in relativistic quark model, PCAC 4-23019
 - nucleon axial form factor in bag models 4-32593
 - nucleon mag. form factor in perturbative QCD 4-53947
 - nucleon vertex functions, mesonic structure function and form factors, QCD calc. 4-18252
 - nucleons, soliton models and translational invariance 4-9085
 - pion elec. form factor in perturbative QCD 4-53947
 - pion form factor from hadron amplitudes 4-27751
 - ponic, anomalous dimension matrices of higher twist operators, diagnostics 4-27703
 - pseudoscalar mesons, moving frame wavefunctions, EM form factors, anisotropic chromodynamics 4-18154

form factors (elementary particles) continued

- QCD, many-gluon correl. and quark form factor 4-53946
 quark scatt. amplitudes, logarithmic asymptotics 4-18259
 tensor mesons in unitarised quark model, glueball component in f and f' mesons 4-32624
 virtual pion distribution in nuclei meas. by photon scatt. 4-32644
 d, form factor pole expansion 4-48481
 $D \rightarrow \Pi^0 \gamma$, lepton mass and form factor effects 4-27725
 $e^+e^- \rightarrow \pi^+\pi^-$, pion EM form factor meas. at 640-1400 MeV 4-37380
 eN , deep inelastic scatt., invariant current algebra on light cone 4-53999
 $\eta \rightarrow \mu^+\mu^-$, EM form factor behaviour 4-53991
 $\eta \rightarrow \mu^+\mu^- \gamma(\gamma\gamma)$, two-photon form factor, EM decay amplitudes in quark triangle model 4-18228
 $\gamma \rightarrow \pi^+\omega$, transition form factor from hadron amplitudes 4-27751
 $K^0 \rightarrow \pi^+\mu^+\mu^-$ form factor, connection with quark mass differences, QCD sum rule anal. 4-23020
 $\Lambda \rightarrow p e \bar{\nu}$, branching ratio, axial vector/vector form factor ratio, EM corrections 4-18246
 $pN \rightarrow \mu^+\pi^+ \pi^- (\mu^+\pi^+ \pi^-)$, 5-200 GeV, single prod. in charged current interactions 4-4669
 pp , hadronic matter from factors and valon model 4-32705
 $\pi^+ \rightarrow e^+e^-$, EM form factor behaviour 4-53991
 $\pi^0 \rightarrow e^+e^- \gamma(\gamma\gamma)$, two-photon form factor, EM decay amplitudes in quark triangle model 4-18228
 $\pi^+ + e^- \rightarrow \gamma$, form factor for decay into Dalitz pair, invariance mass squared depend. 4-18261
 πp , hadronic matter from factors and valon model 4-32705
 $\pi p \rightarrow \pi p$, scatt. amplitude at large momentum transfer 4-18287
 qqq states, pion degree of freedom, Bethe-Salpeter dynamics 4-53862
 π^+ EM form factor from QCD sum rules 4-13877
 $\pi^- \rightarrow n e \bar{\nu}$, branching ratio, centre-of-mass distrib., axial vector/vector form factor ratio 4-18247
 $\Xi^- \rightarrow \Lambda e \bar{\nu}$, branching ratio, axial vector/vector form factor ratio, EM corrections 4-18246
 $\Xi^- \rightarrow \Sigma^0 e \bar{\nu}$, branching ratio, axial vector/vector form factor ratio, EM corrections 4-18246
 ωN structure funct., comparison with πN and pN form factors calc. 4-43369
 π form factor calc. in perturbative QCD, renormalisation of pseudoscalar wave function 4-18254

form factors (nuclear)

- A=16, axial charge density at $\Delta T=1, 0^+ \rightarrow 0^-$ isovector transition 4-18335
 A=3 mag. form factors, N anomalous mag. moment, meson exchange current operators 4-18358
 deformed nuclei, electron charge and magnetic scatt., joint eikonal description 4-591
 electric excitations in A=16 to 40, (e,e') and shell model anal. 4-43430
 muon capture form factors in vector dominance model 4-54090
 nuclear matter, collective excitations in hard core RPA model, dynamic form factors 4-48518
 nuclear matter with tensor forces, linear response, form factor in spin and spin-isospin channels 4-23071
 nucleon-meson vertex interaction, coupling consts. and form factors determ. 4-43405
 optical potential, isovector part, meson struct. 4-595
 quasielastic electron scatt., effective-mass approx. 4-4843
 repulsion in form factors for two-nucleon forces, two-pion exchange three-nucleon force, short-range behaviour 4-4751
 (d,n) stripping process to isolated analogue resonances, form factors, DWBA 4-43446
 (e,e), spin 7/2 nuclei, ground state form factors 4-523
 π form factor and charge radius in QCD 4-9109
 ^3He - ^3H form factor, coupling const., impulse approx. calc. 4-32790
 ^27Al , form factors from statistical spectroscopy theory (Chinese) 4-54032
 ^27Al , ground and low-lying excited states, parameter meas. 4-9147
 ^7Be , form factors, density, moments and transitions in cluster model 4-37437
 ^{12}C form factors from HF functions, centre-of-mass motion separation effects 4-4748
 $^{12}\text{C}(N,N)$, elastic scatt. and Skyrme pot. 4-43459
 $^{12}\text{C}(e,X)$, quasi-elastic scatt. studies, form factors (Russian) 4-23101
 $^{12}\text{C}(e,e')$, 80-330 MeV, levels, PWBA form factors, mag. isovector transitions 4-32839
 $^{12}\text{C}(p,p')$, 30-40 MeV, elastic and inelastic differential cross section meas. 4-4854
 $^{14}\text{C}(e,e')$, isoscalar and isovector M4 spin transitions 4-54122
 $^{40}\text{Ca}(N,X)$ optical potential, two-body interaction 4-37614
 $^{19}\text{F}(e,e)$, mag. moments and elastic mag. electron scatt. form factors, simultaneous anal. 4-18344
 $^1\text{H}(n,\gamma)^2\text{H}$, thermal capture and deuteron electrodisintegration near threshold 4-32865
 ^2H , form factor pole expansion 4-48481
 ^2H quark structure and polarisation in eD elastic scatt. at large transfer momenta 4-37543
 $^2\text{H}(e,e)$, form factor, tensor polarisation, analytical wave function 4-54125
 $^2\text{H}(e,e)$, neutron charge form factor slope, Paris potential 4-37441
 ^3H wave function calcs. using PERFECT V-A FORTRAN programs 4-32776
 ^3He , charge and point proton distrib. from (e,e) form factor anal. 4-43399
 ^3He magnetic form factor from Faddeev eqns., meson exchange currents 4-18336
 $^3\text{He}(e,e')$, electrodisintegration, double differential cross section meas. 4-32866
 ^7Li , form factors, density, moments and transitions in cluster model 4-37437
 ^{24}Mg , form factors from statistical spectroscopy theory (Chinese) 4-54032
 ^{24}Mg M3 transition form factors meas. in (e,e'), shell model anal. 4-27825
 $^{14}\text{N}(p,X)$, pd and pt knockout, distortion effects, microscopic theory anal., form factors calc. 4-18435
 ^{58}Ni , A=58, 60, low-lying dipole excitations, microscopic shell model approach 4-23042
 $^{41}\text{Ni}(p,p')$, A=58, 60, 62, 64, inversion procedure for DWBA form factors 4-27872
 $^{58}\text{Ni}(^{40}\text{Ar},X)$, 280 MeV, deep inelastic scatt., form factor, two parameter distrib. (Chinese) 4-54158

form factors (nuclear) continued

- $^{16}\text{O}(p,X)$, pd and pt knockout, distortion effects, microscopic theory anal., form factors calc. 4-18435
 ^{17}O , mag. form factor, meson exchange currents, isobars, core polarisation 4-37449
 $^{31}\text{P}(e,e)$, mag. moments and elastic mag. electron scatt. form factors, simultaneous anal. 4-18344
 $^{208}\text{Pb}(N,X)$ optical potential, two-body interaction 4-37614
 $(\pi,\pi^0\gamma)$, pion-gamma ang. correl. meas., theoretical aspects 4-32936
 ^{32}S , form factors from statistical spectroscopy theory (Chinese) 4-54032
 ^{28}Si charge form factors, energy variation, statistical spectroscopic theory anal. 4-27788
 ^{28}Si , form factors from statistical spectroscopy theory (Chinese) 4-54032
 ^{28}Si M3 transition form factors meas. in (e,e'), shell model anal. 4-27825
 $^{29}\text{Si}(e,e)$, mag. moments and elastic mag. electron scatt. form factors, simultaneous anal. 4-18344
 ^{51}V , mag. form factor at very high momentum transfer 4-13932
 $^{90}\text{Zr}(e,e)$, positive parity state excitation 4-32868

formal logic

- axiomatic quantum mechanics, orthogonality and orthocomplementations 4-47904

formation, heat of *see heat of formation***forming processes**

- see also casting; electroforming*
 fibres formation, generation of auto-oscillations 4-44513
 forming limit diagram, influence of surface roughness and void growth at inclusions 4-3175
 local forming with heating, stress-strain state in inner deformation zone 4-24360
 metal, sheet, localised necking at negative minor strains 4-40913
 metals, formability, compression testing 4-41145
 metals, sheet, generalised quadratic flow 4-40910
 polyethylene, void-free thick-section injection-flow mouldings. prod., preferred orientation and residual stress meas. 4-35601
 steel, C, forming, dislocation cells geometrical characts. (French) 4-29441
 steel, flat sheet, anal. of biaxial stretching 4-40911
 steel, formability diagrams, modified (German) 4-16432
 Al flat sheet, anal. of biaxial stretching 4-40911
 Al-Mg (6 wt.%), sheet, struct. changes during warm-forming 4-46536
 W wire reinforced Ni-base superalloy, fracture during isothermal forging 4-57329

FORTRAN

- molecular dynamics FORTRAN programs, vectorisation using Cyber 205 processor 4-20064

Foucault currents *see eddy currents***fountain effect** *see superfluid helium-4***Fourier analysis**

- see also Fourier transforms; harmonic analysis; waveform analysis*
 cardiac wall motion quantitative assessment in multiple-gated studies using temporal Fourier anal. 4-16972
 charged-particle scatt. in presence of laser plus Coulomb-field 4-8784
 composite materials, US testing, wideband spectral anal. 4-51950
 deformation density peaks, charge content determination 4-10921
 diffusion equation, 2-D, nonlinear, theoretical anal. of phase decomp. 4-25941
 EEG frequency components of short duration, Fourier anal. resolution 4-31345
 electrostatic electron spectrometer using tubular electrodes of equal radius 4-28282
 EM wave reflection and transmission in inhomogeneous media, analysis using Fourier series expansion method (Japanese) 4-33594
 fluoro-octamethylporphyrinato-Ga(III) complex-GaF(GaOH), bridge-stacked polymeric struct., Fourier anal. and EXAFS spectra 4-35515
 grain boundary struct., computed, use of Fourier anal. 4-11155
 lip contours for isolated spoken vowels, structural analysis using Fourier descriptors 4-31235
 magnetic field calc., Fourier element method 4-49211
 magnetic field meas., NMR imaging method 4-42932
 mass spectrometer resolution enhancement, iterative and function continuation Fourier deconvolution methods 4-18002
 maximum entropy image reconstruction 4-3937
 Seasat data correction, Fourier analysis of impulse response 4-26876
 semiconductors, density of electron states, Fourier series calc. 4-20532
 spectrum Fourier self-deconvolution for parameter optimisation, noise and side-lobes minimisation 4-48215
 speech analysis, synthesis and recognition, review (French) 4-24309
 statistical geometry, accelerated convergence using contrast amplification 4-10920
 statistical geometry, numerical soln. via single pixel eqn. 4-10919
 two-dimensional shape classification, Fourier descriptors appl. (Chinese) 4-28628
 US scattering by arrays of scattering objects, Fourier anal. 4-38651
 wave eqn., classical, Fourier nonperiodic soln. 4-17703
 X-ray diffr. peak shapes, Fourier anal., single peak methods 4-44894
 As_2S_3 amorphous thin films, struct., Fourier anal. method (Russian) 4-44966
 $\alpha\text{-Co}_2\text{SiO}_4$, cryst. struct. and electron distrib., X-ray diffr. study 4-15434
 CuAlO_2 , charge density distrib. and d-s hybridization 4-2158
 $\text{Fe}_{83}\text{B}_{17}$ glassy alloy, primary crystallisation, X-ray diffr. anal. 4-6289
 H_2 , solid, spin-lattice relax. times, pulsed NMR studies 4-15742
 KFeF_3 , electron density distrib., X-ray diffr. study 4-2157
 $\text{Na}_2\text{Ca}(\text{CO}_3)_2$, ^{23}Na NMR central lineshape, temp. depend. 4-46126
 $\alpha\text{-Ni}_2\text{SiO}_4$, cryst. struct. and electron distrib., X-ray diffr. study 4-15434
Fourier series *see series (mathematics)*
Fourier transform optics
see also Fourier transform spectroscopy
 achromatic-Fourier-transform all-glass lens design 4-5679
 achromatized system for performing optic Fourier transforms 4-44058
 anamorphic rotation-variant system, nonsymm. Fourier transforming 4-54958
 apertures with N-fold rot. symm., Fraunhofer diffr. pattern struct. 4-23896
 band-limited multidimens. signal reconstruction from its phase or magnitude 4-10248
 colour recording and reconstruction by Fourier holography, computer generated colour (Spanish) 4-5556
 computer-generated circular carrier Fourier holograms 4-19407
 deformable mirror spatial light modulator, two-dimens., fast, analog, electrically addressable, optical information processing appls. 4-24158

Fourier transform optics continued

- electron Fourier holography (*German*) 4-22880
- filtering and least-squares regression in reciprocal space, optical spectra analysis by Fourier methods 4-23909
- frequency sampling of the short-time Fourier-transform magnitude for signal reconstruction 4-10258
- fringe-pattern anal., two-dimens. 4-17926
- generalised Fourier hologram, speckle pattern anal. (*Russian*) 4-49308
- grating-based white-light optical signal processor, coherence meas. 4-38403
- heterodyne optical strain sensor 4-13633
- holograms, Fourier type synthetic amplitude, numerical reconstruction props. 4-54991
- holographic interferometry based on spatial filtering, information separation on different forms of motion 4-54988
- image reconstruction, two- and multi-dimens., Fourier spectrum phase method (*Ukrainian*) 4-5550
- inhomogeneous cylindrical layered structure anal. using equivalent circuits in Fourier space 4-1477
- inhomogeneous layer with arbitrary refr. index profile, ellipsometric formulas 4-27571
- integrated optic Fourier processor using acoustooptic deflector and Fresnel lenses in As_2S_3 waveguide 4-24244
- intensity function bounds from Fourier transform samples 4-19385
- lineshape and wavenumber variation modelling for off-axis detectors in Fourier transform spectrometer sensor systems 4-5548
- monograph of optical field transform, problems (*Polish*) 4-1361
- MTF, two-dimens., numerical evaluation by means of spot diagram 4-23911
- object reconstruction having latent reference points 4-10244
- optical information processing, conf. Cuernavaca City, Mexico (Jan. 1982) 4-53340
- particle size distrib. meas., Hankel transform of Fraunhofer diff. spec. 4-8870
- phase estimation based on the maximum likelihood criterion 4-1357
- phase reconstruction stability 4-10247
- phase retrieval, complex function phases from function amplitudes and Fourier and Mellin transform amplitudes 4-10249
- phase retrieval problem 4-19387
- phase retrieval problem soln. using the sampling theorem 4-5552
- picosecond pulse shape 4-44062
- plate camera construction for 12 beam position laser recording (*German*) 4-49300
- printed character recognition from paper, optical correlator appl. 4-28644
- profilometry, Fourier transform, for automatic meas. of 3D object shapes 4-22746
- recursive phase retrieval using boundary conditions 4-10245
- signal synthesis and reconstruction from partial Fourier-domain information 4-10243
- spatial filtering technique for simulating higher freqs. by a coherent optical processor 4-19545
- spatial frequency filtering using interferences 4-49275
- speckle holograms, focused, imaging props. 4-5559
- speckle interferometry image reconstruction from the Fourier transform phase 4-49279
- spectrometer sensor system developments performance models as design aids 4-5549
- spherical aberration and diffraction derived via Fourier optics 4-49290
- superresolution of Fourier transform spectroscopy data by the maximum entropy method 4-19381
- superresolution processing precision bounds 4-49281
- terrain textures, invariant directional signature extraction from Fourier spectra 4-19392
- thin film complex reflectivity and refr. index profiles from reflectivity magnitude meas. 4-19357
- transform shape descriptors, optical extraction 4-23907
- wavefront sensing by optical phase differentiation, coherent processing system with rot. filter 4-49277
- waveguide anal. using Fourier transform, appl. to intersecting waveguides (*Japanese*) 4-28835
- white light Fourier transform lens 4-55160
- Wigner distribution function of 2D signals, coherent-optical generation and display 4-23915
- CaF_2 polished optical surfaces, surface roughness spectral-density function 4-234
- GaAs electroabsorptive CCD spatial light modulator, Fourier transform. appls. 4-24155
- LiF polished optical surfaces, surface roughness spectral-density function 4-234
- MgF_2 polished optical surfaces, surface roughness spectral-density function 4-234

Fourier transform spectroscopy

- air pollution meas. appl., mobile IR system 4-3514
- antibiotics, aq. solns., FT IR spectrosc. using liq. analyser accessory 4-54681
- aqueous solns., H_2O reson. suppression for PMR spectra 4-7077
- aspirin tablet, IR photothermal beam deflection spectra of solids, coupling gas nature effects 4-7174
- atmospheric IR emission study using balloon-borne cryogenic Fourier spectrometer 4-8322
- atmospheric radiometry using Fourier transform spectrometers 4-8321
- benzene, FT IR spectrum in supersonic expansion 4-28437
- 3-bromothiophene, vibronic ground state microwave rot. spectrum, quadrupole hyperfine struct., and centrifugal distortion anal. 4-14393
- capillary GC/FTIR using moderate-cost interferometer 4-57611
- chiral molecules, circular dichroism in vibr. transitions down to 600 cm^{-1} 4-53775
- 2-chloropropene, microwave rot. spectrum 4-14392
- chromophore aggregates, absorpt. bandshape, retarded Green function FT resolvent expansion calcs. 4-38252
- coal pyrolysis, anal. of devolatilization using entrained flow reactor 4-3406
- contrast improvement in photoacoustic and diffuse light Fourier transform spectroscopy 4-32329
- cryogenically cooled sensors and Fourier transform spectrometers, conf., San Diego, CA, USA (Aug. 1982) 4-4142
- deconvolution, derivation and smoothing using Fourier transforms 4-48093
- diazomethane, ν_2 band, IR Fourier transform and diode laser spectrum 4-33393

Fourier transform spectroscopy continued

- dichlorofluoromethane, vibr. anal. of gas phase IR spectrum 4-49014
- dimethylmercury, HO radical initiated oxidation mechanism, kinetics, long-path FT IR obs. 4-30966
- dimethylpentanes, vibr. anal., FT IR spectra 4-54688
- epoxy resin coating on imidazole treated Cu surface, Fourier transform IR spectra 4-51879
- far-IR, Hg discharge lamp effective size determ. 4-37218
- fast real time Fourier transform techniques 4-22851
- flexible scanning advantages for Fourier transform spectrometers 4-4471
- fringe signatures, low freq., location in Fourier transforms of spectra 4-32318
- FT NMR imaging, high resolution chem. shift resolved planar imaging 4-38209
- gas chromatography-Fourier transform IR spectroscopy, sensitivity, light-pipe dimensions effect 4-57608
- glass fibre composite interfaces, nondestructive FT IR sampling technique investigation 4-57491
- high-performance FTIR using corner cube interferometer 4-53776
- high-resolution Fourier transform spectrometer design 4-8955
- holographic Fourier transform spectroscopy, infinite resolution (*Chinese*) 4-53767
- inductively coupled plasma-Fourier transform spectrometer merger for spectrophysical and analytical appls. 4-17948
- infrared spectroscopy instrumentation and theory 4-17964
- n-InP epitaxial, far IR photocond. from shallow donors 4-39954
- interferograms, implicit apodization 4-32314
- ion cyclotron reson. freq., space charge effects 4-13711
- IR, for polymer interfaces, book contrib. 4-7208
- IR absorbance meas., resolution errors 4-53777
- IR Fourier spectroscopy in low-temp. pyrometry, microcomputer-aided instrumentation (*German*) 4-27605
- IR spectral band shapes improvement 4-22855
- IR spectrometer absorpt. cell parameter determ. 4-53778
- IR spectroscopic ellipsometry using IR retarder 4-37147
- IR vibr. circular dichroism, methodology and results 4-53774
- mass spectrometry, space charge effects 4-22866
- mass spectrometry, zoom transform appl. 4-13709
- methylene chloride, high press. FT IR meas., second-order phase transition 4-56905
- molecular ions, high-resolution IR spectra 4-9772
- NMR, solvent suppression method 4-17908
- NQR, Fourier transform, detection by pulsed field cycling 4-53715
- off-axis detectors on Fourier transform spectrometer sensor systems, line-shape and wavenumber var. modelling 4-5548
- optical spectral, anal. by Fourier methods, appl. to Si ellipsometric data 4-37217
- organosilicon plasma deposited films, IR spectra, ESCA and contact angle characterisation 4-7264
- perfluorotributylamine, stochastic Fourier transform ion cyclotron mass spectrometry 4-48245
- performance models as design aids for Fourier transform spectrometer sensor system developments 4-5549
- PET, blends, crystallisation studies by Fourier transform IR photoacoustic spectroscopy 4-35439
- photoacoustic spectroscopy, appl. to chemical systems in condensed phase, tutorial review 4-32328
- photodiode array, self-scanning, for Fourier transform spectrometer 4-37186
- PMR by Fourier transformation, chem. shift and spin coupling separation, dispersion signal elimination 4-37136
- polyethylene, chain scission, mech. failure, Fourier transform IR spectra 4-3222
- poly(vinyl alcohol) hydrogel, DSC and FT-NMR of bound water 4-30289
- poly-3-methylthiophene oxidation on electrode surfaces, in situ IR-ATR-spectroscopy 4-57370
- polychlorinated biphenyls, multicomponent analyses by FTIR spectroscopy 4-12406
- polymer interfaces, IR methods appl., book contrib. 4-7208
- polymers, reversible chemical and physical changes studied using Stroboscopic FT-IR 4-57557
- polythiophene oxidation on electrode surfaces, in situ IR-ATR-spectroscopy 4-57370
- powered solids, chem. shift anisotropy study by 2D FT NMR with flipping of spinning axis 4-30303
- pulsed sequence generator for Fourier transform NMR spectrometer 4-42997
- PVC, nonequilibrium glassy state, freq. shifting, Fourier transform IR spectroscopic detection 4-2100
- quartz, phase transition study by far IR Fourier spectroscopy 4-25743
- quasi-optimal apodization in Fourier spectroscopy 4-4475
- self-deconvolution for parameter optimisation, noise and side-lobes minimisation 4-48215
- smearing of interferograms in Fourier transform spectroscopy 4-37184
- spectral coordinate transformation method effectiveness in unknown spectral parameters eval. 4-8957
- stochastic Fourier transform ion cyclotron mass spectrometry 4-48245
- stochastic NMR spectroscopy, magnetisation exchange, zero and double quantum spectra 4-4435
- structural phase transitions, light scatt. studies, seminar, Bentenjima, Japan (June 1983) 4-22509
- supercritical fluid chromatography/Fourier transform IR spectroscopy, on line 4-12398
- superresolution of Fourier transform spectroscopy data by the maximum entropy method 4-19381
- tandem quadrupole mass spectrometer/Fourier transforms mass spectrometer 4-37241
- TGA/FTIR interface to computer 4-17883
- thermal conductivity, optical measurement using spatial Fourier spectrum of thermally induced lens 4-38699
- triethylammonium ions in ion-exchange resins, mol. motion and mag. relax. (*Russian*) 4-14451
- variable field stop spectrometer, improved S/N ratio 4-37191
- water adsorption, FTIR spectra, heat flow microcalorimetry 4-40428
- Zoom-FFT, damping characts. of structures, determ. by transient testing 4-38775
- $Ar-F_2C^{16}O$ ($F_2C^{18}O$). rot. spectrum, mol. struct., microwave spectrum 4-14397
- CO_2 form by CO oxidation on Pt and Pd, time resolved IR emission spectra 4-14407

Fourier transform spectroscopy continued

- $^{12}\text{C}^{18}\text{O}_2$ (11^0)_{II}-00 0 band absolute intensity meas. at 5.2 μm 4-19049
 ^{13}C Fourier transform NMR spectral peak overlap deconvolution software 4-27549
 ^{13}C NMR spectrometer with heteronuclear proton suppression, S/N ratio improvement 4-37125
 ^{13}C - ^{13}C satellite spectra editing via C-H couplings 4-28470
 $\text{Cu}_3(\text{Fe}(\text{CN})_6)_2$ electrode-supported films, FT external refl. and photoacoustic spectrosc. 4-57008
 electrochemical adsorption of H_3PO_4 in situ Fourier transform IR spectroscopic study 4-34784
 $\text{Fe}_4(\text{Fe}(\text{CN})_6)_3$ electrode-supported films, FT external refl. and photoacoustic spectrosc. 4-57008
 Ga-Te liq. alloys, far IR reflectivity 4-20955
 $\text{GaAs}_{1-x}\text{P}_x$ dielec. function and derivative spectra by ellipsometry, Fourier analysis 4-46222
 GaP, far IR lattice absorpt. 4-7201
 ^1H Fourier NMR spectra in protonic solvents, using selective pulse sequence 4-22815
 ^3He , solid, mag. susceptibility and Curie-Weiss temp. 4-6608
 I_2 , gerade states near dissoc. limit, Fourier transform laser induced fluorescence. 4-5269
 K_2ReCl_6 , NQR study of struct. phase transitions with reduced effective dimensionality 4-11791
 Li_2GeO_5 crystals, phase transition study by far IR Fourier spectroscopy 4-25743
 $\text{B-Mg}_2\text{NiH}_x$, monoclinic-cubic transition, rel. to H motion, NMR investig. 4-20876
 $\text{N}_2\text{O} + \text{N}_2\text{O}(\text{O}_2)(\text{N}_2)$ collisions, N_2O line broadening meas. by Fourier transform spectroscopy 4-38250
 N_2O_2 , IR absorpt. intensity 4-38171
 ^{15}N NMR, polarisation-enhanced, 2-dimens., long-range ^1H -N spin coupling consts. 4-9797
 Ni silica-supported, benzene adsorption, Fourier transform IR spectroscopy (Russian) 4-34780
 OH groups, determ. in coal by FT IR and ^{13}C NMR 4-35952
 SO_3 , ν_3 band, Fourier transform. IR spectrum, Coriolis interaction, mol. consts. 4-14404
 SiH_4 , vibr.-rot., microwave transitions, Fourier transform spectra (French) 4-54683
 Th, IR emission spectra 4-23643
 U, IR emission spectra 4-23643

Fourier transforms

- see also fast Fourier transforms; Fourier analysis; Fourier transform optics
 atom scattering from stepped surface, quantum, mech. time-depend. simulation 4-16282
 Boltzmann equation, numerical soln., spectral method using Fourier transforms (Russian) 4-34218
 chromophore aggregates, absorpt. bandshape, retarded Green function FT resolvent expansion calcs. 4-38252
 circulant orbitals and Wannier functions 4-29859
 compound foundation, dynamic contact problem 4-5845
 crystallographic one-dimensional sign problem soln. 4-55680
 digital angiography, data compression using the Fourier transform 4-26517
 dynamic contact problem for finite elastic region in contact with half-plane, soln. method 4-38767
 eddy currents in cylindrical cond. bars 4-54926
 elastic waves scattering from rough surfaces and cracks 4-29005
 EM wave propagation, stationary discrete processes, spectral anal. at finite intervals (Russian) 4-10212
 half-space bounded by vertical perfectly smooth plane, elastokinetics problem 4-1654
 intensity function bounds from Fourier transform samples 4-19385
 inverse scatt. transform, expansion over squared solns. and difference evolution eqns. 4-36969
 isotropic EPR spectra, HFS consts., variation search using Fourier transform. 4-13662
 linear augmented-Slater-type orbital method in band struct. calc. 4-56187
 Lippmann-Schwinger operator in space of Fourier transforms, norm estimation (German) 4-47843
 materials characterisation by acoustic microscope, Fourier transform approach 4-28943
 metallic lattice, Ruderman-Kittel interaction, Fourier transform using Ewald's method 4-50776
 multicentre problems, exponential-type basis functions, Fourier transforms 4-33307
 one-dimensional quantum spin-systems, dynamic correlation functions 4-30135
 peak intensities estimation from freq. filtered total neutron scatt. powder diff. data 4-50144
 Percus-Yevick eqn. numerical soln. in crit. region for nontruncated pots. 4-10937
 pipe line, dynamic loading calc. using Fourier transform (German) 4-9291
 plane, piecewise-homogeneous, containing band with four circular holes, state of stress 4-44372
 plane-wave diffracted by a wedge, spectral domain anal. 4-49238
 sheet, rectangular, under anti-plane shear, central crack at interface between different media 4-29012
 simple fluid, structure factor determ., role of poles 4-24706
 soft sphere system struct. under shear, computer simulations and colloidal suspensions comparison 4-10936
 strip partially coupled to rigid base, mixed problems 4-44495
 transducer damping ratio determ., by frequency-domain analysis 4-4392
 transient response anal. using discrete Fourier transform. 4-226
 transient waves in stratified flows, Laplace-Fourier transforms (Chinese) 4-49866
 US phase delay measurement for residual stress determ., Fourier transform 4-51949
 volume phase holography extended coupled-wave theory 4-33627
 wave propagation, Fourier transform. and Green's function approach 4-22591
 zoom transform, for FT mass spectrometry 4-13709
 $\text{Al}_2\text{O}_3\text{C}^{3+}$, ruby, spin-packet lineshape determ. by fast deconvolution procedure applied to inhomogeneous EPR lines 4-51127
 Ni-Zr crystallised glasses, local order, EXAFS studies 4-50240

fractionation see distillation

fracture

- see also brittle fracture; crack-edge stress field analysis; cracks; creep fracture; ductile-brittle transition; ductile fracture; embrittlement; fatigue; fracture toughness; stress corrosion cracking
 ABS, deform. microstruct. and fracture rel. to rubber particle size distrib. and lubrication 4-16474
 adhesive bond, gradual fracture by damage accumulation 4-24377
 alloys, fracture, hydrostatic tensile stress effect 4-34572
 beams, brittle, multiple fractures produced by bending, stress waves 4-10604
 bend specimen, three-point, stress intensity factor and J integral numerical evaluation 4-34004
 bone, fracture, deform. rate effect 4-12619
 bone fracture mechanics, longit. fracture: effects of density, specimen thickness and crack vel. 4-47023
 borosilicate glasses, highly active fission waste products solidification, thin soluble layers anal. and fracture behaviour (German) 4-9298
 boundary interpolation method 4-24382
 bovine femur, fractography and mechanical props. (Japanese) 4-8030
 brass, 65/35, work hardening mechanisms, 77 to 673K 4-30720
 α/β -brasses, superplastic, cavity growth and fracture 4-12137
 brittle coatings and layers, mech. behaviour, effects of residual stresses 4-51839
 brittle material structures loaded with external pressure, stress state and fracture conditions eval. 4-33958
 brittle materials, mechanical props. and single fracture under load 4-40987
 BWR pressure bearing envelope reequipment using leak before fracture criterion (German) 4-9287
 calculation of fracture mechanics parameters for general corner 4-44478
 carbonate rocks, microfractures and joints, photoelastic modelling 4-41891
 cellulose fibre cements, bleached fibre content, slow crack growth 4-35675
 ceramic-ceramic composites, mech. props. (French) 4-16502
 ceramics, AE during deformation and fracture 4-57518
 ceramics, elastic-plastic fracture, evaluation of plastic fracture energy (Japanese) 4-38761
 ceramics, fracture mechanics, pore-flaw model 4-51787
 ceramics, industrial, crack behaviour rel. to microstruct. (French) 4-16501
 ceramics, macrocrack trajectory in orthogonal cutting by finite element method (Japanese) 4-55915
 Chiles-T program, fracture mechanics anal. 4-19769
 collinear cracks, fracture characteristics, influence of load biaxiality 4-44479
 composite tube specimens, internal press., failure modes, radial compressive stress 4-3225
 concrete, prediction of bending rupture strength of nonlinear materials 4-12108
 conference on structural mechanics in reactor technology, Chicago, USA (Aug. 1983) 4-11
 crack growth, interaction between fracture process zone and surrounding plastic region 4-44484
 crack-defect demonstrator, paper devices for classroom demonstration 4-8697
 cracked bend specimens subjected to mixed mode loading, fracture behaviour 4-29007
 cracks in fracture mechanics, closed form solution of caustics equations 4-24380
 cup-cone fracture in round tensile bar, anal. 4-21296
 deformation and fracture mapping, principles 4-40945
 diallyl phthalate resins, microheterogeneous co-curing with vinyl monomers, mech. props. 4-3195
 diamond microstrength characterisation by IR absorpt. 4-41162
 dynamic fracture in idealised fibre-reinforced composites 4-14921
 elastic material interface, tear-shear crack dynamics 4-49694
 elastic-plastic fracture, energy principle, appl. to fracture mechanics of graphite 4-38773
 elastic-plastic fracture mechanics, J-integral, definition and props. (Japanese) 4-49760
 electric analogue technique, appl. to fracture mechanics 4-44481
 energy of deformation and fracture by solid indentation (Japanese) 4-50409
 environmentally assisted fracture, atomistic crack tip model, catastrophe theory formalism 4-50418
 epoxide polymers, stress-strain and relax. props. (Russian) 4-46560
 epoxy adhesive bond fracture in insulated heat sink, acoustic emission characts. 4-3343
 epoxy polymers, hybrid particulate filled, fracture energy, flexural modulus 4-30783
 femoral neck, human, fracture rel. to density of cancellous core 4-31263
 ferroelectrics, fracture micromechanisms, dislocation models 4-6436
 fibre reinforced composite, fibre separation effect 4-44392
 fibre reinforced composite laminates, multidirectional, thin-walled structural elements, failure modelling 4-10607
 fibre reinforced composites, unidirectional, fracture process with matrix failure 4-40949
 fibre reinforced laminates, bilinear failure analysis 4-16510
 fibre reinforced polycapromide, failure mechanisms 4-30815
 fibre reinforced polymers, surface treatment for fibres, evaluation 4-41113
 fibre reinforced thermoplastics, failure mechanisms 4-30815
 fibre reinforced thermoplastics, fibre fracture during processing 4-16370
 fibre reinforced three-component laminated composites, fracture criterion 4-12167
 fibres, coated with brittle layers, fracture and tensile strength, theoretical model 4-57346
 geological fracture mapping using electromagnetic geotomography 4-36531
 glass, float, relationship between fracture stress and mirror size, influence of stress gradient 4-39376
 glass fibre reinforced epoxy, short fibre, J-integral as fracture criterion, expt. approach 4-30787
 glass fibre reinforced epoxy composite, hygrothermal ageing and fracture 4-7552
 glass fibre reinforced plastic cylindrical shells, dynamic deform. and fracture on internal impulse loading 4-12116

fracture continued

glass fibre reinforced polypropylene, stressed, acoustic emission study 4-35796
 glass-ceramics, surface damage and fracture, effect of crystallites 4-16482
 granular materials, progressive damage continuum model 4-38710
 graphite, fracture characteristics, low-temp. neutron irradiation effect 4-30813
 Homalite, polycarbonate, fracture, energy loss mechanisms 4-12158
 ice, adhesion to flexible polyurethane elastomer substrate, failure energy, thickness effect 4-26170
 ice, deformation and fracture under temp. gradient, elec. charge separation 4-31614
 inelastic materials, delayed fracture, temp. effect 4-10608
 interlayers in joints of different moduli under static tensile loading, crack resist. 4-34007
 introduction to fracture mechs., rel. to crack strength of materials and structs. (Japanese) 4-34005
 Kevlar fibre reinforced epoxy, failure modes and fracture mechanisms in flexure 4-35681
 limiting drawability curves for thin sheets (French) 4-51760
 line crack-screw dislocation interaction, displacement and stress fields 4-29463
 linear fracture mechanics, principal parameters (Japanese) 4-29025
 linear porous-elasticity, boundary integral eqn. method, fracture propagation. 4-44384
 metal pipes, large dia., specimen and rig for studying fracture 4-3319
 metal specimens, freshly formed surface prod. by failure at stress conc. in electrolyte 4-46682
 metals, damage and failure at elevated temperature 4-35704
 metals, dynamic fracture, spalling, review 4-12170
 metals, failure surfaces quantitative analysis by TEM 4-46687
 metals, theoretical strength 4-29523
 mixed mode bi-material fracture mechanics, finite element analysis 4-49755
 mode II fracture finite element analysis 4-29032
 nonlinear materials, prediction of bending rupture strength 4-12108
 nuclear power plant piping, assessment by experimentation and tearing instability fracture mechanics anal. 4-4997
 ophthalmic lenses, fracture characts. 4-26549
 pencil writing tip fracture, stress anal. 4-1683
 phosphate foam glass ceramic, textural and mech. props., bone implant appl. 4-51589
 photoelastic analysis of practical mode I fracture test specimens 4-29031
 piezoelectric materials, static and dynamic strength calcs. 4-39375
 plastic refractories, work of fracture, temp. depend. 4-30781
 plate bending, singular finite element for analysis 4-44410
 PMMA and P(MMA/MA) acrylic polymers, two-dimens. fracture vel. meas. using US fractography 4-16575
 polycrystals, intercryst. cracking, grain-boundary sliding and delayed elasticity at high temps. 4-34570
 polydiene-styrene triblock copolymers, adhesive layers, fracture, IR attenuated total internal reflection (Russian) 4-30446
 polyethylene, low density, environmental stress cracking, effects of uniaxial orientation (Japanese) 4-3271
 polyethylene film, interatomic band fracture accumulation kinetics, frustrated internal reflection spectra (Russian) 4-46587
 polyethylene-polypropylene blends, synergisms of mech. props., structure 4-25989
 polymer films, fracture and strength, long-term, formed from different solvents 4-20288
 polymer films, stretched, mechanoemission centres distrib. (Russian) 4-30614
 polymers, fracture mechanics, model rubberised fabric material with notches 4-26062
 polymers, glassy, stress and displacement fields at tip of crazes 4-40984
 polymers, impact fatigue by instrumented impact testing 4-35723
 polystyrene, annealing, morphology, tensile props. 4-12148
 porous fluid-saturated half-space acted on by external distrib. press., stressed state 4-49691
 progressively fracturing solid, path depend. and general theory 4-29027
 PWR pressure vessel, fracture assessment for LOCA 4-797
 PWR pressure vessel, fracture mechanics from thermal shock expts. 4-3252
 radioactive materials packaging and transportation, conf., New Orleans, LA, USA (May 1983) 4-31966
 refractories, research in specific application areas 4-51606
 refractory structures, segmented thick-walled, thermal stress failure anal. 4-16484
 reinforced polymeric materials, strength, relax. processes effect 4-12096
 rings, brittle circular, fracture under concentrated impulsive loading 4-34001
 rock fracture, crack propagation velocity and seismic radiation 4-41892
 rocks, three-dimensional modelling of mechanical strength 4-52698
 round beams of brittle materials, fracture statistics, integral eqn. soln. 4-49754
 rubber, probability distrib. function of rupture stresses 4-46603
 sheets, centre-cracked, fracture load, influence of load biaxiality 4-44480
 silk fibre reinforced nitrile rubber composites, mech. props. rel. to fibre-matrix bonding 4-51747
 solids, splitting damage, finite element anal. 4-49763
 statistical kinetic failure model, material under uniaxial tension 4-10609
 steel, abrasion, Cr content effect, small scale yielding mechanism (Japanese) 4-51789
 steel, alloy, diffusion layer failure formation after chemicothermal treatments 4-3235
 steel, alloy and low-alloy, fracture characteristics during bending tests with different notch types 4-46677
 steel, austenitic stainless, failure behaviour in torsion 4-7565
 steel, austenitic stainless, failure temperature conditions, effect on struct. and props. 4-40979
 steel, austenitic stainless, He(H) doped, fracture surface, Auger spectroscopy 4-12162
 steel, austenitic stainless, type 316, EBR-II driver fuel elements, eutectic penetration induced cladding rupture 4-18605
 steel, austenitic stainless, welded, SCC in $MgCl_2$ soln. with NaI additions 4-21354
 steel, C, fracture characteristics during bending tests with different notch types 4-46677
 steel, C, heat treated, failure mechanism in abrasive wear 4-41001
 steel, C, thin-walled tubes, deform. and fracture after explosion 4-30798

fracture continued

steel, Cr, deform. and fractography, carbide particle struct. (Japanese) 4-26042
 steel, Cr-Mo, bainitic, H attack 4-35709
 steel, Cr-Mo, temper embrittled, containing rare earth additions, Auger anal. of fracture surfaces 4-26055
 steel, Cr-Mo, tensile strength, H, embrittlement rel. to H content (Japanese) 4-26044
 steel, dual phase, fracture characts. (Chinese) 4-16470
 steel, failure mechanism under low-cycle nonisothermal load 4-7543
 steel, ferritic, oxidised fracture surfaces, SEM study 4-51818
 steel, ferritic stainless, evaluation of effective surface energy of ferrite 4-46618
 steel, high speed, AISI M2, hot deformability, impurity effects, AES studies 4-51731
 steel, J-integral and load line displacement estimation 4-7546
 steel, low alloy, nuclear press. vessel, fracture characts. obtained from impact tests 4-12152
 steel, low C, warm-rolled, texture-induced cleavage fracture 4-26056
 steel, Mn-Si, mech. props. T addition effect 4-21319
 steel, Mn-Si, rail, rupture localisation near eutectoid sulphides 4-30818
 steel, nonmag. and cryogenic, mech. props. (Chinese) 4-16466
 steel, pressure vessels, thick walled, surface cracks, lifetime evaluation, ASME codes thick walled, surface cracks, lifetime evaluation, ASME codes (German) 4-7559
 steel, retarded fracture on welding, H influence 4-51808
 steel, rolled wire, torn during drawing, fractographic analysis 4-51802
 steel, stainless, damage and fracture criteria during creep 4-30811
 steel, stainless, impact energy rel. to impurity levels and heat treatment 4-12166
 steel, stainless, type 316, lifetime anal. fusion reactor first wall 4-855
 steel, type 4340, dynamic fracture in impact test specimen 4-3255
 steel, welded plate, transverse testing machine, vel. and displacement meas. 4-46721
 steel cord reinforced rubber, prediction of bending rupture strength of nonlinear materials 4-12108
 stochastic failure process, time to failure distrib. (Japanese) 4-19771
 strain hardening materials, radial cracks, stress intensity factors 4-3254
 structural crashworthiness, conf., Liverpool, England (Sept. 1983) 4-4147
 superplastic materials, fracture and flow localisation 4-3243
 superplastic materials, necking and fracture, kinematical approach 4-50407
 thermoplastic composites, use of wood fibres 4-40741
 two-dimensional fracture mech. problems, dynamic program, boundary integral eqn. method considerations 4-1686
 virtual crack extension method, Cholesky substructuring 4-19768
 viscoelastic body, rupture, Griffith's criterion 4-44487
 water supply pipe with impact loads, stress testing (German) 4-9289
 Zircaloy fuel cladding, high burnup, microstruct. and fracture examinations 4-20373
 Zircaloy-4 fuel sheathings, failure model for LOCA, steam or inert atm., 900-1600K 4-54248
 Zircaloy-4 tubing, I_2 induced crack growth between 500 and 700°C, fracture mech. anal. 4-3289
 Ag-Cu bimetallic composite, interfacial struct., cohesion strength (Chinese) 4-56153
 Al alloys, deformation, gel electrode imaging 4-21412
 Al alloys, residual strength test results treatment, fracture mechanics methods appls. 4-26146
 Al castings, fracture mechanics, allowable flaw sizes (German) 4-16476
 Al, fracture as a result of stretching (Russian) 4-6435
 Al, high purity, plastic props., effect of grain vol. distrib. 4-30779
 Al tubes, splitting, long stroke energy dissipation 4-5818
 Al-Cu-Mg, spalling failure, -196-600°C 4-12181
 Al-Cu-Mg-Mn, failure temperature conditions, effect on struct. and props. 4-40979
 Al-Mg, spalling failure, -196-600°C 4-12181
 Al-Zn-Mg, high strength, shock loading, mech. props. 4-12182
 Al-Zn-Mg, precracking stage of fracture, crack form. correl. with macroscopic props. 4-51817
 Al_2O_3 , delayed fracture, crack coalescence and microscopic crack growth 4-16485
 Al_2O_3 - Cr_2O_3 ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787
 Al_2O_3 - SiO_2 , mulitite, mech. props. 4-16483
 B fibre reinforced Ti alloy, SiC-coated fibres, fracture and tensile strength of fibres after high temp. annealing 4-57347
 B₄C, hot-pressed, mech. props. (French) 4-16503
 BaTiO₃ ceramic, fracture studies 4-39372
 C and glass fibre reinforced epoxy hybrid composite, direct obs. of failure and toughness 4-3212
 C fibre, glass fibre reinforced polyester hybrid composite, flexural and impact properties (Japanese) 4-26041
 C fibre, PAN based, tensile failure rel. to structure 4-7551
 C fibre reinforced epoxy resin, notch, compressive strength, effect of environment 4-51831
 C fibre reinforced plastic, fractographic analysis of aerospace structural element 4-26020
 Cu, fracture behaviour under conditions of prevented macroscopic deform. 4-35701
 Cu reactor fuel cladding burst strength during postulated accident 4-33117
 Cu, spalling failure character, -196 to 800°C 4-30816
 Cu-Al-Si-Co (2.8, 1.8, 0.4 wt.%), Coronzé 638, superplastic, cavitation damage, fracture 4-51771
 Cu-Al-Ti (10, 2.5 wt.%), struct., mech. props., Ti addition effect 4-26001
 Cu-Sb, creep cavity surfaces and grain boundaries, chem. comp. study 4-24829
 Cu₂Te, thermoelec. material, mech. props., effect of thermal cycling 4-55909
 Fe, Armco, heat treated, failure mechanism in abrasive wear 4-41001
 Fe, cast ductile, austempered, SEM study rel. to impact toughness 4-35702
 α -Fe, H induced grain boundary fracture, C segregation effect (Japanese) 4-7554
 Fe, TiO₂ dispersion hardened, plastic deform. and fracture mechanisms 4-46582
 Fe₄₀Ni₄₀Bi₂₀, amorphous, struct. relax. and crystn. 4-3168
 FeTi, activation for H₂ absorption and storage, review 4-12495
 Ge crystal, cyclic bending failure, fracture surface structure 4-20287

fracture continued

- H₂ energy systems materials degradation 4-36041
 KCl coloured crystals, mechanoluminescence 4-16260
 K₂O-SiO₂ glass, atomic behaviour at fracture surface, molecular dynamics simulation 4-56133
 LiF crystals, mechanically induced excited states, TSEE obs. 4-3023
 LiF phosphors, mechanically induced thermolum. 4-57004
 γ/γ -Al-Mo, directionally solidified eutectic, off-axis tensile props. (Chinese) 4-16434
 Mo single crystal sheets, secondary recrystn. and bend props. 4-46564
 Mo single crystal sheets, secondary recrystn. and bend props. 4-46565
 NaCl, hydrostatically compressed, fracture study 4-6437
 NaF crystals, mechanically induced excited states, TSEE obs. 4-3023
 Na₂O-SiO₂ glass, rheological props. and fracture, mol. dynamic simulation 4-40947
 Ni alloy, heat-resistant, hydrostatically extruded bars, failure mechanism 4-21322
 Ni, spalling failure character., -196 to 800°C 4-30816
 Ni-base superalloys, dispersion strengthened, Hf-bearing, incipient melting (Chinese) 4-7462
 Ni-base superalloys, particle strengthened, anelastic relaxation, cyclic creep and stress rupture (Chinese) 4-16428
 Ni₃Al, strongly ordered L₁2 alloys, dynamic recrystallisation rel. to flow and fracture 4-57253
 Ni₇₅Si₂₅B₁₄ metallic glass, fracture and stress-strain curves 4-46611
 Pb(Zr, Ti)O₃ piezoelectric plate, fracture mechanics and strength 4-39374
 Si₃N₄, Weibull statistics, used to correl. modulus-of-rupture, bill-on-ring and rotational fast fracture tests 4-24389
 Ti-Al-Mn, damage and fracture criteria during creep 4-30811
 α - β Ti-Mn, tensile ductility and fracture 4-7521
 Ti-V-Cr-Al (13, 11, 3 wt.%), β -solution treated, microstruct.-prop. relationships 4-30735
 Ti-V-Fe-Al (10, 2, 3 wt.%), aged, tensile deform., fracture, microstructure 4-7522
 TiC/Ni microlaminates, evaporated, prep. and props. 4-15785
 TiC-NiTi sintered composites, struct., phase comp. and fracture 4-46619
 TiC-ZrC, charact. of fracture, 20-600°C 4-26063
 V₄₀Ni₆₀B₂₀ metallic glass, fracture and stress-strain curves 4-46611
 W, chart of fracture mechanisms 4-51812
 W wire reinforced Ni-base superalloy, fracture during isothermal forging 4-57329
 W-Ni-Fe, heavy alloys, liq. phase sintered, fracture behaviour 4-40972
 W-Ni-Fe (7, 3 wt.%), liq. phase sintered, strain and fracture (Chinese) 4-16472
 WC-Co, high temp. deform. and fracture (French) 4-16504
 Zn, pure single crystals, fast neutron irradi., 77K, ductility, fracture stress, dose depend. 4-51724
 ZrO₂-Mg stabilised, plastic deform. 4-26004
 ZrO₂-Y₂O₃ ceramic coating, sputter-deposited, effect of struct. on adherence 4-15787

fracture strength *see fracture toughness***fracture strength testing** *see fracture toughness testing***fracture toughness**

- see also notch brittleness; notch ductility; notch strength*
 (German, English) 4-35644
 accident proof packaging for radioactive materials, mechanical requirement 4-35726
 acrylic composite, C filled, fracture toughness 4-40933
 alloys, amorphous, strength ductility and toughness, model mechanics study 4-57308
 aorta, descending thoracic, pig, positional variations in fracture toughness, stiffness and strength 4-21720
 beam, cracked, with circular cross-section, stiffness loss and fracture resist. 4-1678
 brittle cellular solids, fracture toughness modelling 4-55917
 brittle material, interaction of fracture and stress-waves, verification of cleaving waves 4-44482
 brittle materials, fracture toughness, effect of material inhomogeneity 4-34000
 brittle matrix-ductile particle composites, fracture toughening 4-16500
 brittle solid, toughening with fibres, fracture model 4-12169
 cast Fe, graphite nodular ductile spent fuel casks 4-35727
 cellulose fibre reinforced cement, slow crack growth 4-35687
 ceramic, tough components, development trends 4-46478
 ceramic powder compacts, mech. props. (Japanese) 4-40960
 ceramics, fracture mechanics methods appl. (Czech) 4-24385
 ceramics, fracture strength, statistical distribution anal. 4-46594
 ceramics, strength and toughness, fracture mechanics 4-12168
 coal, fracture toughness under quasi-static and impact loading 4-12283
 composite, stat. theory of failure, topological aspects 4-44490
 connective tissue, extensible, fracture toughness meas. 4-21703
 constructional alloys, crack closure effect and cyclic crack resist. eval. 4-57337
 crosslinked polybutadiene rubber, fracture toughness at -180°C 4-16480
 dynamic fracture toughness criterion (German) 4-57335
 epoxide-phenol polymer based composite anticorrosion materials, strength and deform. props. 4-46640
 fatigue in polymers, conf., London, England (June 1983) 4-31965
 fibre reinforced metal layer composites, thermoelasticity, thermal cond. and strength 4-45367
 fission reactor pressure vessel, rupture probability evaluation (French) 4-54275
 foamed rigid material, high energy absorpt. mechanism 4-51786
 glass fibre reinforced polyester composite, toughening by resin modification 4-35636
 glass fibre reinforced sheet moulding compound composite, notched plates, fracture toughness, mixed mode criteria 4-3224
 glass-ceramics, surface damage and fracture, effect of crystallites 4-16482
 ice, strength rel. to grain size at high temp. 4-15583
 Inconel X-750, precip. hardened, high temp. fatigue, effect on microstruct. and mech. props. 4-7561
 internally radially cracked ring segment, mode I stress intensity coeff. 4-14923
 Irwin criterion for longit. shear cracks, conditions of correctness of use 4-49766
 isophthalic polyester resin, environmental sensitive cracking 4-7591

fracture toughness continued

- Kevlar fibre reinforced epoxy, controlled interfacial bonding, tensile strength and fracture toughness 4-12147
 linear elastic fracture toughness mechanisms (Japanese) 4-55916
 LWR pressure vessel crack propagation and arrest under thermal shock conditions 4-3253
 LWR pressure vessel materials, neutron irradi. prediction of brittle-ductile transition temp. shift 4-730
 metals, fracture toughness and microcrack growth (Chinese) 4-51774
 metals, refracting and scaling resistant, long-term softening 4-7585
 mode I equivalent static stress intensity factor of defects in multiaxial stress fields 4-44486
 nuclear fuel, mechanical strength control (German) 4-18660
 piezoelectric ceramics, fracture strength 4-26021
 pipeline metal, limiting load determ. in combined bending and tensile loading 4-57509
 pipeline metal, requirements on fracture toughness 4-57339
 planar random composites, hygrothermomech. behaviour, composite mechanics 4-16511
 plasticity and fracture toughness, effect of specimen size 4-29020
 polycarbonate, fracture toughness, effect of loading history 4-35716
 polyethylene, fracture toughness by novel high press. technique 4-35683
 polyethylene, high density, J-integral studies of crack initiation 4-3214
 polyethylene films, filled, paper-like, fabrication 4-51617
 polymers and polymeric composites, probability distrib. for mech. characts. 4-16507
 polypropylene, dynamic fracture toughness criterion (German) 4-57335
 polystyrene, toughening by blending with styrene-siloxane copolymers; compatibility, mech. props. 4-30808
 porcelain electrical insulators, strength and reliability 4-35697
 Portland cement, flexural strength, fracture toughness rel. to void content 4-26035
 powder metallurgy, fatigue design of parts 4-40985
 PVC films, cryomodification (Russian) 4-7541
 Rene 95, creep crack growth rates, environmental sensitivity 4-40974
 rotating disc with fatigue cracks or sharp notch, unstable fracture strength (Japanese) 4-21305
 rubber, probability distrib. function of rupture stresses 4-46603
 sintered materials, modelling of physical and morphological props. (French) 4-51721
 solids, splitting damage, finite element anal. 4-49763
 Space Shuttle thermal protection system, LI-900 reusable insulation tiles, fracture behaviour 4-3223
 steam turbine rotors, reliability and failure 4-41313
 steel, alloy, elastic-plastic fracture toughness and fracture resistance (Japanese) 4-57320
 steel, alloy, high-strength weldable, comp. optimisation 4-40980
 steel, alloy, residual stresses in impulse hardening 4-57402
 steel, austenitic, metastable, weld joint, deform. martensite influence on low-temp. cyclic crack resist. 4-51805
 steel, austenitic Mn-Cr behaviour of generator-rotor retaining rings 4-21293
 steel, austenitic stainless, deformed, heat resist., struct. fineness influence 4-57272
 steel, austenitic stainless, weld metals, long term heating, morphology and deterioration prevention 4-3160
 steel, brittle fracture, carbide induced, statistical model 4-30804
 steel, C, fracture toughness, ductility, temp. depend. 4-26030
 steel, Co-Cr-Ni-Mo, maraging, quenching parameters effect on props. 4-21252
 steel, Cr type, stress-rupture strength after long service in tube furnaces of oil-refining equipment 4-57342
 steel, Cr-Mn-Ni, low C, martensitic, strength props. 4-30771
 steel, Cr-Mo, irradiated and unirradiated plates and weldment, fracture toughness behavior 4-57333
 steel, Cr-Mo, pressure vessel, fracture toughness rel. to loading rate 4-51797
 steel, Cr-Mo, surface hardening, delayed fracture strength (Japanese) 4-26043
 steel, Cr-Mo, ultrahigh strength, heat treatment, mech. props. 4-16495
 steel, Cr-Mo-V, acoustic emission from pop-in cracking and elastic-plastic fracture toughness 4-3345
 steel, Cr-Mo-V, mech. props., deform. and tempering effect 4-21283
 steel, Cr-Ni-Mo, economically alloyed, for large forgings 4-40919
 steel, crack arrest in thick section plate, combined ligament rupture-cleavage model 4-57317
 steel, eutectoid, pearlitic, crack resist., failure in cyclic loading, struct. sensitivity 4-51804
 steel, ferritic, plane strain crack propag. and arrest, effect of restraining ligaments 4-30785
 steel, ferritic, spent fuel shipping cask, linear elastic fracture mechanics 4-35725
 steel, ferritic stainless, toughness, effect of B 4-3245
 steel, fracture mechanics exam., J-integral approach 4-12163
 steel, fracture toughness rel. to high temp. thermomechanical treatment, recrystallised austenite grains 4-3233
 steel, heat treated, erosion behaviour rel. to mech. props. 4-7607
 steel, high speed, M2, carbide cracking, fracture mechanism 4-21325
 steel, high strength, cast and forged, comparative study of fracture and fatigue 4-57325
 steel, high-strength, short-term rupture strength, rapid heating effect 4-16506
 steel, HSLA, ductile fracture, influence of P segregation to particle/matrix interface 4-7538
 steel, HSLA, fracture toughness, effects of microstruct. 4-7562
 steel, HSLA, fracture toughness of blunt-notched CT specimens, X-ray diff. of fracture surfaces (Japanese) 4-3230
 steel, HSLA, precip. strengthened, fracture toughness and microstruct., effect of heat treatment 4-30825
 steel, initiation toughness, prior to ductile tearing during rapid loading 4-3216
 steel, low alloy, brittle to ductile transition temp., fracture toughness 4-26031
 steel, low alloy, slightly predeformed, dislocation model for crack tip blunting 4-30801
 steel, low strength, fracture toughness determ. using stretch zone width meas. 4-30786
 steel, low-alloy, cold-rolling rolls, heat treatment and props. 4-40843
 steel, low-alloy, electrosag weld joint, crack resist. characts. 4-26059
 steel, Mn-Mo-Ni, fracture toughness parameters verification in large and small tensile pieces (German) 4-16588

fracture toughness continued

- steel, Ni, intergranular tempered martensite embrittlement 4-16478
 steel, Ni, intergranular tempered martensite embrittlement 4-40975
 steel, Ni-Cr-Mo, fracture rel. to inclusions and stress states 4-51798
 steel, Ni-Cr-Mo, mech. props., effect of substituting W for Mo (Korean) 4-40959
 steel, Ni-Cr-Mo, quenched and tempered, micromechanics of fracture 4-12157
 steel, Ni-Cr-Mo, retained austenite tempering, impact toughness, Mossbauer spectra, 200-300°C 4-35645
 steel, Ni-Cr-Mo-V, heat resistant, for turbine rotors, working props. improvement (Italian) 4-7536
 steel, nuclear press. vessel, local criterion for cleavage fracture 4-16491
 steel, pressure vessel, A533 B, irradiated, dynamic fracture toughness 4-57334
 steel, sheet type, plastic deform. influence on struct. and mech. props. 4-51693
 steel, Si, cleavage fracture toughness, temp. depend. (Chinese) 4-16469
 steel, stainless, austenitic, types 316L and 321, hydrogen induced delayed failure 4-3211
 steel, stainless, residual safe life under creep conditions 4-7577
 steel, stainless, toughness improvement of AISI 403 by double austenitizing heat treatment 4-7592
 steel, stainless maraging, weldments, struct. and props. after heat treatment 4-40838
 steel, structural, cooling conditions after solidification influence of S and Mn (German) 4-16465
 steel, structural, ductile tearing resistance curves 4-12161
 steel, structural, fracture toughness, appl. of fracture mechanics concepts (French) 4-46623
 steel, structural, fracture toughness under cyclic loading 4-51813
 steel, structural, fracture toughness under cyclic loading 4-51814
 steel, structural, high temp. strength and toughness behaviour after solidification, influence of C content (German) 4-16464
 steel, structural, low-C, with Ti and Ce, nonmetallic inclusions 4-40981
 steel, structural, thermomechanical heat treatment, strength and plastic props. (German) 4-40827
 steel, tool, © Cr-Mo-V, H-11, fracture toughness anomalies, microstruct. analysis 4-12190
 steel, martensitic stainless, HT-9, fracture toughness, influence of specimen size and microstruct. 4-12150
 steel weldments 4-40956
 steels, rail or wheel, safety inspection vs. pop-in events (Chinese) 4-7540
 strong high-temp. ceramics developments 4-12045
 US transducers, piezoelectric ceramics, cyclic strength 4-49647
 Al alloy, D16cH, extruded panels, residual strength of built-up one-piece structures 4-51806
 Al alloys, 2017 and 7075, dynamic fracture toughness by split Hopkinson bar technique (Japanese) 4-26135
 Al alloys, cyclic fracture toughness 4-51810
 Al alloys, fracture toughness and failure under plane strain, screening of excess phases 4-26060
 Al-Cu, ageing, effect on struct. and props. 4-57266
 Al-Cu-Mg, fracture, endurance prediction 4-51815
 Al-Cu-Mg, fracture toughness and strength, grain size influence 4-57330
 Al-Cu-Mg-Mn-Zr, plates, mech. props., Zr effect 4-21285
 Al-Cu-Mg-Si forgings, struct. and props., Mg and Fe contents influence 4-57331
 Al-Mg, 5083-O, stable crack growth, fractographic approach (Japanese) 4-57322
 Al-Zn-Mg-Cu, high strength, unworked fracture behaviour 4-30803
 AlN ceramics, high press. hot pressing without additives (Japanese) 4-40727
 Al₂O₃ ceramic, crack resistance 4-16486
 Al₂O₃, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 α-Al₂O₃, SCC, microstruct. effects on rel. between stress intensity factor and crack vel. (Japanese) 4-41079
 α-Al₂O₃, sintered, Hertzian indentation, fracture behaviour 4-30795
 β-Al₂O₃-Na₂O, fracture toughness anisotropy 4-26039
 Al₂O₃-SiO₂, mullite/ZrO₂ composites, sintering and mech. props., zirconia addition effect 4-3114
 Al₂O₃-ZrO₂-Y₂O₃, transform. toughening by dispersed partially stabilized tetragonal ZrO₂ 4-51682
 B fibre reinforced plastic, failure mechanism under interlamellar shear 4-46605
 B plastic reinforced D16T alloy rod elements, short-term strength under room and low temp. conditions 4-12180
 B₄C, high temp. fracture, expts. and simple theoretical models 4-35684
 BN, cubic cryst., thermal shock influence on substruct. and strength 4-57341
 BaTiO₃ ceramic, fracture studies 4-39372
 C and glass fibre reinforced epoxy hybrid composite, direct obs. of failure and toughness 4-3212
 C fibre reinforced epoxy, controlled interfacial bonding, tensile strength and fracture toughness 4-12147
 C fibre reinforced plastic, failure mechanism under interlamellar shear 4-46605
 C fibre reinforced polycarbonate, fracture toughness of short fibre thermoplastics 4-46612
 Co₇₂B₁₅Si_{12.5} metallic glass wire, mech. and mag. props. 4-56689
 Fe, cast, fracture toughness rel. to ferrite and pearlite distrib. 4-21298
 Fe, cast, malleable, strength, struct. and mech. props. influence 4-21317
 Fe, ductile cast, fracture toughness at low temps., X-ray fractographic study (Japanese) 4-57321
 Fe-Mn-Ni (11, 6.5 wt.%), strengthening mechanisms 4-46517
 Fe-Ni (13 wt.%), strength and low temp. toughness, effect of rolling temp. 4-30820
 Fe-Ni-Cr superalloy, mech. props., microstruct. on prolonged heat exposure (Chinese) 4-3172
 Fe-Ni-Mo (13.3 wt.%), strength and low temp. toughness 4-30821
 Fe-Ni-Mo-Ti (13, 3, 0.2 wt.%), fracture toughness at 4K 4-30822
 Fe₇₅B₁₅Si₁₀ metallic glass wire, mech. and mag. props. 4-56689
 Fe₃Co₂Si_{1.5}B₁₀ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
 Fe₄₀Ni₄₀P₁₀B₄ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
 Mg-Al, cast ZM5, fracture toughness (Chinese) 4-3207
 Na₂O-CaO glass, crack resistance, a sensitive parameter for surface region mech. strength characterisation (German) 4-7589

fracture toughness continued

- Ni-Cr-Fe-Al-C, austenitic, deformed, heat resist., struct. fineness influence 4-57272
 Ni-Mo-W (33, 17 wt.%), superalloy, embrittlement and ductility rel. to phase struct. 4-51801
 (Pb, La)TiO₃ ceramics, mech. props., ageing changes 4-35678
 Pb(Zr, Ti)O₃ piezoelectric plate, fracture mechanics and strength 4-39374
 SiC fibres, prep. and mech. props. 4-26019
 SiC, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 SiC whisker reinforced Si₃N₄ ceramic composite, hot pressing, mech. props. (Japanese) 4-40927
 Si₃N₄, hot pressed, liq. phase sintering, microstruct. correl. with mech. props. 4-57350
 Si₃N₄, reaction bonded compacts, nitridation, Si₃N₄ additions to green compact 4-35593
 Si₃N₄-Y₂O₃, hot pressed, strength degradation, structural reliability at high temp. 4-40952
 SiO₂, fibrous ceramics, Space Shuttle tile, nondestructive evaluation, sonic vel. meas. 4-30897
 α+β-Ti alloys, fracture toughness and subcritical crack development, H influence 4-51807
 Ti-Al-Mo-Cr, CORONA 5, fatigue crack growth rate, microstruct., O content 4-40969
 Ti-Al-Zr-Mo VT9 alloy, fatigue fracture toughness charact., strain history and load cycle asymmetry effect 4-12175
 TiC hard metal with TiN additions, fracture characts. 4-7574
 TiC, ordered, microstruct. and mech. props. (Ukrainian) 4-40932
 TiC-Ni, limiting strength, fracture stress rel. to defect size (Japanese) 4-26040
 W fibre reinforced Cu; helical fibres, fracture toughness 4-40953
 W, powder metallurgical, crack resist., temp. and heat treatment influence 4-26061
 W, recrystn. effect on fracture toughness, high-temp. embrittlement 4-7575
 W-Ni-Fe (3.5, 1.5 wt.%), liq. phase sintered, variation of toughness with test temp. and cooling rate 4-40965
 WC-Co, ion plated with TiN, interfacial structure, transverse rupture strength (Japanese) 4-46599
 WC-Co, limiting strength, fracture stress rel. to defect size (Japanese) 4-26040
 WC-Co composites, fracture stress, elastic limit, microstruct. 4-51732
 ZrO₂, MgO partially stabilized, stress-induced martensitic toughening 4-46617

fracture toughness testing

- see also notch testing
 beams and bars, notched, elastic impact loading 4-3325
 brittle material, crack propag., direct obs. method using SEM 4-3309
 brittle materials, strength test, C-ring technique 4-51939
 ceramics, fracture mechanics methods appl. (Czech) 4-24385
 ceramics, sintered, high-temp. bend testing, apparatus and meas. 4-51932
 Charpy impact and dart drop impact test correlations 4-41109
 coal, fracture toughness under quasi-static and impact loading 4-12283
 compact tension specimen, ASTM standard, stress intensity factors, crack front curvature effect 4-26129
 concrete, shear test specimen, compact 4-12276
 crack tip plastic zones, testpieces for fracture toughness meas. 4-29023
 diamond microstrength characterisation by IR absorpt. 4-41162
 elastic-plastic fracture, energy principle, appl. to fracture mechanics of graphite 4-38773
 elastic-plastic toughness testing, onset of stable crack growth, US obs. (Japanese) 4-21404
 energy approach to crack resistance evaluation 4-3318
 glass fibre reinforced plastic sheet material for tensile testing 4-26127
 graphite, crack resistance determination from crack arrest 4-46675
 graphite fibre reinforced epoxy laminates, low vel. impact damage, residual strength assessment 4-51780
 holographic interferometry method for stress intensity factors determ. 4-49789
 metals, fracture energy characteristics, correl., crack propag. and cleavage 4-30877
 metals, fracture toughness testing, with vibr. loading at high temps. 4-30878
 miniaturisation for failure analysis 4-12316
 modified indentation technique 4-24390
 pipeline metal, limiting load determ. in combined bending and tensile loading 4-57509
 polyethylene, fracture toughness by novel high press. technique 4-35683
 polyethylene, tough, impact props., novel meas. technique 4-16591
 polymers and polymeric composites, probability distrib. for mech. characts. 4-16507
 refractory, thermal shock fracture, peak amplitude distrib. of acoustic emission events 4-3308
 soil-cement samples, shear Mode II fracture toughness test 4-26130
 steel, A533, rapid loading plane strain fracture toughness, round robin testing 4-3331
 steel, alloy, intergranular embrittlement, small punch test evaluation 4-41161
 steel, austenitic stainless, fatigue and fracture toughness testing at liquid He temp. 4-3310
 steel, Cr bearing, fracture toughness using chevron notch three point bend specimen, stress intensity factor formulae 4-12280
 steel, Cr type, stress-rupture strength after long service in tube furnaces of oil-refining equipment 4-57342
 steel, impact bend testing, var. thickness samples with a crack 4-3321
 steel, low-alloy, brittle fracture susceptibility eval. criteria, crit. brittleness temps. determ. 4-41134
 steel, medium strength, implant cold cracking test (French) 4-26149
 steel, mild, critical stress intensity factor rel. to precracked load 4-16513
 steel, mild 4-7671
 steel, Mn, structural plate, welded joint, fracture toughness test (French) 4-12307
 steel, Mn-Mo-Ni, fracture toughness parameters verification in large and small tensile pieces (German) 4-16588
 steel, Mn-Mo-Ni, hot rolled sheet, Charpy testing, fracture toughness evaluation (German) 4-7676
 steel, Ni-Cr-Mo, ductile tearing, use of scale models 4-7547
 steel, reactor pressure vessel, reconstituting irradi. Charpy V specimens 4-12291

fracture toughness testing continued

- steel, structural, energy approach to crack resistance evaluation 4-3318
 steel, structural, nonlinear toughness parameters evaluation 4-12281
 steel, tensile testing, hydrogen embrittlement 4-16592
 steel, thermomechanically rolled, fracture anomaly in impact testing 4-51923
 steel, to low alloy, fracture toughness specimen, US detection of onset of crack extension 4-30881
 three-point bend specimen, crack tip opening displacement at initiation of crack growth 4-12293
 unloading compliance method, crack length meas. 4-29033
 Al alloy, precipitation hardening, fractographic analysis of fatigue crack propagation by modulated pattern method (*Japanese*) 4-51913
 Al alloys, 2017 and 7075, dynamic fracture toughness by split Hopkinson bar technique (*Japanese*) 4-26135
 Al alloys, dynamic fracture toughness by instrumented charpy test 4-7671
 Fe base powder metallurgical materials, crack resist. determ., scale factor effect 4-3349
 Fe, ductile cast, fracture toughness of blunt-notched CT specimens (*Japanese*) 4-57501
 α -SiC, sintered, elevated temp. Charpy impact test 4-51776
 Si₃N₄, sintered, high-temp. bend testing, apparatus and meas. 4-51932
 Ti-Al-Mo-Zr, fracture toughness testing, with vibr. loading at high temps. 4-30878
 W alloys, specimen configuration for eccentric tension tests 4-46683
 W, cracking resistance investigation method 4-46676

francium

- see also *nuclei with*
 hyperfine interactions calc. using Dirac wave functions 4-33300

francium compounds

No entries

Frank-Condon factors

- azabenzenes, excited states, correl. between mol. struct. and luminesc. props. 4-54791
 bent triatomic mols., photodissociation, rot. distrib. 4-35921
 bent triatomic mols., photodissociation ang. distrib. generalised Franck-Condon theory 4-35922
 benzonitrile vapour, two-photon excitation spectrum 4-1172
 B-carotene in isopentane, electron-phonon coupling, reson. Raman scatt., time correlator theory 4-20962
 diatomic molecules electronic transitions, Franck-Condon factors, r-centroids and assoc. quantities 4-33451
 diatomic mols., radiation charact., spectra intensity distrib. 4-28420
 diatomic mols., vibr. eigenfunctions for oscillator model, approx. method 4-1146
 1,4-diradical derived from 2,4,6-trisopropylbenzophenone, spin inversion and lone-pair orbital rot. 4-1216
 electron affinities, ab initio MRD-CI calcs. 4-18935
 ferrocyclochromene-c, Soret region, reson. Raman excitation profiles 4-38187
 harmonic oscillators, Franck-Condon factors and ladder operators, recurrence rels. and closed formulas 4-33452
 impurity centres, magnetic circular dichroism, lattice vibr. effect on ³²S-³¹P transition 4-51242
 molecules, diatomic, electronic spectra intensities in adiabatic approx. 4-43865
 naphthalene:1,4-diiodotetrafluorobenzene, solid, IR-optical double reson. 4-2844
 nonlocal potentials calcs. 4-38306
 trans,trans-1,3,5,7-octatetraene, matrix isolated, vibr., vibronic struct., fluoresc. study 4-38232
 photodissociation ang. distrib. generalised Franck-Condon theory 4-35922
 principal Condon focus geom. of mol. band systems 4-5286
 transition metal diatomic molecules, true potential energy curves, r-centroids and Franck-Condon factors calc. 4-38273
 van der Waals mols., inner valence shell photoionisation spectra 4-9841
 CO⁺ vibronically excited, isotope substitution, collisional quenching 4-5266
 CS₂, jet-cooled, ¹ $\Sigma_g^+-¹ $B_2(¹ Σ_u^+) transition, UV spectra 4-19075
 Cl₂, ion-pair states, 2-photon double reson. investig. 4-14457
 Cr complex, Cr₂(mhp)₄, electronic absorpt. and emission spectrum 4-1171
 CuH(D), electronic states, r-centroids, Franck-Condon factors, RKR pot. energy curves 4-5290
 GdAlO₃:Cr³⁺, mag. Franck-Condon effect, absorpt. and emission spectra 4-11910
 H₂, excited states, photoionisation, photoelectron spectra, Franck-Condon factors 4-49091
 H₂, multiphoton ionisation process, photoelectron energy and ang. distrib. 4-49090
 HCl⁺, A² Σ^+ -X² Π transition, fluoresc. cross-sections and electronic transition moments 4-14472
 HCl+He⁺ collisions, Penning ionisation optical spectroscopy, Franck-Condon distrib. 4-38303
 H₂O⁺, Franck-Condon factors and photon scatt. coeff. 4-14437
 HOCl, X state, photodissociation ang. distrib. generalised Franck-Condon theory 4-35922
 H₂S, indirect photodissoc. of bound ¹B₁ excited state, Franck-Condon factors 4-28516
 He₂⁺+N₂(CO), thermal energy charge-transfer reactions 4-21444
 Mo complex, Mo₂(mhp)₄, electronic absorpt. and emission spectrum 4-1171
 N₂, electron impact dissociation of highly excited Rydberg atoms, ang. distrib., time of flight spectra 4-54872
 N₂, photoionisation of X¹ Σ_g^+ , $\nu''=0$ and 1 near threshold region, preionisation of Worley-Jenkins Rydberg series 4-38258
 NH metastable radical, spectrum and lifetime in inert gas matrices 4-1152
 NO, multiphoton electron spectrosc. 4-1214
 NO⁺+Ar-NO+Ar⁺, reaction cross-sections, vibronic state depend. 4-23799
 Na₂, vibrational wave function and Franck-Condon factor calc. (*Spanish*) 4-33390
 N₂⁺+N₂, thermal energy charge transfer, N₂⁺(B-X) emission 4-49141
 Si⁺, electron affinities, ab initio MRD-CI calcs. 4-18935
 SiF molecule, r-centroids and Franck-Condon factors 4-23750
 SiP⁺ radical, electronic struct. ab initio MRD-CI calcs. 4-48956
 Sr+He(Ne)(Kr), Sr reson. line broadening, absorpt. coeff. 4-18986$$
- Frank-Condon factors continued**
 W complex, W₂(mhp)₄, electronic absorpt. and emission spectrum 4-1171
⁸⁴Y¹²⁷I mol., IR Π - Σ band anal. 4-38164
- Frank-Read sources**
 Si:As, supersaturated solid soln., decomposition, sessile Frank loop, impurity atmosphere effects 4-29442
- Fraunhofer lines** see *solar spectra*
- free-electron approximation**
 metals, surface response, non-local, role of bound electrons 4-40008
- free electron lasers**
 amplifier, operating mechanism and parameters (*Chinese*) 4-49374
 amplifier with energy transfer by nonlinear force 4-33673
 amplifiers with external guide fields, nonlinear anal. 4-55052
 circular, with rotating electron ring in rippled mag. field, MM wave emission 4-38489
 collective effect based operation 4-33676
 collective interaction in free-electron lasers with realisable wiggler and axial guide field 4-55051
 collective regime, three dims. theory 4-19464
 collective tunable free electron laser operation in stimulated Raman scatt. regime 4-33677
 colliding γ -photon beam generation using Compton scatt. 4-1402
 crossfield instability for tenuous electron beam 4-33670
 cyclotron maser, longitudinal and helical wiggler configs., self-elec. and self-mag. field effects 4-55058
 development and appls. 4-19465
 dispersion characteristics calc. for linearly polarized wiggler and axial guide field 4-33666
 dispersion characteristics of FEL with linearly polarised wiggler and axial guide field 4-55056
 efficiency enhancement using tapered axial guide field 4-49379
 electron beam equilibria, resonant helically distorted relativistic, for free electron laser appl. 4-54941
 electron orbit in longitudinal mag. wiggler 4-10311
 EM wave amplification by electron beam passing through slit 4-5593
 energy conversion in diff.-emission generators 4-10312
 energy storage, compression and switching, conf., Venice, Italy (Dec. 1978) 4-31967
 explosive instability of high current relativistic electron flow in H-ubitronic fields (*Russian*) 4-49381
 instability, theoretical models and physical mechanisms 4-55053
 inverse free electron laser accelerator, design 4-28246
 light amplification by undulator, random phase approximation 4-33672
 long pulse induction linac expts. 4-55057
 longitudinal wiggler and radiation wave fields, detrapping stochastic particle instability 4-44030
 low-gain, nonlinear oscill. particle motion effects 4-55054
 LURE laser expts. (*French*) 4-5595
 magnetised relativistic electron beam, radiation emission in electrostatic pump field 4-44032
 maser, mm-wave, atmospheric pressure air breakdown plasma production 4-19415
 mathematical model of free-electron laser (*Russian*) 4-44110
 millimeter-wave, gain, feedback and efficiency enhancement 4-55050
 multiphoton interaction, correspondence principle 4-55049
 nonlinear theory and efficiency enhancement 4-33675
 undulators, installation in storage ring (*French*) 4-1401
 optical wiggler free-electron X-ray laser in the 5 Å region 4-49376
 orbitron free-electron maser, narrow-band continuous operation 4-49316
 oscillating virtual cathodes, high-power coherent microwave generation 4-33599
 oscillator, spontaneous and stimulated emission 4-28706
 oscillator, two-dims. pulse propag. calcs. 4-55055
 permanent magnet undulator, mag. field optimisation 4-49377
 permanent magnet undulator for free electron laser, mag. field study 4-53662
 phase condition analysis on basis of energy eqns. and Lorentz eqns. (*Chinese*) 4-49375
 phase conditions, energy and Lorentz eqns. anal. 4-38490
 photon propag. in relativistic electron beam 4-49380
 pulsed multipass free electron laser fusion driver design 4-33693
 quantum dynamics of electrons in a free electron laser 4-44109
 Raman type, two-dims. mode anal. by electron beam waveguide 4-33668
 Raman-type free electron laser, two-dimensional, mode analysis (*Japanese*) 4-19466
 remote control system for free electron laser LELA expt. 4-10313
 rippled field magnetron, Brillouin flow equilib., relativistic anal. 4-55061
 rippled field magnetron, mm-wave emission 4-55060
 rippled-field magnetron, numerical simulations 4-55059
 single pass laser, laser pulse stationary soln. 4-24005
 spontaneous and coherent radiation evolution in FEL oscill. 4-1400
 spontaneous emission from mag. and optical helical wigglers in strong field regime 4-28705
 storage ring system, 1-dims. numerical simulation, power output, electron beam props. 4-33669
 storage-ring free electron laser, operation at 6500 Å 4-5594
 submillimetric free electron lasers based on intense relativistic electron beams 4-33674
 tapered wiggler laser, long pulse evolution 4-14700
 tapered wiggler stable resonator laser, three-dims. wave propag. soln. 4-14701
 tapered-wiggler, large electron-beam energy extraction 4-1399
 tapered-wiggler amplifier gain modelling, two-dims. effects 4-14702
 tapered-wiggler high-efficiency free-electron laser expts. 4-14705
 transverse mode dynamics 4-28704
 two-stage backward wave oscillator free electron laser 4-49382
 UK free electron laser project, permanent wiggler magnet design, REC mag. tests 4-49378
 ultrarelativistic electrons, stimulated emission in elec. and mag. fields 4-23877
 undulator radiation, near field calc. 4-33596
 variable spatial period length in wiggler (*Chinese*) 4-55048
 variable-wiggler free-electron-laser oscillation 4-33671
 wave and particle beam coherent interaction mechanism 4-33604
 wiggler magnets, bifilar, end effects 4-33667
- free energy**
 alcohol-alkane mixtures, vap. liq. equilib. calcs. using topological treatment 4-29582

free energy continued

- alkali halides, molten, freezing mechanism into normal phase 4-6479
- alkali metals and alloys, liq., thermodynamic props., variational calc. 4-2062
- alkali metals and binary alloys, liq., Helmholtz free energies, variational calc. 4-55702
- alloys, amorphous, free energy of crystallisation 4-44951
- alloys, binary, vacancies and vacancy complexes, group theory anal. 4-24807
- alloys, shape memory, martensitic transformation, atomic order effects 4-7456
- alloys, thermodynamics and phase equilibria, graphical representation 4-25053
- antiferromagnetic FCC Ising model, thermodynamic functions, Monte Carlo simulation 4-46059
- binary alloys, first- and second-order phase transitions, collective variable method anal. (*Russian*) 4-24957
- cholesteric blue phases, lattice symmetry of BP I and BP II phases, elastic and lattice consts. 4-20100
- classical spinodal, nucleation rate 4-50461
- colloid particle interaction covered by oriented polymeric monolayer, computer simulation (*Russian*) 4-31039
- compound forming molten alloys, thermodynamic props., quasi-lattice theory 4-39541
- continuous quantum systems in equilibrium, exact mean-field description 4-4369
- convexity in some real space renormalisation group approximations 4-2351
- critical wetting transition in multilayer adsorption, universality classes 4-11405
- crystal-fluid interface, free energy, triple point, compressibilities and Gruneisen parameters 4-15620
- cubic Ising model, cluster free energy calcs. 4-51079
- cyclopentadienyl manganese tricarbonyl, heat capacity and thermodynamic functions, 10 to 300K 4-11312
- diatomic monoxides, heat of form. and dissoc. energies, Gibbs energy functions 4-47778
- diffusion induced dislocation glide 4-11152
- 1,1-dimethoxy-2-propanone, permittivity and density, press. and temp. depend. 4-30377
- disordered mags. with Jahn-Teller ions, mag. anisotropy, random strain fields 4-56610
- early Universe, free energy from SU(5), heavy boson effects after symm. breaking 4-31937
- elastic constants of solid, quantum statistical formulation 4-29505
- electron gas, free energy, sp. ht., Thomas-Fermi approach 4-42848
- erythrocytes and phosphatidylcholine/phosphatidylserine vesicles, free energy pot. for aggregation 4-21629
- ethane-ethene mixtures, vap. press., density and enthalpy 4-11299
- fatigue crack layer, thermodynamics 4-34576
- first order phase transition, order parameter free energy expansion 4-20345
- fluid mixtures, thermodynamic props. and liq.-vapour equil., random-mixture eqn. 4-29627
- fluorite-type materials, molten, freezing mechanism into superionic phase 4-6479
- fractal lattices, scaling and density of states rel. to complex generating function 4-194
- glass transition, phenomena and tunnelling centres, free vol. model 4-45331
- gravitational effect near critical point 4-20379
- hard-disk fluid, equil. props. determ. using hypernetted chain integral eqn. theory 4-15358
- heterogeneous systems with spherical interfaces 4-29731
- homogeneous nucleation of a coherent precipitate, statistical thermodynamic approach 4-15650
- homogenous void nucleation, Gibbs energy 4-24803
- insulators, incommensurate struct. origins 4-50233
- ionic molecular solids, ferroelectric phase transition, Landau theory 4-29512
- irreversible classical fields, bracket formulation 4-42843
- Ising model, two-dimensional, numerical calc. by modified Kadanoff's renormalisation group 4-11729
- Ising model below T_c , nonuniversal amplitudes calc. using primitive droplet model 4-37035
- itinerant ferromagnets, superconductivity mean-field approx. anal. 4-50977
- laminar cholesteric twist cells, domain wall tension and bistability 4-50186
- lattice gas clusters, scaling theory, surface tension and free energy study 4-37040
- lattice gas model, cluster variation model, free energy calc. 4-22696
- liquid crystals, deformed state, equil. eqn., conservation laws and integration 4-2075
- liquid crystals, isotropic and nematic or cholesteric phases, mol. foundation of unified theory 4-6267
- liquid metals, undercooled, entropy, free energy and sp. ht. 4-45350
- liquid-liquid phase equilibria, from metastable to stable states using global programming 4-20322
- liquid-vapour phase equilibrium, multiple equil. points for nonideal mixtures, calc. and stability 4-20340
- lysozyme, electrostatic free energy 4-26353
- magnetic oxides, substituted, localised canting models 4-6951
- magnetic response of spin-density waves in a quasilinear half-filled Hubbard band 4-11687
- massive transformation, growth kinetics and mechanism 4-57221
- massive transformation, product phase comp. 4-40772
- massive transformation, thermodynamics 4-57218
- metallic melts, binary, homogeneous crystal nucleation 4-20326
- metals, simple liq., density functional theory of surface tension 4-6628
- metals, solubility of H under high press., thermodynamics 4-20367
- metastability and critical points, Landau pot. anal. 4-11253
- metastable incommensurate states, free energy barriers 4-24958
- metastable phase equilibria, calc. of T_0 curves in connection with rapid solidification 4-57206
- Migdal-Kadanoff transformations on dual lattice and bounds on free energies 4-361
- modified Ising model in random field, commensurate-incommensurate transition 4-8834
- molecular fluids, non-axial, thermodynamic perturbation theory 4-20075
- molecular polaron model, thermodynamics and self-trapping 4-2526

free energy continued

- narrow-band conc. alloys, superconducting phase transition theory 4-25474
- nematic liquid crystals, elastic consts. in external elec. field 4-20092
- non-ideal gas, statistical mech. of sine-Gordon kinks 4-13571
- nonmaximal isotropy groups and successive phase transitions 4-13608
- nonpolar gases, solubility in 1,4-dioxane at 285.15 to 303.15K, Gibbs free energy, entropy, enthalpy 4-15644
- one-component plasma liq., freezing, mol. theory 4-50475
- one-dimensional Heisenberg system with long-range interaction, thermodynamic props. 4-56522
- one-dimensional systems with long-range superstable interactions, analyticity 4-27435
- optical polaron, ground state energy, Monte Carlo calc. 4-20578
- order-disorder-transitions, rule for truncating Landau expansions 4-2304
- phase equilibria, minimisation technique calc., problems of thermodynamic consistency 4-20318
- phase equilibria: research, contrib. of thermodynamic calc. (*German*) 4-35605
- plastic molecular cryst., orientational phase transitions in case of rotational reorientation anisotropy 4-24742
- polarons, free energy and effective mass, second-order cumulant expansion, at finite temps. 4-15829
- polymer chains, terminally attached and free-floating, conformational props. 4-23846
- polymer solutions, deformational phase separations, free energy function 4-14932
- polystyrene sphere suspensions, freezing curves 4-29576
- polystyrene-b-poly(ethylene/propylene) block copolymer in n-decane, thermodynamics of micellization 4-12389
- Potts model, mean field solution 4-13594
- PVC, glass transition temp. and relax. time 4-39509
- pyrrolyl manganese tricarbonyl, heat capacity and thermodynamic functions, 10 to 300K 4-11312
- random-field distributions and tricritical points, mean field theory anal. 4-8859
- reduced lattice gauge theory in two dimensions 4-362
- reference-hypernetted-chain eqn. solns. with minimised free energy 4-2052
- semi-infinite systems, interface, delocalisation transitions, scaling laws 4-20436
- semiclassical fluid mixt. with nonanalytic pots., equil. props. 4-10934
- semiclassical fluid with hard-core pot., equil. props., integral eqn. theory 4-34384
- sessile drops, small, profile and contact angle, general approx. 4-56123
- shape-memory alloy, AE energy release during phase transitions, theoretical model for evaluation 4-57226
- singularities near critical point, Ising model appl. 4-17861
- solid-on-solid model, step free energies 4-11409
- soliton-bearing system, quantum statistical mechanics from coherent state rep. 4-27406
- spin glass, Sherrington-Kirkpatrick model, phase transition 4-2763
- spin glass, weighted averages for Thouless-Anderson-Palmer eqns. 4-46037
- spin glasses, infinite range, irreversibility 4-56658
- spin glasses, Ising and Heisenberg, irreversibility, review 4-56656
- steel, aluminisation by thermochem. method, thermodynamic calc. (*French*) 4-21367
- steel, austenitic stainless, thermodynamics of formation of NaCrO₂ corrosion product 4-30851
- strong-coupling superconductors, thermodynamic props. in case of energy depend. electronic density of states 4-20763
- structural energetics using pseudopot. theory 4-45576
- superconductors, thermodynamic potential near critical point (*Chinese*) 4-56494
- tetrachloromethane+CS₂, excess molar enthalpy, 0.1-330 MPa 4-25059
- tetrachloromethane+dichloromethane, excess molar enthalpy, 0.1-330 MPa 4-25059
- transition metals, de Haas-van Alphen effect 4-56189
- triatomic mol., Bogolyubov inequality appl. to thermodynamic functions 4-1235
- two particle clusters system, free energy, Hamiltonian 4-53630
- two-dimensional ϕ^4 model, Ginzburg-Landau free energy 4-25475
- two-dimensional alternative binary system, statistical theory (*Chinese*) 4-2302
- two-dimensional bicrystal, interfacial free energy 4-34805
- type I superconductors, Landau intermediate state struct. 4-40121
- undercooled melts, free energy change accompanying crystn. 4-20336
- upper bounds for free energy, Bogolubov inequality and Feynman inequality generalisation 4-36942
- weak-coupling anisotropic superconductors with normal impurities, thermodynamics 4-2686
- weakly anisotropic systems, critical domain wall props. 4-51091
- Ag-based binary liquid alloys, free energy and entropy of mixing 4-45355
- Ag-Cu system, stable and metastable equil. diagrams, calc. 4-40750
- AgBr:K⁺(Rb⁺), diffusion study and ionic cond. 4-15706
- AgCl:K⁺(Rb⁺), diffusion study and ionic cond. 4-15706
- AlCr₂, order-disorder transition study (*Russian*) 4-6485
- Ar nucleating droplets, free energy via cluster-integral series 4-2307
- Ar, solid, ground- and excited state props., perturbation model calc. 4-25218
- Au based binary liquid alloys, free energy and entropy of mixing 4-45355
- Au_{1-x}La_x, amorphous alloy, interdiffusion reaction prep. and free energy 4-45429
- Au_{1-x}Y_x, amorphous alloy, interdiffusion reaction prep. and free energy 4-45429
- Cd-Zn system, stable and metastable equil. diagrams, calc. 4-40750
- Ce₂O₃, standard free energy of form. determ. 4-3423
- CeTe, high press. effects and phase transform. 4-29604
- Co-S system, dil., thermodynamics, 1550-1650°C 4-51627
- CoO, solid, standard Gibbs energy of form., 1450-1600°C 4-3126
- Cs, structural energetics using pseudopot. theory 4-45576
- Cu (111), adsorbed Cs struct., LEED studies 4-25132
- Cu and Cu-Ni ultrafine powders, sintering, mass transport 4-46473
- Cu-based binary liquid alloys, free energy and entropy of mixing 4-45355
- Cu-In, melts, thermodynamic activity of O, meas. by coulometric titration method 4-25061

free energy continued

- Cu-Sn melts, thermodynamic activity of O, meas. by coulometric titration method 4-25061
 Cu-transition metal liquid alloys, free energy and entropy of mixing 4-45355
 Cu-(Bi), corrosion, intercrystalline, factors controlled increase near grain boundaries 4-57400
 Cu₂O:Ag, diffusion and point defects 4-50585
 ErRh₂B₄, ferromag. semicond., re-entry condition 4-35112
 Fe, aluminisation by thermochem. method, thermodynamic calc. (French) 4-21367
 Fe-C, driving force for martensitic transform. thermodynamic calc. 4-7454
 Fe-C, martensitic transform., calc. of M_s and driving force 4-51656
 Fe-Cu-(Co)-C melts, thermodynamic props., C solubility and Fe/Cu activity coeffs. (Chinese) 4-7421
 Fe-Na-O system, phase relationships, thermodynamics 4-35617
 Fe-Ni, thermodynamics of martensitic transform. (Russian) 4-7453
 He, liquid, ripplonic polarons in mag. fields, weak coupling case 4-25104
 He, liquid thin film, strongly coupled ripplonic polarons at finite temp. 4-25105
³He, superfluid, thermodynamic potentials in region of strong critical fluctuations 4-34741
 In, liq., activity coeff. of O 4-15665
 In-Sb, liq., activity coeff. of O 4-15665
 LaMnO₃, decomposition, O partial press., elec. cond. and heat of form. 4-55988
 LaMnO₃, standard Gibbs' energy of formation, EMF obs. 4-46783
 Mg₂U_{1-x}O_{2+x}, ternary oxides, equi-chem.-pot. curves 4-29656
 NH₄Br, third order elastic const. near λ point, anomalous temp. depend. 4-55907
 NH₄Cl, third order elastic const. near λ point, anomalous temp. depend. 4-55907
 Na-Cs liq. alloys, Gibbs energy of mixing 4-45356
 Na-group VIB liq. alloys, thermodynamics of mixing 4-45357
 Nb₂O_{5-x}, point defects and crystallographic shear planes, thermodynamic equilb. 4-24834
 Ni ultrafine powders, sintering, mass transport 4-46473
 Ni-B system, high temp. enthalpies and heat capacities 4-2354
 Ni-Bi, Bi activities 4-35609
 Ni₄AlX, X=V, Nb or Ta, relative phase stabilities 4-57188
 Pb(Zr_{0.6}Ti_{0.4})O₃, ferroelectric transition study 4-40370
 PdO, standard free energy of form. galvanic cell meas. 4-25056
 Pr₂(Co_{0.8}Fe_{0.2})₇, heat capacity anomaly, magnetisation vector rotation 4-50538
 Pu₂C₃, thermodynamic values assessment, improved method 4-25057
 PuO_{1.5}, thermodynamic values assessment, improved method 4-25057
 Pu₂U_{1-x}O_{2+x}, ternary oxides, equi-chem.-pot. curves 4-29656
 Rb, structural energetics using pseudopot. theory 4-45576
 SbS_{2-x}O_x, ferroelec. and piezoelec. props. 4-51201
 Si, precipitation and formation of SiO₂ along dislocation core (French) 4-15648
 Si-SiO₂, diffusion of B, influence of thermoelastic stresses 4-56084
 SiO₂, vitreous, vacancy-bridge defect form., pseudoequilb. approach 4-10995
 SiO₂-GeO₂ glass optical fibre prep., equilibria concs. in SiCl₄, GeCl₄ oxidation 4-24262
 SrAl₁₂O₁₉, thermodynamic props., 1245-1380K, EMF method 4-56048
 T₂, solid molecular, high press. eqn. of state, semiempirical calc. 4-45447
 TaSe₂ (2H), CDW state, nucleation processes 4-15830
 TbAsO₄, ferromagnetic phase, relaxation 4-2855
 TiO, nonstoichiometric, thermodynamics, EMF meas. 4-6525
 TiO_{2-x}, point defects and crystallographic shear planes, thermodynamic equilb. 4-24834
 TlBr+TlI gaseous mixture, excess molar Gibbs free energy, mass spectra study 4-5990
 UO_{2+x}, electronic contributions to high temp. thermophysical props. 4-15899
 WC-Co alloys, microstruct., optical and electron microscopy study 4-7413
 WO_{3-x}, point defects and crystallographic shear planes, thermodynamic equilb. 4-24834
 WS₂, sp. ht., heat of form., Gibbs energy, calorimetric meas. 4-41245
 Y₂O₃S, standard free energy of form. determ. 4-3423
 Zn-Cd, cohesive props., density functional pseudopot. calc. 4-6316
 Zr-Ni amorphous films form. by solid state reactions 4-45553
 Zr(MPO₄)₂+xHCl=ZrM₂-xH₄(PO₄)₂+xMCl (M=Li⁺, Na⁺, K⁺), ion exchange selectivity, electrostatic effect 4-30967

free field rooms see anechoic chambers

free induction decay (optical) see optical coherent transients

free radical reactions

- ab initio and model hypersurfaces for ground and excited state radical reactions 4-16615
 acetophenone ketyl radicals, bimolecular self-reactions, rate const. 4-30937
 addition homopolymerization, molecular weight distrib. control 4-30985
 butane, methyl-substituted radical cations, low-temp. matrix, chem. reactions, ESR study 4-54761
 butyl methacrylate, radical polymerisation, gel-effect mechanism, rheological obs. (Russian) 4-14938
 cyclobutane radical cation, ring opening effect on dimerisation of phenyl vinyl ether 4-41191
 dibenzylketone, photolysis, mag. ¹³C isotope enrichment 4-26179
 dimethylmercury, HO radical initiated oxidation mechanism, kinetics, long-path FT IR obs. 4-30966
 diphenyl ketyl radical, ground and excited states, reactivity study, time resolved spectra 4-35869
 diphenylaminy radicals, bimolecular self-reactions, rate const. 4-30937 (durene)⁺ + (paraterphenyl-d₄)⁻, radical-ion pair recombination, quantum beats induction by hyperfine interactions 4-3386
 electron exchange reactions, time-resolved CIDEP 4-54762
 formyl radicals, disproportionation reactions, absolute rate const., 295-475K 4-30938
 methacrylic acid, radical polymerisation using poly-2-vinylpyridine template 4-7718
 methyl methacrylate+styrene free radical addition homopolymerization, kinetic modelling and parameter estimation 4-30984
 methyl radical+methyl ion, entropy bottlenecks in ion-molecule reactions 4-51984

free radical reactions continued

- methyl radicals, in methanol glass, H abstraction, reaction rate const. distrib. 4-30936
 polyethylene, irradi., recombination of allyl radicals, reaction kinetics 4-12352
 propane, methyl-substituted radical cations, low-temp. matrix, chem. reactions, ESR study 4-54761
 radical pairs, recombination probability, hyperfine interaction contrib. 4-26180
 recombination probability in zero mag. field 4-26179
 silyl radicals in gas phase, identification using spin-trapping technique 4-9803
 (tetramethylethylene)⁺ + (paraterphenyl-d₄)⁻, radical-ion pair recombination, quantum beats induced by hyperfine interactions 4-3386
 vinyl and butadienyl radicals, chain reactions 4-51961
 vinyl radical+O₂, reaction kinetics and mechanism 4-46749
 Br+HCO(HO₂), reaction kinetics at 298K 4-51987
 CH+methane(ethane)(n-propane), reaction mechanisms and kinetics, laser induced fluoresc. 4-26184
 CH+N₂, reaction kinetics and mechanism, temp. and press. depend. studies and transition state theory anal. 4-12350
 CS+O₂(O₃)(NO₂), reaction and quenching rate coeff. 4-16621
 ClO+NO₂+M→ClONO₂, recombination reaction, rate constant and isomer production 4-42114
 H₂, ab initio and model hypersurfaces for ground and excited state radical reactions 4-16615
 HO₂ and rel. species, interactions and reactions, ab initio MO study 4-46748
 HS+NO₂+M, three body rate coeff. determ. 4-41186
 HS+NO+M, three body rate coeff. determ. 4-41186
 HS+O₂+M, three body rate coeff. determ. 4-41186
 IO+NO reaction, rate const. meas. 4-14470
 NCl radicals, metastable singlet states kinetics 4-12353
 NH₂+N(NO)(NO₂), reaction rate const., laser-induced fluoresc. 4-21430
 N₂H, dissoci., pot. energy surface, ab initio MO theory 4-33297
 O₂-dichlorofluoromethane, rate const. meas. using pulsed laser photolysis and time resolved mass spectrometry 4-16620
 OH catalyst in CO₂ laser, NBH₄-H₂ equilb. 4-33641
 OH+aromatics, addition reaction rate const., adduct unimol. decay 4-30964
 OH+CO+M, reaction rate const., press. depend. 4-30957
 OH+HCl(HBr), time-resolved laser-induced fluoresc., rate constants meas. 4-57534
 OH+SO₂, reaction mechanism for atm. pollution conditions 4-17208
 SO₂⁻ radical anions, aq. soln., reactive character, ESR investig. 4-19081
 SO₃⁻ radical anions, aq. soln., reactive character, ESR investig. 4-19081
 SO₄⁻ radical anions, aq. soln., reactive character, ESR investig. 4-19081
 SiH radical, prod. mechanism and reactivity in SiH₄ plasma 4-41180
- free radicals
 see also free radical reactions; paramagnetic resonance of free radicals
 acetophenone ketyl radicals, bimolecular self-reactions, rate const. 4-30937
 alkanes, ionisation, ab initio MO calcs., pot. energy surface 4-14303
 alkene radical cations, reactivity and thermodynamic stability, alkyl substituent effects 4-14306
 alkoxy radical, from X-ray irradi., ESR and ENDOR study 4-11772
 alkyl radical dissociation to H+C=C, trajectory model, lifetime distrib. following chem. activation 4-35879
 aromatic ketone radical anions, H bond form., picosec. dynamics investig. 4-41193
 aromatic radical anions, fragmentation rates and π*-σ* orbital crossing point 4-41181
 benzene cation radical, Jahn-Teller distortion, ab initio MO calcs. 4-1034
 benzophenone ketyl radicals, electronic excitation transfer, to benzophenone radical anions, fluoresc. 4-9911
 p-benzoquinone, in n-propanol, photolysis, cage effect, mag. field effect 4-46775
 p-benzosemiquinone radical anion hyperfine coupling, solvation effect, INDO calcs. 4-14340
 p-benzosemiquinone radicals, monoprotonated, CIDEP enhanced ENDOR 4-1187
 beta /β-bromoalkyl aminoxyl, ESR spectrum with large ⁷⁹Br/⁸¹Br hyperfine splitting 4-38216
 transbis-(2,2,5,5-tetramethyl-3-imidazole-3-oxide-1-oxyl-4-il) ethylene biradicals, electron spin echo, modulation effects 4-54763
 bromochloro vinyl radical form. from reaction of Cl+vinyl bromide 4-30933
 butadienyl, microwave spectra, transitions, rot. and hyperfine const., astrophysical appl. 4-28432
 chlorofluoromethanes-NO free radical liq. system, H bond formation and mol. motion in solns. 4-30310
 cinnamyl (1-phenyl-allyl) radicals, fluorescence excitation spectra obs. 4-2964
 combustion diagnostics, laser-induced fluoresc. spectroscopy 4-7776
 cyanocarbene, triplet state, rot. transitions, microwave spectra 4-43869
 cyanoethynyl, microwave spectra, transitions, rot. and hyperfine const., astrophysical appl. 4-28432
 cycloalkanes, ionisation, ab initio MO calcs., pot. energy surface 4-14303
 cyclobutane radical cation, ring opening effect on dimerisation of phenyl vinyl ether 4-41191
 cyclopropane radical cations, one-electron two-centre bond, ab initio SCF MO invest. 4-9657
 cyclopropenyl radical, electronic symm. breaking, multiconfig. SCF invest. 4-28360
 2'-deoxyuridine, single crystals, X-irrad., free radical prod. 4-21486
 detection methods for atoms and radicals of gas phase (German) 4-16724
 di-tert-butyl nitroxyl radical, interaction with excited state diphenylpolyenes 4-9812
 diazomethane, 1,3-dipoles, diradical 4-14302
 1,1-difluoroethylene radical anion, ¹⁹F hyperfine interaction, INDO calcs. 4-48939
 diphenylaminy radicals, bimolecular self-reactions, rate const. 4-30937
 diphenylpicrylhydrazyl, spin density contrib., determ. by polarised neutron diffraction (French) 4-7083
 1,4-diradical derived from 2,4,6-trisopropylbenzophenone, spin inversion and lone-pair orbital rot. 4-1216
 (durene)⁺ + (paraterphenyl-d₄)⁻, radical-ion pair recombination, quantum beats induction by hyperfine interactions 4-3386

free radicals continued

- EPR study of radicals derived from unsaturated cyclic ethers 4-38205
ethyl radical, muonic, muon spin rot. spectra 4-54888
ethyl radicals, beta-substituted, ground state conformation, ab initio MO study 4-14307
ethyl radicals, muonic, internal rot. barriers 4-54889
ethylene oxide radical cation, C...C ring opened form, CAS SCF and perturbation calcs. 4-38042
ethylene radical cations, substituted, struct., conform. and ESR spectra calcs. 4-1057
ethynyl radical, laser mag. reson. rot. spectra 4-54764
ethynyl radicals, electronically excited, fluoresc. quenching rate consts. 4-38233
fluoroacetamide, stability and struct. of radical anions, EPR study 4-1184
fluorobenzyl radicals, doublet state, polarised emission, Zeeman splitting 4-33444
fluorocarbon radicals, optical spectra, ionisation pot., electron affinities, DVM α calcs. 4-33320
fluoroethyl radical, HF mol. elimination study 4-30931
fluoroethyl radical, in cancrinite matrix, EPR investig. 4-1180
fluorovinyl radical, in cancrinite matrix, EPR investig. 4-1180
formaldehyde cation radicals, ESR investig. in Ne matrices at 4K 4-38215
formyl radical, ground state, hyperfine interactions, mm and sub-mm spectra 4-38159
formyl radical, in fused SiO₂, magnetophotoselective photolysis 4-46776
formyl radical, ionisation pot., SCF and CEPA calcs. 4-33344
formyl radicals, disproportionation reactions, absolute rate consts., 295-475K 4-30938
4-hydroxy-2,2,6,6-tetramethylpiperidiny-1-oxy radical, interaction with excited state diphenylpolymers 4-9812
hyperfine struct., ab initio CI calcs. 4-38079
imidazoline nitroxides, photochemical transform., mag. reson. study 4-52030
immobilised spin labels, Q-band ESR spectra, simulation 4-19093
ketones, cyclic aliphatic, photolysis, CIDNP biradical study 4-43899
low-molecular particles in polymers, diffusion coeffs., press. effects (*Russian*) 4-15710
methanol-t₁, radical spin trapping in phenyl-t-butyl nitron, EPR study 4-35914
methoxy radical, isomerisation, reaction path hamiltonian study 4-51991
methyl radical, ground and Rydberg excited states, photochemistry 4-52032
methyl radical+methyl ion, entropy bottlenecks in ion-molecule reactions 4-51984
methyl radical containing molecules, UV multiphoton dissociation, A-doublet populations of CH(A²Δ) 4-9863
methyl radicals, in methanol glass, H abstraction, reaction rate consts. distrib. 4-30936
methylene, rot. transition freq. and line strengths (8.4384 microns) 4-43871
methylene cation radical, floppy mol., ro-vibr. calcs. 4-14382
microdiffusion in solid organic cpds., tunnel mechanism (*Russian*) 4-15711
molecular electronic struct., high resolution spectrosc. obs., review 4-1149
naphthalene anion radical salts, solid, interaction with water, thermochem. 4-31013
ozone, 1,3-dipoles, diradical 4-14302
peroxide radicals, electronic struct., mag. reson. parameters calcs. 4-28374
2-phenylindan-1,3-dione-2-yl free radicals, substituent and solvent effects, UV absorpt. spectra 4-54742
2-phenylindan-1,3-dione-2-yl radicals, substituted, solvent effects, UV obs. 4-28451
pivalyl- t-butylmethylene and its quintet radical pair: isolation and ESR detection 4-1186
polyene radicals, Heisenberg antiferromag. chains, spin densities and correls. calc. PPP model 4-28376
polyenes, ion-radical organic solids, electronic struct. 4-14334
potassium hydrogen malonate, radical pairs, ENDOR study 4-2842
resonant multiphoton optogalvanic spectroscopy of radicals in flames 4-17956
spectroscopic absorpt. model 4-23710
spin-polarised, electron exchange reactions, time-resolved CIDEP 4-54762
α-styryl radicals, fluorescence excitation spectra obs. 4-2964
TCNQ(-d₄)-(F₄), near IR and visible electronic transitions, vibronic struct. 4-5214
tetracyanoarenoquinodimethane, radical anions and trianions 4-33426
(tetramethylethylene)^{•+}+(paraterphenyl-d₄)^{•-}, radical-ion pair recombination, quantum beats induction by hyperfine interactions 4-3386
thioformyl radical, struct., double zeta plus polaris. SCF and CI calcs. 4-14338
thionine triplet+aniline, electron transfer reaction in reversed micelles, mag. field enhanced radical yield 4-30932
triatom molecules, AH₂, AHF and AF₂ type, equilib. geom. by NDDO method 4-9678
trifluoroacetamide, stability and struct. of radical anions, EPR study 4-1184
trifluoromethyl short-lived species investigation using stroboscopic gas-electron diff. method 4-5356
4-(trimethyl lead)-2-butyl radical, intramolecular vibr. energy transfer, heavy atom blocking 4-49006
5-(trimethyl tin)-2-pentyl radical, intramolecular vibr. energy transfer, heavy atom blocking 4-49006
triphenylamine cation radicals; substituted, electron exchange with neutral mols., kinetics 4-49156
vinyl radical+O₂, reaction kinetics and mechanism 4-46749
Ar^{•+}+H₂(He)(CH₄)(Ar)(CO₂)(Xe), charge stripping, collision gas press. depend. 4-33521
Ar^{•+}+N₂, collision-induced mass-analysed ion kinetic energy spectrum, probability theory anal. 4-33494
BF₄ radical, ESR spectra and struct., formed in KBF₄ cryst. by γ-rays 4-32727
BN, singlet bands, assignment, electron configs. 4-23683
B₂N₂ cation radical, Jahn-Teller distortion, ab initio MO calcs. 4-1034
BO₂+N₂ (Ar)(O₂), excited state dynamics studied by laser induced fluoresc. meas., radiative lifetimes 4-38222
Br+HCO(HO₂), reaction kinetics at 298K 4-51987

free radicals continued

- Br₂-clusters in Ar matrices, time resolved visible and UV absorpt. spectra 4-1308
CF radical, vibr.-rot., laser mag. reson. 4-5259
CF(X²Π), VUV photoelectron spectra, ab initio MO calcs. 4-43917
CH, correl. valence shell Hamiltonian, bond length depend., ab initio determ. 4-33305
CH^{•+} radical, shape reson., curve crossing, complex rotated Titchmarsh-Weyl theory 4-33459
CH+N₂ reaction kinetics and mechanism, temp. and press. depend. studies and transition state theory anal. 4-12350
C₂H₆^{•+}, ionization energies of ions formed by ion/molecule reactions 4-35874
(CH₂CH₂NH₂)^{•+}, identification and struct. 4-10173
(CH₂XH)^{•+}, X=F, Cl, Br, I, OH, identification and struct. 4-10173
CN photofragments, rot. resolved emission and alignment 4-28515
CN, vibr. excited, laser excitation spectra, rot. anal. 4-5242
CaCl, pot. energy curves 4-18956
CaF, pot. energy curves 4-18956
ClO+NO₂+M→ClONO₂, recombination reaction, rate constant and isomer production 4-42114
CsO, radical, mol. hyperfine interactions, relativistic effects 4-14346
FO radical, elec. dipole moment, laser mag. reson. spectra 4-14455
FO₂ radicals, UV absorpt. for F atom absolute conc. determ., F₂-H₂ laser photoinitiation 4-28677
H₂^{•+}, rot. predissociation, transition state effects 4-5306
HCo(CO)₄ dissolved in Kr, EPR spectra of Co centred free radicals 4-30286
HNF free radical, A²A'-X²A'' vibronic transition, ab initio CI study 4-38073
HO+dimethylmercury, radical-initiated oxidation mechanism, kinetics, long-path FT IR obs. 4-30966
HO₂, absolute intensity of ν band meas. 4-28415
HO₂(A²A'), excitation mechanisms in various chem. systems 4-9695
IO radicals, laser induced fluoresc. and predissoc. 4-14470
IO+NO reaction, rate const. meas. 4-14470
LiClO₄-solvent-nitroxide radical systems, multinuclear NMR study 4-28461
MgCl, pot. energy curves 4-18956
NCl radical, triplet state, mol. consts., microwave obs. 4-9763
NCl radicals, metastable singlet states kinetics 4-12353
NF₂(X²B₁), ν, band anal., IR laser spectroscopy of free radicals and ions 4-49025
NH metastable radical, spectrum and lifetime in inert gas matrices 4-1152
NH₄ radical, Rydberg states, emission spectra obs. 4-54736
NH₂(A²A₁), supersonic free jet, rovibronic level, laser induced fluoresc. 4-38230
NO radical, ionisation and excitation spectra studied by SAC and SAC-CI theory 4-33330
(NO)₂^{•+}, photodissoc., dynamics and energy disposal 4-23765
OD radicals, UV photoelectron spectra 4-43920
OD radicals in comets, photodissociation lifetimes and spectra 4-13253
OH, A²Σ⁺-X²Π_{1/2} system, two-photon spectrosc. 4-14471
OH catalyst in CO₂ laser, NbH₅-H₂ equilib. 4-33641
OH in turbulent nonpremixed flames, single pulse laser saturated fluoresc. meas. 4-46845
OH, nascent radicals in photodissoc. of H₂O at 157 nm, full internal state distrib. and alignment 4-9853
OH radical, relax. coeffs., atm. press., laser-excited fluoresc. obs. 4-28504
OH radical, vibr.-rot. line strength, IR spectra 4-5287
OH radical in stratosphere, balloon borne lidar meas. system and obs. 4-42213
OH radicals, UV photoelectron spectra 4-43920
OH radicals in comets, photodissociation lifetimes and spectra 4-13253
OH+aromatics, addition reaction rate consts., adduct unimol. decay 4-30964
OH+O reaction, var. transition state theory 4-26194
OHS+SO₂ reaction mechanism for atm. pollution conditions 4-17208
OH(X²Π) radical, detect. by CARS 4-33408
PH, X²Σ⁺ state, fundamental vibr.-rot. band, IR diode laser spectroscopy 4-43862
PO radical, vibr.-rot. transition, IR diode laser spectra 4-14415
Ru (II) porphyrin π-cation radicals, NMR spectra, rel. to horseradish peroxidase cpd. I 4-9796
S₈, liq., free radical conc., comparison of theory and expt. 4-11773
SH radical, A²Σ_{1/2}⁺, ν=0 state, hyperfine and spin-rot. struct., laser-induced fluoresc. 4-1195
SH(D), A²Σ⁺ state, radiative and predissociative lifetimes, fluoresc. obs. 4-9815
SO₂^{•-} radical anions, aq. soln., reactive character, ESR investig. 4-19081
SO₂^{•-} radical anions, aq. soln., reactive character, ESR investig. 4-19081
SO₂^{•-} radical anions, aq. soln., reactive character, ESR investig. 4-19081
SiH, ground ²I_{1/2} state, using vibr.-rot. laser mag. reson. 4-49061
SiH radical, prod. mechanism and reactivity in SiH₄ plasma 4-41180
SiH₃(X²A₁) radical, vac. UV photoelectron spectrosc. obs. 4-19103
SiP^{•+} radical, electronic struct. ab initio MRD-CI calcs. 4-48956
V (IV) complex, oxovanadium tetraphenylporphyrin cation radical, optical absorpt. and triplet ESR spectra 4-14453
XeF radical, mol. hyperfine interactions, relativistic effects 4-14346

freezing

see also refrigeration

- alkali halides, molten, freezing mechanism into normal phase 4-6479
bidirectional shadowing in freeze-etching, particle size analysis 4-17033
biological frozen hydrated sections for electron microscopy, freezing, sectioning and obs. artefacts 4-8166
biological specimens for electron microscopy improved device for rapid freezing using liquid He 4-31380
DNA incorporated radiation injuries, freeze-thaw mechanism, dielectric and hydrodynamic meas. 4-31172
finite slab, freezing and melting, heat generation effect 4-24343
fluorite-type materials, molten, freezing mechanism into superionic phase 4-6479
freely suspended droplets, contact and immersion freezing by bacterial ice nuclei 4-47368
hard spheres, random close packing, freezing transition, and spinodal decomp. 4-20069
ice-water interface, enhanced light scatt. during freezing 4-30480
Lennard-Jones, fluid, freezing transition 4-29575

freezing continued

- mixtures, off-eutectic, solidification, effect of oscillatory and ramped freezing rates 4-2313
- moving boundary problems in simple shapes solved by isotherm migration 4-28964
- natural rubber vulcanisates, network struct., cryoscopic investig. 4-55973
- one-component plasma liq., freezing, mol. theory 4-50475
- paraffin wax, energy storage dynamics in cylindrical containers 4-31123
- phase change material in pool, heat transfer, effect of cycling 4-57794
- polystyrene sphere suspensions, freezing curves 4-29576
- PVC films, cryomodification (*Russian*) 4-7541
- saturated liquid inside a sphere, freezing, boundary layer study 4-1579
- semi-infinite phase change medium, convective cooling, freezing analytical soln. 4-1580
- soil freezing, heat and mass transfer, computer calcs. 4-22024
- soil frost heave, nondestructive moisture/density meas. using dual-energy gamma-ray technique 4-51940
- solar desalination using the vacuum freezing ejector absorption (VFEA) process 4-12452
- solar energy combining with freezing and distillation equipment, new desalting techniques 4-52094
- solute redistribution during freezing 4-41389
- steady turbulent flow in tube, effect of external convection on freezing 4-10669
- steel, mild, corrosion in permafrost 4-12248
- structural transition dynamics 4-2053
- temperature distributions in melting/freezing processes, enthalpy method in singularity region 4-15619
- theory, density distrib. 4-20337
- thermal cond. meas. techniques for wet soils and biological tissue 4-31377
- thermal energy storage, phase change shell and tube heat exchanger design 4-57792
- thermal energy storage cylindrical capsule, cyclic phase change 4-57791
- water, dispersed within emulsions, freezing, thermally stimulated depolarisation study 4-55970
- water, supercooled droplet, freezing on ice substrate, role of cubic struct. 4-50471
- water droplets, frozen on ice surface, cryst. struct. and orientation 4-29578
- water supercooled solidification process, numerical anal. (*Japanese*) 4-15622
- D₂ liquid in porous Vycor glass, specific heat study 4-11313
- H₂ liquid in porous Vycor glass, specific heat study 4-11313
- Ne liquid in porous Vycor glass, specific heat study 4-11313
- Si, ion implanted, pulsed electron beam annealing, melting and freezing kinetics 4-20254
- Xe monolayer, on graphite, struct. and freezing transition, X-ray scatt. study 4-20482

Frenkel defects

- electron irradi., defect form. parameters 4-50361
- ionic crystals, bulk cond., polarisation and defect exchange 4-45408
- recombination kinetics, phenomenological theory 4-20183
- semiconductors, Frenkel pair generation, ab initio adiabatic potentials (*Russian*) 4-25193
- AgBr, premelting lattice disorder rel. to superionic cond. 4-6553
- AgBr:K⁺(Rb⁺), diffusion study and ionic cond. 4-15706
- AgBr:Rb⁺(Na⁺), impurity diffusion study 4-15705
- AgCl:Cs⁺(Na⁺), impurity diffusion study 4-15705
- AgCl:K⁺(Rb⁺), diffusion study and ionic cond. 4-15706
- Al-Fe(cu), impurity mobility of Fe and Cu, RBS study 4-45381
- α -Al₂O₃:Ti, oxidation-reduction and ionic disorder 4-15459
- β -Al₂O₃:Na₂O-Ag₂O, X-irrad., Ag²⁺ ESR study 4-40222
- β -Al₂O₃:Na₂O(Ti₂O₃), nonstoichiometric, structure, normal coord. anal. 4-39269
- Bi, electron irradi., galvanomagnetic props. at 4.2K, rigid-band model 4-35014
- CaF₂, anion Frenkel defect, heat of formation 4-20187
- CdS single cryst., photocond. and dark cond. at high temps. 4-45828
- CdTe, intrinsic point defects 4-24813
- Fe-Co-X (X=Mn,V,Ti), low temp. fission neutron disordering, Frenkel pairs, elec. resist. obs., 22K 4-15545
- Fe-Cr-Ni, austenitic, electron irradi., defect props., elec. resist. meas., comp. depend. 4-55877
- KCl:I, absorpt. spectra, annihilation of F-H pairs 4-35470
- Li₃N:Al(Cu)(Mg)(H), ionic cond. and defect migration 4-25085
- NaYF₄ pellets, ionic cond. meas. 4-50569
- PbF₂, perfect cryst. and intrinsic defect props., quasi-harmonic calc. 4-45127
- PbF₂, premelting lattice disorder rel. to superionic cond. 4-6553
- PbTiO₃, elec. cond., optical absorpt., lattice disorder 4-51294
- Si, X-ray irradi., Frenkel pairs, minority carrier injection effects 4-55823
- ThO₂, disorder, at high temps., neutron scattering investigation 4-50251
- UO₂, disorder, at high temps., neutron scattering investigation 4-50251

frequency control

- see also automatic frequency control*
- semiconductor lasers, frequency control by computer system (*Japanese*) 4-19482
- semimicrobalance, self-compensating electronic anal. (*German*) 4-22761

frequency division multiplexing

- band-pass filter, high performance, for WDM transmission 4-38629
- demultiplexer, planar, with chirped grating, for WDM systems, diff. behaviour 4-28879
- fiber-optic communication in wavelength-division multiplex mode 4-14794
- fiber optic WDM, demultiplexer config., prism grating GRINrod combination 4-10457
- fiber optic WDM multiplexer/demultiplexer system using concave holographic gratings 4-10461
- fiber optic WDM system, two wavelength, for analogue data links 4-10458
- fiber optic WDM systems, interf. filter operational characs. 4-10462
- fiber optics multiplexing and modulation, conf., Arlington, VA, USA (April 1983) 4-8636
- frequency multiplexing imager signal-to-noise ratio 4-49559
- height contouring by wavelength multiplexing 4-42924
- multi-demultiplexer, all-optical-passive component for fibre-telecommunications 4-44251
- optical coupling, low losses 3-channel multiplexer (*French*) 4-38632

frequency division multiplexing continued

- optical demultiplexers, production problems of interference filters 4-38633
- optical fibre wavelength division multiplexer for subscriber loop system (*Japanese*) 4-19601
- optical WDM, two-channel, using 1260 and 1330 nm lasers 4-10455
- optical WDM demultiplexers, four channel 10 nm spacing 4-10456
- optical WDM multiplexer/demultiplexer, high stability, with polygonal structure 4-10460
- telephones, optical multi/demultiplexers for F6-M system with WDM design and experimental tests (*Japanese*) 4-49563
- two-dimensional image transmission through a single optical fiber by wavelength-time multiplexing 4-19572
- wavelength division multiplexers and demultiplexers low insertion loss type, microcomputer-aided design and realisation 4-38577

frequency-domain analysis

- acoustic emission, frequency-domain anal., transient phenomena duration determ. 4-44282
- EM fields on surface and interior of cavities, numerical calculation (*French*) 4-49232
- transducer damping ratio determ., using Fourier transform 4-4392

frequency measurement

- see also atomic clocks*
- amplifier/filter band-pass characs. and freq. meas., technique using Tektronix 2236 CRO (*French*) 4-22801
- atomic clocks precision remote comparison of frequency by means of a TV signal (*Japanese*) 4-17880
- atomic frequency standards, appl. of radially stratified dielectric-loaded cavities 4-48066
- atomic frequency standards, use of wall coated cells 4-239
- atomic frequency standards, performance, development and appl. (*French*) 4-22763
- calibration service offered by National Bureau of Standards 4-53661
- digital panel meters for temperature and frequency meas. 4-48130
- dual mixer time difference system, for time-domain frequency stability meas. (*Korean*) 4-37073
- laser wavelength meas. device, lambda meter (*French*) 4-27575
- ratemeter with dead-time correction 4-17879
- wideband frequency-offset-locked dye laser spectrometer using a Schottky barrier mixer 4-27603
- Cs atomic beam frequency standard 4-48089
- Cs atomic reference frequency and clock supply, parallel processing freq. keeping algorithm (*Japanese*) 4-32241
- He-Ne Zeeman laser, ¹²⁹Xe stabilised, evaluation of stability and wavelength (*Korean*) 4-38447

frequency meters

- see also wavemeters*
- digital panel meters for temperature and frequency meas. 4-48130
- mechanical chronometers, checking method using quartz synchronometer and electronic freq. meter 4-4381

frequency modulation

- acoustic wave systems, demodulated signals, freq. characteristics effects 4-14846
- fiber optic remote interferometric sensor, close loop FM 4-44216
- guided-wave interferometric modulators appl., using LiNbO₃ 4-14782
- semiconductor laser, injection locked, influence of asymmetric locking characs. on coherent modulation behaviour 4-24037
- AlGaAs coupled-cavity laser, single longit. mode operation, 0.2-1.0 GHz FM characs. meas. 4-33695
- GaAlAs index-guided diode lasers, FM-noise spectrum 4-49360

frequency regulation *see frequency control***frequency response**

- fluid amplifier, freq. response anal. using unsteady flow characs. 4-10803
- mechanical structures, linear elastic, frequency response meas. 4-49792
- optical monomode fibres, phase-amplitude relationships for frequency response 4-38620
- semiconductor lasers, microwave performance, freq. response characs. meas. technique 4-44106
- ultrasonic transmitter heads, spectral exam. with output test (*Hungarian*) 4-49631

frequency stability

- see also frequency control; laser frequency stability*
- atomic standards, specifying performance 4-53649
- disciplined quartz frequency standard, microprocessor controlled 4-53660
- dual mixer time difference system, for time-domain frequency stability meas. (*Korean*) 4-37073
- maser oscillator with external feedback loop, expts. 4-28651
- CO₂ molecular laser, lower output, with stabilised output frequency (*Polish*) 4-44086

friction

- see also internal friction; lubrication*
- aggregates, diffusion limited, translational friction coefficient 4-56019
- alminar film condensation in tube with upward vapour flow 4-5871
- axisymmetric jet interaction with plane obstruction heat transfer and friction (*Russian*) 4-1796
- capillary systems, friction and contact angle anal. 4-15747
- ceramics, friction and wear study (*French*) 4-16515
- circular areas of contact, plane motion with Coulomb friction 4-19778
- decelerating turbulent pipe flows, unsteady frictional losses 4-38888
- dissimilar materials, separation process, friction effect 4-10613
- effects of friction and extraction on the stability of solar ponds 4-46895
- elastico-viscous liq., unsteady axisymmetric rot. flow 4-44596
- elastodynamics problems with friction, numerical anal. 4-14925
- electric connector Pd-Ag DGR 156 contact alloy, assessment of lower levels of composition 4-46634
- elliptical contact with friction, elastic and shakedown limits 4-38765
- epoxide resins, cured, frictional behaviour in glassy, transition and rubbery regions 4-7608
- evaluation of friction and wear by expt. methods (*Czech*) 4-40999
- fatigue testing in rolling ball-cylinder and static ball-flat plate expts. cumulative plastic deform. obs. 4-35811
- fault slip instability and state variable friction laws 4-52597
- filled polymers and composites, tribology rel. to filler material (*German*) 4-16514
- flow about elastic plates, drag coeff. meas., hydrodynamic characteristics 4-34057
- Galin problem with friction and adhesion, Fuchs-class eqn. 4-55382
- gas-solid flow anal. using method based on turbulent model 4-44698

friction continued

- granular material, frictional slip and plasticity 4-25905
hot rolling investigation by caustics, roll-press. distrib. and coeff. of friction 4-10623
ice, friction for adhesion calcs. 4-45260
incompressible liq., forced couette turbulent flow in annular gap (*Russian*) 4-29070
liquid crystals, diffusion tensor and orientation-dependent friction, theory 4-50197
magnetic tapes, adhesional component of friction 4-51820
metal powder compaction, sliding friction on cemented carbide walls 4-25909
metal-polymer composites, surface layers form. on sliding 4-46628
metals, rolling of thick narrow strips, rolling dia. and contact friction influence 4-30770
metals, tensile and shear strength, correl. with friction props. 4-50402
microgeometry, evaluated using statistical anal. (*Czech*) 4-41148
motion picture films with antifriction protection (*Russian*) 4-17975
multibody systems with constraints subject to friction (*German*) 4-5787
multilayer materials produced by metal powder rolling, frictional thermal resist. 4-51584
multiple collision criterion in simple mech. system with viscous damping and dry friction 4-24345
plain bearing alloys, development and props. 4-51822
planar channels, friction and heat transfer, supersonic flow with shock waves nonuniformity influence 4-5958
plastic materials, steady helical flow, stress-strain characts. 4-33948
polymer solutions, turbulent function factors and heat transfer coeffs., correls. 4-5923
polymeric composites, heat transfer in dry sliding 4-12196
polyurethane surface, energy dissipated by friction with Schallamach waves 4-7609
powder compaction, predictor method for finite element analysis of sliding friction 4-25907
powder mechanics in tribology 4-49777
PTFE, frictional wear 4-21331
refrigerant 12-13 mixtures, forced convection boiling, press. drop calcs. 4-38808
review of friction and wear research, scope and future directions 4-7594
rotationally oscillating cylinder in crossflow, heat transfer 4-24422
rough surfaces, turbulent boundary layers, heat transfer and skin friction 4-10658
rubber friction, run-in effect 4-46629
separation flow in matrices, friction coeffs. redefinition 4-19876
slip between layer and substrate caused by normal force moving steadily over the surface 4-10564
stamp motion with friction, three-dimens. contact problem 4-19774
starting rolling friction, governing relationships 4-50419
steady frictional slipping stability 4-1627
steel, austenitic stainless, passive behaviour in H_2SO_4 by corrosion under friction 4-57454
steel, C, friction and wear in fretting, atmos. press. effect 4-21335
steel, ion-implanted, tribological props. 4-12194
steel, photostimulated exoelectron emission, lapping kinetics in dry friction process 4-7331
steel, stainless, type 304, ion implantation, microstruct., friction and wear 4-7598
steel, stainless type 304 and 15-5 PH, N^+ ion implantation effects on wear and friction 4-7599
steel, Ti-implanted, friction and wear props. and vacuum carburization 4-21330
steel, type AISI 4140, 4340 and stainless type 304, ion nitrided, tribology and microstruct. 4-7602
steel contacts, dry and lubricated sliding, failure mechanisms 4-41010
steel-polyamide contact forces of external friction and creep during tangential loading (*Russian*) 4-57353
surface films, tribological behaviour, physical principles 4-6685
systems with nonideal bilateral constraints, eqns. of motion 4-53468
target penetration described by Mohr-Coulomb, failure criterion with tension cutoff 4-86
testing arrangement 4-3324
third-invariant plasticity theory for frictional materials 4-19740
time of motion, frictional force effect 4-53423
trains, rolling resistance, friction, soil mechanics, suspension system, fundamental mechanics studies 4-29030
turbulent heat transfer and fluid friction in helical wire coil inserted tubes 4-19820
turbulent pipe flow, friction factor 4-10652
wear testing rig adaptation for use under fretting corrosion conditions 4-41141
Ag contact composites, TEM obs. WRT optimum antifriction and elec. erosion characts. 4-7596
AlN, hot pressed, friction and wear, temp. and environmental effects 4-30828
Au ion-plated coatings, tribology and XPS depth profiling 4-7605
B chemical vapour deposition on Be, wear and friction tests 4-7370
Co-Cr-W-C-Ti alloy, Ti ion implantation effects on friction and surface chem. 4-7606
Cu, dispersion hardened, friction and wear, transfer layer microstruct. and hardness 4-30831
Cu-Al (12 wt.%), friction and wear rel. to heat treatment and electron beam surface melting 4-57354
Cu-Be (1.8 wt.%), friction and wear, transfer layer microstruct. and hardness 4-30831
Cu-PTFE interface, friction at cryogenic temps. 4-30827
Fe, friction and wear, in NaOH solns 4-12197
 $Fe_{40}Ni_{60}B_{20}$ metallic glass, sliding friction and wear resist. 4-41011
HfN sputtered coating on stainless steel, adhesion and mech. props. 4-7603
 MoS_2 -based composite, lubricant films, moisture resistance and adhesion 4-7621
Ni, friction and wear, in NaOH solns 4-12197
Pd, electroplated layers, wear, corrosion and contact resistance comparison to roll milled Pd and Pd alloys 4-46666
Pd-Ni electrodeposits on electric connectors, properties, comparison with AuCo and Pd+AuCo-flash 4-46665
 Si_3N_4 sputtered coating on stainless steel, adhesion and mech. props. 4-7603

friction, internal see internal friction**frictional electricity** see triboelectricity**fuel**

- see also coal; fission reactor fuel; pulverised fuels
alternative gaseous fuels safety assessment for light automotive transportation 4-57636
anaerobic digestion of wastes, research and development 4-57741
arid land plants for fuel and biomass 4-12438
Asclepias speciosa, possibilities for conversion to fuel and chemicals 4-52181
beds, pulsating air flow, mass transfer and combustion 4-41216
biogas production, by anaerobic digestion of waste 4-52182
biomass production, by *Oocystis* sp. grown on wastewaters, agitation and aeration modes influence 4-52180
biomass upgrading, by pyrolysis and gasification processes 4-52184
biomethanation of marine alga *Tetraselmis* 4-26305
boilers, pulverised fuel fired, oil combustion in tertiary air type burners 4-7801
cattle dung energy and economic returns as manure and fuel 4-41309
 CH_4 fermentation (*French*) 4-52177
combustion of methanol and methanol-gasoline blends in spark ignition engines 4-57628
comparative performance study of spark ignition engines burning alcohols, gasoline and alcohol-gasoline blends 4-57630
cottage industries woodfuel demand in Philippines 4-41307
dairying, waste wood energy appl. 4-31061
droplets, spread of flame, zero gravity expts: 4-35905
energy consumption in Latin America, role of biomass, quantitative anal. 4-52081
energy utilisation by land traffic and transport (*Dutch*) 4-35979
EPRI Fuel Supply Seminars, St Louis, MO, USA (Oct. 1982) 4-12442
ethanol, maximisation, from pawpaw fermentation 4-41359
ethanol from sugar beet in pilot plant with direct digital control 4-35975
ethanol versus petroleum, energy and economic anal. for New Zealand 4-35977
Euphorbia petro-crops for fuel 4-52183
forecasting and analysis models 4-12444
fossil energy sources processing utilisation of hydrogen 4-3447
fossil fuel energy technologies, environmental impacts and public health risks 4-57746
future for fossil fuels: a global perspective 4-52084
geopressed gas resources in US Gulf Coast Region, net energy anal. 4-41308
 H_2 energy prospects in Canada 4-36035
 H_2 energy systems outlook in European Communities 4-3482
 H_2 potential as energy vector, future supply and demand uncertainties anal. 4-3481
heavy crude oils and synthetic fuels, hydrocarbon-type analysis by pyrolysis thin-layer chromatography 4-41306
hydrocarbon fuel drops, steady state evaporation characts. 4-10525
large-scale solar energy utilisation by conversion to hydrogen 4-3484
liquid fuel, surface diffusion combustion of heterogeneous systems (*Russian*) 4-12372
'live' chromatography by column switching of: SICHROMAT 2 gas chromatograph 4-35969
low-grade fuel gas production by waste gasification and pyrolysis 4-57742
methane gas evolution from north-eastern Kentucky oil shale pyrolysis 4-41305
oil, viscoplastic, residual vol. estimation after flooding 4-5949
potential of fossil fuel, Western countries (*German*) 4-7796
propane gas evolution from north-eastern Kentucky oil shale pyrolysis 4-41305
refuse incineration, environmental and energy aspects (*Italian*) 4-41304
spherical particles, mixed convection combustion theory 4-21467
status update of EPRI research project (1983) 4-35973
synthetic fuel development: potential socioeconomic impacts of single and multiple projects, United States 4-16728
synthetic fuels obtained by cellulose hydrogenation need further treatment for stability 4-57631
synthetic liquid fuel production prospects in USA 4-21519
theoretical and experimental studies on the combustion of synthetic fuels in spark ignition engines 4-57629
use of gobar gas in diesel engines in India—present status and future prospects 4-57739
waste cellulose acid hydrolysis to glucose, used as fermentation substrate for ethanol production 4-57743
wastes/biological materials combustion for energy 4-57744
water hyacinth for methanol production (*French*) 4-52179
water hyacinths methane fermentation (*French*) 4-52178
CO gas evolution from north-eastern Kentucky oil shale pyrolysis 4-41305
CO₂ emission rates for conventional and synthetic fuels 4-35978
CO₂ gas evolution from north-eastern Kentucky oil shale pyrolysis 4-41305
 H_2 , electrolytically produced, economics and potential in Canada 4-36036
 H_2 ground transportation fuel, safety aspects 4-36039
 H_2 production by large scale solar energy utilisation 4-12497
 H_2 production from fossil fuels, economic feasibility of advanced technology 4-3486
 H_2 production using energy from HTGR-based nuclear power technological plants 4-3483
 H_2 /diesel/ H_2 fuel cell powered, techno-economic comparison 4-36038
 H_2S gas evolution from north-eastern Kentucky oil shale pyrolysis 4-41305
Hz gas evolution from north-eastern Kentucky oil shale pyrolysis 4-41305
 P_2O_5 fuel cells, utilising co-product hydrogen, DC power applications economics 4-36003
- fuel batteries** see fuel cells
- fuel cells**
alkaline, oxygen reducing porous C electrode performance 4-36004
battery systems development (*German*) 4-12466
electric vehicle power sources, electrochemistry 4-41335
electricity production, large-scale (*Swedish*) 4-16769
electrodes, porous gas diffusion, dynamic behaviour 4-16770
high temperature electrolyte fuel cells, steady-state anal. 4-12468
hydrazine-air fuel cells with direct fuel supply 4-57713
local power generator production using fuel cells 4-57716

fuel cells continued

- solid electrolyte fuel cells, electric energy storage with advanced batteries and power generation with fuel cells (*Japanese*) 4-3455
- solid electrolyte gas cells, application of proton conductors 4-25086
- studies of the performance and life-limiting processes in alkaline fuel cell electrodes 4-7865
- H₂/diesel/H₂ fuel cell powered, techno-economic comparison 4-36038
- H₂ fuel cells for electric cars, H₂ being produced by electrolysis in nuclear power plants, economics 4-3487
- H₂-O₂ alkaline fuel cells, Ti-doped Raney Ni catalytic props. improvement by Ni(OH)₂ surface coating 4-21540
- H₂-O₂ alkaline fuel cells, Ti-containing Raney-Ni catalysts long term perform. 4-57715
- H₂-O₂ fuel cells, Ti-containing Raney-Ni catalytic props. improvement for hydrogen anodes 4-57714
- LaNiO₃ preparation and oxygen reduction performance, application as catalyst in fuel cells 4-35888
- LiAlO₂, porous matrix electrophoretic deposition for molten carbonate fuel cell 4-12469
- P₂O₅ fuel cells, utilising co-product hydrogen, DC power applications economics 4-36003

fugacity

- see also *kinetic theory of gases*
- hard rods system, one-particle distrib. funct. 4-27402
- lattice gas models, gas-solid coexistence curve, low temp. expansions. 4-11264
- O variations in Mount St. Helens eruptive sequence 4-12886

full wave rectification see *rectification***function approximation**

- see also *Chebyshev approximation; interpolation*
- fast Fourier transform, approximate algorithm using approaching functions (*Chinese*) 4-42700
- Laplace transform inversion, functional approx. 4-36887

functional analysis

- see also *harmonic analysis*
- analytical approximation to n!, improved comments 4-32022
- book, functional integrals in QFT and statistical physics 4-53377
- boson operator functions, normal ordering 4-4204
- cavitational flow in a channel with oscillatory wall 4-44665
- Chebyshev expansion of characteristic polynomial, topological anal. 4-17681
- commutator evaluation formula 4-8725
- difference minimisation, errors using PDP-MINUIT program 4-47840
- double exponential decay anal. using modulating functions 4-17682
- Duhamel function upper bound and compressibility sum rule 4-22623
- electrostatics, multiple multipole method, automatic computation of optimum origins of the poles 4-49221
- exponential decay, noniterative methods for extraction from background noise 4-172
- funnel functions, use in appraising geophysical linear/nonlinear inverse problems inherent nonuniqueness 4-42216
- Hamiltonian systems, finite-dimens. eqns. deduction from infinite-dimens. eqns. 4-42697
- Lippmann-Schwinger operator in space of Fourier transforms, norm estimation (*German*) 4-47843
- magnetostatics, multiple multipole method, automatic computation of optimum origins of the poles 4-49221
- Newton's algorithm and chaotic dynamical systems 4-53599
- one-dimensional anharmonic oscillator, in thermal equilib., anal. probability distrib. function 4-27321
- optimal analytic extrapolations 4-53552
- projection operator formalism for second order response 4-22743
- resolution function, regularisation method improvements 4-4202
- spherical tensor gradient and spherical delta funct., compact analytical reps. 4-8724
- transmembranal potentials of a developing fish embryo, correlation functions (*Russian*) 4-26380
- vectorial representation of rotations and Lorentz transformations with extended trigonometric and hyperbolic functions 4-13510

functional equations

- book, functional integrals in QFT and statistical physics 4-53377
- Boolean equations in lattice theory 4-27453
- breakage model, solution of population balance equation via shifted Legendre functions 4-42865
- diffraction, integro-series eqn. class 4-44024
- XXZ Heisenberg exactly soluble quantum system, functional eqn. method 4-25505

functionals see *functional equations***functions**

- see also *Bessel functions; Boolean functions; Green's function methods; random functions; recursive functions; transfer functions; vertex functions; Walsh functions*
- high pass functions, integrals Fourier transforms 4-53453
- Jacobi elliptic functions with random phase, first-order statistics, holography appl. 4-33629
- piecewise-homogeneous media, nonclassical thermoelasticity eqns. 4-10545
- quantum mech., Wigner representation 4-32090

fundamental constants see *constants***fundamental law tests**

- general relativity and orbital rot. of eclipsing binary EK Cep 4-13373
- Planck's radiation law, expt. proof accuracy 4-48058

fundamental particles see *elementary particles***fundamental physics concepts** see *physics fundamentals***fundamentals of physics** see *physics fundamentals***furnaces**

- see also *electric furnaces; refractories*
- atomiser, half-dosed, for atomic absorpt. spectrometry, form. of absorbing layer of atoms 4-12428
- automatic radiation thermometer calibration facility, -50 to 3000°C 4-2576
- combusting flows, optimisation, measurement techniques 4-49906
- electron impact heated oven for H prod., dissoc. fraction meas. 4-14612
- fluidised bed boiler furnace, fine-grained material mixing and internal heat transfer 4-19883
- furnace atomic absorption spectrometry, atomisation processes computer modelling 4-12431
- graphite furnace atomic absorpt. spectrometry anal., isothermal atomisation 4-3438

furnaces continued

- graphite furnace atomic absorption analyses, automated system 4-12409
- graphite furnace atomiser, spatially resolved Arrhenius determination 4-3436
- high-temperature, for vibrating sample magnetometer 4-261
- load temperature measurement, two thermometer approach 4-48132
- MBE dimer source using double oven 4-16329
- melting ovens, induction type, MHD research 4-37106
- microcomputer-controlled, for physics expts. appl. 4-262
- positive displacement vacuum-sweep dispenser for small particles 4-22783
- programmable LPE furnace for III-V semiconductors (*Chinese*) 4-7373
- solar furnace, heliostat and concentrator size determ. 4-21529
- solar furnace for high temp. research 4-21532
- steam generation unit, combustion meas. 4-46767
- C furnace, for sample introduction into metastable N plasma 4-13674
- NO_x emissions from large scale furnaces, measuring methods and instruments (*German*) 4-52242

Furry theorem see *quantum electrodynamics***fuses, electric** see *electric fuses***fusion** see *melting***fusion, nuclear** see *nuclear fusion***fusion-fission reactors** see *hybrid reactors***fusion reactor fuel**

- advanced fuel concepts, satellite reactor system 4-888
- advanced fuel cycles, comparative study 4-887
- Alcator C, H pellet injection 4-15310
- alternative fuels in fusion reactors, D-³He, p-¹¹B and p-⁶Li cycles 4-9533
- AYMAN experimental hybrid reactor, (D,D) driven hybrid blanket 4-54415
- D-based fusion potential 4-54413
- electrostatic shielding of pellets in plasmas of controlled fusion experiments 4-14225
- fusion reactor design and technology 4-14
- gas chromatograph for separating tritium and DT from other H isotopes 4-9581
- hybrid reactors, nuclear performance, burn up calcs., energy multiplication 4-923
- ICF DT-DD hybrid pellet, T breeding 4-856
- ICF reactor concept using ³He-AFLINT targets 4-9418
- ICF target research at Max Plank Institut fur Quantenoptik, theoretical work 4-18777
- INTOR design, T-T and D-T fusion cycles comparison 4-5047
- ISX-B tokamak, neutral injection expts. 4-15309
- liquid hydrogen solns., thermodynamics 4-54395
- methane, tritiated, catalytic oxidation, T recovery for fusion fuel cycle (*Japanese*) 4-18772
- nonbreeding D-T reactors, tritium provision from semicatalysed-deuterium reactors 4-28189
- pellet ablation, geometric effects in fusion plasma 4-14202
- pellet injection into JET and INTOR 4-15063
- polarised fuel, calcs. for improvements in plasma 4-846
- processing system, tritium accident mitigation, risk assessment techniques 4-9561
- proportional-integral control modes for a hydrogen isotope distillation column 4-54379
- STARFIRE/DEMO design, T breeding requirements and breeding potential 4-9536
- technology of fusion energy, topical meeting, Knoxville, TN, USA (April 1983) 4-8632
- Tokamak fusion power reactors with reduced T protection systems, effective T cost 4-9525
- tokamak with D-D fuel cycle, superheated steam cycle 4-9570
- toroidal fusion reactors, future developments 4-54410
- tritium containment and breeding blanket for INTOR 4-9594
- Tritium Systems Test Assembly, control system software design 4-9487
- Tritium Systems Test Assembly, safety anal. report 4-9562
- tritium-self-sufficient fusion pellets, n and γ energy balances 4-28194
- water cooled normally conducting Cu Riggatron Tokamaks, neutronics calcs. 4-33153
- p-¹¹B, burn characteristics, multipole evaluation 4-890
- p-¹¹B advanced fusion reactor fuel cycle, viability 4-9534
- D, high density, thermal props. 4-54408
- D, T catalysed, assessment of fuel cycle in Tokamaks 4-14204
- D-T fusion reactor, T monitoring within reactor hall 4-9600
- D-T-Li system, design aspects at INTOR 4-904
- DT-DD hybrid pellet for inertial confinement fusion, T breeding 4-852
- H isotope multicomponent separating cascade, computer aided simulation procedure 4-14595
- H isotope separation, gas chromatographic column prep., commercial tritium analysis 4-23833
- H pellet injectors, pellet fuelling expts. 4-5028
- H pellet injectors for fusion device fuelling 4-9578
- ³H, Canadian experience, basis for new fusion project 4-54378
- ³H isotope separation by CF₃CTCIF multiphonon dissociation 4-1284
- ³H magnetic confinement fusion fuel system technical risk and R&D requirement assessment 4-33168
- ³He-³H₂ separation by falling liq. film condenser and cryogenic distillation 4-14219
- LiO spherical assembly with graphite reflector, duct streaming 4-891
- T breeder material safety compatibility studies 4-14168
- T breeding in fusion reactors 4-37850
- T breeding reaction ⁷Li(n,n')⁴He cross section determ. 4-37591
- T, containment and handling installation (*German*) 4-18799
- T contamination effect in FED/INTOR reactor hall 4-9598
- T content of glass microballoon laser fusion targets, nondestructive assay 4-33154
- T, depth profiling in solids using ³H(d,n)⁴He nucl. reaction 4-14197
- T prod. in plasma focus driven fusion-fission hybrid reactor 4-33175
- T recovery, TRIO-01 expt. 4-9501
- T, recovery from Pb₃Li₇ liquid alloy blanket 4-9591
- T recovery from tritiated water, catalytic reduction method, feasibility study 4-54387
- T removal from contaminated water via IR laser multiple-photon disoc. 4-9504
- T requirements anal. for power reactor 4-9502
- T, research activity in Japan 4-903
- T separation from H₂-HT and D₂-DT mixtures by adsorption on NaA synthetic zeolites 4-38346
- T, storage containers, construction and cold tests (*German*) 4-18800
- T system design in Tokamak 4-905

fusion reactor fuel continued

T technology development for mag. fusion energy, status 4-9500
 T₂ gas radiation catalysed conversion to tritiated water 4-9503
 UO₂ powder, direct enrichment fusion breeder concept 4-14210

fusion reactor ignition

see also fusion reactor materials; plasma heating; plasma production
 advanced fuel Tokamaks design, impact or ripple 4-33155

Alcator C, H pellet injection 4-15310
 Alcator C tokamak, lower hybrid microwave injection, engineering aspects 4-9473

Antares CO₂ laser facility, automatic alignment telescope system 4-10321

Antares CO₂ laser fusion system, reference telescope system 4-10320

ASDEX plasmas, confinement and β_p studies 4-816

atomic physics for ion-driven fusion, conf., Orsay, France (March 1983) 4-22514

beam line, negative-ion-based, for surface-conversion negative ion source 4-33228

coating material on glass microballoons, effect in 1.06 μ m laser implosion 4-918

compression of laser-bombarded two-shell targets 4-19994

containment time scaling laws, constraints on designs and ignition 4-18791

continuous-coil Tokamak reactor magnetics, plasma elongation effects 4-14176

CTOR based on field-reversed theta pinch 4-878

current-driven ignited Tokamak, design studies 4-9497

Del'in facility for thermonuclear plasma heating, Nd laser amplifier module 4-28725

direct-energy converter for neutral-beam injectors 4-28265

direct-illumination-drive inertial fusion reactors, design considerations 4-14184

Doublet III, neutral beam heated divertor discharges, energy and particle confinement 4-15327

driven current Tokamak scoping study 4-14192

EBT distribution manifolds, microwave transport, Monte Carlo ray tracing technique 4-9477

EBT-P, multiple source ECRM system, control process design method 4-9478

ELMO bumpy torus, ion heating and hot electron rings 4-1947

Engineering Test Facility neutral beam injector, dose rates from induced radioactivity outside shield 4-28202

finite charged ion beams for ICF, scaling laws for resistive longitudinal instability 4-18848

focusing mirrors for laser thermonuclear reaction, thermophysics 4-54406

fuel pellet ablation, geometric effects in fusion plasma 4-14202

GEKKO XII glass laser system for laser fusion research 4-19999

heavy ion beam heated cylinders, hot dense matter expts. 4-24589

Heliotron E plasma, ECRH studies 4-847

HIBALL, commercial heavy ion design study 4-885

high-energy heavy ion facility for ICF 4-33170

ICF, direct drive laser fusion with OMEGA 4-837

ICF, direct energy input to compressor 4-23426

ICF, diverged electron beam ion diode appl. 4-14253

ICF, heavy ion beams 4-28200

ICF, high implosion efficiency with Gekko laser at ILE 4-834

ICF, hot electron driver implosion in CO₂ laser expts. 4-840

ICF, intense ion beam characts. in pinch reflex diode 4-37979

ICF, laser driven fusion concepts 4-836

ICF, laser fusion at KMS 4-838

ICF, laser fusion at Los Alamos, status 4-839

ICF, laser implosion, interactions at 1.06 and 0.35 μ m 4-835

ICF, light ion fusion target development pre-conceptual design 4-14182

ICF, particle beam, alternative implosion concepts for REB irradiation 4-48715

ICF, radial electron beam autoaccelerator, theory 4-33164

ICF, repetitive pulsed power technology 4-14180

ICF driver, neutron feedback 1.27 μ m I laser 4-14208

ICF micropellets, problem anal. 4-848

ICF target physics with heavy ion beams 4-5044

ICF using only deuterium 4-33152

ICRF wave and neutral beam injection, simultaneous heating anal. 4-50022

inertial confinement, heat flow instabilities and jet formation 4-1958

inertial confinement, hot-electron generation in UV irradiated plasmas 4-822

inertial confinement, laser ablative acceleration of targets 4-1956

inertial confinement, laser irradiated foils, intensity depend. of energy transport 4-1957

inertial confinement, laser-plasma coupling 4-1954

inertial confinement, plasma-laser interaction, Brillouin scatt. 4-820

inertial confinement, UV-laser-matter interaction 4-1955

inertial confinement expt. modelling of laser-plasma interaction 4-821

inertial fusion, strategy and potential 4-5045

inertial fusion program, present status 4-9490

inertial-inductive energy storage, current interruption techniques and components 4-37854

intense EM radiation propag. in extraordinary mode, collisional absorpt. in plasma 4-15204

internal transformer for tokamak current drive from neutral beam injection 4-33156

INTOR-like plasma under ignited tokamak conditions, magnetic ripple diffusion 4-28185

ion beam focusing system for plasma heating, electron-power recuperation 4-33240

ion beam heated ICF targets, simple model 4-6165

ISX-B tokamak, neutral injection expts. 4-15309

JET neutral injection bending magnets, charge changing collisions 4-43649

JET neutral injection heating, high power beam system 4-43648

JIPP T-11 stellarator-Tokamak, RF heating 4-825

KARIN-I, design of moving plasma ring reactor 4-5026

laser fusion, perturbative linearisation of fundamental eqns. 4-33171

laser fusion, short-wavelength, status 4-5031

laser fusion, USA developments, 1987 deadline for funding 4-43643

laser fusion experiments and theory at the Laboratory for Laser Energetics 4-5040

laser fusion expts., X-ray streak camera, absolutely timed 4-20031

laser fusion pellet heating and compression expts. at Del'in-I facility, DD neutron generation 4-29258

fusion reactor ignition continued

laser fusion pellets, absolutely uniform illum. 4-48706

laser fusion target irradiation uniformity with 24-beam OMEGA facility 4-23425

laser interaction with matter, conf., London, England, (Sept. 1983) 4-17

laser irradiated spherical targets, heating and compression 4-38984

laser plasma, neutron emission using nanosecond pulses (*Chinese*) 4-54374

laser programmes at Los Alamos, brief history 4-8702

laser radiation brightness in laser fusion expts., small-scale perturbations effect 4-6121

laser target uniform illumination, induced spatial incoherence 4-5041

laser-fusion compression schemes, technological development 4-44840

light ion beam fusion, status 4-5043

light ion beam generation and focusing 4-5042

liner implosion system development 4-39001

LITE, long-pulse ignited test expt. 4-14190

long pulse, high energy ion source for fusion reactor neutral beam appls. 4-9475

long-pulse Tokamak, plasma requirements assessment 4-9495

MARS tandem mirror reactor, ICRH, ECRH and neutral beam heating 4-9471

MARS tandem mirror reactor, quasi-optical ECRH injection system, engineering design 4-9472

moving plasma ring reactor conceptual design 4-5027

multiple ion beam irradiation of ICF targets, energy deposition distrib. calcs. 4-24580

National RF Test Facility at ORNL, conceptual and eng. design 4-9479

NBT, studies on confinement from electron cyclotron heating 4-1977

negative-ion based neutral beams 4-9574

neutral beam injection based on positive ion sources 4-9573

neutral beam injector, Monte Carlo simulation of molecular flow 4-28187

neutral beam injector for JT-60, 100 kV test 4-55559

neutral beam injectors in FED reactor, shielding problems 4-28196

neutron production in cylindrical targets driven by fast plasma liners 4-55579

Novette pulse power system description 4-14181

PBFA II, ICF, light ions 4-6145

PBFA II, ICF, pulsed power research 4-6144

PBFA-I 36-module pulsed power fusion accelerators, ion diode expts. 4-50096

PDX, high β expts. with neutral beam injection 4-814

PETULA B Tokamak, LH wave heating with Ti grill at high density 4-824

PLT, ICRF and neutral beam heating 4-1937

PLT Tokamak, LH heating and current drive 4-827

polarised ion source appl. to fusion reactors 4-43753

ponderomotive laser driving of plasmas by nonlinear forces, electrostatic fields 4-19962

power producing tokamak design, energy losses at startup 4-9485

pulsed multipass free electron laser fusion driver design 4-33693

quasi-stationary thermonuclear combustion wave in an expanding plasma column 4-5032

radiation hardened 400 and 800 keV neutral beam injection systems 4-9474

radiation implosion in dense plasmas and solids 4-54409

relativistic electron beams in coaxial vacuum lines, steady-state movement calcs. (*Russian*) 4-34278

RF coupler technology for plasma heating 4-9575

RF energy in fusion power generation 4-9576

RF-assisted current startup in the fusion engineering devices 4-14201

RFC-XX, RF confinement using ICRH 4-845

SCEPTRE high-temperature reactor concept for inertial fusion 4-14185

shell pellet target accel. due to laser irradi. 4-29259

spherical pinch expts., scaling laws 4-55583

Spheromak plasma heating, computational simulation, ohmic ignition 4-9481

tandem mirror reactors with thermal barriers, ignition requirements 4-37847

target preheat suppression for CO₂ laser irradiation 4-1962

TDF tandem mirror, neutral beam injector drift duct anal. 4-9480

Tokamak, doublet-III, high beta injection 4-815

Tokamak, steady state current with lower hybrid and cyclotron waves 4-1935

tokamak ignition, enhanced ion/electron equilibration power effects 4-9520

Tokamaks, Alcator and Versator II, LH heating and current drive expts. 4-826

toroidal devices, non-resonance plasma heating by RF radiation in MM range 4-50019

toroidal fusion reactors, polarised D-T plasmas implications 4-54385

WEGA Tokamak lower-hybrid current drive and heating 4-823

Westinghouse ICF, power plant design 4-886

WT-2 Tokamak, plasma current drive by LH wave 4-1936

Al target properties response to 0.26 and 1.06 μ m laser light 4-919

CO₂ electroionisation amplifier for laser fusion, energy and operating characts. 4-19421

CO₂ laser absorption and transport expts. 4-1883

D pellet ablation in fusion plasma, stopping power problem 4-23428

D⁹ 200 keV neutral beam line based on SITEM ion source, database and design concept 4-9476

D-T plasma, thermonuclear ignition (*Dutch*) 4-33165

D-T plasmas, dense isobaric, ignition criterion, ICF target design consequences 4-18778

DT filled spherical microtarget irradi. with 1-3 TW I laser pulses 4-10863

DT fusion microexplosion design, plasma focus space-time energy conc. 4-33172

T content of glass microballoon laser fusion targets, nondestructive assay 4-33154

fusion reactor instrumentation *see nuclear reactor instrumentation*

fusion reactor materials

see also fission reactor materials; fusion reactor fuel; radioactive waste
 ACFA activation code for coolant and struct. materials, UWMak-I appl. 4-23432

Alcator DCT magnetic systems design 4-48724

atomic physics for ion-driven fusion, conf., Orsay, France (March 1983) 4-22514

fusion reactor materials continued

AVR HTR, ^{14}C meas. effect on fuel elements, graphite and gas loop (German) 4-18725
 blanket, pressurised water cooling tube ruptures 4-9429
 blanket and shield expts., fusion neutronics 4-5029
 blanket assemblies testing, FED-R Tokamak facility, for fusion neutrons 4-14196
 blanket design, solid breeder, heat transfer performance 4-14206
 blanket design for fusion breeders 4-9421
 blanket design for LOTRIT, environmental considerations 4-14207
 blanket materials compatibility considerations for a fusion-fission hybrid reactor design 4-9595
 blanket neutronics studies in France, T breeding and heat removal 4-9403
 blanket structure lifetime analysis for tandem mirror hybrid reactor 4-9546
 blankets, fissionable, for ICF production of T 4-14209
 breeder material safety compatibility studies 4-14168
 breeding blankets, nuclear prop. depression by nonhomogeneities 4-18797
 breeding blankets for ICF facilities 4-9448
 coating material on glass microballoons, effect in 1.06 μm laser implosion 4-918
 coatings for components in fission and fusion reactors 4-18774
 composite superconductor, cryostability, neutron irradiation effects 4-45969
 concrete, 14 MeV neutron inelastic scatt., γ -ray prod. cross section meas. 4-37598
 coolant metal/water interaction modeling for reactor design 4-23430
 CTHR hybrid reactor design study 4-920
 CTR blankets, integral expts. to check nucl. data and calc. methods 4-37852
 Culham Conceptual Tokamak Reactor IIA, liquid Li coolant, pumping power 4-48708
 D-shaped superconducting coil, forced cooled, development of 12 T coil 4-48726
 database, interface between reactor design and materials development 4-910
 Demonstration Tokamak Power Plant, low cost shielding system 4-9538
 double differential neutron emission cross sections with 14 MeV neutrons for D, Li, Be, C, O, Al, Cr, Fe, Ni, Mo, Cu, Nb, Pb 4-37594
 DTHR hybrid reactor design study 4-920
 EBT-P, γ -ray shielding anal. 4-9436
 ELMO bumpy torus, design and construction of superconducting metastable magnet 4-48731
 Euratom LTC case and winding, stress anal. 4-48735
 European LCT, design influence of mechanical stresses 4-48737
 European superconducting coil for LCT, manufacturing experience 4-48721
 FED/INTOR engineering testing requirements 4-14195
 FELIX construction status and experimental program, first wall/blanket/shielding EM effects 4-9394
 ferritic steels, appl. to steady-state fusion reactors 4-913
 first wall, adsorption to realistic environments 4-911
 first wall, neutron transparent for module testing 4-9424
 first wall and blanket structural materials, waste management 4-9544
 first wall contact material screening tests, coaxial test fixture, pulsed power supply 4-9486
 first wall design concepts, ASURF test programme 4-9401
 first wall erosion during a plasma disruption in Tokamak 4-14221
 first wall materials selection for the Light Ion Beam Target Development Facility 4-9415
 first wall subjected to power transients, thermoviscoplastic anal. code 4-28199
 first wall/blanket, high temp., design for D-D compact reversed field pinch reactor 4-9447
 First Wall/Blanket/Shield (FWBS) PE-II tests, blanket and shield testing 4-9397
 FTU Tokamak, toroidal and poloidal mag. struct. 4-48725
 Fusion Materials Irradiation Test Facility components, corrosion in liquid Li environment 4-9586
 Fusion Materials Irradiation Test Facility lithium system 4-9587
 fusion reactor design and technology 4-14
 graphite, chemical erosion yield, simultaneous bombardment with energetic protons and thermal atomic H 4-55888
 graphite reflected Li_2O blanket, absolute fission rate distrib., ^{232}Th and ^{235}U rates 4-18776
 HIBALL, commercial heavy ion design study 4-885
 hybrid reactors, nuclear performance, burn up calcs., energy multiplication 4-923
 ICF reaction chambers, Pb and Li film vaporisation, A*THERMAL code 4-9411
 ICF reactor blankets, fluidised bed design 4-9423
 ICF reactor chambers, first wall coatings assessment 4-9585
 Inconel 718, cathodically charged, NMR study of H 4-30308
 inertial confinement fusion reactor, LOTRIT reactor chamber for capitalising on AFLINT 4-54414
 insulators, evaluation for components 4-18773
 INTOR, engineering testing 4-14218
 INTOR, impurity control, first wall engineering 4-14216
 INTOR, report of workshop held in Vienna during 1981-83, book 4-42628
 INTOR-CH superconducting coil, force distrib., stress anal. 4-48736
 irradiation test facility 4-9582
 Japanese Large Coil Task, cold end recovery criterion, stability 4-48720
 JET, impurity levels with Ni, C and Be limiters 4-18784
 JET, limiter design and construction (German) 4-18798
 JET with different limiter materials, tokamak transport calcs., impurity control 4-18780
 laser fusion targets, Polaris prime, special materials 4-33160
 lifetime anal. of fusion reactor components, computer code 4-9450
 liquid-metal shell, appl. for wall protection in ICF reactors 4-43650
 low activation materials in fusion reactor design 4-9583
 lower activation materials and magnetic fusion reactors 4-54391
 magnetic fusion reactors, first wall and blanket engineering development 4-894
 MARS, Li-Pb blanket and shield, neutronics anal. 4-9409
 MARS, solid breeder blanket and power conversion system 4-9393
 MARS high temp. blanket design 4-9446
 MARS Li-Pb blanket, emergency cooling for loss of flow accident 4-9399
 MARS TMR, Li-Pb cooled blankets, transient power variation limits during startup and shutdown 4-9398

fusion reactor materials continued

migration in irradiated structural materials, cavity form. 4-56079
 Missouri Mirror Project, shielding design 4-55608
 molten salt flowing across mag. field, current induced at conduit wall 4-48713
 neutron activation of structural materials 4-9440
 plasma coatings, first wall, thermonuclear reactor, radiation resist. to high energy He ions 4-54401
 plasma-materials interactions, critical aspects for reactor design 4-912
 poloidal field coils for ASDEX, Garching divertor expt. 4-48728
 radiation damage and shielding anal. 4-9438
 radiation damage calcs., neutron meas. 4-16607
 radiation damage due to cascade reactions 4-9391
 reference fusion hybrid blanket, Los Alamos MATXS, VITAMIC-C, DLC-37 multigroup libraries 4-36819
 safety considerations for materials choices 4-54398
 SATYR tandem mirror reactor, d-d cycle study 4-889
 SENRI-I, laser fusion reactor design features 4-884
 shield design, neutron and gamma-ray energy spectra calc. 4-28203
 solid blanket, tritium processing studies 4-9542
 solid breeder blanket in D-T fusion reactors, steady-state thermal hydraulic anal. 4-14167
 solid breeder blankets, PE-II scoping tests, heat transfer and stability 4-9396
 Solid Breeder Integral Simulation Test for PE-II, design and anal. 4-9402
 stainless steel alloy, type 316, high temp. oxidation and mobilisation from activation 4-9431
 STARFIRE, low-activation materials concept 4-829
 STARFIRE, model for low activation hybrid reactor design 4-922
 steel, austenitic stainless, T exposed, ion beam profiling of ^3He 4-16589
 steel, austenitic stainless, type 304, applied stress effect on swelling behaviour, electron microscope investig. 4-29478
 steel, austenitic stainless, type 316, fusion first wall test pieces, thermomechanical testing in ESURF 4-9400
 steel, influence of steel type on activation of fusion reactor first wall 4-9434
 steel, JBK-75 alloy, sheath for internally cooled supercond., nondestructive testing 4-9469
 steel, stainless, type 316, lifetime anal. fusion reactor first wall 4-855
 structural materials, anal. of induced radioactivity 4-9439
 structural oxidation, modeling of activation product release 4-9428
 structural radioactivity, public health effects, materials comparison using FUSECRAC 4-9560
 superconducting magnets, irradiated, dispositions for materials 4-9433
 superconducting poloidal coil development for Tokamaks, survey 4-43644
 superconducting poloidal coils for reacting plasma project performance test of model coil 4-43645
 superconducting pulsed conductors and coils for Fusion Experimental Reactor, overview 4-14177
 superconducting pulsed magnet, 4 MJ-class, development and test results 4-43646
 Swiss LCT coil, status report 4-48722
 tandem mirror hybrid reactor, feasibility study of fission suppressed blanket 4-921
 target explosion generated fireballs in N_2 at Light Ion Fusion Target Development Facility 4-9413
 TASKA fusion engineering test facility, preliminary performance 4-880
 technology of fusion energy, topical meeting, Knoxville, TN, USA (April 1983) 4-8632
 testing, microchannel plate detectors imaging techniques, for fusion materials testing 4-14280
 TEXTOR liner and limiter, surface conditioning by plasmachemical deposition 4-18789
 TFTR Li blanket module, Monte Carlo neutronic anal. 4-9539
 Tokamak, blanket design study 4-897
 Tokamak, swimming pool type, blanket and vacuum vessel design 4-893
 Tokamak, swimming pool type, neutronics design 4-892
 tokamak devices, high current contact materials, selection and testing 4-9584
 toroidal field magnet for ASDEX, pumping limiter, double-null and single-null divertor 4-48727
 transient tritium transport in a solid breeder blanket 4-9541
 tritium breeding blanket and containment for INTOR 4-9594
 tritium permeation into first wall structures, implantation meas. 4-9579
 tritium permeation through stainless steel, gamma radiation effects 4-9580
 tube/header fusion blankets, performance comparison of Li, He, and flibe cooling 4-28186
 wall tritium concentration as a factor in fusion reactor hall design 4-9540
 Westinghouse ICF, power plant design 4-886
 WITAMIR-I, tandem mirror power reactor, design 4-883
 Al, electron transport calc., two discrete ordinates methods comparison 4-37742
 Al target properties response to 0.26 and 1.06 μm laser light 4-919
 $^{24}\text{Al}(n,p)$, 14.8 MeV, cross section, flux meas. and fusion reactor appl. 4-37555
 Be pebbles, lifetime anal. in hybrid fusion blankets 4-9596
 Be-Li-Th blanket for fission suppressed fusion reactor, neutronics 4-9404
 $^{10}\text{Be}(n,n)$, 14.7 MeV, differential cross sections, fusion reactor appl. 4-54136
 Cu alloy, fusion reactor first wall for FED-A Tokamak 4-9425
 Cu, hardening due to radiation damage 4-33167
 Cu toroidal field coils manufacture for TFTR 4-14174
 D-T fusion reactor low-activity structural materials reuse and disposal 4-48739
 $\text{Fe}(n,n')$, 14 MeV, inelastic scatt., γ -ray prod. cross section meas. 4-37598
 He interaction with radiation effects in metals and alloys, review 4-29469
 Li loop in transverse mag. field, flow and heat transfer, fusion reactor appl. 4-9392
 Li-Pb eutectic alloy, breeding blanket material 4-9419
 Li-Pb-H(N) ternary solutions, solubility of hydrides and nitrides, elec. resist. obs. 4-54402
 LiAlO_2 , ceramics for solid breeder concept for fusion reactors 4-54386
 LiF aqueous slurries as tritium breeding blankets for D-T fusion reactors 4-9405
 LiF blanket assembly, T prod. and radiation heating, benchmark expt. 4-9406

fusion reactor materials continued

- Li₂O blanket module final design and materials development for TFTR 4-9444
- Li₂O, ceramics for solid breeder concept for fusion reactors 4-54386
- Li₂O, IR spectroscopic anal. of OH⁻ and OD⁻ as function of chem. treatment 4-30462
- Li₂O moderator-breeder canister blanket for fusion synteels 4-9420
- Li₂O pebble blanket, shock wave propagation in ICF reactor 4-14212
- Li₂O, single crystal and sintered pellet, ionic cond., OH⁻ impurity effect, 300-1150°C 4-15678
- Li₂O slab assemblies, anal. by integration transport code BERMUDA in fusion reactors 4-9437
- Li₂O solid pebble blanket, centrifugal action solid breeder reaction chamber 4-14183
- Li₂O, status of blanket research 4-908
- LiPb blanket for mirror advanced fusion reactor 4-9427
- Li₁₇Pb₈₃ eutectic, combined N₂ determ., fusion reactor material 4-33162
- Li₁₇Pb₈₃, eutectic fusion reactor blanket, conceptual study 4-9426
- Li₁₇Pb₈₃ fusion blanket incorporating Pb neutron multiplier, cross section sensitivity study 4-37851
- Li₁₇Pb₈₃, liq. breeder for fusion reactor blanket, progress in studies 4-9445
- Li₁₇Pb₈₃, liquid eutectic, tritium recovery by vacuum degassing 4-9543
- Li₇Pb₂, Zircaloy clad assembly, reactor irr., T production and distribution 4-14200
- Li₂SiO₃, ceramics for solid breeder concept for fusion reactors 4-54386
- Li₂SiO₃ fusion blanket incorporating Pb neutron multiplier, cross section sensitivity study 4-37851
- Li₂SiO₃, solid and liquid, blanket materials, heat of formation meas. by vapourisation method 4-48714
- ⁷Li(n,n), 14.7 MeV, differential cross sections, fusion reactor appl. 4-54136
- Mo alloy, TsM-6, He⁺ radiation blistering, effects of external stresses (Russian) 4-50375
- Nb, polycrystalline, D ion bombard. effect on struct. 4-11041
- Nb-Ti D-shape coil, Large Coil Task and high field cluster test program, Japanese progress 4-14173
- Nb-Ti internally cooled cable supercond. in ohmic heating solenoid for FED 4-14178
- Nb₃Sn circular coil, Large Coil Task and high field cluster test program, Japanese progress 4-14173
- Nb₃Sn, Westinghouse superconducting coil, manufacturing development 4-48723
- Ni, first wall materials of fusion reactor technology, H prod. cross section in ⁶¹Ni(n,p)⁶¹Co 4-37593
- Ni, hardening due to radiation damage 4-33167
- Ni, intercrystalline adsorption of He, neutron irradiation effects, radiation embrittlement 4-39687
- Pb-Li alloys, liq., solubility of H₂, D₂, and T₂ 4-56021
- Pb-Li breeder blanket material, kinetics of H absorption 4-29779
- Pb₈₃Li₁₇ liquid alloy blanket, T recovery 4-9591
- Si, Al covered, multiple-energy He⁺ irr., surface deform. and gas escape process 4-29485
- SiC-C CVD coating for fusion reactor, performance results 4-20527
- T extraction from solid blankets 4-909
- ¹⁸¹Ta(n,X), cross sections, resonances, s-wave neutron strength function, reactor appl. 4-13970
- ThO₂ slurries as blankets for fissile producing fusion reactors 4-9508
- Ti, plasma arc sprayed on BeO, Tokamak reactor first wall 4-54399
- TiC coatings, characterisation of thermal stability and surface irradiation 4-914
- TiC coatings for first wall of fusion reactor, thermal and mechanical props. 4-20526
- TiC(N) sputtering coatings for fusion applications 4-20528
- TiH₃ thermal decomposition and appl. to low press. H control 4-51970
- Ti(n,x), 10 keV to 1 MeV, total cross section meas. 4-48572
- V alloys, first wall of thermonuclear reactor, heat and oxidation resist. rel. to alloying additions 4-54400
- V, effect of Ar sputtering on H₂ permeation, sputtering both sides 4-25091
- W-TiH₃ bulk shields, optimal composition 4-28197
- Zr-Nb (2.5 wt.%) press. tubes, high temp. transverse creep model verification tests 4-54276

fusion reactor theory and design

see also fusion reactor ignition; fusion reactor materials; plasma confinement; plasma heating; plasma production

- ACFA activation code for coolant and struct. materials, UWMAK-I appl. 4-23432
- advanced fuel concepts, satellite reactor system 4-888
- advanced fuel reactors, confinement time requirements; engineering constraints 4-9523
- advanced fuel reactors, feasibility, physics and engineering constraints 4-18793
- advanced fuel Tokamaks design, impact or ripple 4-33155
- advanced stellarator design based on W-VII AS 4-18795
- afterheat removal, conceptual design study 4-14211
- Alcator DCT Tokamak design at MIT 4-14191
- alternative fuels in fusion reactors, D-³He, p-¹¹B and p-⁶Li cycles 4-9533
- ASDEX plasma, neutral beam heated, transport simulation of L- and H-regimes 4-5034
- ASDEX plasmas, confinement and β_p studies 4-816
- ASDEX upgrade poloidal field requirements for divertor and pump limiter design 4-18786
- asymmetry of plasma scrape-off in limiter and divertor tokamaks 4-18787
- ATF-1, Advanced Toroidal Facility design 4-9455
- blanket, pressurised water cooling tube ruptures 4-9429
- blanket, superheated steam producing for d-d Tokamak 4-9422
- blanket and shield expts., fusion neutronics 4-5029
- blanket design, deuteron energy loss in neutron generator target 4-28193
- blanket design, solid breeder, heat transfer performance 4-14206
- blanket design for fusion breeders 4-9421
- blanket design for LOTRIT, environmental considerations 4-14207
- blanket incorporating Pb neutron multiplier, cross section sensitivity study 4-37851
- blanket materials compatibility considerations for a fusion-fission hybrid reactor design 4-9595
- blanket neutronics studies in France, T breeding and heat removal 4-9403

fusion reactor theory and design continued

- blanket structure lifetime analysis for tandem mirror hybrid reactor 4-9546
- blankets, fissionable, for ICF production of T 4-14209
- breeding blankets, nuclear prop. depression by nonhomogeneities 4-18797
- breeding blankets for ICF facilities 4-9448
- burn optimization in a thermonuclear reactor 4-18794
- calculational methods for fusion plasma engineering 4-33169
- Cascade, centrifugal action solid breeder reaction chamber 4-14183
- charged-thermonuclear particles escape from laser plasma, spontaneous mag. fields effect 4-37848
- compact fusion concepts, survey of reactor aspects 4-14169
- compact fusion reactor concepts technology 4-14172
- compact reversed-field pinch reactor, engineering design 4-9453
- concrete shield slits and ducts, neutron streaming 4-853
- containment time scaling laws, constraints on designs and ignition 4-18791
- continuous-coil Tokamak reactor magnetics, plasma elongation effects 4-14176
- control for fusion thermal stability 4-9506
- coolant metal/water interaction modeling for reactor design 4-23430
- CRFRP, compact reversed field pinch reactor, high density mag. fusion 4-830
- critical heat flux enhancement using local tangential flow injection 4-9552
- CTHR hybrid reactor design study 4-920
- CTOR based on field-reversed theta pinch 4-878
- Culham Conceptual Tokamak Reactor IIA, liquid Li coolant, pumping power 4-48708
- current-driven ignited Tokamak, design studies 4-9497
- curved wall free surface liquid jet, performance anal. 4-9545
- D-based fusion potential 4-54413
- DEMO, demonstration Tokamak power plant, conceptual design 4-9567
- DEMO demonstration power plant, design study 4-871
- DEMO Tokamak, DT and DD reactor studies 4-828
- Demonstration Tokamak Power Plant, low cost shielding system 4-9538
- direct-illumination-drive inertial fusion reactors, design considerations 4-14184
- disruption induced voltages and loads on torus sectors 4-9547
- DITE, bundle divertor, energy and power balances 4-18788
- DITE bundle divertor, particle and energy exhaust characteristics 4-19940
- double-walled steam generator, T diffusion, thermal and mechanical design 4-9489
- Doublet III, divertor expts., elongated plasmas, vertical stability 4-6040
- Doublet III Big Dee upgrade 4-14224
- Doublet III dense and cold divertor plasma 4-15060
- Doublet III tokamak, modification to large dee-shaped configuration 4-9571
- driven current Tokamak scoping study 4-14192
- DTHR hybrid reactor design study 4-920
- EBT configurations with noncircular mag. coils, drift surface 4-6168
- EBT distribution manifolds, microwave transport, Monte Carlo ray tracing technique 4-9477
- EBT reactor, energetic ion rings versus electron rings, stability props. 4-9554
- EBT reactor; transport scaling studies, temp., density and pot. profiles 4-9556
- EBT reactor characts. consistent with stability and power balance requirements 4-9460
- EBT reactor operating window, plasma engineering anal. 4-9553
- EBT reactors, alpha particle behaviour, He ash, energy deposition 4-9555
- EBT reactors with noncircular mirror coils, particle confinement 4-9558
- EBT-P, multiple source ECRM system, control process design method 4-9478
- EBT-P fusion device, monitoring and control, use of programmable logic controllers 4-9488
- electromagnetic effects on the FED/INTOR limiter 4-9548
- electromagnetic phenomena, transitional anal. 4-9593
- electromagnetic rocket gun using multigram macroparticles for impact fusion 4-54375
- electron cyclotron emission of toroidal plasma, JET appl. 4-19944
- electrostatic instability, 3D, in particle accelerators, hydrodynamic model 4-44830
- electrostatic shielding of pellets in plasmas of controlled fusion experiments 4-14225
- ELMO bumpy torus, design and construction of superconducting metastable magnet 4-48731
- ELMO bumpy torus, ion heating and hot electron rings 4-1947
- Elmo bumpy torus, ion ring stabilisation 4-28191
- ELMO bumpy torus fusion reactor design study 4-877
- EM ion-cyclotron wave propag. 4-1926
- EM spherical phased array thermonuclear fusion reactor 4-54407
- ETA-BETA II expt., RFP plasma, high density 4-1973
- Euratom LCT case and winding, stress anal. 4-48735
- European LCT, design influence of mechanical stresses 4-48737
- FED, 2-D cross section and secondary energy distrib. uncertainty anal. 4-37853
- FED, neutronics performance parameter uncertainties, cross section sensitivity study 4-9410
- FED, ohmic heating solenoid design utilising forced cooled windings 4-14178
- FED 50 kA equilibrium field coils, structural design considerations 4-9464
- FED baseline configuration, TF coil replacement 4-9513
- FED baseline design 4-866
- FED pumped limiter config. issues 4-14189
- FED Tokamak, baseline params. 4-833
- FED-A, LH current drive, parametric study 4-9507
- FED-INTOR activity 4-14164
- FED-R Tokamak facility using resistive magnets, design study 4-14196
- FED/INTOR impurity control system 4-9577
- ferritic steels, appl. to steady-state fusion reactors 4-913
- first wall, blanket, shielding technology, overview 4-9443
- first wall, neutron transparent for module testing 4-9424
- first wall bremsstrahlung energy deposition 4-54394
- first wall components, engineering simulation 4-895
- first wall subjected to power transients, thermoviscoplastic anal. code 4-28199
- focusing mirrors for laser thermonuclear reaction, thermophysics 4-54406

fusion reactor theory and design continued

free-boundary ion ring equilibria 4-6173
 fuel cycles, advanced, comparative study 4-887
 fuel pellet ablation, geometric effects in fusion plasma 4-14202
 fusion breeder reactor design studies, fissile fuel prod. 4-9568
 fusion energy production at the ordered motion of ions 4-14226
 Fusion Engineering Device design, safety considerations 4-9564
 Fusion Experimental Reactor (FER), conceptual design and parameters 4-9566
 fusion reactor structural radioactivity accidental release, relative public health effects 4-9560
 fusion-fission and fusion power plants, afterheat and decay heat removal, design criteria 4-48710
 future prospects, overview of current research 4-48738
 GAMMA 10 tandem mirror for reactor design research 4-881
 gas chromatograph for separating tritium and DT from other H isotopes 4-9581
 graphite reflected Li₂O blanket, absolute fission rate distrib., ²³²Th and ²³⁵U rates 4-18776
 HBTXIA expt., RFP plasma parameters 4-1974
 heavy ion fusion injector, radial charge distrib., electron probe meas. 4-48861
 helical axis stellarator, coil design 4-48730
 Heliotron E plasma, ECRH studies 4-847
 Heliotron fusion reactor, tritium breeding ratios from 3-D MORSE-I code 4-54403
 Heliotron G supercond. helical coil conceptual design 4-14175
 heliotron power reactor design study 4-9456
 heliotron reactor conceptual design 4-9461
 HIBALL, commercial heavy ion design study 4-885
 high field tokamaks with DD-DT operation and reduced tritium breeding requirements 4-9524
 high-beta pinch Tokamak, equilib. anal. (*Japanese*) 4-34291
 HTMR—a hybrid toroidal magnet Tokamak reactor study 4-18790
 hybrid reactors, nuclear performance, burn up calcs., energy multiplication 4-923
 HYFIRE fusion-driven electrolysis plant, preconceptual design 4-874
 ICF, direct drive laser fusion with OMEGA 4-837
 ICF, high implosion efficiency with Gekko laser at ILE 4-834
 ICF, hot electron driver implosion in CO₂ laser expts. 4-840
 ICF, laser driven fusion concepts 4-836
 ICF, laser fusion at KMS 4-838
 ICF, laser fusion at Los Alamos, status 4-839
 ICF, laser implosion, interactions at 1.06 and 0.35 μ m 4-835
 ICF, light ion fusion target development pre-conceptual design 4-14182
 ICF, repetitive pulsed power technology 4-14180
 ICF, stability and symmetry 4-849
 ICF, two-temp. radiative transport model 4-54377
 ICF driver, neutron feedback 1.27 μ m laser 4-14208
 ICF DT-DD hybrid pellet, T breeding 4-856
 ICF modelling, incomplete factorial design technique appl. 4-5046
 ICF reaction chambers, Pb and Li film vaporisation, A* THERMAL code 4-9411
 ICF reactor blankets, fluidised bed design 4-9423
 ICF reactor concept using ³He-AFLINT targets 4-9418
 ICF target, charged particle energy deposition, α -transport, NORCLA code 4-18781
 ICF target research at Max Plank Institut für Quantenoptik, theoretical work 4-18777
 ICF targets, ion beam-plasma interaction, radiation transport simulation 4-6101
 in-vessel maintenance concepts for Tokamak fusion reactors 4-9518
 inertial confinement, heat flow instabilities and jet formation 4-1958
 inertial confinement fusion reactor, LOTRIT reactor chamber for capitalising on AFLINT 4-54414
 inertial confinement fusion with direct electric generation by magnetic flux compression 4-9414
 inertial-electrostatic confinement, computer simulation on double layers 4-14203
 integral transport method for deep penetration problem 4-54381
 interactive nuclear kinetics and nonlinear dynamics 4-27924
 internal transformer for tokamak current drive from neutral beam injection 4-33156
 INTOR, belt type pumped limiters for heat removal 4-18775
 INTOR, D-T-Li system, design aspects 4-904
 INTOR, He exhaust, impurity release 4-18785
 INTOR, ideal MHD stability 4-6035
 INTOR, impurity control, first wall engineering 4-14216
 INTOR, impurity control physics, pumped limiter anal. 4-14215
 INTOR, mechanical configuration 4-14217
 INTOR, passive stabilisation 4-18796
 INTOR, phase I, conceptual design 4-9590
 INTOR, report of workshop held in Vienna during 1981-83, book 4-42628
 INTOR, tritium containment and breeding blanket design 4-9594
 INTOR conceptual design 4-859
 INTOR conceptual design studies, nuclear aspects 4-863
 INTOR design, T-T and D-T fusion cycles comparison 4-5047
 INTOR engineering design and maintenance considerations 4-862
 INTOR poloidal field requirements for divertor and pump limiter design 4-18786
 INTOR pumped limiter, tokamak transport code anal. 4-14222
 INTOR-CH superconducting coil, force distrib., stress anal. 4-48736
 ion beam heated ICF targets, simple model 4-6165
 ISX-B, beta scaling and confinement 4-817
 JAERI, expt. fusion reactor, status 4-832
 JET, beta limits in Tokamaks due to high-n ballooning modes 4-18783
 JET, edge plasma models, impurity-influence 4-1876
 JET, ideal MHD stability 4-6035
 JET, impurity levels with Ni, C and Be limiters 4-18784
 JET, limiter design and construction (*German*) 4-18788
 JET, single point Thomson scatt. for temp. determ. (*Danish*) 4-10892
 JET as D-shaped Tokamak plasma example, 2D computer modelling 4-18779
 JET neutral injection bending magnets, charge changing collisions 4-43649
 JET ohmic heating sub-system, saturable inductors 4-48734
 JET plasmas, additional edge transport, impurity control, ICARUS calcs. 4-19936
 JET simulation, MHD behaviour, EM diffusion, MASCOT 3D code 4-18782

fusion reactor theory and design continued

JET tokamak magnets, assembly and commissioning 4-48719
 JET with different limiter materials, tokamak transport calcs., impurity control 4-18780
 KARIN-I moving ring fusion reactor, neutronics anal. 4-54376
 KARIN-I, design of moving plasma ring reactor 4-5026
 large Tokamak machines, failure diagnosis procedure 4-23427
 laser fusion experiments and theory at the Laboratory for Laser Energetics 4-5040
 lifetime anal. of fusion reactor components, computer code 4-9450
 light ion driven fusion, wire exploding multi-plasma channel system, light ion beam transport 4-38971
 Light Ion Fusion Target Development Facility, neutron activation and shielding 4-9417
 Light Ion Fusion Target Development Facility, reaction chamber dynamic stress anal. 4-9416
 liner implosion system development 4-39001
 liquid-metal shell, appl. for wall protection in ICF reactors 4-43650
 LITE, long-pulse ignited test expt. 4-14190
 low activation materials in fusion reactor design 4-9583
 lower activation materials and magnetic fusion reactors 4-54391
 magnet fusion, future technology requirements 4-54390
 magnet technology conf., Grenoble, France (Sept. 1983) 4-47745
 magnetic confinement theory, summary 4-1986
 magnetic fusion power development, impact and implications of compact design 4-14171
 magnetic fusion reactors, first wall and blanket engineering development 4-894
 magnetic fusion systems, designs for increased compactness 4-54412
 maintenance and disassembly considerations for the Technology Demonstration Facility 4-9512
 MARS, commercial fusion power reactor, safety and environmental health 4-9563
 MARS, design features and system overview 4-9565
 MARS, Li-Pb blanket and shield, neutronics anal. 4-9409
 MARS, solid breeder blanket and power conversion system 4-9393
 MARS central cell, blanket mechanical and thermal design, maintenance considerations 4-9395
 MARS direct convertor, thermal structural anal. and conceptual design 4-9482
 MARS high temp. blanket design 4-9446
 MARS interim halo plasma scraper engineering design 4-14188
 MARS Li-Pb blanket, emergency cooling for loss of flow accident 4-9399
 MARS plasma engineering, magnetics and plasma performance 4-9557
 MARS tandem mirror reactor, quasi-optical ECRH injection system, engineering design 4-9472
 MARS TMR, Li-Pb cooled blankets, transient power variation limits during startup and shutdown 4-9398
 materials, first wall, adsorption to realistic environments 4-911
 materials database, interface between reactor design and materials development 4-910
 MFTF-B, magnetically trapped electrons; effect on plug pot. in thermal barrier tandem mirrors 4-5035
 Mirror Advanced Reactor, high temp. blanket, central cell blanket module maintenance 4-9519
 Mirror Advanced Reactor, temp. effect on mag. field perturbations 4-9550
 Mirrotron, compact disposable tandem mirror 4-18792
 Missouri Mirror Project, shielding design 4-55608
 modular stellarator reactor conceptual design study 4-9457
 modular stellarator reactors, size reduction study by analytic model 4-43647
 molecular stellarator reactor, conceptual study 4-876
 molten salt blankets, neutron transport and nuclear performance 4-28195
 molten salt flowing across mag. field, current induced at conduit wall 4-48713
 molten-salt fusion breeder blankets, continuously processed, product build-up characterisation 4-28198
 moving plasma ring reactor conceptual design 4-5027
 NBT, studies on confinement from electron cyclotron heating 4-1977
 near-term Tokamak reactor designs with high performance resistive magnets 4-867
 negative tandem mirror fusion reactor phys. studies 4-9459
 neutral beam injectors in FED reactor, shielding problems 4-28196
 neutron induced radioactivity, geometric design parameter depend. 4-9407
 neutron nuclear data for science and technology, conf., Antwerp, Belgium (Sept. 1982) 4-36785
 nuclear spin polarisation in fusion reactor plasmas 4-1872
 OHTE, pinch expts. in high β plasmas 4-1972
 OHTE expt. device, modular design concept 4-9454
 OHTE expt. machine, Fe core design and fabrication 4-9468
 operating conditions regulation by means of H absorption 4-33166
 PBFA II, ICF, light ions 4-6145
 PBFA II, ICF, pulsed power research 4-6144
 PDX, high β expts. with neutral beam injection 4-814
 pellet injectors for fusion device fuelling 4-9578
 Phaedrus tandem mirror, RF trapping, plug fuelling 4-844
 plasma β drift wave turbulence, nonlinear theory 4-1967
 plasma confinement by surface mag. field 4-44842
 plasma diffusion, radial, effects on erosion of an open-trap 4-5037
 plasma direct convertor using carbon/carbon fibre composite, feasibility anal. 4-9483
 plasma drift wave turbulence, two-point correlations for trapped electrons 4-1899
 plasma kinetic stability studies in Tokamaks 4-1900
 plasma-materials interactions, critical aspects for reactor design 4-912
 PLT, ICRF and neutral beam heating 4-1937
 polarised fuel, calcs. for improvements in plasma 4-846
 poloidal field supercond. ring coil case and support structure design 4-14179
 power plant, prototype moving-ring fusion reactor system, research and development 4-23431
 power producing tokamak design, energy losses at startup 4-9485
 power technology, book 4-47783
 quadrupole tandem mirrors, gyrokinetic equilibrium and stability 4-842
 quasi-stationary thermonuclear combustion wave in an expanding plasma column 4-5032
 quasi-steady state Advanced Physics Tokamaks, parametric system studies 4-54396

fusion reactor theory and design continued

radiation streaming analysis for the beam ports of the laser fusion reactor, SENRI-I 4-54382
 radiation streaming in penetrations of TASKA 4-54383
 radiation transport, generalised source sampling concept, Monte Carlo anal. 4-33184
 remote joint system for large vacuum ducts 4-9517
 remote maintenance design issue, mockup appl. 4-9515
 remote vacuum joint concept for fusion reactors 4-9516
 reversed field pinch, 2-D dynamical simulation of current driven modes 4-1971
 reversed-field pinch reactors, recent studies 4-879
 RF coupler technology for plasma heating 4-9575
 RF energy in fusion power generation 4-9576
 RF-assisted current startup in the fusion engineering devices 4-14201
 RFC-XX, RF confinement using ICRH 4-845
 RFP, finite beta equilibrium model with partially relaxed state 4-38994
 safety considerations for materials choices 4-54398
 satellite D-³He system, fusion/fission hybrid supported, reaction balance and efficiency anal. 4-28188
 SATYR tandem mirror reactor, d-d cycle study 4-889
 SCEPTRE high-temperature reactor concept for inertial fusion 4-14185
 SENRI-I, inertial confinement reactor, neutronics 4-898
 SENRI-I, laser fusion reactor design features 4-884
 SENRI-II ICF reactor, conceptual design using lasers 4-9412
 SENSIT-2D transport code, 2-D cross-section sensitivity 4-9442
 shield design, n and γ energy spectra, Monte Carlo calcs. 4-9537
 shield design, neutron and gamma-ray energy spectra calc. 4-28203
 solid breeder blanket in D-T fusion reactors, steady-state thermal hydraulic anal. 4-14167
 solid breeder blankets, PE-II scooping tests, heat transfer and stability 4-9396
 spherical pinch expts., scaling laws 4-55583
 spheromak confinement, 3 dimens. merging 4-1993
 spintor, compact toroid with rotating halo, stability anal. for tilting mode 4-55527
 STARFIRE, low-activation materials concept 4-829
 STARFIRE, model for low activation hybrid reactor design 4-922
 STARFIRE commercial power reactor, design study 4-871
 STARFIRE coolant blanket system anal. using Athena 4-9549
 STARFIRE tokamak emergency power supply system, reliability anal. 4-54380
 STARFIRE/DEMO design, T breeding requirements and breeding potential 4-9536
 STARFIRE/DEMO T breeding blanket, thermal hydraulic and thermost. struct. anal. 4-48712
 steady-state beam-driven Tokamak reactors optimisation 4-14166
 stellarators, coils, modular design, progress 4-831
 structural materials, neutron cross-section data, integral check 4-37770
 structural oxidation, modeling of activation product release 4-9428
 superconducting helical coils, magnetomechanical behaviour 4-48711
 superconducting magnets, insulation systems engineering 4-48733
 superconducting magnets, irradiated, dispositions for materials 4-9433
 superconducting pulsed conductors and coils for Fusion Experimental Reactor, overview 4-14177
 superconductor development 4-48718
 T-11 Tokamak, plasma confinement and injection heating 4-819
 TAKANAWA-I D-D ICF reactor, radiological aspects 4-14198
 tandem mirror, axisymmetrised, studies on confinement 4-843
 tandem mirror end cell design in MFT-B, Gamma 10 and MARS 4-38991
 tandem mirror fusion program 4-54411
 tandem mirror fusion reactors, instrumentation and safety controls 4-9484
 tandem mirror GAMMA 10, large scale magnet design 4-48732
 tandem mirror hybrid reactor, feasibility study of fission suppressed blanket 4-921
 tandem mirror program, overview and direction 4-9498
 tandem mirror reactor design, startup, shutdown and staged power operation effects 4-9572
 tandem mirror reactors, direct converter 4-38990
 tandem mirror reactors, plug configuration study 4-882
 target explosion generated fireballs in N₂ at Light Ion Fusion Target Development Facility 4-9413
 TASKA, tandem mirror fusion engineering test facility 4-5025
 TASKA tandem mirror test facility, design and maintenance 4-9514
 TDF tandem mirror, neutral beam injector drift duct anal. 4-9480
 TDF tandem mirror device, neutral beam injection system streaming and shielding anal. 4-9535
 technology of fusion energy, topical meeting, Knoxville, TN, USA (April 1983) 4-8632
 TFR, plasma diffusion, anomalous, influence of thermoelectric effect 4-1878
 TFR 600, disruptions, sawtooth activity, turbulent mechanism 4-1919
 TFTR, Li₂O blanket module final design and materials development 4-9444
 TFTR, toroidal field coils manufacture 4-14174
 TFTR Li blanket module, Monte Carlo neutronic anal. 4-9539
 TFTR vacuum vessel, thermal anal. 4-14205
 thermal runaway suppression by compression-decompression, space-depend. anal. 4-54393
 thermal stresses, cyclic, model for magnetic and inertial confinement 4-896
 TMX tandem mirror reactor, thermal barrier studies 4-841
 TMX Upgrade magnet system, design characs. and phys. considerations 4-34290
 TMX-U, magnetically trapped electrons, effect on plug pot. in thermal barrier tandem mirrors 4-5035
 TMX-U, wave propag. from ion cyclotron instabilities in tandem mirror end cells 4-6053
 Tokamak, blanket design study 4-897
 Tokamak, doublet-III, high beta injection 4-815
 Tokamak, engineering aspects in design 4-902
 Tokamak, evaluating position of passive elements and active coils 4-48729
 Tokamak, influence of runaways on current drive, numerical studies 4-20013
 Tokamak, low activation fusion reactor design studies 4-9449
 Tokamak, magnet and power supply systems 4-9592
 tokamak, modular commercial, with day-long pulses, design features 4-33159

fusion reactor theory and design continued

Tokamak, next generation, conceptual studies 4-868
 Tokamak, next-generation device, desirable engineering features 4-14193
 Tokamak, nuclear data comparison for INTOR-EC 4-9441
 Tokamak, plasma control of next devices 4-916
 Tokamak, remote maintenance with double null poloidal divertor 4-899
 tokamak, resistive evolution of equilibrium during plasma burn 4-29260
 Tokamak, RIGGATRON, elements of fusion plant design 4-14213
 Tokamak, RIGGATRON, fusion power core driven hybrid-electric plant 4-14214
 Tokamak, self-consistent description of plasma-wall interaction in Tokamak 4-1968
 Tokamak, single poloidal divertor, struct. and remote maintenance 4-901
 Tokamak, superconducting magnet design, status 4-906
 Tokamak, swimming pool type, blanket and vacuum vessel design 4-893
 Tokamak, swimming pool type, conceptual design 4-869
 Tokamak, swimming pool type, neutronics design 4-892
 Tokamak, swimming pool type, remote maintenance 4-900
 Tokamak, T system design 4-905
 Tokamak, thermal instability, feedback control by compression and decompression 4-5030
 Tokamak design constraints on superconducting magnets 4-907
 Tokamak disruptions due to micro-turbulence, stellar plasma relevance 4-55536
 Tokamak ETR, engineering test reactor objectives, characts. and critical issues 4-9496
 Tokamak fusion, commercial fusion technological pathways 4-14194
 Tokamak fusion reactor, hysteresis loss calc. through fields harmonics content 4-9467
 Tokamak fusion reactor, liquid metal in mag. field, convection, boiling heat transfer (Japanese) 4-14220
 Tokamak fusion reactor, safety and environmental tritium problems 4-9435
 Tokamak fusion reactors, risk considerations and health effects 4-9559
 tokamak fusion reactors with less than full tritium breeding 4-54392
 tokamak ignition, enhanced ion/electron equilibration power effects 4-9520
 Tokamak impurity control systems in accident sequences 4-9432
 Tokamak plasma design consideration for next generation 4-917
 Tokamak power reactor, swimming pool type, design study 4-872
 Tokamak reactor, poloidal field coil locations determ., unified study 4-9465
 tokamak reactor systems code 4-9569
 Tokamak reactors, fast alpha diffusion and thermalisation 4-9505
 Tokamak reactors, high-energy T beams as current drivers 4-54384
 Tokamak reactors, low-activation toroidal field coil concept 4-9463
 Tokamak reactors, ripple reduction coils 4-9466
 Tokamak reactors with helical coils, phys. and engineering constraints 4-9458
 Tokamak test reactors, toroidal field resistive magnet design 4-9462
 Tokamak toroidal field magnet systems, struct. response to electromechanical loads 4-48709
 tokamak with D-D fuel cycle, superheated steam cycle 4-9570
 Tokamaks, 2D model of poloidal divertors 4-1877
 Tokamaks, alpha-particle losses and generation of plasma current due to core instability 4-20015
 Tokamaks, plasma edge turbulence, MHD instability 4-1901
 Tokamaks, simple non-markovian kinetic eqn. for magnetoplasma 4-44799
 tokamaks as fusion engineering test reactors 4-28190
 Tokamaks with noncircular mag. surfaces, neutral transport, 2D simulation, JET appl. 4-19934
 toroidal confinement magnets design 4-48717
 toroidal fusion reactors, future developments 4-54410
 toroidal fusion reactors, polarised D-T plasmas implications 4-54385
 toroidal reactors, neutron albedo control 4-9551
 toroidal systems, plasma equil. and macroscopic stability, fusion appl. (Rumanian) 4-49979
 toroids, compact, merging expts. and simulation 4-6142
 TPE-1R(M), reversed field pinch studies 4-1969
 transient tritium transport in a solid breeder blanket 4-9541
 tritium-self-sufficient fusion pellets, n and γ energy balances 4-28194
 UWOTR-M modular stellarator power reactor, divertor target design 4-14187
 UWOTR-M modular stellarator power reactor, neutronics and photonics anal. 4-9408
 UWOTR-M stellarator power reactor, preliminary design 4-875
 water cooled normally conducting Cu Riggatron Tokamaks, neutronics calcs. 4-33153
 Westinghouse ICF, power plant design 4-886
 WITAMIR-I, tandem mirror power reactor, design 4-883
 Z-pinch system for D-D plasma, n-d spectrum transformation 4-1988
 ZT-40M reversed-field pinch, performance with Inconel liner 4-1970
 D-T fusion neutronics, interpolation method for transport theory 4-854
 p-¹¹B, burn characteristics, multipole evaluation 4-890
 p-¹¹B advanced fusion reactor fuel cycle, viability 4-9534
 Be-Li-Th blanket for fission suppressed fusion reactor, nucleonics 4-9404
⁶³Cu(n,n₂), 13.6-14.8 MeV, activation cross section meas., 14.7 MeV cross sections evaluation 4-9200
 D, high density, thermal props. 4-54408
 D, T catalysed, assessment of fuel cycle in Tokamaks 4-14204
 D-D commercial Tokamak reactor WILDCAT 4-14165
 D-D compact reversed field pinch reactor, high temp. first wall/blanket design 4-9447
 D-T plasmas, dense isobaric, ignition criterion, ICF target design consequences 4-18778
 DD tandem mirror reactor, central cell potential modification 4-9522
 DD Tokamak, cost and safety assessment 4-9521
 H pellet injectors, pellet fuelling expts. 4-5028
³H permeation model for conceptual fusion reactor design 4-33158
 He, two-phase flow in region of low press. 4-15022
 Li-Pb eutectic alloy, breeding blanket material 4-9419
 LiF aqueous slurries as tritium breeding blankets for D-T fusion reactors 4-9405
 LiO spherical assembly with graphite reflector, duct streaming 4-891
 Li₂O moderator-breeder canister blanket for fusion synfuels 4-9420
 Li₂O pebble blanket, shock wave propagation in ICF reactor 4-14212
 Li₂O slab assemblies, anal. by integration transport code BERMUDA 4-9437
 LiPb blanket for mirror advanced fusion reactor 4-9427
 Li₁₇Pb₈₃, eutectic fusion reactor blanket, conceptual study 4-9426

fusion reactor theory and design continued

- Li₁₇Pb₈₃, liq. breeder for fusion reactor blanket, progress in studies 4-9445
- Li₁₇Pb₈₃, liquid eutectic, tritium recovery by vacuum degassing 4-9543
- Nb-Ti D-shape coil, Large Coil Task and high field cluster test program, Japanese progress 4-14173
- Nb₃Sn circular coil, Large Coil Task and high field cluster test program, Japanese progress 4-14173
- Nb₃Sn test module coil for Tokamak, testing at cluster test facility 4-48716
- T extraction from solid blankets 4-909
- T level control systems, cost optimisation 4-9430
- T, research activity in Japan 4-903
- UO₂ powder, direct enrichment fusion breeder concept 4-14210

fusion reactors

- see also fusion reactor ignition; fusion reactor materials; fusion reactor theory and design; hybrid reactors; plasma heating*
- Alcator C tokamak, neutron emission during start-up phase 4-5033
- alternative fusion energy end uses, energy conversion technologies and institutional requirements 4-35989
- American Nuclear Society conference, San Francisco, CA, USA (Oct.-Nov. 1983) 4-13477
- breeder and a gas-cooled reactor achievements and Tokamak prospects (*Hungarian*) 4-23424
- breeder/fission client and fission breeder/fission client systems comparison for elec. energy prod. 4-9306
- compact fusion concepts, survey of reactor aspects 4-14170
- compact fusion concepts, workshop, USA (Sept.-Oct. 82) 4-14163
- compact fusion reactors 4-9451
- conference on nuclear technology, Berlin, Germany (June 1983) 4-4154
- controlled fusion and plasma physics, conf., Aachen, Germany, (Sept. 1983) 4-13478
- cusp leak width problem, electrostatic boundary conditions 4-1987
- development stages, international collaboration 4-864
- diagnostic suitability of optical fibres and optoelectronic devices, neutron irradiation tests 4-38619
- direct neutron-pumped gas laser driver for inertial confinement fusion reactor 4-34309
- EBT stability, hot-electron distrib. function effect 4-6172
- EBT-P, neutron activation of structural materials 4-9440
- EBT-P fusion device, monitoring and control, use of programmable logic controllers 4-9488
- electric power generation, fission reactor comparison for investments, construction and maintenance 4-54419
- electric power generation from fusion reactors, DT fusion and Tokamak device methods 4-54417
- electric power generation research and development, economic probabilistic decision analysis 4-54418
- electrostatic waves in relativistic and anisotropic plasma stream, electron waves, ion-acoustic models 4-10838
- energy alternatives, questions and answers 4-4172
- engineering problems (*French*) 4-9589
- ETR/INTOR magnet, long-term testing in support of demonstration fusion reactors 4-9470
- European Community fusion programme 4-9492
- European Community Fusion Technology Programme 4-48707
- European fusion programme 4-857
- evolution, parameters, current status 4-851
- FED, concept and objectives 4-865
- fuel cycle radiological implications, T radiology (*Spanish*) 4-28192
- fusion machine, ion temp. profile, photon-counting detector 4-50075
- Fusion Power Demonstration 4-9499
- fusion power station, nonradiological occupational hazards, chem. hazards 4-54388
- fusion reactor design and technology 4-14
- GAMMA 10 tandem mirror for reactor design research 4-881
- Heliotron E project objectives and experimental results 4-10857
- high field tokamaks with DD-DT operation and reduced tritium breeding requirements 4-9524
- high-field tokamak TRIAM-IM with superconducting toroidal magnets 4-14223
- HYFIRE fusion-driven electrolysis plant, preconceptual design 4-874
- HYFIRE Tokamak thermal energy for electrolysis appl. 4-9510
- ICF, success oriented R&D plan for commercial demonstration by 2010 4-14186
- ICF, summary 4-850
- ICF research, digital image processing 4-37849
- ICF research at KMS Fusion Inc., effects of quality diagnostics 4-20035
- induced radioactivity from runaway electrons in Tokamak, meas. device (*French*) 4-977
- inertial confinement fusion by implosion and compression of magneto-vortex rings 4-55603
- inertial fusion energy source for hydrogen production 4-12493
- INTOR, physics basis of device 4-861
- INTOR fusion test programme 4-860
- IPP Nagoya, environmental implications of reacting plasma 4-915
- Japanese development programme 4-858
- Japanese fusion development program 4-9491
- JET, design parameters, construction and planned experimental programme (*German*) 4-9390
- JET, scientific programme (*German*) 4-54404
- JET, status and future expt. programme 4-9531
- JET and TFTR magnet coil systems construction and assembly 4-33161
- JET project, summary of European nuclear fusion research programme 4-54416
- JFT-2 Tokamak, transport studies with neutral beam injection 4-818
- JT-60 nuclear fusion test facilities power supply system computer simulation 4-5038
- JT-60 project, construction and development status 4-9529
- JT-60 Tokamak-type fusion experimental facility power supply systems 4-5039
- Langmuir plasma turbulence, laser-relativistic electron beam heating 4-50002
- laser-plasma interaction and implosion fusion 4-50011
- Laue diffraction hard X-ray spectrometer for laser fusion diagnostics 4-23429
- light-ion-driven inertial confinement fusion 4-55600
- magnetic confinement expts., summary 4-1985
- MARS, availability analysis of fusion power plant using AVSYS code 4-9527

fusion reactors continued

- MARS axicell radiation damage and shielding anal. 4-9438
 - MARS tandem mirror reactor, End Plasma Technology System development 4-9526
 - MFTF-B, intermediate device to mirror fusion reactors, present status 4-9530
 - modular stellarator reactor, parameter and cost optimisations 4-33157
 - nuclear fusion equipment coil insulation systems, technology developments 4-9588
 - plasma, confinement, impurity transport, radiation loss, time-resolved diagnostics 4-50076
 - PLT, observation of d(d,p)t protons, energy spectrum 4-5036
 - potential low-level waste disposal limits for fusion radionuclides 4-18527
 - power development, Chase Delphi study 4-35991
 - power station, nonradiological occupational hazards, nonionising EM field hazard 4-54389
 - pressure meas. of T gas, meas. of β^- decay current, fusion reactor appl. 4-267
 - quasi-optical gyrotron for fusion appls. 4-48740
 - research in plasma science from 1956 to 1984 4-47829
 - safety consideration with D-T burning 4-930
 - shock waves and its application to inertial confinement fusion 4-50005
 - Starfire DT reactor, utility evaluation, siting, licensing and safety 4-9528
 - stellarator fusion reactor phys., recent developments 4-9452
 - synthetic H fuel production 4-35990
 - tandem mirror facility for fusion technology demonstration 4-29263
 - tandem mirror fusion program 4-54411
 - tandem mirrors and Tokamaks, overview of MFAC Panel findings 4-9494
 - TASKA fusion engineering test facility, preliminary performance 4-880
 - technology of fusion energy, topical meeting, Knoxville, TN, USA (April 1983) 4-8632
 - TEXTOR, neutral Fe density meas. in front of ref. limiter 4-17878
 - TFTR, construction status and proposed research plan 4-870
 - TFTR, first plasma 4-9511
 - TFTR construction, review 4-9532
 - thermochemical hydrogen production system based on a high-temperature fusion reactor blanket 4-12494
 - thermonuclear and plasma physics literature on the INIS database, statistics (*Japanese*) 4-14199
 - Tokamak discharge form. in Princeton large torus by lower hybrid waves 4-50047
 - Tokamak nuclear fusion research (*Japanese*) 4-1966
 - Tokamak power plant, net energy balance determ. 4-873
 - Tokamak reactor control, comparison with solar power satellite 4-14227
 - Tokamak thermonuclear reactors, physics and engineering problems (*Russian*) 4-54405
 - Tokamaks, T catalysed D, assessment of fuel cycle 4-14204
 - US magnetic fusion program, progress in fusion technology 4-9493
 - Wildcat DD reactor, utility evaluation, siting, licensing and safety 4-9528
 - Z-pinch, thermonuclear, inertially stabilised 4-55602
 - T assisted D-D based fusion breeders 4-9509
- fuzzy set theory**
- agriculture appl., multi-temporal segmentation and analysis in remote sensing 4-36498
 - distillation trains with heat integration, synthesis by combined fuzzy and graphical approach 4-44345
 - seismic prospecting inversion method using fuzzy set theory 4-21899
- g-factor**
- see also gyromagnetic ratio; Zeeman effect*
 - acetylene-HCl complex, g-values, mag. susceptibility anisotropies, quadrupole moments 4-14394
 - alkali halides: ¹⁵¹Eu²⁺/¹⁵¹Eu²⁺, Sr²⁺, EPR study 4-20857
 - binaphthyls, chiral mols., circular dichroism in excited triplet states 4-1192
 - chlorobenzene, liq., dipole correl. functions and Kirkwood g⁽¹⁾ factor 4-14411
 - conference on nuclear spectroscopy and nuclear structure, Kiev, USSR (Apr. 1982) 4-2
 - cytidine-salicyc acid complex, irradi., ESR study 4-20865
 - d⁺ ions in strong field situations g shift, charge transfer contrib. 4-15861
 - dinitrotoluene, UV and thermally induced radicals, EPR study 4-40231
 - fission isomers, g-factor meas., extranuclear perturbations effects in solid environments 4-32791
 - formaldehyde cation radicals, ESR investig. in Ne matrices at 4K 4-38215
 - gas laser, two mode, with anisotropic resonator in weak mag. field, level g factor, difference influence on emission characts. 4-10284
 - graphite, pyrolytic, neutron irradi., ESR studies at low temp. 4-7066
 - graphite intercalation compound with Li(K), CESR studies 4-46111
 - graphite intercalation cpds., g-factor, theory 4-50706
 - graphite-Li intercalation cpd., C₆Li, metallic character from CESR mes. 4-40229
 - graphite-SbCl₃ intercalation cpd., ¹²¹Sb NMR and EPR studies 4-40250
 - gyromagnetic ratio of heavy particles in the Kaluza-Klein theory 4-32134
 - immobilised spin labels, Q-band ESR spectra, simulation 4-19093
 - ionic crystals, circular phonons and optical magnetisation 4-6453
 - lead tartrate:Cu²⁺, anhydrous, EPR studies 4-56766
 - polyacetylene, heavily doped, ESR study 4-2805
 - quartz, defect centre study, EPR spectra 4-2822
 - quasiparticle orbitals and M1 radiation 4-27783
 - rare earth compounds, R₂H₄B₄, pulsed NMR studies 4-51147
 - rotational states, high spin, in deformed nuclei, g-factors meas., transient mag. field 4-531
 - semiconductors, conduction electron spin relax. in strong mag. field 4-34966
 - semiquinones, g values, spin density distrib., EPR obs. 4-23725
 - spirofluorenes, chiral mols., circular dichroism in excited triplet states 4-1192
 - tempone nitroxide radical, matrix isolated, g-tensor, EPR and ENDOR study 4-49069
 - (TMTSF)₂ClO₄, EPR g-factor anisotropy and linewidth 4-2816
 - (TMTSF)₂TaF₆, transport props., mag. props., phase diagram 4-2602
 - trinitrotoluene, UV and thermally induced radicals, EPR study 4-40231
 - AgMn(Sb₃) spin glass, EPR width and shift, exchange-narrowed anisotropy contrib. 4-30279
 - ArI, 3pⁿl configs., oscillator strengths, g-values, LS coupled basis function 4-33341

g-factor continued

- Au-acetylene(ethylene) complexes, matrix isolation ESR spectra 4-33425
 $\text{Ba}_2\text{O}_3\text{-Li}_2\text{O-TiO}_2\text{-BaO-Cu(O}_2\text{Gd}_2\text{O}_3\text{)}$ vitroceraamics, struct. and partial crystallisation, EPR study 4-46098
 CeEu , graphite intercalation cpd., ESR studies 4-16086
 $\text{Cd}_{1-x}\text{Mn}_x\text{Te}$ dilute mag. semicond., EPR linewidths 4-56772
 $\text{Cd}_{1-x}\text{Mn}_x\text{Te}$, EPR meas. under extreme line broadening 4-35224
 CdTe:Cl(In)(Al) crystals, EPR studies 4-46103
 CdTe:Pb(Ge) , deep level form., EPR study 4-40224
 Ce mononitrides: Gd^{3+} , exchange and cryst. field effects, EPR study 4-11767
 $\text{ClO}(\pi_{1/2})$, CO_2 matrix isolated, ESR study 4-5258
 Cr complexes, dinuclear Cr(II) complexes, ground term splitting, Wigner-Racah algebra calc. 4-6749
 Cr V complex in deuterated ethanediol, conc. and g-factor meas. for EPR spectra 4-48842
 Cs , spin susceptibility and conduction electron dynamical props. 4-15810
 Cs_2CoCl_4 , Co^{2+} ground state, zero-field splitting, press. depend. (Russian) 4-46090
 CsI(Br) , mag. circular dichroism and optical absorpt. spectra 4-25729
 Cu II complexes, copper(II)bis-acetylacetonate, g-tensor, struct. distortions, adduct form., INDO calcs. 4-33322
 CuCl , two-photon magnetoabsorpt. of exciton polariton 4-2907
 DNO_2 , cis and trans, g-values, susceptibility anisotropy, quadrupole moments and electronic charge distrib. anisotropy 4-38218
 Dy , A=158, 164, high-spin behaviour, cranked HFB anal., g-factor and pair correlation variations 4-54022
 Dy , g-factor meas. for yrast levels using transient fields 4-32792
 Er , high-spin behaviour, cranked HFB anal., g-factor and pair correlation variations 4-54022
 $\text{Eu(OH)}_3\text{:Gd}^{3+}$, EPR spectra of impurity ion, spin-Hamiltonian param. temp. depend. 4-56769
 Fe , ferromagnet, hyperfine interaction of Ce and La impurities, NMR-OMs. 4-39855
 $\text{Fe}_{100-x}\text{B}_x$ amorphous ribbons, microwave mag. props., temp. and freq. depend. 4-56780
 $\text{Fe}_{70}\text{Ni}_{20}\text{Zr}_{10}$ metallic glass ribbons, magnetisation and FMR studies 4-56691
 $\text{Fe}_{90}\text{Zr}_{10}$ metallic glass ribbons, magnetisation and FMR studies 4-56691
 GaAs:Ni , double acceptor state, piezoabsorption and Zeeman studies 4-50757
 GaP:Fe , ESR line with $g=2.133$ 4-20855
 Ga g-factor meas. for $15/2^+$ and $5/2^+$ levels in $^{57}\text{Fe}^{12}\text{C,pn}$ 4-32794
 $\text{Gd}_4\text{La}_{1-x}\text{Al}_x$, g-factor shifts, ESR meas. d-character of band electrons 4-51133
 $\text{Gd}_4\text{Lu}_{1-x}\text{Al}_x$, g-factor shifts, ESR meas. d-character of band electrons 4-51133
 $\text{Gd}_4\text{Y}_{1-x}\text{Al}_x$, g-factor shifts, ESR meas. d-character of band electrons 4-51133
 Gd , high-spin behaviour, cranked HFB anal., g-factor and pair correlation variations 4-54022
 Ge(P) amorphous films, ESR spectra, temp. depend. 4-11770
 HNO_3 , cis and trans, g-values, susceptibility anisotropy, quadrupole moments and electronic charge distrib. anisotropy 4-38218
 $\text{H}_{90}\text{Gd}_{10}\text{Cd}_{90}\text{Te}$, Shubnikov-de Haas effect under pressure 4-29871
 Hg , g-factor of $J^\pi=12^-$ isomeric state 4-4756
 Ir , g-factor from 129.4 keV state γ -ray scatt. angular distrib. 4-528
 K_2NaPdF_6 cryst. struct., mag. meas., EPR (French) 4-45089
 $\text{KZnF}_3\text{:Ni}^{2+}$, EPR spectra 4-51124
 $\text{LiKSO}_4\text{:Cu}^{2+}$, ESR and optical absorption spectra 4-56763
 LiTaO_3 single cryst., reduction, electron irradi. and ESR spectra 4-45188
 Mg , g-factor meas. for yrast levels using transient fields 4-32792
 Mg , g-factor of 4^+ state, collective model expectations 4-37451
 NO_2 excited state lifetimes, g-factor in 593 nm band 4-54809
 ^{15}N $5/2^+$ state g-factor and lifetime from $^1\text{H}^{16}\text{O}$, α 4-4753
 Nb , CESR in normal and supercond. states 4-11771
 Nb , supercond. and normal states, CESR and relax obs. 4-56773
 ^{20}Ne , g-factor meas. for yrast levels using transient fields 4-32792
 ^{22}Ne , first 2^+ and 4^+ states, transient field g-factor meas. 4-532
 $\text{NiK}_2(\text{SO}_4)_2\cdot 6\text{H}_2\text{O:Mn}^{2+}$, exchange const., spin Hamiltonians and EPR meas. 4-11761
 ^{15}O $5/2^+$ state g-factor and lifetime from $^3\text{He}^{16}\text{O}$, α 4-4753
 Os , conduction electron g-factor meas. 4-56191
 ^{207}Pb , A=192, 196, 198, 200, 205, 206, ($\nu_{1/2}$) $^-$ isomers mag. moment meas. 4-27791
 ^{197}Pb 12^+ isomer mag. moment meas. after $^{156}\text{Gd}^{40}\text{Ar,4n}$ 4-32802
 $^{207}\text{Pb}^{136}\text{Xe}$, ^{136}Xe , 610 MeV, transient mag. fields for recoil through Gd 4-27827
 $^{207}\text{Pb}^{58}\text{Ni}$, ^{58}Ni , 222 MeV, transient mag. fields for recoil through Gd 4-27827
 Pd , conduction electron g-factor and Zeeman splitting, de Haas-van Alphen study 4-56192
 ^{239}Pu , A=239,241, half-life and Westcott g-factor evaluation 4-43545
 ^{186}Re isomer states, g-factors from $^{186}\text{W(d,2n)}$ 4-530
 ^{95}Rh isomers, g-factor and half-lives of high-spin states, shell model anal. 4-32795
 Ru , conduction electron g-factor meas. 4-56191
 ^{93}Ru isomers, g-factor and half-lives of high-spin states, shell model anal. 4-32795
 SO_2 , mol. g- and susceptibility-tensors, vibr. depend. 4-38219
 Si , crystal defect classification by g-values 4-11139
 Si:B(P) , amorphous CVD films, doping and elec. props., plasma hydrogenation effects 4-39321
 Si:H , twisted, radiative recomb hydrogenation effects. 4-16236
 Si:H_2^+ , ion implantation and diffusion effects on laser induced defects, EPR study 4-15501
 n-SiO_2 donors, ESR studies 4-16093
 Si-SiO_2 interface defect centres, EPR, effect of As^+ implantation 4-46108
 ^{154}Sm , high-spin behaviour, cranked HFB anal., g-factor and pair correlation variations 4-54022
 ^{112}Sn , nucl. g factor meas. of 6^+ isomer during recoil in Fe 4-32808
 $\text{SrF}_2\text{:U}^{3+}$, Na^+ (K^+), tetragonal EPR spectra 4-20861
 $\text{SrTiO}_3\text{:Ir}^{4+}$, paramag. resonance and near IR optical absorption 4-51131
 ^{181}Ta 136 keV level g-factor by integral perturbed ang. correl. method in ^{181}Hf β -decay 4-527
 Tb mononitrides: Gd^{3+} , exchange and cryst. field effects, EPR study 4-11767
 ^{126}Te , 10^+ isomeric state, lifetimes, g-factor meas. 4-9144
 $^{232}\text{Th}^{58}\text{Ni}$, ^{58}Ni , 230 MeV, transient mag. fields for recoil through Gd 4-27827

g-factor continued

- $\text{TiO}_2\text{:Mo}^{3+}$ pairs, EPR study 4-16090
 US_3 , EPR of impurities 4-7062
 UTe_3 , EPR of impurities 4-7062
 Au , A=233,235, half-life and Westcott g-factor evaluation 4-43545
 $^{238}\text{U}^{58}\text{Ni}$, ^{58}Ni , 230 MeV, transient mag. fields for recoil through Gd 4-27827
 V^{4+} complexes, dibromobis(η -cyclopentadienyl)vanadium 4-43907
 $\text{VO}_2\text{:Fe}^{3+}$, EPR linewidth, g-factor and electron-phonon interaction 4-35226
 ^{184}W , 2^+ rotational state, gyromag. ratio, large hyperfine anomaly 4-48521
 XeO_4 , vapour and solid states, g-values, ESR study 4-40223
 ^{125}Xe , $7/2^+$ isomer, g-factor and electric quadrupole moment 4-18347
 ^{130}Xe , 10^+ isomeric state, lifetimes, g-factor meas. 4-9144
 YIG , double-layer films, pulsed magnetisation props. 4-30255
 $\text{Y}_2\text{O}_3\text{:RE}^{3+}$ (RE=Nd, Sm, Er, Tm), optical spectra, energy levels and cryst. field anal. 4-16214
 $\text{Y(OH)}_3\text{:Gd}^{3+}$, EPR spectra of impurity ion, spin-Hamiltonian param. temp. depend. 4-56769
 ^{162}Yb , spin rotation in unresolved high spin states, g-factor 4-32805
 $\text{ZnK}_2(\text{SO}_4)_2\cdot 6\text{H}_2\text{O:Mn}^{2+}$, exchange const., spin Hamiltonians and EPR meas. 4-11761
 ZnSe , ESR and ODMR of Zn-vacancy-associated defects 4-56821
 ZnSe , optical props. of I_{deep} bound excitons 4-25748
 ZnTe , luminescence study of neutral donor bound excitons 4-21017
 ^{64}Zn , mag. moment meas., g-factor ratios from $^{51}\text{V}^{16}\text{O}$, p2n 4-18474
 ^{66}Zn , mag. moment meas., g-factor ratios from $^{55}\text{Mn}^{14}\text{N}$, 2pn 4-18474
- gadolinium**
see also nuclei with
 atom, electron impact excitation, effective cross-sections determ. 4-19282
 atoms, giant reson. profiles obs. 4-54648
 Curie temp., anomaly of emissivity and absorptivity 4-2757
 dilute impurity hyperfine fields 4-39861
 electric field gradient at Cd-impurities, press. depend. of elec. field gradient 4-39847
 germanate glass: Gd^{3+} , EPR and optical absorpt. spectra (Russian) 4-56770
 HFS and isotope shift study by collinear fast-beam laser spectroscopy 4-34923
 magnetic hyperfine field of dil., ^{99}Ru impurities, anomalous temp. depend., TDPAC study 4-39848
 mean free path and RKKY interaction 4-6767
 photoacoustic effect at magnetic transition interference of thermoacoustic and thermoelastic contrbs. 4-34588
 piezoreflectance spectra of polycryst. film meas. 4-20942
 polycrystalline, high temp. AC critical mag. susceptibility 4-46013
 quadrupole moments and Sternheimer effect, muonic atom meas. 4-4754
 surface ferromagnetism study by polarised and unpolarised electrons 4-35220
 BaFCl:Ti(Gd) crystals, X-ray and γ -ray induced luminesc. 4-21004
 $\text{Ba}_{1-x}\text{La}_x\text{F}_{2+x}\text{:Gd}^{3+}$, ionic thermocurrent and defect struct. 4-20899
 $\text{BaTiO}_3\text{:Gd}$, ferroelec., permittivity meas. 4-51177
 $\text{BiI}_3\text{:Gd}^{3+}$, low symm. effect in intense EPR lines, depend. on microwave field freq. 4-30281
 $\text{CaF}_2\text{:Gd}$, X-ray irradi., optical absorpt. and thermoluminesc. meas. 4-30489
 $\text{CaF}_2\text{:Gd}^{3+}$, ag $^+$, second nearest neighbour F^- ions position determ. by ENDOR technique 4-56817
 $\text{CaF}_2\text{:Gd}^{3+}$ two-photon absorption, ligand polarisation contrbs. 4-56868
 $\text{CaHf}_2\text{O}_6\text{:Gd}^{3+}$, EPR spectra broadening 4-25634
 $\text{CdF}_2\text{:Gd}$ insulating crystals, low-applied fields, electron conduction, 80-170K 4-15881
 Ce mononitrides: Gd^{3+} , exchange and cryst. field effects, EPR study 4-11767
 $\text{Ce(Pd}_{1-x}\text{Ag}_x\text{)}_2\text{:Gd}^{3+}$, intermediate valence cpds., impurity ESR spectra 4-16091
 $\text{Ce(Pd}_{1-x}\text{Rh}_x\text{)}_2\text{:Gd}^{3+}$, intermediate valence cpds., impurity ESR spectra 4-16091
 $\text{Ce}_{1-x}\text{Y}_x\text{Pd}_3\text{:Gd}^{3+}$, intermediate valence cpds., impurity ESR spectra 4-16091
 $\text{Cs}_2\text{NaYCl}_6\text{:Gd}^{3+}$, EPR and ENDOR study 4-46144
 $\text{Eu(OH)}_3\text{:Gd}^{3+}$ EPR spectra of impurity ion, spin-Hamiltonian param. temp. depend. 4-56769
 $\gamma\text{-Fe}_2\text{O}_3\text{:Gd}$, DC cond., Seebeck voltage, X-ray diff., IR spectra 4-6782
 GaSe , Gd, photoluminescence and ESR spectra 4-51342
 $^{158,160}\text{Gd}+\text{He}^+$, K-shell ionisation cross section meas. from intensity ratios of K X-rays to 2^+-0^+ γ -rays 4-54153
 Gd I excited state lifetimes, spectral line oscillator strengths 4-5177
 Gd II excited state lifetimes 4-5177
 Gd^{3+} EPR spectra broadening in polycryst. ceramics 4-25634
 Gd^{3+} , hyperfine interactions calc. using Dirac wave functions 4-33300
 Gd^{3+} , in aqueous soln., two-photon absorption, polarisation depend. 4-2938
 Gd^{3+} , intercalation with 2H-TaS_2 , reaction kinetics, TDPAC study 4-30944
 $\text{Gd}+\text{H}^+$, K-shell ionisation cross sections 4-1250
 $\text{Gd}_2\text{Ga}_2\text{O}_7\text{:Ca}^{2+}$ garnet, γ -ray irradi., thermoluminescent props. 4-35502
 InP:Gd , ESR and spin-lattice relax. times, spin Hamiltonian parameters 4-16092
 InSe:Gd with macroscopic inclusions, polariton effects, photoluminesc. studies 4-29903
 $\text{LaAlO}_3\text{:Ge}^{3+}$, EPR powder spectra, simulation and interpretation 4-56771
 $\text{LaF}_3\text{:Gd}^{3+}$ two-photon absorption lines, polarisation depend. 4-2938
 $\text{LaH}_{2.5}\text{:Gd}^{3+}$, impurity effects in NMR 4-20881
 $\text{LiNbO}_3\text{:Gd}$, pyroelectric props. (Korean) 4-40364
 $\text{RbMgBr}_2\text{:Mn}^{2+}(\text{C}^{3+})(\text{Gd}^{3+})$, structural phase transitions, EPR spectra 4-16088
 Si:Gd , mag. susceptibility, Faraday method meas. 4-35142
 $\text{SnI}_2\text{:Gd}^{3+}$, low symm. effect in intense EPR lines, depend. on microwave field freq. 4-30281
 Tb mononitrides: Gd^{3+} , exchange and cryst. field effects, EPR study 4-11767
 $\text{YH}_2\text{:Gd}^{3+}$, impurity effects in NMR 4-20881
 $\text{Y(OH)}_3\text{:Gd}^{3+}$, EPR spectra of impurity ion, spin-Hamiltonian param. temp. depend. 4-56769
- gadolinium alloys**
 $\text{Ce}_{1-x}\text{Gd}_x\text{Al}_3$, $x=0.05, 0.2$, effect of ferromagnetism on Kondo state 4-56753

gadolinium alloys continued

- Co-Gd amorphous ribbons and films, crystn. kinetics 4-45003
 $(\text{Er}_{1-x}\text{Gd}_x)_2\text{Fe}_3$, spin reorientation, Mossbauer study 4-35282
 $\text{Fe}_{1-x}\text{Tb}_x\text{Gd}_x$ amorphous sputtered films for perpendicular recording 4-25604
 Gd-Co amorphous films, double-layered, mag. props. anomalous loop obs. 4-35196
 Gd-Co-(Bi) amorphous films for magneto-optical recording 4-30244
 Gd-Cu binary system, phase diagram, X-ray diffr. and thermal anal. studies (Chinese) 4-50462
 Gd-Dy, dil., ^{161}Dy nucl. spin relax. near Curie temp., Mossbauer effect obs. 4-40288
 Gd-Fe-(Bi) amorphous films for magneto-optical recording 4-30244
 Gd-Ge amorphous alloy, mag. and transport props., conc. depend. 4-30210
 Gd-In, phase equilibria and cryst. struct., DTA, X-ray diffr. and metallography study 4-7430
 Gd-Tl 4-7430
 GdAgPb, lattice parameters, X-ray diffr. study 4-2144
 GdAl amorphous spin glass, field depend. of susceptibility peak 4-56635
 GdAl spin glass, irreversibility line interpretation 4-6990
 GdAl₂, ferromagnetic intermetallic cpd., ^{119}Sn impurity, hyperfine interaction, Mossbauer study 4-34937
 Gd₃Al₆, amorphous spin glass, nonlinear mag. susceptibility 4-2766
 (GdCe)Fe₂ ferrimagnetic alloys, mag. compensation, Mossbauer effect hyperfine meas. 4-46063
 GdCo amorphous films, DC getter sputtered, mag. anisotropy and chem. comp. 4-56715
 GdCo₂, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293
 Gd₆₇Co₃₃ metallic glass, defects, variable energy positron studies 4-51406
 Gd₂(Co_{1-x}Mn_x)₁₇, mag. anisotropy, spin echo ^{59}Co NMR spectra 4-6969
 Gd_{1-x}Dy_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Er_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Er_xAl₂, inverse paramag. susceptibility and mag. moments 4-30146
 Gd_{1-x}Er_xAl₂, low hysteresis materials for mag. refrigeration 4-56629
 GdFe₂, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293
 Gd₂Fe_{1-x}H_x amorphous film, mag. and elec. props. 4-46027
 Gd(Fe_{1-x}Al_x)₂, mag., elec. and thermal props., local disorder effects 4-51056
 GdFe₂Al₇, ferromagnetism and hyperfine studies 4-7010
 GdFe₂Hx, magnetic props., H₂ absorption effects 4-2738
 Gd_{1-x}Ho_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}La_xAl₂, g-factor shifts, ESR meas. d-character of band electrons 4-51133
 Gd_{1-x}Lu_xAl₂, g-factor shifts, ESR meas. d-character of band electrons 4-51133
 GdMn₂Si₂, X-ray spectroscopy study 4-46368
 GdRh₂B₂, ^{111}Cd quadrupole interaction, transferred hyperfine field 4-35284
 GdTbFe amorphous films, composition and mag. props., depend. on Ar press. (Japanese) 4-2794
 Gd₂₀Y₃₀Ag₅₀ amorphous alloy, bulk mag. props. 4-56734
 Gd₂Y_{1-x}Al₂, g-factor shifts, ESR meas. d-character of band electrons 4-51133
 Gd₂Y_{1-x}Co₂, magnetovolume effects 4-46081
 (GdY)Fe₂ ferrimagnetic alloys, mag. compensation, Mossbauer effect hyperfine meas. 4-46063
 Ge-Gd, paramag. susceptibility temp. depend. (Ukrainian) 4-25513
 Ho_{0.01}Gd_{0.99}Y_{0.97}-Fe₂, ferrimag., domain and domain wall spin echo NMR spectra 4-35193
 La_{1-x}Gd_xAl₂, electronic and mag. props., bremsstrahlung isochromat spectra 4-21063
 Tb-Gd, NMR and relax. study (Russian) 4-7084
 TbGd, Tb⁵⁹ nuclear magnetisation and hyperfine fields 4-34936
 YGd, dilute alloys, spin density wave transition, sp. ht. study 4-56584
 Y_{1-x}Gd_xAl₂, electronic and mag. props., bremsstrahlung isochromat spectra 4-21063
 (Y_{0.995}Gd_{0.005})Co₇, long-range ferromagnetic-like order, mag. susceptibility, magnetisation meas. 4-56566

gadolinium compounds

- see also gadolinium alloys
 BaF₂-GdF₃-ZrF₄ fluoride glass optical fibre prep. (Japanese) 4-49590
 $\beta^{\text{II}}\text{-Al}_2\text{O}_3\text{-Gd}_2\text{O}_3$, ionic distribution, X-ray study 4-39270
 $\beta^{\text{II}}\text{-Al}_2\text{O}_3\text{-M}_2\text{O}_3$ (M = Gd³⁺, Nd³⁺, Eu³⁺), formation by ion exchange and ionic cond. meas. 4-39571
 B₂O₃-Li₂O-TiO₂-BaO-Gd₂O₃ vitroceraamics, struct. and partial crystallisation, EPR study 4-46098
 (Bi, G, Tm, Ca)₂(Fe, Si)₂O₁₂, bubble garnets, mag. props. study 4-56743
 Dy₂Gd_{1-x}VO₄, mag. and crystallographic phase transitions 4-25009
 Er₂Gd_{1-x}Rh_xB₄, Gd mag. moment orientation, Mossbauer studies 4-56564
 (Gd, La)MgB₂O₁₀:Tb, energy transfer, luminesc. 4-46313
 Gd complexes, (Gd(C₂H₅NO)₃)(ClO₄)₃ and (Gd(C₂H₅NO)₃)I₃, antiferromag. props. 4-56575
 Gd-Fe garnet layers, Bi substituted, LPE growth 4-35586
 GdAlO₃, dipolar surface spin waves at low temps. 4-16021
 GdAlO₃-Cr³⁺, mag. Franck-Condon effect, absorpt. and emission spectra 4-11910
 GdAlO₃:Eu³⁺, electronic transitions, IR transmission spectra 4-29926
 Gd_{3-x}Bi_xFe_{3-x}Ga₃O₁₂, ferrimagnetic garnet films, optical switching using Faraday effect 4-20949
 Gd₂CCl₃, cryst. struct. and metallic conductivity (German) 4-39251
 GdCl₃-AlCl₃ complexes, vapour press., comp. and thermodynamic props., radiochem. investig. 4-31008
 GdF, giant reson. profiles obs. 4-54648
 GdFe_{1-x}Cr_xO₃, weak ferrimagnet, f-d exchange 4-35164
 Gd₂Fe₂O₁₂, garnet, electric field gradient calcs. 4-50779
 Gd₂Fe₂O₁₂, garnet, orientational mag. transitions 4-16030
 Gd₂Ga₂O₁₂, Czochralski grown, characts. 4-2119
 Gd₂Ga₂O₁₂, GGG, thermal cond. in mag. fields, 1.4 to 20K 4-25100
 Gd₂Ga₂O₁₂ garnet, Raman spectrum (Chinese) 4-51249
 Gd₂Ga₂O₁₂, melt grown, lattice spacings, stress birefringence obs. 4-34429
 Gd₂Ga₂O₁₂, Raman and luminescence study (Russian) 4-56947
 Gd₂Ga₂O₁₂, surface topographical changes induced by low energy ion beam sputtering 4-16286
 Gd₂Ga₂O₁₂:Nd³⁺, quasi-CW crystal lasers, pyrotechnically pumped 4-28700

gadolinium compounds continued

- Gd₂Ga₂O₁₂/He II interface, Kapitza conductance, 1.4 to 2.1K 4-45434
 GdIlg, magneto-optical props., 1.1-1.7 μm 4-51244
 GdIn₂S₆ single cryst., thermally stimulated cond., external factor influences 4-35010
 GdMgB₂O₁₀:Mn(Bi)(Ce), energy transfer, luminesc. 4-46313
 Gd(MoO₄)₃, ferroelec., internal friction near Curie point 4-11226
 Gd₂(MoO₄)₃, acoustic wave interaction with ferroelastic domain walls 4-39367
 β -Gd₂(MoO₄)₃, ferroelec. cryst., polariton spectroscopy 4-25741
 Gd₂(MoO₄)₃, ferroelectric, ferroelastic domains, light deflection 4-51211
 Gd₂(MoO₄)₃, single cryst., Barkhausen effect and viscous phenomena 4-30406
 GdNbF₇, mag. props., 4.2 to 200K 4-6943
 GdOCl:Bi³⁺, photoluminescence and luminescent centres 4-40520
 GdP₂O₄, prep., cryst. struct., X-ray powder diffr., IR spectra anal. 4-2172
 GdRh₂B₂, perovskite struct., cryst. structures, X-ray anal. 4-45076
 GdS, thermodynamic props. in homogeneity range 4-39537
 Gd₂S₃, Schottky levels and thermodynamic contribs., calorimetric and optical studies 4-6518
 Gd₂S₃ mag. semicond., metal-insulator transition and magnetoresist. 4-56218
 Gd₂(ScGa₂)₂O₁₂:Cr³⁺, tunable laser 766 to 820 nm range, utilising electronic-vibr. transition 4-55046
 GdScO₃:Nd³⁺, synthesis and optical props. 4-20966
 GdTb(MoO₄)₃ single cryst., Raman and IR spectra in 250 to 1000 cm⁻¹ region 4-25762
 GdTb(MoO₄)₃, Tb³⁺ $^7\text{F}_3$ absorpt., multiphonon modes of MoO₄²⁻ ions 4-7175
 Ho₂Gd₂-Rh₂B₄, Gd mag. moment orientation, Mossbauer studies 4-56564
 Ni-Cr-Gd₂O₃, oxidation, effect of oxide dispersion 4-26109
 Sm_{0.6}Gd_{0.4}FeO₃, thermal cond. at reorientation phase transition 4-56625
 Sm_{1-x}Gd_xS, mixed valence cpd., lattice parameter and EXAFS studies 4-2556
 SmTmGdLuAl:YIG epitaxial films, mag. props. study 4-56729
 (SmYBaF₂GdMn)Gd_{0.4}Fe₄O₁₂ films, ion-implanted, characterisation of microstructure by SEM 4-25173
 SrCl₂:GdCl₃, defect aggregation study 4-50528
 Sr_{1-x}Gd_xF_{2+x}, solid solns., dipoles, dielec. relax. behaviour 4-46182
 UO₂-Gd₂O₃, reactor fuel in PWR, nuclear calculation techniques 4-27983
 YGdCaVInIG, NMR hyperfine field temp. depend. 4-16122
 Y_{3-x}Gd_xFe₂O₁₂ garnets, X-ray absorption spectra studies 4-57039
 (YGdYbBi)₃(FeAl)₂O₁₂ film, LPE, magnetostriction oscills., influence of domain struct. 4-11752
 (YGdYb)₃(FeGaMn)₂O₁₂ epitaxial film, bubble wall state conversion 4-56748
 YIG:Gd epitaxial film, optical absorpt. study 4-30539
 ZrF₄-BaF₂-GdF₃-AlF₃ glass optical fibre, impurity level reduction using sublimation purification technique 4-19607
- gain (amplification)** see amplification
- gain measurement**
 No entries
- gait analysis** see biomechanics
- galactic cosmic rays**
 1978 February 15 event, correl. with solar wind shock 4-36544
 acceleration and transport processes, verification and obs. 4-3887
 acceleration and transport rel. to diffuse galactic gamma-ray emission 4-3886
 acceleration at supernova remnants 4-22452
 acceleration due to massive star wind, interactions and γ -ray emission 4-4115
 annual review of nuclear and particle science, book 4-31979
 anomalous He component, solar modulation during 1965 and 1972 to 1977 solar minima 4-13159
 antiprotons, possible primary extragalactic origin 4-22281
 atmosphere absorption, correl. with solar wind mag. field 4-22284
 electron spatial distribution from nonthermal radioemission 4-4097
 electrons energy spectra and galactic diffuse γ -ray emission 4-3890
 elemental and isotopic composition, propag. and source abundances, review 4-36543
 energy spectrum knee, rel. to shower development and anisotropy, proton and Fe fluxes explanation 4-47514
 equatorial anisotropy in solar wind streams ejected by coronal holes 4-8359
 gamma-rays from interstellar gas in first galactic quadrant 4-8545
 intensity variations during past 30000 years, results from ^{10}Be concs. in polar ice (Russian) 4-52998
 interactions in giant molecular clouds 4-26956
 interplanetary propagation, modulation due to flare-generated shock waves 4-17360
 interstellar cloud interactions, mol. gas column density from gamma-ray emission 4-3889
 interstellar matter interactions, gamma ray emission and galactic spiral struct. 4-36740
 interstellar propagation, role of MHD waves stimulated Compton scatt. 4-53033
 ionisation, modulation by Sun 4-13157
 ionisation rates in interstellar clouds, relevance of mol. obs. 4-4076
 manned space missions protection, using confined magnetic fields 4-47525
 modulation by Sun, Venera 13 and 14 obs. anal. 4-47509
 modulation in heliomagnetosphere, seasonal var. of sidereal daily var. 4-17357
 modulation of monoenergetic spectrum 4-22283
 propagation, significance of $\alpha\alpha$ reactions at 218 MeV 4-43493
 propagation of $>10^{15}$ eV particles, effects of geomag. field 4-26955
 shock-accelerated particle energies, upper limit 4-47508
 sidereal diurnal var. 4-17358
 solar modulation of 11-year period 4-17359
 solar modulation of proton/He/electron spectra (1965-1979), quantitative test 4-17355
 Solar System matter, cosmic ray records for solar and galactic particles 4-36552
 source composition, appl. of hot nucl. matter, quantum statistical cluster abundances 4-13156
 spatial variation from gamma ray emission anal. 4-4096
 supernova remnants, relativistic particles energy 4-47672
 supernovae, obs. correl. with cosmic rays origin 4-4018

galactic cosmic rays continued

- Fe group cosmic rays, source abundances and propag. 4-26954
- H₂ interstellar gas interaction and γ -ray emission 4-4098
- Li isotopes evolution in Galaxy 4-8564

galactic nuclei

- active galactic nuclei, Fe II line strengths calcs. rel. to broad emission features 4-31746
- active galactic nuclei, geometry, gas-cloud kinematics, line profiles 4-36739
- active galactic nuclei, interaction of stars with accretion disc around massive black hole 4-4087
- active galactic nuclei, new VLBI obs. (German) 4-31926
- active galactic nuclei, X-ray spectra and interstellar interactions 4-58514
- active galaxies, thick accretion discs, Lorentz factors 4-17592
- active nuclei, accretion discs, shock wave propag. due to nucleus explosion 4-13181
- active nuclei, composite models for narrow emission line region 4-8561
- active nuclei, continuum var. 4-58515
- active nuclei, gamma rays and neutrinos as complementary probes 4-4120
- active nuclei, O II and S II forbidden lines, form. and gas parameters 4-17596
- active nuclei, review of poster papers at Nice, France, plasma conf. 4-58525
- active nuclei, supermassive rotator mag. field as energy source 4-58516
- active nuclei, thermal interpretation of X-ray spectra 4-8599
- active nuclei, X-ray emission and plasma processes 4-58513
- Arakelian 120, Seyfert 1 galaxy, H β emission line profile 4-31913
- bright elliptical galaxies as parent population for BL Lac objects 4-42535
- 3CC 84, Seyfert galaxy, radio halo obs. and nucleus radio emission (Russian) 4-17600
- Centaurus A, gamma-ray lines and nucleus massive black hole accretion disc plasma 4-13455
- Centaurus A, nucleus power source 4-8583
- classical double radiosources, precessing plasma jet model (Russian) 4-17605
- compact sources, spectral and variability constraints 4-8600
- dust in active galaxies and quasars, reviews 4-22476
- elliptical galaxies, rot. and nucleus activity 4-53286
- Galaxy, gamma-ray line obs. 4-4118
- Galaxy, high-resolution radio obs. of ionised gas in central 3 parsecs 4-22470
- Galaxy, mol. clouds survey OH UHF obs. 4-27190
- Galaxy, obs. of HNC mol. emission within central 10 parsecs 4-27147
- Galaxy gamma ray continuum and 511 keV line mechanism 4-27185
- giant H II region nuclei galaxies, extinction, dust emission and IR spectra 4-47701
- high-resolution spectroscopy in optical and UV, review 4-22336
- isolated galaxies, 5 GHz obs. of nuclei 4-58502
- jet bursts, origin from black hole (French) 4-8582
- BL Lacertae objects, 2.7 GHz obs. of radio polarisation rotators 4-17603
- late-type galaxies, central far-IR emission and mol. clouds anal. 4-27192
- line formation in compact X-ray sources, gas flows nature 4-58377
- M33, X-ray obs. by Einstein Observatory 4-31910
- M83, evidence for starburst in nucleus UV images 4-13432
- M87, continuing star form. in central star cluster from infalling gas 4-42550
- M87, optical jet, high resolution obs. (French) 4-17591
- Markarian 1239, 1298, Seyfert galaxies, spectroscopic obs. and redshifts 4-53274
- Markarian 348, type 2 Seyfert galaxy, evidence for directed outflow from compact radio core 4-27172
- Markarian 3, Seyfert 2 galaxy nucleus, radio jet struct. and plasma characs. 4-47705
- Markarian 509, Seyfert 1 galaxy, obs. of ionised gas outflow 4-13414
- narrow-line regions of active galactic nuclei, reddening corrections and intrinsic Balmer decrement 4-53273
- NGC 1052, spectrum anal. and photoionisation models 4-42543
- NGC 1052 and 4278, nucl. radio continuum sources, struct. 4-53265
- NGC 1068, Seyfert 2 galaxy, decomposition of emission-like profiles in active nucleus 4-31905
- NGC 1068, Seyfert galaxy, radio jets and high vel. gas, struct. and models 4-13419
- NGC 1218 (3C 78), S0 galaxy, obs. of kiloparsec radio jet in galactic nucleus 4-58506
- NGC 1275, gamma-ray obs. rel. to origin of IR, X-ray and gamma-ray emission 4-13413
- NGC 1275, Seyfert galaxy, nucleus emission lines var. on scale of a day 4-42528
- NGC 1569, irregular galaxy, CO emission, star form. and centre region characs. 4-53264
- NGC 253, IR obs. of star form. in nucleus 4-58505
- NGC 2911, NGC 4278, early-type galaxies, VLBI obs. 4-4092
- NGC 3310, peculiar spiral galaxy, one sided jet, nature rel. to nucleus power source 4-47703
- NGC 4051, type 1 Seyfert galaxy, far-IR obs. 4-13415
- NGC 4151, Seyfert galaxy, nonthermal nucl. emission model 4-36738
- NGC 4151, Seyfert galaxy, spectrum obs. rel. to interstellar gas in nucleus 4-17586
- NGC 4151, Seyfert galaxy, variability of strong UV emission lines (February 1978 to May 1980) 4-22468
- NGC 4151, Seyfert galaxy nucleus, light var., search for periodicity 4-27169
- NGC 5128, nucleus IR var. and overall spectrum 4-42541
- NGC 6221, barred spiral galaxy, evidence for nucleus activity 4-47700
- normal spiral galaxies, JHKL photometry 4-58512
- optical identifications of Einstein Medium Sensitivity Survey X-ray sources 4-4111
- particle beams from thick accretion discs, luminosity, active galactic nuclei implications 4-17386
- QSOs, recent clues to their nature, review 4-36746
- quasar-like nuclei, relation between nonthermal radiation intensity and Balmer lines widths (Russian) 4-13436
- radiogalaxies, jet formation due to massive black hole accretion disc explosion 4-13425
- radiogalaxies, radio lobes and supermassive objects ejected from nucleus 4-42536
- radiogalaxies, superluminal motion, nucleus mass ejection and mag. field anal. 4-42530

galactic nuclei continued

- recurrent explosions, model 4-27170
- Seyfert 1 and 2 galaxies, differences in spectra and luminosity (Russian) 4-47708
- Seyfert galaxies, H I lines relative intensities from collisional excitation model 4-17606
- Seyfert galaxies, meas. of stellar and nonstellar continua rel. to nonthermal near-IR emission 4-31904
- Seyfert galaxies, narrow-band photoelectric photometry 4-17585
- Seyfert galaxies, nuclei IR spectra and dust characs. 4-47702
- Seyfert galaxies nuclei, accretion discs rel. to broad line profiles and asymmetries 4-4090
- spherically accreting black holes, shock model for quasars/active galactic nuclei 4-4027
- spiral galaxies, nuclei Byurakan classification and radio spectra 4-42529
- star swallowing luminosity of massive black holes in normal galactic nuclei 4-53201
- superluminal motion within non-relativistic jets 4-42515
- supermassive black hole, escape from galactic nucleus due to plasmoid ejection, implications 4-13423
- UGC 76081, double galaxy, discovery of strong radio source in companion galaxy 4-31917
- velocity dispersion of spherical stellar system, effect of addition of point mass 4-58488
- X-ray emission, correl. with radio/optical emission 4-13451
- X-ray nuclei, optical/X-ray spectral index ratios, luminosity depend. 4-42556

galactic radio waves see radiofrequency cosmic radiation

galaxies

- see also BL Lacertae-type objects; clusters of galaxies; galactic nuclei; H I regions; H II regions; intergalactic matter; Magellanic Clouds; Markarian galaxies; nebulae; radiogalaxies; Seyfert galaxies; The Galaxy
- 5 GHz observations of isolated and group galaxies, continuum emission props. 4-58502
- 1240-057 as interacting S0-spiral pair, KPNO obs. 4-58510
- AARS complete redshift sample, dissertation 4-17601
- abundance gradients rel. to O/S/N abundance ratios in supernova remnants 4-53242
- accretion of intracluster gas, effects on galactic evolution 4-17590
- active galaxies, interaction of stars with accretion disc around massive black hole 4-4087
- active nuclei, composite models for narrow emission line region 4-8561
- angular momentum transfer in galactic disc by interaction of interstellar gas clouds 4-17589
- anonymous galaxy in Lepus, supernova discovery, approximate position, and photographic magnitude 4-36695
- associated quasars, two-point cross-correl. function (Chinese) 4-8596
- barred galaxies, bifurcations, gaps and stochasticity in stellar dynamics 4-31906
- barred galaxy model, anal. of stellar orbits 4-13428
- barred spiral galaxies, stars and gas kinematics and dynamics 4-47699
- big-bang cosmology and grand unification, baryosynthesis, monopoles, galaxy form. 4-42567
- binary-galaxies in clusters 4-4101
- blue compact galaxies, stellar formation, cosmological interest (French) 4-13437
- bright elliptical galaxies as parent population for BL Lac objects 4-42535
- brightest blue star luminosity rel. to parent galaxy luminosity 4-8569
- brightness distrib., inclination depend. 4-36735
- Carina dwarf spheroidal as intermediate age galaxy 4-4082
- cD-type galaxies, intrinsic shape 4-13411
- cD-type galaxies in rich and poor clusters, surface brightness profiles 4-13410
- classification scheme based on morphological features 4-31919
- cluster galaxies, effects of relaxation and tidal stripping in rich clusters on luminosity distrib. 4-47713
- clustering, higher order correl. functions in Zwicky catalogue 4-42532
- clustering models, implications of geometrical anal. of clusters of galaxies 4-17401
- clustering of galaxies in complete redshift survey, two-point correl. function 4-13441
- in clusters, alignments rel. to tidal forces and form. from pancakes 4-4102
- clusters and superclusters, dynamics and internal substructure 4-47715
- colliding galaxies, stellar vel. perturbations theory 4-58504
- in Coma cluster, alignment meas. 4-8586
- Conference on GUTs and the early Universe, Tsukuba, Japan (Jan. 1983) 4-4158
- core effects on general relativistic degenerate fermion config. static struct. 4-26987
- covariance function at large separation 4-17594
- D and cD galaxies in clusters, density environments 4-13409
- diameter-surface brightness diagram, meas. for Virgo and Ursa Major clusters 4-13431
- disc dynamics, two-fluid gravit. instabilities 4-47693
- disc galaxies, adiabatic oscils. of rotating polytropic gas discs 4-58372
- disc galaxies, effects of stellar evolution on N-body simulations 4-13417
- disc galaxies, self-gravitating warps, N-body simulation 4-36736
- disc-halo galaxies, mergers simulation 4-17593
- discs, vertical growth and struct. 4-13418
- disk emission at 1465 MHz from bright spirals 4-27182
- distance determinations and IR 21 cm linewidth-absolute magnitude relation 4-42572
- distance scale, calibration, use of Cepheids and RR Lyre stars 4-8400
- distance scale revisions 4-27189
- distribution and cosmology (book) 4-36838
- distribution around ellipsoidal voids in expanding Universe 4-13462
- distribution in Universe, historical aspects 4-47599
- distribution of stars perpendicular to galactic disc, isothermal model 4-47696
- disturbed galaxies, continuum model eqns. for interstellar gas 4-47668
- dominant cluster galaxies, rel. to cluster core radius and X-ray struct. 4-47714
- Draco dwarf spheroidal galaxy, spectroscopic obs. of giant stars 4-58511
- dust in galaxies, reviews 4-22476
- dwarf galaxies in Virgo, catalogue 4-27013
- dwarf galaxies near NGC 1023, star form. bursts and interstellar content 4-47704

galaxies continued

dynamics, review 4-31925
 E0 galaxies, nonlinearly pulsating models, stability 4-13375
 E and S0 galaxies, radial vels. from optical obs. 4-53270
 E and S0 galaxies, radio continuum survey at 2.7 and 5.0 GHz 4-53272
 E and S0 galaxies, UVB aperture photometry 4-53271
 early evolution, implications of globular cluster parameters 4-13383
 early-type disc galaxies, sensitive H I detection survey 4-31915
 early-type galaxies, colour distrib. from BVRI obs. with scanning CCD 4-31914
 electron-atom collision processes 4-31747
 elliptical galaxies, anisotropic models for case of circular isophotes 4-27173
 elliptical galaxies, multivariate anal. 4-31923
 elliptical galaxies, photometric characts. from obs. of 109 Virgo cluster galaxies 4-53292
 elliptical galaxies winds, de Vaucouleurs and modified King models 4-13421
 elliptical galaxies with shells, catalogue 4-13412
 elliptical stellar discs, equilib. solns. in presence of halo and in binary systems 4-17588
 expanding universe, cosmic density fluctuation, galaxies origin 4-8622
 explosions, shock waves in metagalactic-medium, signatures in more distant quasars spectra 4-36744
 extended lens galaxy, single star effect on QSO image 4-53279
 extragalactic astronomy (book) 4-53334
 face-on galaxies, CO distrib. 4-27193
 faint galaxies, use of Zwicky magnitudes in luminosity computations 4-53269
 flattening distrib., environmental effects 4-4085
 formation, clustering vels. with adiabatic perturbations 4-8575
 formation, collisionless damping of density fluctuations in expanding Universe 4-13457
 formation, effect of primordial planetary-mass black holes 4-31936
 formation, gravitational collapse of symmetrical gas clouds in linear wave flow approx. 4-3915
 formation, obs. limits on adiabatic theories from microwave background data 4-4091
 formation, pancake model calcs. in neutrino-dominated universe 4-31900
 formation, pregalactic clouds collapse rel. to voids and filaments 4-22469
 formation, role of spherical shocks, grav./dynamic instabilities 4-8372
 formation and density fluctuations from string 4-8614
 formation and super-weakly interacting particles 4-58509
 formation by particle capture in Einstein-Straus Universe, Newtonian approach 4-53321
 formation from pregalactic objects 4-42571
 formation models, role of cloud-cloud collisional dissipation 4-42537
 formation review 4-22467
 fundamental constants, large numbers and ratios 4-22493
 gaseous disc stability 4-27187
 giant molecular clouds radial distrib., effect of viscous torque between clouds 4-13405
 globular clusters stability as galactic satellites, linear anal. 4-42505
 gravitational lens, max. flux amplification by star disturbances 4-42300
 gravitational lens galaxy assoc. with double quasar 2345+007 A, B, upper limits from UVB photometry 4-58529
 gravitational lenses, nature and light ray paths 4-13191
 haloes, absorpt. lines connection with QSO absorpt. lines 4-8541
 hidden mass in celestial bodies, massive neutrino explanation 4-47534
 high-resolution spectroscopy of galaxies and QSOs, optical and UV results 4-22336
 in Hydra I cluster, morphological types and radial vels. rel. to cluster density struct. 4-31929
 IC 1613, distance, Cepheids IR photometry obs. and anal. 4-53266
 IC 1731, independent discovery and photographic magnitude of supernova 4-8504
 IC 1731, spectroscopic obs. of supernova (October 1983) 4-4017
 IC 4320, dusty elliptical galaxy, reddening and grains nature, visible obs. 4-8579
 inflationary universe, gravitational instability grav. wave perturbations, symmetry breaking 4-8626
 infrared emission and IRAS mission 4-42524
 integral spectrum use for star form. rate determ. (*Russian*) 4-53058
 interacting galaxies, implications for nature of QSOs 4-36746
 interstellar reddening, estimates for galaxies in Second Reference Catalogue and Uppsala General Catalogue 4-53282
 intervening galaxies towards gravit. lensed quasar Q2345+007, model 4-53303
 IR galaxies, limits on contrib. to diffuse far-IR background 4-27210
 irregular galaxies, anomalous emission regions, line ratios 4-53281
 isolated galaxies, H I 21 cm redshift distrib. 4-31903
 large-scale non-linear density fluctuations 4-42533
 Las Campanas galaxies, vel. calibration of redshift survey 4-31912
 lenticular, formation (*French*) 4-47698
 Local Group galaxies, search for mysterious mass 4-31924
 Local Group galaxies M31 and NGC 6822, W-R stars 4-3989
 lopsided galaxies, formation mechanism and existence 4-13424
 low surface brightness spiral galaxies, optical surface photometry, IR photometry 4-4094
 luminosity-H I width relation, determ. rel. to global value of Hubble constant 4-31901
 M101, colour-magnitude diagram for brightest red and blue stars 4-17582
 M31, disc near-IR brightness profiles 4-31927
 M31, H I single vel. contour maps 4-8578
 M31, H I vel. field, UHF obs. 4-8577
 M31, high resolution H I line survey 4-42546
 M31, vel.-dispersion of planetary nebulae, in bulge, VMC photography 4-4084
 M31 SNRs, 6 cm radio emission obs. 4-31891
 M32, elliptical galaxy, surface brightness, stellar population and colour 4-13438
 M33, comparison of radio and optical data 4-13430
 M33, evidence for assoc. with nearest quasars 4-58531
 M33, identification of Hubble's unknown-type variables as Cepheids (*Russian*) 4-31847
 M33, IUE obs. of supermassive exciting stars of giant H II regions 4-31911
 M33, X-ray obs. by Einstein Observatory 4-31910
 M33 globular clusters, age/metallicities, spectrophotometry 4-13377
 M33 internal kinematic of giant H II complex (NGC 604) 4-42510

galaxies continued

M83, evidence for starburst in nucleus UV images 4-13432
 M83, M33, H II regions and star form. 4-13385
 M83 (=NGC 5236), late type galaxy kinematics and H II region catalogue 4-4093
 M87 giant elliptic galaxy, massive neutrino halo 4-36737
 mass outflows 4-58427
 massive galactic halo formation with neutrinos 4-17599
 MCG 6-36-55, spectrum and magnitude of supernova (October 1983) 4-4017
 Merged Catalogue of Galaxies in machine-readable form 4-53066
 mixed pairs, anomalous red shifts anal. (*French*) 4-4095
 molecular clouds, radial distrib. (*Japanese*) 4-27171
 morphological type determ. from automatic structural pattern recognition method (*French*) 4-53055
 narrow-band photoelectric photometry of normal and Seyfert galaxies 4-17585
 nearby galaxies, radio continuum survey at 0.4, 0.8, 4.8 and 10.7 GHz 4-31916
 nearby southern spiral galaxies, 21 cm continuum maps 4-27177
 NGC 1275, collision between galaxy and accretion flow rel. to filaments 4-27175
 NGC 1275, rapid mm wave outburst from Seyfert-like galaxy 4-8580
 NGC 1365, JHK and BVRI photometry of supernova (1983 November 27) 4-22409
 NGC 1365, supernova BV photometry, 1983 November 27, and precise position 4-17535
 NGC 1365, supernova discovery, approximate position, magnitude and spectrum 4-17534
 NGC 1448, spectroscopic obs. of supernova (October 1983) 4-4017
 NGC 1448, supernova classification and expansion vels. from spectroscopic obs. 4-13342
 NGC 1569, irregular galaxy, CO emission, star form. and centre region characts. 4-53264
 NGC 185 and 205, dwarf elliptical galaxies, VLA obs. of H I content 4-31908
 NGC 205, dwarf elliptical galaxy, NGC 205, dwarf elliptical galaxy, photoelectric UVB surface photometry 4-31909
 NGC 2403, late-type spiral, study of globular cluster candidates 4-42504
 NGC 253, IR obs. of star form. in nucleus 4-58505
 NGC 253, photographic surface photometry using modified calibration method 4-3936
 NGC 2814, irregular galaxy spectrophotometric investigation of condensation 4-17587
 NGC 2903, vel. field of ionized gas 4-22465
 NGC 2911, NGC 4278, early-type galaxies, VLBI obs. 4-4092
 NGC 3222, 3227, precise positions of nuclei and of supernova in galaxy (NGC 3227) 4-22410
 NGC 3227, supernova discovery, photographic magnitude and type 4-13341
 NGC 3227, supernova precise position and photographic magnitude 4-17533
 NGC 3310, peculiar spiral galaxy, one sided jet, nature rel. to nucleus power source 4-47703
 NGC 3314, NGC 1275, backlit galaxies, dust distrib. in foreground systems 4-17583
 NGC 3625, supernova discovery, approximate position, and photovisual magnitudes (December 1983) 4-22411
 NGC 3894, E/S0 galaxy, VLA phased-array synthesis map at 5.0 GHz 4-31918
 NGC 4156, surface photometry and distance, high-resolution optical obs. 4-53275
 NGC 4214 and 4670, blue galaxies, star form. props., UV/visible obs. anal. 4-8560
 NGC 4258, radio discovery of young supernova 4-22412
 NGC 4321, 5248, SAB galaxies CO distrib. and emission 4-27191
 NGC 4419, precise position and photographic magnitude of supernova 4-36694
 NGC 4419, spectroscopic obs. and BV photometry of supernova 4-31852
 NGC 4419, supernova discovery, approximate position, and magnitude 4-27110
 NGC 4419, supernova independent discovery, approximate position and photographic magnitude 4-31851
 NGC 4449, irregular galaxy, ionised gas motion and comp. 4-42539
 NGC 4753, Type I supernova 1983h, obs. anal. 4-17536
 NGC 5236 (M83), pre-maximum spectra of supernova 4-27109
 NGC 6221, barred spiral galaxy, gas dynamics 4-47700
 NGC 628 (M74), face-on spiral galaxy, H I synthesis obs. and optical surface photometry 4-58501
 NGC 628 (M74), spiral galaxy, determ. of radial gradient of O/H ratio 4-47707
 NGC 6677, UV-excess galaxy, and compact, companion, spectrophotometric and morphological study (*Russian*) 4-31928
 NGC 6822, distance from H-band IR photometry of Cepheids 4-4083
 NGC 6946, SN 1980k, IR emission evolution and dust form. model 4-8502
 NGC 936, barred galaxy, stellar kinematics and dynamics 4-31907
 nonbarred spiral galaxies, blue and near-IR surface photometry of spiral struct. 4-53283
 nonequilibrium statistical field theory, GUT cosmology appl., galaxy formation, $\lambda\phi^4$ theory 4-8624
 normal spiral galaxies, JHKL photometry of nuclei 4-58512
 number counts and cosmological models 4-42548
 optical identifications of Einstein Medium Sensitivity Survey X-ray sources 4-4111
 oscillations and stability of stellar systems 4-4056
 pancake theories and adiabatic fluctuations evolution through recomb. era 4-17617
 panoramic photometry reduction, asymmetric clipping algorithm 4-53052
 peculiar velocities between pairs and mean mass density of Universe 4-8574
 periodic orbits bifurcations in rot. galaxy 4-27133
 periodic orbits in a two-dimensional galactic potential 4-36721
 phase-space models expressed in elementary functions 4-27140
 photographic surface photometry, modified calibration method 4-3936
 plane rotating barred galaxies, genealogy of periodic orbits 4-42547
 point explosion in exponential atmosphere with nonzero asymptote 4-13189
 protogalactic vorticity and origin rel. to galaxies ang. momentum 4-22489

galaxies continued

- QSO 2300-189, underlying galaxy nature and jet precession due to comparison interaction 4-47722
 QSO-galaxy associations, anomalous distribution anal. (French) 4-17607
 radial velocities of 8250 galaxies, catalogue (book) 4-27254
 radio recombination lines from extragalactic objects, 4.8 GHz search 4-42554
 redshifts, evidence for local anisotropy of Hubble flow 4-22475
 ring galaxies, X-ray obs. by Einstein Observatory 4-17584
 satellite galaxies, orbital decay, simulation calcs. 4-8558
 self-consistent hydrodynamic theory for gas accretion onto disc 4-27186
 self-organized structure (Japanese) 4-4088
 self-organized structures, models intercomparison (Japanese) 4-4089
 Sextans A, dwarf irregular galaxy 4-13416
 in southern groups, morphology rel. to elliptical fraction at low density 4-13442
 spectral energy distrib. for galaxies in high redshift clusters 4-17597
 spectral evolution rel. to Space Telescope FOC predictions 4-27183
 spectral stellar dynamics, evaluation of action integrals 4-22443
 spiral arms, stability, creation by shaft shaped central shock wave (French) 4-58520
 spiral density waves, three-mode interaction (Russian) 4-53289
 spiral formation theories rel. to pitch angles in ESO(B) galaxies (German) 4-53277
 spiral galaxies, dynamical evolution 4-8563
 spiral galaxies, nuclei Byurakan classification and radio spectra 4-42529
 spiral galaxies, populations and mass distrib. 4-53288
 spiral galaxy 3-D gravitational potential 4-47711
 spiral structure, computer simulations of Belousov-Zhabotinsky reaction 4-30923
 spirals, surface brightness rel. to radio emission 4-8573
 stability of gravitational systems and gravothermal catastrophe in astrophysics 4-53022
 stellar discs, self-consistent response to bar forcing 4-47695
 supernova frequency estimates 4-13343
 surface photometry, selective absorpt. ratios and colour excesses ratios 4-27188
 surface photometry bibliographic details (French) 4-53284
 surface photometry of 261 galaxies, features, inclination and morphology (Japanese) 4-31920
 theory of galaxy formation and cosmology, book 4-42625
 Ton 202, luminous QSO in interacting galaxy system 4-4109
 triaxial galaxies, preferred orbit planes in galaxy tumbling about principal axis 4-47692
 two-fluid model of galactic disc, rel. to critical stellar vel. dispersion and form, of condensations in gas 4-47694
 UGC 76081, double galaxy, H I absorpt. obs. 4-31917
 Ursa Minor dwarf spheroidal galaxy, spectroscopic obs. of giant stars 4-58511
 UV continuum galaxies, search for Seyfert features, visible spectra 4-42525
 UV excess galaxies, classification scheme based on morphological features 4-31919
 UV excess galaxies, list V, nature and finding charts 4-42322
 Virgo cluster galaxies, photometry of 109 galaxies near cluster centre to serve as standards 4-53292
 Virgo cluster S0 galaxies, disc props. and star form. history, IR photometry 4-8557
 visibility depend. on central surface brightness 4-17595
 voids rel. to Friedmann cosmologies, density and vel. inhomogeneities evolution 4-8609
 VV 48 and VV 219, interacting galaxy pairs, rot. curves 4-13439
 H I diameters for 238 galaxies, catalogue 4-36591
 H II regions, giant and supergiant, gas kinematics and struct. 4-8542
 NH₃, interstellar, in IC 342 and NG 253 4-22464
 O abundances in low surface brightness galaxies 4-8576

gallium

- see also nuclei with
 adsorbed on GaAs (110), chemical bonding, adatom-adatom interaction 4-29784
 adsorption and growth on Si (111), LEED, AES and photoemission spectra studies 4-45520
 adsorption on cleaved InP surfaces 4-29815
 amorphisation by low temp. ion irradiation 4-2234
 atomic beams density monitoring, during MBE 4-12026
 atoms, optical-optical double reson. expts. with optogalvanic detect. 4-18963
 bulk metal/thin metal film interface, room temp. compound form. 4-25166
 EXAFS study of premelting and supercooling phenomena 4-57036
 L-LM Coster-Kronig and LM-MMM satellite energies, solid state, theoretical studies 4-57046
 laser irradi. in inert gas, mag. props. 4-25617
 layers, condensed, phase changes, supercond. transition, 4.2K 4-20346
 liquid, effective pair pot. and pair correl. function 4-20079
 liquid, effective pair pot. rel. to pair correl. function 4-44940
 liquid, on Ag and AgAu, final spreading radius of melts on thin films 4-29730
 liquid, precision density meas. (German) 4-22762
 liquid, rapid quenching process, thermal anal. 4-40769
 liquid, struct. props. calc. 4-29305
 liquid, X-ray scatt. anal., regularisation method 4-55745
 liquid metal ion source, high resolution mass spectrometry 4-33232
 liquid metal ion source, two-dimensional trajectories, paraxial formalism 4-33608
 microwave ion source for high current metal beams 4-43732
 nuclear reactions induced by heavy ions, recoil atoms ionisation 4-4896
 point contacts, electron-phonon interactions (Russian) 4-6931
 SAW and electron relax. time temp. depend. (Russian) 4-29755
 sputtered from GaAs, ionisation probabilities as primary ion energy function 4-46393
 α -Al₂O₃:Ga³⁺ crystals, cathodoluminesc. and thermoluminesc. spectra 4-25815
 Bi₂Se₃:Ga, point defects, elec. cond., Hall effect and reflectivity studies 4-2196
 CdS:Ga, excitonic luminesc. spectra doping effects 4-16240
 α -Cr₂O₃:Ga³⁺, EPR absorpt., mag. cluster model extension (German) 4-20859
 α -Ga, glide systems, and plastic deformation, TEM studies 4-50408
 Ga I, autoionising levels investig. 4-1100

gallium continued

- Ga VI, 3d²-3d⁴ transition study, 200-270 Å range 4-54629
 Ga⁺ liquid metal ion sources, appl. to SIMS 4-43728
 Ga-Si solutions, partial molar enthalpies at infinite dilution 4-6526
 Ge:Ga, deform. potential const., intensity parameters, optically induced transitions 4-25285
 Ge:Ga, diffusion of Ga along small angle grain boundaries 4-6563
 Ge:Ga, γ -ray and neutron irradi., photoluminescence studies 4-30517
 Ge:Ga, ion implanted, laser annealed, phonon softening, Raman study 4-15597
 Ge:Ga, kinetics of decomposition, with separation, retrograde scheme 4-57231
 Ge:Ga, neutron irradi., low temp. photoluminescence studies 4-35487
 Ge:Ga, O, thermal donors, charge state and energy level spectrum 4-20600
 Ge:Ga, self-diffusion, doping effects, radioisotope studies 4-11336
 Ge:Ga, sources of impurity clouds, IR laser small angle scatt. study 4-11348
 Ge:Ga heterodyne detector for far-IR plasma diagnostics 4-39002
 HgI₂:Ga, thermoluminescence and photoconductivity studies (Russian) 4-21054
 KCl:Ga, A_T luminescence decay and polarisation, mag. field effects 4-11927
 PbSe:Ga films, ion implantation doping, electrophysical props. 4-11169
 PbTe:Ga, strongly doped, photoelec. behaviour near Curie temp. 4-39981
 Si:Al(Ga), effect of O₂ from vapour phase on doping 4-56082
 p-Si:B(Ga), bulk acceptor compensation by H₂O plasma treatment 4-50751
 Si:Ga, ion implanted, laser annealed, phonon softening, Raman study 4-15597
 Si:Ga, ion irradiation effects from liq. metal ion source, SIMS anal. conditions simulation 4-45164
 Si:Ga, laser-induced diffusion-TEM studies (French) 4-15698
 Si:Ga MBE growth, high-Ga implantation doping using liq. metal Ga ion source 4-39320
 Si:Ga(Sb), evaporative doping in MBE systems by solid phase epitaxy 4-45151
 Ti+Ga powder mixture, reaction and intermetallic form., exothermic effect 4-7741
 YIG:Bi, Ga bubble garnet films, annealing and mag. props. 4-56745
 YIG:Ga, effect of ionic migration induced by heat treatment on Faraday rotation 4-25727
 YIG:Ga, spin-wave instabilities, period doubling and chaos 4-46016
 YIG:Ga epitaxial film, magneto-optical obs. of Bloch lines 4-56746
 YIG:La, Ga bubble garnet films, annealing and mag. props. 4-56745
 ZnSe:Ga, defect levels, photocapacitance study 4-29920
 ZnSe:Ga, MBE grown on GaAs substrate temp. effect on photoluminescence and elec. props. 4-21062
- gallium alloys**
 see also gallium compounds
 Heusler L₂, alloys X₂MnZ, (X=Ni, Cu, Rh, Pd and Z=Ga, Ge, In, Sn Pb), hyperfine mag. field 4-35279
 rare earth alloys, RAgGa, paramag. props., Curie and Neel temps. 4-56536
 rare earth alloys, rapidly quenched, mag. hysteresis 4-51099
 CeGaCo, cryst. struct. determ. 4-24763
 Ce₂Ga₁₀Ni, cryst. struct. and lattice const., X-ray diffr. studies 4-34448
 CeSi_{2-x}Ga_x, electronically driven volume transition, mag. susceptibility study 4-46033
 Co₂Ga_{1-x}, spin glass, specific heat meas. 4-51068
 Co₂TiGa ferromagnetic Heusler alloys, hyperfine field, Knight shift 4-50778
 Cr-Ga (0.92 at.%), elec. resist. anomaly at incommensurate-commensurate SDW transition under hydrostatic press. 4-20624
 Cu-Ga(1.5 at.%), differential reflectograms, line shape anal. 4-46285
 EuGa₂, crystal struct., X-ray anal. 4-45060
 Fe₉₀B_{10-x}Ga_x metallic glass ribbons, elec. and mag. props. 4-30202
 Fe₂Ga, compressive flow stress, temp. and nonstoichiometry depend., 77-800K 4-40912
 Ga-In-Sn, liq., viscosity and elec. resist., temp. depend. 4-29665
 Ga-Sn, liquid, surface segregation, AES study 4-29736
 Ga-Te liq. alloys, far IR reflectivity 4-20955
 Hf-Cu(Ni)(Co)-Ga, cryst. struct. and mag. props. (Russian) 4-24764
 KGa₃, cryst. struct. and exact composition, X-ray diffr. study 4-34449
 La₈₀Ga₂₀, metallic glass, EXAFS spectra 4-57035
 LiAl-Ga, doping effect on elec. transport props. 4-45742
 MoGa₅ supercond. phase, new struct. forms, X-ray study 4-11055
 Nb-V-Ga, supercond. A15 and σ phase alloys, struct. and props. 4-50239
 NdGa₅Co_{2-x}, cryst. struct. and lattice const., X-ray diffr. studies 4-34446
 Nd₂Ga₁₀Ni, cryst. struct. and lattice const., X-ray diffr. studies 4-34448
 Ni₃Al-Ni₃Ga-Ni₃Ge-Ni₃Si, pseudo-quaternary system, continuous solid soln. 4-35612
 Ni₃Ga 4-40746
 Ni₃Ga with ternary additions, solid solubility lobes 4-29619
 Ni₂MnGa, Heusler alloy, plastic deform. occurring during cold work, PAC study 4-56827
 PdGa (110), electronic struct., angle-resolved photoemission study 4-30607
 Pr₂Ga₁₀Ni, cryst. struct. and lattice const., X-ray diffr. studies 4-34448
 PtMnGa, Heusler C1₀ alloys, sp sites, hyperfine fields, TDPAC and Mossbauer study 4-35280
 Pu-Ga (3.2 at.%), high temp. heat capacity, 330-700K 4-15659
 RhGa alloys, band struct. and mixed states, photoemission spectra studies 4-25208
 SmGa₅Co_{2-x}, cryst. struct. and lattice const., X-ray diffr. studies 4-34446
 UGaNi, mag. susceptibility, magnetisation and hysteresis 4-46012
 V₃Ga, A15 compound superconductors, present status and manufacturing process 4-51001
 V₃Ga A15 crystals, growth from ion-implanted supersaturated Ga-V solid solns. 4-39323
 V₃Ga, Knight shift, 300-1300K, temp. depend. 4-46118
 V₃Ga multifilamentary supercond., crit. current enhancement by In addition 4-45979
 V₃Ga, O content investigation (German) 4-7431
 V₃Ga, superconducting magnet materials development in China 4-51002
 V₃GaH₃, short range order and electron structure, NMR studies (Russian) 4-51140
 Zr-Co(Cu)(Ni)-Ga, cryst. struct. and mag. props. (Russian) 4-24764

gallium arsenide

(100), electronic surface states distrib. calcs. 4-56404
 (100) surface band struct., surface photovoltaic study 4-56403
 (110) with adsorbed Al, Ga and In, chemical bonding, adatom-adatom interaction 4-29784
 (110) with chemisorbed H, reflection electron energy loss study 4-30576
 γ -ray irradi., E5 centres, annealing and accumulation, elec. field effects 4-25293
 accelerator based mass spectrometry of semiconductor materials 4-46834
 activated, photoelectron energy distrib. and spin polarisation 4-25850
 active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
 amorphous, appl. of spectral limits theorem 4-6696
 anodic film rapid growth, retardation modulation ellipsometer for fast surface transient obs. 4-43020
 anodic oxide growth in situ, ellipsometric study (*French*) 4-46347
 Auger processes, overlap integrals 4-51416
 band struct., Auger recombination 4-39772
 beam annealing, techniques and appls. 4-55868
 bicrystals, impact ionisation near grain boundaries, electroluminesc. study 4-20661
 bulk single crystals, hydrogenation of electron traps 4-25366
 buried channel acoustic charge transport 4-39991
 carrier density and mobility, Hall meas. 4-39930
 Cerenkov radiation from a propagating nonlinear polarization wave 4-19353
 charge density and energy gap calcs. 4-39774
 charge-state-controlled struct. relax. of EL2 centre 4-2633
 cleaved surface, $^{\circ}\text{O}_2$ and temp. induced modification (*French*) 4-56126
 coated with Al_2O_3 photoluminescence changes and facet coating procedures 4-56972
 colour multiplexing for optical information transmission, passive and active components development (*Czech*) 4-1509
 conduction band, dispersion, nonparabolicity and warping 4-45626
 crystal cleavage, surfactants effect on mech. strength 4-29504
 crystal defects obs. by X-ray topography and SEM transmission cathodolum. 4-6360
 crystal growth for optoelectronic appls. 4-40641
 crystal growth technology for wider communication use 4-16307
 crystallographic etching with Br_2 and Cl_2 plasmas 4-3268
 current fluctuation phenomena, irreversible thermodynamics 4-50823
 CVD mechanisms, (100) surface props. 4-7364
 deep levels, electric field enhanced emission, DLTS 4-45665
 defect annealing by supercurrent proton irradi. 4-2233
 defect profile and annealing behaviour, impurity complexes form. 4-24841
 dielectric props., first-principles calc. 4-25671
 diffusion, of Cr, masking props. of SiO_2 films 4-50583
 diffusion, open-tube, of Zn, rel. to ohmic contact form. 4-6559
 diffusion length meas., by filtered cathodoluminescence 4-50841
 dislocations in semi-insulating LEC GaAs single crystals, transmission cathodolum. obs. 4-20195
 donor states, negatively charged, spectroscopic transitions to neutral states, magneto-optic expts., cyclotron reson. obs. 4-2825
 doped with group VI elements, lattice parameters, pseudopot. approach 4-2179
 doping superlattices, MBE growth and electronic props. 4-15945
 doping superlattices, photoluminescence study 4-30506
 doping superlattices, time-resolved luminescence study 4-21034
 dry etching effects, determ. by Schottky diode evaluation 4-41017
 elastic constants, third-order, Keating's theory 4-2248
 electro-optic directional coupler switches, strain-induced refractive index changes 4-14784
 electroabsorptive CCD spatial light modulator, Fourier transform. appls. 4-24155
 electrodes, photoluminescent props. appl. to dead layer model of photoelectrochem. cells 4-7225
 electroliquid epitaxy, mass transport and growth rate 4-6307
 electrolyte elec. field modulated ellipsometric spectrum (*Chinese*) 4-40414
 electron indicated, deep donor levels excitation and annealing (*Russian*) 4-56265
 electron irradiated, mech. of dislocation climb, electron microscopy study 4-20198
 electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
 electron momentum relax. time meas., third harmonic generation in crossed MM elec. and static mag. fields 4-6821
 electron-hole liq. plasma expansion, photoluminescence study 4-11553
 epitaxial, electronic props. of native deep level defects 4-39815
 epitaxial, photoluminescence and close space vapour transport growth 4-46331
 epitaxial growth, from coordination compounds, characterisation by RHEED and SEM (*French*) 4-21160
 epitaxial growth by close space vapour transport 4-15779
 epitaxial growth by MO-CVD, optical and elec. props. (*Japanese*) 4-34832
 epitaxial layer, picosecond absorption saturation, wavelength depend. 4-28783
 epitaxial layer, static photocond., surface photopot. study 4-25401
 epitaxial layer growth in proximity of singular faces 4-39727
 epitaxial layers, MOCVD grown, elec. and optical props., operating press. effects 4-40662
 epitaxial layers, photoelectric emission study 4-21105
 epitaxial layers, plastically bent, dislocation levels, DLTS study 4-25279
 epitaxial multilayer, appl. of computer controlled SEM cathodolum. mode system 4-34380
 epitaxial n-type, residual cond. and nonequilib. carrier slow relax. 4-25463
 EPR and magnetic circular dichroism study of defects 4-51134
 etching characts. of $\text{HCl-H}_2\text{O}_2\text{-H}_2\text{O}$ etching soln. (*Chinese*) 4-41014
 etching in $\text{H}_2\text{-HCl}$ gas mixtures, dopant and orientation depend. 4-12203
 etching in RF discharge through mixtures of trichlorofluoromethane and O_2 4-16521
 far IR dielectric response in phonon combination bands 4-56916
 FET preamplifier and photodiode, planar monolithic integration 4-10465
 $\text{Ga}_{0.47}\text{In}_{0.53}\text{As}$ /InP multiquantum well heterostructure lasers grown by molecular beam epitaxy operating at $1.53\ \mu\text{m}$ 4-38471
 $\text{Ga}_{1-x}\text{Al}_x\text{As}$, elec. resist. var., deep levels, band struct. 4-34974
 GaAs (001)-Al interface, growth processes 4-20417

gallium arsenide continued

GaAs-AlGaAs multi-quantum-well heterostructure waveguides, optical absorpt., luminesc. characts. 4-19562
 n-GaAs-Au/Te/Ni low resist. ohmic contact fabrication 4-2652
 grating formation by one-step laser-photochem. etching 4-28892
 growth and doping using MBE, thermodynamic and kinetic aspects 4-6681
 Hall element, $1/f$ fluctuation, temp. depend. (*Japanese*) 4-30033
 heavily doped, electron irradi., annealed, internal quantum efficiency of deep-centre luminesc. 4-7246
 heavily doped MBE layer, defects study 4-34497
 heavy ion backscattering anal. by time of flight spectrometry 4-43109
 heteroepitaxy, of Bi, on (001) and (110) surfaces 4-56164
 heterostructures, dissipation and dynamic nonlinear behaviour in quantum Hall regime 4-2644
 high dose ion implanted, halogen lamp annealing, Raman scatt. study 4-15520
 implanted impurity redistribution, stress effect 4-24843
 impurity conc. and chem. nature, submillimeter BWT spectroscopy 4-35966
 InGaAsP/InP mushroom stripe lasers with low CW threshold and high output power 4-14687
 interface form., Schottky barrier form. 4-6669
 interferometer sensors, laser noise props. 4-5716
 intra-collisional field effect, Airy function formalism 4-2619
 ion beam amorphisation and recrystn., TEM study 4-39349
 ion bombarded, displacement cascade struct., TEM study 4-34552
 ion implantation, lateral extension of radiation damage obs. 4-29452
 ion implantation, Si^{2+} and Be^{2+} , using 100 kV mass-separating ion beam system with Au-Si-Be ion source 4-34503
 ion implantation induced displacement of Ga and As 4-39315
 ion implantation through dielectric layers, recoil profile 4-50329
 ion implanted, picosecond laser annealing 4-15526
 ion implanted, spectroscopic ellipsometry anal. 4-39327
 ion implanted IR annealing (*Japanese*) 4-29457
 ion implanted with As^+ , Raman spectrum, spatial correlation effects 4-40423
 ion-implanted, electrophysical props., waveguide form. appls., review (*Russian*) 4-24246
 ion-implanted, study following electron-beam annealing 4-20230
 JFET fabrication using maskless ion implantation with 100 keV focused ion beam system 4-32380
 Landau level reson. polaron coupling and impurity transitions 4-11459
 large diameter crystals, IR absorption nonuniformities, photoinduced quenching 4-51304
 laser, light pulsations frequency and attenuation props. (*Czech*) 4-10300
 laser, longitudinal mode spectrum under high-speed modulation 4-49361
 laser arrays, high power phase-locked, mode-locked picosec. pulse generation 4-49406
 laser chemical etching method for drilling vias 4-12205
 laser diode based optical meas. techniques 4-14741
 laser induced local etching in CCl_4 gas atmosphere 4-39334
 laser-induced surface damage, channelling study 4-40576
 lasers, threshold current characteristics under short pulse excitation 4-28689
 LEC crystal growth with low and homogeneous dislocation densities 4-40626
 LEC grown, midgap electron traps, DLTS studies 4-15835
 LEC grown, undoped, semi-insulating, 0.8 eV deep level photoluminescence 4-20592
 LEC grown, undoped semi-insulating, EL2 electron trap distrib., DLTS study 4-20591
 LEC grown semi-insulating, cryst. homogeneity improvement by annealing 4-51470
 LEC growth, deep traps at implanted layer interface 4-25291
 LEC growth of undoped crystals, ambient gas effects 4-21123
 LEC single crystal growth, mag. field applied pulling apparatus 4-21126
 LEC-grown semi-insulating wafers, lattice bending, X-ray study 4-24746
 LED, shallow junction, gamma ray irradiated, surface emission and wavelength tuning via surface states 4-50353
 LPE layers, traps at interfaces with different substrates 4-6737
 LPE of single cryst. layers, numerical modelling 4-57114
 magnetoresistance hysteresis, current instabilities, in strong mag. fields 4-15895
 magnetoresistance meas., electron scatt. mechanisms 4-2625
 MBE, RHEED patterns during film growth, temporal intensity variations 4-29851
 MBE, selective area growth with patterning by SiO_2 masking 4-12027
 MBE grown, shallow donors, far IR magneto-optical spectroscopy 4-35422
 MBE grown surface, preservation and regeneration, RHEED, AES, UPS, ESCA studies 4-21146
 MBE growth, (001) reconstructed surface, As_2/As_4 species effects 4-6682
 MBE growth, elec. and luminescence props. 4-30637
 MBE growth, surface processes and film props. 4-15789
 MBE growth conditions rel. to deep levels generation 4-50661
 MBE growth on GaAs:Be implanted layers 4-20514
 MBE layers for IR optical waveguiding 4-14787
 MBE layers grown using cracked AsH_3 , photoluminesc. characterisation 4-46294
 MESFET, cryogenically cooled, noise characts. obs. at 4 MHz 4-42990
 MESFET optimum semiconductors for HF and low-noise appl. 4-29965
 MO-VEP epitaxial layers, residual impurities 4-34830
 modulation doped, p-polarised light diffraction polaritons 4-44053
 MOS anti-reflection layer solar cell fabrication on polycrystalline and single-crystal substrates 4-3468
 multilayered p-n junction high speed IR modulator 4-5693
 n $^+$ -n-n $^+$ ballistic diode, high-freq. negative conductance, computer simulation 4-40028
 n-i-p-i doping superlattices, electrooptical device aspects 4-15946
 n-i-p-i doping superlattices, Raman scatt. from elementary excitations 4-56910
 n-p superlattice, electron and hole subband energies, self-consistent calcs. 4-6870
 n-type, Anderson localisation effect on magnetocond. 4-50843
 n-type, degenerate, electronic specific heat calcs. 4-56037
 n-type, electrodes, photoanodic dissolution, surface charging effects 4-35063
 n-type, epitaxial layers, cyclotron resonance plasma shift 4-46112
 n-type, erosion laser plasma irradi., compensation study 4-45180

gallium arsenide continued

n-type, photoelectrochemical oxidation 4-26077
 n-type, photoetching and selective etching in aq. CrO_3 -HF solns., hillock morphology rel. to gas bubbles 4-15472
 n-type epitaxial film thickness determ. by metal-semiconductor characts. meas. 4-42918
 n-type epitaxial layer, diffusion of impurities forming donor mols. 4-34721
 n-type epitaxial layers, cyclotron resonance line, plasma shift (*Russian*) 4-35005
 n-type ingots, electrical props. (*French*) 4-25337
 n-type photoanodes, BP stabilised 4-12485
 n-type substrate for n-ZnSe epilayers, photocurrent versus electrode potential 4-25395
 native oxides behaviour during pulsed laser irradiation 4-15525
 neutron induced defects EPR (*French*) 4-7065
 nonlinear Fabry-Perot resonator, picosecond light pulse amplitude and polarisation instability 4-10357
 nonlocal exchange, correlation and band struct. calcs. 4-20560
 nuclear radiation detector appl., review 4-43757
 optical Fabry-Perot resonator, instability of ultrashort light pulse amplitude and polarisation 4-28757
 optical gratings, submicrometer, maskless laser-enhanced chem. etching 4-28817
 optical guided wave devices, GaAs based, fabrication of modulators and switches 4-24253
 optical properties determ. by multiple angle of incidence ellipsometry 4-46221
 optical refr. index dispersion, doping depend. 4-35404
 optical waveguide modulators, GaAs clad 4-55181
 optical waveguide modulators and directional couplers with low losses for high speed operation at $1.3 \mu\text{m}$ 4-33761
 optical waveguides, low loss, localised VPE growth 4-19559
 optical waveguides, proton implanted, characterisation and optimisation 4-49511
 oxide film, plasma grown, Auger anal. 4-34827
 p^+ -layers, Zn-implanted, contact resistance of nonalloyed ohmic contacts 4-2651
 p-n junction, nonuniform doping profile, avalanche breakdown voltage, orientation depend. 4-35053
 p-type, electron diffusion length, conc. dependence 4-50832
 p-type, spin relax. of cond. electrons and exchange interactions 4-25311
 passivation and selective etching under pot. and pH control in H_2O_2 media 4-57380
 α -phase, laser annealing dynamics 4-15522
 phase transition, NaCl-type lattice under press. 4-39471
 photoanodes, protection by photoelectrochem. grafting of polymer films 4-46880
 photochemical microetching in aqueous solns. 4-12206
 photoconductor, hole sweep-out, time resolved luminesc. measurements 4-40489
 photoemission yield and its photoelectric thresholds (*Polish*) 4-35544
 photoenhanced oxidation, and O_2 chemisorption, AES study 4-16523
 photoexcited, effective carrier temp. 4-15918
 photoionisation of deep h centres 4-34914
 photoluminescence excitation of 0.77 eV emission 4-46327
 photoluminescence spectrum, excited state donor to acceptor transitions 4-46325
 picosecond degenerate four-wave mixing through orientation and concentration gratings 4-55111
 picosecond range process investigation in single-cryst. polycryst. and amorphous samples 4-20939
 piezoelectric, leaky SAW propagation loss meas. 4-20450
 PIXE analysis of compound materials 4-45067
 planar doped barriers and their device applications 4-15947
 plasma injection, current-carrying, with quasiballistic carrier motion 4-35020
 plastically deformed, creation of As_{Ga} defects, dislocation-related electron states 4-15849
 polarons, cyclotron resonance study under hot electron conditions 4-6717
 polycrystalline thin films for solar cells, growth technology 4-7366
 positron annihilation under high current proton irradiation 4-40564
 precipitation, in chloride and chloride-hydride processes, partial pressure diagrams 4-57083
 proton and electron irradi., proton annihilation and damage profiles 4-40562
 proton bombarded, nature of dislocation sources 4-11148
 proton irradiated, accumulation and annealing of deep centres, role of charge state 4-25292
 proton irradiation effect on minority carrier diffusion length, solar cell appl. 4-21546
 pulse annealing by incoherent radiation (*Slovak*) 4-15519
 pulsed laser excitation, electronic power transfer 4-30569
 quantum wells, localisation induced excitonic electron-hole recombination, cathodoluminesc. study 4-39923
 quantum wells, MBE, impurity trapping, interface struct., luminesc. 4-45666
 radiation defect energy levels, light absorption and Hall effect studies 4-20602
 radiation-stimulated gettering at interfaces (*Russian*) 4-39341
 recombination electron beam irradi. enhanced dislocation mobility 4-15540
 SAW interdigital transducers, low reflectivity, fabrication and metallisation 4-19690
 Schottky-barrier structures, low temp. behaviour of volt-ampere characts., effect of mech. stresses 4-20724
 secondary ion yields, O_2^+ bombard, incidence angle effects 4-46389
 self-dissolution mechanism in oxidising electrolyte solns. 4-57576
 semi-insulating, deep centre EL2, direct IR imaging obs. 4-34905
 semi-insulating, elec. transport parameters, three band model anal. 4-39899
 semi-insulating, field-assisted photoelectromagnetic effect 4-39961
 semi-insulating, growth, recent developments (*Japanese*) 4-30623
 semi-insulating, LEC grown, trap level at 78 meV 4-15885
 semi-insulating, photocond. and PEM effect under different surface recomb. regimes 4-39985
 semi-insulating, undoped, 0.68 eV emission, persistent photoluminesc. quenching 4-46295
 semi-insulating, undoped, deep donor EL2, IR absorption study 4-35471
 semi-insulating crystals, undoped, inhomogeneities, photocurrent distribution profiles 4-11554

gallium arsenide continued

semi-insulating growth technology, electron trap deep level conc. 4-7343
 semi-insulating substrate wafers uniformity characterisation, optical and elec. methods 4-21012
 semiconductor crystal, H^+ beam effects, damage and pulsed proton annealing 4-50379
 semiconductor/metal diodes, deep levels and I-V characts. 4-20723
 semiinsulating, electron mobility associated with impurity compensation 4-34983
 single crystal growth using liquid encapsulated Czochralski method and improved pulling technique 4-40628
 single quantum well struct. growth by MBE 4-15790
 slow electron emission, ang. depend. 4-21080
 solar cell, photon responses and energy conversion coeff. (*Dutch*) 4-36010
 solar cells, diffused junction p^+ - p , fabrication and cell performance 4-41345
 solar cells, diffused p^+ -n junction, photovoltaic characts. and modelling 4-41346
 solar cells, thin film, CLEFT GaAs and GaAs-Si 4-16771
 solar cells with high AM1 conversion efficiency, MO-CVD growth 4-21559
 sputtered As and Ga atom ionisation probabilities as primary ion energy function 4-46393
 submicron n^+nn^+ structs., quasiballistic transport, injection depend., Monte Carlo simulation 4-6881
 substrate, (100), vapour phase in-situ etch 4-7365
 substrate for AlN film, 1.0 GHz bulk acoustic wave resonator 4-1566
 substrate for CdTe epitaxial layer, lattice match and heteroepitaxy appls. 4-39694
 substrate for insulating CaF_2 and $\text{Ca}_2\text{Sr}_{1-x}\text{F}_2$ films, MBE growth and props. 4-51506
 substrate temp. effect on MBE grown ZnSe:Ga photoluminescence and elec. props. 4-21062
 substrates with metal strips, SAW reflection canceling using bimetal geometry 4-24318
 superlattice structs., optical and electronic props. 4-15948
 surface, (100), secondary electron yield, surface resonances obs. 4-21082
 surface, anodic oxide growth, coupled ellipsometric and capacitance meas. 4-56440
 surface, MBE grown, geometric and electronic struct., photoemission spectra (*Dutch*) 4-16294
 surface, oxidation, chem. state depth profiling by ang. dependent XPS 4-39636
 surface (100), disorder dechannelling anal. 4-45142
 surface (100), surface electron states, UPS studies (*Chinese*) 4-50884
 surface (110), surface disorder effects in angle resolved photoemission spectra 4-46425
 surface composition, dielec. layer deposition conditions influence, XPS obs. (*Ukrainian*) 4-25130
 surface electronic props. and surface geometry 4-6856
 surface electronic props. of (100) face, thermally cleaned in UHV and O covered 4-56409
 surface laser annealing, second harmonic generation 4-19512
 surface morphology induced by Cl_2 gas reactive ion beam etching 4-39635
 surface prep. methods, chem. treatment 4-51832
 surface recombination rate meas., using cathodoluminescence 4-8922
 surface reconstruction, photoemission study 4-45472
 surface reconstruction, review 4-29746
 surface states study by photoemission yield spectroscopy (*Polish*) 4-35548
 surface topographical changes induced by low energy ion beam sputtering 4-16286
 T_2 symm. deep level wavefunction predictions 4-11478
 thin film planar waveguides, preparation, parameters optimisation (*Czech*) 4-10419
 thin inhomogeneous films, elec. props., nonreciprocal effects 4-11607
 time-resolved cathodoluminescence, delayed coincidence meas. 4-46335
 tricrystal, injection currents 4-25349
 tunable quantum hypersound generator calcs. 4-45277
 ultrathin film, electronic heat capacity, size quantisation effects 4-15661
 vacancies and anti-site defects, electronic struct., tight-binding calc. 4-2540
 vacancy electronic struct., tight-binding calc. 4-29922
 vicinal epitaxial surface, local misorientation, RHEED anal. 4-50654
 waveguides, low attenuation, fabricated by localised epitaxy 4-33768
 whiskers, struct., mechanical props., impurity effect 4-56182
 white noise, 1/f noise, elec. cond. spectral features, mag. field effects, hot electrons (*Dutch*) 4-15925
 wires of rectangular cross sections, 1D and 2D quantum localisation, resistance, thermal behaviour 4-25332
 Z 4-15523
 zinc blende struct. cryst., internal strain parameter (bond-bending parameter) 4-55780
 (Al,Ga)As laser diode, Mossbauer spectrometer velocity calibration 4-18025
 Al/ $\text{Al}_0.5\text{Ga}_{0.5}\text{As}$ /GaAs MIS capacitor, current-voltage and capacitance-voltage characts. 4-45882
 Al- $\text{Al}_0.3\text{Ga}_{0.7}\text{As}$ MOS diodes, capacitance-voltage characts. (*Japanese*) 4-56436
 Al-Si $_3\text{N}_4$ -GaAs MIS struct., characterisation using capacitance method (*French*) 4-35073
 AlAs/GaAs double heterojunctions, inelastic tunnelling characts. 4-50906
 AlAs-GaAs superlattices, photoluminesc. spectra, well size fluctuations effects 4-25793
 AlAs-GaAs:Zn disordered superlattices, diffusion and interdiffusion processes 4-34716
 AlGaAs coupled-cavity laser, single longit. mode operation, 0.2-1.0 GHz FM characts. meas. 4-33695
 AlGaAs current-confined constricted-double-heterojunction large-optical-cavity diode laser, high power 4-1409
 (AlGa)As DH laser, gain mechanism 4-23985
 AlGaAs diode laser, carrier-induced index change 4-23983
 AlGaAs grating loaded lasers, tunable single mode picosecond pulse generation 4-24038
 AlGaAs index-guided diode lasers, high power phase-locked arrays 4-28713
 AlGaAs injection lasers, mode switching induced by temp. variations and optical feedback 4-19447
 AlGaAs laser, freq. stability, theory 4-38475
 AlGaAs laser, high-speed freq. stabilization using servo-system 4-24034
 AlGaAs laser, quantum noise limited freq. stability 4-19488

gallium arsenide continued

- (AlGa)As, laser diode, nonlinear modulation response and relax. oscill. 4-23986
- (AlGa)As laser diodes for long-life space appls., reliability 4-1415
- AlGaAs laser simultaneous freq. and power stabilisation using optogalvanic effect of Kr 4-23981
- AlGaAs lasers, intensity noise statistics 4-33659
- AlGaAs lasers, near threshold struct. depend. wavelength shifts, wavelength-stable source appls. 4-28694
- AlGaAs multi-longitudinal-mode TJS laser diodes, noise characts. 4-33661
- AlGaAs multiple quantum well heterostruct. visible laser, MOCVD growth 4-19448
- AlGaAs multi-quantum well lasers, gain and carrier lifetime meas. 4-28690
- AlGaAs, open tube diffusion of Zn, rel. to ohmic contact form. 4-6559
- AlGaAs operating in dispersive external cavity, transient optical response 4-24026
- AlGaAs phase-coupled quantum well lasers, Schottky barrier restricted arrays 4-49389
- AlGaAs quantum well lasers, phonon assisted gain coeff. 4-1391
- AlGaAs ridged substrate internally diffused stripe laser, visible emission 4-10294
- AlGaAs semiconductor laser with grating feedback, tunable single mode pico-second pulse generation 4-1389
- AlGaAs shallow-homojunction solar cells with high efficiency, MOCVD grown 4-52138
- AlGaAs single mode injection lasers for optical signal processing 4-38474
- (AlGa)As stripe-geometry injection lasers generalised Epstein model 4-23946
- (AlGa)As TJS laser mode partition study, statistical meas. 4-55034
- AlGaAs:Cu(Fe), deep acceptor levels, comp. dependence and random alloy effects 4-25280
- AlGaAs:Si selectively doped short period superlattice, MBE grown, persistent photocond. 4-25428
- AlGaAs/GaAs DH lasers, twisted-terraced substrate, design and mode locking 4-33684
- AlGaAs/GaAs double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
- AlGaAs/GaAs fibre coupled 2-D monolithic LED array with highly uniform radiance 4-24239
- n-AlGaAs/GaAs heterojunction interface, electron transport props. 4-15954
- AlGaAs/GaAs multi-quantum-well laser monolithically integrated with MESFET driver 4-19470
- AlGaAs/GaAs multi-quantum well laser and GaAs MESFET, monolithic integration, MBE growth 4-44103
- AlGaAs/GaAs quantum well heterostructs., organometallic VPE and photoluminesc. 4-25890
- AlGaAs/GaAs selective-meltbacked substrate inner stripe laser, room temp. CW operation 4-24019
- AlGaAs/GaAs single mode CSP lasers with optical feedback, phase noise characts. 4-33650
- AlGaAs-DH laser coupled to external resonator, bistability, self-sustained oscills. and irregular operation 4-1432
- (AlGa)As-GaAs 2-D electron gas devices, deep-level anal. by low-freq. noise measurement 4-50909
- AlGaAs-GaAs curved waveguides and channelled-substrate DH lasers, monolithic integration by wet chem. etching 4-24245
- (AlGa)As-GaAs double heterostructures, MBE grown, optical props., effect of As species 4-16251
- AlGaAs-GaAs single quantum wells, MBE growth, photoluminesc. props. 4-30640
- AlGaAs-GaAs solar cells for concentrator photoelectric batteries 4-7876
- AlGaAs-GaAs stripe geometry quantum-well heterostruct. lasers defined by Zn induced layer disordering 4-55029
- AlGaAs-GaAs two-dimensional electro-optic polarization modulator for integrated optics 4-55180
- Al_{0.3}Ga_{0.7}As/GaAs interface, selectively doped, illumination stimulated persistent channel depletion 4-45861
- Al_{0.3}Ga_{0.6}As/GaAs quantum well struct., MBE growth, photoluminescence props. 4-51344
- Al_{1-x}Ga_xAs active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
- Al_{1-x}Ga_xAs bulk lasers with superlattice interfaces 4-33648
- Al_{1-x}Ga_xAs continuous quantum well heterostructure laser diodes, wavelength modification 4-28693
- Al_{1-x}Ga_xAs DH lasers, picosecond pulse generation 4-10298
- n-Al_{1-x}Ga_xAs graded-gap layers, longit. piezoresistive effect 4-56360
- Al_{1-x}Ga_xAs LED materials, organometallic VPE, growth temp. depend. 4-51522
- Al_{1-x}Ga_xAs, LPE growth rate, diffusion limited growth model 4-35585
- Al_{1-x}Ga_xAs layered semiconductor, quantitative anal., SIMS method, matrix calibration 4-16702
- Al_{1-x}Ga_xAs MOCVD layers on semi-insulating GaAs, bulk and transfer doping 4-50958
- Al_{1-x}Ga_xAs quantum well heterostructure, lasers with external grating, broadband tuning 4-1393
- Al_{1-x}Ga_xAs quantum well heterostructure laser, wavelength modification by layer interdiffusion 4-1395
- Al_{1-x}Ga_xAs variable gap film press. gauges, composition gradient depend. 4-50967
- Al_{1-x}Ga_{1-x/2}As:Si, MBE growth and characterisations, H₂ gas effects 4-16330
- Al_{1-x}Ga_{1-x/2}As:Si epitaxial film, dopant conc., SIMS anal. 4-45173
- n-Al_{1-x}Ga_{1-x/2}As:Si MBE layers capacitance and Hall effect meas. 4-50962
- Al_{1-x}Ga_{1-x/2}As:Si(Sn) MBE films, doping and elec. props. 4-15509
- Al_{1-x}Ga_{1-x/2}As:Sn(Ge)(Te)(Cu) epitaxial films, impurity photolumin. 4-16263
- Al_{1-x}Ga_{1-x/2}As/GaAs heterostructures, photoluminescence, Al isovalent impurity effects (Russian) 4-40533
- n-Al_{1-x}Ga_{1-x/2}As/GaAs heterostruct., electron gas for FET 4-50821
- Al_{1-x}Ga_{1-x/2}As/GaAs layers, modulation doped, 2-D electron gas, low field mobility calc. 4-20710
- Al_{1-x}Ga_{1-x/2}As/GaAs quantum well heterostruct., photoluminescence 4-25791
- Al_{1-x}Ga_{1-x/2}As/GaAs quantum well heterostructs., MBE grown, photoluminesc. 4-35472
- Al_{1-x}Ga_{1-x/2}As/GaAs quantum well struct., electron-transport, quantum size effect 4-45865

gallium arsenide continued

- n-Al_{1-x}Ga_{1-x/2}As/GaAs selectively doped heterostructs. for high electron mobility transistors 4-35048
- Al_{1-x}Ga_{1-x/2}As-GaAs, single crystal stacked layers, cascade solar cell portions, growth and photoluminesc. 4-3089
- Al_{1-x}Ga_{1-x/2}As-GaAs DH gain-induced laser with nonhomogeneous pumping, longit. mode selection 4-38483
- Al_{1-x}Ga_{1-x/2}As-GaAs heterostructure injection lasers, dynamic characts. 4-28698
- Al_{1-x}Ga_{1-x/2}As-GaAs interface, appl. of spectral limits theorem 4-6696
- Al_{1-x}Ga_{1-x/2}As-GaAs quantum well heterostructure, impurity induced disordering 4-50905
- Al_{1-x}Ga_{1-x/2}As-GaAs superlattices grown by MOCVD, monolayer heterointerfaces 4-51463
- Al_{1-x}Ga_{1-x/2}As, solid soln., phase state change with pulsed annealing 4-55875
- Al_{1-x}Ga_{1-x/2}As-Al_{1-x/2}Ga_{1-x/2}As-Al_{1-x/2}Ga_{1-x/2}As quantum well laser operation in strong mag. fields 4-5589
- n-AlGaAs/GaAs MBE selectively doped heterostruct., long-lifetime photocond. 4-15955
- AlGaAsSb multijunction cascade solar cells, band gap span influence on efficiency 4-12480
- AlGaInAs epitaxial layers LPE, on GaAs (100), growth lines rel. to melt surface tension 4-3090
- Al_{1-x-y}Ga_xIn_yAs, band struct. calcs. 4-20559
- Al_{1-x-y}Ga_xIn_yAs, multinary alloys, energy gaps, CPA calc. 4-25214
- Au/anodic oxide/GaAs struct., proton irradiation effects 4-35084
- (CdTe)_{1-x}(GaAs)_x solid soln., X-ray cond. 4-56383
- GaAs/AlGaAs quantum well lasers, spontaneous emission in strong mag. field 4-38477
- (Ga,In)As-(Al,In)As junctions, magnetophonon reson. (French) 4-25246
- (Ga,In)As-InP junctions, magnetophonon reson. (French) 4-25246
- GaAP, polycryst. thin films for solar cells, growth technology 4-7366
- GaAlAs 800 nm wavelength lasers, lifetime investig. 4-10307
- GaAlAs BH lasers grown by two-step MOCVD process 4-1406
- GaAlAs Bragg heterojunction injection laser with stable output wavelength 4-49402
- GaAlAs broad band super radiant diode fibre optic sensor and communication appls. 4-33683
- GaAlAs current pulsed laser with dispersive external feedback, single mode operation 4-33649
- GaAlAs DH laser, static and dynamic characts., temp. effects (Chinese) 4-55036
- GaAlAs DH lasers with lateral optical confinement, perturbation theory anal. 4-28691
- GaAlAs diode laser, freq. and amplitude modulated, for optical heterodyne spectroscopy 4-8965
- GaAlAs diode laser, linewidth reduction with high reflectivity coating 4-38470
- GaAlAs fibre coupled edge emitting LEDs 4-5708
- GaAlAs high power twin-ridge-substrate laser (Japanese) 4-55039
- GaAlAs, high-power dual-wavelength laser array, monolithic integration, LPE growth 4-19442
- GaAlAs index-guided diode lasers, FM-noise spectrum 4-49360
- GaAlAs injection laser, microwave props. 4-23995
- GaAlAs interferometric coupled-waveguide laser 4-10295
- GaAlAs laser diode, providing 6-GHz AM modulation bandwidth 4-24035
- GaAlAs laser diodes, design, operation and characts., communication appl. 4-14712
- GaAlAs laser diodes, broad-area, single-heterostruct., inelastic reflection of photons 4-23988
- GaAlAs laser diodes, spectral props. (German) 4-55043
- (GaAl)As lasers, separately pumped, longit. mode behaviour and tunability 4-33651
- GaAlAs lasers in single longit. mode, HF phase noise 4-33658
- GaAlAs p-i-n junction waveguide modulators using Pockels effect 4-55179
- GaAlAs semiconductor lasers for optical communication (Hungarian) 4-38631
- GaAlAs single mode laser spectrum meas. using stabilised optical fibre Fabry-Perot interferometer 4-33662
- GaAlAs single-mode laser freq. fluctuation stabilisation using fibre interferometer, noise props. 4-24045
- GaAlAs stabilised laser low freq. noise props. 4-33653
- GaAlAs stripe geometry heterostruct. lasers, numerical anal. 4-19445
- GaAlAs stripe geometry DH lasers, life testing, low temp. cathodoluminesc. spectra 4-38479
- (GaAl)As stripe-geometry DH lasers, self-sustained oscillations, expt. study 4-38512
- GaAlAs tunable mode-locked lasers incorporating Brewster-angled diodes 4-33657
- GaAlAs twin stripe lasers, closely coupled, optical bistability 4-24073
- (GaAl)As two-component heterojunction laser with spatially inhomogeneous injection 4-28697
- GaAlAs visible lasers, failure mechanism rel. to formation of dark defects 4-10308
- GaAlAs visible laser, transverse mode stabilized, separated multilayer stripe built-in waveguide 4-19471
- GaAlAs:Si and GaAs:Si, heavy doping during MBE 4-16319
- GaAlAs:Sn(Ge), liquidus-solidus curves, appl. to visible laser 4-46455
- n-GaAlAs/GaAs heterojunction, 2-D electron gas, tangential magnetoresist. 4-15953
- GaAlAs-GaAs DH laser, IR transmission/emission method (Chinese) 4-55035
- GaAlAs-GaAs DH stripe laser, life-tested, low temp. SEM cathodolum. 4-35498
- (GaAl)As-GaAs high peak power asymmetric DH injection laser 4-1405
- (GaAl)As-GaAs isolated stripe CW laser degradation by proton bombardment (Chinese) 4-49414
- GaAlAs-GaAs/GaAs heterostructures, spectroscopic electroreflectance and ellipsometry (French) 4-11866
- Ga_{0.7}Al_{0.3}As, PIXE analysis of compound materials 4-45067
- p-Ga_{1-x}Al_xAs, alloy scatt. potential calc. 4-6773
- Ga_{1-x}Al_xAs alloys, deep energy levels, photocond., cond. band struct. effects 4-30015
- Ga_{1-x}Al_xAs, disorder-activated phonons, resonant Raman study 4-25736
- Ga_{1-x}Al_xAs, disordered, IR dielectric props. and vibr. states 4-40457
- Ga_{1-x}Al_xAs, electron-hole plasma, k-selection rule, photoluminesc. study 4-45818

gallium arsenide continued

- Ga_{1-x}Al_xAs, Hall mobility, electron conc. and resistivity meas. at 300K 4-11544
 Ga_{1-x}Al_xAs, MOCVD epitaxial growth, solid comp. and growth rate 4-21150
 Ga_{1-x}Al_xAs semiconductor alloy variable-gap cells with several junction energy gaps for a high efficiency solar energy system 4-21558
 Ga_{1-x}Al_xAs/GaAs, internal strain and photoelastic effects 4-16178
 Ga_{1-x}Al_xAs-GaAs-Ga_{1-y}Al_yAs superlattice, impurity level binding energy 4-30063
 Ga_{1-x}Al_xAs_{1-y}Sb_y quaternary alloy heterojunction band discontinuities 4-45868
 GaAlInAs, lattice matched to InP, composition depend. of spin-orbit splitting 4-2563
 Ga_{1-x}Al_xSb_{1-y}As, p-n struct., avalanche multiplication coeff., photosensitivity spectra 4-6884
 Ga(As, Sb) active layer lasers, photoluminescence changes and facet coating procedures 4-56972
 GaAs (001) layer growth on SrF₂ (001) by MBE 4-39704
 GaAs (110)-Cs interface, electronic props. at monolayer coverage 4-50924
 GaAs (110)-metal interfaces, Fermi level pinning, role of chemisorption-induced defects 4-6889
 GaAs, amorphised, hopping and band transport 4-25338
 GaAs, MBE, surface and interface electronic struct., photoemission, LEED studies 4-20524
 GaAs:B (111), optical consts. temp. depend., 20 to 400°C 4-56876
 GaAs:Be, shallow implantation, spectroscopic ellipsometry and Raman scatt. anal. 4-50327
 GaAs:Be layers, implanted, substrate for MBE grown GaAs photoluminescence intensity meas. 4-20514
 GaAs:C, defect states, thermodynamic calcs. 4-39819
 GaAs:C, localised vibr. mode of C, cluster Bethe lattice treatment 4-2294
 GaAs:C, semi-insulating, LEC-grown, C shallow acceptors study 4-40624
 GaAs:Cr, deep level trapping dynamics, freq.-domain study 4-11472
 GaAs:Cr, impurity IR absorption spectra, shape and temp. depend. (*Russian*) 4-40487
 GaAs:Cr, impurity state, photoacoustic study 4-20994
 GaAs:Cr, interstitial Cr diffusion coeff. and Cr complexes 4-6560
 GaAs:Cr, S, Cr redistrib. under annealed S implants 4-29697
 GaAs:Cr, semi-insulating, Cr lattice location by ion channelling and X-ray emission 4-39328
 GaAs:Cr, semiinsulating, dislocation grain boundaries, photoEMF, photoconductivity spectra 4-15919
 GaAs:Cr, semiinsulating, impurity charge, EPR, IR spectra, photocond. studies 4-35469
 GaAs:Cr, Si, ion implanted, annealing of amorphous layers 4-39325
 GaAs:Cr, single crystal growth by gradient freeze method 4-46431
 GaAs:Cr, strong phonon scatt., applied stress effects 4-50446
 GaAs:Cr, thermally converted, defect profiles, photoluminescence spectra 4-2965
 GaAs:Cr,Mn, semi-insulating, dopant redistribution during annealing 4-39330
 GaAs:Cr (100), surface morphology following O₂⁺ and Cs⁺ bombardment, SEM study 4-45477
 GaAs:Cr²⁺, electronic and Jahn-Teller parameters, APR spectrum 4-16089
 GaAs:Cr(O), extrinsic photoconductivity, thermal quenching behaviour 4-50869
 GaAs:Er, 1.54 µm photolum. obs. 4-21001
 GaAs:Er³⁺(Yb³⁺), rare earth activated luminesc. 4-35480
 GaAs:Fe³⁺, excited states, ESR and Hall effect studies 4-11480
 GaAs:Ge(Sn), LPE growth rate 4-34831
 a-GaAs:H, amorphous and microcryst., electronic struct., photoemission spectra 4-39767
 GaAs:H (110) Ga-H defect sites, photon stimulated desorption studies 4-45851
 GaAs:H sputtered thin film, RBS anal. 4-45546
 GaAs:H(D), implanted, damage ranges meas. 4-45157
 GaAs:I, impurity bond lengths, Mossbauer study 4-20140
 GaAs:In, photoluminescence study (*Russian*) 4-7249
 GaAs:Mg, ion implantation, cathodoluminesc. study and computer simulation 4-21047
 GaAs:Mn, ion implanted, Mn accumulation, Fermi energy and annealing studies 4-34648
 GaAs:Mn, mag. susceptibility, Hall effect meas., Jahn-Teller strain energy 4-15854
 GaAs:Mn, structural defects, ESR studies 4-25631
 GaAs:Ni, double acceptor state, piezoabsorption and Zeeman studies 4-50757
 GaAs:O, O midgap level, DLTS study 4-45667
 GaAs:S(Si), ion implantation, use of RBS and PIXE for site determ. 4-45147
 GaAs:Sb epitaxial films, edge photoluminescence spectra 4-2967
 n-GaAs:Sb epitaxial films, photoconductivity study 4-56390
 GaAs:Se, donor-level deepening under hydrostatic press., photoluminesc. study 4-21011
 GaAs:Se, grown by MBE, growth conditions influence on Se incorporation 4-50323
 GaAs:Se, implanted, deep levels, TSC and photolum. studies 4-2542
 GaAs:Se, implanted, electron-beam annealed, electron microscopy study 4-20229
 GaAs:Se, ion implanted, annealing, amorphisation and recrystn., high resolution TEM study 4-50319
 GaAs:Si, annealing effect on elec. and optical props. 4-25339
 n-GaAs:Si, Be-implanted, p-v-n junction form. by swept line electron beam annealing 4-50359
 GaAs:Si, focused Si ion implantation 4-20224
 GaAs:Si, ion implanted, laser annealing, photoacoustic spectra study 4-20242
 GaAs:Si, ion implanted, SiO₂N_y capped annealing, elec. activation 4-50829
 GaAs:Si, LEC grown, dislocations study 4-34499
 GaAs:Si, MBE growth, Si doping, As₄/Ga flux ratio dependence 4-21143
 GaAs:Si, MBE growth, Si doping, compensation effects 4-40651
 n-GaAs:Si, selective etching and photoetching of {100} surface in aq. CrO₃-HF solns. 4-15471
 GaAs:Si as-grown single crystals, microdefects and their behaviour (*Chinese*) 4-20220

gallium arsenide continued

- GaAs:Si, dislocation-free single crystals grown by LEC procedure 4-21125
 GaAs:Si encapsulated in Si₃N₄, free carrier conc. and Hall mobility 4-50693
 GaAs:Si LEC crystals, Si doping effect on elec. props. 4-6810
 GaAs:Si MBE films, Si doping, photoluminescence studies 4-11160
 GaAs:Si(Se)(S), shallow ion implantation, elec. and structural props. 4-45166
 GaAs:Sn, diffusional doping from spin-on film sources, review 4-50586
 GaAs:Sn, low pressure metalorganic VPE growth 4-25892
 GaAs:Sn, MBE growth, Sn doping, surface segregation, kinetic limitations 4-35570
 GaAs:Ta, luminesc. of Ta centres 4-25806
 GaAs:Te, (111) face capture, diffusion limited impurity transport in GaAs:AsCl₃-H₂ system 4-39932
 GaAs:Te, heavily doped, plasma-assisted epitaxy, nonalloyed ohmic contact appl. 4-21165
 GaAs:Te, heavily doped, photoluminescence study 4-40502
 GaAs:Te, IR optical susceptibilities of (001) face surface electrons under weak modulation fields 4-2931
 GaAs:Te, impurity distrib. around dislocations 4-11175
 n-GaAs:Te,Ge epitaxial layer, edge photoluminescence, compensation effects 4-11938
 GaAs:Te/Ag, inelastic electron scatt., semicond. surface vibr. spectrum, effect of cond. overlayer 4-57051
 GaAs:W, luminesc. spectra, cryst. field theory, Tanabe-Sugano diagrams 4-35486
 GaAs:Zn, diffusion masks using CVD-SiO₂ and plasma-SiN_x films 4-50326
 GaAs:Zn, elec. props. rel. to implantation conditions 4-34980
 GaAs:Zn, implanted, IR rapid annealing 4-20217
 GaAs:Zn, implanted p⁺ layers, electron beam annealing, profile broadening control 4-50355
 GaAs:Zn, ion implantation, diffusion and segregation 4-34506
 GaAs:Zn, ion implanted, heavy doping, enhanced activation 4-39316
 GaAs:Zn, ion implanted with minimised annealing redistribution 4-15498
 GaAs:Zn, leaky tube diffusion, SiO₂ sputtered coating for surface protection 4-15497
 GaAs:Zn epitaxial film, dopant conc., SIMS anal. 4-45173
 p-GaAs:Zn injection laser, emission spectrum, relaxation time broadening 4-10296
 n-GaAs/(Se²⁻/Se₂⁻) liq. junction solar cell, redox stabilised, anal. 4-36009
 GaAs/A-Si-Ge-B Schottky contact with large barrier height, MESFET appl. 4-15934
 GaAs/Al interface reaction, XPS studies (*Chinese*) 4-50647
 GaAs/Al_{0.7}Ga_{0.3}As heterostructure, 2D electron gas, negative magnetoresist. and inelastic scatt. time 4-50912
 GaAs/AlAs superlattices, characterisation by laser-Raman spectroscopy 4-34807
 GaAs/AlGaAs injection laser-Cu heat sink system, internal stresses 4-5617
 GaAs/AlGaAs lasers, blistering of Ti/Pt ohmic contacts 4-26107
 GaAs/Au/Ni/Au-Ge ohmic contacts, contact resist. and interface struct. 4-29827
 GaAs/Au-Ge ohmic contacts, redistributed component mapping after laser annealing 4-34806
 n-GaAs/Cr, Schottky barrier diode, deep levels 4-6862
 GaAs/Ga_{0.7}Al_{0.3}As selectively doped heterostruct., transport. props. 4-35054
 GaAs/Ga_{1-x}Al_xAs quantum well struct., Wannier excitons, energy levels 4-50733
 GaAs/Ga_{1-x}Al_xAs quantum well struct., hydrogenic donor energy levels, nonparabolicity effects 4-50916
 GaAs/GaAlAs DH lasers, LPE growth method 4-35587
 GaAs/GaAlAs gain and index guided lasers, linewidth broadening due to competition noise 4-38484
 GaAs/GaAlAs graded-index separate-confinement heterostruct. quantum well laser structure 4-49353
 GaAs/GaAlAs heterojunctions, electron dynamics in two-dimensional electron gas, study by Monte Carlo method (*French*) 4-11584
 GaAs/GaAlAs injection laser with separated mirrors 4-49362
 GaAs/GaAlAs large period superlattices, folded acoustical phonon dispersion 4-2290
 GaAs/GaAlAs low threshold current GRIN-SCH stripe lasers grown by organometallic VPE 4-24012
 GaAs/GaAlAs quantum well high-speed optical modulator in p-i-n diode struct. 4-35047
 GaAs/GaAlAs semiconductor laser, beam-scannable light source, superluminescent mod. grating coupler design 4-19469
 GaAs/Ge MBE-grown heterostructures and superlattices, interface studies 4-15774
 GaAs/InAs MBE-grown heterostructures and superlattices, interface studies 4-15774
 GaAs/metal struct., interface states, Schottky capacitance spectra studies 4-15929
 GaAs/N-AlGaAs, selectively doped MBE heterostruct., high electron mobility 4-25427
 GaAs/n-AlGaAs heterojunction, MBE growth, FET apps. 4-16327
 n⁺-GaAs/n-ZnSe, rectifier photoelectric effect in heterogeneous transitions on X-ray excitation 4-54559
 GaAs/Pd interface, Fermi level pinning and chem. reactivity, XPS study 4-40043
 GaAs/Si_{0.5}Ge_{0.5} heterojunction systems, radiation-stimulated gettering of struct. defects 4-30067
 GaAs/W contacts, ohmic character monitoring by one-probe technique 4-32272
 GaAs-(Al,Ga)As junctions, magnetophonon reson. (*French*) 4-25246
 GaAs-(AlGa)As broad-contact single heterostruct. laser diode, thermal props. 4-55041
 GaAs-(AlGa)As DH broad-contact laser diodes, static thermal props. 4-10304
 GaAs-(AlGa)As heterostructure, modulation doped, electron mobilities 4-6877
 GaAs-(AlGa)As stripe-geometry DH laser diodes, thermal props. 4-55042
 GaAs-(AlGa)As twin mesa laser integrated with a passive waveguide 4-10299
 GaAs-(GaAl)As semiconductor laser, wavelength-stabilized design 4-1410

gallium arsenide continued

- GaAs-Ag Schottky diodes, \odot O₂ and temp. induced modification (*French*) 4-56126
- GaAs-Ag(Au)(Al), correl. between prep. method, barrier height and interface states (*French*) 4-6888
- GaAs-Al interface, reson. excitation of IR surface second harmonic 4-10373
- GaAs-Al Schottky diode, effect of interfacial layer doped with opposite type impurities (*Chinese*) 4-40016
- GaAs-Al_{0.3}Ga_{0.7}As DH lasers with two sections in common cavity, steady state characts. (*Chinese*) 4-5585
- GaAs-Al_{0.6}Ga_{0.4}As multiple quantum well structs., MOCVD grown, stimulated emission 4-40480
- GaAs-Al₁Ga_{1-x}As, low temp. fractional quantum Hall effect 4-20675
- GaAs-Al₁Ga_{1-x}AsSi doped quantum well struct., photolum., anomalous polarisation 4-2962
- GaAs-Al₁Ga_{1-x}As DH rib waveguide electro-optic directional coupler switch 4-24254
- GaAs-Al₁Ga_{1-x}As heterostructure, electron gas, a.c. conductivity study 4-11581
- GaAs-Al₁Ga_{1-x}As heterostructure, 2D electron gas, parabolic negative magnetoresist. 4-25432
- GaAs-Al₁Ga_{1-x}As heterostructure, localisation of two-dimensional electrons 4-40005
- GaAs-Al₁Ga_{1-x}As MBE grown DH and multiple quantum well lasers 4-14696
- GaAs-Al₁Ga_{1-x}As multiple quantum well heterostrucs., spontaneous and stimulated photoluminesc. 4-16250
- GaAs-Al₁Ga_{1-x}As modulation doped quantum well heterostrucs., carrier density distrib. 4-20712
- GaAs-Al₁Ga_{1-x}As multiple quantum well struct., free excitons in room temp. photolum. 4-30518
- GaAs-Al₁Ga_{1-x}As micromechanical elements, fabrication and vibration monitoring appl. 4-53667
- GaAs-Al₁Ga_{1-x}As quantum well structures, recomb. enhancement due to carrier localisation 4-7234
- GaAs-Al₁Ga_{1-x}As quantum well heterostruct., p-doped, photolum. effects of longitudinal elec. field 4-21002
- GaAs-Al₁Ga_{1-x}As quantum wells, acceptor binding energies 4-30039
- GaAs-Al₁Ga_{1-x}As system, parabolic quantum wells, photolum. meas. 4-56995
- GaAs-Al₁Ga_{1-x}As waveguide ion beam etching for integrated optical appl. 4-44261
- n⁻GaAs-Al₁Ga_{1-x}As-n⁺-GaAs SIS capacitors, resonant Fowler-Nordheim tunneling 4-40017
- GaAs-AlAs multi-quantum-well struct., excitons, luminescence 4-46328
- GaAs-AlAs MIS structures, elec. characts. 4-6906
- GaAs-AlAs multiple-quantum-well structs., laser heating, luminesc. study 4-46301
- GaAs-AlAs superlattice, MBE grown, refr. index meas. 4-16175
- GaAs-AlAs/Si, for high efficiency cryst. solar tandem cells 4-21542
- GaAs-AlGaAs etalon, room-temp. low-power optical bistability obs. using diode laser 4-49426
- GaAs-AlGaAs heterostructures, dimensional resonance study 4-11582
- GaAs-AlGaAs heterostructures, Hall effect studies 4-11583
- GaAs-AlGaAs heterostructure, MBE grown, recent developments and device appls. 4-15952
- GaAs-AlGaAs heterostructure layers with high optical quality, MBE growth 4-16325
- GaAs-AlGaAs heterostructures, modulation-doped, hot electrons 4-40027
- GaAs-AlGaAs heterostructures, hot electron transport, expt. anal. 4-40038
- GaAs-AlGaAs heterostrucs., quantized Hall effect device, resistance std. 4-45871
- GaAs-AlGaAs integrated laser phased arrays, longit.-mode control by phase vel. matching 4-38466
- GaAs-AlGaAs leaky optical waveguide with four layers, Maxwell eqns. anal. (*Chinese*) 4-38576
- GaAs-AlGaAs modulation doped heterojunctions, two-dimens. hole system, mobility 4-40026
- GaAs-AlGaAs multiple quantum wells and bulk GaAs, photoexcited, hot carrier relaxation 4-56361
- GaAs-AlGaAs ridge-waveguide DH lasers, MBE growth 4-14724
- GaAs-AlGaAs single and multi-quantum well structs., MOCVD growth 4-51507
- GaAs-AlGaAs single quantum well, improvements using thin superlattice buffers 4-51310
- GaAs-AlGaAs stripe-geometry lasers with self-existent waveguiding, stripe-contact lasers and lasers with high-resist. lateral layers (*Polish*) 4-33688
- GaAs-AlGaAs surface emitting laser diode with multilayered heterostructure reflectors 4-14723
- GaAs-Al(Ag)(Fe), MBE, growth mechanisms, electron diff., AES, EELS studies 4-20525
- GaAs-Au interfacial reactions study by TEM 4-39699
- n-GaAs-Au(Ag) MIS Schottky barriers, interfacial charges in oxide layer investig. 4-20733
- GaAs-CdSe, phase equilibria, mol. interaction 4-57194
- GaAs-dielectric interfaces, surface Fermi level 4-6904
- GaAs-Ga_{1-x}Al_xAs heterojunction, doping considerations, low temp. mobility 4-20708
- GaAs-Ga_{1-x}Al_xAs multiple-quantum-well structures, hydrogenic impurity ground state 4-6872
- GaAs-Ga_{1-x}Al_xAs superlattices, MOCVD growth and struct. study 4-20498
- GaAs-GaAlAs DH lasers with ion beam etched facet 4-24020
- GaAs-GaAlAs DH laser, static field model with cavity longit. effects 4-28687
- GaAs-GaAlAs double quantum wells, bound and virtual bound states 4-46330
- GaAs-GaAlAs heterojunction, electrorefl. and spectroscopic ellipsometry 4-51389
- GaAs-GaAlAs heterostructures, LPE growth, Al conc. in subsurface region 4-7375
- GaAs-GaAlAs laser diodes, stress compensation 4-1392
- GaAs-GaAlAs optical waveguides, MOCVD grown, low losses, attenuation meas. 4-24179
- GaAs-GaAlAs staircase heterostruct., transient electronic transport, Monte Carlo simulation 4-30059
- GaAs-GaInAs heterojunction, Fermi level pinning by misfit dislocations 4-6871
- gallium arsenide continued**
- GaAs-GaP/Si, for high efficiency cryst. solar tandem cells 4-21542
- GaAs-Ge abrupt heterojunctions, valence band discontinuities, effect of crystallographic orientation 4-6876
- GaAs-Ge heterostructures, band bending during formation, in situ study 4-30062
- GaAs-Ni(Pd) Schottky-barrier contact, evaluation of surface state spectrum 4-20725
- GaAs-oxide interface, AES depth profiles anal., electron escape depth (*Chinese*) 4-6894
- GaAs-Pd Schottky barrier diodes, capacitance-voltage characts., effect of H₂ adsorption 4-20722
- GaAs-Pt buried Schottky barrier, interface states, DLTS study 4-40015
- GaAs-Pt interface anal. by Rutherford backscatt. and AES (*Chinese*) 4-39692
- GaAs-SiO₂, strain effects in SiO evaporated layers, piezobirefringence study 4-6676
- GaAs-SiO₂ interface, AES depth profiles anal., electron escape depth (*Chinese*) 4-6894
- GaAs-ZnSiAs₂ solid soln., H ion irradi., elec. props. 4-29977
- GaAsP, form. by ion implantation and annealing, Schottky contact study 4-50317
- GaAsP strained-layer superlattices, independently variable band gaps and lattice consts. 4-2465
- GaAsP:Cr, deep level photoluminesc. 4-40497
- GaAs_{0.1}P_{0.9}Si, recomb. mechanism, cathodoluminesc. study 4-57001
- GaAs_{1-x}P_x (110) surface, electronic and atomic struct. calcs. 4-6851
- GaAs_{1-x}P_x, dielec. function and derivative spectra by ellipsometry, Fourier analysis 4-46222
- GaAs_{1-x}P_x, energy band struct. calcs. 4-29884
- GaAs_{1-x}P_x, γ -ray induced defects, recombination-enhanced annealing 4-20252
- GaAs_{1-x}P_x, MOVPE grown, luminesc. props. and deep electron traps 4-25794
- GaAs_{1-x}P_x photoelements as UV detectors, physical props. 4-20692
- GaAs_{1-x}P_xN_{1-x}Te VPE layers, minority carrier lifetime, photoluminesc. meas. 4-51333
- GaAs_{1-x}P_xN_{1-x}, spectral props., impurity effects 4-20995
- GaAs_{1-x}P_yGa_x strained layer superlattices, two-dimens. electron gas obs. 4-15938
- GaAsP_{1-x} solid soln., phase state change with pulsed annealing 4-55875
- GaAsP_{1-x}GaP, MOCVD grown, strained-layer superlattice structures, planar channelling studies 4-45223
- GaAs_{0.5}Sb_{0.5}, organometallic VPE growth 4-57104
- GaAs_{1-x}Sb_x, electroliquid epitaxy 4-40693
- GaAs_{1-x}Sb_x, low-temp. edge photoluminesc., shallow impurity position correl. 4-30527
- GaAs_{1-x}Sb_x, OMVPE growth solid comp. 4-39713
- GaAs_{1-x}Sb_x, organometallic VPE growth 4-30646
- GaAs_{1-x}Sb_x p-n junctions, reverse current, influence of dislocations 4-25435
- GaAsSb_{1-x} active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
- GaAs_{1-x}Sb_xP_y, photocurrent spectral dependence 4-56391
- GaAs(110)-Al interface, reson. photoemission 4-30599
- GaInAs, OMVPE growth, morphology, solid comp., optical and elec. props. 4-46441
- GaInAs, organometallic VPE growth, photoluminescence characterization 4-51509
- GaInAs photocathodes, Cs-O activating coating props., XPS study 4-21103
- GaInAs quantum-well laser, linewidth enhancement factor 4-28685
- GaInAs/AlInAs single quantum wells, photoluminesc. props. 4-2949
- GaInAs/InP heterojunctions, electron dynamics in two-dimensional electron gas, study by Monte Carlo method (*French*) 4-11584
- Ga_{0.47}In_{0.53}As layers, MBE, lattice matched to InP substrate, mobilities 4-40658
- Ga_{0.47}In_{0.53}As, MBE growth on InP substrate, elec. props. 4-16326
- Ga_{0.47}In_{0.53}As, proton bombardment in n- and p-type material, resist. increase 4-2222
- Ga_{0.47}In_{0.53}As:Mn, pure and doped epitaxial layers, photoluminescence study 4-51339
- Ga_{1-x}In_xAs, EXAFS study 4-30563
- Ga_{1-x}In_xAs epitaxial layers, grown with transition layer, elec. props. 4-50959
- Ga_{1-x}In_xAs, graded epitaxial layers, characterisation, SEM developments 4-24698
- Ga_{1-x}In_xAs, ternary mixed crystals, thermoelec. power 4-25384
- Ga_{1-x}In_xAs-dielectric interfaces, surface Fermi level 4-6904
- GaInAsP 1.3 μ m monomode laser modules for 565Mb/s and higher rate optical transmission 4-33691
- GaInAsP BH heterostructure optical waveguide branches and bends, low-loss, LPE growth 4-38574
- GaInAsP, LPE growth on GaAs (100) by two-phase soln. technique 4-40679
- GaInAsP laser heterostructures, automated LPE apparatus for preparation 4-30652
- GaInAsP/InP high quality 1.3 μ m BH-DFB lasers with first-order gratings 4-5615
- GaInAsP-InP DH lasers, carrier leakage effects obs. in strong mag. fields 4-38487
- Ga_{1-x}In_xAs_{1-y}P_y, disordered, band calc., variational multiple scatt. method 4-45618
- Ga_{1-x}In_xAs_{1-y}P_y lattice matched to InP grown by MOCVD, alloy composition and flow rates 4-21155
- Ga_{1-x}In_xAs_{1-y}P_{1-y}Ga_yIn_{1-x}As_{1-y}P_{1-y} DH visible injection laser, room temp. pulsed operation 4-55032
- Ga_{1-x}In_xAs_{1-y}Sb_{1-y}, liquid phase epitaxy 4-51555
- GaInPAs epitaxial layers, substrate-induced stabilisation on GaAs and InP, theory 4-39709
- Ga_{1-x}In_xP_{1-y}As_{1-y} solid solns., intrinsic defects conc. calc., deviation from stoichiometry 4-24812
- GaP, amorphised, hopping and band transport 4-25338
- GaP-LiInSe₂ p-n heterojunctions, fabrication by LiInSe₂ vacuum evaporation 4-25886
- GaSb_{1-x}As_x lattice vibr., CPA calc. 4-55944
- Ge/GaAs (110) interface form., MBE growth, effect of substrate temp. 4-6671
- Ge/GaAs heterojunction, Ge MBE growth, photoemission study 4-35039

gallium arsenide continued

- (Ge₂)₃(GaAs)_{1-x}, MBE growth and phases separation, TEM studies 4-56012
- InAs-GaAs high-electron mobility monolayer superlattice 4-15936
- In_{1-x-y}Ga_xAl_yAs:Mn, MBE growth, doping and elec. characts. 4-30636
- InGaAs avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
- InGaAs films, LPE, carrier conc., Hall mobility, Al addition gettering effect 4-46456
- InGaAs, MOCVD growth using new AsH₃ cracking method 4-21153
- InGaAs photodiodes, colour multiplexing for optical information transmission, technological developments (Czech) 4-1509
- InGaAs:Zn, diffusional doping from spin-on film sources, review 4-50586
- InGaAs/GaAs strained layer superlattices, ion channelling studies 4-20271
- InGaAs/GaAs strained layer superlattices, strain meas. by channeling angular scans 4-20272
- InGaAs/InP 1.65 μ m GH lasers, molecular beam and liquid phase epitaxy growth, aging 4-33654
- InGaAs/InP lasers, facet oxidation 4-28742
- InGaAs/InP n-n heterojunction, deep levels, capacitance and DLTS studies 4-25425
- InGaAs/InP photodetectors for fibre optic appls. 4-4464
- InGaAs/InP VPE layers, background carrier conc. and X-ray linewidth 4-50957
- InGaAs/InP waveguided optical switch using free-carrier plasma dispersion 4-49575
- In_{0.2}Ga_{0.8}As-GaAs strained-layer superlattices, electron mobilities 4-11576
- In_{0.53}Ga_{0.47}As growth by molecular beam epitaxy on InP (French) 4-25888
- In_{0.53}Ga_{0.47}As LPE on (100)-InP substrates at low growth temps., Hall meas. 4-21171
- In_{0.53}Ga_{0.47}As, of Cd, exam. rel. to device fabrication 4-34713
- n-In_{0.53}Ga_{0.47}As:Be, implantation doping 4-50315
- In_{0.53}Ga_{0.47}As/InP multiple quantum-well laser, optically pumped, chloride VPE grown, lasing characts. study 4-28688
- In_{0.53}Ga_{0.47}As/InP photoexcited lasers, quantum-well heterostruct., threshold pumping power temp. depend. study 4-28739
- In_{0.53}Ga_{0.47}As/InP quantum well heterostruct. lasers, VPE in multiple chamber reactor 4-21147
- In_{0.53}Ga_{0.47}As/plasma oxide MOS structs., inversion layers, low field electron mobility 4-45884
- In_{0.53}Ga_{0.47}As:Fe, LPE, dopant compensation 4-40688
- In_{1-y}Ga_yAs, electronic struct., chem. and struct. disorder effects 4-25216
- In_{1-y}Ga_yAs, LPE growth using source current control of composition 4-40678
- In_{1-y}Ga_yAs, VPE growth by trichloride method, thermodynamic model 4-40660
- In_xGa_{1-x}As strained-layer quantum-well injection lasers 4-55028
- In_xGa_{1-x}As-GaAs, strained-layer superlattices, axial channelling and He ion backscattering studies 4-45220
- In_xGa_{1-x}As-GaAs superlattice, Zn diffusion induced disorder 4-20407
- InGaAsP 1.3 μ m and 1.5 μ m BH lasers improved perform., depend. on technological parameters 4-23991
- InGaAsP 1.3 μ m diode laser, carrier-induced index change 4-23983
- InGaAsP, absorpt. coeff., band struct., IR spectra 4-35403
- InGaAsP BH injection laser coupled to GRINROD external cavity, single longit. mode operation 4-1422
- InGaAsP BH laser, 1.55 μ m, solitary spectral linewidth reduction with external grating feedback 4-19451
- InGaAsP buried crescent lasers, orientational dependent growth kinetics influence on performance 4-38467
- InGaAsP, CD(Zn) diffusion for p-n junction formation 4-20405
- InGaAsP DFB, double channel, planar buried heterostruct. laser diode, modulation characts. 4-55031
- InGaAsP DFB lasers, ageing characts. 4-23993
- InGaAsP DH laser, heat treatment effects 4-44104
- InGaAsP DH lasers, 1.3- μ m, subnanosecond optically excited, threshold temp. dependence 4-49358
- InGaAsP, defects study by scanning acoustic microscopy 4-6361
- InGaAsP diode laser, real-time meas. of picosecond optical pulses 4-1426
- InGaAsP double heterostructures, optical study for injection laser applications 4-30507
- InGaAsP epilayers, optically induced catastrophic degradation lines 4-39703
- InGaAsP epitaxial layers, photoelectric emission study 4-21105
- InGaAsP external cavity laser, intensity fluctuations meas. 4-49354
- InGaAsP film lasers, chirped picosec. pulses, time-depend. wavelength evaluation 4-24041
- InGaAsP injection lasers, amplitude fluctuations and photon statistics 4-23977
- InGaAsP injection lasers, 11.2 GHz ps optical pulse generation by HF direct modulation 4-49408
- InGaAsP laser material evaluation by optical pumping with 1.06 μ m Nd:YAG laser radiation 4-23976
- InGaAsP laser structures, optically induced catastrophic degradation 4-34478
- InGaAsP laser under 130 ps. elec. pulse pumping, threshold current temp. depend. 4-49349
- InGaAsP lasers, 1.3 μ m, screening at high temp. and current by EL mode ageing 4-14717
- InGaAsP lasers, 1.3 μ m, AM quantum noise 4-28686
- InGaAsP lasers, Auger recomb. temp. depend., expt. study 4-33697
- InGaAsP lasers, cleaved-coupled-cavity, 1.5 μ m, single mode operation 4-1390
- InGaAsP lasers, gain guided, threshold characts. rel. to Auger recomb. 4-14689
- InGaAsP lasers, threshold current temp. sensitivity, dependence, on P-cladding layer doping level 4-19450
- InGaAsP lattice matched to InP, composition depend. of spin-orbit splitting 4-2563
- InGaAsP lightly doped lasers, radiative and nonradiative recomb. anal. 4-19452
- InGaAsP lightly-doped lasers, radiative and nonradiative recombination law anal., comment and reply 4-1394
- InGaAsP photocathodes, Cs-O activating coating props., XPS study 4-21103
- InGaAsP three-channel buried crescent laser, 1.51 μ m wavelength, LPE 4-49394

gallium arsenide continued

- InGaAsP/InP, double-channel planar BH laser diode, 1.3 μ m single-longit. mode operation 4-1407
- InGaAsP/InP 1.3 μ m double-channel planar buried heterostruct. laser with reflective coated mirror, ageing test 4-19455
- InGaAsP/InP 1.3 μ m BH lasers, V-grooved, catastrophic degradation by large pulsed currents 4-33655
- InGaAsP/InP BH lasers, 1.3 μ m high-power operation and characts. (Japanese) 4-5607
- InGaAsP/InP buried crescent lasers with separate optical confinement 4-14706
- InGaAsP/InP buried crescent lasers, stable CW operation at high temp. 4-23992
- InGaAsP/InP channelled substrate BH laser using Fe⁺ implant for current confinement, LPE growth 4-38472
- InGaAsP/InP DH, 1.3 micron emission, elec. characts. study using line diagram method 4-56424
- InGaAsP/InP DH lasers, 1.3 and 1.5 μ m, excitations in split-off valence band 4-19449
- InGaAsP/InP double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
- InGaAsP/InP double heterostruct., edge luminescence band profile 4-51340
- InGaAsP/InP heterostructures, spectroscopic electroreflectance and ellipsometry (French) 4-11866
- InGaAsP/InP heterojunctions, field and hot carrier enhanced electron leakage, model calc. 4-25430
- InGaAsP/InP heterostructure, lattice mismatch causes 4-30523
- InGaAsP/InP heterolaser strips, hybrid technology fabrication 4-49401
- InGaAsP/InP LEDs, field and hot carrier enhanced electron leakage, model calc. 4-25430
- InGaAsP/InP lasers, field and hot carrier enhanced electron leakage, model calc. 4-25430
- InGaAsP/InP lasers, 1.5 μ m, NH₃ and H₂O spectral measurements for pollutant gas monitoring 4-26346
- InGaAsP/InP lasers, facet oxidation 4-28742
- InGaAsP/InP lasers, 1.5 μ m, wavelengths and material consts. meas. 4-38476
- InGaAsP/InP multilayers grown by MBE, hillock defects 4-50675
- InGaAsP-InGaP-GaAs DH laser, lasing threshold, temp. depend. 4-14693
- InGaAsP-InP, refr. index in transparent region, Brewster angle meas. 4-24252
- InGaAsP-InP channelled substrate BH lasers, improved linearity and kink criteria 4-49355
- InGaAsP-InP DFB ridge-waveguide lasers, 1.5 μ m, CW operation 4-49395
- InGaAsP-InP DFB double-channel planar BH laser diodes, antireflection-coated, CW single longit. mode operation 4-49396
- InGaAsP-InP DH rib waveguides, electrooptical modulation 4-24255
- InGaAsP-InP DH wafers, optical props., effect of proton bombard., rel. to lasing characts. (Chinese) 4-38473
- InGaAsP-InP double heterostructure, electron-hole plasma, luminescence and Auger studies 4-56426
- InGaAsP-InP heterostructures, nonequilibrium carrier redistribution, photoluminescence study 4-6882
- InGaAsP-InP LPE double heterostructure, cathodolum. anal. 4-35497
- InGaAsP-InP laser integration with FET 4-55068
- InGaAsP-InP microclensed edge emitting LEDs for long haul optical fibre systems 4-5707
- InGaAsP-InP Q-switched cleaved-coupled-cavity laser with integrated intracavity modulator 4-28716
- InGaAsP-InP ridge waveguide laser, 1.55 μ m, low threshold current 4-1408
- InGaAsP-InP:Cr semiconductor buried-crescent type laser (Japanese) 4-55040
- In_{0.75}Ga_{0.25}As_{0.6}P_{0.4}, band-to-band Auger recomb., effect of anisotropic band parameters 4-45810
- In_{0.75}Ga_{0.25}As_{0.58}P_{0.42}, LPE grown, electron traps, MOS-DLTS method (Chinese) 4-50752
- In_{1-y}Ga_yAs_{1-y}P_y DH lasers, 1.3- μ m, carrier leakage, spatially resolved obs. 4-49357
- In_{1-y}Ga_yAs_{1-y}P_y epitaxial layers, four-mode behaviour, Raman scatt. 4-30545
- In_{1-y}Ga_yAs_{1-y}P_y/InP, internal strain and photoelastic effects 4-16178
- In_{1-y}Ga_yAs_{1-y}P_y/InP heterojunction interface, LPE grown, compositional transition layer study using AES 4-25165
- In_{1-y}Ga_yAs_{1-y}P_y/InP LPE layers, growth temp. effect on lattice mismatch 4-7374
- In_xGa_{1-x}As_{1-y}P_y, LPE growth and surface morphology on GaAs (100) 4-40677
- In_xGa_{1-x}As_{1-y}P_y layers, high temp. LPE, electron Hall mobility, scatt. mechanism 4-40087
- In_{1-y}Ga_yAs_{1-y}Sb_y quaternary alloy heterojunction band discontinuities 4-45868
- InGaP-InGaAs-InGaP heterostruct. diode, fabrication, room temp. lasing 4-49364
- InGaPAs:N solid soln. epitaxial struct., luminesc. and photoelec. props. 4-21029
- In_{1-y}Ga_yP_{1-y}As_y, quaternary alloy heterojunction band discontinuities 4-45868
- In_{1-y}Ga_yP_{1-y}As_y/InP waveguide struct., DH laser active layer thickness 4-38580
- InP/InGaAsP aged LEDs, dark spot defects 4-56999
- InP-InGaAsP emitters, sources of defects 4-25189
- Ti-Pt bilayer ohmic contacts for metallisation, stresses anal. 4-20499

gallium compounds

- see also gallium alloys; gallium arsenide
- (111) and (111) surfaces, octanole-2 liquid spreading anisotropy (Russian) 4-25124
- AlGaAs heterojunction concentrating solar cell arrays for high conversion efficiency 4-31087
- intercalation cpd. with graphite, GaCl₃-graphite, elec. resist. studies 4-39869
- light scatt. intensity from plasmaritons 4-30484
- phthalocyanine electrodes, photoelectrochem. response using two-photon photocurrent spectroscopy 4-45877
- rare earth compounds, (RO)₂Ga₂S₅, R=La, Ce, Pr, Nd, Sm, cryst. struct. determ. 4-50266

gallium compounds continued

- AgGaS₂ crystal, SHG of CO₂ TEA 10.6 μ m laser light (*Chinese*) 4-49450
- AgGaS₂, microscopic scatt. centres, optical and SEM study 4-29425
- AlGaInP/GaInP/AlGaInP DH visible lasers, MOCVD growth and room temp. pulsed operation 4-19443
- Al_{1-x}-Ga_xIn₂P, band struct., virtual cryst. approx. 4-56215
- Al_{1-x}Ga_{1-x}N, reactive MBE growth and optical characterisation 4-16328
- Al_{1-x}Ga_{1-x}P, high excitation photo- and electroluminesc. 4-21008
- Al_{0.4}In_{0.2}As/Ga_{0.4}In_{0.3}As interdigitated photoconductive detectors 4-37170
- Ca₃Ga₂Ge₂O₁₂ garnet, growth macrodefects 4-39285
- Ca₃Mn₂Ga₂(U-x)Ge₂O₁₂ garnets, cooperative Jahn-Teller effect 4-34920
- CdGa₂S₄, defect chalcopyrite cryst., Raman scatt. 4-30457
- CdGa₂Se₄, defect chalcopyrite cryst., Raman scatt. 4-30457
- CdGa₂Se₄, radiated recombination meas. 4-11936
- CdGa₂Te₄ amorphous Z 4-50688
- CdInGaS₄, layered cpd., photolum. meas. 4-30500
- CdInGaS₄, ordered phase struct. and domain struct., electron microscopy and electron diff. study 4-39529
- β -CoGa₂S₄, unit cells and cryst. struct. 4-11089
- CsGa₂H(SO₄)₂·2H₂O, cryst. struct. determ. 4-45091
- (Cu_{1-x}Ag_x)(Ga_{1-x}In_x)(Se_{1-x}Te_x)₂, lattice parameter and optical-energy gap values 4-29392
- CuGaS₂, photolum. and heterostruct. formation with sputtered ZnS 4-30498
- CuGaS_{2-x}Se_x, Raman spectra obs. 4-30455
- CuGaSe₂, optical props. study 4-30488
- β -FeGa₂S₄, unit cells and cryst. struct. 4-11089
- GaAP, polycryst. thin films for solar cells, growth technology 4-7366
- Ga_{1-x}Al_xAs_{1-y}Sb_y, quaternary alloy heterojunction band discontinuities 4-45868
- Ga_{1-x}Al_xSb on GaSb, LPE grown, Zn diffusion and appl. to IR detection (*French*) 4-56086
- Ga_{1-x}Al_xSb(x=0.17) 1.3-1.6 μ m photoconductors (*French*) 4-22838
- Ga(As, Sb) active layer lasers, photoluminescence changes and facet coating procedures 4-56972
- GaAsGe, neutron transmutation doping elec. and optical characterisation 4-34507
- GaAs-GaP/Si, for high efficiency cryst. solar tandem cells 4-21542
- GaAsAl, passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380
- GaAsP passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380
- GaAs_{0.11}P_{0.89}N, recomb. mechanism, cathodoluminesc. study 4-57001
- GaAs_{1-x}P_x, dielec. function and derivative spectra by ellipsometry, Fourier analysis 4-46222
- GaAs_{1-x}P_xN, Te VPE layers, minority carrier lifetime, photoluminesc. meas. 4-51333
- GaAs, P_{1-x}GaP, MOCVD grown, strained-layer superlattice structures, planar channelling studies 4-45223
- GaAs_{1-x}Sb_x, OMVPE growth solid comp. 4-39713
- GaAs_{1-x}Sb_x, p-n junctions, reverse current, influence of dislocations 4-25435
- GaAs, Sb_{1-x}, active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
- GaCl₃, IR emission, transmission and reflectance techniques 4-54702
- GaCl₃ intercalated with graphite, chemical and struct. charact. (*French*) 4-39267
- GaCl₃ intercalated with graphite, struct., low temp. anal. (*French*) 4-45103
- GaCl₃, magnetic, electric and dynamic line width second moments and their contribution to ³⁵Cl nuclear quadrupole resonance line widths 4-30350
- GaCl₃+inert gas atoms, dissoc. excitation, rate consts., emission obs. 4-41178
- GaInAs, MESFET optimum semiconductors for HF and low-noise appl. 4-29965
- Ga_{1-x}In_xAs heteroepitaxial layers, grading meas. 4-34838
- GaInP, surface prep. methods, chem. treatment 4-51832
- Ga_{1-x}In_xP, two-modes behaviour, reson. Raman scatt. of disorder induced modes (*French*) 4-35446
- Ga_{1-x}In_xP, energy band struct. calcs. 4-29884
- Ga_{1-x}In_xP solid solns., refr. index spectra, dispersion values 4-51221
- GaLa₂OS₃, cryst. struct., X-ray diff. study (*French*) 4-20152
- GaMo₂S₃ (Se₂), cryst. struct. determ. (*French*) 4-50264
- GaMo₂Se₄Te₄, cryst. struct. determ. (*French*) 4-50264
- GaN, CVD and props. (*Japanese*) 4-11417
- GaN, deep centre emission anisotropy 4-35492
- GaN, VPE, annealing effects 4-35573
- Ga₂O, mol. struct., vibr. characts., electron diff. obs. 4-10079
- Ga₂O₃, metal ion emission in field desorption mode 4-21113
- β -Ga₂O₃:Cr³⁺, N-lines in luminescence spectra 4-21018
- β -Ga₂O₃:Na₂O, mobile Na⁺ ions, ²³Na NMR study 4-40275
- Ga₂O₃-P₂O₅, glass, crystallisation products, region of glass formation 4-20118
- GaP (110), intrinsic unoccupied surface states, universe photoemission 4-2640
- GaP (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
- GaP, absorpt. spectrum, many-body effects 4-11905
- GaP, amorphised, hopping and band transport 4-25338
- GaP, bound exciton series, absorpt., isolectronic trap luminesc. studies 4-39818
- n-GaP, bulk photovoltaic effect, band struct. study 4-2634
- GaP bulk single crystals, hydrogenation of electron traps 4-25366
- n-GaP, charge carrier conc. and mobility determ. by Raman spectroscopy 4-7193
- GaP, chemical shift effect on donor polarisabilities 4-11477
- GaP, cohesive energy and bulk modulus 4-2137
- GaP, decay of red Cu-S pair luminesc. 4-51336
- GaP, doped, low freq. dielectric behaviour under illumination 4-46173
- GaP, elec. and photoelectrical props. 4-35015
- GaP, electro-optical studies 4-11867
- GaP, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
- GaP electronic materials, IR microscopy, appls. (*French*) 4-17934
- GaP, far IR lattice absorpt. 4-7201
- GaP ion bombarded, displacement cascade struct., TEM study 4-34552
- GaP, ion implantation, lateral extension of radiation damage obs. 4-29452

gallium compounds continued

- GaP, LPE, Ga soln. oxidation thermodynamic anal. 4-57538
- GaP, laser-induced sputtering near threshold laser fluence 4-7286
- GaP, lightly doped, impurity levels, size effect 4-39829
- GaP, longitudinal optical phonon lifetimes, temp. depend., Raman studies 4-45286
- n-GaP, luminescence and deep level studies of dislocations 4-16257
- GaP, P LVV Auger and electron energy loss spectra 4-21076
- GaP p-n structs., nonclassical thermal injection currents, luminesc. study 4-11585
- nGaP photoelectrode, RuO₂ incorporation in polypyrrole films and H₂O photooxidation 4-12487
- GaP, pulsed laser-induced surface damage, Rutherford backscatt. channeling study 4-20239
- GaP, radiation-stimulated gettering at interfaces (*Russian*) 4-39341
- GaP red-emitting LED, 0.75 eV killer center, dark transient capacitance study 4-11471
- GaP, resonant photoemission from surface states 4-11569
- GaP reverse biased diodes, electroluminescence spectra (*Russian*) 4-40537
- GaP Schottky barrier height rel. to interface chem. reactivity 4-45881
- GaP single cryst., heat-treated, electrophys. props. and photolum. 4-25808
- GaP, single dislocations, recomb. efficiency 4-55831
- GaP, Sn-vacancy defects created by ion implantation of radioactive In and Sb, Mossbauer study 4-34529
- GaP, surface prep. methods, chem. treatment 4-51832
- GaP, surface states study by photoemission yield spectroscopy (*Polish*) 4-35548
- GaP, TO (Γ) phonon mode, anharmonicity and Fano effect 4-29565
- GaP, thermal expansion in range 20 to 300K 4-34675
- n-GaP, uniaxially stressed, IR spectral absorpt. anisotropy 4-40430
- GaP, vacancy induced deep levels, density of states change 4-39747
- GaP, vacancy spin polarisation energy 4-39821
- GaP, zone edge phonons, IR absorption and Raman scatt. studies 4-11238
- GaP:B(N), hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
- GaP:Cr(Co), impurity states, ENDOR and optical absorption studies 4-20601
- GaP:Cu, Zero field optically detected mag. reson. study 4-56820
- GaP:Er, 1.54 μ m photolum. obs. 4-21001
- GaP:Er³⁺(Yb³⁺), rare earth activated luminesc. 4-35480
- GaP:Fe, ESR line with g=2.133 4-20855
- GaP:Fe, optical and thermal props. of Fe 4-2547
- GaP:Fe²⁺, excited states, ESR and Hall effect studies 4-11480
- GaP:I, impurity bond lengths, Mossbauer study 4-20140
- GaP:N, distant-pair recombination, tunnelling nonradiative transitions 4-46322
- GaP:N, effect of heat treatment on N conc. change, cathodolum. study 4-24842
- GaP:N, saturation spectroscopy of bound excitons 4-5670
- GaP:N epitaxial layers, deep level induced by plastic deform., TSC meas. 4-2538
- GaP:N LED, degradation and cathodoluminescence profile 4-35494
- GaP:O, electronic struct. calcs. 4-20596
- GaP:O, electronic struct. theory 4-20597
- GaP:O, localised and resonant O vibr. modes, Green's function calc. 4-45291
- GaP:O, vibr. modes of O incl. nearest-neighbour interactions 4-20311
- GaP:O local dielec. modes, spectral fine struct. in Raman scatt. 4-56931
- GaP:Ta, luminesc. of Ta centres 4-25806
- GaP:V, Raman light scatt. and electrooptic effect 4-20946
- GaP/HClO₄ semicond./electrolyte junction, photoresponse, space charge region width effects 4-45879
- n-GaP/Langmuir-Blodgett film/Au, electroluminescent structures 4-21043
- GaP-Au contacts, struct. effects on heating 4-39696
- GaP-SiO, strain effects in SiO evaporated layers, piezobirefringence study 4-6676
- GaP-ZnSe solid solns., behaviour of electron energy bands 4-50722
- GaS, ^{69,71}Ga NQR spectra, hyperfine struct. 4-30319
- GaS, elastic consts., press. depend., lattice dynamic model 4-34560
- GaS, growth and characterisation 4-7344
- GaS intrinsic photoelectrode for photoelectrochem. cell 4-12486
- GaS, isothermal currents and TSC 4-39912
- GaS, lamellar cpd., elastic consts., press. depend. 4-2254
- GaS, layer compounds, polytypism, review 4-39245
- GaS, phonon density of states, heat capacity calc. 4-2288
- GaS, refractive index dispersion, 80, 300K, temp. depend., single oscillator model anal. 4-25709
- GaS under uniaxial press., indirect absorpt. edge 4-20990
- GaS₂-La₂X₃-MnS (X=S,O), glass formation, EPR and optical study (*French*) 4-6508
- GaS₂-Se₂ layer mixed cryst., optical phonons, IR and Raman spectra studies 4-11236
- GaS₂Se_{1-x}, layer compounds, polytypism, review 4-39245
- GaS₂Se_{1-x} solid solns., elec. props. study, rel. to struct. and optical props. 4-29987
- GaSb, Auger processes, overlap integrals 4-51416
- n-GaSb, conduction band parameters, Hall effect and magnetoresist. 4-56370
- GaSb crystals, growth by horizontal travelling heater method, forced convection on centrifuge 4-3042
- GaSb films, plasma-assisted epitaxy in H plasma 4-51527
- GaSb flash evaporated amorphous film, Raman studies 4-46353
- GaSb ingots, Bridgman growth, texture, cryst. orientation, grain boundaries, SEM, chem. etching, electron channelling 4-29364
- GaSb polytype heterostructures 4-15949
- GaSb, self-diffusion of Ga and Sb 4-45392
- GaSb single crystals, melt pulled, sawtooth line patterns at facet boundary 4-3060
- p-GaSb, spin relax. of cond. electrons and exchange interactions 4-25311
- GaSb, surface states study by photoemission yield spectroscopy (*Polish*) 4-35548
- GaSb:I, impurity bond lengths, Mossbauer study 4-20140
- GaSb:Se, impurity donor states, galvanomag. and oscillatory effect meas. 4-11481
- GaSb:Se, press. spectroscopy of impurity states 4-45679
- GaSb:Te pulled crystals, sub- μ m steps on facet planes 4-11019
- GaSb/Al_{0.6}Ga_{0.4}Sb optically pumped multiquantum well lasers 4-55038

gallium compounds continued

- GaSb/AlSb multiquantum well structs., MBE growth and narrow-well photoluminesc. 4-21003
 GaSb/InAs MBE-grown heterostructures and superlattices, interface studies 4-15774
 GaSb-AlSb superlattice interface and lattice strain measurement by ion channeling 4-2420
 GaSb-InAs quantum well structure, 2-D cond. holes, weak localisation 4-56423
 GaSe, ⁶⁹Zn Ga NQR spectra, hyperfine struct. 4-30319
 GaSe, decomposition during vacuum deposition, electron diffr. studies (Russian) 4-35572
 GaSe, elastic consts., press. depend., lattice dynamic model 4-34560
 GaSe, electrooptical prop. dispersion 4-35417
 GaSe, exciton-exciton collisions, spontaneous and optically amplified luminesc. 4-7239
 GaSe, growth and characterisation 4-7344
 GaSe, γ -irrad., elec. props. 4-50808
 GaSe, interexciton interaction and exciton-biexciton transitions 4-56232
 GaSe, isothermal currents and TSC 4-39912
 GaSe, lamellar cpd., elastic consts., press. depend. 4-2254
 GaSe, layer compounds, polytypism, review 4-39245
 GaSe, layer cryst., irradiated, EPR study (Russian) 4-7059
 GaSe layer cryst., photocond. anisotropy meas. by contactless microwave method 4-25399
 GaSe, optical bistability and exciton resonance excitation 4-49439
 β -GaSe, optical constants of layer structures from ellipsometric data 4-46220
 GaSe, phonon density of states, heat capacity calc. 4-2288
 GaSe:Cu, doped and undoped, radiative recomb. kinetics, spontaneous photoluminesc. spectra 4-7242
 GaSe:Eu (Nd) (Gd), photoluminescence and ESR spectra 4-51342
 GaSe:Mn single cryst. film, photoluminescence studies, orientation depend. 4-56989
 GaSe:Ni single cryst., local levels, TSC studies 4-25368
 GaSe:Sn, single crystals, X-radiation effect 4-55871
 GaSe-metal interfaces, chemical reactivity, soft X-ray photoemission spectroscopy 4-30602
 GaTe_{1-x}S_x solid solns., localised excitons, photoluminesc. study 4-46311
 GaTe, growth and characterisation 4-7344
 GaTe, Kramers-Kronig analysis reflectivity extrapolation, linear eqns. algorithm 4-40389
 Ga₂Te₃ liq., nonmetal-metal transition under press. 4-2512
 (In,Ga)P homogenous alloy, temp. difference LPE growth (Japanese) 4-30651
 InGaAlP visible laser diodes, MBE growth and lasing characts. 4-28692
 In_{0.7}Ga_{0.3}As:Si(Sn) MBE layer, elec. and optical props. 4-46300
 InGaAsP diode laser, real-time meas. of picosecond optical pulses 4-1426
 InGaAsP injection lasers, 11.2 GHz ps optical pulse generation by HF direct modulation 4-49408
 InGaAsP laser structures, optically induced catastrophic degradation 4-34478
 InGaAsP lasers, cleaved-coupled-cavity, 1.5 μ m, single mode operation 4-1390
 InGaAsP photocathodes, Cs-O activating coating props., XPS study 4-21103
 InGaAsP-InP DFB ridge-waveguide lasers, 1.5 μ m, CW operation 4-49395
 InGaAsP-InP DFB double-channel planar BH laser diodes, antireflection-coated, CW single longit. mode operation 4-49396
 InGaAsP-InP LPE double heterostructure, cathodolum. anal. 4-35497
 In_{0.72}Ga_{0.28}As_{0.6}P_{0.4}, band-to-band Auger recomb., effect of anisotropic band parameters 4-45810
 In_{0.7}Ga_{0.3}As_{0.1}P_{0.9} layers, high temp. LPE, electron Hall mobility, scatt. mechanism 4-40087
 In_{1-x}Ga_xAs_{1-y}Sb_y quaternary alloy heterojunction band discontinuities 4-45868
 InGaP and InGaAlP, MBE grown, doping studies, elec. and optical meas. 4-15510
 InGaP-InGaAs-InGaP heterostruct. diode, fabrication, room temp. lasing 4-49364
 In_{1-x}Ga_xP, electroepitaxial Peltier induced LPE on GaAs (100) 4-30653
 In_{1-x}Ga_xP, lattice vibrs., CPA calc. 4-55944
 In_{1-x}Ga_xP layers, two-mode behaviour, Raman scatt. 4-30545
 In_{1-x}Ga_xP solid soln., donor-acceptor recombination, band struct. effects 4-25809
 In_{1-x}Ga_xAs_{1-y}Sb_y quaternary alloy heterojunction band discontinuities 4-45868
 In_{1-x}Ga_xSb amorphous films, laser induced explosive crystn. for optical information storage 4-14763
 In_{1-x}Ga_xSb, lattice vibrs., CPA calc. 4-55944
 In_{0.7}Ga_{0.3}Sb, LPE growth, In conc. control using pulse current (Japanese) 4-30650
 InGaTe₂-TlInTe₂, electrophysical props. 4-56367
 InP-InGaAsP emitters, sources of defects 4-25189
 K₂O-Ga₂O₃-MgO solid solution, single cryst., elec. cond., lattice parameter (Japanese) 4-50580
 La₂S₃-2Ga₂O₃:Nd³⁺ glasses, upper active level filling process characts. 4-30526
 La₂S₃-2Ga₂O₃:Nd³⁺ glass, luminescence quantum efficiency study 4-35489
 Mn₃GaC, heat capacity and phase transitions 4-11316
 Mn₃GaC, Ising model exhibiting metamagnetic transitions 4-56654
 Mn₃Ga_{0.8}N, heat capacity and phase transitions 4-11316
 Mn₃Ga_{0.8}N, solid solution perovskite, heat capacity, 5-330K 4-25049
 Mn_{4-x}Ga_xN solid soln., mag. AC susceptibility 4-11683
 Mn_{1-x}Ga_xS₄, cryst. struct. and mag. props. 4-11090
 β -MnGa₂S₄(Se₄), unit cells and cryst. struct. 4-11089
 Nd₂O₃-Ga₂O₃ system, phase diagram study (French) 4-21198
 Pb-Ga-Te, containing PbTe, homogeneity region, solid solubility 4-57217
 Se-Ga₂Te₃ phase equilibria, regular associated soln. model for Ga-Se liq. 4-24986
 TiGaSe₂ (Se₂), absorpt. study of excitonic transition oscillator strengths (Russian) 4-7216
 TiGaSe₂-TiGaTe₂, phase equilibria, microhardness, density, dark cond. 4-51641
 TiGaSe₂, ferroelectric soft mode, dielec. function dispersion 4-30409
 TiGaSe₂-TlInS₂, phase equilibria, microhardness, density, dark cond. 4-51641
 TlInSe₂-InGaSe₂, X-ray diffraction anal., solubility, formation of quaternary compounds 4-55795

gallium compounds continued

- TlInTe₂-InGaTe₂, X-ray diffraction anal., solubility, formation of quaternary compounds 4-55795
 Y-Ga:Tb garnet phosphor, luminescence props. 4-21022
 Zn_{1-x}Ga_{0.677}Cr₂Se₄ single cryst., synthesis, elec. and mag. props. (German) 4-39909
 ZnGa₂S₄, defect chalcopyrite cryst., Raman scatt. 4-30457
 ZnS- α -Ga₂S₃ system, phase diagram, Raman powder spectroscopy 4-16376
 (ZnSe)_{1-x}(Ga₂Se₃)_{x/3} mixed crystal, VPE, close-spaced technique, morphology, photoluminesc. 4-16320
- galvanising** see surface treatment
galvanoluminescence see luminescence
galvanomagnetic effects
 see also Hall effect; magnetoresistance; Suhl effect; thermomagnetic effects
 double layer, galvanomag. effects 4-57578
 fibre reinforced plastic, mag. polarisation influence on electrophys. props. in wide temp. range 4-46174
 heterogeneous systems, elec. cond. of electrolyte solns. 4-11587
 measurement, rotation angle of specimen holder in solenoid determ. 4-8925
 metals, normal, tunneling from normal cylindrical conductor in weak magnetic field 4-30054
 metals, oscillation effects amplitude calcs. (Russian) 4-6765
 microwave pulse power converters, limiting parameters anal. 4-5533
 semiconductor, effective conductivity of inhomogeneous medium in mag. field, size effect 4-15897
 semiconductor, nonlinear current density in weak mag. fields 4-6808
 semiconductors, layer-inhomogeneous, effective galvanomagnetic parameters 4-6814
 semimagnetic semicond., threshold scatt. and thermogalvanomag. effects 4-11549
 thin films with anisotropic topological struct., cond. and galvanomag. props. 4-6907
 CuCr₂S₄ film, elec. and galvanomagnetic props. 4-56454
 Cu_{0.3}Fe_{0.7}Cr₂S₄ film, elec. and galvanomagnetic props. 4-56454
 FeCr₂S₄ film, elec. and galvanomagnetic props. 4-56454
 FeCr₂S₄, preparation, by chem. transport method, phys. props., 120-300K 4-57095
 GaSb:Se, impurity donor states, galvanomag. and oscillatory effect meas. 4-11481
 GaSb:Se, press. spectroscopy of impurity states 4-45679
 n-InSb, metallic, Anderson localisation, phys. parameter determ. 4-45683
 InSb, plastically deformed, galvanomagnetic props. 4-15891
 In_{2-x}Sn_xO_{3-y}, weak localisation and correlation effects of 2D electrons 4-11606
 LaMnO_{3+x}, concentrational antiferromagnetic-ferromagnetic transition 4-51047
 Si p-n junction, microplasma switch-on probability, mag. field effects (Russian) 4-56421
 Si p-n junctions, avalanche breakdown, pulsed mag. field effects (Russian) 4-56420
 Zn, magnetotransport props., quantum oscillatory effects 4-34950
- galvanomagnetism** see electromagnetism
galvanometers
 DC instruments, high-sensitivity, comparison 4-4420
 laser scanning components, precision galvanometers and multifaceted polygons, replication process 4-55156
 scanning system, precision post-objective two-axis 4-24128
 versatile automatic galvanic production in instrument making (Russian) 4-42986
- galvanothermodynamic effects** see thermomagnetic effects
game theory
 see also information theory
 No entries
- gamma fission reaction** see photofission
gamma radiation see gamma-rays
gamma-ray absorption
 anhyser DS, gamma-ray cross sections and effective at. numbers in 32 to 662 keV energy range 4-55872
 anhyser M, gamma-ray cross sections and effective at. numbers in 32 to 662 keV energy range 4-55872
 dilver P, gamma-ray cross sections and effective at. numbers in 32 to 662 keV energy range 4-55872
 high-Z scintillators, γ -ray absorpt. coeff., semiempirical formulae 4-54117
 Meitner-Hupfeld effect, Heisenberg's neutron theory 4-42654
 telfy, gamma-ray cross sections and effective at. numbers in 32 to 662 keV energy range 4-55872
 total photon cross sections in elements 4-55892
- gamma-ray angular distribution**
 see also gamma-ray spectra
 non-orientated vector polarised nuclei, spin > 1/2, γ -ray ang. distrib. 4-54076
⁴⁰Ca, A = 56.58, γ -radiation angular anisotropy 4-561
¹⁹¹Ir, g-factor from 129.4 keV state γ -ray scatt. angular distrib. 4-528
⁷¹Li(p, γ)Be, 440 keV, gamma ray ang. distrib. 4-653
¹³¹Lu, γ -ray transitions, linear polarisation and directional distrib. 4-566
¹⁰³Rh, high spin states study using ¹⁰⁰Mo(⁷Li,n) γ 4-37429
⁴⁸Ru, A = 99.101, medium spin states, in-beam γ -ray spectroscopy studies from ^{96,98}Mo(α ,n) 4-4798
¹²⁴Te E1 transitions, angular correlation studies 4-37481
⁸⁹Y, energy level struct. from ⁸⁹Y(n,n' γ) 4-536
- gamma-ray applications**
 see also radiation therapy
 biological material characterisation, X-ray scatt. appl. 4-21800
 brachytherapy, errors in line source dosimetry 4-26529
 BWR power density distributions determ. by traversing gamma-ray chamber (German) 4-37825
 composite, radiation granulometry, time series statistical characts. 4-3356
 CT, attenuation correction for single photon emission (Japanese) 4-41623
 CT, single photon emission imaging, Super-Jumbo Digital Gammacamera, features 4-36234
 graphite fibre reinforced Al composite wires, NDT of voids using X- or γ -rays 4-30898
 hyperthermia combined with γ -ray therapy in rectal cancer patients (Russian) 4-52421

gamma-ray applications continued

- intracavitary therapy, dose calc., computer simulation of radionuclide γ -energy spectra 4-16959
 LWR primary loop pipeline contaminated layer investigation using high-resolution Ge-gamma ray detector (*German*) 4-37827
 nondestructive moisture/density meas. using dual-energy gamma-ray technique 4-51940
 nuclear reactor component gamma radiography, automated systems (*German*) 4-12313
 review of X- and γ -ray appls., current status, semicond. detectors (*Japanese*) 4-23508

gamma-ray astronomical observations

- burst source, 1979 March 5, fine time struct. 4-4112
 burst sources, Venera 13 and 14 obs. 4-47521
 burster sources, correl. between luminosity and temperature 4-17612
 bursts, solar and galactic, meas. with Venera 13 and 14 instrumentation 4-47522
 COS-B gamma-ray sources, anal. of fine-scale struct. in gamma-ray distrib. 4-3943
 Crab Nebula, gamma-ray radiation obs. in 5 to 100 MeV energy range (*Russian*) 4-53256
 diffuse component ≥ 5 MeV, high altitude balloon obs. (*Russian*) 4-52997
 frequency of fast, narrow γ -ray bursts 4-58534
 GBS 0526-66 recurrent burster, source nature, Venera obs. 4-27208
 interstellar gas in first galactic quadrant 4-8545
 NGC 1275, gamma-ray obs. rel. to origin of IR, X-ray and gamma-ray emission 4-13413
 pulsars, pulsed gamma-ray emission search at MeV energies 4-4019
 Sun, gamma ray bursts, obs. with Venera 13 and 14 Konus instruments 4-47521

gamma-ray astronomy

- see also gamma-ray sources (astronomical)
 balloon-borne instrument for high-resolution astrophysical spectroscopy in 20-8000 keV range 4-3928
 emission, use in determ. of interstellar H_2 distrib. 4-3939
 galactic γ -ray background, pulsars contrib. 4-22415
 galactic astrophysics and gamma-ray astronomy, conference, Patras, Greece (1982 August 19) 4-12
 galactic diffuse emission and cosmic ray electrons energy spectra 4-3890
 galactic disc gamma ray emission and spiral struct. 4-36740
 galactic gamma-ray astronomy, relevance of interstellar mol. obs. 4-4076
 galactic large scale structure, γ -ray emission rel. to IR emission 4-4098
 galactic large scale structure from gamma ray emission, cosmic ray spatial var. 4-4096
 Galaxy centre, gamma ray continuum and 511 keV line mechanism 4-27185
 gamma ray burst causing 70 TeV shower of cosmic rays 4-26961
 HINOTORI solar flare satellite, γ -ray spectrometry and instrument description 4-3927
 imaging methods 4-22338
 review, gamma-ray astrophysics 4-4137
 SNEG-2M3 instrument on Venera 13 and 14 for cosmic γ -ray bursts 4-47522
 solar power satellites used as gamma-ray detectors 4-17399
 sources and detection methods 4-4113
 Venera 13 and 14, Konus instruments, obs. and improvements 4-47521
 (α, γ), $A=20-56$, threshold-27 MeV, gamma prod. cross sections, gamma astronomy appl. 4-43496

gamma-ray detection and measurement

- see also gamma-ray spectrometers; radioactivity measurement
 4π β - γ liquid scintillation coincidence counting 4-28284
 absorbed dose rates, high accuracy absolute meas. using organic scintillator (*Japanese*) 4-28208
 airborne and truck-mounted gamma-spectrometer radiometric calibration facility in South Africa 4-32227
 anti-Compton γ -ray spectrometer, sensitivity (*Czech*) 4-43755
 ARGUS electron-photon calorimeter, props. of light collection system 4-5086
 astronomical gamma-ray detection using solar power satellites 4-17399
 background gamma radiation in the energy region below 3 MeV at Mysore 4-5115
 balloon-borne instrument for high-resolution astrophysical spectroscopy in 20-8000 keV range 4-3928
 barrel shower counter for the Mark III detector at SPEAR 4-54549
 bulk solid radwastes, nondestructive quantification of low level transuramics 4-18633
 BWR power density distributions determ. by traversing gamma-ray chamber (*German*) 4-37825
 calibration at technical meas. centre, status 4-23199
 CdTe photon counter and spectrometer appls. 4-996
 coincidence system, 2-D, ICA-70 multichannel analyser 4-28311
 Crystal Ball 4π γ -detector, nuclear physics, heavy ion collisions, rot. nuclei 4-18873
 detector, Monte Carlo model of neutron capture analysers 4-14279
 detectors, sensitivity calculation (*Russian*) 4-5081
 diamond ionising radiation detector, dosimetry appl. for β , γ or X-radiation 4-54442
 double nuclear magnetic gamma resonance spectrometer 4-22888
 Edwin I. Hatch Unit 1, fuel bundle ^{140}La γ -scan meas. following cycle 3, benchmark data 4-753
 electret ionisation chamber, dosimeter for mixed gamma rays and fast neutrons (*Czech*) 4-23504
 electret ionisation chamber for X- and γ -rays, energy response 4-43654
 EM calorimeters using wire chambers 4-18853
 EM shower calorimeter performance at PEP-4 4-23468
 emission probabilities meas. in decay of ^{140}Ba and ^{140}La 4-33269
 energy spectra of neutron and γ -rays behind in-line shielded duct 4-33176
 environmental γ -radiation, continuous monitoring around Japanese nuclear power plants (*Japanese*) 4-18803
 gas Cherenkov detector for 16.7 MeV γ -ray meas from $D(T,\gamma)^3\text{He}$ reaction 4-18870
 gas tube calorimeter, intelligent towers for EM showers 4-5090
 gas-discharge detector for obtaining nuclear gamma resonance electron spectra 4-22890
 graphite ionisation chamber, central electrode diameter and material rel. to response to 60 Co γ -rays 4-5105
 halogen counter with thick anode, local γ -ray counting efficiency 4-38006

gamma-ray detection and measurement continued

- high energy electromagnetic shower position measurement by a fine grained scintillation hodoscope 4-54551
 high intensity γ -ray exposure standard (*Japanese*) 4-28205
 high-energy photon beam dosimetry, revised Code of Practice 4-8122
 high-resolution gamma-ray spectra using 14 MeV pulsed neutron generator 4-58299
 HINOTORI solar flare satellite, γ -ray spectrometry and instrument description 4-3927
 imaging system 4-18027
 internal body burden of radionuclides, in vivo counting of γ and soft X-rays, standardisation requirements 4-16996
 lead glass scintillator sandwich EM shower detector, test results and practical evaluation 4-957
 lead-glass γ -spectrometer radiators irradiated by high energy particles, characts. 4-949
 lead-glass drift calorimeter design with MWPC detection 4-23521
 liquid scintillation counter, gamma-ray meas. (*Chinese*) 4-28291
 LWR primary loop pipeline contaminated layer investigation using high-resolution Ge-gamma ray detector (*German*) 4-37827
 mixed radiation fields, neutron and γ personnel dosimeter response 4-21812
 mobile gamma scanning system for detecting radiation anomalies 4-9650
 multiwire proportional chamber, optimisation of γ -ray converter 4-54563
 nondestructive moisture/density meas. using dual-energy gamma-ray technique 4-51940
 nuclear gamma resonance spectrometer setup with NTA 1024 analyser 4-22889
 PEP-4 status report, results for e^+e^- beams 4-14281
 phosphate glass:Ag, electron and photon dose meas. 4-48798
 photon detectors for the ultraviolet and X-ray region synchrotron radiation, book contrib. 4-9637
 polarised nuclei, γ -rays and β -particles ang. distrib. study in nucl. orientation facility 4-54570
 presampling with streamer tubes 4-23459
 PWR's localised nuclear output permanent measurement using gamma thermometer (*French*) 4-33255
 PWR steam generator, γ -exposure rate distrib., maintenance personnel dose ppl. 4-928
 quartz TLD, pre-dose technique for environmental dosimetry 4-52477
 radiation induced current in Compton detector, residual charge effect 4-33259
 SAMPO, gamma-spectrum anal. program for microcomputers 4-54521
 scintillation crystal response to γ -rays, efficient computer algorithm for interactive calc. 4-5102
 segmented photon-hadron scintillator calorimeters using coloured wavelength shifter 4-23483
 spectral anal., X-ray/gamma-ray spectral regions, methods for deconvoluting and interpreting 4-14278
 TESSA, γ -array for high spin states from heavy ion fusion 4-18874
 thin multiwire chamber operation in high multiplication mode 4-23469
 TLD, β and γ -ray doses discrimination method 4-23435
 TLD, long term stability of dosimeters used in national monitoring programme 4-48774
 TLD, Universal beta/gamma/neutron albedo dosimeter for personnel monitoring 4-48784
 TLD 700 UV phototransfer response, effect of temps. up to 130°C 4-54445
 transition energies determ. in (n, γ) reaction, evaluation of method 4-951
 unfolding method for NE-213 liq. scintillator recoil spectra 4-38013
 wire chambers appl. and state-of-the-art 4-18856
 wrist watch jewels, use in accident gamma dosimetry 4-54440
 γ - γ correl. matrices correction method 4-1010
 Ar liquid ionisation detectors development as spectroscopic instruments 4-964
 $\text{Bi}_4\text{Ge}_2\text{O}_{12}$ (BGO) scintillation detectors, neutron and gamma ray collisions, prompt responses 4-48887
 $\text{Bi}_4\text{Ge}_2\text{O}_{12}$, property study for photon detection (*Chinese*) 4-48885
 $\text{Bi}_4\text{Ge}_2\text{O}_{12}$, pulse height distrib. unfolding for γ -ray flux spectra and dose rates 4-54555
 ^{207}Bi , ^{207}Pb , L capture probability determ. from L X-ray- γ -ray summing in Gamma-X detector 4-54081
 $\text{CaF}_2:\text{Tm}$ thermoluminescent dosimeter, low and high LET γ -radiation 4-48764
 $\text{CaSO}_4:\text{Dy}$, TL response as particle size and photon energy function 4-48794
 $\text{CaSO}_4:\text{Dy}$ in Teflon discs used for personnel γ -ray monitoring, effect of UV and visible radiation 4-52495
 $\text{CaSO}_4:\text{Dy}$ -Teflon TLD, Kilogray dosimetry 4-48777
 CdTe, γ -ray detectors, contact props. 4-5099
 CdTe nuclear radiation detectors, characts. for proton, α -particle and γ -ray detection (*Russian*) 4-38008
 CdTe(Cl), detector geometric characteristics for clinical meas. 4-54558
 ^{57}Co Mossbauer spectrometer, method to increase counting rate 4-53810
 Ge detector response to γ -ray from extended sources, Monte Carlo simulation 4-23490
 HgI_2 nuclear radiation detector for X-ray and γ -ray spectrometry 4-1004
 LiF TLD, environmental radiation meas. 4-48776
 LiF TLD phosphor, dosimetric characteristics 4-48795
 LiF TLD via computerised first order kinetics glow curve anal. 4-57003
 LiF TLD-100 for natural radioactivity meas. of building materials 4-48783
 LiF, TSEE for beta and gamma dosimetry 4-3619
 LiF thermoluminescent dosimeters, mixed radiation environment, absolute energy deposition calibration 4-48756
 $(^6\text{Li}_2\text{Ca})\text{SO}_4:\text{Dy}$, thermal neutron dosimeter 4-48793
 NaI detector, γ -ray photopeak efficiency values, Monte Carlo calcs. 4-33253
 NaI scintillation detector response curves generation by interpolation technique 4-969
 NaI(Tl), detector response to γ -ray from extended sources, Monte Carlo simulation 4-23490
 NaI(Tl) scintillation detectors, neutron and gamma ray collisions, prompt responses 4-48887
 NaI(Tl) spectrometer response to 130 to 387 MeV γ -rays 4-950
 NaI(Tl) well crystal 7F8(A), response to γ -radiations 4-9633
 Na_2Ar , solid, prototype calorimeter performance 4-956
 ^{144}Pr , low-energy γ transition investig. using ^{144}Ce decay, expt. system 4-9649
 ^{239}Pu , γ -ray intensities obs. 4-38019
 n-Si, semiconductor detector, neutron and γ -ray discrimination 4-48865

gamma-ray detection and measurement continued

- U-scintillator sandwich calorimeter for EM shower meas. at CERN ISR 4-48866
- Xe liquid ionisation detectors development as spectroscopic instruments 4-964

gamma-ray diffraction

- Mossbauer gamma quant., diff. focusing 4-22899
- Mossbauer radiation diff. under total external reflection conditions 4-11815
- surface wave at grazing-incidence Mossbauer diffraction 4-50147
- Cu single crystals, directional solidification, γ -ray diff. obs. 4-3045
- MnF₂, magnetostriuctive at. shifts obs., gamma-ray diff. study 4-11069
- V, structure factor anisotropy, temp. depend., γ -ray diff. studies 4-45051
- ZnO, mosaic struct. internal stresses, γ -ray diff., conoscopic methods 4-50530

gamma-ray effects

- see also biological effects of gamma-rays; radiolysis
- acetylcholine perchlorate polycrystalline electrolyte, radiation damage induced spectral and elec. props. 4-11186
- alkali aluminoborate glasses containing U, neutron and γ -irrad. effects on physical props. 4-20258
- alkali halides, crystals, γ -irrad., mechanoluminesc. study 4-40545
- amethyst, hydrothermal cryst. growth in NaCl and KCl solns. 4-51469
- anhyster DS, gamma-ray cross sections and effective at. numbers in 32 to 662 keV energy range 4-55872
- anhyster M, gamma-ray cross sections and effective at. numbers in 32 to 662 keV energy range 4-55872
- chalcofenide semiconductors, amorphous, threshold-switching voltage stability, γ -irrad. and elec. forming effects 4-6841
- citrine, hydrothermal cryst. growth in NaCl and KCl solns. 4-51469
- diver P, gamma-ray cross sections and effective at. numbers in 32 to 662 keV energy range 4-55872
- electronic components used in safety-related nucl. power plant, ageing survey 4-48684
- epoxy resin, cured, ESR study exposed to high-energy radiation 4-40232
- glass, pyrex, elec. double layer props., thermal and radiation control 4-35913
- glass optical fibres, γ -ray induced loss charact., drawing effects 4-33787
- α -D-glucose, γ -induced radicals, spin-trapping, EPR 4-30285
- graphite, irradiated, TSEE peaks 4-3025
- insulators, thermally stimulated electron emission 4-30594
- metal, non-translational, electronic struct., effect of γ -irradiation (Russian) 4-50710
- metals, defect formation by recoil nuclei (Russian) 4-50352
- metals, electron and γ -irrad., peaking effect model 4-50338
- metals, electron and γ -irrad., peaking effect models 4-50337
- 3+methylpentane glass, γ -irrad., isothermal luminesc. 4-30520
- microporosity evaluation by MHz US attenuation meas. 4-39403
- monocrystal converters, use in radiation damage simulation with gamma radiation beams (Russian) 4-24866
- MOS capacitors with very thin gate oxides, γ -irradiation effects 4-25446
- MOS device testing, X-ray and ⁶⁰Co gamma-ray effects 4-48271
- MOS processor Z8002, γ -ray effects in zero-bias condition 4-24867
- MOSFET IC exposed in ⁶⁰Co facilities, dose enhancement effects 4-48801
- natural rubber vulcanizates, gamma ray induced deterioration, IR spectra, tensile tests 4-34542
- nuclear waste glass, simulated, leaching, influence of gamma irradi. 4-45186
- nylon 6 fibres, high energy irradi., mech. props., fracture morphology deterioration rel. to dose 4-26003
- optical fibre, attenuation induction in highly birefringent fibre 4-49537
- optical fibres, doped silica cores, radiation response meas. (Japanese) 4-1487
- optical remote multiplexing system for nucl. power station, gamma-ray irradiation test 4-33090
- poly(N-epoxypropylcarbazole), fluorescence, γ -ray irradi. and additive effects 4-21025
- polyethylene, γ -irrad., oxidation in presence of mixed antioxidants (Russian) 4-7613
- polyethylene, elec. props., strong gamma-ray field effects (Rumanian) 4-29963
- polyethylene, neutron and γ -ray irradi., elec. props. 4-35354
- polyethylene fibres, radiation-crosslinked, lamellar crystn. of pendant chains 4-34421
- polyethylene pipes, radiation-induced cross linking effects on props. (German) 4-45187
- PTFE, γ -irrad., positron lifetime studies 4-46358
- quartz, coloration, natural and radiation induced, Al impurity effect 4-30534
- quartz, gamma-ray irradiation charact. and radiation hardening 4-6405
- quartz, irradi., positron annihilation lifetimes rel. to thermal cond. in glassy material 4-40561
- quartz, neutron and γ irradi. damage, positron annihilation study 4-20259
- quartz, smoky, gamma irradi., anomalous low-temp. thermal, dielec. and acoustic props., elec. dipole echoes 4-51208
- quartz glass, O-vacancy defects, electronic struct. and optical studies 4-2966
- silica, vitreous, elec. double layer props., thermal and radiation control 4-35913
- simulated waste glass leaching, effect of gamma irradi. 4-4941
- slab geometry, electron transport calcs. using Chandrasekhar's method 4-37741
- steel, austenitic stainless, intergranular stress corrosion cracking, γ -ray effects (Japanese) 4-57394
- teflon, gamma-ray cross sections and effective at. numbers in 32 to 662 keV energy range 4-55872
- TGS:Cr³⁺(VO²⁺), γ -irrad., permitt. relax., rel. to domain struct. 4-11838
- TGS crystal, gamma-irradiated, ferroelec. transition, hypersound propag., Brillouin light scatt. 4-35381
- US transducers, failure in gamma radiation field 4-14866
- UV dosimetry with TLD 4-37941
- AgCl-NaCl solid soln., microscopic structure and electronic props., ESR study 4-40228
- AgF(Cl)(Br), annealing of neutron and gamma irradi. induced point defects 4-11191
- Al, electron and gamma irradi., void form., dislocation struct., electron microscopy (Russian) 4-24869

gamma-ray effects continued

- α -Al₂O₃:Mn, Mn valency states stability conditions 4-56264
- Al₂O₃:Mn, valency changes induced by heat treatment or γ -irrad. 4-11912
- Au-Si interface, dose enhancement factors 4-48844
- Ba(BrO₃)₂·H₂O, γ -irrad., defect centres, EPR study 4-46104
- BaS:Cu,Bi phosphors, gamma-ray induced thermally stimulated luminesc. study 4-16259
- CaF₂, γ -ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
- CaO-B₂O₃-Al₂O₃:Cu, formation and decay of colour centres 4-34487
- Cd,Hg_{1-x}Te, Te, γ -irrad. effect on elec. props. (Russian) 4-56372
- CsI:TI, diffusion in γ -radiation field 4-11349
- CsNO₃ crystals, γ -irradiated, struct. changes, rel. to cryst. growth conditions 4-11185
- CsNO₃, electron and X-ray irradi., struct. changes, X-ray diff. study 4-50354
- Cu alloys, dil., γ -irrad. and deformed, dislocations, annealing, US absorpt. meas. 4-50303
- Cu, gamma irradi., anomalous modulus defect due to dislocation pinning, damping meas. 4-50302
- GaAs, γ -ray irradi., E5 centres, annealing and accumulation, elec. field effects 4-25293
- GaAs, radiation-stimulated gettering at interfaces (Russian) 4-39341
- GaAs shallow junction LEDs, gamma ray irradiated, surface emission and wavelength tuning via surface states 4-50353
- GaAs_{1-x}P_x, γ -ray induced defects, recombination-enhanced annealing 4-20252
- GaP, radiation-stimulated gettering at interfaces (Russian) 4-39341
- GaSe, γ -irrad., elec. props. 4-50808
- GaSe, layer cryst., irradiated, EPR study (Russian) 4-7059
- Gd₂Ga₂O₇:Ca²⁺, garnet, γ -ray irradi., thermoluminescent props. 4-35502
- Ge, γ -ray irradi., A centres, energy levels and annealing 4-50760
- Ge, high energy proton irradi., defect cluster form., role of nonelastic nucl. processes 4-55890
- Ge:Li, gamma irradi., recomb. centres 4-6805
- Ge:Sb(Ga)(O), γ -ray and neutron irradi., photoluminescence studies 4-30517
- H₂, gamma-ray double photoionisation, electron-electron correl. effects 4-1223
- HCo(CO)₄ dissolved in Kr, EPR spectra of Co centred free radicals 4-30286
- InP homojunction solar cells with high γ -ray radiation resistance 4-52137
- KBF₄, γ -irrad., BF₄ radicals, ESR spectra 4-23727
- KBr(Cl):TI, diffusion in γ -radiation field 4-11349
- KCl coloured crystals, mechanoluminescence 4-16260
- KCl:Ba²⁺, gamma-ray irradi., Z₁-centres, optical absorpt. spectra, thermolum. studies 4-11945
- KCl:OH, γ -irrad., formation of H bonds 4-45047
- KCl:Ti³⁺, geometrical struct. of (Ti³⁺)₂ luminescent centre, optical studies 4-40522
- KCl:Br₂, gamma irradi., thermolum., optical absorpt. studies 4-30533
- La₂O₃:4,4i-O₃, amorphous, radicals formation, EPR study 4-51135
- Li₂B₄O₇, crystalline, X-ray or γ -ray irradi., thermally stimulated exoelectron emission (Korean) 4-16298
- LiClO₄-polyethylene oxide electrolytes, conductance, radiation induced crosslinking effects 4-45411
- LiF, γ -ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
- LiF:OH, γ -irrad., formation of H bonds 4-45047
- LiF:OH; stabilisation of H, effect of combined mech. load and γ -irrad. 4-6395
- LiYF₄:Er(Ho)(Yb)(Tm), γ -irrad., colouring study 4-29477
- MgO, reactor irradi., F-centre accumulation, optical absorpt. spectra, EPR, thermal cond. meas. 4-55884
- MgO-Al₂O₃-SiO₂-TiO₂ glass ceramics, γ -irrad., ESR studies 4-7054
- (NH₄)₂BeF₆, ferroelectric, incommensurate phase, phase transitions, γ -ray irradi. effects 4-35385
- (NH₄)₂BeF₆, ferroelectric, γ -irrad., phase transitions, macroscopic quadrupole effects 4-46201
- N₂O₄ coolant, dose rate from absorbed γ -rays in active zone (Russian) 4-43575
- NaCl, gamma irradi., absorption spectra of colour centres 4-2945
- NaCl, γ -irrad., aqualuminesc. spectrum in presence of xanthene dyes 4-12377
- NaCl:OH, γ -irrad., formation of H bonds 4-45047
- NaCl:Sn, thermoluminescence emission and decay kinetics 4-57007
- NaNO₂, electron and X-ray irradi., struct. changes, X-ray diff. study 4-50354
- Na₂O-SiO₂-CaO glasses, γ -ray irradi. and rare earth additives effects on insulation 4-11521
- Nb₂Sn coatings, radiation defect distrib., nucl. gamma reson. methods (Russian) 4-24877
- Nd³⁺:YAG lasers, γ radiation influence on energy charact. 4-14739
- PLZT ferroelectric ceramics, transparent, dielec. props., electron- and γ -irrad. and mag. field effects 4-46191
- PbSe_{0.9}Nb_{0.1}O₃, ferroelectric ceramics, transparent, dielec. props., electron- and γ -irrad. and mag. field effects 4-46191
- RbD₃(SeO₃)₂, γ -irrad. of incommensurate phase, ESR spectra 4-45319
- RbH₂(SeO₃)₂, γ -irrad. of incommensurate phase, ESR spectra 4-45319
- SbNbO₄, electron and X-ray irradi., struct. changes, X-ray diff. study 4-50354
- Si MOS structures, γ -irrad., paramag. Si³⁺ centres obs. 4-40052
- Si, neutron doped and γ -irrad., nature of defects 4-55885
- Si, proton and gamma irradi., dislocation effects on impurity-defect agglomeration interaction processes 4-6404
- Si, proton and γ -ray irradi., point defect-group radiation defect interactions 4-34531
- Si:Er, γ -ray irradi. defects, Hall effect, elec. cond. and photocond. studies 4-34543
- Si:Mn, γ -irrad., elec. and photoelec. props. 4-29975
- Si-SiO₂ interface, γ -ray damage, annealing charact. 4-45185
- Si-SiO₂ interface in MOS capacitor, hole trap props. 4-45887
- Si-SiO₂ MOS struct., interface state generation 4-50947
- Si-Ge_{1-x}/GaAs heterojunction systems, radiation-stimulated gettering of struct. defects 4-30067
- SiO₂ γ -irradiated, H and D atom decay kinetics, ESR obs 4-57582
- SiO₂, kersil, radiation-optical props. 4-55873
- SiO₂-Na₂O-CaO glass, containing Cu ions, γ -irradiated, elec. cond. study 4-2373

- gamma-ray effects continued**
 $\text{Sr}(\text{BrO}_3)_2 \cdot \text{H}_2\text{O}$ single crystals, γ -irrad. at 300 and 77K, EPR study of V_K -centres 4-35228
 ZnF_2 single cryst., γ -irrad. defects and elec. resist. 4-55814
 $\text{ZrFe}_2^{189}\text{Ym}$, mag. hyperfine interaction and nuclear spin-lattice relax. 4-25550
 ZrO_2 , powdered monoclinic and stabilised ceramic, X, γ or β irrad., exo-emission and thermoluminesc. 4-3029
- gamma-ray interactions**
 see also gamma-ray scattering
 No entries
- gamma-ray lasers**
 stimulated emission using Mossbauer isotopes, quasiclassical model 4-1378
 superradiance kinetic models, mean-field theory and three-dimensional theory 4-10273
- gamma-ray polarisation**
 ^{172}Lu , γ -ray transitions, linear polarisation and directional distrib. 4-566
- gamma-ray production**
 coherent Coulomb excitation and disintegration of relativistic nuclei as sources of neutrons and γ -rays 4-29499
 irradiator mounted on flexible stand (*Russian*) 4-43155
 source facility with strong intensity and high monochromaticity (*Chinese*) 4-54496
 ^{137}Cs source, buildup factors and dose around in presence of inhomogeneities, therapy, appl. 4-8120
 $\text{Ta}(\text{C,X})$, 4.2 GeV/c per nucleon, γ -rays, Δ hyperons and K_s^0 mesons prod. 4-27885
 $\text{Ta}(\text{d,X})$, 4.2 GeV/c per nucleon, γ -rays, Δ hyperons and K_s^0 mesons prod. 4-27885
 ^{189}Yb gamma sources 4-14260
- gamma-ray scattering**
 see also Compton effect; gamma-ray interactions
 biological material characterisation, X-ray scatt. appl. 4-21800
 clay, compressed powdered, γ -ray attenuation and scatt. coeffs. 4-2987
 incoherent-scattering cross sections of ^{60}Co γ rays in elements 4-23666
 Meitner-Hupfeld effect, Heisenberg's neutron theory 4-42654
 tissue characterisation by photon scatt., effect of momentum transfer on method sensitivity 4-41618
 LiF, thermoluminesc. dosimetry, γ -ray Compton interactions, modified cavity theory 4-48752
- gamma-ray sources** see gamma-ray production
- gamma-ray sources (astronomical)**
 1979 March 5 burst source, neutron star corequake and shock model 4-22482
 accreting magnetic neutron stars, role of proton cyclotron emission 4-4039
 V1343 Aquilae (SS 433), gamma ray emission origin 4-47623
 burst source, 1979 March 5, fine time struct. 4-4112
 burst sources, characts. of assoc. reprocessed optical radiation 4-27205
 burst sources, magnetohydrostatics in neutron star polar caps 4-27204
 burst sources, obs. characts. and distrib. 4-4119
 burst sources, positions and origin 4-47724
 burst sources, relation to optical outburst objects Hertzsprung and Popovic 4-47716
 burst sources, Venera 13 and 14 obs. 4-47521
 burst sources locations, X-ray obs. anal., implications for source models 4-58536
 burst sources, correl. between luminosity and temperature 4-17612
 bursts, Venera 13 and 14 obs. 4-47522
 Centaurus A, gamma-ray lines and nucleus massive black hole accretion disc plasma 4-13455
 2 CG 065+00 (PSR 1953+290), millisecond pulsar, search for optical counterpart 4-22417
 2CG 195+04 ('Geminga'), precise position and BVR photometry of optical counterpart 4-27207
 2CG 195+04 (Geminga), precise position of optical counterpart 4-17611
 2CG 195+04 (Geminga), proper motion of optical candidate 4-53309
 compact sources, spectral and variability constraints 4-8600
 COS-B gamma-ray sources, anal. of fine-scale struct. in gamma-ray distrib. 4-3943
 COS-B sources, X-ray survey and optical identifications 4-4117
 Crab Nebula, gamma-ray radiation obs. in 5 to 100 MeV energy range (*Russian*) 4-53256
 Cygnus X-3, galactic absorpt. of high-energy gamma-rays 4-8527
 Cygnus X-3, implications of 10^{16} eV gamma rays 4-47654
 Cygnus X-3, PeV gamma-ray obs., spectral studies 4-8535
 discrete sources, spectral index rel. to photon/particle ratio above 10^{15} eV 4-3893
 error boxes, search for pulsars, UHF obs. 4-4116
 frequency of fast, narrow γ -ray bursts 4-58534
 galactic astrophysics and gamma-ray astronomy, conference, Patras, Greece (1982 August 19) 4-12
 galactic diffuse gamma-ray emission, rel. to positron component of cosmic rays 4-17362
 galactic gamma-ray sources, review 4-22483
 galactic plane emission, correl. with CO distrib. 4-31893
 galactic sources, gamma-ray emission rel. to cosmic rays accel. and transport 4-3886
 galaxies active nuclei, gamma rays and neutrinos as complementary probes 4-4120
 GBS 0526-66 recurrent burster, source nature, Venera obs. 4-27208
 Geminga, negative search for gravitational waves from astronomical gamma-ray source 4-42833
 Geminga (=1E 0630+178?), optical counterpart discovery 4-53311
 International Solar Polar Mission, solar flare X-rays/cosmic γ -ray burst instrumentation 4-31739
 interstellar cloud emission due to cosmic ray interactions 4-3889
 interstellar clouds, mol. obs. rel. to cloud masses and ionisation rates 4-4076
 line obs., review 4-4118
 massive stars winds, energy transfer to cosmic rays and γ -ray emission 4-4115
 nature and detection 4-4113
 NGC 1275, gamma-ray obs. rel. to origin of IR, X-ray and gamma-ray emission 4-13413
 point-like sources, origin model involving interstellar cloud energetic processes 4-4114
 pulsars, gamma ray emission in MeV range and atm. processes 4-4021
 pulsars, gamma-ray emission search 4-8508
- gamma-ray sources (astronomical) continued**
 pulsars, pulsed gamma-ray emission search at MeV energies 4-4019
 spectra in 20-8000 keV range with balloon borne instrument 4-3928
 transient gamma-ray bursts, review 4-47725
 CG 195+04, possible connection between 159.96 minute periodicity and solar oscillation 4-47586
- gamma-ray spectra**
 see also gamma-ray angular distribution; gamma-ray spectra of liquids and solids; nuclear decay theory
 (a,by), preequilibrium γ -emission, complex particle formation effects 4-614
 biomolecules, internal dynamics, hyperfine interaction 4-41418
 coal in oversize borehole, in-situ capture gamma-ray anal. 4-7768
 energy spectra of neutron and γ -rays behind in-line shielded duct 4-33176
 group IV tetrafluorides, elec. hyperfine interaction, TDPAC method 4-28428
 group V trifluorides, elec. hyperfine interaction, TDPAC method 4-28428
 hafnium-nitritoltriacetate binding, TDPAC study 4-41184
 high spin nuclei, orientation meas. in crystal ball detector, data anal. program 4-23559
 high-resolution gamma-ray spectra using 14 MeV pulsed neutron generator 4-58299
 NADOP program for nuclear lifetimes by Doppler broadening lineshape anal. 4-43431
 polarized hypernuclei, pion and γ -ray spectroscopy 4-37479
 SAMPO, gamma-spectrum anal. program for microcomputers 4-54521
 transition energies determ. in (n, γ) reaction, evaluation of method 4-951
 (α , γ X), A=20-56, threshold-27 MeV, gamma prod. cross sections, gamma astronomy appl. 4-43496
 γ - γ correl. matrices correction method 4-1010
 ^{205}At - ^{205}Po , decay scheme, X-ray and conversion electron spectra, $e\gamma$, $\gamma\gamma$ coincidences 4-18384
 ^{205}At - ^{205}Po , γ -rays, conversion electron spectra, $e\gamma$ coincidences 4-18383
 ^{197}Au (n, γ), keV neutrons, cross section and γ -spectrum for reactor fuel fission products 4-32871
 $^{135,137}\text{Ba}$ (n, γ), 0.1 to 2.6 MeV, isomeric states (*Russian*) 4-32875
 ^{140}Ba , decay scheme data 4-37502
 ^{140}Ba fission product decay, γ -ray emission probabilities meas. by β - γ coincidence techniques 4-33269
 ^{32}Cl (n, γ) ^{36}Cl , hot atom reaction, ^{36}Cl γ -ray recoil spectra 4-31007
 ^{60}Co , depth distrib. in Jilin meteorite 4-42380
 ^{60}Co gamma irradiation cells, photon spectra 4-48844
 ^{60}Co gamma source, exposure skyline spectrum calc. 4-43662
 ^{137}Cs (n, γ), keV neutrons, cross section and γ -spectrum for reactor fuel fission products 4-32871
 ^{64}Cu (n, γ), 0.7-10.5 MeV, A=63,65, differential cross-sections, γ -spectra, reactor appl. 4-731
 ^{153}Dy , γ -ray, internal conversion and $e\gamma$ coincidence spectra 4-553
 ^{154}Er , A=161,3,5, excited states, γ -ray transitions, internal conversion spectra 4-559
 ^{160}Er , γ -rays angular correlations 4-556
 ^{154}Eu , A=152, 154, relative gamma-ray intensities meas. 4-54070
 ^{153}Eu (n, e^-), internal conversion electron spectrum (*Russian*) 4-32874
 ^{153}Eu (n, γ), internal conversion electron spectrum (*Russian*) 4-32874
 ^{154}Eu , decay scheme data 4-37502
 F_2 , elec. hyperfine interaction, TDPAC method 4-28428
 ^{20}F , nucl. spectroscopic study using ^{19}F (n, γ) ^{20}F 4-4802
 ^{56}Fe (n, γ) ^{57}Fe , γ -rays from transition following 27.7 keV s-wave capture 4-32895
 ^{147}Gd (α , α'), A=158, 160, K-shell ionisation cross sections meas. from intensity ratios of K X-rays to $2^+ \rightarrow 0^+$ γ -rays 4-54153
 ^{152}Gd , 180-86 keV cascade, angular correlation perturbation 4-552
 ^{160}Gd (n, γ), 70 to 3000 keV, excited states (*Russian*) 4-27824
 Hf-transferrin binding, TDPAC study 4-41420
 HfF₄, quadrupole hyperfine interactions, time differential perturbed ang. correl. investig. 4-14386
 HfF₄·3H₂O, quadrupole hyperfine interactions, time differential perturbed ang. correl. investig. 4-14386
 Hf(n, γ), thermal and fast n, gamma-ray spectra evaluation 4-23108
 ^{201}Hg , low lying excited states study using γ and conversion electron spectroscopic method 4-4800
 ^{14}Ho , A=156, 158, 160, low-lying states props. 4-23073
 ^{126}I , excited states, gamma-ray emission study from (n, $2n$) 4-54071
 ^{141}In , A=109, 111, 115, giant hyperfine anomaly of nuclear levels 4-32810
 ^{192}Ir , relative gamma-ray intensities meas. 4-54070
 ^{140}La , decay scheme data 4-37502
 ^{140}La fission product decay, γ -ray emission probabilities meas. by β - γ coincidence techniques 4-33269
 ^{172}Lu , γ -ray transitions, linear polarisation and directional distrib. 4-566
 ^{176}Lu , half-life determ. from γ -ray spectra (*French*) 4-9171
 ^{177}Lu decay, γ -spectra, IC coeffs. and branching ratios (*Chinese*) 4-27836
 ^{24}Na , nucl. spectroscopic study using ^{23}Na (n, γ) ^{24}Na 4-4801
 $^{82}\text{Rb}^m$, gamma ray spectra 4-551
 ^{92}Rh , collective and shell-model excitations 4-9136
 ^{107}Rh , high spin states study using ^{108}Mo (^{11}Li ,n) 4-37429
 ^{48}Ru , A=101, 103, 105, γ -transitions study using (n, γ) reaction 4-23074
 ^{48}Ru , A=99,101, medium spin states, in-beam γ -ray spectroscopy studies from ^{96}Sr Mo(α ,n) 4-4798
 ^{54}Sb , A=120, 124, 125, relative gamma-ray intensities meas. 4-54070
 $^{44}\text{Sc}^m$, β^+ and EC decay, branching ratio, γ -spectra 4-582
 ^{75}Se , decay, K-capture probabilities to 400.56 and 279.48 keV levels 4-43433
 ^{131}Sn , single-hole states identification using β - and γ -ray spectroscopy 4-54023
 ^{181}Ta (n, γ), keV neutrons, cross section and γ -spectrum for reactor fuel fission products 4-32871
 ^{181}Ta (n, γ), thermal and fast n, gamma-ray spectra evaluation 4-23108
 ^{153}Tb , excited states, γ -ray, internal conversion and $e\gamma$ coincidence spectra 4-557
 ^{153}Tb , γ -ray internal conversion and $e\gamma$ coincidence spectra in decay 4-554
 ^{124}Te , low energy nucl. states 4-37485
 ^{147}Tm , A=161,2,3, internal conversion and γ -ray spectra in decay 4-558
 $^{163}\text{Tm} \rightarrow ^{163}\text{Er}$, KX-, γ -ray, conversion electron spectra 4-18386

gamma-ray spectra continued

- ^{233}U , γ -ray transition energies and emission probabilities in decay 4-48544
 ^{239}U — ^{239}Np , decay scheme data 4-37502
 ^{125}Xe , γ -ray and $\epsilon\gamma$ coincidence spectra 4-577

gamma-ray spectra of liquids and solids

- see also Mossbauer effect
 1,3-butanediol, supercooled, microscopic study of motions by γ -radiation Rayleigh scatt. 4-56949
 diamond:Hf, ion implanted, elec. field gradients, TDPAC study 4-35273
 Ge:F, implanted, quadrupole interactions gamma-ray spectra 4-34932
 geological samples, gamma-ray spectra from INAA, processing method (Rumanian) 4-47462
 graphite, intercalation of InCl_3 , TDPAC study 4-40303
 Heusler Cl_2 alloys, sp sites, hyperfine fields, TDPAC and Mossbauer study 4-35280
 Heusler L_2 alloys X_2MnZ ($\text{X}=\text{Ni}$, Cu , Rh , Pd and $\text{Z}=\text{Ga}$, Ge , In , Sn Pb), hyperfine mag. field 4-35279
 hyperfine interactions conf., Groningen, Netherlands (July 1983) 4-31958
 indium metalloporphyrin complexes, elec. field gradient, perturbed ang. correl. 4-11807
 local magnetic fields on ^{19}F , studied up to T_c , TDPAC meas. 4-39852
 metals, FCC, defect trapping by ^{100}Pd , PAC meas. 4-34526
 metals, lattice defects, hyperfine interactions studies, review 4-39282
 metals, local 4f moment form. and dynamics 4-40139
 metals, point defects produced by cold working, Mossbauer spectroscopy and PAC study 4-35260
 molybdate polymerisation studied by perturbed angular correlation 4-40301
 neutron capture γ -ray spectroscopy applications 4-12424
 rare earth dilute alloys, RNi_2Cd , ^{111}Cd transferred hyperfine field, TDPAC studies 4-56839
 rare earth intermetallics, quadrupole interactions at ^{111}Cd sites 4-35283
 rare earth metals, heavy, Cd impurities, electric field gradient, press. depend. 4-39847
 trace element uptake and transport in plants PAC study 4-41465
 trifluorides, electric hyperfine interaction, TDPAC study 4-40298
 water, natural, gamma spectroscopic meas. in Bulgaria 4-7096
 water, semimfinite layers, multiple scatt. of γ -rays, transmitted spectra 4-2847
 Ag, trapping and detrapping of O decorated defects, TDPAC study 4-35267
 AgI, ionic motion, PAC study 4-40295
 AgIn dilute alloys, internal oxidation, kinetic studies and oxide charact., TDPAC studies 4-20891
 AgIn $_2$, temp. depend. of elec. field gradient, TDPAC study 4-39846
 Ag $_2\text{S}$, ionic motion, PAC study 4-40295
 Ag $_3\text{Si}$, ionic motion, PAC study 4-40295
 Ag $_2\text{Se}$, ionic motion, PAC study 4-40295
 Ag $_2\text{Te}$, ionic motion, PAC study 4-40295
 Al dilute alloys, elec. field gradients, ^{111}In PAC study 4-34929
 Au-In, dil., damage rate expts., PAC study 4-34525
 Au $_2\text{Fe}_{18}$, spin glass freezing and absence of ferromagnetism, PAC study 4-30184
 Au $_2\text{Fe}_{18}$, spin glass freezing temp. internal field distrib., PAC study 4-35176
 Be, structure factor, γ -ray meas. and band struct. calcs. 4-39205
 Be-In dilute alloys, electric field gradient for ^{111}In and temp. depend., TDPAC meas. 4-35258
 Bi, electric field gradient of Tl, probe atom depend. 4-34927
 Bi $_2\text{Te}_3$, electric quadrupole interaction, temp. and conc. depend. 4-30364
 Bi $_2\text{Te}_3$, electric quadrupole interaction, TDPAC meas. 4-35306
 BrF $_3$, elec. field gradients, TDPAC study 4-40299
 Cd, HCP, point defects trapping, PAC study 4-35264
 Cd, noncubic metal, elec. field gradient, isotopic mass effect 4-35252
 Cd single crystal, Sb probe atom depend. elec. field gradient 4-34926
 Cd-Au dilute alloys, quadrupole moments and low temp. thermal relax. 4-35256
 CdCr $_2\text{Se}_4$, ^{111}Cd quadrupole coupling, TDPAC study 4-35295
 CdGeAs $_2$, electron field gradient, struct. depend., TDPAC study 4-35308
 CdGeP $_2$, electron field gradient, struct. depend., TDPAC study 4-35308
 CdSiP $_2$, electron field gradient, struct. depend., TDPAC study 4-35308
 CdSAs $_2$, electron field gradient, struct. depend., TDPAC study 4-35308
 CdSnP $_2$, electron field gradient, struct. depend., TDPAC study 4-35308
 CdTiO $_3$, structural transition, PAC elec. quadrupole interaction 4-40297
 $^{111}\text{CdIn}$ dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
 $^{111}\text{CdSn}$ dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
 Ce alloys, valence sensing by dil. impurity probes, PAC study 4-40290
 ClF, elec. field gradients, TDPAC study 4-40299
 ^{57}Co source, sideband and quantum beat meas. 4-40309
 Cu, defect induced elec. field gradients, geometrical significance of orientation 4-34930
 Cu-In, dil., vacancy clustering detection, PAC and lattice location meas. 4-34522
 Cu-In dilute, lattice defect probing by radioactive atoms 4-45155
 Cu-In-Hf, nucleation of He clusters at ^{111}In sites, PAC obs. 4-35271
 Cu $_2\text{S}$, phase transformation, TDPAC elec. quadrupole interaction study 4-40296
 Er, electric field gradient, temp. depend., perturbed ang. distrib. study 4-39849
 F $_2$, electric hyperfine interaction, TDPAC study 4-40298
 Fe based alloys, near-neighbour interactions, time differential PAC expt. 4-35276
 Fe, surface magnetisation and closure domains, PAC study 4-40189
 Fe-Co-Cr containing various admixtures, struct., NMR, nucl. gamma reson. (Russian) 4-25961
 Fe $_2\text{Al}_3$, mag. vacancies, ^{19}F TDPAC expts. and simulations 4-35265
 Gd, magnetic hyperfine field of dil., ^{99}Ru impurities, anomalous temp. depend., TDPAC study 4-39848
 Ge, background estimation for gamma-ray spectra 4-7098
 Hf oxidation, PAC in-situ studies 4-40302
 Hf-As-Ta system, ^{181}Ta electric quadrupole interaction, TDPAC study 4-46149
 HfV $_2$, martensitic transformation, H absorption, TDPAC meas. 4-35300
 Hf $_2\text{Zr}_2\text{V}_2$, martensitic transformation, H absorption, TDPAC meas. 4-35300
 Hf $_2\text{Zr}_{1-x}\text{V}_2$, lattice transformation hysteresis, Γ -recoil effects 4-35304

gamma-ray spectra of liquids and solids continued

- IF $_3$, elec. field gradients, TDPAC study 4-40299
 In, surface elec. field gradient, temp. depend., PAC study 4-39859
 α -InCl $_3$, elec. field gradient at Cd, TDPAC meas. 4-39858
 InCl $_3$ quadrupole interactions, TDPAC obs. 4-50777
 InCl $_2$, elec. field gradient at Cd, TDPAC meas. 4-39858
 InCl $_2$ quadrupole interactions, TDPAC obs. 4-50777
 InCl $_3$, elec. field gradient at Cd, TDPAC meas. 4-39858
 InCl $_3$ quadrupole interactions, TDPAC obs. 4-50777
 In $_2\text{O}_3$, polycryst., ^{111}In hyperfine interaction, TDPAC study 4-35266
 In $_2\text{O}_3$, semicond., TDPAC study, electron capture aftereffects 4-40316
 InSe, structural changes, TDPAC study 4-2325
 In $_2\text{O}_3\text{Te}_{0.17}$, liq., with segregation tendency, nucl. spin relax., TDPAC study 4-40287
 In $_2\text{Te}$, electric quadrupole interaction, TDPAC meas. 4-35306
 In $_2\text{Te}$:Cd, electric field gradient, PAC study 4-35307
 Mo compounds, nuclear quadrupole interaction at ^{99}Tc 4-40300
 (NH $_4$) $_2\text{ZrF}_6$, hyperfine interaction and phase transition, TDPAC study 4-46151
 Nb $_3\text{Sn}$ coatings, radiation defect distrib., nucl. gamma reson. methods (Russian) 4-24877
 Ni, critical behaviour of ^{19}F hyperfine fields near Curie temp., TDPAC study 4-40289
 Ni, hyperfine field at Sr nuclei, TDPAC meas. 4-39853
 Ni, proton irradiated, deformed and ion implanted, defect recovery, ^{111}In PAC study 4-35263
 Ni, trivacancy recovery and cubic symmetry defect trap formation on ^{111}In impurities, PAC study 4-34523
 Ni $_2\text{MnGa}$, Heusler alloy, plastic deform. occurring during cold work, PAC study 4-56827
 Os, electric field gradient at ^{111}Cd and ^{181}Ta , TDPAC study 4-39845
 Pd-Fe, hyperfine mag. field, integral PAC study 4-35277
 PdH $_x$, H distrib., PAC and Mossbauer study 4-35302
 PdMnSn, Heusler alloy, plastic deform. occurring during cold work, PAC study 4-56827
 Pt, quadrupole coupling freq. of lattice defect trapped to ^{111}In , PAC study 4-34524
 RRh $_2\text{B}_2$, R=Ce to Gd, ^{111}Cd quadrupole interaction, transferred hyperfine field 4-35284
 Ru, electric field gradient at ^{111}Cd and ^{181}Ta , TDPAC study 4-39845
 Ru-Sc, electric quadrupole interaction, TDPAC study 4-35299
 Sb-Ag dilute alloys, electric field gradient sign meas. at ^{111}Cd by β - γ TDPAC technique 4-35257
 Sb $_2$ -xAg $_x$, electric quadrupole interaction, TDPAC meas. 4-35306
 Sb $_2$ -xAg $_x$, electric quadrupole interaction, TDPAC meas. 4-35306
 Sb $_2$ -xIn $_x$, electric quadrupole interaction, TDPAC meas. 4-35306
 Sb $_2$ -xM $_x$, where M=Ag, Cd, In and Sn, electric quadrupole interaction, temp. and conc. depend. 4-30364
 Sb $_2$ -xSn $_x$, electric quadrupole interaction, TDPAC meas. 4-35306
 Sb $_2\text{Te}_3$, electric quadrupole interaction, temp. and conc. depend. 4-30364
 Sb $_2\text{Te}_3$, electric quadrupole interaction, TDPAC meas. 4-35306
 $^{120}\text{SbSn}$ dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
 Se $_2$ -xTe $_x$, liquid and amorphous, TDPAC study 4-56835
 Si single crystal, neutron irradiation-induced defects, γ -ray diff. and IR studies 4-11192
 Ta, radiation induced lattice defects, stage III recovery, PAC study 4-34476
 Ta-O-H(D), quadrupole interaction, PAC study 4-35270
 TaH system, phase transition, PAC obs. 4-35301
 TaS $_2$ (2H) intercalation reaction kinetics, TDPAC study 4-30944
 TaS $_2$, sublattice melting during polymorphic phase transitions, PAC in-situ studies 4-40302
 TaS $_2$ -2H, electrochem. intercalation of K $^+$, TDPAC studies 4-11821
 TaS $_2$ (H), NQR-ON study 4-40276
 TaS $_2$ (2H), electrointercalation with Ag, PAC in-situ studies 4-40302
 Te deposited on solid surfaces, valence states, internal conversion electron meas. 4-16130
 $^{129}\text{Te}^m$ source, sideband and quantum beat meas. 4-40309
 tetrafluorides, electric hyperfine interaction, TDPAC study 4-40298
 Tl $_2\text{Te}_3$, ^{111}Cd , electric field gradient study 4-39863
 Tm, magnetic and electric hyperfine interactions of implanted ^{181}Ta , TDPAC meas. 4-39850
 V $_2\text{O}_3$, metal insulator transition, PAC hyperfine field study 4-35305
 V $_2\text{O}_3$:Cd, hyperfine interactions, TDPAC spectra 4-46154
 W, proton irradiated, obs. of <100> mixed dumbbell at ^{181}Hf , TDPAC meas. 4-34528
 W, vacancy clustering at Ag and In impurities, PAC and He desorption study 4-34480
 (Y $_{0.97}\text{Hf}_{0.03}\text{Fe}_2$), hyperfine mag. field, γ -ray study 4-6992
 Zn, HCP, point defects trapping, PAC study 4-35264
 Zn, nuclear level-crossing reson. of ^{69}Ge 398-keV $9/2^+$ state 4-37518
 ZnSiP $_2$, electron field gradient, struct. depend., TDPAC study 4-35308
 Zn-Ag dilute alloys, electric field gradient sign meas. at ^{111}Cd by β - γ TDPAC technique 4-35257
 ZrS $_2$, ^{181}Ta , anomalous nucl. quadrupole interaction, TDPAC study 4-11816
 ZrS $_2$:Hf, Hf doping PAC in-situ studies 4-40302
 ZrV $_2$, martensitic transformation, H absorption, TDPAC meas. 4-35300

gamma-ray spectrometers

- see also gamma-ray spectra
 airborne and truck-mounted gamma-spectrometer radiometric calibration facility in South Africa 4-32227
 anti-Compton γ -ray spectrometer, sensitivity (Czech) 4-43755
 anticoincidence scintillator spectrometer for photon energies up to 100 MeV 4-955
 archaeological neutron activation γ -spectrum processing by Hewlett-Packard minicomputer 4-31043
 balloon-borne instrument for high-resolution astrophysical spectroscopy in 20-8000 keV range 4-3928
 calibration, ^{56}Mn and ^{72}Ga standards 4-9628
 coincidence system, 2-D, ICA-70 multichannel analyser 4-28311
 continuous energy gamma-ray spectrometry 4-18026
 focusing crystal spectrometers, crystal bending device 4-48862
 gas-discharge detector for obtaining nuclear gamma resonance electron spectra 4-22890
 HINOTORI solar flare satellite, γ -ray spectrometry and instrument description 4-3927
 laboratory scintillation spectrometer interfacing with microcomputer 4-53433

gamma-ray spectrometers continued

- lead-glass γ -spectrometer radiators irradiated by high energy particles, chars. 4-949
- Mossbauer effect spectrometer with NTA 1024 analyser 4-22889
- Mossbauer spectrometer velocity calibration, using (Al,Ga)As laser diode 4-18025
- multiple-coincidence spectrometer 4-947
- neutron capture γ -ray spectroscopy applications 4-12424
- photopeak resolution FWHM variation, sample composition depend. 4-54530
- sample changer with shielding system for automatic γ -ray spectra measurements (*Japanese*) 4-18851
- scintillation spectroscopy using cooled $\text{Bi}_4\text{Ge}_3\text{O}_{12}$ scintillator and Si photo-diodes 4-54520
- sensitivity calculation (*Russian*) 4-5081
- space-borne, cooling by Philips refrigerator with bellows seals, life test performance 4-4413
- CdTe nuclear radiation detectors, chars. for proton, α -particle and γ -ray detection (*Russian*) 4-38008
- NaI(Tl) spectrometer response to 130 to 387 MeV γ -rays 4-950
- n-Si, semiconductor detector, neutron and γ -ray discrimination 4-48865

gamma-ray transport see *photon transport theory*

gamma-rays

- catalogue, from radioactive decay 4-8655
- PWR, flux and dose rate level prediction from 1-dimens. representation (*Chinese*) 4-54225
- ^{232}Th , alpha-decay, gamma-rays intensity and energy 4-9181

gamma transition see *glass transition (polymers)*

Gamow-Teller transitions see *beta-decay*

garnets

- includes *ferrimagnetic insulators*, $\text{M}_3\text{Fe}_2\text{O}_{12}$; for *rock-type garnets*, $\text{MM}(\text{SiO}_4)_3$, see *minerals*
- see also *ferrimagnetic properties of substances*
- bubble films, H^+ implanted, depth selective conversion electron Mossbauer spectroscopy 4-35210
- bubble moving in rotating field gradients, wall states 4-25616
- domain boundaries of magnetic bubbles in garnet films 4-35213
- ferrite, polycrystalline, magnetisation vector, transient oscillations 4-40194
- ferrite-garnet epitaxial films, transition layer contrib. to coercivity 4-46076
- ferrite-garnet films, cylindrical magnetic domains formation 4-30254
- ferrite-garnet films, experimental detection of motion 4-7000
- films, breathing vibrations of a Neel wall 4-56738
- films, domain-wall motion in strong mag. fields 4-25624
- films, ion implanted, dynamic bubble collapse, horizontal Bloch line nucleation and punch-through 4-40209
- films, ion implanted, mag. distrib., stress relief effects 4-30248
- films, LPE grown, domain struct. and chars. 4-2799
- films, N ion implantation effect on mag. props. 4-25622
- garnet: $\text{Fe}^{3+}(\text{Mn}^{2+})$, zero-field splitting, EPR, superposition model 4-2808
- ion implanted, effects of stress relax. and anisotropic magnetostriction on charged walls 4-25621
- ion-ion emission from implanted ferrite-garnet films 4-40586
- laser irradi. in inert gas, mag. props. 4-25617
- low magnetisation materials, coercivity model 4-25594
- LPE, growth rate inhibition by group II oxides 4-3091
- LPE [111] thick films, melt $\text{PbO}/\text{B}_2\text{O}_3$ molar ratio effects on morphological change 4-39712
- phonon Raman scatt., selection rule, influence of Faraday rot. 4-11884
- rare earth compounds, $\text{RFe}_2\text{O}_{12}$, $\text{R}=\text{Sm}, \text{Eu}, \text{Gd}, \text{Tb}, \text{Dy}, \text{Y}, \text{Ho}, \text{Er}, \text{Tm}, \text{Yb}, \text{Lu}$, garnet, electric field gradient calcs. 4-50779
- rare earth garnets, $\text{R}_3\text{Fe}_2\text{O}_{12}$, low temp. mag. susceptibility at optical freq. 4-11679
- rare earth iron garnets, magneto-optical props. 1.1-1.7 μm 4-51244
- rare-earth ferrite garnet epitaxial films, magneto-optical apparatus for hysteresis loop recording 4-37121
- SAW delay lines, fabrication on magnetic bubble garnet films 4-24330
- waveguide light propag., refractive index meas. 4-30547
- YAG, rare earth-ion activated, radiationless transition mechanism 4-7230
- YAG crystals, far-IR optical props. 4-51216
- YIG:Si, Richter-type mag. aftereffects at 4.2K, influence of irradi. 4-40206
- YIG, neutron irradi., amorphisation, X-ray diff., mag. meas. studies 4-6408
- (Bi, G, Tm, Ca) $_3(\text{Fe}, \text{Si})_2\text{O}_{12}$ bubble garnets, mag. props. study 4-56743
- (Bi,Tm) $_3(\text{Fe}, \text{Ga})_2\text{O}_{12}$ garnet film, pulsed magnetisation switching 4-2798
- BiIG thin film waveguides, LPE-grown, growth-induced optical birefringence 4-19563
- (BiSmLu) $_3(\text{Fe}, \text{Si})_2\text{O}_{12}$ bubble films, mag. props. study 4-56739
- (BiSmYb) $_3(\text{Fe}, \text{Ga})_2\text{O}_{12}$ garnet films, light diff. at stripe domains 4-7259
- (BiTm) $_3(\text{Fe}, \text{Ga})_2\text{O}_{12}$ garnet films, mag. bubble lattices, thermal stability 4-51112
- Ca-Ge-Fe garnet film, dynamics of small domain-wall oscils. 4-20841
- $\text{Ca}_2\text{Ga}_2\text{Ge}_2\text{O}_{12}:\text{Nd}^{3+}$, spectroscopy of Nd^{3+} activator centres 4-56974
- $\text{Ca}_3\text{Ga}_2\text{Ge}_2\text{O}_{12}$ garnet, growth macrodefects 4-39285
- $\text{Ca}_3\text{Mn}_2\text{Ge}_2\text{O}_{12}$, photoinduced linear birefringence 4-40411
- (Dy, Sm, Lu, Bi, Ca) $_3(\text{Fe}, \text{Ge})_2\text{O}_{12}$ bubble garnet disc devices 4-56742
- $\text{Er}_3\text{Fe}_2\text{O}_{12}$ (110) plate, domain walls, microspectroscopic studies 4-11751
- $\text{Eu}_{1-x}\text{Sc}_x\text{Fe}_2\text{O}_{12}$ garnet, Mossbauer study of cation distrib. 4-45081
- EuYIG films, Ga substituted, laser annealed, thermal variation in mag. props. 4-25619
- Gd-Fe garnet layers, Bi substituted, LPE growth 4-35586
- $\text{Gd}_{3-x}\text{Bi}_x\text{Fe}_{3-x}\text{Ga}_x\text{O}_{12}$ ferrimagnetic garnet films, optical switching using Faraday effect 4-20949
- $\text{Gd}_3\text{Fe}_2\text{O}_{12}$ garnet, orientational mag. transitions 4-16030
- $\text{Gd}_3\text{Ga}_2\text{O}_{12}$, Czochralski grown, chars. 4-2119
- $\text{Gd}_3\text{Ga}_2\text{O}_{12}$, GGG, thermal cond. in mag. fields, 1.4 to 20K 4-25100
- $\text{Gd}_3\text{Ga}_2\text{O}_{12}$, melt grown, lattice spacings, stress birefringence obs. 4-34429
- $\text{Gd}_3\text{Ga}_2\text{O}_{12}$, Raman and luminescence study (*Russian*) 4-56947
- $\text{Gd}_3\text{Ga}_2\text{O}_{12}$, Raman spectrum (*Chinese*) 4-51249
- $\text{Gd}_3\text{Ga}_2\text{O}_{12}$, surface topographical changes induced by low energy ion beam sputtering 4-16286
- $\text{Gd}_3\text{Ga}_2\text{O}_{12}:\text{Ca}^{2+}$ garnet, γ -ray irradi., thermoluminescent props. 4-35502
- $\text{Gd}_3\text{Ga}_2\text{O}_{12}/\text{He II}$ interface, Kapitza conductance, 1.4 to 2.1K 4-45434
- $\text{Gd}_3(\text{ScGa})_2\text{O}_{12}:\text{Cr}^{3+}$, tunable laser 766 to 820 nm range, utilising electronic-vibr. transition 4-55046

garnets continued

- (La, Sm, Lu, Tm, Ca) $_3(\text{Fe}, \text{Ge})_2\text{O}_{12}$ bubble garnet film, mag. props. study 4-56740
- (La, Sm, Lu, Tm) $_3(\text{Fe}, \text{Ga})_2\text{O}_{12}$ bubble garnet film, mag. props. study 4-56740
- ($\text{La}_2\text{Nd}_3\text{Lu}_{0.7}$) $\text{Lu}_2\text{Ga}_2\text{O}_{12}$ garnet, elastic and photoelastic consts. 4-11212
- $\text{Mn}_3\text{Fe}_2\text{O}_{12}$ garnet films, orthorhombic anisotropy and domain wall dynamics 4-16077
- $\text{NaCa}_2\text{Ni}_2\text{V}_2\text{O}_{12}$, cubic antiferromagnet, spin configurations, magnetostriction study 4-30264
- $\text{Nd}_3\text{Ga}_2\text{O}_{12}$, melt grown, lattice spacings, stress birefringence obs. 4-34429
- ReIG single crystal thin films, Faraday rotation meas. (*Chinese*) 4-46338
- (Sm, Dy, Lu, Ca) $_3(\text{Fe}, \text{Si})_2\text{O}_{12}$ bubble garnets, mag. props. study 4-56743
- $\text{Sm}_3\text{Ga}_2\text{O}_{12}$, melt grown, lattice spacings, stress birefringence obs. 4-34429
- SmTmGdLuAl:YIG epitaxial films, mag. props. study 4-56729
- (SmYGdTm) $_3\text{Ga}_2\text{Fe}_2\text{O}_{12}$ films, ion-implanted, characterisation of microstructure by SEM 4-25173
- $\text{Tb}_{0.3}\text{Y}_{2.7}\text{Fe}_2\text{O}_{12}$, 'pseudo-acoustic' magnon dispersion, anomalous anisotropy 4-25530
- $\text{Tb}_{3-x}\text{Y}_x\text{Fe}_2\text{O}_{12}$, cryst. struct. magnetoelastic distortions, magnetostriction, X-ray anal. 4-30262
- Y-Ga:Tb garnet phosphor, luminescence props. 4-21022
- YAG activated crystal, uncontrolled impurity detection using intracavity spectroscopy 4-11176
- YAG cryst., neutron irradi.-stimulated recombination processes 4-35482
- YAG, melt grown, lattice spacings, stress birefringence obs. 4-34429
- YAG, Si-substituted, solubility, energy dispersive X-ray anal., electron probe anal. 4-56023
- YAG: Ce^{3+} , scintillators, for scanning electron microscopes and transparent screens 4-18015
- YAG:Nd, absorpt.-spectrophotometric analysis of Nd conc. 4-52073
- YAG:Nd lasers, pulsed and continuous, admixtures effect obs. (*Czech*) 4-23998
- YAG:Nd $^{3+}$, gas bubble assoc. mass transport of Bridgman-Stockbarger melt growth system 4-2108
- YAG:Nd $^{3+}$ activated crystals, laser generation with electron beam pumping 4-51303
- YAG:Nd $^{3+}$ laser, mode locking with travelling acoustic wave modulation 4-49409
- $\text{Y}_3\text{Al}_2\text{O}_{12}$, integral neutron intensities, ω -method corrections 4-34376
- $\text{Y}_3\text{Al}_2\text{O}_{12}:\text{Fe}^{3+}$, luminescence and level structure of optical centres (*Russian*) 4-51319
- (YBiCa) $_3(\text{FeSi})_2\text{O}_{12}$ epitaxial garnet films, Bi content, chemical analysis, Faraday rotation 4-2797
- $\text{Y}_3\text{Bi}_2\text{Fe}_{3-x}\text{Al}_x\text{O}_{12}$, film, mag. and magneto-optic props. 4-51108
- (YBi) $_3(\text{FeGa})_2\text{O}_{12}$ LPE film waveguides, optical props., growth temp. effects 4-19561
- $\text{Y}_3\text{Bi}_2\text{Fe}_{3-x}\text{Al}_x\text{O}_{12}$, magnetic circular dichroism study 4-11871
- ($\text{Y}_{1-x}\text{Er}_x$) Al_2O_{12} garnet cryst., Raman light scatt. 4-25766
- $\text{Y}_3\text{Fe}_2\text{O}_{12}$ crystal diffraction modulator 4-49504
- $\text{Y}_3\text{Fe}_2\text{O}_{12}:\text{Si}$, magnetisation changes, domain struct. (*Russian*) 4-25733
- YGdCaVInIG, NMR hyperfine field temp. depend. 4-16122
- $\text{Y}_{1-x}\text{Gd}_x\text{Fe}_2\text{O}_{12}$ garnets, X-ray absorption spectra studies 4-57039
- (YGdYbBi) $_3(\text{FeAl})_2\text{O}_{12}$ film, LPE, magnetostriction oscils., influence of domain struct. 4-11752
- (YGdYb) $_3(\text{FeGaMn})_2\text{O}_{12}$ epitaxial film, bubble wall state conversion 4-56748
- YIG, 'pseudo-acoustic' magnon dispersion, anomalous anisotropy 4-25530
- YIG, acoustic FMR and nonlinear magnetoelastic props. 4-51138
- YIG, Barkhausen noise, US depression 4-25590
- YIG, double-layer films, pulsed magnetisation props. 4-30255
- YIG, double-phonon absorpt. spectra (*Russian*) 4-51287
- YIG, elec. resistivity, H_2 gas effects, H_2 sensor appl. 4-20646
- YIG electronic materials, IR microscopy, appls. (*French*) 4-17934
- YIG epitaxial film, CVD, quality and thickness, guided wave optical loss 4-16341
- YIG epitaxial films, mag. props. and structural defects (*Russian*) 4-25612
- YIG epitaxial films, domain struct. and mag. props., annealing and high press. effects 4-25623
- YIG, ferromagnetic resonance and spin wave spectrum 4-35232
- YIG film, Brillouin scatt. from parallel pump instabilities 4-7260
- YIG film, ferromagnetic resonance study 4-56781
- YIG film, spin wave resonance excitation mechanism 4-40208
- YIG film, spin wave modulation by volume acoustic wave 4-51110
- YIG film, surface magnetostatic wave damping 4-40207
- YIG film, volume oscil. in delay time of magnetostatic wave pulses 4-51109
- YIG film disc, MSW resonance and tuning at MM-wave freq., expt. study (*Japanese*) 4-35208
- YIG film/meander type strip retarding struct., interaction of surface MSW with EM wave 4-56733
- YIG films, spin-wave spectra, volume inhomogeneity model anal. (*Chinese*) 4-56779
- YIG films, traveling magnetostatic waves at incomplete saturation 4-7042
- YIG films and plates, MSW dispersion chars., theoretical and expt. study 4-25611
- YIG films for magnetostatic wave devices, design and technology 4-56727
- YIG, interaction of shock waves with magnetoelastic waves 4-51117
- YIG isolator, Bi-substituted rare earth Fe garnet, Faraday rotation 4-49492
- YIG, LPE films, growth and dissolution in orthoferrite primary phase melt 4-46457
- YIG layered film, periodically corrugated, magnetostatic surface waves, perturbation method 4-25529
- YIG, low temp. spin wave kinetic instability (*Russian*) 4-25525
- YIG, mag. bubble collapse under action of circularly polarised light 4-35212
- YIG, mag. dielectrics, mag. and elec. field obs. by electron diff., micro-wave absorpt. (*German*) 4-40148
- YIG, magnetic circular dichroism study 4-11871
- YIG, magnetic linear dichroism anisotropy 4-25732
- YIG, magneto-optical study of self-modulation oscils. 4-35419
- YIG magneto-optic rib waveguides, normal and inverted rib types, fabrication 4-28826

garnets continued

- YIG, magnetostatic waves, relax. times 4-25535
 YIG, parallel pumped, parametrically excited magnons, Brillouin scatt. 4-56587
 YIG plate, localised magnetisation waves 4-16075
 YIG, resonant trapping of particles with spin orbital motion, ferromagnetic reson., reson. trapping 4-49249
 YIG, spin wave relax. study 4-56593
 YIG, spin wave spectra and thermodynamics 4-25539
 YIG, substituted, localised canting models 4-6951
 YIG triple film layered struct., nondispersive magnetostatic forward vol. wave propag. 4-25528
 YIG:Bi, Ga (La, Ga) bubble garnet films, annealing and mag. props. 4-56745
 YIG:Ga, effect of ionic migration induced by heat treatment on Faraday rotation 4-25727
 YIG:Ga, spin-wave instabilities, period doubling and chaos 4-46016
 YIG-Ga epitaxial film, magneto-optical obs. of Bloch lines 4-56746
 YIG:Gd epitaxial film, optical absorpt. study 4-30539
 YIG:H⁺(Ne⁺), ion implanted, Mossbauer study 4-56831
 YIG:Ho³⁺, FMR, laser irradi. effect 4-2827
 YIG:La film for magnetostatic wave device for beam steering and spreading 4-56728
 YIG:Mn thin films, noncubic anisotropy, ferromag. resonance studies 4-35207
 YIG:Ne films, implanted, giant Faraday rotation 4-25726
 YIG:Zr, localisation of magneto-optical active centres 4-25728
 YIG-dielectric-metal layered struct., steering of magnetostatic surface waves 4-35155
 (YLa)_{1-x}Fe_{1-x}Ga_xO₁₂ laser annealed films, thermal anal., bubble statics 4-25618
 Y_{3-x}Lu_xAl₂O₁₂ garnet, acoustic props. study 4-11232
 Y_{3-x}Nd_xFe₂O₁₂ garnet single cryst., magnetostriction consts. 4-25626
 (YSmCa)₃(FeGe)₅O₁₂ films, ion implantation, acoustic emission 4-2796
 (YSmLuCa)₃(FeGe)₅O₁₂:Xe(As) bubble garnet films, mag. and struct. props. 4-56744
 (Y_{0.81}Tb_{0.19})₃Fe₂O₁₂ crystal for fibre optic sensor, design for low-current meas. appls. (*Japanese*) 4-27539
 Yb_{3-x}Pr_x(Fe,Ga)₅O₁₂, photoelastic props., optical waveguide study 4-51237
 YIG epitaxial films, magneto-optical parameters, local distrib. over area of samples (*Russian*) 4-20947

gas see gases

gas analysis see chemical analysis

gas breakdown see electric breakdown of gases

gas bubbles see bubbles

gas discharge lamps see discharge lamps

gas-discharge tubes

see also ion sources; thyatrons

- ion laser volt-ampere characteristic of discharge (*Bulgarian*) 4-49327
 Ne, hollow cathode discharge tube, time-resolved spectral measurement by. photon counting method 4-37190

gas discharges see discharges (electric)

gas dynamic lasers see gasdynamic lasers

gas dynamics see aerodynamics

gas ionisation see ionisation of gases

gas lasers

see also chemical lasers; excimer lasers; gasdynamic lasers; ion lasers

- Antares CO₂ driver amplifier post pulse study 4-14730
 Antares CO₂ laser beam alignment system performance 4-14707
 Antares CO₂ laser facility, automatic alignment telescope system 4-10321
 Antares CO₂ laser fusion system, reference telescope system 4-10320
 atoms in gas lasers 4-28653
 benzimidazoles, 2-substituted, lasing in different aggregate states 4-38463
 carbon tetrafluoride, parameters of laser pumped mol. lasers 4-38456
 carbon tetrafluoride CW 16 μ m laser, CO₂ laser pumped 4-23957
 carbon tetrafluoride pulsed high repetition rate laser, appls. in chemistry and isotope separation 4-23959
 Cherenkov gas laser possibility 4-14665
 closed-cycle gas transport laser systems, axial flow compressor design and operation 4-5602
 complex organic compound vapour laser efficiency as result of hard UV (266) pumping 4-10287
 complex organic mol. in gas phase, laser action 4-5584
 coupled mode number evaluation for FM mode-locked lasers 4-14728
 DFB gas lasers, helical and linear, group theory and expts. 4-44115
 difluoroethene, optically pumped submillimetre laser lines, MODOR 4-5575
 1,1-difluoroethylene CW far IR lasing lines, optically pumped 4-28667
 difluoromethane, optically pumped submillimetre laser lines, MODOR 4-5575
 direct neutron-pumped gas laser driver for inertial confinement fusion reactor 4-34309
 distributed feedback laser with gyroanisotropic resonator, design from thin magneto-optical film 4-33689
 electric charge neutralisation discharge appl. to gas lasers (*Chinese*) 4-55667
 electron beam controlled pulsed laser cavity, discharge confinement 4-28731
 electron beam laser, high power, microscopic study of cathode damage 4-14709
 far-IR lasers, transient behaviour 4-38442
 fluoromethane laser, tuning and gain characteristics of stimulated Raman scatt. (*Chinese*) 4-38450
 fluoromethane optically pumped 496 μ m laser, helical and linear DFB, mode selectivity 4-44115
 fluoromethane-d₂, far IR laser assignments 4-5574
 formaldehyde (-d₂) far IR laser using TE CO₂ laser optical pumping 4-38452
 Gaussian beam parameters, saturation and population inhomogeneity 4-19423
 glass ceramic tubes, design and construction 4-19472
 high repetition rate pulsed gas lasers, appls. in chemistry and isotope separation 4-23959
 inhomogeneity effects in a gas laser 4-1388
 metal vapour lasers, pulsed, similarity relationships 4-28673
 methanol, optically pumped submillimetre laser lines, MODOR 4-5575

gas lasers continued

- methanol 119 μ m laser radiation, subnanosec. optical switching 4-5625
 methanol CW optically pumped 119- μ m far IR laser for plasma diagnostics 4-5611
 methyl alcohol, optically pumped, laser line M-independent Stark splitting 4-19427
 methyl alcohol submillimetre wave laser, pumping geometry of CO₂ laser 4-23955
 methyl fluoride-d₂ SMMW laser emission and freq. meas. 4-49334
 mode interaction suppression 4-33639
 modulation by time varying perturbation 4-14664
 Novette laser, comparison with simulation calcs. 4-10288
 operational modes and methods (*Spanish*) 4-19417
 output power enhancement, nonlinear Hanle effect investigation using optogalvanic detect. 4-17953
 production programme of VEB Carl Zeiss Jena, high freq. modulation 4-24007
 pyrene, vapour state, lasing capacity 4-19430
 ring gas laser with anisotropic resonator, radiation polarisation characts. 4-28735
 ring gas laser with longit. mode selector 4-14726
 ring laser, anisotropic cavity, nonlinear interaction of elliptically polarised counterpropagating waves 4-5619
 ring laser beat frequency under discharge-current fluctuations, thermal effects 4-5618
 self-phase locking in lasers with homogeneously broadened emission lines 4-44082
 tetrafluoromethane laser, optically pumped, polarisation phenomena 4-24052
 trifluoromethane-d₁, ν_2 band, optical pumping, laser emission 4-14674
 two-mode gas laser with anisotropic resonator in weak mag. field, level g factor, difference influence on emission characts. 4-10284
 types and applications, review (*Spanish*) 4-5600
 vinyl chloride CW FIR laser action, optimally pumped 4-49336
 vinyl fluoride optically pumped by CO₂ laser, far IR laser lines 4-44094
 Ar discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 Ar, laser chemical etching method for drilling vias in GaAs 4-12205
 CO CW laser line correl. investigation (*Chinese*) 4-49331
 CO CW tunable laser with two wavelengths (*Chinese*) 4-49330
 CO compact CW electric discharge laser 4-55080
 CO discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 CO electron-beam-controlled laser, submicrosec. pulse emission by Q-switching 4-19474
 CO gas-discharge laser active medium, scaling laws for gain and saturation parameter 4-14677
 CO₂ isotopic modifications, vibr.-vibr. exchange. probabilities calc. 4-28542
 CO laser, electron-beam-controlled, pulse shape anal. 4-23966
 CO laser, pulsed electron-beam-controlled, with intracavity water cell, emission spectrum 4-19432
 CO noncooled laser with short-pulse electron beam excitation 4-23956
 CO pulsed electron-beam controlled laser, active medium gain 4-14678
 CO supersonic CW electroionisation laser, optimum lasing regimes 4-19429
 CO₂ adjacent channel leaky waveguide lasers, phase locking 4-49387
 CO₂, band-stop absorption filters utilisation 4-1403
 CO₂ CW laser, kinetic and fluid dynamic model 4-19420
 CO₂ CW tunable laser resonator optimisation 4-24018
 CO₂ CW tunable waveguide high-pressure lasers 4-5608
 CO₂ cascade lasers with electric discharge excitation 4-28661
 CO₂ circulation laser radiation ang. divergence 4-5626
 CO₂ compact sealed TEA lasers with corona-discharge preionisation 4-23952
 CO₂ discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 CO₂ electroionisation amplifier for laser fusion, energy and operating characts. 4-19421
 CO₂ electron beam controlled atm. pressure laser utilising CO₂-N₂-H₂O mixture, energy characts. 4-28659
 CO₂ electron-beam-controlled laser, thermal self-interaction, numerical analysis 4-14667
 CO₂ electron-beam-controlled CW laser, energy characts. stabilisation by silica gel 4-19475
 CO₂ far IR hybrid laser, CW and pulsed, with improved efficiency and amplitude stability at short far IR wavelengths 4-28715
 CO₂ fast-flow lasers, gas-discharge chamber energy characts. investigation looking at discharges in N₂ and air 4-28749
 CO₂ fixed-alignment waveguide laser 4-1412
 CO₂ for laser activated flow of phosphosilicate glass for IC fabrication 4-10350
 CO₂, high power, use in rapid solidification laser processing, book contrib. 4-7622
 CO₂ high-gain short-pulse laser chain multiband operation using saturable absorbers 4-23950
 CO₂ hybrid laser, multiline oscillation by cavity length tuning 4-19419
 CO₂, inverted, stimulated light scatt. induced by thermal nonlinearity 4-10276
 CO₂ laser, 30-W RF excited waveguide, design and performance characts. 4-1382
 CO₂ laser, closed-circle-type, EM driven 4-14718
 CO₂ laser, continuous, freq. stabilisation and band selection (*Spanish*) 4-28727
 CO₂ laser, electron-beam sustained, laser-induced freq. sweeping 4-44085
 CO₂ laser, mode pulling obs. 4-49322
 CO₂ laser, OH catalyst control via NbH₅-H₂ equilb. 4-33641
 CO₂ laser, pulsed, using passive Q switch with SF₆ gas 4-44111
 CO₂ laser, treatment of materials, conference, Pianore, Italy (July 1980) 4-36794
 CO₂ laser active medium energy charact. determ. from gain meas. 4-19422
 CO₂ laser detector using electron-hole plasma generation in doped Si 4-20241
 CO₂ laser discharges, optogalvanic effect, temp. perturbation model 4-33642
 CO₂ laser effects, instrumentation and biomedical appl. (*Czech*) 4-55109
 CO₂ laser emission freq. stabilised tuning using two-section interferometer 4-19493
 CO₂ laser frequency selection by Ge-window temp. control (*Chinese*) 4-14713

gas lasers continued

- CO₂ laser frequency stabilisation with NH₂D Stark cell (*Chinese*) 4-55100
- CO₂ laser impedance fluctuations, multi-step ionisation and temp. perturbation models 4-33643
- CO₂ laser materials processing systems, development and appl. (*Japanese*) 4-10352
- CO₂ laser power stabilisation by feedback loop, freq. stability (*Chinese*) 4-55069
- CO₂ laser pulses, atmospheric propag. 4-47403
- CO₂ laser using electrochemical transformation of organic compounds 4-49323
- CO₂ laser with plasma cathode, nonself-sustained discharge 4-28660
- CO₂ laser with radioisotope preionisation 4-49326
- CO₂ lasers, determ. of vibr. distrib. in rarefied flows from 15 μ m band spectrum 4-9767
- CO₂ lasers, optimisation of corona discharge photoionisation sources 4-5567
- CO₂ lasers, sealed-off, with La_{1-x}Sr_xCoO₃ oxide cathodes 4-28712
- CO₂ lasers, transversely excited, anomalous gain coeff. meas. 4-28658
- CO₂ lasers appl. as thermal source (*Czech*) 4-38496
- CO₂ lasers operating in atm. and ultra-atm. press. regimes with a self-maintaining discharge 4-5566
- CO₂ low press. glow discharge CO₂⁻ ion densities 4-29273
- CO₂ low-power, medical and industrial appl. developments 4-44132
- CO₂ molecular laser, lower output, with stabilised output frequency (*Polish*) 4-44086
- CO₂ multiline AM mode-locked TEA laser, independently adjustable 4-28722
- CO₂ pulsed high repetition rate laser, appls. in chemistry and isotope separation 4-23959
- CO₂ pulsed laser radiation recording, by thermal stabilisation of photoemulsions 4-10340
- CO₂ pulsed laser radiation wavefront reversal by mirror 4-19520
- CO₂ pumping laser for methyl alcohol submillimetre wave laser 4-23955
- CO₂ selective branch laser operating in sequence bands (*Chinese*) 4-49324
- CO₂ TEA high-power laser, direct pulse shaping 4-24032
- CO₂ TEA hybrid laser design and operation 4-38495
- CO₂ TEA laser, semiconductor preionised, operation up to 100 Hz 4-1383
- CO₂ TEA laser pulse meas. by plasma detector 4-39011
- CO₂ TEA lasers, photoionisation origin identification 4-28657
- CO₂ TEA lasers, plasma effect in injection-mode locking 4-38445
- CO₂ TEA lasers, sealed, high-PRF semicond.-preionised, without solid catalyst 4-28709
- CO₂ TEA multimode laser, phase conjugate study 4-5661
- CO₂ TEA UV laser, lifetime improvement study by catalytic reaction of decomposed products (*Chinese*) 4-55012
- CO₂ transverse electric atm. laser amplifier, picosec. time response 4-38444
- CO₂ transverse flow laser, small signal gain along gas flow direction, anal. (*Chinese*) 4-55011
- CO₂ transversely excited discharge, accurate press.-broadened linewidth meas. 4-29271
- CO₂ waveguide laser with Fox-Smith mode selector 4-28723
- ¹³C₆O₃ 4.4 μ m cascade laser 4-38443
- Cd(6S_{1/2} to 5P_{1/2}) laser at 480 nm, pumped by transverse discharge 4-49332
- Co compact RF excited waveguide laser design and recent applications 4-49393
- Cu CW UV hollow cathode laser in 260 nm region 4-5612
- Cu laser media, gain depend., appl. to design of image brightness enhancers 4-28668
- Cu vapour laser, 10 W, sealed-off design and performance 4-33687
- Cu vapour laser, nonaxial beam radiation divergence dynamics and loss calcs. 4-28674
- Cu vapour laser, pulsed, spontaneous emission and gas temp. 4-14676
- Cu vapour laser, role of pulse repetition freq. 4-24057
- Cu vapour laser excited by pulse trains, relax. processes 4-28670
- Cu vapour laser lower active level lifetime meas. 4-23965
- Cu vapour laser pumped by fast transverse elec. discharge 4-14715
- Cu vapour laser transitions, in hollow cathode, optogalvanic spectroscopy 4-24676
- Cu vapour laser with long service life and improved excitation pulse parameters 4-55081
- Cu vapour laser with self-recording nonlinear mirror (*Russian*) 4-5577
- Cu vapour laser with self-starting LiNbO₃ nonlinear mirror 4-44113
- Cu vapour laser with stabilised output parameters 4-14720
- CuBr lasers operating in double-pulse excitation regime, afterglow electron density time depend. 4-19431
- CuCl-type pulsed laser radiation, computed spectral-linewidth minima 4-23954
- CuI lasers operating in double-pulse excitation regime, afterglow electron density time depend. 4-19431
- DF-CO₂ transfer laser, high-press., continuously tunable, optically pumped 4-23951
- D₂O far IR laser, angular divergence of forwards and backwards emission at 66, 116 μ m 4-44090
- F discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
- F X-ray lasers, pumping by transition metals, X-ray spectral line coincidences meas. 4-14673
- H₂, Raman gain coefficients determ. using excimer laser pump source 4-5573
- H₂-I active medium, population inversion due to I* spin-orbit transition 4-28669
- HCN CW waveguide laser, RF-excited, operational characts. (*Japanese*) 4-28675
- H₂O vapour, 28 μ m laser line, Lamb dip and linewidth 4-38253
- He-Cd laser for high speed high resolution data recording 4-24006
- He-Cd lasers for high speed writing appls. 4-24010
- He-Cd-Hg CW hollow-cathode laser characts. 4-10283
- He-Cd⁺ hollow cathode discharge multicolour laser for colour scanning 4-24011
- He-Cd⁺ laser, mag. reson. obs. through high freq. modulation (*French*) 4-23963
- He-F₂ laser mixtures, stable impurity species, mass spectrometric meas. 4-23961
- He-K collisionally excited XUV lasers 4-49333
- He-Kr ion laser in a DC hollow cathode discharge 4-55014

gas lasers continued

- He-Ne, gas laser, mode interaction suppression 4-33639
- He-Ne, spectral purity of laser fields, phasor derivation of fundamental limits 4-55010
- He-Ne 3.39 μ m laser, single-mode self-pulsing instabilities at the Lamb dip 4-1384
- He-Ne 3.39 μ m single-mode standing-wave laser, anomalous mode pulling, instabilities 4-55015
- He-Ne 633 nm lasers, two-mode frequency stabilised, short-term and long-term stability 4-24015
- He-Ne frequency-stabilised lasers, gas-lens effect and cavity design 4-10329
- He-Ne laser, internal-mirror, amplitude- and frequency-stabilisation 4-24033
- He-Ne laser, mag. field dip and lifetime of spherical tensor element 4-44087
- He-Ne laser, simultaneous generation in transitions 4-55013
- He-Ne laser, striction quenching and output enhancement 4-33696
- He-Ne laser, up to 5 mW, for meas. and control appl. (*Czech*) 4-38497
- He-Ne laser Al cathode anal. using scanning electron microscope (*Chinese*) 4-49385
- He-Ne laser at 612 nm, ¹²⁷I₂ stabilised, precision wavelength comparisons with He-Ne laser at 633 nm 4-10279
- He-Ne laser Gaussian beam parameters, saturation and population inhomogeneity 4-19423
- He-Ne laser meter for vibration displacement 4-32236
- He-Ne laser radiation, output intensity intracavity modulation by liq. cryst. acoustooptic effects 4-10335
- He-Ne laser radiation spectrum control by laser phase anisotropy induced in amplifying or absorptive media by external mag. field 4-5629
- He-Ne laser system design, for patient treatment in dermatologic clinics (*Czech*) 4-58034
- He-Ne lasers for making analytical instruments (*Russian*) 4-44088
- He-Ne low gain 633 nm laser, diff. losses in near-hemispherical resonator 4-24029
- He-Ne model HND-120 visible multi-wavelength laser, tuned by dispersion prism (*Chinese*) 4-55072
- He-Ne multi-line, laser characts., construction and operation (*Chinese*) 4-10318
- He-Ne multimode linear Zeeman laser, radiation characts. 4-33701
- He-Ne ring laser beat frequency under discharge-current fluctuations, thermal effects 4-5618
- He-Ne single-mode laser beam, spatial coherence radius evaluation by speckle contrast (*Russian*) 4-1424
- He-Ne stabilised laser radiation wavelength ratio at 3.39 μ m and 0.633 μ m, meas. using servo controlled Michelson interferometer 4-10338
- He-Ne thermally stabilised two freq. laser meas. system for industrial use 4-10319
- He-Ne three mode 3.39 μ m laser, mode locking chaos, secondary beat freq. 4-10280
- He-Ne two-mode laser, freq. stabilisation using mag. hyperfine components of methane F₂(²) 3.39 μ m line 4-10345
- He-Ne Zeeman laser, ¹²⁷I₂ stabilised, evaluation of stability and wavelength (*Korean*) 4-38447
- He-Ne/methane laser based optical time standard (*Russian*) 4-238
- He-Ne laser, H₂CO stabilised, optical alignment equipment for laser system 4-28707
- Hg atomic laser, kinetics and operation 4-23962
- I₂ lasers, UV radiation pumped, refraction loss influence on radiation characts. 4-14736
- I₂ UV laser, optically pumped, permissible laser medium heating and specific UV output energy 4-14710
- Li metastable quartet atoms, meas. in hollow-cathode discharge, XUV laser proposal 4-43841
- Mn laser media, gain depend., appl. to design of image brightness enhancers 4-28668
- N₂ laser, high press., with transverse discharge 4-38455
- NH₃ CW 12 μ m optically pumped laser investigation using tunable diode laser 4-24042
- NH₃ CW 12.08 μ m Raman laser, power enhancement with addition of H₂/He buffer gases 4-5571
- NH₃ CW laser, line-tunable oscill. from 10.7 to 13.3 μ m 4-49328
- NH₃ CW Raman laser, optically pumped, 12.08 μ m, high power-conversion efficiency 4-28664
- NH₃ laser energy and tuning characts., parameters of laser pumped mol. lasers 4-38456
- NH₃ pulsed repetition rate laser, appls. in chemistry and isotope separation 4-23959
- NH₃ two-photon optically pumped visible laser 4-14671
- N₂O sequence band laser, transversely excited, 10.7 μ m operation 4-38449
- N₂O TE laser operation, transversely excited 4-28663
- N₂O waveguide laser 4-28672
- ¹⁵ND₃ 15.9 μ m laser source 4-14716
- Na CW hyper-Raman laser in the near-IR 4-19428
- Na metastable quartet atoms, meas. in hollow-cathode discharge, XUV laser proposal 4-43841
- Nd-glass laser, X-ray diagnostic instruments for laser produced plasmas 4-10896
- Ne-Rb collisionally excited XUV lasers 4-49333
- O₂ singlet, mag. surface-induced spin-flip transitions 4-38107
- PH₃ mid IR light rotor laser action 4-1387
- Pb pulsed vapour laser, decay kinetics of 6p² ¹D₂ lower active level 4-10286
- Pb vapour lasing at 722.9 nm, investigation using double pulse method 4-14675
- Sn, metastable population inversion, antiStokes Raman laser expts. 4-44145
- Tl, metastable population inversion, antiStokes Raman laser expts. 4-44145
- Xe discharge laser with UV preionisation, radiating in UV, visible and IR ranges 4-44089
- XeCl laser, e-beam excited, simulation 4-55016

gas permeability see permeability

gas phase electron diffraction

- benzene in supersonic flow through Laval nozzle, cluster form., electron diff. 4-43985
- 2-bromo-1-chloro-2-methylpropane, mol. struct., conformation, gas phase electron diff. 4-43988

gas phase electron diffraction continued

- 3-bromo-2-methyl-1-propene, mol. struct., conform., gas phase electron diff. and mol. mechanics determ. 4-14569
 bromomethyl methyl sulphone 4-54882
 bromomethyldimethylchlorosilane, mol. struct., conformation, gas phase electron diff. 4-43988
 α -bromovinyl methyl sulphone, mol. struct., gas phase electron diff. study 4-54882
 chloroacetaldehyde, struct. and conformation studied by gas-phase electron diff. 4-5362
 cyclobutylsilane, mol. struct., conform., electron diff. and ab initio determ. 4-14570
 diatomic mols., vibr. probability distrib. function, electron diff., anharmonic anal. 4-38325
 cis-1,4-dichloro-2-butene, conform. comp., gas phase electron diff. obs. 4-38329
 dichlorotetramethyldisiloxane, mol. struct., conform. gas phase electron diff. obs. 4-14571
 p-dicyanobenzene, gas and cryst. phase, mol. struct., electron and X-ray diff. study 4-43986
 dimethylnitromethane, gas phase, geometrical struct., electronography method 4-33537
 hexamethyldisilazane, mol. struct., conformation, gas phase electron diff. 4-43987
 methyl vinyl ether, mol. struct., electron diff., MO calc. and microwave spectrosc. investigation 4-14572
 methyldichlorophosphine, mol. struct., electronographic anal. 4-28565
 N-methyltrichloroethylideneamine, mol. struct., gas phase electron diff. 4-28564
 molecular structure gas-phase electron diffraction and theoretical investig. 4-10078
 octamethyltrisilane, mol. struct., gas phase electron diffraction 4-38327
 phenylphosphine, mol. struct., electronographic anal. 4-28565
 1,2,4,5-tetrafluorobenzene, mol. struct., gas phase electron diff. and ab initio determ. 4-38328
 trifluoromethyl short-lived species investigation using stroboscopic gas-electron diff. method 4-5356
 trimethylnitromethane, gas phase, geometrical struct., electronography method 4-33537
 vibrational potential functions, parameter determ. by gas-phase electron diffraction 4-10080
 B₂O₃, molecular struct., vibrational freqs., high temp. electron diff. 4-49162
 CO₂, anharmonic force field pot. function, curvilinear internal coordinator 4-38324
 CO₂, electron diff., anharmonic struct. anal., harmonic force consts. 4-5360
 Cs₂CrO₄, mol. struct., gas-phase electron diff. investig. 4-10082
 Ga₂O₃, mol. struct., vibr. characts., electron diff. obs. 4-10079
 I₂, gas phase electron diff., vibr. levels population determ. 4-28559
 I₂, vibr. probability distrib. function, electron diff., anharmonic anal. 4-38325
 In₂O₃, mol. struct., vibr. characts., electron diff. obs. 4-10079
 MnF₂, mol. struct., gas phase electron diff. 4-28563
 MoCl₃, equil. geometric config., gas-phase electron diff. investig. 4-10081
 (MoF₃)₃ struct., gaseous electron diff. 4-54883
 PbX₂ (X=F,Br,I), mol. struct., vibr. characts., electron diff. obs. 4-10079
 SF₆NCO, gas phase electron diff., geometric struct. 4-5361
 SO₂, temp. depend. struct. mol. pots. electron diff. 4-1268
 SeF₆NCO, gas phase electron diff., geometric struct. 4-5361
 SnX₂ (X=Br,I), mol. struct., vibr. characts., electron diff. obs. 4-10079
 TeF₆NCO, gas phase electron diff., geometric struct. 4-5361
 TiO, mol. struct., vibr. characts., electron diff. obs. 4-10079
 UF₄, mol. struct., gas phase electron diff. investig. 4-10083
 WCl₄, force fields, struct., gas phase electron diff. 4-28562

gas-surface interactions *see sorption***gas technology, natural** *see natural gas technology***gas turbine power stations**

compressed-air energy storage unit 4-26327

gas turbines

see also gas turbine power stations; turbogenerators

- blade alloys, Ni base, fatigue strength, high-temp. gas-phase corrosion influence 4-21394
 ceramics, use in engines 4-51605
 cladding and alloy coatings to protect high temperature blades and vanes, 2 methods 4-26112
 low energy, solar energy conversion modelling (French) 4-31113
 strong high-temp. ceramics developments 4-12045
 surface temp. meas. using Vidicon TV cameras, gas turbine blade appl. 4-53687
 velocity profile meas., laser anemometry appls., jet dissipation, turbomachine flow 4-55465

gasdynamic lasers

- CO₂ fast-flow lasers, gas-discharge chamber energy characts. investigation looking at discharges in N₂ and air 4-28749
 CO₂ gas dynamic laser, effects of stagnation temp. and pressure, nozzle profile (Japanese) 4-38446
 CO₂ gasdynamic lasers behind nozzles of wedge and profiled geometries, amplification ratio 4-33644
 CO₂-Ar CW laser emitting at 18.4 μ 4-10278
 CO₂-D₂ thermal-mixing laser 4-10277
 CO₂-gasdynamic laser medium with wedge and profiled nozzles, apparatus, pulse gain meas. 4-23953
 CO₂-N₂ gasdynamic lasers employing two-dimensional wedge nozzles, gain optimisation, analytical studies 4-10275
 CO₂-N₂ gasdynamic lasers, 10.6 μ m, gain optimisation, theory 4-33640
 CO₂-Ne(Ar) mixture, lasing transitions between symmetric and deform. modes 4-49325
 DF-CO₂ chemical supersonic laser ring model with unstable-telescopic resonator, energy characts. 4-19435
 H₂-HF laser utilising purely rot. transitions, kinetic gasdynamic model and characts. calc. 4-10285

gaseous insulation

- dichlorodifluoromethane-N₂ binary mixtures, breakdown strength and synergism factor 4-34226
 CO-SF₆-air mixtures, breakdown, attachment and ionisation 4-34225
 N₂ positive and negative lightning impulse breakdown of rod-plane gaps 4-34227

gaseous insulation continued

- SF₆ breakdown product contamination in electrostatic accelerators 4-23441
 SF₆ gas, conical spacer, charge accumulation at DC stress 4-35045
 SF₆ preionisation effect on the time lag to breakdown (German) 4-20052
 SF₆-N₂ binary mixtures, breakdown strength and synergism factor 4-34226
 SF₆-N₂ mixtures, crit. press. for positive point plane systems with impulse voltages 4-50112
 SF₆-N₂ mixtures, ionisation and attachment coeffs. 4-49922
 SF₆-N₂ mixtures, positive and negative lightning impulse breakdown of rod-plane gaps 4-34227
 SF₆-N₂ mixtures, positive point plane discharge development, photomultiplier and field probe stresses 4-50113

gases

- see also aerodynamics; compressibility of gases; density of gases; dielectric properties of gases; diffusion in gases; electric breakdown of gases; electrical conductivity of gases; equations of state of gases; ionisation of gases; kinetic theory of gases; liquefaction of gases; luminescence of gases; Scott effect; Senfleben-Beenakker effect; specific heat of gases; thermal conductivity of gases; thermal diffusion in gases; viscosity of gases*
 optical nonlinearity of gases and biological systems 4-29235
 perfect gases, props., book chapter 4-27258
 real gases, props., book chapter 4-27258
 supercooled gases, cooling method and spectra 4-49018

gate turn-off devices *see thyristors***gauge field theory**

- see also Weinberg model; Yang-Mills theory*
 4-13746
 η^6 scalar field theory, numerical results in 3-D 4-48319
 σ model, gauged, supersymmetric; symmetry breaking patterns 4-18085
 σ -model, generalised with local complex supersymmetry in 1+1 dimens., Kahler gauge depend. 4-13744
 σ -model, nonlinear, global identity 4-42796
 σ -model representation of supersymmetric gauge theory 4-53873
 ϕ_2^4 and ϕ_3^4 continuum theories, existence and nontriviality 4-4513
 ϕ^4 gauge theory, non-triviality, Higgs mass upper bounds 4-43168
 N=2 supersymmetric models, finiteness conditions and gauge symmetry breakdown 4-48345
 abelian gauge theories, vortex props. in first and second order formulations 4-37281
 ABJ anomalies in any even dimensions, nonperturbative approach 4-13841
 Adler-Bardeen theorem validity in supersymmetric U(1) gauge model, radiative corrections 4-9043
 Adler-Bell-Jackiw anomaly as Weyl fermions on a lattice, crystal analogy 4-9022
 affine algebras and strong interaction theories 4-53889
 annual review of nuclear and particle science, book 4-31979
 anomalous propagation of gauge fields in conformally flat spaces 4-18059
 anomalous supersymmetry transformation of some composite operators in SQCD 4-43314
 anti-BRS symmetry props. in general and model-independent framework 4-27643
 asymmetric lattice gauge theories with fermions, Δ -parameters 4-334
 Atiyah-Singer index theorem for Dirac eqn. 4-22918
 axial and light-cone gauges, method for regulating Feynman integrals 4-22933
 axial anomaly induced fermion factorisation and effective gauge theory actions 4-13766
 axial field strength gauge, Yang-Mills field theory 4-48332
 axial gauge, indispensability of indefinite metric 4-13773
 Backlund transformation, normalisation condition, dressing method 4-48290
 Backlund transformations related to the Kaup-Newell spectral problem 4-22944
 baryon and lepton number violation, electroweak model, neutral currents in left-right symmetric models 4-43284
 baryon asymmetry, GUT, CP nonconservation, K-meson decays 4-37320
 boson mass hierarchy in maximal GUT from coupling const. renorm. in SU(16) breaking 4-22958
 boundary conditions in gauge theories, physical effects 4-18058
 canonical quantization of singular theories, Hamiltonian and Lagrangian formalisms 4-32455
 charged vector bosons pair prod. by nonstationary elec. field 4-32456
 charged vector particle in external EM field 4-53917
 chiral anomaly evaluation with γ_5 couplings 4-27666
 chromoelectric flux distribution in SU(2) lattice gauge theory 4-18064
 classical gauge theories, soln. generation, BPS one monopole soln. 4-48307
 closed relativistic string, conserved quantities from collective words 4-465
 colour confinement in presence of chromomagnetic monopoles 4-13863
 compact Abelian lattice gauge theory, Green's function Monte Carlo method appl. 4-4561
 compact U(1) in 2+1 dimensions, finite-lattice Hamiltonian approach 4-4612
 composite operators, renormalisation in gauge theories 4-4526
 compositeness, potential problems for quarks, leptons and vector bosons 4-43299
 condensates in supersymmetric QCD 4-441
 conference, high energy physics, Brighton, England (July 1983) 4-31964
 conference, lattice gauge theories, supersymmetry, unification, Bad Honnef, Germany (June 1983) 4-42598
 conference, weak interactions and neutrinos, Javea, Spain (Sept. 1982) 4-27240
 conference on fundamental interaction theory, Varenna, Italy (Jul. 1980) 4-8646
 conference on hadronic mechanics, Cambridge, MA, USA (Aug. 1983) 4-42581
 conference on high energy physics, Tokyo, Japan (Sept. 1982) 4-13481
 conference on monopoles and proton decay, Kamioka, Japan (Oct. 1982) 4-4157
 confining string between 2 heavy quarks in lattice gauge theory, string tension, roughening transition 4-9088
 confining SU(2)_L × SU(2)_R gauge model of the weak interactions 4-32637
 conformal supergravity, instanton zero modes and β -functs. 4-27397

gauge field theory continued

constrained $O(n)$ models from gauged internal $OSP(n/2)$ via Becchi-Rouet-Stora supersymmetry 4-4569
 constrained quenched master field for continuum QCD, lattice gauge theories, large- N quenching 4-18156
 constraints of gauge theories 4-22919
 continuous symmetries in field theory 4-13752
 continuum limit and improved actions in lattice field theory 4-32466
 continuum thermal Wilson loop with space-periodic boundary conditions 4-13779
 coset pure gauge theories of non-Abelian chiral group, confinement props. 4-43180
 cosmological constraints on gauge theories 4-32464
 cosmology, physics and philosophy (book) 4-8668
 coupled Einstein-Weyl field eqns. with cosmological constant, gauge model coupled to Higgs fields 4-32132
 CP^1 model, instantons on lattice, scaling props., symmetry breaking 4-13810
 CP^{N-1} model, anomalous dimensions and mixing matrix calc. in $1/N$ order 4-53866
 $CP(n)$ chiral theory, non-self-dual solns. and corresponding gauge fields 4-37268
 cubic interaction terms for arbitrarily extended supermultiplets, light-cone superspace formalism 4-333
 cubic self-interaction terms, light-cone formulation of dynamics 4-332
 curved spacetime, background field calcs., pure gauge theory appl. 4-47965
 de Sitter space, phase transitions, Coleman-Weinberg symmetry breaking in massless electrodynamics 4-4588
 deconfinement phase transition, meson mass spectrum on 16^4 lattice, quark effects 4-34723
 diffeomorphism groups, gauge groups and quantum theory 4-22629
 dilation operator in gauge theories 4-48343
 Dirac monopole capture by magnetic dipole 4-18087
 Dirac neutrino mass generation in gauge theories 4-22934
 Dirac operator, Reissner-Nordstrom soln. in presence of dyons 4-4543
 Dirac theory in special and general relativity, quaternionic formulation 4-53849
 Dirac-Kähler lattice regularisation of fermionic degrees of freedom 4-43220
 discrete QCD, Euclidean lattice gauge theory 4-32582
 double β decay, nuclear matrix elements in ^{48}Ca and ^{58}Ni 4-9176
 double β -decay, investigation using multidimensional anal. 4-27846
 double β -decay, mechanisms in gauge theories 4-27845
 double dims. regularisation and gauge theories without ghosts 4-27645
 dynamical gauge-symmetry breaking and left-right asymmetry in higher-dimensional theories 4-48374
 dyon spectrum in GUT without light fermions, chromodynamics 4-4589
 early Universe, cosmological perturbations 4-8615
 effective actions in gauge theories and propagator method in proper-time formalism 4-337
 Eguchi-Kawai reduction at finite temp. for $SU(N \rightarrow \infty)$ lattice gauge theory 4-18037
 eikonal and exact identities in problem of IR divergence cancellation 4-4568
 Einstein-Mayer vector space with N dims., Einstein-Maxwell eqns., gauge field eqns. 4-42802
 Einstein-Podolsky-Rosen paradox, classical geometric resolution 4-27339
 electric-magnetic duality of conformal gravitation 4-140
 electroweak gauge theories with extra $U(1)$'s in $SO(10)$ and E_6 4-43292
 electroweak interactions, supersymmetric models 4-43293
 electroweak $SU(2)_L \times U(1)_R \times U(1)_{(B-L)/2}$ gauge theory, two Z bosons 4-48388
 eleven-dimensional supergravity compactified on parallelised seven-sphere, symmetries 4-163
 equilibrium equations, relaxation methods, review 4-43212
 equivalence theorem and gauge theory at finite temp. 4-4552
 Euclidean ϕ_4^4 theory, Borel transformed perturbation series convergence 4-4516
 Euclidean lattice field theory, random walk simulation, lattice QCD appl. 4-13748
 Euclidean lattice gauge theory, link fermions, Wilson lattice fermion propagator 4-48330
 Euclidean quantum theory, bottomless action theories stabilisation 4-32462
 Euclidean $SU(2)$ gauge theory solns. 4-48342
 Euclidean $SU(2)$ lattice gauge theory, variational study 4-4547
 extended Kaluza-Klein theories, stability of classical solns. 4-13768
 extended supergravities, hidden symmetries 4-42823
 extended supersymmetries and supergravities construction 4-43218
 extended technicolour mass scale, fermion masses 4-22987
 Faddeev-Popov quantisation valid for Gribov problem 4-43207
 fermion zero modes in the presence of non-Abelian vortices 4-4525
 fermion-monopole system, bound state observer, helicity conservation 4-18088
 fermions on lattice, avoiding species doubling via harmonic spinors 4-48348
 Feynman rules for gauge fields in presence of dielectric medium 4-4564
 fibre bundle with structure group, gauge transition geometry 4-349
 finite lattice $Z(3)$ models in two and three dims. 4-22911
 finite temperature twisted Eguchi-Kawai model at low temp. 4-9024
 finite-temperature QCD at large N 4-48429
 Finslerian nonlocal field, differential geometrical consideration, unified and micro-gravitational fields 4-43278
 Fourier analysis and Wilson loops, quantum average 4-4539
 fourth-order gravity theories quantisation, functional integral 4-4308
 fractional charge and anomalous commutators 4-356
 fractional gauge transformations, optimisation of cross section calcs. 4-43189
 fractionally charged Pati-Salam model, H-H oscillations 4-53860
 Fujikawa's path integral from chiral anomaly 4-27670
 fundamental theory for composite particles and fields 4-18204
 gauge and matter fields coupled to $N=2$ supergravity 4-32153
 gauge boson, consequences of supersymmetry, expt. constraints 4-43290
 gauge coupling, two loop renormalisation and the scalar potential 4-341
 gauge invariant gluonium and hadron operators, short distance props., renormalisation 4-22988
 gauge theories for interactions, book 4-4161
 gauge-invariant quantization method for multidimensional hamilton systems 4-32424
 gauged fermions from tensor fields 4-48280

gauge field theory continued

gauged supergravity theories, scalar potential 4-22659
 general relativistic lagrangians, acceleration dependent, correspondence to gauge transformation 4-36979
 generalised Kaluza-Klein theories, gauge symmetries 4-13764
 generalized curve approach to elementary particles 4-9091
 generalized Higgs phys. and technicolour 4-32537
 geometrical models, gauge field formulation 4-53851
 geometrical models, gauge field formulation 4-53851
 global symmetry breaking by QCD fermion condensates 4-9027
 glueball 0^+ mass in lattice gauge theory with mixed $SU(2)$ - $SO(3)$ action 4-22979
 glueball mass spectrum in $SU(3)$ nonAbelian lattice gauge theory 4-18212
 glueball masses on large lattices in $SU(2)$ and $SU(3)$ gauge theories 4-48439
 glueball spectroscopy in strongly coupled lattice gauge theories 4-32589
 graded extension and Lie algebras 4-4514
 gradient Weyl's gauge field and meron solution 4-43186
 gravitation, extended, dimensional reduction and symm. gauge groups 4-42799
 gravitation, field eqns., origin from quadratic Lagrangian with torsion 4-27390
 gravitation, Poincare group gauge theory, compatibility condition 4-36989
 gravitation field stochastic quantisation and Gribov problem 4-42811
 gravitational constant as mass scale of Universe struct. 4-47991
 gravitational gauge approach for $SO(4,1)$ group 4-8805
 gravitational gauge theory with quadratic Lagrangian, plane-fronted torsion waves 4-4309
 gravitational Poincare gauge theory and Higgs mechanism 4-37282
 gravity and supergravity, geometrical approach, gauge theory formulation 4-8806
 GUT, fermion mass hierarchy and global horizontal symmetries 4-32523
 GUT, superunification of interactions 4-32554
 GUT, symmetry breaking, radiative corrections in supergravity 4-32520
 Hamiltonian dynamics, time-depend. formalism for gauge transformations 4-8737
 Hamiltonian lattice field theory, connected diagram expansions, gauge model axial string tension 4-53828
 Hamiltonian lattice gauge theories, residual gauge invariance 4-43213
 Hamiltonian lattice gauge theory, Z_2 and $U(1)$, string tension, linked cluster expansion 4-53829
 Hamiltonian lattice models, iterative technique 4-32459
 hamiltonian $U(1)$ lattice gauge theories, analytic approx., weak-coupling behaviour 4-22913
 heavy Majorana right-handed neutrinos, constraints on masses and couplings 4-48386
 heavy quark potential in Monte Carlo lattice gauge theory 4-440
 hierarchical mass ratio and gauge boson coupling constants, dynamical implementation 4-48408
 hierarchy model, upside-down, supersymmetry breaking 4-43270
 hierarchy models with quantum mech. resuscitation, finite temp. behaviour 4-22961
 Higgs(ino) colour triplet in $SU(5)$ model 4-13835
 Higgs doublet with $SU(2) \times U(1)$ breaking prop., composite structure 4-43209
 Higgs mixing and proton decay in the unified gauge model $SU(4)_C \times SU(2)_L \times SU(2)_R$ (Chinese) 4-48399
 Higgs sector, spectrum and mass formula 4-27717
 high energy phys., gauge theory, meeting, Les Houches, France (Aug.-Sept. 1981) 4-31951
 horizontal interactions as source of CP violation 4-53916
 hyperfields, gauge principle 4-53872
 improved lattice actions for nonlinear sigma model and nonAbelian gauge theory 4-374
 infinite range potential lattice gauge model solved by the mean field 4-386
 infrared properties of unusual initial state interactions 4-53945
 infrared stability of gauge theories 4-4524
 instanton-like and meron-like vacuum solns. of conformally covariant non-linear coupled eqns. (Chinese) 4-53864
 instantons, chiral symmetry breakdown, finite temp. and density QCD 4-32579
 instantons in quark plasma, particle propagator and fermion zero modes 4-18105
 Ising gauge plus matter theory, two-dims., phase transitions 4-32176
 Ising model correlation functions, difference eqns. and reln. to Z_2 lattice gauge theory 4-42889
 Jackiw-Johnson model, dynamical symmetry breaking 4-43196
 Kaluza-Klein 5-D theory, quasi-cylindricity and local gauge transformation 4-18121
 Kaluza-Klein cosmology, Einstein solutions, horizon problem at dimensional reduction 4-53327
 Kaluza-Klein theories, Kac-Moody symmetries 4-22661
 Kaluza-Klein theory, harmonic field expans., fermion mass problem 4-13562
 Kaluza-Klein theory, induced Einstein-Hilbert-Yang-Mills action from quantum effects 4-32139
 Kaluza-Klein theory, induced gravity in higher-dimensional space-time and mass scale 4-42797
 Kosterlitz-Thouless scenario, Monte Carlo results for XY phase transition mech. 4-32440
 Landau-Lifshitz eqn., Riemann-Hilbert, gauge and H transforms. 4-43181
 large- N theories, master variables and spectrum eqns. 4-53827
 lattice action for $SU(2)$ gauge theory and Monte Carlo calc. 4-359
 lattice dipole gas and $(\nabla \phi)^4$ models, decay of correlations and scaling limit 4-37271
 lattice fermion action, axial vector current anomaly and meson decay constants 4-48315
 lattice fermion fields, 3-D, tetrahedron eqns. 4-53832
 lattice fermionic doubling, random fields in perturbative framework 4-18053
 lattice fermions, avoiding species doubling via harmonic spinors 4-377
 lattice fermions and tomography 4-18052
 lattice formulation, continuum limit, charges and monopoles, gauge theory 4-384
 lattice formulation of pure gauge fields on coset space, confinement (Chinese) 4-43210
 lattice gauge and spin models, pseudo-abelian operators in large- N limit 4-18075

gauge field theory continued

lattice gauge coupled to Higgs matter field, Coulomb phase, mean field anal. 4-43175
 lattice gauge field theories with matter fields, defect free energies 4-53831
 lattice gauge field theory, fast computer system 4-27641
 lattice gauge field theory, Majorana Kahler fermions 4-22940
 lattice gauge theories, complex singularities, zeros distrib. 4-383
 lattice gauge theories, double valued representations in cubic 4-D 4-32407
 lattice gauge theories, Nicolai mapping in supersymmetry formulation 4-18042
 lattice gauge theories, nonplanar contours and string tension 4-27654
 lattice gauge theories, numerical results 4-32472
 lattice gauge theories, strong coupling and mean field methods, review 4-53865
 lattice gauge theories, strongly coupled, energy-momentum spectrum 4-22910
 lattice gauge theories, SU(2) and SU(3), Lorentz invariance restoration, glueballs 4-48312
 lattice gauge theories, Susskind fermions at strong coupling 4-376
 lattice gauge theories, UV and IR effects 4-53856
 lattice gauge theories, variational study 4-385
 lattice gauge theories, Wilson fermionic action, block diagonalisation 4-53824
 lattice gauge theories 4-53885
 lattice gauge theories associated with staggered ice vertex model 4-32408
 lattice gauge theories behaviour of order parameters with matter fields 4-32410
 lattice gauge theories with Kogut-Susskind fermions in the strong coupling region 4-32470
 lattice gauge theories with Susskind flavours 4-375
 lattice gauge theory, Bethe-Peierls approx. 4-27667
 lattice gauge theory, defect proliferation due to order parameter multivaluedness 4-32467
 lattice gauge theory, excited glueball states 4-18057
 lattice gauge theory, finite size effects for noninteracting Fermi system 4-18054
 lattice gauge theory, hadronic transitions, $\rho \rightarrow \pi\pi$ calc. 4-27662
 lattice gauge theory, Hamiltonian, inhomogeneous coupling perturbations 4-13749
 lattice gauge theory, improved fermion action on lattice 4-22937
 lattice gauge theory, large-N, phase structure study with variational ansatz 4-18100
 lattice gauge theory, Monte Carlo simulation (Korean) 4-13762
 lattice gauge theory, nondegenerate Susskind fermions 4-342
 lattice gauge theory, over-relaxation for Monte-Carlo simulations of multi-quadratic actions 4-27668
 lattice gauge theory, phase transitions at finite temp. 4-13759
 lattice gauge theory, staggered fermions and rotation gauge invariance 4-32413
 lattice gauge theory, stochastic quantisation, Langevin eqn. 4-43225
 lattice gauge theory, string tension evaluation using Monte Carlo simulations 4-22941
 lattice gauge theory, Symanzik's program, addition of Wilson lagrangian 4-4546
 lattice gauge theory, topological objects, non-integer charges and anomalies 4-43223
 lattice gauge theory at large N and strong coupling, meson and baryon masses 4-9025
 lattice QCD, colour charge screening in numerical hopping-parameter expansion 4-22978
 lattice QCD, glueball mass calc. from SU(3) gauge fields 4-48428
 lattice QCD, glueball spectrum 4-32583
 lattice QCD, numerical anal. 4-22977
 lattice QCD, simulations with quenched fermions 4-43219
 lattice QCD, volume effects and numerical simulation 4-439
 lattice QCD and gauge theories, deep inelastic scatt. appl. 4-444
 lattice Schwinger model, Monte-Carlo calc. for $d=2$ fermion model 4-32471
 lattice SU(N) gauge theories, topological charge, distrib. in SU(2), susceptibility 4-48331
 lattice supersymmetry, stochastic quantisation 4-43226
 lattice universality, large N-approx., asymptotic freedom scale parameter 4-18065
 left-right symmetric, restrictions on Higgs bosons from K^0 and B^0 systems 4-48334
 left-right symmetric models, decoupling of parity and SU(2)_R breaking scales 4-53914
 lepton moment in non-Abelian gauge model in intense EM field 4-483
 lepton violation in gauge theories 4-370
 leptonic CP violation and left-right symmetry 4-32494
 Lie isotopic lifting, isotopic covariant derivatives, field strengths 4-43183
 Lie isotopic lifting induced antisymmetric connection coeffs. 4-43184
 light composite fermions in dynamical subquark model of pregauge interactions 4-48454
 local and global integrability of anomalous Ward identities 4-32429
 local SL(2,R) invariance applied to the master-field problem 4-32435
 locally gauge-invariant formulation of parastatistics 4-53888
 longitudinal plasma waves in the presence of monopoles of electron mass and electron charge 4-48398
 Lorentz invariance of six-fold anisotropic Villain gauge theory in four dims. 4-4548
 Lorentz-boosted rotation, gauge transformations 4-13770
 low-energy supergravity, false vacua and vacuum predictions 4-22658
 magnetic monopole, electroweak core 4-4596
 magnetic monopoles, analogy to superconductivity 4-371
 magnetic monopoles, detect. and abundances 4-351
 magnetic monopoles, existence, searches and theory (French) 4-13804
 magnetic monopoles, fractionally charged, in SU(5) GUT and SU(2), gauge confinement 4-13787
 magnetic monopoles, spectral asymmetry, trace identities, fractional fermion number 4-18063
 magnetic monopoles, symmetric struct. in non-Abelian theory (French) 4-37321
 magnetic monopoles and gauge theories 4-326
 magnetic monopoles and supersymmetry breaking 4-13808
 magnetic monopoles with Zn charges 4-53908
 magnetic poles in gauge field theories 4-328
 massive gauge model, Abelian, symm, breakdown 4-13761

gauge field theory continued

massless antisymmetric tensor gauge fields of higher rank, superspace formulation 4-43201
 massless fields with half integer spin, alternative formulation, Abelian gauge invariance 4-47967
 massless gauge theories infrared behaviour of gauge operators in N=4 supersymmetry 4-13800
 massless relativistic string, group theoretical basis 4-4658
 mean-field theory for quenched reduced large-N gauge model 4-22912
 metric transformation from Regge-Wheeler gauge to Chandrasekhar-Esposito gauge 4-42808
 microcanonical Monte-Carlo simulation of SU(3) gauge theory in four dimensions 4-43195
 Migdal-Kadanoff recursion eqns. for gauge and spin systems on lattice, dual symm. 4-13763
 Migdal-Kadanoff transformations on dual lattice and bounds on free energies 4-361
 Migdal-Makeyev eqs. for simple and nonsimple contours 4-4509
 mixed action lattice gauge theories, large-N universality of variant actions 4-48281
 monopole background, flavour conservation breakdown 4-18134
 monopole-fermion dynamics for Abelian and nonAbelian monopoles 4-4576
 monopole-induced proton disintegration 4-48344
 motion equations of tested bodies in anisotropic space-time, local gauge invariance (Russian) 4-36981
 moving monopole, gauge pot. (Chinese) 4-48277
 multidimensional space combined with the supersymmetry, grand unification, gauge techniques 4-42804
 multiple reflection expans. for confined scalar, Dirac, and gauge fields 4-9004
 N=1 supergravity, no-scale supersymmetric standard model 4-32156
 N=1 supergravity, super-Higgs effect with local R symmetry and vanishing cosmological constant 4-53565
 N=1 supergravity, superconformal multiplet calculus 4-42822
 N=1 supergravity in the light-cone gauge 4-17798
 N=1 supersymmetry theories, effective actions, symmetry principles and Ward identities 4-392
 N=2 supersymmetry, spin-reducing representations decomposition 4-13754
 N=3 supergravity realisation from N=2 action 4-22663
 N=4 gauged extended supergravity, ground state stability 4-43250
 N=8 supergravity, elementary introduction 4-42825
 neutrino mass matrices in gauge theories, props. 4-37324
 neutrino masses in supersymmetric SU(2)_XU(1) models 4-53915
 neutrinoless double β -decay to excited states and gauge theories 4-48535
 neutrinos, massive, astrophysical and cosmological implications 4-17616
 neutron electric dipole moment in gauge theory 4-32707
 neutron electric dipole moment in left-right symmetric gauge models 4-32702
 non-abelian bosonisation and Wess-Zumino action in two dims. 4-53884
 non-abelian gauge theories, stochastic quantisation and Gribov problem 4-53848
 non-Abelian lattice gauge theory, flux patterns 4-18083
 non-compact sigma models and composite gauge bosons 4-43204
 non-isotropic U(1) lattice gauge theory, layer phase, dimensional reduction 4-53820
 non-linear R_ξ gauge, Green's functions props. 4-48387
 nonAbelian, dynamical gauge and chiral symm. breaking, effective Lagrangian 4-4578
 nonabelian, Gribov copies in space like planar gauge 4-13797
 nonabelian, phase struct., confinement aspects 4-13801
 nonabelian, topological boundary characteristics 4-4532
 nonabelian chiral anomaly, phenomenological test 4-18071
 nonAbelian gauge field theory associated with dyons of nonzero mass system 4-27680
 nonAbelian gauge theories, exponentiation of eikonal cross sections 4-22930
 noncompact sigma models, dynamical composite gauge bosons 4-32428
 nonlocal hidden variables and nonlocal gauge theories, EM field anal. 4-32117
 nonperturbative field theory and QCD, conf., Trieste, Italy (Dec., 1982) 4-27
 nonperturbative methods in gauge theories, lattices, collective variables, Monte Carlo 4-9037
 nonperturbative neutrino masses in SU(2)_LXSU(2)_RXU(1) left-right symmetric models 4-13837
 nonperturbative QCD, workshop, Stillwater, OK, USA (March, 1983) 4-53353
 nonrenormalisable field theories at temp. 4-43214
 nonsingular cosmology and the gravitational Lagrangians in the gauge theory of gravity 4-53316
 nuclear physics research challenges from particle physics 4-37322
 nucleon decay expts., SU(3)_CXSU(2)_LXU(1)_VXG_H theory, horizontal gauge symmetries testing 4-32528
 O(3) model, instanton topological charge in standard Monte Carlo method 4-32439
 O(4)XU(1) gauge model, gauge boson masses and lepton mixing 4-18106
 O(N) lattice nonlinear σ -model, lambda scale 4-4574
 O(N) nonlinear σ -model, effective pot. for Lagrangian operator 4-43202
 off-shell effective action 4-48286
 one-loop renormalization of the Yang-Mills field theory in a curved space-time 4-18103
 open gauge algebra closure, generalised Lie eqns. and Feynman rules 4-48282
 pp(pp)-IX, lepton pair asymmetries, test of electroweak gauge models 4-500
 p-parameter, two-loop large Higgs mass correction 4-22908
 perturbative QCD, soft gluons and eikonal approx. with massless quarks 4-22976
 perturbative QCD appl. to hard scatt. processes 4-32605
 phase transition in a magnetic field in nonabelian gauge theory 4-9032
 photon propagation in heat bath, thermal effects of change in light vel. 4-18147
 planar random surface model, critical props. 4-53854
 Poincare gauge field eqns. of gravitation, reduction by duality rotations 4-47971
 Poincare gauge field theory, axially symmetric soln., charged Taub-NUT metric with torsion 4-42779

gauge field theory continued

Poincare gauge field theory, spherically symmetric electro-vacuum soln. 4-4294
 Poincare gauge in electrodynamics, comments 4-22563
 Poincare gauge theory, Hamiltonian dynamics, general struct. in time gauge 4-17793
 Poincare group, gauge theory 4-53868
 Poincare symmetry, internal symmetry, supersymmetry and gauge theory 4-32463
 polarizable media in classical gluodynamics and the SU_2 vacuum 4-53938
 prolongation structure of higher dimens. nonlinear systems 4-43182
 pure fermionic gauge theories, four-fermion condensates and the Higgs phenomenon 4-43167
 pure fermionic model, number of families, $SU(16)$ as smallest gauge group 4-4613
 pure gauge fields on coset space of Abelian chiral group, confinement props. (Chinese) 4-53962
 QCD, $\partial^2 A_\mu = 0$ gauge in Minkowski space 4-13807
 QCD, diagonal, gauge transformations and mass perturbations with massless quarks 4-18158
 QCD, large N twisted reduced, quark fields 4-18056
 QCD, lattice gauge theory from Lagrangian relativistic field theory 4-32478
 QCD, Monte Carlo calcs. with Symanzik's improved action 4-13861
 QCD, nonlocal light-cone expans. 4-435
 QCD, nucleon octet, axial and vector consts. 4-48443
 QCD, perturbative contributions to string tension 4-18161
 QCD and Weinberg-Salam model, gauge invariance and confinement 4-43185
 QCD approx., Schwinger-Dyson eqn. for quark propagator in IR region 4-53932
 QCD at high temp. with massive quarks and finite quark density, phase structure 4-22980
 QCD modelling theory, eigenvalue problem 4-4640
 QCD perturbation theory, infrared problems in axial gauges 4-48418
 QCD phenomenology on small lattice 4-53925
 QCD Schwinger-Dyson eqn. soln. for quark propagator 4-48430
 QED, standard and Pauli, couplings, local $U(1)$ gauge invariance 4-32557
 QED with massless fermions, vacuum structure 4-53918
 quadratic Poincare gauge field eqns., NUT-like soln. 4-42780
 quantisation for theories with linearly dependent generators 4-18076
 quantum field theory, two-loop renormalisation group eqns., Yukawa couplings 4-53823
 quantum gravity, generalised Schwinger-DeWitt technique and unique effective action 4-13566
 quantum gravity, one-loop effective pot. with or without cosmological constant 4-53563
 quantum mechanics, gauge independence and gauge covariance 4-22618
 quarks and leptons, composite models, fermion-boson mass inequalities 4-48456
 quenched approximation in some two-dimensional field theories 4-43178
 quenched lattice QCD, mass difference, finite-size systematics 4-32584
 quenched $SU(2)$ lattice gauge theory, hadronic mass spectrum universality and scaling 4-32487
 $R+T^2$ gravit. theories, extra gauge symmetries 4-32147
 R invariance and axion cosmology 4-4135
 radiation null zones, phase space for relativistic n -particle collisions 4-4570
 random lattice field theory, statistical mechanics and stability 4-53834
 reduced lattice gauge theory in 2-dimens., free energy, Eguchi-Kawai model 4-9035
 reduced lattice gauge theory in two dimensions 4-362
 reduced model for large N continuum field theories 4-13776
 reduced model with fermions, nonperturbative treatment 4-4566
 reggeisation in QCD, fixed branch point singularity in dimens. regularisation 4-48421
 regularisation of fermion functional integral for Weyl fermions 4-43170
 regularisation of fermion functional integral in gauge field 4-43169
 relativistic canonical commutation relations and harmonic oscillator model of elementary particles 4-18213
 relativistic Hamiltonian theory, world-lines and N -body gauge-independent equations of motion 4-4541
 renormalisability of gauge theories for external-symmetry groups 4-48351
 renormalisable, high-energy factorisation 4-4522
 renormalisation and theory of gauge-invariant effective action 4-4556
 Rishon model, chiral symmetry breaking and condensates, 't Hooft's constraints 4-43340
 Rishon model, hypercolour gauge of discrete symmetry, mass matrix struct. 4-43341
 rotational invariant nonlocal lattice gauge model 4-372
 Rubakov fermion-monopole scatt. process, missing charge 4-355
 Rubakov-Callan effects, monopole induced B-nonconservation, $SU(2)$ gauge theory 4-4577
 Schwinger formalism, supersymmetry breaking in strong mag. field 4-53843
 Schwinger model, Coulomb-gauge, with multi-fermions, fermion structures of state vectors 4-32420
 self-avoiding and planar random surfaces on the lattice 4-9007
 self-dual gauge fields and sigma models, algebraic structure 4-336
 semiclassical quantisation, effect of quartic potentials chaotic motion 4-48005
 simple Riemann waves, gauge transformation 4-17709
 Singer theorem, specification of conditions at infinity 4-18046
 $SO(10)$ supersymmetric, gauge symmetry breaking with intermediate mass scale 4-18118
 $SO(5)$ monopoles and zero modes in Prasad-Sommerfield limit 4-53853
 $SO(8)$ supergravity, $N=8$ gauged, supersymmetry transformation of truncation 4-27387
 source free $SU(2)$ gauge eqns., spherically symmetric solns. 4-4575
 space-translation method and gauge-invariant formulation, comparison for charged harmonic oscillator 4-22617
 spacelike axial gauge, consistent formulation 4-18099
 spherical symmetry, mag. monopole soln. 4-43208
 spherically symm. $SU(N)$ monopole construction in self-dual gauge fields 4-18097
 spin physics at short distances 4-27707
 spin systems and Griffiths singularities, large- N reduction 4-22914
 spin systems on Cayley trees, gauge analogue 4-387

gauge field theory continued

spinor loops, dimensional regularization, one-loop finite renormalisation counterterms 4-13758
 spontaneous compactification and CP_N , $SU(3) \times SU(2) \times U(1)$, $\sin^2 \theta_w$, g_3/g_2 and $SU(3)$ triplet chiral fermions 4-48385
 spontaneous generation of gauge struct. and matter, Kaluza-Klein mode 4-8804
 standard electroweak model, quasi-solitons in strongly coupled Higgs sector 4-27677
 static colour dielectric const., weak field limit calc. from gluon propagation 4-4616
 stellar energy loss and supersymmetry 4-53156
 stochastic quantization 4-32431
 stochastic quantization of gauge theories 4-22921
 stochastic spin-one massive field 4-37293
 stochastic quantisation approach for gauge fields, fermion fields, quantum spin stat. mech. 4-327
 string tension in $SU(3)$ lattice gauge theory 4-32465
 string tension measurement in $SU(3)$ lattice gauge theory 4-18091
 strongly coupled lattice gauge theory, chiral symmetry breaking 4-13781
 $SU(2)_L \times SU(2)_R \times U(1)_{B-L}$ left-right mixing, and weak interaction phenomenology 4-9047
 $SU(2)_R \times SU(2)_R \times U(1)$ gauge theory, L-R symmetry, W mass scale 4-43269
 $SU(2)_L \times SU(2)_R$ gauge of weak interactions for composite model 4-43336
 $SU(2)_L \times U(1)$ weak interactions, decays radiative corrections, W^\pm , Z and Higgs 4-9052
 $SU(2)_R \times SU(2)_L \times U(1)_{B-L}$ left-right symmetry spontaneous breaking, quantum corrections 4-48360
 $SU(2) \times SU(2)$ gauged supergravity, electrovac ground state 4-47975
 $SU(2) \times U(1)$, quark mixing matrix, Kobayashi-Maskawa implications 4-27692
 $SU(2) \times U(1)$, W-dominance, electroweak interactions of composite leptons and quarks 4-32539
 $SU(2) \times U(1)$ electroweak gauge model, broken generation symmetry 4-53913
 $SU(2) \times U(1)$ supersymmetric horizontal models, radiative fermion mass matrix generation 4-27681
 $SU(2)$ adjoint Higgs model, Monte Carlo study at positive temp. 4-13791
 $SU(2)$ gauge theory, fermion corrections in self-dual Abelian field 4-18098
 $SU(2)$ gauge theory, four-dimensional, lower dimens. confinement mechanism 4-32633
 $SU(2)$ gauge theory, Monte Carlo calc. of effective potential 4-13789
 $SU(2)$ gauge theory mixed action, $1/d$ corrections to mean-field approx. 4-32483
 $SU(2)$ gauge theory on body centred hypercubic lattice, improved scaling, string tension 4-32423
 $SU(2)$ gauge theory on body-centred hypercubic lattice, average plaquette 4-4562
 $SU(2)$ gauge theory on torus, low lying energy values, weak coupling expansion 4-43164
 $SU(2)$ gauge-Higgs theory with radial degree of freedom 4-32409
 $SU(2)$ glueball states with Symanzik tree-level improved action, Monte Carlo calc. 4-22990
 $SU(2)$ lattice gauge theories, nonconfining phase at high temps. 4-48333
 $SU(2)$ lattice gauge theory, 2-D with quarks, Monte Carlo spectra 4-18036
 $SU(2)$ lattice gauge theory, 4-D, lower dimensional confinement mechanisms 4-48317
 $SU(2)$ lattice gauge theory, 4-D phase struct. 4-4544
 $SU(2)$ lattice gauge theory, θ param. Monte Carlo simulation 4-43221
 $SU(2)$ lattice gauge theory, θ vacua by Monte Carlo simulations 4-53825
 $SU(2)$ lattice gauge theory, chiral props. of Wilson fermion 4-4545
 $SU(2)$ lattice gauge theory, energy gap in $2+1$ D 4-32411
 $SU(2)$ lattice gauge theory, instantons and string tension, Monte Carlo method 4-48313
 $SU(2)$ lattice gauge theory, instantons and topological charge 4-13795
 $SU(2)$ lattice gauge theory, Monte Carlo calc. of glueball mass 4-27661
 $SU(2)$ lattice gauge theory, Monte Carlo meson spectroscopy study 4-32412
 $SU(2)$ lattice gauge theory, noncompact, quark confinement study 4-32451
 $SU(2)$ lattice gauge theory, scaling of qq potential 4-48321
 $SU(2)$ lattice gauge theory, stochastic confinement 4-53833
 $SU(2)$ lattice gauge theory, topological charge 4-13778
 $SU(2)$ lattice gauge theory, universality, Monte Carlo simulations 4-48318
 $SU(2)$ lattice gauge theory with action including six-link loops, string tension meas. 4-358
 $SU(2)$ lattice gauge theory with mixed action, asymptotic freedom 4-13780
 $SU(2)$ lattice QCD, light pseudoscalars and symmetry restoration 4-48322
 $SU(2)$ nonabelian lattice gauge, Monte Carlo struct. calcs. of glueballs 4-339
 $SU(3)$ gauge fields, spherically symmetric solutions 4-48372
 $SU(3)$ gauge theory, latent heat calc., lattice corrections 4-13796
 $SU(3)$ gauge theory on 12^4 lattice, Monte Carlo study 4-48347
 $SU(3)$ lattice gauge QCD, Monte Carlo algorithms 4-32414
 $SU(3)$ lattice gauge theory, deconfinement phase transition, critical quark mass 4-18189
 $SU(3)$ lattice gauge theory, glueball mass spectrum calc. 4-4635
 $SU(3)$ lattice gauge theory, heavy-quark pot. 4-48461
 $SU(3)$ lattice gauge theory, Monte Carlo simulation, string tension and deconfinement temp. 4-53857
 $SU(3)$ lattice gauge theory, Monte Carlo simulation algorithm SUUNFA code 4-18034
 $SU(3)$ lattice gauge theory, Monte Carlo simulations, dynamical quark inclusion by pseudo-fermion method 4-32449
 $SU(3)$ lattice gauge theory, static charge ensembles, quark systems 4-13794
 $SU(3)$ lattice gauge theory, topological susceptibility 4-18045
 $SU(3)$ lattice theory, renormalisation calcs. using Monte Carlo methods for hadron masses 4-42331
 $Su(5)$ gauge theory, dynamical supersymmetry breaking 4-48324
 $SU(5)$ gauge theory in four dimens., Monte Carlo studies of Wilson loops 4-4565
 $SU(5)$ GUT, monopole and dyon solns. 4-32506

gauge field theory continued

- SU(5) GUT, spontaneously broken supergravity, renormalisation group techniques 4-48389
 SU(5)-SUSY, symmetry breaking, Higgs struct. 4-43295
 SU(7) monopole solutions and N-ality nonzero Higgs fields 4-18124
 SU(N) gauge theory, high-energy limits and internal symmetries, Regge poles and Regge cuts 4-48349
 SU(N) lattice gauge theories, Migdal-Kadanoff renormalisation, generalised Gaussian soln. 4-48346
 SU(N), lattice gauge theory, QCD twisted reduced model, Hamiltonian and Schwinger-Dyson eqns. 4-32458
 SU(N), U(N) lattice gauge theory, Monte Carlo simulation using LAT-TICE code 4-18033
 SU(N)×SU(N) chiral models, lattice actions 4-360
 SU(N) deconfinement phase transitions, quark effects, lattice gauge theory study 4-18112
 SU(N) gauge theories, asymmetric lattice regularisation, one-loop fermion contrib. 4-335
 SU(N) gauge theories, monopole solns., self-dual, generating technique 4-18040
 SU(n) Higgs potentials, symmetry breaking patterns, renormalisation group effects 4-32479
 SU(N) lattice gauge theories, improved QCD scale param. and Monte Carlo calcs. 4-32450
 SU(N) lattice gauge theory, asymptotic freedom scales 4-48326
 SU(N) lattice gauge theory, deconfinement at strong coupling 4-13802
 SU(N) lattice gauge theory, tree level improvement for Wilson fermions 4-48320
 SU(n) pure lattice gauge theory, global disorder and asymptotic freedom 4-43222
 SU(N) theory, compact gauge group representations without triangular anomalies 4-48298
 subconstituent picture of weak interactions, dynamical picture 4-53966
 supergravity, background geometry and stability 4-42827
 supergravity, gauged N=8, scalar potential critical points for SO(8) breaking to SO(5) sectors 4-13568
 supergravity, instanton zero modes and β -functs. 4-27396
 supergravity, noncompact N=2 supersymmetric, massive spin-one multiplet coupling 4-32158
 supergravity, nonlinear realisation of extended superconformal symmetry 4-53566
 supergravity, recent work review, effective action, local supersymmetry breaking, instantons 4-42816
 supergravity and supersymmetry, Trieste School, Trieste, Italy (Sept. 1982) 4-42576
 supergravity GUT, gauge hierarchy 4-160
 supergravity light-cone N=1 lagrangian in closed form 4-13569
 supergravity with unrenormalisable interactions, quantum corrections 4-17806
 superstrings, 10-D supersymmetry, covariant description 4-48460
 supersymmetric, UV-divergence cancellations 4-43228
 supersymmetric, with dynamical symm. breaking, vacuum alignment 4-27672
 supersymmetric confining model of weak interactions based on $SU(M)_{sc} \times SU(2)_L \times SU(3)_C \times U(1)$ 4-32563
 supersymmetric light-cone chromon model using R-breaking mechanism induced by N=1 supergravity 4-48453
 supersymmetric gauge and Yang-Mills theories 4-43217
 supersymmetric gauge fermions prod. at colliders 4-13836
 supersymmetric gauge theories, auxiliary field tadpole method of effective potential evaluation 4-18043
 supersymmetric gauge theories, effective actions construction in superspace 4-48341
 supersymmetric geometry of N=2, nonlinearities 4-43230
 supersymmetric N=2 matter and gauge theories, construction and geometry 4-43252
 supersymmetric Yang-Mills theory, two-loop β -function 4-48314
 supersymmetry models, explicit R-parity breaking 4-27678
 SUSY and gauge hierarchy problem 4-43282
 SUSY GUTs, invisible axion scale, SUSY breaking 4-48390
 symmetry breaking in $G_W \times U_{TC}(N)$ theory by large-N colour dynamics 4-18072
 symmetry restoration in lattice QCD with Susskind fermions 4-32469
 temporal gauge, perturbation theory, Wilson loop Feynman kernel time exponentiation 4-43166
 temporal gauge for time boundary condition problems, Wilson loop calc. 4-22945
 tensor gauge fields, antisymm., covariant quantisation 4-13786
 tensor gauge model, nonabelian, covariant quantisation 4-18035
 testing confinement by means of non-local fields 4-32468
 Thirring model and two dims. axial model, gauge technique appl. 4-13775
 three-dimensional fermions, gauge noninvariance and parity nonconservation 4-22929
 time-dependent EM field, charged particle propagator 4-48403
 topological charge in lattice gauge theory 4-53887
 twist-four operator, renormalisation in planar gauge 4-22915
 twisted Eguchi-Kawai model, continuum reson 4-43205
 twisted Eguchi-Kawai model in two dims., numerical anal. 4-13777
 twisted large N fields 4-378
 two flavour SU(N) and SO(N) lattice gauge theories, dynamical symmetry breaking 4-18039
 two-dimensional QED and decoupling of heavy flavours, Monte Carlo simulation 4-13857
 two-interaction transition, relative energy contrib. effects 4-54083
 two-loop Higgs-Yukawa beta function in arbitrary α gauge, complete calc. 4-4559
 U(1) 4-D lattice gauge theory, simplicial lattice 4-27655
 U(1) lattice gauge theory, 2-D with quarks, Monte Carlo spectra 4-18036
 U(1) lattice gauge theory, convergence in continuum limit 4-22904
 U(1) lattice gauge theory, mass gap and string tension in QED_3 4-13747
 U(1) lattice gauge theory, Monte Carlo calc., massless photon 4-27659
 U(1) lattice gauge theory, Wilson loops, string tension calcs. using LATT code 4-27642
 U(1) lattice gauge theory near the phase transition 4-22932
 U(1) nonisotropic lattice gauge theory, layer phase, dimensional reduction 4-9036
 U(N) gauge theory, stochastic quantisation and large-N limit, lattice gauges 4-13812

gauge field theory continued

- U(N) lattice gauge theories, plaquette determinant for large N, scaling 4-48310
 U(N) lattice gauge theory, chiral symmetry breaking 4-18055
 U(N) lattice gauge theory, quenched master field equations for unitary matrix models 4-9023
 unbroken with fermions, two-loop calc. of decoupling 4-4523
 unification, electroweak theories, GUTs and SU(5) models 4-32534
 unification constraints in composite models 4-4655
 unified gauge theories phenomenology 4-32536
 unified gauge theory of gravitation and EM from twistor bundles 4-42794
 unique effective action in quantum field theory 4-48283
 UV structure, supersymmetric finite four dimensional field theories 4-32477
 vacuum instability in external nonAbelian colour gauge field, quasiclassical descript. 4-32581
 Van der Waals forces between quark systems, gauge invariance 4-9089
 variant action SU(2) lattice theory, four dims., complex analytic struct. 4-18067
 vector boson in const. mag. field, radiative shift of levels, gauge theory anal. 4-485
 vector bosons, production and decay widths, QCD anal. 4-48299
 vector-like gauge theories, restrictions on symmetry breaking 4-48284
 Volkov solutions, gauge and Poincare transformation structure, plane-wave decoupling 4-27658
 volume reduction of lattice gauge systems at finite 4-32432
 weak gauge boson mass relation for arbitrary Higgs scalars in $SU_{L,2} \times SU_{R,2} \times U_1$ 4-4540
 weak gauge boson masses, radiative corrections from supersymm. 4-53923
 weak interactions, supersymmetric left-right confining model 4-48407
 Weinberg's continuous family of monopoles description using Atiyah-Drinfeld-Hitchin-Manin-Nahm 4-22962
 Weinberg renormalisation scheme, Abelian case 4-48337
 Weinberg-Salam theory, mag. monopole structure and mixing angle 4-27683
 Weinberg-Salam theory, topology 4-4595
 Wess-Zumino model, lattice version 4-4573
 Wess-Zumino-Witten effective action, gauge invariance, anomaly-free condition 4-32426
 Weyl's gauge field, Yang-Mills fields and Toda lattice, common eqn. 4-43197
 Weyl's gauge field eqn. with meron soln. 4-32419
 Wilson-Polyakov lattice gauge theory, factorisation in large-N limit, Schwinger-Dyson eqn. anal. 4-32454
 Wigner's energy operator and gauge independent transition amplitude 4-53841
 Yang-Baxter algebra representations for Toda field theory 4-43177
 Z_2 gauge model in (2+1) dims., finite lattice study 4-9013
 Z_2 theory, charged translation covariant states in Higgs phase 4-22903
 Z_4 lattice gauge theory, 4-dims., Migdal-Kadanoff recursion relations, perturbative corrections 4-53830
 Z_4 lattice gauge theory, continuum limit 4-32433
 Z(2) Higgs lattice gauge model, mean field calc., phase diagram 4-48311
 Z(N) Abelian gauge theories, mean-field predictions, phase structure 4-18068
 Z(N) lattice gauge systems with generalised action, phase diagram, mean field approach 4-9014
 Z boson masses, neutral current anal. in $SU(2)_L \times SU(2)_R \times U(1)_{B-L}$ 4-32541
 $\bar{d}s\bar{g}$ vertex, exact calc. in unitary gauge 4-4622
 e^+e^- annihilation, energy-energy correl., coloured Higgs bosons contrib. 4-32733
 e^+e^- collisions, evidence for QCD gluons, gauge nature 4-9116
 $e^+e^- \rightarrow l^+l^-$, QED and electroweak tests at PETRA 4-9092
 γe^+ , pol. γ , weak boson photoprod. charged weak boson coupling gauge struct. 4-48464
 n-f oscillations in gauge models, cosmological baryon asym. 4-32530
 np- $\bar{d}\gamma$, quark-nucleus approach, gauge invariance, parity violation 4-9077
 pp- \bar{d} dileptons X, ang. distrib., test of electroweak gauge model 4-4717
 qq annihilation, cross-section in perturbative QCD, infrared finiteness 4-43320
 W-boson production, polarisation amplitudes in standard model 4-4571
 γe , search for supersymmetric particles 4-32653
 $SL_{2,C}$ gauge theory of gravitation, conservation laws, general relativity relation 4-32142
- Gaussian noise** see random noise
Gaussian orbital calculations see GO calculations
Gaussian-type orbital calculations see GTO calculations
Ge-Si alloys
 amorphous, photoconductive, prep. by glow discharge 4-40675
 amorphous and crystalline, struct. studies using EXAFS and Raman scatt. 4-40571
 amorphous hydrogenated, gap state distrib., elec. props. meas. 4-39764
 electronic and optical props. KKRZ pseudopot. calc. 4-15815
 epitaxial layers, plasma CVD growth from SiH_4 - GeH_4 mixture 4-21157
 lattice dynamics, thermal props. 4-55940
 MBE pseudomorphic growth on Si, TEM and Rutherford backscatt. studies 4-40652
 tetrahedrally bonded amorphous semicond., crystallisation process study 4-39142
 Al-Si-Ge, superconducting, I-V characts. (Chinese) 4-2687
 Ge-Si superlattice struct., nonlinear HF props. 4-56428
 Ge-Si-Cu, solid soln., electron irradi. effect on electrophys. props., radiation defect form. control by alloying 4-56363
 Si-Ge-B, amorphous, GaAs Schottky contact with large barrier height, MESFET appl. 4-15934
 a-Si-Ge-B alloy, tetrahedrally bonded continuous random network, electronic props. 4-39765
 a-Si-Ge-B LPCVD films, oxidation mechanism and work functions, rel. to submicron device fabrication 4-51836
 $Si_{1-x}Ge_x$ -H, amorphous, density of states by space-charge limited currents 4-20663
 $Si_{1-x}Ge_x$ -H amorphous alloy, three-stacked tandem type solar cells 4-16777
 $Si_{1-x}Ge_{1-x}$ -H amorphous films, reactively sputtered, compositional gradients obs. 4-51487

Ge-Si alloys continued

- $\text{Si}_x\text{Ge}_{1-x}/\text{GaAs}$ heterojunction systems, radiation-stimulated gettering of struct. defects 4-30067
 $(\text{Si}_x\text{Ge}_{1-x})_2\text{S}_2$ glass, microstructure from Raman meas. 4-20115

gegensein see *zodiacal light*

Geiger counters

- EM shower calorimeter performance at PEP-4 4-23468
 halogen counter with thick anode, local γ -ray counting efficiency 4-38006
 organic-quenched Geiger-Muller counters 4-23500
 portable DIY design with cable capacitance reduction, protecting resistor and ZP 1401 tube (*German*) 4-5101
 system for registration of TSEE or OSEE 4-979
 tube planes as trigger for nucleon lifetime expt. in Frejus tunnel 4-23461

Geiger Muller counters see *Geiger counters*

gelatin

see also *gels*

- absorbed layer on glass, surface coverage, struct., water wetting angle obs. (*Russian*) 4-56121
 dichromated, holographic recording, He-Cd laser appl. (*Russian*) 4-19396
 dichromated gelatin holograms derived from Agfa 8E75 HD plates 4-38418
 dichromated gelatin multifocus hololens, design techniques and appls. 4-10264
 film, thin, swelling kinetics, meas. method and equipment (*German*) 4-46804
 gels, diffusion coeff., dynamic light scatt. study 4-20980
 photogelatin, chemical developments in last decades (*Hungarian*) 4-21497
 photographic, aldehyde determ. by colour reaction with thiobarbituric acid 4-46803
 photographic, desorption by cationic F-containing surface-active substances and their action in developing solns. (*Russian*) 4-52058
 photographic, with varying silicic acid content, Ag halide microcryst. growth restraint appls. (*Russian*) 4-32370
 photographic emulsion binder, gelatin function during precipitation and growth of Ag halide crystals. (*German*) 4-16696
 photographic emulsion layer hardening by diacetal hardeners (*Russian*) 4-13701
 photographic gelatin emulsion layer hardening mechanism by oxirane compounds (*Russian*) 4-17997
 photographic gelatin mol. conformational props., spin labelling and spin probing 4-41275
 photographic layer storability, influence of gelatin (*Russian*) 4-18001

gels

- agar gell, effective diffusion coeff. of methylene blue 4-7756
 alkali metal phosphosilicate glasses, $\text{M}_2\text{O} \cdot \text{M}'\text{O}_2 \cdot \text{SiO}_2 \cdot \text{P}_2\text{O}_5$, (M=Li, Na, K) (M'=Zr, Ti), superionic gel and glass form. 4-39587
 alkoxide-derived, starting materials in expt. petrology and solid state chem. 4-57122
 alkoxy silanes, hydrolysis and condensation reactions, sol-gel process appl. 4-57606
 butyl methacrylate, radical polymerisation, gel-effect mechanism, rheological obs. (*Russian*) 4-14938
 contact lenses, prep. from Si- and Ti-alkoxide by sol-gel process 4-57126
 diphasic ceramic composites, sol-gel method prep. 4-57167
 diphasic xerogels, prep. by sol-gel process, ceramic-metal composite prod., X-ray diffr., SEM, TEM 4-46481
 dual-bed open-cycle solar cooling system feasibility and performance 4-12455
 elastic modulus and percolation theory of casein gel 4-44514
 fish muscle gels, thermally induced, final strengths and rheological changes 4-41553
 food rheology, basic meas., conf., Evanston, IL, USA (Oct. 1982) 4-36781
 gel-sol prep. of glasses, conf., Wurzburg, Germany (Jul. 1983) 4-53344
 gelatin, diffusion coeff., dynamic light scatt. study 4-20980
 gelatin molecule conformational props., spin labelling and spin probing 4-41275
 glass-like materials from ethyl silicate, prep. 4-57123
 glasses and ceramics, sol-gel synthesis, technical appl. 4-3117
 glassy and crystalline systems from sols and gels, chem. basis and technical appl. 4-57124
 hydrogels, radiation grafting on to polymers for thromboresistance improvement 4-8154
 ionogenic hydrogels of N-vinylpyrrolidone copolymers, stress-strain characts. (*Russian*) 4-46558
 kinetic gelation, irreversible, self-similarity 4-16700
 kinetic gelation, real-space renormalisation group 4-52063
 kinetic gelation model, phase diagrams, critical props. and dimens. effects 4-22705
 lysozyme gels, Raman, IR and CD spectroscopy 4-38361
 organosilicon rubbers, gelatinous, elec. controlled layers, rheological characts. (*Russian*) 4-14900
 oxide films on flat glass, prep. from gels 4-57369
 PBLG solutions in benzyl alcohol, phase behaviour 4-24712
 Pluronic F 127, aq. solns., gel form., ultrasonic relax. and ^{13}C NMR study 4-29542
 poly(vinyl alcohol) hydrogel, DSC and FT-NMR of bound water 4-30289
 polyacrylamide gels, monomer-comonomer ratios, Raman spectrosc. and differential scanning calorimetric obs. 4-35945
 polyacrylamide gels in theta solvent, collective diffusion study 4-41271
 polyacrylic acid-polymeric heterocyclic amine complexes, struct. and props. (*Russian*) 4-14620
 polydiacetylene 4-butoxycarbonylmethylurethane in toluene soln., gel-sol transition 4-6243
 polyethylene, chlorinated, crystallinity rel. to thermoreversible gelation 4-6296
 polymer, self-diffusion theory 4-56058
 polymer-gel structures, modification 4-57121
 polymer gels, crosslinked, PMR line shape (*Russian*) 4-30300
 polymeric gels, NMR study of elementary chain swelling, effect of trapped topological constraints 4-56810
 polymers, branched, collapse, transfer matrix calc. 4-14617
 polyoxyethylene-polyoxypropylene copolymer, gel, ultrasonic absorpt. meas. by light diffr. and resonator methods 4-15592
 polyvinyl alcohol gels, simple extension, Mooney-Rivlin plot 4-10624
 protein-polysaccharide mixtures, rheological props. 4-21686

gels continued

- PVC gels, dil., in phthalate plasticiser solns., gelation and rigidity modulus 4-16693
 PVC plastisols, gelation, props. of coatings (*Polish*) 4-21174
 PVC-solvent gels, morphology and props. 4-16697
 reacting polymer jets, turbulent boundary layer treatment 4-44549
 silica aerogel, ultrasonic velocity, refraction and propagation 4-55930
 silicon methoxide, hydrolysis, sol-gel transition, pH depend., GC and X-ray obs. 4-57607
 sol-gel preparation of transparent SiO_2 glass 4-57179
 sol-gel processing route to oxide ceramics using colloidal dispersions 4-57146
 sol-gel transition, percolation model, hyperscaling reln. 4-22715
 tobacco mosaic virus, interrod forces in aq. gels 4-57822
 wheat starch granules, yield stresses in concentrated dispersions of gel particles 4-41551
 $\text{Al}_2\text{O}_3\text{-SiO}_2$ gels, densification under heat treatment, glass form., Raman spectra 4-57178
 $\text{Al}_2\text{O}_3\text{-SiO}_2$ glass layers formed by gel process, O diffusion 4-57181
 $\text{B}_2\text{O}_3\text{-SiO}_2$ glass layers formed by gel process, O diffusion 4-57181
 $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2$ system, gel form. from metal alkoxides, struct. evolution obs. 4-57120
 $\text{Cu}(\text{OH})_2$ gel membranes, recrystallisation study 4-12387
 $\text{GeO}_2\text{-SiO}_2$ glass layers formed by gel process, O diffusion 4-57181
 $\text{Li}_2\text{O-Al}_2\text{O}_3\text{-SiO}_2\text{-P}_2\text{O}_5$ system, superionic gel and glass formation by low temp. chemical polymerisation 4-39587
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$ system, gel homogeneity and glass prep., light scatt. obs. 4-57172
 $\text{Na}_2\text{O-B}_2\text{O}_3\text{-V}_2\text{O}_5\text{-SiO}_2$ system, glass prep. by sol-gel process, struct. development 4-57175
 $\text{Na}_2\text{O-SiO}_2$ gel-glass conversion 4-57182
 $\text{Na}_2\text{O-SiO}_2$ gel and glass, crystallisation behaviour, X-ray diffr. study 4-55742
 SiO_2 dispersed silica, structural changes during mol. stratification of CrO_2 4-41268
 SiO_2 gel, densification below 1000°C , microstruct., gel to glass conversion temp. 4-57171
 SiO_2 gel, densification, glass prep. by sol-gel process 4-57173
 SiO_2 gel, glass form., Raman spectra obs. 4-57174
 SiO_2 gels, hydrolysis prep., sol-gel transition, X-ray chromatography and NMR obs. 4-57119
 SiO_2 glasses from colloids 4-57180
 SiO_2 mag. opt. props. and temp. depend. recomb. of Ag atoms, review (*Russian*) 4-38344
 SiO_2 membranes, prep. from alkoxy silanes on porous supports 4-57125
 SiO_2 silica gel, energy characts. stabilisation of CW electron-beam-controlled CO_2 laser 4-19475
 SiO_2 sol/gel films, prep. and nitridation, effect of $\text{H}_2\text{O}/\text{TEOS}$ ratio 4-57097
 $\text{SiO}_2\text{-B}_2\text{O}_3\text{-P}_2\text{O}_5$ systems, monolithic aerogel prep., glass conversion 4-57177
 $\text{SiO}_2\text{-nH}_2\text{O}$ gel membranes, recrystallisation study 4-12387
 $\text{TiO}_2\text{-SiO}_2$ glass layers formed by gel process, O diffusion 4-57181
 V_2O_5 gels, intercalation of alkylammonium ions and long chain alkylamines (*French*) 4-7761
 V_2O_5 gels, intercalation of metallicinium ions (*French*) 4-7762
 $\text{ZrO}_2\text{-TiO}_2\text{-SiO}_2$ glasses, low temp. synthesis by sol-gel method, struct. obs. 4-57176

general relativity

- see also *cosmology; gravitation; gravitational red shift; Schwarzschild metric; space-time configurations; unified field theories*
 α -model, nonlinear, global identity 4-42796
 acceleration, field theory (*German*) 4-22641
 angular momentum at null infinity 4-36975
 anisotropic Bianchi types VIII and IX locally rotationally symmetric cosmologies 4-8618
 anisotropic matter, exact solns. 4-53555
 apparent transverse velocities in a static gravitational field 4-26985
 axisymmetric soliton solns. of Einstein's eqns., structure 4-144
 Bianchi cosmological models, Gibbs entropy production 4-22644
 Bianchi type IX models, dynamical effects of EM fields 4-31947
 Bianchi type VI spatially homogeneous cosmology, regularised field eqns. 4-42569
 Bianchi type-I cosmologies and nonminimal coupling 4-8617
 Bianchi type-V vacuum model, exact, eqns. of motion soln. 4-31942
 Bianchi types I-IX, gravit. instanton solns. 4-17757
 Bianchi-symmetric metrics 4-4290
 black hole evaporation, 2-D model, effect on space-time geometry 4-47944
 black hole evaporation in Vaidya metric 4-27393
 black hole thermodynamics, Tolman-Oppenheimer-Volkoff eqn. singular solns. 4-53204
 black holes, gravitational waves, plunging particle induced 4-22650
 black holes, two in equilib., gravitational mass and ang. momentum 4-13559
 black holes in neutrino fields, Einstein-Weyl eqn. soln. 4-22317
 canonical quantisation and the role of event horizons 4-42777
 celestial mechanics, general relativity rel. to motion of minor planets and comets 4-8369
 centrally condensed stars, relativistic instability onset and nucleosynthesis 4-53153
 EK Cephei, eclipsing binary, orbit rot. as relativistic test 4-13373
 chronometrically invariant variations in Einstein gravity theory 4-8799
 classical dynamics of relativistic string 4-22648
 closed three-manifold topology and initial data sets 4-139
 complex Einstein hypersurfaces of indefinite complex space forms 4-4287
 conference, modified theory of relativity, Patna, India (June 1983) 4-31974
 conference, search for gravitational waves, Bogota, Colombia (March 1982) 4-42596
 conference on unified field theories with >4 dimens, Erice, Italy (May-June 1982) 4-42599
 conformally connected universes from general relativistic Hamiltonian constraint singularity 4-31943
 conformally flat Einstein-Yang-Mills-Higgs solutions with spherical symmetry 4-4289
 corpuscular radiation in wave mech. and general relativity, nonlinear wave eqns. 4-32100
 cosmological gravitational waves, soliton solns. to Einstein eqns. 4-17768
 cosmological planar models, differential eqns., numerical methods 4-4124

general relativity continued

- cosmology, Einstein field eqns., curvature coordinates 4-31948
- cosmology, expanding Universe and large-scale geometry of spacetime 4-53323
- cosmology, form. of intergalactic voids 4-4125
- cosmology, multidimensional unified theories, effects 4-32136
- cosmology, physics and philosophy (book) 4-8668
- cosmology, verification of large-scale homogeneity of Universe 4-47728
- cosmology (book) 4-36838
- CP⁵ calculus for space-time fields 4-32126
- cylindrical shells of matter, nonrotating and rigidly rotating, exterior and flat interior metrics 4-42775
- D(k,0) killing spinors 4-36973
- de Sitter and Einstein cylinder space-times, causal automorphism 4-36977
- de Sitter metric, self consistent soln. of back reaction problem 4-17764
- degenerate fermion configurations, static struct., core effects, galaxy/clusters appl. 4-26987
- diagonal Bianchi type VI₀ and VII₀ models, general vacuum and stiff matter solns. 4-47929
- diffeomorphism constructively associated with mutually diverging space-times, event point identification in general relativity 4-27358
- differentially rotating charged dust with a force-free electromagnetic field 4-47951
- dimensionality influence on phys. and mathematics 4-17762
- Dirac equation in curved spacetime, separability, Killing-Yano tensor effect 4-48295
- Dirac spinor theory, covariant, from Clifford and Lie bundles 4-4530
- Dirac wave packet in gravitational field, motion from balance eqns. 4-138
- dust configurations in EM field, nonspherical nonradiative gravit. collapse 4-47936
- dynamical systems, book 4-31989
- early Universe, large-amplitude spherically symm. perturbations, initial data sets 4-13459
- Einstein's conformal vacuum field eqns., Cauchy problems and solns. 4-17758
- Einstein's eqns. integration near spatial infinity 4-36980
- Einstein's eqns. involving arbitrary functions, necessary and sufficient conditions for solns. 4-27370
- Einstein's equation, exact solns., metric classification using SHEEP program 4-42786
- Einstein's equations, generation of stationary axisymmetric vacuum soln. 4-42785
- Einstein's gravitation theory, limits, physical and mathematical difficulties 4-42784
- Einstein's theory, embedding theory and projection formulae 4-42807
- Einstein's vacuum eqns. soln. for conformally flat 3-spaces 4-42781
- Einstein and Einstein-Maxwell eqns., asymptotically flat stationary solns. from Laplace's solns. 4-13554
- Einstein equation, Cauchy problem 4-17770
- Einstein equations, Petrov type N vac. solns. 4-22645
- Einstein equations in vacuum as integrability conditions 4-32125
- Einstein field eqns., empty space soln., particle field, Schwarzschild soln., star grav. collapse 4-42787
- Einstein field eqns., positive-definite self-dual solns. 4-8797
- Einstein gravit. as long wavelength effective field theory 4-17761
- Einstein gravity, group manifold approach to gauging of algebra 4-42829
- Einstein gravity from quantum Weyl gravity, trace anomaly analogue 4-17787
- Einstein nonsymmetric field theory, invariant theorems on geometry 4-32122
- Einstein universe, arbitrary spin theory 4-17769
- Einstein universe, SU₂/Z₂ group, evolution of inertial frame 4-58539
- Einstein-Boltzmann eqns., anisotropic solns., exact properties 4-13551
- Einstein-Boltzmann eqns., anisotropic solns., general formalism 4-13550
- Einstein-Cartan eqns., exact solns. (Portuguese) 4-8798
- Einstein-Cartan theory, cylindrically symmetric cluster 4-53561
- Einstein-Cartan theory, interior soln. of axially symmetric body 4-13555
- Einstein-Cartan theory of gravit., gravit. field of spin-polarised cylinder 4-22655
- Einstein-Dirac eqn., exact soln. for neutrino in curved space-time 4-32121
- Einstein-Liouville eqns., exact anisotropic soln. 4-27361
- Einstein-Maxwell eqns., null orbit type D electrovac solns., with cosmological const. 4-4284
- Einstein-Maxwell eqns. in spherical and plane symm., interior solns. 4-47945
- Einstein-Maxwell eqns. shear free electrovac type II solns. 4-53560
- Einstein-Maxwell fields, static and stationary cylindrically symmetric 4-4280
- Einstein-Maxwell solns., non-null, with perfect fluid 4-36991
- Einstein-Maxwell solns., stationary with cylindrical symm. 4-4279
- Einstein-Maxwell solns. 4-42771
- Einstein-Maxwell-massless scalar field eqns., cylindrically symm. 4-42791
- Einstein-Maxwell-Yukawa fields, exact solns. 4-146
- Einstein-Straus-Klotz unified field theory, embedding of background space-time 4-17776
- Einstein-Straus-Klotz unified field theory, maximal extension of static soln. 4-17777
- electric dipole self interaction in weak gravitational field (French) 4-13552
- electric-magnetic duality of conformal gravitation 4-140
- electromagnetic fields, relativistic, Truesdell invariance 4-47934
- electrovacuum with two-parameter Abelian group of motions, Stueckel spaces 4-148
- elementary introduction 4-13558
- elementary particles, symmetry and unification models (Italian) 4-43271
- energy-momentum conservation law 4-8800
- equivalence principle, 5-D projective unified theory 4-27385
- Ernst eqn., singular Backlund transform., Bogomolny eqns. appl. 4-43191
- Euler-Lagrange eqn., dynamical symms. determ. 4-22586
- exact Brans-Dicke-Bianchi type-VIII and type-IX vacuum solutions 4-47928
- exact dyon soln. with Kerr-NUT metric 4-27372
- experimental testing of general relativity by solar orbiting spacecraft tracking mission 4-47989
- fluctuations in general relativistic theory of continuous media 4-36972
- four dimensional theory, experimental verification, present state 4-42840
- freely falling particles in external field, Bonnor-Swaminarayan and Ernst solns. 4-27376

general relativity continued

- FRW cosmologies, Einstein field eqns. for viscous fluid, exact solns. 4-53325
- fundamental theory for composite particles and fields 4-18204
- G constancy and other gravit. expts. 4-17810
- gauge fixing for internal and external Yang-Mills theories 4-27648
- generalised Einstein Universe, linear perturbation problem 4-4138
- geodesic focusing and space-time topology 4-22642
- geodesic motions in Ernst space-time 4-36978
- geometry and relativity, book 4-31995
- Geroch's hypothesis for EM and neutrino fields in general relativity 4-53556
- gravitational collapse, nonspherical, for cylindrical and pseudoplanar symmetric matter distrib. 4-8382
- gravitational collapse, nonspherically, for planar symmetric charged dust distrib. 4-8383
- gravitational const., behaviour in finite-temperature induced gravity 4-17387
- gravitational effects, relativistic, in charged particle quantum interference 4-47937
- gravitational field eqns., Einstein's reaction to Hilbert's work 4-53394
- gravitational fields, stationary axisymm., rank N HKX transforms. 4-47959
- gravitational instanton solns. in Euclidean metric 4-135
- gravitational interaction of spinor field in general relativity 4-32127
- gravitational Poincare gauge theory and Higgs mechanism 4-37282
- gravitational radiation reaction in the Newtonian limit 4-17771
- gravitational solitons propagating on expanding universe, exact Einstein eqn. solns. 4-142
- gravitational wave detection, theory of electromechanical transducers 4-42836
- gravity waves, numerical calcs. 4-32128
- Hadamard renormalization in curved space-time 4-27356
- hadrons, confinement from general relativity 4-43306
- Harrison space-time metrics, asymptotic behaviour 4-42778
- hermitian relativity, chromodynamics and confinement (German) 4-22974
- Hermitian theory of relativity, exact solutions 4-17760
- higher-derivative gravitational theories, unification 4-4300
- homogeneous cosmological models in presence of positive cosmological constant, asymptotic behaviour 4-8620
- inertial and linearly accelerated frames of reference, transformation eqns. 4-27368
- inhomogeneous mixmaster universes, Einstein-Klein-Gordon field eqns., exact solns. 4-17615
- invariant EM and energy-momentum tensors under Weyl transformations 4-36986
- inviscid fluids, relativistic potential vorticity 4-38915
- isometries compatible with gravitational radiation 4-47949
- IV dimension, symbols, units, eqns. (Italian) 4-47930
- Jordan-Brans-Dicke field eqns. for static spherically symmetric perfect fluid distrib., general integral 4-42772
- junction conditions and isometry propagation 4-17767
- Kaluza-Klein cosmology, Einstein solutions, horizon problem at dimensional reduction 4-53327
- Kaluza-Klein models, spontaneous compactification, Casimir effect 4-53558
- Kaluza-Klein theory, induced Einstein-Hilbert-Yang-Mills action from quantum effects 4-32139
- Kaluza-Klein theory, massive tensor fields, BRS symmetry 4-47960
- Kaluza-Klein theory, monopole solutions using SO(3) 4-47961
- Kaluza-Klein theory, quantum dynamics 4-27386
- Kantowski-Sachs gravitational instanton solution 4-17756
- Kasner Universe, rotationally symm., EM, neutrino and gravit. fields from Hertz-Debye superpotential 4-42568
- Kundt soln., generalised, with cosmological const. 4-32123
- lagrangians, acceleration dependent, correspondence to gauge transformation 4-36979
- light deflection, triangulation lines in stationary-space times with axial symmetry 4-3911
- light-cone cuts of null infinity, theory 4-4282
- light-cone cuts of null infinity in Schwarzschild geometry 4-4283
- Liouville theorem validity 4-22643
- local structure of Yang-Mills and Einstein eqns. 4-13769
- localised source effects 4-27357
- massless spinor fields, Hertz potentials and null strings 4-42776
- metric theory of gravitation, Birkhoff theorem 4-22646
- Moffat's theory of gravitation, axially symmetric solns. 4-17780
- motion equations of tested bodies in anisotropic space-time, local gauge invariance (Russian) 4-36981
- N=2 matter coupled supergravity, from compactification on 7-D coset manifolds 4-47986
- neutron stars slowly rot., free precession, rigid body motion in general relativity 4-8512
- Newtonian and post-Newtonian approximations are asymptotic to general relativity 4-17766
- Newtonian systems, path integrals in parametrised theories 4-36896
- non-equilibrium relativistic cosmology 4-36755
- nonequilibrium statistical mechanics 4-27355
- nonsstatic fluid sphere of uniform density 4-143
- nonsymmetric Kaluza-Klein theory, spherically symmetric soln. 4-36993
- nonsymmetric space-time field structs., geometrical interpretation 4-47931
- Nordtvedt general scalar-tensor theory, static axially symm. solns. 4-27367
- normal coordinates along a geodesic 4-27365
- null strings congruences 4-47941
- orbit relativistic corrections, for satellite orbiting the Earth 4-47529
- parametrized post-Newtonian formalism, second-order contribs. to relativistic time delay 4-22316
- particle detector equivalence, scalar field detectors appl. 4-36996
- path integral measure for Einstein gravity, supergravity and relativistic string theory 4-4305
- Petrov type-D empty spaces as grav. field of uniformly accelerating source 4-27364
- piecewise flat space curvature 4-32119
- planetary orbits, effect of quadrupole moment of Sun 4-26984
- planetary orbits, problematic aspects 4-47940
- Poincare gauge field theory, axially symmetric soln., charged Taub-NUT metric with torsion 4-42779
- quadratic Poincare gauge field eqns., NUT-like soln. 4-42780
- quantum cosmology, path integral approach 4-31949

general relativity continued

- quantum gravity, geometric commutation reln., four-dimens. commutator between supercoords. 4-13565
 radiation in the Einstein universe and the cosmic background 4-17773
 radiative metrics, Lyapunov functional approach 4-4291
 Regge discrete description, quantisation 4-32152
 relativistic binary system, rate of change of orbital period 4-3907
 Riemann spaces, compatibility of rel. wave eqns., massive spin 3/2 and 2 eqns. 4-47933
 Riemann-Cartan-type $R+R^2$ theories of gravitation, approximate solns. 4-4288
 Rosen and Einstein theories of gravit., comparison 4-151
 rotating massive body, gravitational field using Sygne approx. method 4-27362
 rotating perfect fluid, exact soln. 4-36974
 $S_2 \times S_2$ soln. of vacuum Einstein eqns., stability 4-32124
 scalar particle moving in gravit. field, Feynman path integral 4-47946
 scalar-tensor theory, axially symm. solns. 4-32130
 scalar-tensor theory spontaneous symmetry breaking without potential 4-32140
 self-accelerating particles without model singularities, Einstein eqn. solns. 4-27377
 self-gravitating elastic sphere, oscillations due to gravit. waves 4-47948
 self-gravitating quasi-stationary systems, finite slow-motion approx. method 4-42782
 semiclassical de-Sitter and anti-de Sitter space-times, existence and stability 4-17763
 shear-free perfect fluids 4-42774
 singularities unfolding in superspace 4-42773
 singularity-free static centrally symmetric solutions of some fourth order gravitational field equations 4-8794
 space curvature meas. with stretched strings 4-32007
 space dimensionality, bound states, baryon and lepton conservation 4-27371
 space-time configurations (book) 4-8664
 space-time equivalence for viscous magnetohydrodynamic and perfect fluids 4-4278
 space-times, self-similar, reduction 4-22647
 space-times with two-index Killing spinors 4-47943
 spatially symmetric electrovac problem, solns. with common shearing, geodesic eigenrays 4-42783
 sphere contraction from static Tolman soln. 4-4285
 spherical shell evolution from Einstein eqns. 4-27359
 spherically symmetric fluid bodies in general relativity, finite element methods 4-8795
 spherically symmetric matter distrib. config., general relativistic oscils. 4-134
 spherically symmetric radiating shell near spinless radiating central body 4-47935
 spinning magnetised homogeneous post-Newtonian gravitating fluid, gravit. radiation, relativistic corrections 4-13185
 spontaneous generation of gauge struct. and matter, Kaluza-Klein mode 4-8804
 static axially symm. electrovac metrics, coordinate modelling 4-4281
 stochastic fluctuations of $g_{\mu\nu}$ field, random motions at vel. of light 4-36941
 stochastic model of universe, Fokker-Planck solution 4-27375
 stratified general relativistic configurations with phase transition, stability, neutron star appl. 4-13184
 string cosmologies 4-22498
 strong gravity and fine structure constant 4-13563
 SU(1,1) spin coeff. eqns. with non-geodesic eigenrays, integration solns. 4-393
 SU(2) Yang Mills theory, vacuum solutions 4-53845
 SU(5), gravitational corrections to unification scale 4-32138
 SU(5) GUT, extension to satisfy inflation 4-42573
 supergravity, noncompact $N=2$ supersymmetric, massive spin-one multiplet coupling 4-32158
 superluminal transformations in general relativity (Russian) 4-42769
 tensorial conservation law 4-36976
 tensorial-scalar theory of gravitation 4-13556
 thermodynamics, thermal equilibrium rel. to temp. gradient (German) 4-47939
 tidal gravitational radiation from homogeneous stars 4-13175
 torsion coupling constant 4-13553
 Truesdell transport of contravariant tensor field 4-42770
 twistor space, Minkowski space and conformal group 4-27392
 twistor theory, grav. field energy-momentum and ang. momentum 4-141
 unitary field theories for unification of general relativity 4-42801
 universal fields and negative statements 4-8796
 Universe, plane symmetric, Einstein-Yang-Mills field eqns. 4-47731
 vacuum domain walls, gravitational field from Einstein eqns. 4-17765
 vacuum field eqns. solns., one-fixed-point Killing parameter transform 4-27369
 Vaidya space-time, 2-D stress tensor operator 4-27374
 verification by Sagnac effect with beam width correction 4-37002
 wave packets, proportionality between energy content and frequency 4-17759
 weak gravitational radiation, statistical props., Hanbury Brown-Twiss anal. 4-42788
 Weyl gravity, Einstein gravity as low energy effective theory 4-47972
 Weyl-Levi-Civita, Hermitian generalisation of vacuum fields, colour force 4-53559
 Yang-Mills, cosmological unification in 10-D 4-32137

generator coordinate method

- see also nuclear structure theory
 collective mass parameters from GCM and nucl. cranking model 4-13947
 collective motion, variational approach 4-27807
 collective motions, overcompleteness in generator coordinate method, SU(6) appl. (Chinese) 4-545
 complex nuclei interactions, microscopic theories relation (Chinese) 4-54057
 heavy ion collisions, TDHF calcs. of nuclear molecular resonances 4-32924
 inter-nucleus interaction, Boson Hamiltonian, WKB treatment 4-54101
 nucleon-meson vertex interactions due to one-gluon exchange transition potential $V_{\alpha\text{-qq}}$ (Chinese) 4-43325
 quantum mechanical pot. scatt. in generator coordinate method 4-17718
 SU(4) symmetry, normalisation kernels of cluster systems 4-23070

generator coordinate method continued

- ⁸Be transition mass densities in generator coordinate method, α -cluster struct. (Chinese) 4-54031
¹⁴C(α,α), low energy elastic scatt., generator coordinate method calc. 4-32905
¹⁴C(α,α), microscopic α -nucleus pot. 4-9215
^AC(α,α), $A=40, 42, 44, 48$, microscopic α -nucleus pot. 4-9215
^AO(α,α), $A=16, 18$, microscopic α -nucleus pot. 4-9215
³²S, shape isomers and mol. states 4-4732
²⁸Si(α,α), low energy elastic scatt., generator coordinate method calc. 4-32905
²⁸Si(α,α), microscopic α -nucleus pot. 4-9215
³²Si(α,α), low energy elastic scatt., generator coordinate method calc. 4-32905

generators, acoustic see acoustic generators**generators, electric** see electric generators**genetics** see cellular biophysics**geochemistry**

see also Earth structure; geology

- Adak Island inclusions, geochemistry implications for Aleutian Arc crust/mantle evolution 4-47176
 air-sea gas and particle exchange, NATO-ASI proc., Durham, NH (July 1982) 4-36792
 Aldan shield, USSR, apatite-carbonate ore prospecting 4-52967
 Aleutians; island arc volcanics, genesis and geochemistry, mantle struct. implications 4-31455
 alkali basalts of Massif Central, France, Nd-Sr isotope and REE geochemistry 4-47182
 analytical methods (book) 4-8657
 arc volcanism (book) 4-47800
 Archaean assemblage near Wawa, chemistry of greenschist facies metamorphism 4-12909
 Argo Tunnel water, Idaho Springs, Colorado, dissolved species chemistry 4-41997
 E Australia, mantle and basalt geochemistry rel. to continental rift tectonics 4-21901
 Baikal-Aldan belt, Siberia, potassic-alkalic magmatism 4-52654
 Baja California, Mexico, hydrothermal mineralization, IR remote sensing obs. 4-12916
 Baltic Sea, N₂O distrib., prod. and consumption 4-36410
 Baltic Sea, oceanography, chemistry, hydrology, pollution and geology (book) 4-47797
 Barrow Sub-basin, Western Australia, oil generation reconstruction 4-36321
 Belousovskii pyrite-metal deposit at Rudnyi Altai, USSR, geology 4-52649
 blueschist exotic block from Franciscan Complex, California, metamorphic history, tectonic implications 4-47257
 book on rare earth elements geochemistry 4-22539
 British Isles igneous rock geology, book 4-36825
 S Calabria, Italy, crust uplift and cooling, rock anal. 4-47177
 calcite (CaCO₃) dissolution rates, mixed kinetic control 4-3755
 California Current System, Pacific Ocean, offshore eddy, chem. struct. and dynamics 4-47306
 carbonates, mineralogy and chemistry, book 4-46499
 Cerro Prieto geothermal area, Mexico, C and O isotope geochemistry 4-12822
 Cerro Prieto geothermal field, Mexico, groundwater dynamics rel. to inert gases 4-12948
 Cerro Prieto geothermal field, Mexico, Rn study of reservoir thermodynamic conditions 4-12825
 Cerro Prieto geothermal field, Mexico, temperature and gas chemistry 4-12824
 Cerro Prieto geothermal system, Mexico, ground-water chemistry 4-12823
 characteristics, planetary aspects 4-52553
 chemical differentiation of mantle rel. to geodynamics, book 4-27255
 Chinese gabbro-anorthosite massif of Transbaikalian USSR, geochem. characteristics 4-52648
 Cindery Tuff in Pliocene sediments of middle Awash, Ethiopia, geochronology, stratigraphy and geochemistry/4-47191
 clays, PIXE anal. for archaeological studies 4-52713
 coloured natural waters, humic substances contrib. to acidity 4-31536
 continental tholeiites, trace element geochemistry, crustal contamination of mantle material 4-36315
 continents growth anal., Australian shale Nd isotopic study 4-36314
 Cortlandt complex, New York State, differentiation and contamination in alkali basalt plutons 4-41905
 crust and mantle geochemical evolution, review 4-8197
 crust subduction and creation, effects on upper mantle within geochemical cycle 4-52684
 Darling Basin, NSW, Australia, hydrocarbon deposit prospects 4-58111
 diamonds from S Africa kimberlites, C isotopes and chem. composition 4-58120
 Dokhan Volcanic Formation, Eastern Desert, Egypt, tectonic setting and chem. comp. 4-31467
 Earth accretion from solar nebula, importance of iron-water reactions 4-47551
 East Pacific Rise 21°N site, S isotope systematics of vent fluid/precipitated sulphides 4-41980
 Etnean volcanism, petrochemistry 4-36335
 exploration, conf. at Hannover, Germany (April 1980) 4-4160
 Ezhimala igneous complex, Kerala, India, petrochemistry of granite and granophyres 4-52706
 ferrodioritic liquids in magma mixing processes 4-17112
 fluorocarbons, enrichment mechanisms for groundwater 4-17183
 Fontana Lake, North Carolina, surficial sediments heavy metals, origin 4-42000
 lower Fraser River, BC, Canada, Cu, Ni, Zn in river sediments 4-31548
 Galapagos rift-Inca transform-Ecuador rift area, abyssal lava geochem. and petrogenesis 4-58123
 Galapagos spreading centre, Nd isotopic evidence for hotspot-spreading centre system evolution 4-21905
 garnet chemical zonality as indicator of Stanovoi zone Lower Precambrian rock temp. evol. 4-17151
 geochemical process, book 4-42641
 geostandards and geochemical analysis 4-42239
 Glacier Peak, volcano, tephra in Montana, age and comp. 4-47221
 N Gobi ultrabasic belt, plutons struct., comp., petrography, ore potential 4-17149

geochemistry continued

- Gorgona Island, Columbia, Pb isotope ratios correl. with magma type 4-52623
 gravitational differentiation in deep upper mantle 4-52626
 groundwater chemistry, FORTRAN computer program for chem. speciation 4-47317
 groundwater chemistry, interaction of lakes with variably saturated porous media 4-52787
 groundwater movement, hydrodynamic formulation of geochemical problems 4-47315
 Hatutu Island, Pacific Ocean, magma types determ. from rock petrography and geochemistry (*French*) 4-52660
 Hawaii and Loihi Seamount volcanoes, rock He isotopic anal. and volcanic plume model 4-41844
 Higashi-Izu-oki submarine volcanoes, classification by petrography and chemistry 4-41838
 High Himalayan and Transhimalayan intrusives, origin determ. from ^{18}O enrichment anal. 4-1924
 hot spot volcanic islands, Th and U isotopes and mantle source regions 4-58119
 hydrocarbon/sulphate balance in native S deposits form. and S mineralisation zones 4-17152
 hydrothermal activity on East Pacific Rise from Mn profiles (*French*) 4-41883
 hydrothermal mineralization at seafloor spreading centers 4-47178
 Icelandic volcanics, mantle implications of He, O, Nd and Sr isotopic anal. 4-41797
 igneous rock analysis, error recognition 4-36360
 N Illinois deep drill hole granite, Pb content, implications for Mississippi Valley ore deposits 4-41810
 Illinois deep drill hole granites, minerals O isotopic comp. 4-41808
 Illinois Deep Hole Project 4-42182
 N Illinois Precambrian granite cores, brine sampling and comp. 4-42215
 ilmenite from basic and ultrabasic rocks, geochemical features rel. to rock origin 4-52647
 E and central Indian Ocean, ^{210}Po and ^{210}Pb distrib. 4-21999
 inorganic geochemistry, book 4-27256
 island arc HF, Nd, Sr isotopes and element geochemistry rel. to magma origin and crust evolution 4-52622
 island arc magma genesis, role of subducted sediments, isotopic evidence from lesser Antilles 4-12897
 isotopes in environment (book) 4-47785
 isotopic geochemistry in hydrosphere (book) 4-53382
 Izu Shoto Islands, nearby submarine volcanoes, classification by petrography and chemistry 4-41838
 Kilauea Volcano, Hawaii, chem. composition of gas from Jan. 1983 eruption 4-47220
 kimberlite pipe remote sensing in Wyoming-Colorado, USA, by multispectral method 4-21907
 Kola Peninsular, USSR, magnetism and mineralogy of Pechenya rocks 4-12827
 komatiite magma generation in upper mantle 4-52626
 Kuznetsk Alatau, USSR, stratified phosphorite deposits 4-26678
 La Perouse gabbro intrusion, Fairweather Range, Alaska, cumulus minerals chem. 4-17142
 Lake Superior, unique tributary chloride load from Mineral River 4-52764
 lamprophyric sill in volcano-sedimentary series in France, K-Ar dating (*French*) 4-41787
 spinel lherzolite, high-pressure melting and basalt magma genesis 4-21923
 loess geochemistry, continental crust comp. and crustal model ages 4-31454
 Loihi Seamount, dunite xenoliths and basalt, coexisting glass and olivine, noble gas systematics 4-41846
 Loihi Seamount, Hawaii, basalt $^{87}\text{Sr}/^{86}\text{Sr}$ ratios, mantle hot spot implications 4-41843
 Loihi Seamount basalt, Hawaii, geochemistry and mantle comp. 4-41840
 Loihi Seamount basalts, Hawaii, petrology, geochem. anal. and mantle source characts. 4-41841
 Loihi Seamount ultramafic xenoliths, olivine CO_2 inclusions, geobarometry 4-41842
 lower mantle melting temp. distrib. and fractionation in lower mantle 4-3729
 lower mantle mineralogy and chemistry, high-pressure expts. on MgO-FeO-SiO_2 system 4-52693
 magma generation in island arcs, ^{230}Th - ^{238}U disequilib. in lavas from Aleutians and Marianas 4-52636
 Mansiisk syncline, Siberia, oil prospects and regional tectonic struct. 4-26677
 mantle, evolution and chemical struct.: from Nd and Sr isotopic data inversion method 4-42194
 mantle and continents, chemical structure and evolution, isotopic data inversion 4-41798
 mantle derived rocks, trace element data inversion for batch melting models 4-58124
 Mariana Trench, struct. and evolution from landward slope igneous rocks anal. 4-41872
 Marquesas Fracture Zone, petrology of dredged basalt fragments 4-52631
 metal ore deposits of oceanic crust and derived from oceanic crust 4-58162
 metallogenesis, review 4-8202
 metamorphic petrology, book 4-42631
 metamorphic petrology, review of recent work 4-8200
 methane and N_2O chemistry of forest soil, production and consumption rates 4-47371
 methane-rich natural gases, $^3\text{He}/^4\text{He}$ rel. to magmatic origin 4-8193
 midocean ridge basalt glass K, U, Th content rel. to mantle radiogenic heat 4-17114
 Midsommerø dolerites and assoc. intrusions of N Greenland Proterozoic platform 4-17146
 Mono Lake, California, Pu speciation 4-47314
 Moon origin models, siderophile element geochem. constraints 4-13214
 Mount St. Helens, 1980 deposits, alteration evidence from S-rich minerals anal. 4-12887
 Mount St. Helens, 1980 eruptive sequence, preeruption temp. and O fugacities 4-12886
 Mount St. Helens, chemical anal. of gas samples from summit crater 4-12861
 Mount St. Helens, chemistry of emitted gases (May to September 1980) 4-12860

geochemistry continued

- Mount St. Helens, CO_2 emission rates from plume meas. 4-12858
 Mount St. Helens, continuous monitoring of ground H_2 on south flank of mountain 4-12859
 Mount St. Helens, SO_2 emission rates (1980 March 29 through December) 4-12857
 Mount St. Helens region, river water quality, effect of May 18 1980 eruption 4-12889
 natural gas deep in Earth, chemical composition 4-41816
 neutron activation analysis method for geochemistry and pollution studies (*Russian*) 4-58303
 N New Zealand, Late Cainozoic rifts and intra-plate volcanism 4-36330
 W-Norway, volcanic ash bed, age and geochemistry, correl. with other sequences 4-47195
 Norwegian Sea, Late Weichselian-Holocene circulation var., sediment biological and chem. anal. 4-47300
 nuclear waste glass, surface layer alteration by boiling water, struct. (*French*) 4-52249
 ocean chemistry, role of phaeodarian skeletons in SiO_2 transport to deep sea 4-31526
 ocean margins, ^{230}Th and ^{231}Pa removal, Panama and Guatemala basins 4-41979
 ocean-wide stagnation episode in the Late Cretaceous 4-58203
 oceanic tholeiites from East Pacific Rise, ^{230}Th - ^{238}U disequilib. systematics 4-8229
 oil generation, physical-chemical models 4-41916
 Oku-Aizu area hot springs, Japan, chemical anal. (*Japanese*) 4-31547
 ore body prospecting in Siberia by study of groundwater F and Cl contents 4-52968
 ore deposits form. in early Earth history (*Russian*) 4-3762
 Osuzuyama acid rock, SW Japan, zoned magma chamber, mineralogical/geochemical characts. 4-17144
 Oswego River, New York, polluted river, chemically-based density stratification 4-41999
 eastern Pacific, abyssal lava phase chem. and crystallisation history 4-58122
 Pacific, climate-correlated sedimentation, V19-29 core record below Peru current 4-41984
 eastern Pacific, geochem. of abyssal lavas 4-58121
 E equatorial Pacific, REE fluxes and geochemical budget 4-36412
 East Pacific Rise and Mid-Atlantic Rise, Pb, Sr isotope geochemistry comparison 4-58118
 pegmatites, nature and occurrence 4-36320
 peridotite nodules in Neogene alkali-basalts from China, thermobarochrometry (*French*) 4-41786
 petroleum generation by laboratory pyrolysis expts. simulating subsiding basin 4-47194
 petrological evolution of crust and mantle, review 4-8198
 Pliocene-Pleistocene volcanic rocks, Tengchong, China, origin, isotopic/geochemical anal. 4-21910
 plutonic intrusions of central Sierra Nevada, California, geochemistry rel. to origin 4-8233
 Promontorio silver deposits, Sonora, Mexico, geoelec. survey of breccia pipes 4-26663
 prospecting, statistics and data anal. techniques (book) 4-47793
 Proterozoic mantle, isotopic evidence from E Canadian shield for geochemical discontinuity 4-21906
 quartz diagenesis dating in petroleum basin, fluid inclusion method 4-42230
 Rhum intrusion, NW Scotland, isotopic and geochemical evidence for evolution of cyclic unit 4-47262
 rock chemical analysis by PIXE and charged particle activation anal. 4-47418
 rock geochemistry in mineral exploration (book) 4-47794
 rocks, characts. (book) 4-42620
 Rosetta branch of Nile delta, sediment radioactivity and old river channels 4-12942
 rutile, high-pressure and -temp. phase transitions 4-3758
 Sagleg dyke, Labrador, Canada, Nd and Sr isotope geochemistry and emplacement ages 4-47181
 sandstones in eastern Australia, geochem. and tectonic setting of origin 4-26670
 East Sayan ore province, USSR, location of rare metal mineralisation 4-52650
 sea floor petrology (book) 4-53371
 seawater-basalt interaction, solubility of $\text{Mg-OH-SO}_4\cdot\text{H}_2\text{O}$ at elevated temps. and press. 4-3756
 sedimentary basins of marginal type, oil and gas geochemical characts. 4-17121
 sediments of Goa coast of India, Fe mineralogy and geochem. 4-52690
 Seneca River, New York, polluted river, chemically-based density stratification 4-41999
 West Siberian plate, D and ^{18}O content of groundwater and hydrocarbon prospecting possibilities 4-41998
 West Siberian Plate, geomag. anomalies due to metallogenic zones 4-52575
 central Sierra Nevada granitic rock, California, magma mixing 4-41800
 silicate mineral dissolution at pH 4 laboratory expts. 4-47183
 silicate mineralogy, petrological geochem., review 4-8201
 soil acidification, acidic deposition and internal proton sources 4-46906
 soil spectral reflectance rel. to physical and chem. props. 4-17159
 South Carolina coastal plain watershed, precipitation chem. comp. and spatial var. 4-17189
 South Scotia ridge, dredged rocks, mag. lineations and tectonics 4-47241
 specimen isolated secondary ion mass spectrometry for rare earths in accessory minerals 4-42229
 spectral analysis during atomisation by CW laser radiation (*Russian*) 4-42240
 Stephenson County granites, Illinois, physical props. and petrology 4-41910
 Still Creek, BC, Canada, Cu, Ni, Zn in river sediments 4-31548
 stratification of silicate Earth, model for 650 km discontinuity 4-52625
 subduction zone tectonics model incorporating phase changes 4-47244
 Synnry and Sakun massifs, USSR, geochemistry and geology of high-K and Al-rich melt rocks 4-52646
 Talnakh ore deposit, USSR, temp. during ore deposition 4-52641
 Talysh alkali-basaltic rocks, elastic and elec. props., depend. on chem. comp. (*Russian*) 4-41894
 Tama River, Japan, geochemical anal. (*Japanese*) 4-31546
 tektite chemical durability, laboratory leaching expts. 4-58183

geochemistry continued

- Toko Syncline, Georgina Basin, Queensland, Australia, petroleum prospects 4-58109
 trench leachates from Maxey Flats disposal site, geochemistry 4-18590
 Tuamotu Archipelago, Pacific Ocean, atolls geochemistry and nutrient movements (*French*) 4-52754
 Tunisia Early Mesozoic basalts, geochemistry and tectonics 4-31468
 two-pyroxene geothermometer, formulation and problems 4-22107
 upper mantle compositional inhomogeneity deduced from greenstone belts 4-3735
 eastern USSR, phosphorite rock distribution and geology 4-41828
 Velay Oriental volcanic suite, Massif Central, France, geochem. study (*French*) 4-31449
 Vitium group, N Baikal muscovite province, pegmatite fields zonality, temp./chem. implications 4-17153
 volcanology, geochemistry and petrology, recent research 4-8196
 Vosges region, France, geothermal reservoirs, mixing and geochemical anal. 4-41830
 wadsleyite (β -(Mg,Fe),SiO₄), significance of stacking faults to martensitic transformation 4-17472
 Walvis Ridge basalts, rare earths geochemistry, implications for volcanic origin and mantle characts. 4-41799
 water-rock interaction, fourth symposium, Misasa, Japan (Aug.-Sept. 1983) 4-4153
 Wild Wave Granodiorite, Silurian I-type intrusive from New South Wales, source rock comp. 4-26692
 Wooley Creek batholith, Klamath Mountains, California, petrology, geochemistry, mineralogy 4-17145
 X-ray chemical analysis of oceanic and geologic samples using process control spectrometer 4-58305
 As compounds in soil, solubility and chemical study 4-3501
 B abundance in ultramafic xenoliths and solar nebula implications 4-47550
⁹Be, geochemical cycle involving estuaries, oceans, rivers and continental weathering 4-41981
 Cu-Ni ores in Noril'sk trough region of USSR 4-52640
 H₂ dissolved in Eurasian Arctic seawaters 4-52756
 He in mantle, rel. to radiogenic heat and convection processes 4-17113
 He isotopes in nature and measurement methods (book) 4-47799
 K/U and K/Rb ratios in mantle and radiogenic heat production 4-17114
 Mn coatings on Atlantic Ocean deep sea rocks, origin 4-58169
 Mn transport in Gulf of Mexico off central Mexico through O minimum 4-36409
 Nd isotopic ratios in E and W Atlantic influenced by continental river runoffs 4-41983
 Nd-Sr isotope composition of granulites and lower continental crust evolution 4-41822
¹⁸O/¹⁶O in Illinois Precambrian granites, depth var. 4-41807
 P geochemistry, rel. to phosphorites and skeletal evolution at Precambrian-Cambrian boundary 4-52705
 Pb isotope ratios and geochronology methods for ²⁰⁶Pb/²⁰⁴Pb, ²⁰⁷Pb/²⁰⁴Pb, ²⁰⁸Pb/²⁰⁴Pb ratios throughout geologic time 4-47184
 Pb isotopes as geochemical tracers, results from Shasta (California) palaeo-island arc 4-31450
 Pb, radiogenic, in Earth crust, dynamic model of continuous isotopic evolution 4-8192
 rare earth elements in East China Sea sediments, geochemical characteristics 4-41888
²²²Rn in soil gas, geochem. prospecting and importance of Rn depth depend. in soil 4-52928
 Sr, Pb, Nd isotope ratios in French Polynesia and mantle heterogeneity 4-41823
 Th, reactions and prospecting (book) 4-47784
 U deposits in Copper Mountain, Wyoming, USA, mapped using multispectral data 4-21908
 U mobility and geochemical processes in crystalline rock, isotopic anal. 4-41809
 U, reactions and prospecting (book) 4-47784
 U-Pb dating method for young rocks, effect of ²³⁰Th initial disequilibrium 4-52919
 Zr, in East China Sea sediments, geochemical characteristics 4-41888

geochronology

- see also radioactive dating
 Adirondack anorthosite, USA, origin/geologic history, Sr and Nd isotope geochronology 4-31453
 Aiguilles d'Arves flysch, French W Alps, tectonic ages and deformation (*French*) 4-17131
 Ajusco Volcano, Mexico, Pleistocene glaciation, geomorphology, soil characts. and dating 4-47266
 Andean Piedmont, Chile, Upper Cainozoic devel., role of tectonics and climate (*French*) 4-52618
 archaeological dating, thermally stimulated exo-electron emission method 4-74
 Central Asian folded belt, relation of Hercynides to Caledonides of Baikal mountain region 4-3763
 N Atlantic Ocean, chronology of Pleistocene faunal vars. rel. to density-stratified waters 4-36408
 Australia/Antarctic break-up chronology 4-21915
 Avalonian plate, geological and tectonic evolution 4-58151
 Baikal mountain region, relation of Caledonides to Hercynides of Central Asian folded belt 4-3763
 Barberton Mountain komatiites, ⁴⁰Ar/³⁹Ar ages 4-41820
 Bay of Fundy, sea-level curves, 7000 yr BP to present, rel. to tidal development 4-31489
 Belousovskii pyrite-metal deposit at Rudnyi Altai, USSR, geology 4-52649
 Black Peaks Formation (Early Tertiary), Texas, mag. polarity stratigraphy 4-8179
 S British Columbia, Canada, Rb-Sr dating of Palaeozoic, Mesozoic and Cenozoic intrusive rocks 4-31451
 SE British Columbia, geochronology and tectonic implications of magmatism and metamorphism in Kootenay Arc 4-58115
 British Columbia, U-Pb dates from Central Gneiss Complex and Ecstall pluton 4-12818
 SE British Columbia, U-Pb zircon age from Kuskanax batholith 4-41794
 Camp Hill, Canberra, Australia, stratigraphy and geochronology from Monograptus fossil study 4-58113
 Cape Lookout Bight, N Carolina, USA, ²¹⁰Pb study of sediment accumulation rate 4-12899
 Chinese loess deposits, age determined from palaeomagnetic obs. 4-52564

geochronology continued

- Cindery Tuff in Pliocene sediments of Middle Awash, Ethiopia 4-47191
 Coast Mountains, British Columbia, Canada, uplift tectonics 4-41862
 Constantine, Algeria, post-Oligocene displacement of ultra-Tellian allochthonous units (*French*) 4-52617
 continental crust growth rate, implications of continental freeboard and sedimentation rates 4-8195
 continents growth anal., Australian shale Nd isotopic study 4-36314
 corals from marine terraces, Japan, ESR ages compared with ¹⁴C and ²³⁰Th/²³⁴U ages 4-8230
 crust model ages from loess geochemical anal. 4-31454
 Culbertson Lake allochthon, Shoo Fly Complex, California, deform. phases history 4-41914
 Daldyn-Alakit region of Yakutiya, Siberia, biostratigraphy of Ordovician and Silurian 4-52645
 Dalradian of Angus region, Scotland, uplift history of metamorphic terrain 4-26676
 diamond, implications for early Earth history 4-36322
 Duck Hawk Bluffs, Banks Is., Late Tertiary-Quaternary stratigraphy 4-41909
 Eastern Meseta, Morocco, Hercynian history, Devonian age of Debdou and Mekam schists (*French*) 4-8191
 central E England chalk, bentonites stratigraphy, implications for NE Atlantic opening 4-36341
 Ethiopia, ages of post-glacial arid episodes and implications for climate prediction 4-22072
 glacial Lake Agassiz, independent ¹⁴C ages for Emerson Phase from NW Minnesota and NW Ontario 4-31527
 Glacier Peak, volcano, tephra in Montana, age and comp. 4-47221
 glauconite, suitability for fission track dating, etching conditions 4-47179
 global sea level stratigraphy, review 4-31487
 N Grande Kabylie, Algeria, allochthonous sedimentary formations, ages and tectonic settings (*French*) 4-52616
 S Great Barrier Reef, last interglacial ²³⁰Th/²³⁴U dates 4-26686
 Guadeloupe lava flow, thermoluminescence dating (*French*) 4-17102
 Upper Gulf of Thailand, sedimentation rates and history of metal pollution 4-31132
 Holocene molluscs, first-order ¹⁴C dating 4-22108
 Late Holocene summer temp. vars. in Northern Hemisphere, comparison of evidence 4-36483
 Hula Basin, Israel, Pleistocene subsidence and sedimentation rates 4-8231
 ice ages chronology and Earth orbit var. 4-52877
 ice-rafting onset and glaciation in N Atlantic region, O isotope calibration 4-47297
 N Illinois and adjacent states, Precambrian basement, age and significance 4-41806
 S India, Precambrian tectonics and crustal evolution 4-47226
 N Indian Ocean, DSDP sites, carbonate sediments, thermoluminescence ages 4-41889
 Isparta, Turkey, Pliocene volcanic rocks, leucite mineral occurrence (*French*) 4-17104
 Kambalda greenstones, W Australia, lava Sm-Nd systematics 4-47189
 E Kenya, Miocene to Quaternary volcanism 4-36339
 Kurai fault zone, Gornyi Altai, USSR, discovery of Jurassic deposits 4-3734
 La Perouse gabbro intrusion, Fairweather Range, Alaska, petrology/tectonic setting/age 4-17142
 Lake Bonneville, W United States, reinterpretation of last two lake cycles 4-36420
 Lake Superior sediments, climatic implications of recent diatom assemblages 4-52762
 lamprophyric sill in volcano-sedimentary series in France, K-Ar dating (*French*) 4-41787
 Lanvaux Massif, Central Brittany, superposed Variscan shears (*French*) 4-41785
 Luanhe River Delta, China, alluvial fans form. ages, stratigraphy and tectonics (*Chinese*) 4-12941
 Makalu granite, Himalayas, U-Pb dating measurements 4-52919
 NE Mali, radiocarbon chronology of Holocene hydrological changes 4-17178
 Mealy dykes, Labrador, Canada, palaeomag. history 4-58068
 meteorites, terrestrial ages, ¹⁴C content anal. 4-36639
 Midsummer dolerites and assoc. intrusions of N Greenland Proterozoic platform 4-17146
 late Miocene vegetation and climatic vars. results from pollen record in NW Wyoming 4-47402
 Mount St. Helens, tree-ring dates for recent eruptions 4-17125
 Mount St. Helens, Washington, eruptive history 4-12843
 Neogene phosphorite deposition, US Atlantic continental margin, palaeo-oceanographic model 4-47249
 Newfoundland Appalachians, Dunnage Zone, Overflow Pond Granite age 4-41792
 Nikola Koba granitoid massif, Senegal, age, implications for Mauritanides chain evolution (*French*) 4-31452
 W-Norway, volcanic ash bed, age and geochemistry, correl. with other sequences 4-47195
 oil generation as function of time and temp., physical-chemical models 4-41916
 SW Oregon, Triassic cherts in western Jurassic belt of Klamath mountains, rel. to age of Josephine ophiolite (*French*) 4-3722
 N Pacific Ocean, Late Cretaceous and Palaeogene tectonic evolution 4-8210
 Palaeocene Epoch, composite terrestrial section with magnetostratigraphic completeness 4-3759
 palaeoclimatology, appl. of correl. of Alaskan varve thicknesses with climatic parameters 4-36421
 palaeomagnetism, Carboniferous geomag. field horizon markers in North America 4-8177
 Palaeozoic Pangaea, reconstruction of Devonian palaeogeography 4-31472
 phosphorites at Precambrian-Cambrian boundary, stratigraphic age and relation to skeletal evolution 4-52705
 Pilbara Block, Australia, stabilisation and tectonic evolution 4-47190
 plate motion rates rel. to kimberlite emplacement ages 4-36342
 Potomac River, USA, streamflow since 1730, drought anal. from tree ring obs. 4-47307
 quartz diagenesis dating in petroleum basin, fluid inclusion method 4-42230
 Quaternary sea-level events, N San Clemente Island, California, chronology 4-36407

geochronology continued

- radioactive dating methods and techniques 4-47471
- Rehanna Mountains, Morocco, allochthonous units tectonics (*French*) 4-41851
- Retezat-Ogradena unit, granitoid rocks, K-Ar dating (*Rumanian*) 4-47196
- Saglek dyke, Labrador, Canada, Nd and Sr isotope geochemistry and emplacement ages 4-47181
- San Andreas fault, San Mateo County, California, holocene history 4-58094
- Santorini eruption in Aegean dated to 1626 BC by tree ring frost damage data 4-26679
- E Sayan region, age of Mangatgol and Dabanzhalga suites and Oka series 4-52656
- Searles Lake, California, ^{36}Cl dating of saline sediments 4-31458
- Shasta (California) palaeo-island arc, implications of Pb isotopic comps. 4-31450
- Siberian platform, Lower Carboniferous stratigraphic subdivisions 4-17150
- Sino-Korean plate, features of Palaeozoic and Mesozoic reactivation 4-58127
- South Snowy Block Beartooth Mountains, Precambrian lithologies ages 4-47188
- solid state dosimetry, conf., Ottawa, Ont., Canada (September 1983) 4-47738
- South Shetland Islands, Lesser Antarctica, island arc volcanism migration, K-Ar dating 4-41839
- Stillwater seismic gap, Nevada, Late Quaternary history 4-58095
- subsurface lithostratigraphy discrimination, use of seismic refl. data 4-26839
- Swaziland, ancient gneiss complex, Sm-Nd age and isotope systematics of bimodal suite 4-3728
- techniques (book) 4-53370
- Tertiary igneous rocks of E Greenland and Faeroe Islands, fission track study 4-52704
- thermoluminescence radioactive dating, recent advances 4-52909
- thermoluminescence radioactive dating of fish fossil in Brazil 4-52910
- thermoluminescent radioactive dating, feasibility study 4-52621
- thermoluminescent radioactive dating, microcomputer controlled reader system 4-52911
- Transbaikalian alkaline granitoid province, two-stage form. 4-3766
- Transhimalaya plutonic belt in Ladakh region, geochronology and crust development 4-58117
- tree-ring chronologies from Patagonian Andes rel. to tidally induced drought 4-31535
- Urach geothermal anomaly, S Germany, cooling and uplift history 4-52634
- Veleka Group (Strandza Mountain), Bulgaria, formations ages and geological setting 4-21900
- Victoria Island, NWT, Canada, palaeomagnetism and age of Late Proterozoic rocks 4-12761
- Wabigoon gabbro, NW Ontario, palaeomag. evidence late Archaean magnetisation 4-58067
- Wild Wave Granodiorite, Silurian I-type intrusive from New South Wales, Rb/Sr age and comp. 4-26692
- ^{10}Be dating of geomorphic surfaces, results from soil profiles in California 4-8235
- ^{138}La - ^{138}Ce dating, anal. of meteoritic $^{138}\text{Ce}/^{142}\text{Ce}$ ratio and its evolution 4-42387
- Pb isotope ratios and geochronology methods for $^{206}\text{Pb}/^{204}\text{Pb}$, $^{207}\text{Pb}/^{204}\text{Pb}$, $^{208}\text{Pb}/^{204}\text{Pb}$ ratios throughout geologic time 4-47184
- ^{210}Pb dating method and sedimentation rates in Zhujiang estuary and Jinzhou bay 4-12829
- ^{210}Pb dating of sediments, freshwater and marine appl. 4-13088
- ^{187}Re , half-life, geologic and cosmologic ages 4-43432
- U mineralisation dating, model for fission tracks distrib. near U-rich minerals 4-41917
- U-Pb dating method for young rocks, effect of ^{230}Th initial disequilibrium 4-52919

geodesic lenses see *aspherical lenses; integrated optics; lenses*

geodesy

see also *gravity*

- absolute gravity meters at Serves, comparisons 4-52936
- Aguilhas Plateau, correl. of geoid and depth anomalies 4-58163
- Antarctica, deglaciated crust elevation, tectonics and ice volume 4-58143
- area bounded by uneven curves, area calculation procedure 4-31397
- Asal rift, Djibouti, continuous deforms. since 1978 sismo-volcanic crisis (*French*) 4-3745
- astronomic latitude, longitude and azimuth calculation using terrestrial reference and star observations (*French*) 4-36273
- Australian geodetic VLBI expt. 4-17042
- baseline determination, Earth orientation errors 4-12747
- Bessel-Helmert soln. of two fundamental geodetic problems, algorithms (*German*) 4-26581
- boundary value problem for fixed boundary surface, satellite method 4-41689
- Brabant Massif, Belgium, interpretation of gravity anomalies 4-26570
- BRITDOC geodetic network for British radiotelescope sites 4-31398
- S California, geodetic levelling, optical refraction error 4-31402
- conference, Newcastle-upon-Tyne, England (April 1984) 4-47743
- control networks, criterion matrix for second order design 4-12744
- crust deformation due to gravity acting on density anomalies 4-17122
- crustal deformations estimation from baseline meas./geophysical models 4-13037
- differential equation of physical geodesy, linear shape (*German*) 4-41695
- differential relationships with applications to adjustment in height controlled space 4-31396
- distance measuring equipment for crustal movements, instrumental offsets 4-42189
- Egypt area, calc. of convergence of the meridians 4-26566
- ellipsoid of inertia, axes direction var. due to tidal deform./centrifugal forces 4-31393
- ellipsoid of inertia of Earth, axes direction determ. possibility 4-41692
- field data collection using automatic computer equipment 4-26810
- geodetic leveling, atmospheric temperature stratification causing refraction error 4-58302
- Geodolite strain surveys, precision of method 4-58301
- geodynamic observatories at Irkutsk/Simeiz/Potsdam, latitude and longitude from astrometric obs. (*German*) 4-12742
- geoid, Pangea struct. and mantle convection 4-36343
- geoid characteristics, planetary aspects 4-52553
- geoid height above 3-D underground bodies within spherical Earth 4-36274
- geoidal height over oceans, altimetry-gravimetry problem soln. 4-41686
- geophysical prospecting by anomaly field analysis, determ. of object lower boundary 4-52913
- geopotential anomalies due to 2-D sheet-like underground structs., interpretation method 4-36516
- GEOS III satellite, laser ranging accuracy, Shanghai Obs., estimation 4-13073
- N Germany, gravity control networks (*German*) 4-47127
- gravimetry and magnetics inverse problem, simultaneous soln. by non-linear programming, Fortran 4-42201
- gravity and magnetic anomaly inversion methods (*French*) 4-58076
- gravity anomalies due to multilayer media, algorithm for selecting appropriate model 4-26870
- gravity anomalies in mantle convection model 4-3747
- gravity anomaly fields, soln. of direct problem for 3-D inhomogeneous bodies 4-52554
- gravity field, harmonic coefficient models 4-41699
- gravity field anal. from satellite to satellite range rate anal. 4-42220
- gravity field determination by two satellite range rate method 4-52946
- gravity field of inhomogeneous body, use of higher derivatives with Green's integrals 4-52555
- ground control network densification using FORTRAN IV computer program (*German*) 4-47128
- gyrotheodolite adjustment by amplitude method 4-26818
- gyrotheodolite drift and influence on azimuth determination 4-26819
- half-degree gravity anomaly means from satellite altimetry, Australian regions 4-17044
- homomorphic deconvolution procedure for study of gravity and mag. field anomalies 4-26834
- Hungary, regional Bouguer gravity maps 4-26568
- northern Iceland, vertical ground deformation observations 4-12896
- N Indian Ocean area, crust and upper mantle struct. from geophys. data 4-36327
- Indian Shield, crust and upper mantle struct. from geophys. data 4-36327
- integrated adjustment of geodetic networks, first experiences (*German*) 4-47132
- inverse problem of geopotentials, conditions sufficient for solvability 4-13070
- isostatic geoid anomalies over trenches and island arcs 4-52674
- Italy and Tyrrhenian Islands geodetic network, satellite Doppler obs. 4-12753
- Japan, geodetic reference system and Ganeko's geoid 4-12749
- karstic aquifer in S France, crust deformation due to rainfall 4-12754
- Kilauea Volcano, Hawaii (1966 Oct.-1970 Sept.), surface deformation 4-41847
- Kuwait Bay, sea-level changes from geological evidence, book 4-42633
- latitude, longitude and ellipsoid height, conversion from NAD-27 to predicted (NAD-83) 4-31401
- leveling surveys, geomag. field affecting compensator leveling observations 4-3850
- Love numbers of long period, freq. depend. of Earth anelastic response 4-3669
- Matsuyama Observatory, Japan, tilt change and crustal movements (1949 to 1982) 4-41790
- meridional distance determ., new eqns. 4-41688
- Messina Strait area, leveling survey rel. to uplift 4-36344
- Messina Straits area, geodetic surveys results 4-12748
- mixed boundary value problem, matrix soln. 4-8175
- Mount St. Helens, eruption prediction, electronic tiltmeter data 4-12837
- Mount St. Helens, geodetic data rel. to bulging of north flank before 1980 May 18 eruption 4-12852
- Mount St. Helens, geodetic monitoring after 1980 May 18 eruption 4-12853
- Mount St. Helens, Washington, electronic tilt studies (April to October 1980) 4-12854
- mountain range gravity anomalies, crust struct. and tectonics 4-58144
- astronomical navigation principles and BASIC program for position finding (*French*) 4-47416
- NAVSTAR Global Positioning System and geodetic applications (*German*) 4-47469
- Nokogiriyama Observatory, Japan, crust, tilt obs. (*Japanese*) 4-12750
- parameter adjustment using Gauss-Helmert model 4-47130
- permafrost area, gravity obs. influenced by massive ground ice 4-22110
- precision levelling, random errors, systematic effect (*German*) 4-12757
- property boundary relocation, coordinated points determined by photogrammetric block adjustment 4-31404
- river valley response to uplift, in Louisiana and Mississippi, USA 4-17179
- satellite Doppler measurements, appl. to improvement of accuracy of geodetic networks (*German*) 4-47131
- satellite geodesy, global meas. of Earth gravity field via gradiometric satellite 4-8366
- satellite laser ranging, interstation baseline determ. by scalar translocation 4-12752
- satellite laser ranging expt. for Lageos (*Chinese*) 4-52556
- shape of Earth (book) 4-42608
- Shumagin seismic gap in Aleutians, tectonics, tilt and seismicity changes 4-21919
- South Australia, free-air geoid rel. to astro-geodetic solns. 4-17043
- station coordinates determ., use of geopotential model in orbital method (*Russian*) 4-13038
- statistical analysis of data, ergodicity problem 4-52915
- stereo-orthophotograph production principles 4-36271
- strain type tiltmeter for rot. strain rel. to horizontal axis 4-26582
- Straits of Messina area, Italy, crust stress evolution since 1950 AD 4-12804
- subduction zone stresses, constraints from topography, geoid models and mechanics 4-52672
- subsurface based gravity surveying, corrections for hollow spaces 4-26836
- survey networks, 2-D Helmert transformation for meas. coord. points (*German*) 4-12758
- surveying, resection method for position fixing, least squares calc. method 4-31395
- photo-tachymeter using He-Ne laser, noise sources in distance meas. instrument 4-36526
- tectonic model of Earth rel. to geoid shape 4-17138

geodesy continued

- digital terrain model data compression method 4-36509
 tidal tilt meas. in Europe, tide effects, tectonic interpretation (*Russian*) 4-26579
 tidal tilts from Polushkino borehole obs. (*Russian*) 4-26576
 tidal-gravity waves at Sadievka, seasonal distortion (*Russian*) 4-26575
 tiltmeter observations at the Kirovo and Visichi observation points in Ukraine (*Russian*) 4-26573
 Tokai region, Japan, electro-optical distance meas. and strain var., seismic activity correl. 4-26683
 TRANET Doppler station apparent height vars. modelling 4-41687
 transformation ('Umbeziehung') of map grids, ang. distortions and con-formal projections (*German*) 4-26580
 two-dimensional Delaunay triangulations, implementation of Watson's algorithm 4-52559
 WILD T4 universal theodolite, second order tilt axis error meas. using laser interferometer (*German*) 4-47470
 zone-to-zone transformation in Gauss-Kruger projection 4-26567

geodetics see geodesy**geolectricity see terrestrial electricity****geography**

- China, Jurassic System, palaeogeography 4-41908
 Germany, Federal Republic physio-geographical division using HCMM scenes classification 4-36511
 N Greece, W Pelagonian margin, initial rifting, palaeogeography 4-41860
 Palaeozoic Pangaea, reconstruction of Devonian palaeogeography 4-31472
 remote sensing, geographical information, Pecora VII symposium, Sioux Falls (Oct. 1981) 4-36798

geology**see also geomorphology; rocks; topography (Earth)**

- Abitibi Belt, Quebec, plutonic and metamorphic evolution and geotectonic model 4-12907
 Abitibi Belt, Quebec, tectonic evolution and geomechanical model 4-12906
 accreted terrains and oceanic plateau migration 4-21918
 Adirondack anorthosite, USA, origin/geologic history, Sr and Nd isotope geochemistry 4-31453
 Aldan shield, USSR, apatite-carbonate ore prospecting 4-52967
 alkali basalts of Massif Central, France, Nd-Sr isotope and REE geochemistry 4-47182
 Western Alpine Arc, rel. between longitudinal and transverse struct. (*French*) 4-52619
 Alpine fault, New Zealand, deformation micro-mechanisms in brittle-ductile transition zone 4-31447
 Amaratos area, NW Greece, atmothermal springs, hydrogeology 4-47316
 South America, sea levels rel. to magmatic activity during Tertiary and Cretaceous 4-52665
 Andean Piedmont, Chile, Upper Cainozoic devel., role of tectonics and climate (*French*) 4-52618
 Antalya Complex, SW Turkey, strike-slip related sedimentation 4-58135
 Antarctica, metamorphic history (*Russian*) 4-47259
 Antarctica, Prince Charles Mountains, early glacial deposits (*Russian*) 4-47260
 Aquitaine Basin, subsidence, during Mesozoic and Cenozoic (*French*) 4-41906
 Archaean komatiites, geothermal gradients and mantle convection 4-47180
 Ascension Island lavas and assoc. plutonic inclusions, petrology and mineralogy 4-17143
 Central Asian folded belt, relation of Hercynides to Caledonides of Baikal mountain region 4-3763
 NE Atlantic, Upper Quaternary sediment stratigraphy, fossils and climate record 4-26687
 Avalonian plate, geological and tectonic evolution 4-58151
 Baikal mountain region, relation of Caledonides to Hercynides of Central Asian folded belt 4-3763
 Baikal-Aldan belt, Siberia, potassic-alkalic magmatism 4-52654
 Baja California, Mexico, hydrothermal mineralization, IR remote sensing obs. 4-12916
 Baja California, Mexico, pluton spacing rel. to crustal layer thickness 4-36329
 Baltic Sea, oceanography, chemistry, hydrology, pollution and geology (book) 4-47797
 basic plutons, model of magma crystallisation differentiation dynamics 4-52639
 Belousovskii pyrite-metal deposit at Rudnyi Altai, USSR, geology 4-52649
 Beze karst basin, Burgundy, France, water loss from Tille River 4-36418
 Black Peaks Formation (Early Tertiary), Texas, mag. polarity stratigraphy 4-8179
 boreal peatland, string patterns origin in USA 4-12913
 Brahmaputra valley, India, gravity mapping of geological contact using Hilbert transform technique 4-52558
 S British Columbia, Canada, Rb-Sr dating of Palaeozoic, Mesozoic and Cenozoic intrusive rocks 4-31451
 SE British Columbia, geochronology and tectonic implications of magmatism and metamorphism in Kootenay Arc 4-58115
 British Columbia, U-Pb dates from Central Gneiss Complex and Ecstall pluton 4-12818
 British Isles igneous rock geology, book 4-36825
 pre-Cainozoic geology of North America in terms of plate interactions 4-52681
 S Calabria, Italy, crust uplift and cooling, rock petrology anal. 4-47177
 California, Phanerozoic continental accretion and metamorphic evolution 4-58152
 Camp Hill, Canberra, Australia, stratigraphy and geochronology from Monograptus fossil study 4-58113
 E Canadian shield, isotopic evidence for geochemical discontinuity in Proterozoic mantle 4-21906
 Cantabrian Mountains, N Spain, deposits assoc. with Hercynian strike-slip system 4-58134
 Carboniferous geology of North America, geomag. field horizon markers 4-8177
 Cement oil field, Oklahoma, USA, study of combination of geologic, geochemical and geophysical data 4-26832
 Charlevoix astroleme, Quebec, effect on crustal struct. and recent seismicity (*French*) 4-31433

geology continued

- Charlotte and Carolina slate belts, Georgia and South Carolina, seismic struct. 4-3724
 Chatelaudren metagabbro, Brittany, France, shear zone softening and mylonitization 4-17100
 chemical variation in granitoids of the Hesperian massif, Spain 4-36359
 China, Jurassic System survey 4-41908
 Chinee gabbro-anorthosite massif of Transbaikals USSR, geochem. char-acts. 4-52648
 Chinese research in solid Earth physics and seismology 4-52720
 Neo-Cimmerian Donqiao ophiolite, Bangong-Nujiang suture zone, Tibet 4-26682
 Cobar Lucknow Area, New South Wales, basement-cover relations and Silurian l-type intrusive 4-26692
 Columbia Plateau, Washington and Oregon, structural evolution 4-26691
 cometary impacts, frequency and relation to mass extinctions 4-53097
 composition of upper mantle and magmatic formations origin 4-3736
 Conception Bay, Newfoundland, geophysical interpretation of geology 4-12910
 Constantine, Algeria, post-Oligocene displacement of ultra-Tellian allochthonous units (*French*) 4-52617
 continental margins, book 4-42638
 Cortlandt complex, New York State, differentiation and contamination in alkali basalt plutons 4-41905
 Cretaceous-Tertiary boundary, trace element patterns in non-marine sediments 4-41818
 crustal linear feature identification by remote sensing method 4-21909
 Culbertson Lake allochthon, Shoo Fly Complex, California, deform. phases history 4-41914
 Daldyn-Alakit region of Yakutiya, Siberia, biostratigraphy of Ordovician and Silurian 4-52645
 Dalradian of Angus region, Scotland, uplift history of metamorphic terrain 4-26676
 Dalradian Supergroup slides, origin as extensional faults 4-41821
 Darling Basin, NSW, Australia, hydrocarbon deposit prospects 4-58111
 deformation estimation technique involving stretched belemnites 4-36528
 Devonian geology, lithofacies data rel. to reconstruction of Palaeozoic Pangaea 4-31472
 diamond geology, review 4-36361
 diamonds from S Africa kimberlites, C isotopes and chem. composition 4-58120
 ductile shear zone termination, study of displacement and strain patterns 4-17099
 East Coast Deformed Belt, Marlborough, New Zealand, Cainozoic sedimentation and tectonics 4-58138
 East Lothian volcanics, Scotland, lava bed thickness rel. to gravity and mag. anomalies 4-52561
 East Pacific Rise, ultramafic and mafic rocks from Garret Transform Fault 4-8222
 Eastern Meseta, Morocco, Hercynian history, Devonian age of Debdu and Mekam schists (*French*) 4-8191
 electrical prospecting using mise-a-la-masse method at Canadian test site 4-12762
 Ellesmere-Greenland Fold Belt, structural evidence for left-lateral shearing 4-58149
 Southern England, geomorphology, book 4-17658
 central E England chalk, bentonites existence implications for NE Atlantic opening 4-36341
 central Eromanga Basin, Australia, deep crustal refl. results 4-58179
 central Eromanga Basin, Australia, geological and geophysical studies 4-58177
 Eromanga Basin, Australia, mid-crustal seismic horizon 4-58128
 Eromanga Basin, Australia, seismic refr. study of Quilpie Trough and adjacent basement highs 4-58181
 central Eromanga Basin, Queensland, seismic refl. results rel. to tectonic evolution 4-58178
 central Eromanga Basin, Queensland, vel. depth modelling using seismic refl. and refr. data 4-58180
 Esayoo Formation (Permian) of N Ellesmere Island, palaeomagnetism rel. to Nares Strait dilemma 4-58077
 Ezhimala igneous complex, Kerala, India, petrochemistry of granite and granophyres 4-52706
 Faeroe Islands, fission track study of Tertiary igneous rocks 4-52704
 fold belts, sedimentary cover struct., in Urals, Appalachians and Scandinavian Caledonides rel. to crustal subsidence 4-58147
 Galapagos rift-Inca transform-Ecuador rift area, abyssal lava geochem. and petrogenesis 4-58123
 gamma-ray spectra from INAA, processing method (*Rumanian*) 4-47462
 geotechnical/geological database, GEOSHARE system development 4-22091
 glacial geology and climates of pre-Pleistocene times, book 4-36824
 glaciogenic waterlain sediments of Pleistocene, Late Palaeozoic and Late Precambrian, review 4-53387
 N Gobi ultrabasic belt, plutons struct., comp., petrography, ore potential 4-17149
 eastern Gondwanaland, plate tectonic reconstruction 4-8212
 grabens, horsts and upthrusts, study of rhomb structs. acute angles 4-31465
 N Grande Kabylie, Algeria, allochthonous sedimentary formations, ages and tectonic settings (*French*) 4-52616
 granulite, high press., in Precambrian Vohibory area of SW Malagasy (*French*) 4-3760
 W Greece, geological interpretation of SIR-A radar images of Cephalonia and Akarnania (*French*) 4-41907
 NE Greenland, early Palaeozoic carbonate shelf history 4-26671
 E Greenland, fission track study of Tertiary igneous rocks 4-52704
 N Greenland, mapped at 1:100000 scale by aerial photography 4-31399
 Greenland and Canadian Arctic Islands, geological evidence for diffuse oblique-slip plate boundary 4-58150
 greenstone belts, chemistry of komatiites rel. to comp. of upper mantle 4-3765
 Guerande granite massif, France, anisotropy of mag. susceptibility and magmatic structs. 4-17147
 Gueret Massif, western part, France, lithology, struct. and mineralisation (*French*) 4-8190
 Gulf of Corinth, tectonics and geological struct. from seismic refl. obs. 4-36350
 Hatutu Island, Pacific Ocean, magma types determ. from rock petrography and geochemistry (*French*) 4-52660
 high P/T metamorphic terrain, exposure through deep-seated flow and uplift of broad forearc ridges 4-17135

geology continued

- high-pressure phenomena and measurement techniques, review 4-8227
 Hikurangi Trough and transform margin New Zealand, sedimentation during Quaternary 4-58136
 Hokkaido Central Belt, Japan, formation of pile of polyphased nappes (French) 4-47225
 Hula Basin, Israel, Pleistocene subsidence and sedimentation rates 4-8231
 Hungary geological model based on hydrocarbon exploration data (Hungarian) 4-3727
 hydrocarbon prospecting, role of geological investigations (Russian) 4-13078
 hydrothermal alteration mapping, MSS method with hue-saturation-intensity transform 4-22164
 Iceland, Seasat imagery, radargeological interpretation 4-52703
 Idaho batholith, USA, IR remote sensing of hydrothermal chemical alteration 4-12830
 Illinois Deep Hole Project 4-42182
 Illinois-Wisconsin region, gravity anomaly geological interpretation 4-41697
 ilmenite from basic and ultrabasic rocks, geochemical features rel. to rock origin 4-52647
 In'yal-Debin synclorium, USSR, Upper Triassic folding and olisthostromes 4-52637
 India, geological mapping using VLF EM prospecting method 4-52963
 S India, Precambrian tectonics and crustal evolution 4-47226
 E Indonesia, plate rupture by hydraulic fracture resulting in overthrusting 4-21916
 inter-diapir synclines, exptl. centrifuged models of patterns of total and incremental strain 4-58114
 interplanetary spherules in marine sediments 4-3957
 Ireland, magnetic deep structural geology interpretation 4-17046
 Isparta, Turkey, Pliocene volcanic rocks, leucite mineral occurrence (French) 4-17104
 Ispra, geological aspects of reactor site (Italian) 4-13010
 Ivory Coast, Precambrian geology and metallogeny (French) 4-31482
 Japan, Quaternary faults, geological data on mechanics 4-41753
 Japan southern Volcano Arc, tectonic evolution 4-47234
 jarosite, crystal struct. changes due to mechanical and thermal action 4-52702
 Kambalda greenstones, W Australia, lava Sm-Nd systematics 4-47189
 E Kenya, Miocene to Quaternary volcanism 4-36339
 Kerguelen-Heard plateau, Palaeogene and Late Cretaceous pelagic sequence (French) 4-3751
 Khan-Khukhei Range, W Mongolia, stratigraphy of Vendian and Lower Cambrian rocks 4-52638
 kimberlite pipe remote sensing in Wyoming-Colorado, USA, by multispectral method 4-21907
 kimberlite pipes, multistage filling processes 4-52655
 Kohistan sequence (Pakistan) metamorphism of obducted island arc 4-8232
 Kola Peninsular, USSR, magnetism and mineralogy of Pechenya rocks 4-12827
 Kumaun, India, lithological subdivision and petrology of Great Himalayan Vaikrita Group 4-52707
 Kurai fault zone, Gornyi Altai, USSR, discovery of Jurassic deposits 4-3734
 Kuwait Bay, sea-level changes from geological evidence, book 4-42633
 Kuznetsk Alatau, USSR, stratified phosphorite deposits 4-26678
 La Perouse gabbro intrusion, Fairweather Range, Alaska, petrology/tectonic setting/age 4-17142
 Labrador, Canada, palaeomag. history of Mealy dykes 4-58068
 W Labrador, progressive metamorphism in Grenville Province, tectonic implications 4-58175
 Lanvaux Massif, Central Brittany, superposed Variscan shears (French) 4-41785
 spinel lherzolite, high-pressure melting and basalt magma genesis 4-21923
 Luanhe River Delta, China, alluvial fans form. ages, stratigraphy and tectonics (Chinese) 4-12941
 magma chamber heat transfer and convection processes 4-41849
 magmatic processes, review of recent work 4-8199
 magnetostratigraphy of shallow water sequences, influence of sampling procedures 4-26598
 Makalu granite, Himalayas, U-Pb dating measurements 4-52919
 Makara Basin, northern New Zealand, geology and tectonic development 4-58137
 Mansiisk syncline, Siberia, oil prospects and regional tectonic struct. 4-26677
 map making using computer assisted methods 4-36272
 Marquesas Fracture Zone, petrology of dredged basalt fragments 4-52631
 Mazagan Escarpment, Atlantic Ocean, Cyamazing diving campaign results 4-3753
 Mesozoic of Kachchh, W India, sedimentary structures rel. to origin 4-8234
 metabasalt shear zone softening and mylonitization 4-17100
 metallogenesis, review 4-8202
 metamorphic petrology, book 4-42631
 metamorphic petrology, review of recent work 4-8200
 meteorite craters, morphology and effects on local geology 4-31486
 midocean ridge processes, review 4-8215
 Midsummer dolerites and assoc. intrusions of N Greenland Proterozoic platform, comp. 4-17146
 mineral physical properties at high pressure, review 4-8228
 mineral powders, ion beam anal. techniques 4-44907
 mining induced rock stress effects, geological factors, dissertation 4-26694
 Mississippi embayment, crustal fractures detect. via airborne microwave radiometry 4-31703
 Mississippi turbidite sequence, Farmers Member sandstones of Borden Formation 4-52708
 Mongolia ophiolite complexes, geology of dyke series and basic and ultrabasic rocks 4-52644
 Mount St. Helens, 1980 eruptions, pyroclastic flow deposits 4-12875
 Mount St. Helens, 1980 eruptions, pyroclastic flow/ash-cloud/surge deposits anal. 4-12877
 Mount St. Helens, 1980 eruptions, pyroclastic flows, morphology and rheology 4-12876
 Mount St. Helens, 1980 May 18, catastrophic rockslide avalanche, deposits nature 4-12868

geology continued

- Mount St. Helens, 1980 May 18, directed blast, deposit stratigraphy and origin 4-12870
 Mount St. Helens, 1980 May 18, pyroclastic density flow/airfall, stratigraphy/sedimentology 4-12872
 Mount St. Helens, air-fall deposits of May 24-August 7 1980 eruptions, stratigraphy 4-12884
 Mount St. Helens, May 18 1980 eruption air-fall deposits, stratigraphy/field sedimentology 4-12883
 Mount St. Helens, Washington, eruptive history 4-12843
 Mozambique Belt, West Pokot, Kenya, dismembered ophiolite anal. and tectonics 4-31480
 multiband thermal infrared imagery as a discriminant for surface rock types 4-52906
 Nepa arch. Siberian platform, seismic sounding obs. of crust basement structure 4-52653
 southern New Mexico, USA, localised heat flow rel. to geological struct. 4-12819
 N New Zealand, Late Cainozoic rifts and intra-plate volcanism 4-36330
 New Zealand, offshore sedimentary basins at Alpine Fault southern end 4-58140
 New Zealand, tectonic development and role of oblique slip movements 4-58159
 Niger Delta, Nigeria, hydrocarbon distrib. pattern and deep prospects 4-31481
 North Sea, geomagnetic anomalies, crust struct. and tectonics 4-41715
 W Norway, strike-slip tectonics of Late Caledonian basins 4-58133
 oblique-slip fault zone sediment series for non-marine and shallow marine environments 4-58139
 oil generation, physical-chemical models 4-41916
 NW Ontario, Archaean palaeomag. pole from Wabigoon gabbro 4-58067
 NW Ontario, Coldwell Complex gravity study rel. to petrology 4-41691
 Ontario, greenschist facies of Archaean assemblage near Wawa 4-12909
 ore deposits, Archaean, geology and metallogeny (Russian) 4-3762
 E Oregon, kinematic insignificance of mineral lineations in Jurassic thrust and fold belt 4-58182
 SW Oregon, Triassic cherts in western Jurassic belt of Klamath mountains, rel. to age of Josephine ophiolite (French) 4-3722
 eastern Pacific, abyssal lava phase chem. and crystallisation history 4-58122
 eastern Pacific, geochem. of abyssal lavas 4-58121
 SW Pacific, volcanism accompanying back-arc basin development 4-47236
 East Pacific Rise, overlapping rift zones at 5.5°S offset 4-41868
 Palaeocene Epoch, composite terrestrial section with magnetostratigraphic completeness 4-3759
 pegmatites, nature and occurrence 4-36320
 petroleum exploration and LANDSAT imagery—a method of preliminary evaluation, Burma and North China Basin 4-36507
 petroleum generation by laboratory pyrolysis expts. simulating subsiding basin 4-47194
 petroleum recovery from geological systems, surface adsorption and mobility effects 4-31484
 petrological evolution of crust and mantle, review 4-8198
 Phlegrean Fields pyroclastic deposits in S Italy, magnetic fabric studies 4-17115
 Pico anticline region, Santa Susana Mts., California, USA, geobotanical remote sensing obs. 4-21939
 Pisgah Crater, CA, USA, radar remote sensing obs. of surface roughness 4-22151
 Pleistocene geology, book 4-31993
 Precambrian-Cambrian boundary, P geochemistry, phosphorites and skeletal evolution 4-52705
 principles of physical geology, book 4-42636
 Promontorio silver deposits, Sonora, Mexico, geoelec. survey of breccia pipes 4-26663
 Pyrenean lherzolites and granulites emplacement and crustal splitting 4-36316
 quartz gash vein formation process in sandstone of New South Wales, Australia 4-31446
 Ravi River basin, India, landforms and land-use mapping by satellite 4-21935
 remote sensing in geology, book 4-47807
 remote sensing method for geologic mapping, using multispectral data 4-22165
 remote sensing of rock types using airborne IR multispectral scanner 4-17289
 Retezat-Ogradina unit, granitoid rocks, K-Ar dating (Rumanian) 4-47196
 Rhum intrusion, NW Scotland, isotopic and geochemical evidence for evolution of cyclic unit 4-47262
 Robertson Bay Group, Antarctica, tectonic reappraisal, Cambrian and Ordovician conodonts anal. 4-47229
 rock geochemistry in mineral exploration (book) 4-47794
 rock thermoluminescence of thin slices, colour photography obs. method (Japanese) 4-22131
 rock type remote sensing by thematic mapping of vegetation cover 4-12917
 rocks (book) 4-42637
 Sagile dyke, Labrador, Canada, Nd and Sr isotope geochemistry and emplacement ages 4-47181
 San Juan Basin, Colorado-New Mexico, relations between heat flow, palaeotemps., coal rank and petroleum maturation 4-17108
 sandstone formations, hydrocarbon reservoir interpretation (Hungarian) 4-31483
 sandstones in eastern Australia, geochem. and tectonic setting of origin 4-26670
 East Sayan, USSR, volcanic eruptions in Late Quaternary 4-52662
 East Sayan ore province, USSR, location of rare metal mineralisation 4-52650
 E Sayan region, age of Mangatgol and Dabanzhalga suites and Oka series 4-52656
 Scotland, coupled Sm-Nd and U-Pb systematics in late Caledonian granites rel. to nature of basement 4-41819
 Scotland Midland Valley, evolution of strike-slip, fault-controlled basin 4-58132
 seafloor metal ore deposits 4-58162
 Shasta (California) palaeo-island arc, implications of Pb isotopic comp. 4-31450
 West Siberian Plate, geomag. anomalies due to metallogenic zones 4-52575

geology continued

- W Siberian Plate, gravity and mag. fields of Ob-Irtysh region 4-3768
 Siberian Platform, aeromag. data interpretation rel. to detect. of Ni-bearing intrusives 4-3682
 NE Siberian platform, kimberlite magmatism and diamond content 4-12911
 Siberian platform, Lower Carboniferous stratigraphic subdivisions 4-17150
 side-looking radar for geology and geomorphology 4-42197
 Sierra Nevada, California, geochemistry rel. to origin of granodiorite plutons 4-8233
 silicate mineralogy, petrological geochem., review 4-8201
 Sino-Korean plate, features of Palaeozoic and Mesozoic reactivation 4-58127
 South Snowy Block Beartooth Mountains, Precambrian lithologies ages 4-47188
 South Scotia ridge, dredged rocks, mag. lineations and tectonics 4-47241
 Soviet Central Asia, morphostructured zoning rel. to earthquake zones location (*Russian*) 4-3713
 Spencer Gulf, South Australia, Holocene sea-level changes and tectonic uplift 4-58194
 St-Brieuc, Bay of, Brittany, cadomian thrusting (*French*) 4-17133
 strike-slip large-scale fault system tectonics and geology 4-53380
 subsurface lithostratigraphy discrimination, use of seismic refl. data 4-26839
 Sulawesi island arc, ophiolite emplacement by Sula platform collision 4-41870
 sulphide mineralisation, induced polarisation detect. using transient EM system 4-47142
 Synnry and Sakun massifs, USSR, geochemistry and geology of high-K and Al-rich melt rocks 4-52646
 Talnakh ore deposit, USSR, temp. during ore deposition 4-52641
 Teewinot Formation, NW Wyoming, pollen record rel. to late Miocene vegetation and climatic vars. 4-47402
 tektite chemical durability, laboratory leaching expts. 4-58183
 Thor-Odin gneiss dome, USA, structural evolution 4-36328
 Toko Syncline, Georgina Basin, Queensland, Australia, petroleum prospects 4-58109
 Tonga Trench, geological-geophysical investigations (*Russian*) 4-3754
 Transbaikalian alkaline granitoid province, two-stage form. 4-3766
 Transhimalaya plutonic belt in Ladakh region, geochronology and crust development 4-58117
 SW Tuscany, Italy, upper crust structure and evolution 4-36332
 United States Atlantic continental margin, palaeo-oceanographic model of Neogene phosphorite deposition 4-47249
 upper mantle compositional inhomogeneity deduced from greenstone belts 4-3735
 eastern USSR, phosphorite rock distribution and geology 4-41828
 W Utah, search for Ir abundance anomalies at Late Cambrian biomere boundaries 4-47263
 vein-type ore bodies, structural control in Leucamp, France (*French*) 4-47258
 Velay Oriental volcanic suite, Massif Central, France, geochem. study (*French*) 4-31449
 Veleka Group (Strandza Mountain), Bulgaria, formations ages and geological setting 4-21900
 Verkhoysk Ridge, USSR, geology and geomorphology, tectonic implications 4-3737
 Victoria Island, NWT, Canada, palaeomagnetism and age of Late Proterozoic rocks 4-12761
 Vitim group, N Baikal muscovite province, pegmatite fields zonality, temp./chem. implications 4-17153
 Middle Vitim highlands, Siberia, crustal struct. and geology 4-3732
 Wind River thrust, Wyoming, fault-related folding on footwall 4-8194
 Wooley Creek batholith, Klamath Mountains, California, petrology, geochemistry, mineralogy 4-17145
 World Petroleum Congress, geology, exploration and reserves, London (Aug.-Sept. 1983) 4-4155
 Yenisei-Khatanga trough, tectonic struct. determ. using remote sensing 4-3764
 central Yukon, eclogite rel. to subduction at W margin of ancient North America 4-12908
 Zakyntos and Kefallinia Channels, tectonics and geological struct. from seismic refl. obs. 4-36350
 Cu-Ni ores in Noril'sk trough region of USSR 4-52640
 U deposits in Copper Mountain, Wyoming, USA, mapped using multispectral data 4-21908
 U mineralisation, mathematical model for fission-track dating 4-41917

geomagnetic storms *see magnetic storms***geomagnetic variations***see also micropulsations*

- 30-60 year period vars., lower mantle conductivity 4-47137
 60 year variation, analytic models of main geomag. field 4-17053
 60-year vars., natural orthogonal components 4-47136
 A_n and A_p indices, semiannual correl. with solar activity 4-42271
 California, 1974-80 local field changes near active faults 4-41710
 Chinese work on geomagnetism and aeronomy 4-52991
 core dynamo coupling to surface, theory 4-26596
 diurnal var. at mid- and high latitudes, sunspot and magnetic activity effects 4-52569
 Dst geomagnetic storm-time variations, obs. of 6 storms 4-52994
 Egypt, archaeomagnetic investigations for BC 3000 to AD 1400 period 4-12768
 northern England, geomagnetic variation anomalies 4-3677
 equivalent source model of core magnetic field 4-26597
 Europe, varying geomagnetic anomalies and secular variation 4-41709
 four-year cycle due to solar wind, correl. with atm. phenomena 4-58278
 geoelectromagnetic variations, separation into elec. and mag. fields, algorithm 4-3680
 impulse of secular variation in AD 1977 to 1979 period 4-12769
 impulses in annual intensity changes due to magnetosphere ring current 4-52570
 indices (book) 4-27249
 international geomagnetic reference field, changes and intensity between AD 1965 and AD 1980 4-36277
 ionosphere, heater wave filament instabilities, geomagnetic fluctuations 4-13122
 long-period variations of approx. 500 and 1200 year periods 4-17055
 lunar geomagnetic tides at night-time, origin 4-41706

geomagnetic variations continued

- magnetometer array data 3-D analysis for ionospheric, magnetospheric and geomagnetic studies 4-52950
 mid-latitude magnetic field fluctuations rel. to dynamic processes in ionosphere 4-21875
 Mount St. Helens, Washington, volcanomagnetic obs. during eruptions (May to August 1980) 4-12856
 oscillations due to solar flare radiation effect on ionosphere characts. 4-22214
 periodic oscillations of geomagnetic and solar activity 4-17049
 piezomagnetic anomaly, earthquake induced, numerical model (*French*) 4-17068
 polar motion, dipole wobble 4-8180
 polarity reversals, dynamo model for turbulent core 4-41717
 secular variation and liq. core radial hydromagnetic oscills. 4-26584
 secular variation anomalies in Europe, meas. (1950 to 1975) 4-8178
 secular variation of geomag. moment, based on archaeomagnetic data 4-17054
 secular variation of geomagnetic field intensity during polarity transitions 4-36279
 secular variations evolution from 1912 to 1969, anal. 4-41714
 secular variations of Gaussian coeffs. for 20th century 4-21878
 short-term prediction 4-31405
 space-time anal. of 60 yr mag. field var. 4-21877
 uniform grids from raster data [magnetic anomalies], software package 4-31659
 westward drift rate var. rel. to core external layers body drift 4-58069

geomagnetism*see also geomagnetic variations; magnetic storms*

- aeromagnetic data interpretation, pattern recognition (*Rumanian*) 4-47144
 aeromagnetic sounding, data interpretation rel. to detect. of Ni ores assoc. with trap formations 4-3682
 aeromagnetic surveying, reduction of terrain-induced effects by draping 4-47437
 W Africa continental margin, struct. and evolution, gravity, seismic, geomag. obs. 4-58130
 airborne resistivity mapping 4-13108
 American-Antarctic Ridge, tectonics, bathymetry and mag. anomalies 4-41876
 anomalies, interpretation theory (*Russian*) 4-12772
 anomalies anal., mag. field problem for three-dimensional magnetised bodies 4-28590
 anomalies as a topographic effect, appl. to Oregon Cascade Range 4-26590
 anomalies due to multilayer media, algorithm for selecting appropriate model 4-26870
 anomalies of dykes and horizontal cylinders, automatic interpretation method 4-26587
 anomalies prospecting, characts. determ. method (*Russian*) 4-13076
 anomalous field due to buried bodies, direct problem soln. 4-52560
 anomaly due to heteroprotectonic magnetoeactive object, statistical theory (*Russian*) 4-21881
 anomaly field reduction to magnetic pole and mag. equator 4-26586
 anomaly inversion by linear programming and stochastic inversion methods (*French*) 4-58076
 anomaly inversion technique using random search method 4-36515
 Antarctica, magnetometer network meas. (1975-8) (*Russian*) 4-47133
 S Appalachians, geomag. var. studies 4-12760
 artificial field magnetisation in parametric classes, three-dimens. direct and inverse problem soln. 4-52937
 avian compass sense, role of geomag. field in development 4-16896
 Azerbaydzhan, USSR, seismicity rel. to geomagnetic field 4-52604
 Bel'skaya depression, USSR, tectonic features from gravity and mag. prospecting anal. (*Russian*) 4-52670
 Carpathians of USSR, 2-D interpretation of geomag. anomaly 4-26585
 Chara basin, USSR, basement complex comp., mag. anomaly anal. 4-17060
 Chile and W Argentina between 25 and 33°S, geomag. anomalies rel. to geology and tectonics 4-36293
 Chinese work on geomagnetism and aeronomy 4-52991
 Conception Bay, Newfoundland, aeromag. data rel. to geological interpretation 4-12910
 conference, Newcastle-upon-Tyne, England (April 1984) 4-47743
 cooling of Earth core, constraints placed by geomagnetic dynamo 4-41804
 core dynamo, field generation in anisotropically conducting fluid 4-47535
 core model involving gaseous high-pressure very high temperature state 4-52657
 cosmic rays of $>10^{18}$ eV, propag. in geomag. field 4-26955
 crust, controlled source EM exploration 4-13107
 deep EM exploration, controlled source electrical methods 4-36286
 dipole orientation effect on mag. activity 4-22265
 dynamo and Taylor's constraint 4-26593
 dynamo field model, collective props. of rotor models 4-17057
 dynamo model of main field, influence of extrinsic press. changes 4-41716
 dynamo model with 2 rotations, calc. of Joule dissipation and drift rate 4-17058
 dynamo problem and core fluid thermal and mag. instabilities 4-26594
 East Lothian volcanics, Scotland, lava bed thickness rel. to gravity and mag. anomalies 4-52561
 EM attenuation in borehole fracture, alterant geophysical tomography 4-26874
 EM coupling between core dynamo and surface, theory 4-26596
 EM depth sounding interpretation, master tables 4-36812
 EM diagnostics of stratified medium, borehole meas. use 4-13106
 EM fields due to thin resist. layer 4-26592
 EM freq. and transient soundings, book 4-32
 EM impedance matrix of symmetric buried body, block diagonalisation using group theory 4-47141
 EM induction in Earth and Moon, 6th IAGA workshop, Victoria, British Columbia (1982 August 15 to 22) 4-31959
 EM induction sounding, current channelling problem 4-36284
 EM induction sounding, magnetometer array studies 4-36287
 EM induction sounding, soln. of forward and inverse 3D problems 4-36283
 EM induction sounding, three-dimensional modelling 4-36282
 EM induction sounding in boreholes, induction logging problem for concentric layers 4-47449

geomagnetism continued

- EM logging of deposits in Tartar Republic (*Russian*) 4-13080
 EM methods for oil and mineral exploration 4-22167
 EM properties of ocean crust, use of dipole near ocean surface, laboratory expt. 4-12773
 EM sounding, appl. of geophysical diffraction tomography 4-47446
 EM sounding, effect of inhomogeneities in stratified ground on field of circular loop antenna 4-47140
 EM sounding, induced polarisation detect. with transient EM system 4-47142
 EM sounding, inverse problem of field generation for two thin boundary beds 4-3681
 EM sounding, inversion of transient EM data from spherical conductor 4-47447
 EM sounding, perpendicular and vertical coplanar systems, intermediate layer detectability 4-41702
 EM sounding, scattering calc. from penetrable cylinders 4-47451
 EM sounding, wave refl. and transmission at rough interface between two different media 4-47450
 EM sounding curve calc., two-electrode and Schlumberger filters 4-41705
 EM sounding for oil well logging and Earth interior anal. 4-13084
 EM soundings, data inversion, integral eqn. method 4-31408
 northern England, geomagnetic variation anomalies 4-3677
 equivalent source model of core magnetic field 4-26597
 central Eromanga Basin, Australia, magnetotelluric soundings 4-58177
 Europe, crustal or upper mantle sources rel. to secular var. anomalies 4-8178
 finite difference technique for EM response of underground structs. 4-22169
 geophysical prospecting, homomorphic deconvolution of mag. anomaly data 4-26834
 geophysical prospecting by anomaly field analysis, determ. of object lower boundary 4-52913
 geophysical tomography, stable reconstruction technique 4-13110
 Georgia Piedmont, deep crustal EM sounding 4-41711
 geothermal regions, EM studies 4-36288
 geomorphology for the detection of tunnels or voids 4-17313
 gradient magnetic surveying methods used in large-scale mapping 4-52972
 gravimetry and magnetics inverse problem, simultaneous soln. by non-linear programming, Fortran 4-42201
 E Indian Ocean, constraints on tectonic evolution from marine magnetic anomalies 4-21914
 inductive EM prospecting system, effect of geological media induced polarisation 4-26595
 inhomogeneous isotropic medium, EM field scalar eqns., coords. systems 4-47139
 international geomagnetic reference field, changes and intensity between AD 1965 and AD 1980 4-36277
 inverse problem approx. soln. for 3-D gravimetry and magnetometric problems 4-36521
 Ireland, magnetic deep structural geology interpretation 4-17046
 central Kamchatka Quaternary volcanic rock, petromagnetic props. and volcanic characts. 4-17148
 Kola Peninsular, USSR, magnetism and mineralogy of Pechenya rocks 4-12827
 local 2-D electromagnetic anomaly interpretation by formalised trial procedure 4-17048
 magnetometer using nucl. precession principle, electric circuit of pickup 4-42206
 magnetosphere, quasi-Alfvén oscillations of mag. surfaces rel. to micro-pulsations 4-58348
 magnetotail, ISEE-3 magnetic field results 4-13142
 magnetotail, proton bursts dynamics during current layer tearing instability level. 4-42272
 magnetotelluric data used for geoelectric section construction 4-17062
 magnetotelluric field, gradient props. 4-17059
 magnetotelluric field above narrow conducting layers (*Russian*) 4-26600
 magnetotelluric inverse problem, theoretical review 4-36281
 magnetotelluric probing, accuracy improvement (*Russian*) 4-52953
 magnetotelluric readings from TsEhS-2 digital station, algorithms for errors influence reduction (*Russian*) 4-52572
 magnetotelluric sounding, appl. to petroleum exploration 4-22170
 magnetotelluric sounding of anisotropic medium, direct problem 4-21876
 magnetotelluric sounding of deep Earth resist. at very low freq. 4-22171
 marine EM research, review 4-36285
 Maxwell's eqns. for inhomogeneous media, conditions for scalarization 4-12765
 Minas Gerais, Brazil, crust/upper mantle mag. struct. 4-41719
 mineral exploration, appl. of borehole resistivity and EM methods 4-47452
 moment rel. to core tidal vel. (*Czech*) 4-31775
 multipole moment axes of geomagnetic field, spinor theory 4-17056
 natural EM field of Earth, calculation method 4-26603
 Nuevo Leon magnetic anomaly, near Cerro Prieto geothermal area, Mexico 4-12763
 observatories in British Isles 4-31409
 ocean, vorticity effect on field measured inside nonconducting sensor enclosure 4-52944
 ocean crust electrical properties from EM sounding 4-12774
 ocean-generated mag. fields meas. sensor contrib. to signal 4-26848
 West Philippine Basin, plate tectonic origin and evolution 4-47232
 Plains archaeological sites, USA, mag. survey data, on-site processing 4-17063
 polarity reversals, dynamo model for turbulent core 4-41717
 prospecting (book) 4-13492
 prospecting problems in archaeology 4-17302
 remote sensed meas., correction factors and error distrib. for ART 4-13111
 N Sakhalin, magnetotelluric field, effect of geoelectric anomalies 4-52566
 salt mine, scattering of plane wave at a tunnel 4-13112
 Scandinavia, magnetotelluric obs. and response functions 4-31407
 NE Shikoku District, Japan, crustal struct. and geomag. total force (*Japanese*) 4-47218
 S Siberia, regional crust struct. from mag. and gravity anomalies 4-3731
 West Siberian Plate, geomag. anomalies due to metallogenic zones 4-52575
 W Siberian Plate, gravity and mag. fields of Ob-Irtysh region 4-3768
 simultaneous interactive magnetic and gravity inversion 4-26591

geomagnetism continued

- skin depth of magnetotelluric and controlled source freq. soundings in far zone (*Russian*) 4-41708
 South China Sea, N region, sea-floor spreading anomalies and oceanisation (*Chinese*) 4-17096
 South Scotia ridge, dredged rocks, mag. lineations and tectonics 4-47241
 St. John's Island, Red Sea, gravity/mag. anomalies and ultramafic rock emplacement mechanisms 4-21903
 Suceava, Moldavia, anomaly caused by granitic body (*Rumanian*) 4-47143
 surface EM anomalies, modeling of horizontally nonuniform layers 4-47135
 telluric currents method, obs. anal. method (*Russian*) 4-52954
 telluric field measurements, topographic effects 4-47178
 third-term coupling in the Earth induction problem 4-21882
 transient EM field diff. on thin disc, three-dimens. problem 4-17061
 underground tunnels and cavities detection, review of use of em methods 4-13109
 W United States, crust resist. from magnetotelluric data 4-12832
 unstable dynamo model 4-52571
 northwestern USSR, geomagnetic and geoelectric anomaly struct. of crust 4-12766
 VLF EM prospecting, techniques and field appls. in India 4-52963
 VLF ground survey for shallow two-dimens. structures 4-26844
 waveguide techniques for complex permitt. and permeab. meas. in bore-holes 4-13104
 well logging, electromagnetic methods 4-13103

geometrical optics

- accelerated continua, EM wave transmission (*German*) 4-33590
 achromatic and sharp real imaging of a point by a single aspheric lens 4-1457
 ambiguity function and Wigner distribution function applied to partially coherent imagery 4-54971
 apertures with N-fold rot. symm., Fraunhofer diff. pattern struct. 4-23896
 aspherical surface ray tracing, didactic study (*Italian*) 4-19356
 book, waves and fields in optoelectronics 4-27261
 catastrophe optics, paraxial eikonal validity 4-23893
 caustics, appl. to structure of Universe 4-19370
 caustics orientations and distortions in geometrical optics 4-38394
 closed-cavity power, geom. and physical optics models, comparison with HF expts. 4-10331
 crack tip location in plane elastic media using pseudocaustic method 4-5848
 cracked plates, biaxiality factor eval. by reflected caustics method 4-55386
 cubes and parallelepipeds, randomly oriented, light scatt., geometric ray tracing theory 4-1333
 damped quadratic index medium, paraxial ray eqn. soln. 4-19355
 dielectric interface, curved, EM wave refr., geometrical optics soln. 4-28605
 dielectric wedge, arbitrary angle, EM wave edge diffraction, pattern determ. 4-1338
 diffraction grating generalised eqn., vector method of, ray-tracing 4-23897
 diffraction using ray tracing techniques, paradox in path integral context 4-33621
 energy preponderance in the geometrical focal plane, diffracting aperture Fresnel no. 4-23894
 far-IR interferometers, band pass filter for increased resolution 4-53740
 fibre bundle, coupling optimisation with source, ray trace numerical simulation (*French*) 4-24221
 fibre waveguide, intense short pulse dynamics, nonlinear geometrical optics 4-14806
 fibres, leakage mode-free excitation, geometric optic investigation of prop. conditions (*German*) 4-14797
 fibres, single mode, core-axis alignment study using ray tracing (*Japanese*) 4-49557
 graded refractive index waveguides with metal-cladding (*Chinese*) 4-49517
 graded-index media, coherent states and nonparaxial light propag. 4-10238
 gradient lenses in fibre optical devices, simulation 4-49555
 gradient-index rod, defocusing, imaging props., aberration analytic expressions 4-1358
 GRIN lens profile measurement by ray trace analysis 4-1456
 GRIN lenses, ray tracing methods (*Spanish*) 4-1462
 GRIN-rod lens array, refr. index distrib. parameter randomness influence on trajectory 4-38584
 hot rolling investigation by caustics, roll-press. distrib. and coeff. of friction 4-10623
 illumination, circular optical reflectors, curve derivation for any beam, light source compensation 4-28801
 imaging synthesis in Fresnel approx., combined optical system with distorters 4-54968
 inhomogeneous plasma, relativistic electron in space- and time-varying EM field, semiclassical theory 4-24584
 laser beam distortion and optical system aberrations, interrelationships, geometrical-optics model. 4-10343
 light beam self deviation in moving media, nonlinear aberrations 4-44059
 magnification of prisms, apparent anomaly and explanation 4-49263
 mirror systems, rotating, comparative analysis 4-10397
 modal wave-front estimation, value of cross coupling 4-1337
 MTF, two-dimens., numerical evaluation by means of spot diagram 4-23911
 nonscattering media, ray propagation 4-42732
 nonsymmetrical optical systems, matrix decompositions 4-1345
 optical information processing, conf. Cuernavaca City, Mexico (Jan. 1982) 4-53340
 paraxial optics formulae, optical invariant fundamental theorem of Gaussian optics 4-54951
 paraxial wave optics, relativistic front description, vector theory 4-10229
 paraxial-wave optics, relativistic front description, scalar theory 4-10228
 photographic integral image field splitting into various foreshortened zones, geometrical optics anal. (*Russian*) 4-32367
 photorefractive optics rel. to eye defocus, orthogonal and isotropic methods 4-26387
 planar waveguide with exponential index profile, ray optics, scatt. attenuation const. 4-33755

geometrical optics continued

- plasma, wave propag. around electron cyclotron reson., geometric optics, appl. 4-6087
- prism dispersion theory 4-22556
- projection-type imaging system with extended incoherent source, transfer charact. 4-49274
- quasi-interferometry, colour coded, dispersive and colour correlation filtering 4-281
- radiation transport and hydrodynamics, in high-density matter, dispersive effects 4-23866
- ray tracing, aberration function and spatial frequencies 4-23895
- Riemann-Cartan spacetime, geometric optics 4-19368
- ring laser, square config., distortion-induced mag. field bias 4-44117
- rough surface, emissivity, radiation polarisation calcs. 4-11322
- solar furnace, heliostat and concentrator size determ. 4-21529
- some cinematic properties of standing waves (*French*) 4-33617
- spherical surface refracted wave fronts, exact algebraic calc. 4-49257
- stops and pupils, aberration function 4-54952
- superfluorescence initiation from a sphere 4-10272
- symmetrical optical systems, transfer matrix factorisation 4-1344
- synchrotron radiation sources, ray tracing of a high flux beamline 4-5079
- telescopes of the future, 7.5 m type, optical systems and auxiliary instrumentation 4-22322
- thin lens combinations, image formation calc. method 4-47814
- two-photon resonant image upconverter, chromatic aberrations, analysis using geometrical optics (*Japanese*) 4-5659
- variable anamorphic lens for a 35-mm SLR 4-304
- wave propagation near caustics, uniform integral representation 4-33619
- waveguide theory, book 4-33760
- wavelength division multiplexers and demultiplexers low insertion loss type, microcomputer-aided design and realisation 4-38577
- weakly inhomogeneous medium with birefr., and dichroism, vector representation of polarised light 4-23892

geometry

- see also space time configurations*
- general relativity, singularities unfolding in superspace 4-42773
- Lagrangian dynamics, tangent bundle geometry 4-4209
- Liouville surface and nonlinear integrable eqns. 4-36967
- relativity and geometry, book 4-31995
- soliton surfaces, solvable nonlinearities with trivial geometry 4-47845
- stationary-space times with axial symmetry, triangulation lines rel. to light deflection 4-3911
- supergravity, background geometry and stability 4-42827
- supergravity, Cartan integrable systems, differential free algebra 4-42826
- surfaces with non-zero normal curvature tensor 4-27285

geomorphology

- see also topography (Earth)*
- Ajusco Volcano, Mexico, Pleistocene glaciation, geomorphology, soil characts. and dating 4-47266
- Aldabra Atoll, Indian Ocean coastal and subaerial sites erosion 4-41920
- atolls, distrib. and morphology, effect of rainfall 4-58185
- Axmouth-Lyme Regis, England, landslides in undercliffs 4-26696
- Belgium Miocene sand ridges, correl. with Well Bank marine tidal sand ridge 4-58184
- braided stream confluence scour, for coarse bed material 4-52771
- Bylot Island, Canada, glaciers and glacial sediments (*French*) 4-36415
- Chanaral Bay, Chile, beach changes due to Cu mine tailings 4-31131
- Chesil Beach, England, storm damage due to exceptional waves 4-17254
- climate influences on geomorphologic processes, book 4-42634
- continental, rel. to submarine volcanism 4-8249
- dune movement caused by wind, theory 4-36363
- Southern England, geomorphology, book 4-17658
- gravel bed rivers, conf., June 1980, Gregynog, Newton, UK 4-31976
- W Greece, geological interpretation of SIR-A radar images of Cephalonia and Akarnania (*French*) 4-41907
- Kuwait Bay, sea-level changes from geological evidence, book 4-42633
- landform and vegetative factors, appl. to improvement of Landsat imagery interpretation 4-52962
- limestone karst landforms 4-36357
- Long Island shoreface, USA, maintenance by waves and currents 4-31473
- Luanhe River Delta, China, alluvial fans form. ages, stratigraphy and tectonics (*Chinese*) 4-12941
- Mali, Niger River interior delta-Bandiagara Plateau, geomorphology, SIR-A use (*French*) 4-41923
- Maryland, Piedmont landscape, relief interpretation 4-41919
- McMurdo Sound during Wurm period, glacio-geomorphological study (*Russian*) 4-47273
- meltwater runoff and erosion rel. to hillslope orientation to sunlight 4-22028
- Middle Fork Willamette River, Oregon, USA, land use, floods, channel changes 4-52772
- Mount St. Helens, 1980 eruptions, pyroclastic flour deposits 4-12875
- Mount St. Helens, 1980 eruptions, pyroclastic flows, morphology and rheology 4-12876
- Mount St. Helens, 1980 eruptions effect on glaciers, landslides effects 4-12890
- mount St. Helens, 1980 June dacite dome volume and thermal parameters 4-12880
- Mount St. Helens, 1980 May 18, blast fluid dynamics 4-12869
- Mount St. Helens, 1980 May 18, catastrophic rockslide avalanche, deposits nature 4-12868
- Mount St. Helens, 1980 May 18, pyroclastic density flow/airfall, stratigraphy/sedimentology 4-12872
- Mount St. Helens, 1980 May 18, pyroclastic surge, deposits characts. with distance 4-12871
- Mount St. Helens, crater lava domes growth (1980 June to 1981 January) 4-12878
- Mount St. Helens, geodetic data rel. to bulging of north flank before 1980 May 18 eruption 4-12852
- Mount St. Helens, geodetic monitoring after 1980 May 18 eruption 4-12853
- Mount St. Helens, May-August 1980 features, IR thermal surveys and struct. 4-12865
- Mount St. Helens, thermal IR surveys and landslide/debris avalanche risk determ. 4-12864
- Mount St. Helens, topographic and structural changes, March to July 1980, from photogrammetric data 4-12850
- Mount St. Helens, topographic changes from large-scale photogrammetry and digital terrain models 4-12851

geomorphology continued

- Mount St. Helens, Washington, bulge growth rel. to temporal gravity vars. (March to May 1980) 4-12855
 - Mount St. Helens, Washington, electronic tilt studies (April to October 1980) 4-12854
 - Nagelbeek upland, Netherlands, Saalian to Holocene geomorphic evolution 4-41918
 - Niger River, basin in Lower Holocene, struct. (*French*) 4-52760
 - permafrost area, gravity obs. influenced by massive ground ice 4-22110
 - principles of physical geology, book 4-42636
 - radar remote sensing of geomorphologic parameters 4-13098
 - Ravi River basin, India, landforms and land-use mapping by satellite 4-21935
 - Red Sea deeps, Seabeam echo-sounder geomorphological study (*French*) 4-21921
 - reservoir, finite element simulation, surface subsidence 4-36362
 - river valley response to uplift, in Louisiana and Mississippi, USA 4-17179
 - rivers Cowlitz and Toutle, mudflows due to Mount St. Helens 1980 eruptions 4-12957
 - Rosetta branch of Nile delta, sediment radioactivity and old river channels 4-12942
 - E Sahara, landscape origin, role of drainage systems 4-31485
 - salt weathering as erosion process in S Tunisia 4-41921
 - N San Clemente Island, California, coastal landforms rel. to Quaternary sea-level events 4-36407
 - sand dunes with wind ripples, near Hulshorst, Netherlands 4-26695
 - Sherbro Island, Sierra Leone, SIR-A use for coastal survey (*French*) 4-41922
 - shoreline at Icy Cape, Alaska, uplift rel. to 1899 earthquakes, tree ring evidence 4-41751
 - side-looking radar for geology and geomorphology 4-42197
 - slope stability in weak alluvial soil in Middle East 4-3771
 - Soviet Central Asia, morphostructured zoning rel. to earthquake zones location (*Russian*) 4-3713
 - Spencer Gulf, South Australia, Holocene sea-level changes and tectonic uplift 4-58194
 - streambed elevation changes, meas. using acoustic vel. metering system 4-52975
 - Sunwapta River, Alberta, Canada, braided stream confluence scour 4-52771
 - surf zone of beach, 'breaker bar' due to convergent currents 4-31522
 - systems approach theory for geomorphology 4-52719
 - timescales, book 4-42629
 - Verkoyansk Ridge, USSR, geology and geomorphology, tectonic implications 4-3737
 - Walnut Gulch, Arizona, USA, alluvium removal from semiarid watershed 4-52778
 - Yenisei-Khatanga trough, geomorphological anomalies rel. to tectonic struct. 4-3764
 - Ziway-Shala Lake Ethiopia, stratigraphy and geomorphology rel. to ages of post-glacial arid episodes 4-22072
 - ¹⁰Be dating of geomorphic surfaces, results from soil profiles in California 4-8235
- geons** *see gravitons*
- geophones** *see seismometers*
- geophysical aspects of cosmic rays**
- albedo electron fluxes in geomagnetic field 4-47513
 - atmospheric neutrino background expt. study in underground nucleon decay expts. 4-48890
 - deep-sea Cherenkov detector for cosmic-ray muons 4-27004
 - diurnal variation harmonics due to interplanetary propagation effects 4-3891
 - EAS Cherenkov light refl. from mountain snow, detect. 4-8362
 - electron radial distrib. in EM cascade in atmos. 4-22288
 - galactic cosmic rays, atm. absorpt. correl. with solar wind mag. field 4-22284
 - galactic cosmic rays ionisation atm., EAS model 4-13157
 - gamma-ray diffuse component ≥ 5 MeV, high altitude balloon obs. (*Russian*) 4-52997
 - geomagnetic field effect on $>10^{18}$ eV/particles 4-26955
 - ground level proton event assoc. with 1979 August 21 flare 4-36546
 - hadronic event, superhigh energy, high P_T components of Mt. Kambala (*Chinese*) 4-58351
 - hadrons and leptons, energy spectra in atmos. 4-22286
 - intensity variations during past 30000 years, results from ¹⁰Be concs. in polar ice (*Russian*) 4-52998
 - ionosphere, ionisation due to cosmic ray interactions (*French*) 4-31722
 - lateral density distrib. meas. in air showers, implications for primary cosmic rays 4-17366
 - muons, absolute intensity at sea level and in absorbers 4-17367
 - muons, multiple, characteristics of energies above 35 and 85 GeV 4-22293
 - muons zenith angle distrib. meas. with scintillation counter hodoscopes and online microcomputer 4-42276
 - penetrating cosmic ray muons and atm. neutrino interactions characts. 4-18240
 - quarks in Earth's crust rel. to cosmic ray flux estimates 4-3892
 - relative abundances of Ne to Fe nuclei over Fort Churchill 4-36547
 - sea level latitudinal effects on cosmic rays and X-rays (*Russian*) 4-47511
 - sea-level energy spectrum of cosmic-ray muons up to 20 TeV at 89° zenith angle 4-36548
 - secondary showers at small depths underground 4-22285
 - solar neutrinos, time vars. of ³⁷Ar production rate in Davis expt. (*Russian*) 4-53124
 - Solar System matter, cosmic ray records for solar and galactic particles 4-36552
 - synchrotron radiation from TeV electrons in geomag. field 4-13202
 - transport in atmosphere, dose and LET distrib. in materials 4-52996
 - ¹⁰Be concentrations in soil profiles from California rel. to fate of particle-reactive nuclides 4-8235
 - Fe(μ ,X), investigation of interaction processes underground 4-22291
- geophysical equipment**
- see also atmospheric measuring apparatus; data loggers; geophysical prospecting; geophysical techniques; meteorological instruments; oceanographic equipment; seismometers*
 - absolute gravity meters at Serves, comparisons 4-52936
 - Advanced Very High Resolution Radiometer on NOAA satellite, correction for variable viewing and illumination geometries 4-22142
 - Airborne Imaging Spectrometer for IR remote sensing 4-26880

geophysical equipment continued

- airborne radiometry, cryogenic all solid state millimetre-wave receivers 4-52932
 airborne Thermal IR Multispectral Scanner, Death Valley results 4-26881
 artificial borehole, high-resolution gamma-ray spectra using 14 MeV pulsed neutron generators 4-58299
 Askania tiltmeter in Polushkino borehole, tidal tilt obs. (*Russian*) 4-26576
 AvioPhot aerial camera system, quality control for new Wild objectives (*French*) 4-42190
 borehole radar for cross-hole short-pulse operation 4-22156
 borehole water level and temp. monitoring with portable device 4-26872
 capacitive transducer barograph (*Rumanian*) 4-47463
 closed-circuit television system for volcano monitoring 4-13086
 conference on satellite remote sensing and equipment, at Hannover, FRG (May 1982) 4-53335
 digitizer of geodynamic data, acquisition and storage microsystem (*Rumanian*) 4-47464
 disc milling cutter MULZ-100M for S-waves excitation 4-3717
 distance measuring equipment for crustal movements, instrumental offsets 4-42189
 down-hole induced polarisation method and equipment for mineral exploration 4-52931
 downhole acoustic sensing, high-temp. prototype device 4-17314
 electrical quadrupole, Z-parameters long-term stability meas., intrum. (*Russian*) 4-13031
 exploration seismology (book) 4-53373
 fibre optic accelerometers, interferometric type 4-17318
 fibre optic magnetometers for field mapping 4-17317
 fibre optics data link, appl. to seismic data acquisition 4-22143
 gamma-ray sonde, response, resolution and operating conditions 4-26841
 geophone array, reflection data enhancement, 500-channel streamer appl. 4-47445
 geyser seismograph construction based on phase transitions anal. 4-41996
 gravimeter, laser ballistic, gravitational acceleration precision meas. by interferometric method 4-8318
 gravimeters, sensitivity calibration, appl. of combination filter (*Chinese*) 4-17273
 gyrotheodolite adjustment by amplitude method 4-26818
 gyrotheodolite drift and influence on azimuth determination 4-26819
 high-temperature sample holder for dielec. props. obs. 4-52940
 hydraulic probe for well testing by natural polarisation method (*Russian*) 4-52959
 image sensor developments 4-22155
 induction logging tools, vertical response functions 4-26840
 inductive EM prospecting system, effect of geological media induced polarisation 4-26595
 IR remote sensing detectors and techniques, performance and physical basis 4-31665
 magnetic detector for river bedload transport determination, use of natural mag. tracers 4-17293
 magnetometer using nucl. precession principle, electric circuit of pickup 4-42206
 magnetotelluric equipment, accuracy improvement (*Russian*) 4-52953
 microcomputer-controlled data logger for engineering geophysics 4-31707
 multielectrode probe for lateral elec. logging in nonhomogeneous media (*Russian*) 4-52957
 nonconducting sensor for ocean mag. field meas., effect of vorticity 4-52944
 NSO-S tiltmeter in Polushkino borehole, tidal tilt obs. (*Russian*) 4-26576
 optical remote-sensing instruments, satellite-borne, calibration techniques 4-13058
 peat field surveying, radiowave probe design 4-13090
 photogrammetric rectification equipment, RECTIMAT-C system of VEB Carl Zeiss Jena 4-42224
 pluviometers in afforested mountain basins, precipitation meas. accuracy, comparisons 4-26727
 portable digitized multi-channel data recording system for deep seismic sounding (*Chinese*) 4-17272
 reflectance microscope, automated, for mapping of polished coal surfaces 4-42227
 remote sensing, infrared imaging using PbTe linear array detectors 4-43060
 remote sensing photographic equipment system developed by VEB Carl Zeiss Jena 4-42221
 remote sensing photographic system, high-performance, MSK-4 multispectral camera 4-42222
 remote sensing photographic system, LMK aerial camera system materialisation and functional principles 4-42223
 remote sensing photographic system FEAG digital photowrite and photoscan system 4-42225
 remote sensing satellite, design of imaging microwave radiometer 4-13042
 rock and mineral mag. susceptibility measuring equipment 4-58307
 rock core moisture content measurement by microwave technique 4-22150
 rock magnetic anisotropy measurement, calibration of Digico instrument 4-3849
 rock magnetism meas. with vibration magnetometers, signal processing in presence of noise 4-42195
 rock thermal conductivity measuring apparatus 4-52970
 rock type remote sensing using airborne IR multispectral scanner 4-17289
 rullmeter, ring core ULF magnetometer 4-8357
 Sacks-Everson strainmeter, response to seismic waves (*Japanese*) 4-22104
 satellite microwave radiometer system for Bhaskara I and II satellites 4-31649
 sediments of deep sea, permeability and thermal cond. meas. apparatus 4-26853
 seismic airgun source for borehole vertical seismic profiling 4-47434
 seismic instruments response, effect on m_{BLG} magnitude definition 4-31427
 seismic spectral processing instrument for rock blast monitoring 4-22158
 seismoscope use for Richter local magnitude and peak vel. 4-58290
 self-boring pressure meter, British experience 4-3857
 Shuttle Imaging Spectrometer Experiment, design and performance 4-26978
 small-scale geophysical surveying using microcomputer data gathering system 4-52893

geophysical equipment continued

- snow avalanche acoustic emission measuring apparatus 4-22023
 snow cover, liquid water content meas., microwave sensor for dielec. const. meas. 4-26890
 SQUID applications to geophysics, workshop, Los Alamos (June 1980) 4-47766
 stereoscopic digitising plotting system for cartography 4-31700
 strain type tiltmeter for rot. strain rel. to horizontal axis 4-26582
 surveying instrument, portable, microprocessor-controlled, design and operation 4-47473
 photo-tachymeter using He-Ne laser, noise sources in distance meas. instrument 4-36526
 Thematic Mapper, effect of improved sensor characts. on classification accuracy 4-22302
 Thematic Mapper, preliminary assessment of image quality 4-22303
 tiltmeter observations at the Kirovo and Visichi observation points in Ukraine (*Russian*) 4-26573
 transient sounding, EMF profiles recorded by different instruments, comparison (*Russian*) 4-12770
 triaxial compression cell, for determ. of anisotropic elastic moduli of coal 4-52697
 underground water flow direction determ. underground by drilled well 4-8335
 vertical borehole geophone array 4-26842
 stationary VLB1 antenna for meas. of tectonic plate movements, stability monitoring 4-31672
 VLF EM prospecting equipment, field appls. in India 4-52963
 well logging, tool depth determination using accelerometer 4-58300
 WILD T4 universal theodolite, second order tilt axis error meas. using laser interferometer (*German*) 4-47470
 X-ray chemical analysis of oceanic and geologic samples using process control spectrometer 4-58305
⁸⁷Rb magnetometer, self-calibrating, accurate to 0.01 nT rms 4-26867
- geophysical prospecting**
see also minerals
 acoustic logging data used for seismic model computation, algorithm (*Hungarian*) 4-3710
 acoustic logging instrumentation, data digital recording and processing (*Russian*) 4-13079
 aeromagnetic surveying, reduction of terrain-induced effects by draping 4-47437
 airborne resistivity mapping 4-13108
 anomalies in geomag. and gravity pot. interpretation theory (*Russian*) 4-12772
 anomalies in gravity/geomag. fields, characts. determ. method (*Russian*) 4-13076
 apatite-carbonate ore prospecting methods used for Aldan shield, USSR 4-52967
 aquifer hydraulic transmissivity determ. by elec. transverse resistance method 4-52927
 artificial borehole, high-resolution gamma-ray spectra using 14 MeV pulsed neutron generators 4-58299
 artificial field magnetisation in parametric classes, three-dimens. direct and inverse problem soln. 4-52937
 Bazhenovo Formation, USSR, petroleum prospecting, seismic anal. 4-3769
 Beauvais, France, drilling report from geothermal wells (*French*) 4-16758
 Bel'skaya depression, USSR, tectonic features from gravity and mag. prospecting anal. (*Russian*) 4-52670
 borehole and surface electrical prospecting for oil, theory 4-52969
 borehole dielectric measurements, environment effects on Schlumberger EM propag. tool 4-13105
 borehole electromagnetic logging, numerical model study 4-22153
 borehole EM method at high-freqs., response of current loop antenna 4-47438
 borehole measurements for EM diagnostics of stratified medium 4-13106
 borehole temp., 3-dimens. numerical stabilization model 4-41803
 Cement oil field, Oklahoma, USA, study of combination of geologic, geochemical and geophysical data 4-26832
 Cesano 7 geothermal well, Italy, drilling report 4-3741
 computer programs for hand-held calculator 4-36529
 controlled source EM exploration of crust 4-13107
 cross-borehole probing for high-contrast seismic anomalies detect. 4-52939
 deep EM exploration, controlled source electrical methods 4-36286
 deep seated base metal deposits, simulation as tool for exploration planning 4-8325
 deep structures investigation from centres of mass distrib. anal., Lake Khanka area appl. (*Russian*) 4-26862
 deep-sea operations marine technologies over next ten years (*Italian*) 4-3847
 density determination of layer from gravity and relief anal. (*Russian*) 4-26861
 diffraction tomography, theory of offset vertical seismic profiling and well-to-well tomography 4-47446
 down-hole induced polarisation method and equipment for mineral exploration 4-52931
 downhole acoustic sensing, high-temp. prototype device 4-17314
 downhole logging using transversely mounted hybrid integrated circuitry 4-31680
 downward continuation technique used in geophysical prospecting 4-52926
 electric fields due to line source excitation on surface, image theory anal. 4-52568
 electric impedance of Earth surface studied by VLF atmospheric propagation method 4-42242
 electrical logging diagrams, algorithm for quality monitoring and correction (*Russian*) 4-26601
 electrical polarisability of buried targets, approx. calc. method 4-52563
 electrical prospecting using mise-a-la-masse method at Canadian test site 4-12762
 electrical quadrupole, Z-parameters long-term stability meas., intrum. (*Russian*) 4-13031
 electrical resistivity sounding, conversion of DC-dipole sounding curves to Schlumberger curves 4-52929
 electrical resistivity sounding of crust, least-squares method for VES curve anal. 4-3673
 electrical sounding, Schlumberger and axial dipole-dipole curves, smoothing method 4-26873
 electrical sounding method for clay deposits 4-3675

geophysical prospecting continued

- EM depth sounding by central freq. sounding method, model curves theory 4-26588
- EM depth sounding interpretation, master tables 4-36812
- EM fields due to thin resist. layer 4-26592
- EM freq. and transient soundings, book 4-32
- EM frequency sounding using horizontal loop antenna, inversion theory 4-52922
- EM geoelectric sounding, inversion of S_z curves 4-52577
- EM induction in Earth and Moon, 6th IAGA workshop, Victoria, British Columbia (1982 August 15 to 22) 4-31959
- EM induction sounding, current channelling problem 4-36284
- EM induction sounding, soln. of forward and inverse 3D problems 4-36283
- EM induction sounding, three-dimensional modelling 4-36282
- EM induction sounding in boreholes, induction logging problem for concentric layers 4-47449
- EM logging of deposits in Tartar Republic (*Russian*) 4-13080
- EM methods for oil and mineral exploration 4-22167
- EM potentials in uniaxially anisotropic media, Lorentz conditions theory 4-36289
- EM properties of ocean crust, use of dipole near ocean surface, laboratory expt. 4-12773
- EM prospecting by transient method, calc. of depth of polymetallic deposits 4-3854
- EM response of 3-D body in layered media 4-47134
- EM sounding, appl. to geothermal regions 4-36288
- EM sounding, effect of inhomogeneities in stratified ground on field of circular loop antenna 4-47140
- EM sounding, EM impedance matrix of symmetric buried body 4-47141
- EM sounding, induced polarisation detect. with transient EM system 4-47142
- EM sounding, inverse problem of field generation for two thin boundary beds 4-3681
- EM sounding, inversion of transient EM data from spherical conductor 4-47447
- EM sounding, perpendicular and vertical coplanar systems, intermediate layer detectability 4-41702
- EM sounding, scattering calc. from penetrable cylinders 4-47451
- EM sounding, wave refl. and transmission at rough interface between two different media 4-47450
- EM sounding by coincident loop transient method, voltage sign change due to capacitive effects 4-52924
- EM sounding by rotating current dipole method 4-13062
- EM sounding for oil well logging and Earth interior anal. 4-13084
- EM sounding for spherical ore body, transient response 4-3671
- EM sounding method for deep boundaries, inverse problem theory 4-52576
- EM sounding of crust, VLF dip-angle method using linear filtering 4-3672
- EM sounding of crust influenced by possible current channelling 4-47138
- EM sounding of crust structure, determination of optimum signal 4-3679
- EM sounding of grounded conducting target with leakage path 4-13063
- EM soundings, data inversion, integral eqn. method 4-31408
- central Eromanga Basin, Australia, geophysical studies of petroleum prospects 4-58177
- central Eromanga Basin, Queensland, seismic refl. results rel. to petroleum potential 4-58178
- exploration methods, volume 3 of developments, book 4-36826
- finite difference technique for EM response of underground struts. 4-22169
- gamma ray logging, geometrical factor appl. for rock radioactivity meas. (*Russian*) 4-52960
- gamma-gamma logging, data interpretation formulae anal. (*Russian*) 4-52958
- gamma-ray logging in borehole in layered radioactive crust, kernel functions 4-17269
- gamma-ray logs in well logging, deconvolution correction and anal. (*Chinese*) 4-17274
- gamma-ray sonde, response, resolution and operating conditions 4-26841
- geochemical exploration, conf. at Hannover, Germany (April 1980) 4-4160
- geochemical prospecting, statistics and data anal. techniques (book) 4-47793
- geoelectric sounding using different electrode configurations, apparent resistivity function calcs. 4-26835
- geological prospecting, indirect problem interpolation by digital method 4-52974
- geomagnetic anomalous field due to buried bodies, direct problem soln. 4-52560
- geopotential anomalies due to 2-D sheet-like underground struts., interpretation method 4-36516
- geothermal prospecting programs supported by European Community 4-26268
- geotomography for the detection of tunnels or voids 4-17313
- Gobi Desert, China, passive microwave radiometry for prospecting 4-52966
- gravimetry 3-D inverse problems, approx. soln. method 4-36521
- gravimetry and magnetics inverse problem, simultaneous soln. by nonlinear programming, Fortran 4-42201
- gravity and geomagnetic anomaly surveying, homomorphic deconvolution procedure 4-26834
- gravity and magnetic anomalies of buried objects, determ. of object lower boundary 4-52913
- gravity anomalies, decomposition to Fourier series, Simpson's and Filon's methods comparison, errors anal. (*Russian*) 4-26571
- gravity exploration, Hilbert transform technique for interpretation of anomalies due to two-dimensional struts. 4-52558
- gravity field of inhomogeneous body, use of higher derivatives with Green's integrals 4-52555
- gravity inverse problem soln., new algorithms 4-47440
- gravity prospecting, interpretation techniques (*Russian*) 4-13077
- gravity prospecting, inverse problem soln. method and algorithm 4-17291
- gravity sounding, stability of soln. of inverse gravimetry problem for group of point masses 4-3670
- gravity-surveying in mines and caverns, corrections for hollow spaces 4-26836
- groundwater flow electrical prospecting by self-potential method 4-52930
- Hoogstraten, Belgium, drilling report from geothermal well (*French*) 4-16755

geophysical prospecting continued

- Hungary geological model based on hydrocarbon exploration data (*Hungarian*) 4-3727
- hydraulic probe for well testing by natural polarisation method (*Russian*) 4-52959
- hydrocarbon prospecting, role of geological investigations (*Russian*) 4-13078
- induced polarisation, basic theory 4-22168
- induced polarisation prospecting of Ag ore in breccia pipes, Sonora, Mexico 4-26663
- induced polarization anomalies calc. method, surface polarization model 4-42200
- induced-polarisation vertical probing technique, anal., interpretation and equivalent substitutions (*Russian*) 4-52955
- inductive EM prospecting system, effect of geological media induced polarisation 4-26595
- inverse problem solutions, conf., Erice, Italy (March-April 1980) 4-47765
- inverse problem solutions, difficulties with ill-posed problems 4-13092
- Jonzac-Charentes, France, drilling report from geothermal wells (*French*) 4-16756
- Kamchatka, USSR, Neogene gas field deposits 4-3770
- kimberlite pipe prospecting by seismic method, 3-D model study 4-52610
- kimberlite pipe remote sensing in Wyoming-Colo., USA, by multispectral method 4-21907
- Lamazere, France, drilling report from geothermal well (*French*) 4-16752
- Latera, Italy, drilling report from geothermal pair 4-16750
- lateral logging sounding, data interpretation method (*Russian*) 4-26863
- layers electrical resistance determ., algorithm (*Russian*) 4-26602
- loop inductance technique, appl. to Bashkiria Cu pyrite deposits (*Russian*) 4-52956
- magnetic anomaly of underground struct., nonlinear inversion method 4-36515
- magnetic field problem of three-dimensional homogeneously and inhomogeneously magnetized bodies 4-28590
- magnetic prospecting problems in archaeology 4-17302
- magnetometer array studies, review 4-36287
- magnetometric 3-D inverse problems, approx. soln. method 4-36521
- magnetotelluric field, gradient props. 4-17059
- magnetotelluric sounding, appl. to petroleum exploration 4-22170
- magnetotelluric sounding, theory of inverse problem 4-36281
- magnetotelluric sounding curves, influence of 3-D structure 4-26589
- magnetotelluric sounding method for layered media, use of EM wave group velocity 4-17270
- magnetotelluric sounding of anisotropic medium, direct problem 4-21876
- Marchenko method for inverse scatt. in three dims. 4-17296
- marine EM research, review 4-36285
- Mellerey, Orleans, France, drilling report from geothermal well (*French*) 4-16753
- metallogenic belts in Ob-Irtysh region of W Siberian Plate, gravity and mag. fields anal. 4-3768
- microwave dielectric constant logging, appl. of microwave signals propagation time 4-42202
- mineral exploration, appl. of borehole resistivity and EM methods 4-47452
- mineral exploration computer graphics (*Hungarian*) 4-42205
- hydrothermal mineralisation remote sensing using multispectral IR radiometer 4-12916
- minerals, spaceborne remote sensing, Commission of European Communities report 4-3859
- montmorillonite mixed with carbon grains, spectral props. and remote sensing implications 4-58174
- multielectrode probe for lateral elec. logging in nonhomogeneous media (*Russian*) 4-52957
- natural gas well, thermal parameters, errors effect on yield determ. by acoustic method (*Russian*) 4-26864
- neutrino beam method for remote probing of Earth interior struct. 4-31702
- Niger Delta, Nigeria, hydrocarbon distrib. pattern and deep prospects 4-31481
- object detection in seismic holography, effect of seismometer separation pitch (*Russian*) 4-26859
- ocean crust electrical properties from EM sounding 4-12774
- oil and gas exploration and prospecting using integrated interpretation of geophys. data 4-31691
- oil and gas prospecting, results of searches, anal. probabilistic approach (*Russian*) 4-52716
- oil well logging, use of EM sounding methods 4-13084
- oil-field exploration by satellite IR imagery 4-22175
- oil-gas deposits, electrical anomalies at edges (*Russian*) 4-12771
- open cylindrical structures, diffraction of waves by diffraction 4-22166
- ore bodies, self-potential anomalies 4-41701
- ore body prospecting in Siberia by study of groundwater F and Cl contents 4-52968
- ore deposit electromagnetics surveying, numerical model study 4-22154
- pattern recognition in oil and gas seismic exploration 4-26641
- peat field surveying, radiowave probe design 4-13090
- Pessac, France, drilling report from geothermal well (*French*) 4-16751
- petroleum exploration and LANDSAT imagery—a method of preliminary evaluation, Burma and North China Basin 4-36507
- Plains archaeological sites, USA, mag. survey data, on-site processing 4-17063
- Provins, France, drilling report from geothermal well (*French*) 4-16754
- recent geophysical exploration techniques, review (*Japanese*) 4-52945
- reflection seismology, one-dimensional inverse problem 4-21896
- Reims-Murigny, France, drilling report from geothermal wells (*French*) 4-16757
- remote sensed meas., correction factors and error distrib. for ART 4-13111
- reservoirs computer aided recognition from borehole data and rock charact. (*Russian*) 4-26698
- resistivity and EM sounding curve calc., two-electrode and Schlumberger filters 4-41705
- resistivity sounding, two-dimensional DC inversion technique for dipole-dipole data 4-47448
- resistivity sounding with four-electrode array, digital linear filters 4-41703
- resistivity techniques, appl. to archaeological surveys 4-17303
- ring zones of subvertical nonuniformities, identification from gravimetric method, appl. to Veselov platform (*Russian*) 4-12756
- rock geochemistry in mineral exploration (book) 4-47794

geophysical prospecting continued

- rock type remote sensing using airborne IR multispectral scanner 4-17289
- salt mine, scattering of plane wave at a tunnel 4-13112
- sandstone formations, hydrocarbon reservoir interpretation (*Hungarian*) 4-31483
- seismic airgun source for borehole vertical seismic profiling 4-47434
- seismic cross-hole surveying technique for geothermal site rock fracture studies 4-47435
- seismic data migration, using two-way nonreflecting wave equation 4-52582
- seismic data migration by phase shift plus interpolation method 4-52581
- seismic deconvolution of reflection profiling data, real time sub-optimal method (*French*) 4-58105
- seismic exploration direct dynamic problems, one-dimens. hyperbolic eqns. soln. methods/algorithms 4-17095
- seismic impedance profile inversion from band-limited data, optimisation problem 4-17301
- seismic interval velocities from seismic refl. time meas. (book) 4-53367
- seismic inverse problem, soln. for non-normal incidence inversion 4-26620
- seismic inversion problem, resolution increase using redundant information 4-17300
- seismic method for detecting unfractured rock bodies, for radioactive waste repository 4-26614
- vertical seismic profiling method for use in boreholes, book 4-27257
- seismic prospecting, Wigner anal. of time-varying signals 4-41784
- seismic prospecting inversion method using fuzzy set theory 4-21899
- seismic prospecting using numerical method of time fields 4-36520
- seismic records, inversion, minimisation methods 4-17299
- seismic refl. profiling, algorithm for layered media refl. coeffs. 4-12793
- seismic refl. profiling, iterative stacking for automatic vel. determ. 4-31441
- seismic reflected waves, time-depth curve for medium with nonlinear vel. var. (*Russian*) 4-12809
- seismic reflection profiling, acoustic impedance recovery by autoregressive modelling 4-26609
- seismic reflection profiling, approx. computation of acoustic impedance 4-26610
- seismic reflection profiling, horizontal cross-section data display method 4-13059
- seismic reflection profiling, inverse problem for N-layer normal incidence case 4-26612
- seismic reflection profiling, Kirchhoff migration accommodating lateral velocity changes 4-47436
- seismic reflection profiling, migration of constant-offset sections 4-13061
- seismic reflection profiling, traveltimes characts. for layer models 4-52580
- seismic reflection profiling areal seismic method, errors due to static shifts 4-47147
- seismic reflection profiling by common-shot-point method, velocity determ. from focusing parameters 4-52609
- seismic reflection profiling in 3-D, horizontal seismic sections 4-13060
- seismic reflection profiling theory, postprocessing algorithm for linear velocity inversion 4-52579
- seismic reflection profiling using ship streamer array, effect of streamer feathering 4-12796
- seismic reflection time information inversion 4-17298
- seismic reflections from interfaces and thin layers, physical and numerical modelling 4-47159
- seismic refraction prospecting of undulating refractor by generalized reciprocal method 4-47772
- seismic shear waves from explosive point source, converted P-S wave generation 4-41747
- seismic sounding, estimation of parameters of reflected wave time field 4-3720
- seismic surveying, developments 4-31679
- seismic towed air gun array, far-field signature calc. from near-field measurements 4-52920
- seismic waves appl., book 4-36
- seismic well logging, automatic velocity determ. from full waveform acoustic logs 4-36514
- seismology, acoustic impedance of horizontally stratified media 4-52596
- seismology, downhole-crosshole reflection profiling method 4-52976
- seismology, median filtering method for anal. of noisy data 4-36512
- seismology, pseudo-acoustic logging, interpretation based on geoseismic modelling 4-31440
- seismology, pseudo-acoustic logo method 4-31438
- seismology, spatial filtering of marine reflection profiling data 4-36513
- West Siberian plate, D and ^{18}O content of groundwater and hydrocarbon prospecting possibilities 4-41998
- W Siberian platform, southern region, gravity anomalies nature, topography effects (*Russian*) 4-12755
- signal anal. 4-41779
- signature extraction, autocorrelation influence appl. to Cotter Basin geobathymetric prospecting, USA 4-52710
- simultaneous interactive magnetic and gravity inversion 4-26591
- small-scale geophysical surveying using microcomputer data gathering system 4-52893
- Southampton geothermal well, UK, drilling report 4-3742
- SQUID applications, workshop, Los Alamos (June 1980) 4-47766
- subsurface lithostratigraphy discrimination, use of seismic refl. data 4-26839
- synthetic acoustic well logging waveforms, arrays, computation and source design 4-19669
- techniques (book) 4-13492
- techniques for U and Th (book) 4-47784
- terrain model methods for recognising crustal lineaments 4-58112
- thermo-electrical self-potential anomalies rel. to solid angle subtended by source region 4-52562
- thin layer reservoirs, effect on acoustic and neutron logging data (*Russian*) 4-26699
- third-term coupling in the Earth induction problem 4-21882
- tomography, stable reconstruction technique 4-13110
- transient EM field diff. on thin disc, three-dimens. problem 4-17061
- transient sounding, EMF profiles recorded by different instruments, comparison (*Russian*) 4-12770
- two-dimensional resistivity distrib., geoelectrical model calcs. 4-41704
- underground object imaging, pulse-radar holography use 4-13113
- underground tunnels and cavities detection, review of use of em methods 4-13109
- vertical electric logging, direct problem, soln. by optimum algorithm 4-52567

geophysical prospecting continued

- vertical electrical sounding, non-corrected inverse problem, automatic soln. algorithm (*Russian*) 4-26599
- vertical seismic profiling, principles, book 4-34
- vertical seismic profiling 4-52907
- VLF EM prospecting, techniques and field appls. in India 4-52963
- VLF ground survey for shallow two-dimens. structures 4-26844
- water table exploration by means of Rayleigh and P-wave microseisms 4-12783
- waveguide techniques for complex permitt. and permeab. meas. in boreholes 4-13104
- well log data processing, karotage interpreter subsystems (KISS) (*Hungarian*) 4-31699
- well log response functions, statistical determ. 4-26840
- well logging, electromagnetic methods 4-13103
- well logging, method for accurate depth registration 4-42244
- well logging, resistivity-IP response of steel well casings 4-52923
- well logging, tool depth determination using accelerometer 4-58300
- well logging across a bed boundary using normal electrical resistivity tool 4-52921
- well logging for dielectric constant, EM wave propagation theory 4-26833
- World Petroleum Congress, geology, exploration and reserves, London (Aug.-Sept. 1983) 4-4155
- Yenisei-Khatanga trough, remote sensing rel. to oil and gas prospects 4-3764
- Ni ores detection, aeromagnetic data interpretation 4-3682
- ^{222}Rn in soil gas, geochem. prospecting and importance of Rn depth depend. in soil 4-52928
- U deposits in Copper Mountain, Wyoming, USA, mapped using multispectral data 4-21908

geophysical techniques

- see also *atmospheric techniques; hydrological techniques; ionospheric techniques; oceanographic techniques*
- acoustic method for natural gas well yield, effect of thermal parameter errors (*Russian*) 4-26864
- aeromagnetic sounding, data interpretation rel. to detect. of Ni ores assoc. with trap formations 4-3682
- aeromagnetic surveying, reduction of terrain-induced effects by draping 4-47437
- airborne microwave radiometry, appl. to crustal fract. detect. in Mississippi embayment 4-31703
- airborne radiometry, cryogenic all solid state millimetre-wave receivers 4-52932
- airborne resistivity mapping 4-13108
- alterant geophysical tomography, borehole fracture meas. technique 4-26874
- anomalies in gravity/geomag. fields, characts. determ. method (*Russian*) 4-13076
- apatite-carbonate ore prospecting methods used for Aldan shield, USSR 4-52967
- aquifer hydraulic transmissivity determ. by elec. transverse resistance method 4-52927
- archaeological dating, thermally stimulated exo-electron emission method 4-74
- archaeological site survey, appl. of mag. meas. and ground penetrating radar 4-22138
- arctic sea ice, ultrasonic exploration technique for finding oil 4-57807
- artificial field magnetisation in parametric classes, three-dimens. direct and inverse problem soln. 4-52937
- artificial satellite laser tracking for global tectonics 4-42226
- ash leachates used to monitor gas emission from Mount St. Helens 1980 eruptions 4-12863
- Australia, digital terrain model and computer representation techniques 4-58066
- auto-spectral analysis for bi- and tri-spectra, by max. entropy method 4-26837
- automatic picking of first arrivals and parameterization of traveltimes curves 4-26843
- autoregressive spectrum analysis using Marple's algorithm 4-13065
- bathymetric data statistical analysis using computer method 4-42233
- bidimensional spline functions application to contouring and interpolation of geophysical data 4-13064
- borehole and surface electrical prospecting for oil, theory 4-52969
- borehole dielectric measurements, environment effects on Schlumberger EM propag. tool 4-13105
- borehole electromagnetic logging, numerical model study 4-22153
- borehole EM method at high-freqs., response of current loop antenna 4-47438
- borehole measurements for EM diagnostics of stratified medium 4-13106
- borehole temp. gradients anal. and surface temp. history determ. 4-42217
- buried active fault beneath alluvial layer, detect. and anal. (*Japanese*) 4-47217
- cartography, transformation ('Umbezifferung') of map grids (*German*) 4-26580
- Cement oil field, Oklahoma, USA, study of combination of geologic, geochemical and geophysical data 4-26832
- centrifuge studies of soil mechanics 4-17154
- chemical elements anal. by X-ray fluoresc. and induction coupled plasma spectroscopy 4-13087
- closed-circuit television system for volcano monitoring 4-13086
- cloud physical parameterization method, use of movable basic functions, stochastic coalescence parcel calcs. 4-8288
- coal, polished surfaces mapping by automated reflectance microscopy 4-42227
- conference, Newcastle-upon-Tyne, England (April 1984) 4-47743
- controlled source EM exploration of crust 4-13107
- cross-borehole probing for high-contrast seismic anomalies detect., wave interactions 4-52939
- crustal deformations estimation from baseline meas./geophysical models 4-13037
- data analysis, kriging surface interpolation 4-31657
- dating quartz diagenesis in petroleum basin, fluid inclusion method 4-42230
- decametric wave interf. in azimuthal oriented adaptive antenna system 4-22184
- deep EM exploration, controlled source electrical methods 4-36286
- deep structures investigation from centres of mass distrib. anal., Lake Khanka area appl. (*Russian*) 4-26862

geophysical techniques continued

- diffraction tomography, theory of offset vertical seismic profiling and well-to-well tomography 4-47446
- digital edge enhancement technique for Thematic Mapper data 4-17309
- discrete multivariate anal. statistical techniques for Landsat classification accuracy assessment 4-42237
- down-hole induced polarisation method and equipment for mineral exploration 4-52931
- downward continuation technique used in geophysical prospecting 4-52926
- drill core orientation using secondary magnetization components 4-36278
- Earth, gravity field var. from satellite to satellite range rate 4-42220
- Earth resources from space Crestwood study panel report 4-21952
- earthquake, focal parameter determination method using 2-D model 4-26655
- earthquake hypocentre determination techniques using velocity models at subduction zones 4-17091
- earthquake magnitude estimation by 'instantaneous amplitudes' method 4-13035
- earthquake magnitude estimation using Milne seismographs, 1897 to 1912 period 4-3712
- earthquake prediction in Japan, seismic network for short-term forecasts (Japanese) 4-47146
- earthquake source parameter determ. at Kasperske Hory seismic station, Czechoslovakia 4-26820
- earthquakes, rupture duration and stress drop determ. method 4-31661
- EAS Cherenkov light off mountain snow, primary cosmic rays anal. method 4-8362
- electric impedance of Earth surface studied by VLF atmospheric propagation method 4-42242
- electric well logging, theory of cable in a hemisphere (Russian) 4-22127
- electrical logging diagrams, algorithm for quality monitoring and correction (Russian) 4-26601
- electrical polarisability of buried targets, approx. calc. method 4-52563
- electrical prospecting, VES method combined with VES-IP method, chart interpretation technique (Russian) 4-22126
- electrical prospecting using mise-a-la-masse method at Canadian test site 4-12762
- electrical resistivity sounding, conversion of DC-dipole sounding curves to Schlumberger curves 4-52929
- electrical resistivity sounding of crust, least-squares method for VES curve anal. 4-3673
- electrical sounding, Schlumberger and axial dipole-dipole curves, smoothing method 4-26873
- electrical sounding method for clay deposits 4-3675
- EM and magnetotelluric methods, spherical analysis of nonpotential fields 4-52573
- EM depth sounding by central freq. sounding method, model curves theory 4-26588
- EM freq. and transient soundings, book 4-32
- EM frequency sounding method, inverse problem soln. by specimen recognition method (Russian) 4-21880
- EM frequency sounding using horizontal loop antenna, inversion theory 4-52922
- EM geoelectric sounding, inversion of S_z curves 4-52577
- EM induction method, transient selectivity study (Russian) 4-21879
- EM induction sounding, current channelling problem 4-36284
- EM induction sounding, magnetometer array studies 4-36287
- EM induction, sounding, soln. of forward and inverse 3D problems 4-36283
- EM induction sounding in boreholes, induction logging problem for concentric layers 4-47449
- EM logging of deposits in Tartar Republic (Russian) 4-13080
- EM methods for oil and mineral exploration 4-22167
- EM potentials in uniaxially anisotropic media, Lorentz conditions theory 4-36289
- EM prospecting by transient method, calc. of depth of polymetallic deposits 4-3854
- EM response of 3-D body in layered media 4-47134
- EM sounding, appl. to geothermal regions 4-36288
- EM sounding, effect of inhomogeneities in stratified ground on field of circular loop antenna 4-47140
- EM sounding, EM impedance matrix of symmetric buried body 4-47141
- EM sounding, induced polarisation detect. with transient EM system 4-47142
- EM sounding, inverse problem of field generation for two thin boundary beds 4-3681
- EM sounding, inversion of transient EM data from spherical conductor 4-47447
- EM sounding, scattering calc. from penetrable cylinders 4-47451
- EM sounding, wave refl. and transmission at rough interface between two different media 4-47450
- EM sounding by coincident loop transient method, voltage sign change due to capacitive effects 4-52924
- EM sounding by rotating current dipole method 4-13062
- EM sounding for oil well logging and Earth interior anal. 4-13084
- EM sounding for spherical ore body, transient response 4-3671
- EM sounding method for deep boundaries, inverse problem theory 4-52576
- EM sounding of crust, VLF dip-angle method using linear filtering 4-3672
- EM sounding of crust influenced by possible current channelling 4-47138
- EM sounding of crust structure, determination of optimum signal 4-3679
- EM sounding of grounded conducting target with leakage path 4-13063
- EM sounding technique, low-frequency EM data acquisition and processing methods 4-13030
- environmental pollution monitoring system in USSR, organisation 4-36495
- ESA Earth observation satellite programmes 4-22177
- exploration methods, volume 3 of developments, book 4-36826
- exploration seismology (book) 4-53373
- finite difference technique for EM response of underground struts. 4-22169
- fission track dating of zeolites, appl. to E Greenland and Faeroe Islands 4-52704
- fractures in limestone studied by borehole magnetometric resistivity method 4-3674
- forested region remote sensing using Thematic Mapper data 4-21934
- funnel functions, use in appraising linear/nonlinear inverse problems inherent nonuniqueness 4-42216
- gamma ray logging for rock radioactivity meas. (Russian) 4-52960

geophysical techniques continued

- gamma-gamma logging, data interpretation formulae anal. (Russian) 4-52958
- gamma-ray logging in borehole in layered radioactive crust, kernel functions 4-17269
- gamma-ray logs in well logging, deconvolution correction and anal. (Chinese) 4-17274
- geochemical analytical methods (book) 4-8657
- geochemical prospecting, statistics and data anal. techniques (book) 4-47793
- geodesy, Bessel-Helmert soln. of two fundamental problems (German) 4-26581
- geodesy, improvement of accuracy of networks via satellite Doppler meas. (German) 4-47131
- geodesy, integrated adjustment of geodetic networks (German) 4-47132
- geodetic field data collection using automatic computer equipment 4-26810
- geodetic leveling, atmospheric temperature stratification causing refraction error 4-58302
- geodetic leveling surveys, geomag. field affecting compensator leveling observations 4-3850
- Geodolite strain surveys, precision of method 4-58301
- geoelectric sounding using different electrode configurations, apparent resistivity function calcs. 4-26835
- geologic mapping method using calibrated remote sensing multispectral data 4-22165
- geological fracture method using electromagnetic geotomography 4-36531
- geological hydrothermal alteration mapping, MSS method with hue-saturation-intensity transform 4-22164
- geological map making using computer assisted methods 4-36272
- geological prospecting, indirect problem interpolation by digital method 4-52974
- geological remote sensing, book 4-47807
- geomagnetic and gravity anomalies due to multilayer media, algorithm for selecting appropriate model 4-26870
- geomagnetic anomalies of dykes and horizontal cylinders, automatic interpretation method 4-26587
- geomagnetic anomalous field due to buried bodies, direct problem soln. 4-52560
- geomagnetic anomaly field reduction to magnetic pole and mag. equator 4-26586
- geomagnetic disturbance classification during solar max., pattern recognition 4-47496
- geomagnetic gradient surveying at large-scale 4-52972
- geomagnetic var. analysis using natural orthogonal components 4-47136
- geometric correction process for Landsat 4 Thematic Mapper data 4-17305
- geomorphologic parameters from SAR radar imaging 4-13098
- geopotential anomalies due to 2-D sheet-like underground struts., interpretation method 4-36516
- GEOS III satellite, laser ranging accuracy, Shanghai Obs., estimation 4-13073
- geothermal borehole temp. and pressure meas., applicability of fibre optics (French) 4-46855
- geothermal energy resource prospecting programs supported by European Community 4-26268
- geotomography, improved SIRT correction factors 4-22157
- geotomography for the detection of tunnels or voids 4-17313
- glauconite, suitability for fission track dating, etching conditions 4-47179
- gravimetry 3-D inverse problems, approx. soln. method 4-36521
- gravimetry and magnetics inverse problem, simultaneous soln. by non-linear programming, Fortran 4-42201
- gravitational constant, Newtonian, determ. by a mine method 4-47536
- gravity and geomagnetic anomaly surveying, homomorphic deconvolution procedure 4-26834
- gravity and mag. sounding appl. to Ob-Irtysh region of W Siberian Plate 4-3768
- gravity and magnetic anomalies of buried objects, determ. of object lower boundary 4-52913
- gravity and magnetic anomaly inversion methods (French) 4-58076
- gravity anomalies, decomposition to Fourier series, Simpson's and Filon's methods comparison, errors anal. (Russian) 4-26571
- gravity anomaly fields, soln. of direct problem for 3-D inhomogeneous bodies 4-52554
- gravity exploration, Hilbert transform technique for interpretation of anomalies due to two-dimensional struts. 4-52558
- gravity field determination by two satellite range rate method 4-52946
- gravity field global measurement, appl. of gradiometric satellite 4-8366
- gravity field of inhomogeneous body, use of higher derivatives with Green's integrals 4-52555
- gravity models, harmonic coeffs. testing and comparison procedure 4-8173
- gravity prospecting, interpretation techniques (Russian) 4-13077
- gravity prospecting, inverse problem soln. method and algorithm 4-17291
- gravity sounding, stability of soln. of inverse gravimetry problem for group of point masses 4-3670
- gravity-surveying in mines and caverns; corrections for hollow spaces 4-26836
- gyrotheodolite adjustment by amplitude method 4-26818
- gyrotheodolite drift and influence on azimuth determination 4-26819
- Heat Capacity Mapping Mission IR obs. use for surface temp. determ. 4-52718
- heat flow determination procedures for oil field areas 4-47202
- heat flow in crust, borehole measurement method, study of required hole depth 4-47466
- heat flow measurement in boreholes, thermal equilibrium establishment after drilling 4-47199
- HF over-the-horizon mapping of Greenland Icecap 4-22185
- high energy ion microprobe anal., appl. to mineralogy, material science and biology 4-43133
- high-pressure phenomena and measurement techniques, review 4-8227
- hot water underground stores of arbitrary shape, dynamics anal. 4-12491
- hydrocarbon prospecting, role of geological investigations (Russian) 4-13078
- ice flexural properties measurement by cantilever beam method 4-22109
- ice floe seismic vibrator method, possibility of meas. acoustic field in atmosphere 4-12993
- image parametric/non-parametric local adaptive enhancement 4-17308
- image processing, algorithms for data smoothing, edge and line detection and vectorization 4-17310

geophysical techniques continued

- imaging processing for remotely sensed data 4-36508
 imaging radar for remote sensing, photogrammetric aspects 4-42198
 induced polarisation, basic theory for prospecting 4-22168
 induced polarisation prospecting of Ag ore in breccia pipes, Sonora, Mexico 4-26663
 induced polarization anomalies calc. method, surface polarization model 4-42200
 induced-polarisation vertical probing technique, anal., interpretation and equivalent substitutions (*Russian*) 4-52955
 inorganic anion detection in soil and water, appl. of ion exchange chromatography 4-46844
 inverse problem of geopotentials, conditions sufficient for solvability 4-13070
 inverse problem solutions, conf., Erice, Italy (March-April 1980) 4-47765
 inverse problem solutions, difficulties with ill-posed problems 4-13092
 ion beam anal., conf., Tempe, AZ, USA (May 1983) 4-42579
 IR remote sensing detectors and techniques, performance and physical basis 4-31665
 isotopic data inversion for mantle and continents struct. and evol. 4-41798
 isotopic data inversion method for mantle and continents struct. and evolution 4-42194
 isotropic magnetic susceptibility for glacial till delineation 4-47456
 Karhunen-Loeve expansion as feature ordering technique for limited training sample size 4-26849
 kimberlite pipe prospecting by seismic method, 3-D model study 4-52610
 kimberlite pipe remote sensing in Wyoming-Colorado, USA, by multispectral method 4-21907
 Landsat data anal., atmospheric correction via chromaticity of path radiance 4-31704
 Landsat imagery interpretation, improvement using landform and vegetation factors 4-52962
 Landsat MSS imagery, digital geometric distortion correction (*Chinese*) 4-21927
 lateral logging sounding, data interpretation method (*Russian*) 4-26863
 layer density determination from gravity and relief anal. (*Russian*) 4-26861
 loop inductance technique, appl. to Bashkiria Cu pyrite deposits (*Russian*) 4-52956
 Loran-C navigation as an aid to aerial photographic operations 4-31701
 lunar laser ranging, effect of Earth and lunar tides (*Chinese*) 4-58064
 magnetic anomaly of underground struct., nonlinear inversion method 4-36515
 magnetic prospecting problems in archaeology 4-17302
 magnetometer array data 3-D analysis for ionospheric, magnetospheric and geomagnetic studies 4-52950
 magnetometric 3-D inverse problems, approx. soln. method 4-36521
 magnetostratigraphy of shallow water sequences, influence of sampling procedures 4-26598
 magnetotelluric probing, accuracy improvement (*Russian*) 4-52953
 magnetotelluric sounding, appl. to petroleum exploration 4-22170
 deep magnetotelluric sounding, theory 4-17052
 magnetotelluric sounding, theory of inverse problem 4-36281
 magnetotelluric sounding curves, influence of 3-D structure 4-26589
 magnetotelluric sounding method for layered media, use of EM wave group velocity 4-17270
 magnetotelluric sounding of deep Earth resist. at very low freq. 4-22171
 Marchenko method for inverse scatt. in three dims. 4-17296
 marine EM research, review 4-36285
 mass spectroscopy of He isotopes in nature 4-47799
 Meteosat-2 images, rectification method for satellite attitude/position var. 4-17265
 microcomputer-controlled data logger for engineering geophysics 4-31707
 microwave airborne imaging system using cryogenic receiver modules at 90 and 140 GHz 4-26889
 microwave dielectric constant logging, appl. of microwave signals propagation time 4-42202
 microwave technology appls. for remote sensing of Earth surface 4-26887
 mineral exploration, appl. of borehole resistivity and EM methods 4-47452
 model-based signal processing 4-52908
 moment tensor inversion for long-period seismic body waves 4-41752
 montmorillonite mixed with carbon grains, spectral props. and remote sensing implications 4-58174
 multiband thermal infrared imagery as a discriminant for surface rock types 4-52906
 multichannel geophysical data analysis, sample bias in polarization estimation 4-3848
 multiple scene precision rectification of spaceborne imagery with very few ground control points 4-42236
 astronomical navigation principles and BASIC program for position finding (*French*) 4-47416
 NAVSTAR Global Positioning System, and geodetic applications (*German*) 4-47469
 neutrino beam method for remote probing of Earth interior struct. 4-31702
 neutron activation analysis method for geochemistry and pollution studies (*Russian*) 4-58303
 normal-incidence geo-optimal deconvolution algorithm for seismology 4-17297
 nuclear explosion yield estimation using teleseismic data 4-3705
 nuclear geology, ion beam anal. of powdered samples 4-44907
 numerical integration of related Hankel transforms by quadrature and continued fraction expansion 4-36517
 numerical method for elastic waves propag. 4-26625
 oblique aerial photography, appl. to Mount St. Helens (March to October 1980) 4-12845
 oil and gas exploration and prospecting using integrated interpretation of geophys. data 4-31691
 oil-field exploration by satellite IR imagery 4-22175
 open cylindrical structures, diffraction of waves by diffraction 4-22166
 ore deposit electromagnetic surveying, numerical model study 4-22154
 palaeomagnetic direction studies, test to exclude erroneous observations 4-17284
 palaeomagnetic intensity determ., physical basis 4-36522
 passive microwave radiometry for prospecting in Gobi Desert, China 4-52966
 petrography, image analysis 4-22133
 photogrammetry, stereo-orthophotograph production principles 4-36271

geophysical techniques continued

- photogrammetry and remote sensing, state of the art review 4-8317
 porosity determ. of crystalline rocks using thermal conductivity of dry and water-saturated samples 4-47254
 processing of mag. survey data from Plains archaeological sites, USA 4-17063
 progressive multiple event location for earthquake hypocentres and station corrections 4-31662
 propagation factors affecting remote sensing by radio waves, conf., Oberammergau, W Germany (May 1983) 4-17622
 prospecting, review of recent techniques (*Japanese*) 4-52945
 prospecting (book) 4-13492
 prospecting techniques, computer programs for hand-held calculator 4-36529
 prospecting U and Th (book) 4-47784
 Qp 3-D inversion, low magnitude earthquake analysis 4-31434
 radar altimetry methods, influence of rain and cloud on microwave propagation 4-13101
 radar and IR remote sensing of terrain, water resources, Arctic sea ice and agriculture 4-22182
 radar backscattering model for land and sea surfaces 4-21945
 radar image formation in remote sensing 4-42196
 radar remote sensing, geological interpretation of SIR-A radar images of W Greece (*French*) 4-41907
 radar remote sensing, snowcover effect on 8-35 GHz backscattering from terrain 4-52943
 radar remote sensing, target discrimination, probability of error and radiometric resolution 4-52942
 radar remote sensing by SAR technique, EM wave scatt. theory for rough surfaces 4-13093
 radar remote sensing of land surface roughness 4-22151
 radar use in remote sensing, types and geometric resolution 4-42199
 radioactive dating methods and techniques 4-47471
 remote_sensed meas.-correction factors and error distrib. for ART 4-13111
 remote sensing, appl. of ground-based X-band scatterometer 4-22144
 remote sensing, computer method for pattern recognition of aerial features 4-36497
 remote sensing, contextual classification of multispectral image data 4-22140
 remote sensing, correction for variable viewing and illumination geometries 4-22142
 remote sensing, detect. of branch points by modified FFT 4-26813
 remote sensing, digital image processing applications 4-36500
 remote sensing, ESA summer school, Alpbach, Austria (July-August 1983) 4-17641
 remote sensing, image reconstruction and two-dimens. sampling 4-52902
 remote sensing, Landsat 4 Thematic Mapper calibration for Patrick Draw test site, Wyoming, USA 4-21936
 remote sensing, Landsat-4, image data quality anal. for energy-related appls. 4-21514
 remote sensing, multi-temporal segmentation and analysis in remote sensing 4-36498
 remote sensing, multichannel auto-regressive data models 4-26812
 remote sensing, natural terrain scenes, image registration using perspective invariant graphs 4-36501
 remote sensing, preliminary assessment of Thematic Mapper image quality 4-22303
 remote sensing, relative elevation determ. from LANDSAT imagery 4-31706
 remote sensing, stereoscopic picture display method and image processing techniques 4-36364
 remote sensing, Thematic Mapper sensor characts. rel. to classification accuracy 4-22302
 remote sensing by aerial photography, image processing using structured approach to segmentation 4-36499
 remote sensing methods used in meteorology and hydrology, conf., July 1983, Niamey, Niger (*French*) 4-27243
 remote sensing of Earth, European Space Agency future Earth obs. programmes 4-52890
 remote sensing of Earth surface, appls. of microwave polarisation meas. 4-21931
 remote sensing of land cover type discrimination rel. to sensor resolution factors 4-21938
 remote sensing satellite programmers for Earth resources studies 4-22173
 remote sensing techniques for ground reflectivity in optical region 4-21926
 remote sensing using Thematic Mapper, minicomputer software system for subset selection 4-22149
 remotely sensed data, segmentation using parallel region growing 4-17311
 resilient medium displacement parameters in presence of harmonic action, determ. method (*Russian*) 4-12810
 resistivity modelling, two-dimens. and three-dimens., finite element and approx. methods (*Chinese*) 4-17045
 resistivity sounding, two-dimensional DC inversion technique for dipole-dipole data 4-47448
 resistivity techniques, appl. to archaeological surveys 4-17303
 ring zones of subvertical nonuniformities, identification from gravimetric method, appl. to Veselov platform (*Russian*) 4-12756
 rock and mineral mag. susceptibility meas. equipment 4-58307
 rock chemical analysis by PIXE and charged particle activation anal. 4-47418
 rock core moisture content measurement by microwave technique 4-22150
 rock deformation, determ. of anisotropic elastic moduli of coal 4-52697
 rock deformation estimation technique involving stretched belemnites 4-36528
 rock demagnetisation studies, linear and planar struct. in ordered multivariate data 4-17283
 rock disk thermal diffusivity meas. 4-47468
 rock magnetic anisotropy measurement, calibration of Digico instrument 4-3849
 rock magnetism, demagnetisation curves in laboratory expts., use of smoothing functions 4-52914
 rock magnetism meas. with vibration magnetometers, signal processing in presence of noise 4-42195
 rock thermal conductivity measuring apparatus 4-52970
 rock thermoluminescence of thin slices, colour photography obs. method (*Japanese*) 4-22131

geophysical techniques continued

- rock type remote sensing using airborne IR multispectral scanner 4-17289
- salt mine, scattering of plane wave at a tunnel 4-13112
- SAR azimuth correlation for large range migration 4-26875
- SAR image registration to Thematic Mapper imagery 4-17304
- SAR imagery enhancement, adaptive filtering use 4-17307
- satellite geodesy, laser ranging expt. for Lageos (*Chinese*) 4-52556
- satellite remote sensing, sunlight interference due to scatt. from rocket exhausts 4-3903
- satellite scanning techniques for planetary surface imagery 4-17280
- SEASAT SAR satellite imaging, propag. effects 4-22181
- segregation vesicles in mid-ocean ridge basalts as rock orientation tool 4-42219
- seismic 1-D inverse method of refl. profiling, direct-discrete and iterative continuous methods 4-47149
- seismic airgun source for borehole vertical seismic profiling 4-47434
- seismic anisotropy determination method for mantle, use of P to S converted waves 4-26845
- seismic anisotropy of crust, determin. by borehole explosion seismology method 4-3699
- seismic channel waves use for fault survey in coal seams (*Russian*) 4-26858
- seismic common depth point sounding, velocity parameter for stratified inhomogeneous media (*Russian*) 4-21892
- seismic cross-hole surveying technique for geothermal site rock fracture studies 4-47435
- seismic data acquisition, fibre optics appls. 4-22143
- seismic data migration, using two-way nonreflecting wave equation 4-52582
- seismic data migration by phase shift plus interpolation method 4-52581
- seismic deconvolution by iterative method 4-13066
- seismic deconvolution of reflection profiling data, real time sub-optimal method (*French*) 4-58105
- seismic exploration direct dynamic problems, one-dimens. hyperbolic eqns. soln. methods/algorithm 4-17095
- seismic group velocity and amplitude spectra determin. by multiple filter technique 4-12780
- seismic hazard determination methods (*Czech*) 4-31431
- seismic HF-Pn/mantle-refracted P-phase separation using OBS. data 4-31442
- seismic horizon extraction by heuristic methods 4-13089
- seismic impedance profile inversion from band-limited data, optimisation problem 4-17301
- seismic inversion problem, resolution increase using redundant information 4-17300
- seismic inversion technique for Earth regional struct. 4-17075
- seismic method for detecting unfractured rock bodies, for radioactive waste repository 4-26614
- seismic method for determination of crust fine structure 4-17090
- seismic migrational transformations for convolution procedures (*Russian*) 4-21887
- seismic minimisation method for large offset seismic records inversion 4-17299
- seismic oscillatory integrals computation, generalized Filon method 4-36301
- seismic P-waves, spectra charact. parameters, determ. method for P-PcP waves interference 4-17078
- vertical seismic profiling method for use in boreholes, book 4-27257
- seismic prospecting inversion method using fuzzy set theory 4-21899
- seismic prospecting using numerical method of time fields 4-36520
- seismic pulse distortion, cross-correlation analysis 4-52611
- seismic ray method for body wave propagation in inhomogeneous anisotropic media 4-26623
- seismic Rayleigh waves amplitude spectra used for earthquake parameters determ. 4-31660
- seismic refl. profiling, algorithm for layered media refl. coeffs. 4-12793
- seismic refl. profiling, iterative stacking for automatic vel. determ. 4-31441
- seismic refl. profiling data, movie film computer graphics methods 4-52925
- seismic reflection data use for subsurface lithostratigraphy discrimination 4-26839
- seismic reflection profiling, accelerated solns. for direct kinematic problems for complex media 4-52973
- seismic reflection profiling, acoustic impedance recovery by autoregressive modelling 4-26609
- seismic reflection profiling, adaptive approach multiple coverage data processing 4-41767
- seismic reflection profiling, approx. computation of acoustic impedance 4-26610
- seismic reflection profiling, effect of inhomogeneities on reflected amplitude estimation (*Russian*) 4-21888
- seismic reflection profiling, horizontal cross-section data display method 4-13059
- seismic reflection profiling, influence of surface inhomogeneities (*Russian*) 4-21889
- seismic reflection profiling, inverse problem for N-layer normal incidence case 4-26612
- seismic reflection profiling, Kirchhoff migration accommodating lateral velocity changes 4-47436
- seismic reflection profiling, method for recovery of acoustic impedance 4-26608
- seismic reflection profiling, migration of constant-offset sections 4-13061
- seismic reflection profiling, subdivision of a field of intervals into compressive and lithological components (*Russian*) 4-21894
- seismic reflection profiling, traveltimes characts. for layer models 4-52580
- seismic reflection profiling, wavelet extraction by statistical method 4-3700
- seismic reflection profiling areal seismic method, errors due to static shifts 4-47147
- seismic reflection profiling by CDP method, seismoholographic Kirchhoff transformation theory 4-26656
- seismic reflection profiling by common-shot-point method, velocity determ. from focusing parameters 4-52609
- seismic reflection profiling in 3-D, horizontal seismic sections 4-13060
- seismic reflection profiling of oceanic crust, CDP noise reduction method 4-47148
- seismic reflection profiling theory, postprocessing algorithm for linear velocity inversion 4-52579

geophysical techniques continued

- seismic reflection profiling using ship streamer array, effect of streamer feathering 4-12796
- seismic refraction prospecting of undulating refractor by generalized reciprocal method 4-47772
- seismic section plotting in velocity contour lines by means of hodographs of first waves (*Russian*) 4-21895
- seismic signal processing, modelling and estimation methods 4-58311
- seismic sounding, estimation of parameters of reflected wave time field 4-3720
- seismic sounding between boreholes, Q-and velocity inversion (*French*) 4-58104
- seismic source-extent parameters retrieval from far-field body wave data 4-31413
- seismic survey map of crust struct., precision and choice of profile density (*Russian*) 4-21893
- seismic surveying, developments 4-31679
- seismic surveying, method for mapping boundary velocity 4-26654
- seismic technique for minimising vel. errors due to interface curvature (*Russian*) 4-26653
- seismic towed air gun array, far-field signature calc. from near-field measurements 4-52920
- seismic travel time curves, determ. method 4-17298
- seismic travel-time tables determ. 4-42203
- seismic velocity estimates from three-dimens. data, algorithm 4-26617
- seismic velocity response of ground, determination method using quarry blasts 4-17064
- seismic velocity-depth function determination from borehole seismic data 4-42218
- seismic wave dynamic propagation characts. determ. by laser interferometry 4-52971
- seismic waves, arrival times determ. method 4-41783
- seismic waves average vel. determ. from refl. traveltimes curves 4-17290
- seismic waves vel. determ. method 4-26857
- seismic well logging, automatic velocity determ. from full waveform acoustic logs 4-36514
- seismology, acoustic impedance of horizontally stratified media 4-52596
- seismology, median filtering method for anal. of noisy data 4-36512
- seismology, pseudo-acoustic logging, interpretation based on geoseismic modelling 4-31440
- seismology, pseudo-acoustic logo method 4-31438
- seismology, recent developments in digital techniques 4-8334
- seismology, restoration of broad-band seismograms 4-52600
- seismology, spatial filtering of marine reflection profiling data 4-36513
- seismology, true ground displacement restored from seismograph reading 4-52612
- seismoscope use for Richter local magnitude and peak vel. 4-58290
- side-looking radar for geology and geomorphology 4-42197
- SLKAAR digital data, algorithm for geometric and radiometric corrections 4-17306
- small-scale geophysical surveying using microcomputer data gathering system 4-52893
- soil liquefaction assessment during earthquakes 4-36502
- soil mechanics, British experience with self-boring pressure meter 4-3857
- soil mechanics studied using centrifuges, scaling laws 4-17155
- soil moisture content microwave remote sensing, effects of soil texture 4-13091
- soil moisture remote sensing, Monte Carlo simulation of microwave emission 4-26723
- soil response to seismic loads, laboratory centrifuge scaling expts. and methods 4-17069
- solid state dosimetry, conf., Ottawa, Ont., Canada (September 1983) 4-47738
- spaceborne SAR data for mapping, image processing and algorithms 4-52941
- spatial feature extraction methods in multispectral classification 4-52901
- specimen isolated secondary ion mass spectrometry for rare earths in accessory minerals 4-42229
- station coordinates determ., use of geopotential model in orbital method (*Russian*) 4-13038
- statistical analysis of data, ergodicity problem 4-52915
- statistical methods for palaeomagnetic directional records analysis 4-36280
- strength determination of rocks under triaxial compression 4-42207
- surveying, calc. of area bounded by uneven curves 4-31397
- surveying, implementation of Watson's algorithm for computing two-dimensional Delaunay triangulations 4-52559
- surveying, resection method for position fixing, least squares calc. method 4-31395
- surveying, Westport section line accuracy test 4-31400
- synthetic aperture radar, data anal. for sea ice props. determ. 4-52886
- synthetic aperture radar remote sensing, review 4-22178
- t r 4-22183
- tectonic stress fields inversion, linear and nonlinear theory 4-58153
- telluric currents method, obs. anal. method (*Russian*) 4-52954
- temperature gradients in crust, borehole method perturbed by groundwater flow 4-47197
- temperature logging of boreholes, accuracy and resolution of method 4-47465
- digital terrain model data compression method 4-36509
- terrain model methods for recognising crustal lineaments 4-58112
- thermal inertia mapping for lithological units discrimination 4-31666
- thermoelectrical self-potential anomalies rel. to solid angle subtended by source region 4-52562
- thermoluminescence radioactive dating, recent advances 4-52909
- thermoluminescence radioactive dating of fish fossil in Brazil 4-52910
- thermoluminescent radioactive dating, feasibility study 4-52621
- thermoluminescent radioactive dating, microcomputer controlled reader system 4-52911
- three-dimensional EM modelling, integral and differential eqn. methods 4-36282
- three-dimensional inversion without blocks 4-36518
- tomography, stable reconstruction technique 4-13110
- topographic mapping through tropical forest, VHF radar technique 4-22152
- two-pyroxene geothermometer, formulation and problems 4-22107
- underground object imaging, pulse-radar holography use 4-13113
- underground tunnels and cavities detection, review of use of em methods 4-13109
- upper mantle compositional inhomogeneity deduced from greenstone belts 4-3735

geophysical techniques continued

- vegetation cover surveying by airborne imaging spectrometer method 4-21939
- vertical deflections determ. using spherical harmonics/gravimetric data for Greece 4-12745
- vertical electrical sounding, non-corrected inverse problem, automatic soln. algorithm (*Russian*) 4-26599
- vertical seismic profiling, principles, book 4-34
- VLBI measurement of tectonic plate motions stability monitoring of stationary VLBI antenna 4-31672
- VLF EM prospecting, techniques and field appls. in India 4-52963
- VLF ground survey for shallow two-dimens. structures 4-26844
- volcanic eruption dating method involving tree ring frost damage 4-26679
- volcanic or seismic prediction as inverse problem 4-31685
- water table exploration by means of Rayleigh and P-wave microseisms 4-12783
- waveguide techniques for complex permitt. and permeab. meas. in boreholes 4-13104
- well logging, electromagnetic methods 4-13103
- well logging, method for accurate depth registration 4-42244
- well logging, resistivity-IP response of steel well casings 4-52923
- well logging, tool depth determination using accelerometer 4-58300
- well logging across a bed boundary using normal electrical resistivity tool 4-52921
- well logging for dielectric constant, EM wave propagation theory 4-26833
- X-ray chemical analysis of oceanic and geologic samples using process control spectrometer 4-58305
- ¹⁴C dating, mass-spectrometer Tandemtron appl. (*French*) 4-13718
- ¹⁴C dating by tandem accelerator mass spectrometry, target preparation 4-47419
- ³⁶Cl dating of saline sediments, preliminary results from Searles Lake, California 4-31458
- CuFeS₂, X-ray spectrometry study 4-51455
- ¹³⁸La-¹³⁸Ce dating, anal. of meteoritic ¹³⁸Ce/¹⁴²Ce ratio and its evolution 4-42387
- Pb isotope ratios and geochronology methods for ²⁰⁶Pb/²⁰⁴Pb, ²⁰⁷Pb/²⁰⁴Pb, ²⁰⁸Pb/²⁰⁴Pb ratios throughout geologic time 4-47184
- Rn in soil gas, measurement method using liq. scintillation counter 4-31698
- ²²²Rn in soil gas, geochem. prospecting and importance of Rn depth depend. in soil 4-52928
- Tc detection by resonance multiphoton ionisation mass spectrometry, hydrologic and geologic studies 4-22106
- U concentrations in ore determ., ²⁵²Cf neutron source, appl. (*Russian*) 4-47454
- U deposits in Copper Mountain, Wyoming, USA, mapped using multispectral data 4-21908
- U mineralisation dating, model for fission tracks distrib. near U-rich minerals 4-41917
- U-Pb dating method for young rocks, effect of ²³⁰Th initial disequilibrium 4-52919

geophysics

see also Earth; erosion; geochronology; geodesy; geology; geomagnetism; geophysical aspects of cosmic rays; geophysical techniques; hydrology; meteorology; oceanography; radiation belts; rocks; seismology; solar-terrestrial relationships; space research; terrestrial atmosphere; time and latitude; upper atmosphere

Australian central Eromanga Basin project, geological and geophysical studies 4-58177

Chinese research in solid Earth physics and seismology 4-52720

oil generation, physical-chemical models 4-41916

geophysics computing

see also computerised instrumentation

7th Annual Geothermal Conference and Workshop (1983) 4-46856

acoustic logging data used for seismic model computation, algorithm (*Hungarian*) 4-3710

acoustic logging instrumentation, data digital recording and processing (*Russian*) 4-13079

aerial bathymetry, optimally integrated track recovery system 4-31695

artificial field magnetisation in parametric classes, three-dimens. direct and inverse problem soln. 4-52937

Australia, digital terrain model and computer representation techniques 4-58066

automatic picking of first arrivals and parameterization of traveltime curves 4-26843

autoregressive spectrum analysis using Marple's algorithm 4-13065

bathymetric data statistical analysis using computer method 4-42233

CRUE model for calculating the probability of river flooding 4-36417

discrete multivariate anal. statistical techniques for Landsat classification accuracy assessment 4-42237

electrical logging diagrams, algorithm for quality monitoring and correction (*Russian*) 4-26601

European Space Agency software engineering standards 4-52892

feature selection with limited training samples in remote sensing 4-26697

flood hazard assessment in Mount St. Helens region due to debris dams breaching 4-12959

geodesy, latit., longit. and ellipsoid height conversion from NAD-27 to predicted (NAD-83) 4-31401

geodetic ground control network densification using FORTRAN IV computer program (*German*) 4-47128

geoelectromagnetic variations, separation into elec. and mag. fields, algorithm 4-3680

geometric correction process for Landsat 4 Thematic Mapper data 4-17305

geotechnical/geological database, GEOSHARE system development 4-22091

gravimetry and magnetics inverse problem, simultaneous soln. by non-linear programming, Fortran 4-42201

gravity models, harmonic coeffs. testing and comparison procedure 4-8173

gravity prospecting, inverse problem soln. method and algorithm 4-17291

groundwater chemistry, FORTRAN computer program for chem. speciation 4-47317

HARPO, Hamiltonian Acoustic Ray-tracing Program for the Ocean 4-26884

height measurement from MLA digital image data, geometry effects 4-21929

igneous rock analysis, error recognition 4-36360

geophysics computing continued

- INMOD, ray theoretical inverse modelling algorithm for seismology 4-17298
- instrumental neutron activation analysis of geological samples, FORTRAN subroutines (*Rumanian*) 4-47462
- interactive Barnes objective map analysis scheme for use with satellite and conventional data 4-31576
- inverse problem soln., new algorithms 4-47440
- Karhunen-Loeve expansion as feature ordering technique for limited training sample size 4-26849
- laboratory data management, processing and display, integrated approach for marine research 4-22092
- lakes, evaporation rates 1-D computer model of energy budgets 4-52790
- Landsat-4 images, information extraction and image enhancement, appl. to San Francisco area 4-17160
- magnetic anomalies, uniform grids from raster data [magnetic anomalies], software package 4-31659
- magnetotelluric readings from TsEhS-2 digital station, algorithms for errors influence reduction (*Russian*) 4-52572
- massively parallel processor, numerical expts., weather prediction 4-17255
- McIDAS III, interactive meteorological data access and anal. system 4-3827
- meteorological Czechoslovak experiences with MDA reception equipment (*Czech*) 4-47526
- meteorological data processing using Cyber 205 computer (*French*) 4-12997
- meteorological radar and satellite data compositing with computer graphics system 4-3830
- meteorological radar control and data acquisition by computer program 4-3840
- mineral exploration computer graphics (*Hungarian*) 4-42205
- astronomical navigation principles and BASIC program for position finding (*French*) 4-47416
- NEXRAD-A Doppler radar system for weather recognition and forecasting, algorithms implementation 4-17312
- normal-incidence geo-optimal deconvolution algorithm for seismology 4-17297
- ocean waves of irregular type, studied with aid of minicomputer (*Chinese*) 4-31521
- pattern recognition in oil and gas seismic exploration 4-26641
- photogrammetric rectification equipment, RECTIMAT-C system of VEB Carl Zeiss Jena 4-42224
- portable digitized multi-channel data recording system for deep seismic sounding (*Chinese*) 4-17272
- prospecting techniques, computer programs for hand-held calculator 4-36529
- radar image processing using VAX 11/780 and FPS-164 attached processor, oceanographic appl. 4-22172
- reflectance calculations with pocket computer, remote sensing appl. 4-52885
- reflection seismology, one-dimensional inverse problem 4-21896
- remote sensing, computer method for pattern recognition of aerial features 4-36497
- remote sensing data image processing techniques 4-36508
- remote sensing photographic system FEAG digital photowrite and photoscan system 4-42225
- remotely sensed data, segmentation using parallel region growing 4-17311
- remotely sensed hyperdimensional spectral data, contextual classification 4-42185
- reservoirs computer aided recognition from borehole data and rock characteristics. (*Russian*) 4-26698
- SAR image registration to Thematic Mapper imagery 4-17304
- SAR imagery enhancement, adaptive filtering use 4-17307
- satellite images, rain cell classification for rainfall estimation 4-17295
- seismic exploration direct dynamic problems, one-dimens. hyperbolic eqns. soln. methods/algorithm 4-17095
- seismic refl. profiling data, movie film computer graphics methods 4-52925
- seismic wave tracking in common depth point time cross sections, algorithm 4-3716
- seismic waves average vel. determ. from refl. traveltimes curves, algorithm 4-17290
- seismoholographic algorithms for data processing (*Russian*) 4-12807
- signal anal. 4-41779
- SLKAAR digital data, algorithm for geometric and radiometric corrections 4-17306
- small-scale geophysical surveying using microcomputer data gathering system 4-52893
- snow cover water equivalent, mapping algorithm 4-17203
- soil freezing, heat and mass transfer, computer calcs. 4-22024
- sonar echo processor using microcomputer for ocean bottom studies 4-22118
- spaceborne imagery with very few ground control points, multiple scene precision rectification 4-42236
- spaceborne SAR data for mapping, image processing and algorithms 4-52941
- stereoscopic digitizing plotting system for cartography 4-31700
- surveying, implementation of Watson's algorithm for computing two-dimensional Delaunay triangulations 4-52559
- synthetic aperture radar, data anal. for sea ice props. determ. 4-52886
- Thematic Mapper data, edge discrimination, digital enhancement technique 4-17309
- three-dimensional seismic data, vel. estimates, algorithm 4-26617
- transient EM field diff. on thin disc, three-dimens. problem 4-17061
- underwater acoustic and marine seismics, computer modelling 4-58107
- vertical electrical logging, direct problem, soln. by optimum algorithm 4-52567
- vertical electrical sounding, non-corrected inverse problem, automatic soln. algorithm (*Russian*) 4-26599
- weak earthquakes, automatic online detection at Graefenberg Array 4-41780
- weather forecasting in Czechoslovakia 4-47392
- weather prediction, numerical FFT algorithms 4-4203
- well log data processing, karotage interpreter subsystems (KISS) (*Hungarian*) 4-31699
- wind direction statistics calc. with computer routine 4-52899
- X-ray process control spectrometer for chem. anal. of oceanic and geologic samples 4-58305

geopotential *see* geodesy**geothermal power**

- 7th Annual Geothermal Conference and Workshop (1983) 4-46856
 aquifer thermal energy storage, well doublet expt. at increased temp. 4-16802
 Azores geothermal program for 1983 to 1987 (*Portuguese*) 4-7806
 Beauvais, France, drilling report from geothermal wells (*French*) 4-16758
 borehole temp. and pressure meas., applicability of fibre optics (*French*) 4-46855
 carbonate scale control in geothermal wells 4-16747
 Cesano 7 geothermal well, Italy, drilling report 4-3741
 cost anal. (*French*) 4-52090
 development and status 4-16738
 direct applications 4-16744
 drilling cost estimation, financial model for UK and EEC wells 4-57653
 economic evaluation models applied to geothermal energy technology 4-21525
 energy options, alternative sources, international conference, London, England, (April, 1984) 4-47735
 engineering historical retrospective view of alternative energy sources (*German*) 4-41316
 European Community geothermal energy R&D programme (1979-83) 4-46857
 fault opening and slip due to fluid injection for geothermal heat extraction 4-41879
 feasibility of electricity generation from medium enthalpy geothermal resources 4-52091
 fracture stimulation of high-temperature geothermal wells 4-16746
 geothermal district heating using existing potable water piping systems 4-3451
 health risks of energy technologies 4-7794
 heat diffusion with time-depend. convective boundary conditions, geothermal appls. 4-34076
 heat storage, in underground captive water, French feasibility project (*French*) 4-21590
 Hoogstraten, Belgium, drilling report from geothermal well (*French*) 4-16755
 hot dry rock concept, progress report 4-16737
 hot dry rock geothermal energy 4-16749
 hot dry rock technology, worldwide research and development, an overview 4-57651
 Jonzac-Charentes, France, drilling report from geothermal wells (*French*) 4-16756
 Lamazere, France, drilling report from geothermal well (*French*) 4-16752
 Latera, Italy, drilling report from geothermal pair 4-16750
 Melleray, Orleans, France, drilling report from geothermal well (*French*) 4-16753
 Pessac, France, drilling report from geothermal well (*French*) 4-16751
 principles and case histories (book) 4-42623
 Provins, France, drilling report from geothermal well (*French*) 4-16754
 Reims-Murigny, France, drilling report from geothermal wells (*French*) 4-16757
 renewable energy sources, Department of Energy research and development programme, strategic overview 4-57637
 research projects into direct use of geothermal resources in New Mexico 4-52089
 reservoir exploitation in Vosges region, France, effects of trace elements 4-41830
 resources in UK, low enthalpy and hot dry rock power generation estimation 4-57652
 shallow magnetic induction measurements for delineating near-surface hot groundwater sources in Alaskan geothermal areas 4-272
 Southampton geothermal well, UK, drilling report 4-3742
 well drilling problems 4-16748

geothermal power stations

- district heating, pilot scheme in Southampton; technical and economic analysis 4-57655
 economic evaluation models applied to geothermal energy technology 4-21525
 economic temperature differential analysis for directly cooled geothermal power stations 4-57656
 geysers development (1982-1983) 4-16740
 Hachobara Power Station, geothermal boring cores, ESR dating 4-41315
 Heber binary project geothermal demonstration power plant 4-16742
 Imperial Valley, California, demonstration elec. power generation development 4-16743
 low enthalpy geothermal district heating, economic analysis for northern France and UK 4-57654
 Roosevelt Hot Springs, development 4-16741
 small geothermal power plants 4-16745
 viability as commercial means of electricity generation 4-16739

germanate glasses

- bond dissociation energies 4-26206
 optical fibre manufacture (*Spanish*) 4-19609
 specific optical dispersion and refraction, composition dependence 4-20940
 tetrahedral, spectroscopic and morphological struct., book contrib. 4-20122
 Ag₂S-GeS₂-AgBr-AgI ionic conductive glasses, effects of mixed anions 4-39590
 Ag₂S-GeS₂-AgI glass system, ionic conductive, solid state battery appl. 4-41328
 Gd³⁺ impurity, EPR and optical absorpt. spectra (*Russian*) 4-56770
 GeO₂ glass optical fibres, loss characts., nonlinear optics appl. 4-24229
 GeO₂, rutile, phase transitions at high. press. and temp. 4-3758
 GeO₂-La₂O₃, phase diagram, glass transition and thermal expansion 4-11255
 GeO₂-MO systems (M=Ba, Sr, Ca, Mg, Bi, Pb, Zn), immiscible region in molten state (*Japanese*) 4-40760
 GeO₂-SiO₂, thermal expansion behaviour 4-34672
 GeO₂-SiO₂ glass layers formed by gel process, O diffusion 4-57181
 GeO₂-SiO₂ optical fibres, heat-treated, optical loss increase, ESR study 4-21337
 GeO₂-SiO₂ optical fibres, dopant effect on transmission loss due to H₂ permeation, expt. study 4-38607
 GeO₂-SiO₂ optical fibres, loss spectra due to H₂ and D₂ permeation, expt. study 4-38608
 GeO₂-SiO₂ optical fibres, diffused H₂ gas chem. change to OH⁺, expt. study 4-38612

germanate glasses continued

- GeO₂-ZnO-K₂O glass for CO₂ laser light absorber, diffuse reflectance determ. 4-33723
 GeO₂-ZnO-K₂O glass as cladding in hollow fibres for IR transmission 4-44224
 Li₂O-GeO₂ ion exchanged glasses, refractive index, conc. depend. 4-51228
 Li₂S-GeS₂-LiBr-LiI ionic conductive glasses, effects of mixed anions 4-39590
 Li₂S-GeS₂-LiI glass system, ionic conductive, solid state battery appl. 4-41328
 Na₂O-GeO₂, elec. cond., alkali conc. depend. 4-34975
 Na₂O-TiO₂-GeO₂ glasses, elec. props. 4-30029
 PbO-FeO₂-Er³⁺ glass, Er³⁺ ⁴I_{13/2} level population inversion characts. 4-5592
 PbO-GeO₂ glass, crystn., oriented grain growth of pyroelec. glass-ceramics 4-30676
 SiO₂-GeO₂ glass optical fibre prep., equilibria concs. in SiCl₄, GeCl₄ oxidation 4-24262
 SiO₂-GeO₂ glasses, optical fibre drawing, E'-centers, ESR study 4-38604
 SiO₂-GeO₂-P₂O₅ optical fibre, hydrogen treated, Raman spectra 4-49535
 Sr-containing glasses, liq. phase separation and glass forming regions 4-15653
 V₂O₃-GeO₂ binary semicond. glasses, hopping cond., ESR studies 4-45770
 V₂O₃-GeO₂ semiconductor glasses, elec. conductivity 4-56338

germanium

- see also nuclei with*
 1/f noise parameter, mobility fluctuations anal., lattice scatt., expt. studies 4-30034
 (111)c(2×8), missing spots in LEED 4-39064
 γ-ray irradi., A centres, energy levels and annealing 4-50760
 n-type, electron heating in L and X-valleys under uniaxial deformation 4-50826
 adsorbed Cl, I, and Te, local struct., surface EXAFS study 4-6661
 adsorption of H on (100) and (111) surfaces, work function, surface cond., and EELS study 4-56148
 adsorption on W, field electron emission and work function 4-12016
 amorphous, heavily doped, Coulomb gap, disorder effect, cond. study 4-45781
 amorphous, hopping transport, extended theory 4-45778
 amorphous, in-situ crystn. under laser irradiation in TEM 4-39336
 amorphous, low power laser annealing effects, crystallisation 4-15528
 amorphous, low temp. AC loss meas., evidence for two loss mechanisms 4-50812
 amorphous, low-power laser annealing, defect migration and temp. gradient effects 4-24861
 amorphous, tunnelling systems, thermal cond. meas. 4-6572
 amorphous and hydrogenated, density of states and 3d core levels binding energy effect 4-50707
 amorphous film, transient photoconductivity study 4-2632
 amorphous film laser annealing, in situ TEM studies 4-24860
 amorphous films, absorption edge determ. from transmission meas. 4-49260
 amorphous sputtered films, ordering prior to crystn., Raman scatt. and EXAFS study 4-6273
 avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 bicrystals, cond. and magnetoresistance 4-35013
 bicrystals, ultralow temp. two-dimensional cond. 4-40013
 brittle, coated with hard C, indentation and liq. impact studies 4-15792
 carrier drag by photons in far IR and sub-MM spectral ranges 4-6832
 carrier recombination rate meas., combined effects of CO₂ and Nd laser radiation 4-30025
 carrier relax. time, electroreflectance meas. 4-35008
 characterisation for nuclear radiation detectors 4-2550
 chemisorption of Pb on (111) surface, LEED and AES meas. 4-15763
 coated W surface, Ba adsorption, field emission microscopy 4-20465
 compensation induced optical transitions within ground state of shallow donors 4-51308
 conductance modification by O chemisorption, 2D scaling theory 4-39910
 crystal, cyclic bending failure, fracture surface structure 4-20287
 crystal growth rate in evaporated and implemented layers, model 4-55852
 CZ grown, defects induced by annealing or irradiation 4-20182
 Zochralski growth, meniscus shape, analytical representation 4-3052
 deformed, electron-hole liquid, recombination radiation and plasma emission 4-34884
 deposition on and reaction with Si (111) substrate, RHEED study 4-45473
 depth profiles of 20-100 keV light ions 4-45225
 detector for escape correction in X-ray spectra 4-15350
 dislocation core behaviour calcs. 4-25278
 dislocation dissoci. after reverse motion along a slip plane 4-29437
 dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907
 dislocation outstripping by crystallisation growth front 4-55768
 disordered by strong plastic deform., optical absorption 4-16220
 effective masses for impurity states 4-45670
 elastic constants, third-order, Keating's theory 4-2248
 electrical conductivity temp. depend. and probability density function 4-6752
 electrical resist. under shear stresses and high press. 4-29978
 electron distribution in presence of phonon drag 4-39420
 electron irradi., subthreshold, search for intrinsic point defects 4-45189
 electron irradi. defects, DLTS studies 4-34913
 electron-hole drop formation 4-39783
 electron-hole liq. decay and recomb. under CO₂ laser pulse irradi., microwave cond. meas. 4-6819
 electron-hole liq. droplet destabilisation, magnetohydrodynamic mechanism 4-20572
 electron-hole plasma, obs. of chaotic behaviour 4-50859
 electronic states, symmetry anal. by spin-depend. photoemission 4-15814
 energy loss and channelling phenomena for GeV particles 4-2242
 epitaxial growth by electron beam evaporation on Si, elec. characts. (*Japanese*) 4-29842
 epitaxial growth mode on Si (111) substrate at initial stage, EELS, LEED studies 4-21085
 exchange-correlation energy, approx. by functionals with kernels, coordinate difference depend. 4-56258

germanium continued

- Fabry-Perot interferometer, nonlinear thermo-optical waves 4-27578
 film, decoration of stearic acid single cryst., surface study by electron microscopy (*Japanese*) 4-2416
 film, zone melting crystallisation with W encapsulation 4-20509
 films, conductivity, percolation, struct. dependence 4-56453
 films, laser and electron beam enhanced crystallisation 4-15524
 films, microcrystalline, RF glow discharge deposited, electronic transport props. 4-6911
 Ge:F, implanted, quadrupole interactions gamma-ray spectra 4-34932
 growth model from amorphous phase 4-16299
 heavily doped, implanted laser annealed, and bulk grown, photolum. study 4-21031
 heavily doped, impurity excited states effects 4-39817
 heavily doped, laser annealed, photolum. study 4-21032
 heteroepitaxial growth on Si (111)7×7 and Si (100)2×1 substrates 4-25171
 heteroepitaxial vacuum deposition on Si (111), 5×5 superstruct., LEED and AES studies (*Japanese*) 4-39719
 heteroepitaxy, of Bi, on (001) surface 4-56164
 high purity, detector fabrication by liquid phase epitaxial method 4-40680
 high purity cryst. growth, zone refining, nuclear detector appl. 4-3065
 impurity clouds, IR scatt. study 4-24848
 impurity conc. and chem. nature, submillimeter BWT spectroscopy 4-35966
 IR modulation, hole-hole collisions, warm hole distrib. 4-15883
 isolated dislocations mobility in single cryst., asymmetry 4-15477
 kinetics of electron and hole binding into excitons 4-20574
 L-LM Coster-Kronig and LM-MMM satellite energies, solid state, theoretical studies 4-57046
 laser beam irradi., surface rippling kinetics 4-2230
 laser treatment, conference, Pianore, Italy (July 1980) 4-36794
 laser-generated plasmas, picosecond time-resolved reflectivity and transmission 4-39333
 local modes and IR absorpt. of substitutional group IV impurities (*Chinese*) 4-39423
 low temp. thermometers at 70 to 300K 4-258
 magnetic susceptibility, rel. to bonding 4-45994
 many-valley semicond., even magnetoelect. effect 4-29994
 melt, crystn. in an external elec. field 4-29362
 microwave breakdown of exciton gas 4-15827
 molecule, bond length, vibr. freq. and binding energy, pseudopot. local spin density calc. 4-18911
 molten, struct., pseudopotential-derived interatomic forces and optimised RPA calcs. 4-55701
 monolayer liq. Pb struct. on (111) surface, RHEED study 4-29306
 multiple X-ray scatt. dispersion effects (*Russian*) 4-24687
 multivalley semiconductor, transverse photovoltaic effect, interpretation of spectral charact. (*Russian*) 4-6836
 n-type, capacitance transient spectroscopy of states localised at dislocations 4-15846
 n-type, fast neutron irradiated, electrophys. props. 4-56351
 n-type, heavily doped, light scatt. by plasmons 4-56942
 n-type, ion bombardment, recombination centre form. study 4-55854
 n-type, magneto-impurity reson. 4-25373
 n-type, magnetophonon reson. at low temps. 4-25372
 n-type, magnetoresist. and band struct. (*Chinese*) 4-39936
 n-type, US attenuation, effects of uniaxial stress 4-24913
 n-type, US attenuation, impurity conc. depend. 4-24912
 nuclear radiation detector appl., review 4-43757
 optical properties and appls. of single crystals. 4-24110
 ordered overlayer growth on Si (111) under ultrahigh vacuum conditions 4-39734
 p-type, interaction of tunable probe beam with high-intensity pulsed CO₂ laser beam 4-46261
 p-type, light hole energy spectrum and quasibound Coulomb states 4-25212
 p-type, many-photon absorpt. in submillimeter range 4-21071
 p-type, population inversion for direct optical transitions, in crossed E ⊥ B fields 4-16181
 p-type phonon limited cond. and Hall mobility calcs. 4-20653
 permittivity modulation by intense microwave field 4-16136
 photoelectron energetic anal. under X-ray diffr. conditions using gas-flow proportional counter 4-57070
 photoelement qualification for radiometric meas. 4-17941
 photomagneto-electric effect in the Corbino config. 4-56393
 photovoltaic props. and exciton-plasma transition 4-25404
 plastic deformation-induced defects, DLTS studies 4-6364
 plastically deformed, filling of dislocations by electrons, Hall effect study 4-29962
 pollutant in Tejo Estuary, Portugal 4-36044
 polycrystalline layers form. by solid phase epitaxy through amorphous material zone recrystn. (*Russian*) 4-46433
 proton irradi., high energy, defect cluster form., role of nonelastic nucl. processes 4-55890
 pulsed laser annealing, time-resolved surface struct. study using LEED 4-34538
 radiation detector fabrication, overview 4-1000
 Raman scatt. by phonons, first-order, temp. depend., anharmonic effects 4-46262
 rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
 recovery from MCVD effluents in optical waveguide prod. 4-46450
 recovery processes during high-temp. deform. 4-15574
 resonant Raman scatt. by plasmons 4-56257
 rod-like defects due to electron irradi. 4-34482
 secondary ion yields, O₂⁺ bombard. incidence angle effects 4-46389
 shallow and deep impurity state calcs. 4-2549
 shallow centre spectra calcs. 4-56274
 shaped crystals, growth thermal stress, slip plane form. 4-29359
 single cryst., phonon pulse detection by fluorescence meas. 4-50452
 single crystalline island on insulator, zone melting recrystn. 4-21129
 solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
 strained and photoexcited, Mott and liquid-gas transitions, luminesc. and energy spectra studies 4-56220
 surface, <111>, higher-order laser-induced grating obs. 4-29472
 surface, (111)2×1, electronic structure, π -bonded chain model and photoemission study 4-35040

germanium continued

- surface, (111), cleaved, ellipsometric study as function of temp., 300-700K range 4-56873
 surface, (111) 7×7-Sn, X-ray photoelectron diffr. of Sn 3d core levels 4-30040
 surface, thermally stimulated exoelectron emission centre chemical nature 4-7332
 surface (111), deposition of and reaction with Si, RHEED study 4-45473
 surface (111), Sn overlayer, atomic geometry, X-ray photoelectron diffr. study 4-29798
 surface bombarded by laser, resonant conversion of EM waves 4-5691
 surface influence on nucleation phenomena in electron-hole drop formation 4-11447
 surface states study by photoemission yield spectroscopy (*Polish*) 4-35548
 surface struct. transition, (2×1) to (2×8), temp. depend., optical consts., ellipsometry 4-40399
 surface topographical changes induced by low energy ion beam sputtering 4-16286
 surfaces, (100) and (111), surface reconstruction, review 4-29746
 surfaces, (111)7×7-Sn and (111)2×8, electronic struct., ARUPS study 4-50889
 T₂ symm. deep level wavefunction predictions 4-11478
 textured surface storage medium fabrication parameters, reactively-ion etched 4-26071
 thermophotovoltaic Ge solar cell energy convertor selective emitters, performance 4-21555
 thermophotovoltaic Ge solar cell energy convertors interference filters performance 4-21556
 thin film, amorphous, annealing and oxygenation effects on conductivity 4-40085
 thin film, surface EM wave excitation and reson. transform. during irradi. by high-power laser radiation, periodic struct. form. 4-14734
 thin inhomogeneous films, elec. props., nonreciprocal effects 4-11607
 transverse photovoltaic effect meas. (*Russian*) 4-50873
 two-phonon density of states and anharmonic decay 4-11241
 a-type, laser induced structural changes 4-39340
 a-type, refractive index dispersion temp. depend. 4-30429
 ultraviolet transparency, plasma reflection of valence electrons 4-20991
 vacancy electronic struct., tight-binding calc. 4-29922
 vacuum deposited target, sputtering yield, sputtered atom photon emission meas. (*Japanese*) 4-3010
 wafers, carrier lifetime meas. using photomagneto-electric contactless method 4-4421
 window temperature control scheme for output-line selection of CO₂ lasers (*Chinese*) 4-14713
 X-ray reflections from crystal planes obs., Bragg diffraction spectrometer appl. 4-39048
 Γ -ray detector, responses 4-984
 Al_{0.5}Ga_{0.5}-As:Sn(Ge)(Te)(Cu) epitaxial films, impurity photolumin. 4-6263
 Au-Ge-Ni ohmic contacts to GaAs; metallurgical props., Auger depth profiling, contact resist. meas. 4-30050
 CdTe:Ge, deep level form., EPR study 4-40224
 GaAlAs:Ge, liquidus-solidus curves, appl. to visible laser 4-46455
 GaAs:Ge, LPE growth rate 4-34831
 GaAs:Ge, neutron transmutation doping elec. and optical characterisation 4-34507
 n-GaAs:Te,Ge epitaxial layer, edge photoluminescence, compensation effects 4-11938
 Ge (111)-Pb interface, growth and struct., LEED, AES, and SEM study 4-20502
 Ge, amorphous, sp. ht. meas. at very low temps. 4-50536
 a-Ge films, short range order, vacuum deposition angle depend. 4-50203
 Ge II hollow cathode discharge lasers 4-14670
 a-Ge thin films, electron beam induced explosive crystallisation and dendritic growth 4-39711
 Ge⁺⁺, highly ionised in Mg I through Cl I sequences, mag. dipole transition 4-54626
 Ge:Al (Ga)(In)(Sb), kinetics of decomposition, with separation, retrograde scheme 4-57231
 n-Ge:As, elec. cond. near Anderson transition 4-15922
 Ge:B(N), hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
 Ge:Be radiative recomb. of excitons bound to Be double acceptors 4-56978
 Ge:Be(Mg), impurity states and excitation spectra 4-25288
 Ge:Cu, plasma hydrogenation, deep levels and Cu solubility 4-29923
 Ge:Cu single cryst., negative photocond. and hole mobility (*Russian*) 4-35023
 Ge:Ga, deform. potential consts., intensity parameters, optically induced transitions 4-25285
 Ge:Ga, diffusion of Ga along small angle grain boundaries 4-6563
 Ge:Ga, O and Ge:Sb, O, thermal donors, charge state and energy level spectrum 4-20600
 Ge:Ga, sources of impurity clouds, IR laser small, angle, scatt. study 4-11348
 Ge:Ga heterodyne detector for far-IR plasma diagnostics 4-39002
 Ge:Ga(P)(B)(As), ion implanted, laser annealed, phonon softening, Raman study 4-15597
 Ge:Ga(Sb), self-diffusion, doping effects, radioisotope studies 4-11336
 Ge:H, amorphous and microcryst., Ge-H bond stretching modes, IR absorpt. spectra study 4-40435
 Ge:H, C(Si)(O), crystalline, electronic struct. of impurity complexes 4-25290
 a-Ge:H, doped and undoped, defect correl. energy, IR absorpt. 4-40483
 a-Ge:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 Ge:H, H⁺ implanted or electron irradi., H-divacancy complexes, DLTS study 4-15833
 a-Ge:H, H-atom local density of states, T-matrix anal. 4-24938
 a-Ge:H, semiconductor superlattices, phys. props. 4-15940
 a-Ge:H, spin-lattice relax. of paramag. states 4-40226
 a-Ge:H, thin film, homogeneous chemical vapour deposition 4-51513
 a-Ge:H film, magnetron sputtered, high photocond. 4-11555
 Ge:H film, reactively sputtered, IR absorpt. spectrum 4-20513
 a-Ge:H sputtered film, AC and DC conduction, H effects 4-25347
 Ge:I, location of implanted ¹²⁵I, Mossbauer study 4-11171
 Ge:Li, gamma irradi., recomb. centres 4-6805
 a-Ge:Mo, films, local struct. and elec. props. 4-39133
 Ge:Ni n⁺p diodes, mobility of Ni-related centres 4-2225
 Ge:P, ion implanted, laser annealed, Raman study 4-16204
 Ge:P, transient elec. props. of low angle tilt boundaries 4-15847

germanium continued

- Ge:P(B) amorphous films, ESR spectra, temp. depend. 4-11770
 Ge:Sb, acoustic attenuation anomalous behaviour 4-20294
 Ge:Sb, ballistic heat-pulse transport under mag. field 4-45432
 Ge:Sb, Cu, solubility of Cu, temp. depend. of Hall coeff. study 4-50521
 n-Ge:Sb, He ion irradi., conversion to p-type, radiation-accelerated diffusion effects 4-15556
 Ge:Sb, negative magnetoresist., impurity conc. depend. 4-20678
 n-Ge:Sb, negative magnetoresistance theory 4-25380
 Ge:Sb(Ga)(O), γ -ray and neutron irradi., photoluminescence studies 4-30517
 Ge:Sb(Ga)(O), neutron irradi., low temp. photoluminescence studies 4-35487
 Ge:Zn, bound double exciton complexes, photoluminescence 4-45644
 Ge:Zn, electrophysical props. near semicond.-metal transition, Lifshitz impurity band model 4-6844
 p-Ge:Zn, nonequilibrium hole lifetime, recombination centre depend. 4-11542
 Ge:Zn, singly charged impurity excited states spectra, optical absorpt., photoconductivity, Hall coeff. meas. 4-7220
 Ge/GaAs (110) interface form., MBE growth, effect of substrate temp. 4-6671
 Ge/GaAs heterojunction, Ge MBE growth, photoemission study 4-35039
 Ge/GaAs MBE-grown heterostructures and superlattices, interface studies 4-15774
 Ge/sapphire/metal MIS structures, internal photoemission 4-25454
 Ge/Sn contacts, photoelec. props. 4-6893
 Ge-BaF₂ epitaxial interfaces, misfit dislocations, electron microscopy anal. 4-11410
 Ge-CdGeP₂ n-p heterostructures, polarisation photosensitivity 4-2648
 Ge-GaAs abrupt heterojunctions, valence band discontinuities, effect of crystallographic orientation 4-6876
 Ge-GaAs heterostructure, band bending during form., in situ study 4-30062
 a-Ge-monocrystal Si junction, elec. behaviour 4-20713
 Ge⁺ + air, charge transfer cross section meas. 4-49157
 InP ingots, LEC, Ge doping conc. local variations, SEM cathodolum. spectra 4-34520
 InP:Ge, DLTS obs. of electron irradi. defects 4-34903
 InP:Ge, LEC single crystals, mech. strength, use as substrate for VPE InP layers 4-11215
 InP:Ge LEC ingots, dopant inhomogeneity, segregation nature and minimisation 4-35562
 InSb:Ge, impurity distrib. and p-n conversion under heat treatment 4-61390
 KBr(CI)(I):Ge²⁺, impurity-cation vacancy interactions, luminesc. study 4-11934
 NbN/Ge/Nb Josephson tunnel junctions, characts. 4-50992
 PbS-Ge heterojunction photocells, current and EMF temp. dependence. 4-7875

germanium alloys

see also Ge-Si alloys

- Heusler L2, alloys X₂MnZ, (X=Ni, Cu, Rh, Pd and Z=Ga, Ge, In, Sn Pb), hyperfine mag. field 4-35279
 rare earth alloys, R₂Cu₂Sn₄(Ge₄), cryst. struct., single cryst. X-ray diffr. anal. 4-39211
 rare earth alloys, RM₂X₂(M=Mn, Fe, Co, Ni, Cu; X=Si, Ge), cryst. structs. anal. 4-45054
 transition metal alloys, MM'Ge, M,M'=d transition metals, cryst. and mag. structures, X-ray diffr., neutron diffr., mag. meas. 4-11674
 transition metal-Ge alloys, heat of form., rigid band model anal. 4-11320
 V₂Ge-Co(Fe), X-ray emission spectra and electronic struct. (Russian) 4-51411
 Ag-Ge, hypoeutectic, undercooling, glass slag technique, solidification struct. 4-40762
 (Ag_{0.5}Cu_{0.5})_{100-x}Ge_x, mag. susceptibility meas. in amorphous and liq. states 4-20785
 Al-Ge, dil., positron annihilation Doppler-broadened lineshapes, thermal equil. meas 4-57027
 Al-Ge, metastable phase equil., calc. of T₀ curves in connection with rapid solidification 4-57206
 Al-Ge (1.9 wt.%), precipitate dissoln. during 200 keV Al⁺ irradi. 4-29486
 Al-Ge evaporated films, percolation of liquid eutectic 4-29945
 As₃₀Ge_{70-x} chalcogenide glasses and melts, thermal and elec. cond. 4-11528
 Au/Ni/Au-Ge alloyed ohmic contact to GaAs, interface structure and contact noise 4-29827
 Au-Ge/GaAs ohmic contacts, redistributed component mapping after laser annealing 4-34806
 (Au_{100-y}Cu_y)₇₇Si₂₃Ge₁₄, amorphous alloys, cryst. nucleation 4-6274
 Bi-Ge, liquid semimetal, elec. resist. meas. 4-45720
 CeNi₂Ge₂, elec. resist., thermopower, and thermal cond., 60 mK to 300K 4-20629
 CeNi₂Ge₂ single cryst. growth, Bridgman method 4-21127
 Co-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (Russian) 4-40083
 Co₂Ni_{1-x}MnGe, structural and mag. transitions under press. 4-6978
 Cu-Ag-Ge, liq. alloys, enthalpy of form., dissoln. of Ge (French) 4-35611
 Cu-Ge, Hume-Rothery alloys, composition depend. of optical gaps 4-20936
 Cu-Ge alloys, rolling and recryst. texture 4-46529
 Cu_{1-x}Ge_x single cryst., electronic struct., KKRCPA calc. and ARPES studies 4-29877
 Er-Ge system, binary, phase diagram (Chinese) 4-16372
 ErMn₂Ge₂, mag. ordering, neutron diffr. study 4-51030
 Fe-Ge, comparison of model predictions and meas. isomer shifts 4-46166
 Fe-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (Russian) 4-40083
 FeGe monoclinic polymorph, antiferromag. struct., neutron diffr. study 4-11672
 Gd-Ge amorphous alloy, mag. and transport props., conc. depend. 4-30210
 Ge-rare earth binary alloys, paramag. susceptibility temp. depend. (Ukrainian) 4-25513
 Ge-S-Ag amorphous films, photoinduced metal surface deposition 4-46449
 Ge-Sb alloys, high press. η phase, cryst. struct. 4-11045
 Ge-Sn metastable semicond. alloy, synthesis by pulsed UV laser crystallisation, charact. study 4-11411

germanium alloys continued

- Ge₈Na₆Pt₈, cryst. struct. containing stellae quadrangulae 4-2150
 Ge_{43.5-x}Pb_xSe_{56.5} chalcogenide glass films, bipolar photoconductivity 4-56384
 (GeSe₂)_{100-x}Bi_x chalcogenide glasses, struct. charges by Bi doping 4-55743
 Ge₂Si_{1-x} solid solns., energy band struct. calc. 4-15817
 Ge₂Te₃S₂-based amorphous semicond. film, struct. 4-44975
 In-Ge, percolating superconductor, pair breaking crit. current 4-51006
 Mn-Ge, antiferromag. Invar type alloy, thermal expansion, mech. props. rel. to Fe, Co or Ni additions 4-20847
 Mn-Ge-Fe, thermal expansion and elastic props. 4-7499
 Mn_{1-x}M_xAlGe (M=3d metal), mag. props. 4-56577
 Mo-Ge sputtered amorphous film, structural study 4-44952
 Mo-Ge sputtered films, amorphous, struct. changes through semicond.-metal transition 4-39132
 Mo₂Ge₃ superconducting films, amorphous, flux pinning and inhomogeneities or defects 4-45963
 Nb-Ge, struct. and phase composition, metallographic study (Russian) 4-51649
 Nb-Ge thin sputtered films, struct. and superconductivity, annealing effects (Russian) 4-56471
 Nb-Ge-Si, struct. and phase composition, metallographic study (Russian) 4-51649
 Nb-Si-Ge, phase equil., Nb₂Ge and Nb₃Si form. and supercond. 4-30103
 Nb₃(Al,Ge), A15 compound superconductors, present status and manufacturing process 4-51001
 Nb₃Fe films, substrate temp. effect on superconducting props. (Chinese) 4-2666
 NbGe₂ hexagonal phase thin films, resist. and supercond. transition temp. 4-45909
 Nb₃Ge amorphous films, collective flux pinning 4-11652
 Nb₃Ge amorphous films, collective flux pinning, probe of struct. defects 4-45964
 Nb₃Ge, form. in Nb-Si-Ge system, supercond. 4-30103
 Nb₃Ge multilayer superconducting tapes, AC losses 4-45928
 Nb₃Ge supercond. film bridge and tunnel contacts 4-25488
 Nb₃Ge tape supercond., CVD prep., props. 4-45980
 Nb₃Ge, tunnelling $\alpha^2F(\omega)$ and heat capacity meas. 4-30120
 Nb₃Ge/oxide/Pb Josephson tunnel junctions, penetration depth and capacitance 4-50991
 Nb₃Ge-SiO₂-Pb tunnel junctions for meas. Nb₃Ge props. 4-30120
 Ni-Ge, dil., solute diffusion and interaction with vacancies 4-34715
 Ni-Ge, elec. cond. and mag. transition temp. 4-34945
 Ni-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (Russian) 4-40083
 Ni₃Al-Ni₃Ga-Ni₃Ge-Ni₃Si, pseudo-quaternary system, continuous solid soln. 4-35612
 NiAuGe contacts to InP, laser alloying 4-25443
 Ni₃Ge, alloying behaviour, ternary additions 4-40746
 Ni₃Ge, compressive flow stress, temp. and nonstoichiometry depend., 77-800K 4-40912
 Ni₃Ge with ternary additions, solubility data 4-29620
 Pd₇₀Ge₃₀, amorphous, struct. relax. kinetics 4-45001
 Pd₅₀Si₁₀Ge₄₀, quenched, substrate-induced liq. shearing, defect anisotropy 4-34413
 RhGe₂ high press. form., crystallisation and supercond. transition temp. 4-50472
 Se₂Ge₃, mag. susceptibility temp. depend. 4-20789
 Se₄R₂Ge₆ (R=Rh, Ir, Os, Ru) and Se₄Ir₂Si₆, cubic U₄Re₂Si₆-type structures, cryst. struct. anal. 4-39209
 Si-Ge-B alloy, thermal oxidation 4-35757
 Sn-Ge interphase boundaries, isolated, In diffusion at high press. 4-29702
 Sn-Ge-In system, In diffusion along grain boundaries, compensation effects (Russian) 4-25079
 TbGe₂Si_{0.8}, magnetic interactions, modulated ordering using neutron diffraction 4-30150
 Ti-Ge, maximum solubility of Ge (Chinese) 4-6510
 Ti₂Ge₃, mag. susceptibility temp. depend. 4-20789
 V-Ge-Cu, phase comp., struct. and supercond. 4-30690
 V₂Ge₃, mag. susceptibility temp. depend. 4-20789
 Zr-Ge, cryst. and amorphous, prod. by splat cooling on hot substrate, supercond. transition temp. 4-56479
 Zr-Ge, supercond. props. and normal elec. resist. in metastable BCC and amorphous phases 4-20751
 Zr_{1-x}M_xMo₂ (M=Zr, Ge, Si, Al), crystal struct., X-ray diffr. study 4-45053

germanium compounds

see also germanium alloys

- Ge-As-Se glass IR optical fibre cable for continuous CO laser transmission, design and expt. study 4-38610
 halogen, cpds., π - π^* bonding anal. 4-1288
 rare earth compounds, (RO)₂Ge₂S₅, R=La, Ce, Pr, Nd, cryst. struct. determ. 4-50266
 As-Ge-Se chalcogenide glass, optical fibre prep. (Japanese) 4-49591
 As-Ge-Se glass-ceramic, IR transmission props. 4-28794
 As₂Ge₂Te₈, glassy semicond., elec. transport props., influence of cryst. inclusions 4-15904
 As₄₀Se₆₀/Ge₂₅Se₇₅ multilayered amorphous film struct., long-range interactions 4-20959
 As₄₀Se₆₀-Ge₂₅Se₇₅ multilayered amorphous struct., long-range interaction 4-15951
 Ca-Ge-Fe garnet film, dynamics of small domain-wall oscils. 4-20841
 CdGeAs₂, electron field gradient, struct. depend., TDPAC study 4-35308
 (Cd₂GeAs₄)_{1-x}(TiAs₄)_x, system, glass formation and elec. props. 4-45020
 CdGeP₂, electron field gradient, struct. depend., TDPAC study 4-35308
 Ge-Bi-Sb-Se and Ge-Bi-S system glasses, optical and elec. props. 4-45785
 Ge-P-S chalcogenide glass, optical fibre prep. (Japanese) 4-49591
 Ge-Sb-S glasses, defects and sensitive light-induced phenomena, EPR study 4-44977
 Ge-Sb-Se glasses, elastic props., US vel. meas. 4-2252
 Ge-Se, amorphous, XPS and AES chem. shifts 4-21104
 Ge-Se binary system, photoluminescence and photostructural changes (Russian) 4-21000
 Ge-Se-Te films, amorphous, elec. props., electrode effects 4-2613
 Ge-Se amorphous thin films, struct. transforms. induced by elec. nanosecond switching 4-50688

germanium compounds continued

- GeAs (201) surface, angle-resolved photoemission study 4-35039
 GeAs, homogeneity region, electrophysical props. 4-56339
 GeAs, thermodynamic properties, 2-300K 4-56038
 Ge₂₂As₁₀Se_{67.5}, sputtered film, photodarkening effect 4-30548
 Ge₁₀As₄₀Se_{52.5}, sputtered film, photodarkening effect 4-30548
 Ge₂₀Bi₅Se₇₅ glasses, composition and DS calorimetry 4-50207
 Ge₂₀Bi₅Se_{80-x}, amorphous, photocond. props., Bi content depend. 4-45832
 GeCl₄ and SiCl₄ oxidation for optical fibre prep., equilibria concs. 4-24262
 GeCl₄, mol. liq. struct., atom-atom radial distrib. functions 4-34394
 Ge₂Cu_{1-x}Fe₂O₄ spinel, mag. props., Mossbauer spectra studies 4-30369
 GeF₄, elec. hyperfine interaction, TDPAC method 4-28428
 GeF₄, nuclear quadrupole interaction, Self Consistent Charge Extended Huckel procedure 4-39857
 GeF₆²⁻ ions, electronic struct., alkali metal cations effects, CNDO/2 calcs. 4-9680
 GeF₆²⁻ ions, electronic struct., ammonium ions effects, CNDO/2 calcs. 4-9685
 (Ge₂)₂(GaAs)_{1-x}, MBE growth and phases separation, TEM studies 4-56012
 GeH, stretching vibrs., bond lengths and strengths 4-54666
 GeHDX₂ (X=Cl, Br), vibr. mode intramolecular coupling, pot. energy distrib. 4-5197
⁷⁴GeH₂F, IR spectra, ν_3/ν_6 and ν_2/ν_5 Coriolis-coupled band pairs 4-43882
 GeO, obliquely deposited film, orientation props. for liquid crystals 4-50185
 GeO₂ (rutile), cryst. and vitreous, phase transitions at high-press. and -temp. 4-3758
 GeO₂ doped optical fibre preforms, semiquantitative X-ray microanalysis 4-49539
 GeO₂ glass optical fibres, loss characts., nonlinear optics appl. 4-24229
 GeO₂, phase transform. on heating (*Japanese*) 4-50502
 GeO₂ thin-film waveguides, photoinduced grating films 4-24241
 GeO₂, vitreous isotopically substituted, vibr. dynamics, Raman spectra studies 4-6462
 GeO₂, vitreous material, IR vibrs. 4-46250
 GeO₂-Fe₂O₃ cryst. phases, growth by chem. vapour transport, cryst. struct., X-ray diffr., EPMA, neutron activation anal. 4-45084
 GeO₂-MO systems (M=Ba, Sr, Ca, Mg, Bi, Pb, Zn), immiscible region in molten state (*Japanese*) 4-40760
 GeO₂-P₂O₅-SiO₂ optical fibre preform luminesc. 4-56988
 GeO₂-SiO₂:F single mode fibre fabrication using VAD method 4-24269
 GeO₄ anions in orthosilicates and orthogermanates, force consts. and chem. bonds 4-55939
 GeO₄ photoelectret for MIS memory cell 4-49472
 Ge_{1-x}Pb_xTe_{1-x}, solubility, deviation from stoichiometry effect, X-ray diffr. 4-56016
 Ge(S,Se)₂, crystal and glass, struct. models and vibr. spectra 4-7198
 GeS, amorphous, optical props. in spectral region 18 to 38 eV 4-35463
 GeS, band struct. and lifetime determs., angle-resolved photoemission 4-35549
 GeS, electron impact, dissociative attachment, ion pairs and excited states form., entropy 4-14592
 GeS-GeSe solid soln. system, phase diagram and decomposition 4-34615
 GeS₂, glassy, optical prop., temp. depend. 4-2894
 GeS₂, single crystals, opt. absorpt., transmission and reflectivity, energy gap 4-25777
 GeS₂-Cu₂S, intermolecular interaction, phase equilbr. 4-55961
 GeS₂, glassy, photoluminescence and EPR 4-16243
 Ge₂Si_{1-x} glasses, composition and DS calorimetry 4-50207
 (Ge₂Si)_{1-x}(Ge₂Se)_x glasses, molar refr., wavelength depend., influence of struct. 4-40397
 GeS₂Se_{1-x} layer cryst., photocond., polarisation studies 4-25400
 Ge(S,Se)₂ glasses, Raman spectra and athermal laser annealing 4-7197
 Ge_{1-x}S_x(Se_x) chalcogenide glasses, cluster interactions, Raman studies 4-46253
 Ge₂₀Sb₅Se₇₅ glasses, composition and DS calorimetry 4-50207
 Ge₂(Se,Sn)_{1-x} glasses, companion A₁^c line, Raman spectra anal. 4-55949
 GeSe, amorphous, heterogeneous struct., EXAFS and small-angle X-ray scatt. studies 4-6276
 GeSe, amorphous thin films, crystn. in TEM 4-34406
 GeSe, anisotropic elec. props. 4-39911
 GeSe, exciton absorpt. edge, light absorpt. spectra 4-6714
 GeSe:Fe amorphous semicond., conduction mechanism, Mossbauer studies 4-25353
 GeSe₂ chalcogenide glass, low freq. Raman scatt. and layer modes 4-46252
 GeSe₂ chalcogenide glass, time resolved photoluminescence and localised states 4-46309
 GeSe₂, chemical bonding and heat of formation 4-24733
 GeSe₂ films, amorphous, laser-induced oscillatory phenomena 4-5645
 GeSe₂, liquid, Raman scatt. and struct. order 4-46257
 GeSe₂Cu(Ag), photoelectron and Auger lines, chem. shifts 4-25849
 GeSe₂-Cu₂Se, intermolecular interaction, phase equilbr. 4-55961
 GeSe₂-GeTe-Sb₂Te₃ chalcogenide glasses, isothermal and continuous heating crystallisation 4-20111
 Ge₂Se₃ chalcogenide IR optical glass, flocculent inhomogeneities 4-6280
 Ge₂₂Se₇₅, sputtered film, photodarkening effect 4-30548
 Ge₂Se_{1-x}, amorphous, struct. and photoluminesc. 4-46312
 Ge₂Se_{1-x} glasses, molar refr., wavelength depend., influence of struct. 4-40397
 Ge₂Se_{1-x} system, struct. and photoluminesc. 4-51320
 Ge₂Se_{1-y} glass, $y=0.05-0.38$, doped and undoped, optical absorpt., photoluminescence, photocond. meas. 4-25782
 (GeSe₂)_{100-x}Bi_x, amorphous, elec. transport props. under high press. 4-45786
 GeSn₂Se₂ (Se₄)₂ chalcogenide glass cluster stability, vibr. spectra study 4-46256
 Ge_{1-x}Sn_xSe₂ glasses, Mossbauer study of bonding chemistry 4-29330
 GeTe, transition to state with mag. moment in external EM field 4-30019
 GeTe:Bi, effects of impurity defects on mechanical props. 4-55902
 GeTe-AgSbTe₂, electrophysical props. of solid solutions 4-56374
 Ge₂₀Te₈₀ glass, double stage crystallisation, DSC, X-ray diffr., TEM 4-34643
 (GeTe)_{1-x}(AgSbTe₂)_x, density of states effective mass, Kane model anal. 4-2503

germanium compounds continued

- (GeTe)_{1-x}(AgSbTe₂)_x, fundamental energy gap, temp. depend. 4-2509
 (GeTe)_{1-x}(AgSbTe₂)_x solid solns., thermoelec. power, temp. depend. 4-35018
 (GeTe)_{1-x}(AgSbTe₂)_x solid solns., band edge struct. parameters 4-56213
 GeTeSe₂ amorphous films, local struct., XPS and UPS studies 4-44973
⁷⁴GeH₄ ν_2 band transition freqs., Coriolis coupling influence study using tunable-injection-laser spectrometer 4-38182
 Ho₂Se₃-GeSe₂, phase diagram, DTA, X-ray and microhardness studies 4-7434
 KGeO₂, single crystals, synthesis and struct. (*German*) 4-39255
 KGeON, prep., cryst. struct., neutron diffr., profile anal. (*French*) 4-45088
 K₂O-B₂O₃-GeO₂ glass, Raman spectra with high GeO₂ conc. 4-51274
 Li_{0.5}Ge_{1.27}Fe_{1.23}O₄, nature of triangular spin struct. 4-35148
 Li_{1+x}Ge_{2-x}N_{3-3x}O_{3x}, cryst. struct. determ. (*French*) 4-50262
 Li₂S-GeSe₂ glasses, ionic Li cond., NMR studies 4-6546
 PbGeS₃, photoconductivity study (*Russian*) 4-25407
 Pb_{1-x}Ge_xTe, anomalous resistivity near ferroelectric phase transition 4-46204
 Pb_{1-x}Ge_xTe, electronic dispersion relation, influence of phase transition 4-34875
 Se-Ge-As system chalcogenide glass form. 4-28799
 Si/Si₃N₄/GeO₂/SiO₂/metal memory multilayer struct., photoelectret charging (*Russian*) 4-40332
 SiO₂-GeO₂ optical fibre prep. by plasma CVD process, OH contamination 4-24270
 (YSmCa)₃(FeGe)₃O₁₂ films, ion implantation, acoustic emission 4-2796
 ZnGeP₂, single crystal, growth from solution in Tl melt 4-57086
- getters**
 see also vacuum techniques
 (Hg, Cd)Te, gettering mech. obs. 4-56087
 Si, gettering, defect control technique for device processing 4-39281
 Si, polycrystalline, solar cells, grain boundary and intragrain Al diffusion for impurity gettering 4-46875
 Si:B⁺ ion implanted wafers, defects induced by laser annealing (*Chinese*) 4-20240
 Si:O epitaxial layers, preannealing effects on intrinsic gettering 4-45549
- GFRP** see glass fibre reinforced plastics
- giant pulsations (earth)** see micropulsations
- giant resonances** see nuclear collective states and giant resonances
- giant stars**
 see also supergiant stars
 94 micron bright sources, characts. 4-13449
 southern AFGL sources, ground-based IR survey and JHKL photometry 4-42560
 EG Andromedae, symbiotic star, discovery of UV activity from photometric obs. 4-22407
 R Aquarii, circumstellar reddening charge, recombination spectra 4-58451
 21 Aquilae, B-type star, abundances from line blanketed model atm. anal. 4-36683
 Arp-Madore 1, globular cluster giant branch, characts. 4-47662
 asymptotic giant branch stars, evolution and nucleosynthesis 4-22370
 asymptotic giant branch stars, low mass, C star form. and neutron-rich isotopes prod. 4-27069
 asymptotic giant branch/red giant ratio in ω Cen globular cluster 4-17566
 α Aurigae, giant spectroscopic binary, chromosphere He emission anal. 4-27074
 α Aurigae (Capella), determ. of true nodal quadrant from photographic speckle obs. 4-47657
 α Aurigae (Capella) active chromospheric binary, redshifted UV lines 4-13306
 binaries with late type giant/supergiant primaries, radial vel., orbitals and spectra 4-27126
 bipolar nebulae assoc. with evolved stars, review (*German*) 4-31895
 9 Bootis, K-type giant with large Li abundance, spectrum anal. (*Russian*) 4-53167
 ZZ Canis Minoris, symbiotic star, highly excited emission lines obs. 4-58442
 20 Canum Venaticorum, δ Scuti star, photoelectric obs. (1982 to 1983) 4-4014
 carbon stars, investig. (*Russian*) 4-8493
 carbon stars with gas-dust rings (*Russian*) 4-8494
 Cassiopeia field, stars spatial distrib. and luminosity functions 4-27178
 α Ceti (Mira), shock-induced variability of H α emission profile 4-27078
 circumstellar masers, emission props., geometrical effects 4-8373
 circumstellar shells, grain form. in expanding gas flow around cool luminous stars 4-53147
 37 Comae Berenices, CO 2.3 μ m obs. of weak G-band star 4-58447
 cool giant chromospheres and circumstellar envelopes 4-8460
 cool giant stars, IR emission obs. 4-53160
 β Crucis, β Cep star, binary, phase dispersion minimisation anal. 4-8478
 BI Crucis, symbiotic star with Mira variable, IR emission feature and circumstellar CO 4-17524
 V1016 Cygni, Fe II fluoresc. lines excited by C IV in Bowen mechanism 4-17525
 W Cygni, semi-regular star, light curve statistical anal. and oscills. 4-27106
 AF Cygni, SRB star, light curve anal. 4-13339
 CH Cygni, symbiotic star, differential photometry and absolute spectro-photometry (1981 to 1983) 4-47638
 CI Cygni, symbiotic star, periodogram study of light curve 4-27096
 CH Cygni, symbiotic star, photometric activity during August 1982, UVB and H α obs. 4-22400
 CI Cygni, symbiotic star, spectrophotometric study during 1980 eclipse 4-42452
 CH Cygni, symbiotic star, spectroscopic behaviour (1981 to 1983) 4-4009
 CI Cygni, symbiotic star, UVBRI photometry during 1982 eclipse 4-53189
 in Draco dwarf spheroidal galaxy, spectroscopic obs. 4-58511
 evolution of main-sequence stars to red giants, role of increasing gravit. field 4-13298
 extreme C stars, obs. of SiC emission features in IR spectra 4-22402
 extreme Population I star of 5 M₀, evolution to Cepheid phase 4-13297
 globular cluster giant branches and metallicity scale 4-31831
 globular cluster giant stars, IR photometry, bolometric luminosities and effective temps. 4-27070

giant stars continued

- globular cluster giants with CNO-enriched outer layers, evolution 4-3985
 globular clusters giant branch slope rel. to colour indices 4-13384
 GR 311, new semiregular variable in field of NGC 6946, photometric obs. 4-13329
 GX 1+4, X-ray symbiotic star, H α obs. and JHKL photometry 4-13368
 HBV 475 (VI329 Cyg), symbiotic star of protoplanetary nebulae, IR photometry 4-13334
 HD 13725, K-type giant, orbital soln. 4-22435
 HD 199547, spectroscopic binary, orbital elements from photoelectric radial vels. 4-47655
 HD 37824, new RS CVn star, photometric obs. rel. to light vars. and orbital period 4-4045
 HD 44179 in Red Rectangle, orbital period, masses and separation 4-8534
 heavy element stars, Te and Nb abundances and nucleosynthesis 4-3998
 Henize S63, symbiotic star in LMC, UV and optical spectra 4-31834
 TW Horologii and assoc. with NGC 1252 possible cluster 4-58449
 HR 1614 moving group, evidence for CN-rich stars from DDO photometry 4-31872
 HR 5490, M3 giant, CCD spectroscopy in red and near IR 4-17407
 HR 6766, CO 2.3 μ m obs. of weak G-band star 4-58447
 HR 774, Ba star, heavy element abundances from spectral anal. 4-3997
 internal mixing in red giants, role of baroclinic instability in radiative core 4-58424
 IRC+10216, shell composition and mass 4-30468
 IRC sources, near-IR photometric obs. 4-4110
 AR Lacertae, RS CVn star, obs. of flare-like activity from UBV photometry 4-31864
 late type stars, chromospheres, Ca II K-line and H α line profiles, atlas 4-42325
 late-type giants in nuclei of normal spiral galaxies, evidence from JHKL photometry 4-58512
 late-type stars, ground-based IR spectrophotometry 4-13450
 late-type stars, mass loss rates and outflow anisotropy, CO data anal. 4-31817
 late-type stars, periods of mag. activity cycles 4-3978
 late-type stellar atmospheres, review 4-31825
 R Leonis, SiO maser emission, polarization and temporal vars. 4-53169
 R Leonis, spectroscopic binary, revised spectroscopic orbit 4-22437
 CW Leonis (IRC+10216), shell spectra, line identifications and abundances 4-42555
 36 Leonis Minoris (HD 92000), spectroscopic binary, revised orbital elements 4-31867
 LMC Bar West field, search for IR luminous stars, JHKL obs. 4-13422
 long-period variable stars, circumstellar shell anal., H $_2$ O 13.5 mm line obs. 4-27105
 long-period variables, UV excess rel. to Te abundance 4-42453
 M55 red giants, CN and methylene band bar. 4-17570
 in M71, globular cluster, metal abundances from spectroscopic obs. 4-22451
 M-type giants and supergiants, IR silicate features as measure of grain size in circumstellar dust 4-27063
 M-type giants in LMC, IR colour-magnitude diagram rel. to two discrete epochs of star form. 4-13433
 M-type Mira variable stars, 2.7 micron band of H $_2$ O anal. 4-22386
 M-type red giants, soln. of nonLTE problem for Mg lines (*Russian*) 4-17511
 M-type stars, atmosphere Li abundance allowing for mol. absorpt., spectra anal. 4-42435
 M-type stars, effects of spherical extension on photospheric struct. and spectrum 4-42437
 in Magellanic Clouds, distrib. of C stars and M-type giants 4-3983
 metallicity of K-giants in nuclear bulge of Galaxy 4-13302
 Mira variables, circumstellar envelope structure, 1612 MHz VLA obs. 4-13317
 Mira variables, kinematics and ages in greater solar neighbourhood 4-17512
 BX Monocerotis, symbiotic star, highly excited emission lines obs. 4-58442
 SY Muscae, symbiotic star, variable UV emission lines 4-58445
 NGC 2808, globular cluster giant stars, CN distrib., visible obs. 4-13379
 OH 231.8+4.2, circumstellar maser, 3-D structure 4-53171
 old open cluster giant stars, atm. parameters, mass, abundances, reddening, photometric obs. 4-27138
 AR Pavoris, IUE obs. of 1982 UV eclipse of symbiotic binary 4-17514
 β Pegasi, M-type giant star, abundances of s-process elements Mo and Ru (*Russian*) 4-53168
 II Pegasi, RS CVn star, H α obs. 4-53207
 AG Pegasi, symbiotic star, periodogram study of light curve 4-27096
 β Pegasi (M2⁺ IIIa), Na abundance in stellar atmosphere (*Russian*) 4-42442
 β Persei (Algol), effective temp. of subgiant component from IR photometry 4-53212
 PSR 1937+214, millisecond pulsar, optical candidate, identification as red giant from IR photometry 4-8509
 PSR 1937+214, millisecond pulsar, optical candidate identified as red giant star 4-22417
 ρ Puppis, δ Del star, pulsations and UV chromosphere emission var. 4-47622
 R-type stars within Type II Cepheids population, spectra 4-22404
 radio continuum emission and evolution to planetary nebulae 4-17503
 red giant stars, ionised winds detect. by microwave continuum techniques 4-13311
 red giant stars in metal-rich globular clusters, metal abundances determ. 4-31870
 red giants, relations between Johnson and Kron-Cousins VRI photometric systems 4-22337
 red giants in open clusters NGC 2232, NGC 2287 and NGC 2451, DDO photometry 4-31871
 red variable stars, new discoveries, positions, periods and light curves 4-4010
 redshifts of high temp. emission lines in far UV spectra of late-type stars 4-13306
 HM Sagittae, symbiotic star, radio history (1977 to 1980) 4-31837
 TT Sculptoris, halo semi-regular variable, VRI photometry and spectrum (1981 to 1982) 4-13330
 new semi-regular variable in Cygnus, UVB photometry, light curves and spectral type 4-22392
 semi-regular variable stars, circumstellar shell anal., H $_2$ O 13.5 mm line obs. 4-27105

giant stars continued

- subgiant CH stars, C and O abundances 4-22406
 supermetallicity studies 4-31828
 symbiotic binary stars, evidence for warm wind from red star 4-4005
 symbiotic stars, dust envelopes characts. and IR excesses, KLN obs. (*Russian*) 4-17531
 symbiotic stars and related objects, reddening and emission lines obs. 4-27087
 symbiotic stars misclassified as planetary nebulae, relative emission-line fluxes 4-22462
 triple-alpha process, screened reaction rate rel. to C production 4-3916
 47 Tucanae giant stars, radial vels. from CORAVEL obs. 4-27137
 turbulent diffusion mixing effects and $^{12}\text{C}/^{13}\text{C}$ in first ascending branch 4-53148
 type II OH-IR stars, data base and IR obs. 4-3992
 type II OH-IR stars, nature, evolution and pulsations 4-3993
 in Ursa Minor dwarf spheroidal galaxy, spectroscopic obs. 4-58511
 RR Ursae Minoris, semi-regular variable, binary nature confirmation and orbit 4-27085
 V3876 Sagittarii, Mira variable, not nova, light vars., 1969 to 1983, from photographic obs. 4-22393
 FG Vulpeculae, semi-regular variable in NGC 6940, B-band light curve (June to December 1983) 4-42469
 weak G-band stars, Be abundance from IUE UV spectra 4-58448
 Ba stars, abundance anomalies, nucleosynthesis and evolution 4-58453
 Ba stars, cool, spectra, wavelengths and equivalent widths 4-53182
 Ba stars, search for light var., UVB obs. 4-17526
 C stars, book 4-31992
 C stars, circumstellar shells, high resolution spectroscopy 4-17499
 C stars, effects of HCN mol. opacity on model atmospheres 4-58437
 C stars, effects of spherical extension on photospheric struct. and spectrum 4-42437
 C stars, form. during evolution of low mass asymptotic giant branch stars 4-27069
 C stars, HCN identification 4-8501
 C stars, interstellar reddening, circumstellar emission, bolometric magnitude, JHK photometry (*Chinese*) 4-58438
 warm C stars, photometric mol. indices for NH, CN, CH and C $_2$ indices 4-31836
 C stars, spectroscopy (*Japanese*) 4-27076
 C stars in dwarf irregular galaxy Sextans A, photometric obs. 4-13416
 H α emission in old giants, spectroscopic obs. 4-58428
 O-rich stars, shell 10 and 20 μ m features nature 4-47596
 OH/IR stars, late evolutionary stages of intermediate-mass stars 4-8459
 OH/IR stars, OH 1612 MHz maser emission obs. of circumstellar shells 4-27108
 OH/IR stars, SiO maser emission obs. 4-42436
 OH-IR stars, IR obs. rel. to physical parameters of circumstellar shell and OH excitation 4-58526
 OH-IR stars, maser strength rel. to evolution of mass loss and creation of superwind 4-8477
 OH-IR stars, shell diameters and mapping, UHF obs. 4-47631
 OH-IR stars within 1 degree of galactic centre, motion and distrib., OH obs. 4-22385
- Gibbs free energy** see free energy
Gibbs function see free energy
Ginzburg-Landau theory
 abelian gauge theories, vortex props. in first and second order formulations 4-37281
 charge density waves, sliding conductivity from Ginzburg-Landau eqn., sliding soliton lattice model 4-29952
 four-component order parameter systems, commensurate-incommensurate transition and mag. structs. (*Russian*) 4-24995
 large-n renormalisation group eqns. solns. 4-53605
 lattice superconductor, phase struct., Ginzburg-Landau model 4-11626
 N-(4-n-butylxybenzylidene)-4-n-heptylaniline (40.7), X-ray scatt. study of phase transitions 4-29609
 nonlinear phenomena in kinetics of phase transitions 4-24959
 shape-memory alloys, Ginzburg-Landau theory and solitary waves 4-39454
 simple liquid in the near-critical region, Ginzburg-Landau functional construction 4-2314
 spherical samples, third crit. field radius depend. 4-45959
 spin glass model, replica symmetry breaking stability 4-25579
 spin glasses, Ginzburg-Landau expansion and order parameter 4-35180
 spinodal decomposition, Ginzburg-Landau model, time-depend., computer simulation 4-3119
 superconducting model for flux confinement, quark-antiquark potential 4-4634
 superconducting slabs, flux line lattice 4-11651
 superconductor, nonequilibrium, steady inhomogeneous patterns, μ^* model system long-time behaviour 4-20758
 thiourea-d $_4$, field-induced commensurate phase, birefr. meas. and Landau-Ginzburg theory 4-2886
 (TMTSF) $_2\text{ClO}_4$, supercond., lower crit. field and Meissner effect, anisotropy 4-40110
 trimolecular reaction model, critical behaviour of fluctuation (*Chinese*) 4-3376
 two-dimensional ϕ^4 model, Ginzburg-Landau free energy 4-25475
 ^3He , superfluid, negative ion-vortex interaction pot. 4-50601
 $^3\text{He-B}$ mixed state, core struct. of vortex line 4-25112
 HoMo_2Se_8 , supercond., temp. depend. sinusoidal mag. order 4-30166
 NbN films with differing granularities, crit. fields (*Russian*) 4-25491
 Sn elastically strained supercond. whiskers, first order transitions, Ginzburg-Landau anal. 4-11614
- glaciology**
 Antarctic Byrd core, ice core acidity and charge buildup 4-31539
 Antarctic deep ice core, grain growth rate, hydrostatic press. effect 4-31538
 Antarctica, deglaciated crust elevation, tectonics and ice volume 4-58143
 Antarctica, Prince Charles Mountains, early glacial deposits (*Russian*) 4-47260
 Antarctica, surface vaporization determ., mathematical model appl. (*Russian*) 4-47310
 N Atlantic region, calibration of onset of ice-rafting and history of glaciation 4-47297
 Bondhusbreen outlet glacier, Norway, subglacial processes 4-22013
 book, 'The Physics of Glaciers' 4-22537
 buildings in Antarctica with foundations on snow, settlement and deformation study 4-22008

glaciology continued

- Bylot Island, Canada, glaciers and glacial sediments (*French*) 4-36415
 climatic model, estimation of probability of spontaneous climatic transition (*Russian*) 4-42148
 conference, Aug. 1982, West Lebanon, New Hampshire, USA 4-17626
 creep of columnar-grained ice at low stress 4-22010
 Eureka Glacier, Alaska, USA, movement, runoff and sedimentation 4-22014
 Franz Josef glacier, recession, climatic effects 4-12954
 last glacial maximum, reduced advection into Atlantic Ocean deep eastern basins 4-21988
 glacier erosion and sedimentation processes, symposium, Geilo, Norway (1980 August 25 to 30) 4-31957
 glacial geology and climates of pre-Pleistocene times, book 4-36824
 Greenland deep-ice core, air inclusions, vol. relax., optical microscopic obs. 4-31541
 Greenland Dye 3 core, ice core acidity and charge buildup 4-31539
 Greenland ice, insoluble microparticle size distrib. meas. 4-31542
 Greenland ice sheet, U isotopes rel. to Cosmos 954 burn-up 4-21600
 Greenland Icecap, HF over-the-horizon mapping 4-22185
 ice, pressure sintering, snow densification at polar glaciers and ice sheets 4-31540
 ice age 100000 year ice sheet cycle model due to climate periodic changes 4-41994
 ice age climate model with solar constant and Earth orbit changes 4-42150
 ice age ice sheets, book 4-42630
 ice ages, simple climate models with periodic and stochastic forcing 4-47400
 ice ages chronology and Earth orbit var. 4-52877
 ice ages climate model, with orbital forcing and precipitation-temp. feedback 4-42152
 ice compressive strength, effects on grain and sample size 4-22015
 ice sheet motion under its own weight, theory of 3-D case 4-41993
 ice surfaces, radiowave scattering 4-41976
 ice-sheet linkage between regional insolation and global climate, rel. to Milankovitch theory of ice ages 4-17177
 icebergs, colour 4-26800
 Kesselwandferner glacier, Otztal Alps, Austria, firn viscosity study 4-22003
 Laurentide Ice Sheet of Canada, model of ice sheet struct. 4-36414
 Lewis Glacier, Mount Kenya, diurnal heat budget and hydrology 4-31533
 McMurdo Sound during Wurm period (*Russian*) 4-47273
 Mendenhall Glacier, Alaska, ice deformation and fracture expts. 4-31614
 meteorites in Antarctic ice sheet, model of accumulation rate 4-17473
 Mount Disgrazia glaciers, Italy, satellite remote sensing and hydrology 4-8248
 Mount St. Helens, 1980 eruptions effect on glaciers, landslides effects 4-12890
 Neogene climates, glacial eustatic sea level vars. rel. to continental margin phosphorites 4-47249
 physics and chemistry of ice, conference, Rolla, MO, USA (1982) 4-27232
 Pleistocene climate change model 4-17259
 Pleistocene deglaciation responsible for Earth rotation changes 4-41694
 Pleistocene geology, book 4-31993
 Pleistocene glacial maxima, rel. to reinterpretation of last two cycles of Lake Bonneville 4-36420
 Pleistocene glaciations, implications of Quaternary sea-level events on N San Clemente Island, California 4-36407
 Pleistocene ice volumes determ. from ocean sediments fossil foraminifera O isotopic anal. 4-47313
 polar glaciation rel. to ice age genesis 4-47312
 polar ice, anisotropic power-law viscosity (*French*) 4-44400
 polythermal glaciers, moisture transport 4-58205
 quartz microparticles in 20000 BP Antarctic ice samples 4-52866
 Quaternary glaciation cycles, global Hopf bifurcation in a simple climate model 4-36484
 Quaternary ice ages, coupled climate-ice sheet model 4-42154
 Sentik glacier, Ladakh Himalayas, nitrate and nitrite concs. in ice core 4-47372
 Stocking, New Zealand, variations, rel. to climate 4-12955
 surface temp. and geothermal flow rel. to mechanics (*Russian*) 4-47309
 Sustina River basin glaciers, Alaska, USA, movement, runoff and sedimentation 4-22014
 Swiss Alps, glacier flood freq. and characts. 4-22012
 temperate valley glaciers (book) 4-8666

glass

- for semiconductor glasses see amorphous semiconductors and chalcogenide glasses
 see also aluminosilicate glasses; amorphous semiconductors; borate glasses; chalcogenide glasses; germanate glasses; glass fibre reinforced plastics; glass fibres; glass industry; glass-metal seals; optical glass; phosphate glasses; phosphosilicate glasses; vitreous state; vitrification
 acoustic props. at low temps. 4-55928
 adsorbed rhodamine B, fluoresc. meas. 4-11916
 alkali metal silicate glasses, struct., Raman spectra studies 4-24730
 alkali metal system, mixed alkali effect and phase separation 4-11337
 alkali silicate deformation kinetics, -120 to +350°C 4-51722
 alkali silicate glass, interdiffusion of cation between glass and aq. solns. 4-20416
 alkali silicate glass, strength, effect of structural mobility of surface layer 4-20120
 alkali silicate glasses, elec. conductivity anal. (*Russian*) 4-2377
 bioceramics, advances, present and future research needs 4-51603
 brittle ceramics, thermal shock by water quenching, critical temp. difference rel. to drop height 4-16487
 capillary explosion for fusion reaction 4-38986
 ceramic, machinable, elastic moduli, second-order press. derivatives 4-51709
 ceramic pigments, V ion valence states and coloration, EPR, optical spectra obs. (*Japanese*) 4-51130
 ceramics, nuclei distrib. within filament 4-39151
 ceramics, sol-gel synthesis, technical appl. 4-3117
 ceramics, surface damage and fracture, effect of crystallites 4-16482
 conducting film on glass, fabrication by pyrolysis or vacuum deposition (*French*) 4-35575
 contact angle, dependence on pH 4-34750
 contact lenses, prep. from Si- and Ti-alkoxide by sol-gel process 4-57126

glass continued

- containers, lightweighting, strengthening and coatings developments 4-41022
 crack growth processes, surface-active agents influence (*German*) 4-35745
 crystallisation, appl. of Kolmogorov's formula 4-20119
 crystallisation, Avrami exponent determ. by non-isothermal anal. 4-2088
 cylindrical bubble in glass, white light critical angle scatt. 4-28616
 deformation, orientation-strain relationship 4-3202
 density fluctuations, thermodynamic quantities at transition 4-11292
 devitrified, strength, type of disintegration, effect of distilled water, fractography 4-51785
 didymium glass, optical absorption spectra, photothermal displacement spectroscopy study 4-40554
 dielectric, nonresonant absorpt. of acoustic and EM waves, quantum theory 4-2275
 dielectric glasses, interaction of two-level systems with phonons 4-11246
 diffusion processes in glasses and glass melts (*German*) 4-2378
 direct viewing radiation shielding windows, glass selection criteria 4-28235
 electrochemical behaviour, absolute pot. value of vitreous, liq. and cryst. electrodes and EMF of respective galvanic cells (*German*) 4-3454
 fatigue fracture of single particles 4-40986
 fatigue limit determ. 4-7570
 filaments, specific surface area determ. by BET and CAEDMON methods 4-2436
 float, relationship between fracture stress and mirror size, influence of stress gradient 4-39376
 float glass, on-line coating, appl. in highly insulating windows and heated glass (*French*) 4-35754
 floating target surface pot. meas. with parallel beam technique 4-39066
 fluoride glasses, anionic cond. study 4-45403
 fluoride glasses, corrosion by water, TGA study 4-7618
 fluorides, amorphous, Mossbauer quadrupole spectra anal. 4-11809
 fluoronitride glasses in Zr-metal-F-N system 4-46483
 foamed rigid material, high energy absorpt. mechanism 4-51786
 fracture contrib. to optical linewidth 4-46226
 fracture mechanics, pore-flaw model 4-51787
 fracture toughness, modified indentation technique 4-24390
 frustration and curvature in configurational glasses and cholesteric blue phase 4-24717
 glass:Cr III, absorpt., excitation and emission spectra, ligand field 4-40493
 glass-ceramic material based bioactive implants (*German*) 4-8155
 heat treatment of components of complicated form, approx. calc. methods for residual stresses 4-16426
 high silica, prep. from colloidal gels, IR spectrophotometric studies 4-16367
 high silica, prep. from colloidal gels, sintering 4-16365
 high silica, prep. from colloidal gels, sintering 4-16366
 highly conductive glass, fast Na ion transport, EPMA study 4-34708
 impact damage resist. rel. to surface roughness and multiple acid fortification 4-30835
 industrial, F and Na profiles study using nucl. reson. in proton-induced reactions 4-46823
 inorganic glasses, thermodynamic approach of mixed alkali effect on ionic cond. 4-45405
 internal friction and dynamical modulus meas. at low temp. (*French*) 4-39389
 ionic conduction theoretical model for mixed alkali effect 4-45406
 ionisation wave vel., energy bandwidth narrowing 4-30432
 isobaric vol. recovery, temp. depend. 4-24731
 lead glass shielding windows, modification and refurbishment 4-28239
 mechanical damage, strength of fibres based on glasses 4-51767
 mechanical props. and single fracture under load 4-40987
 melt, vapour density measurement, transpiration apparatus 4-19910
 melting temperature calculation for silicate glasses 4-39443
 melts, temp. influence on structural changes (*Russian*) 4-6509
 microcellular materials, sintering time and region determ. (*Russian*) 4-21179
 microplasticity, ductile behaviour mechanism indentation test obs. 4-12105
 molten, elec. cond., composition and temp. depend., review 4-15880
 nonactivated, IR emission stimulated by He-Ne laser radiation 4-25785
 nuclear waste, at Savannah River Plant, composition for vitrification 4-4933
 nuclear waste, public information programmes, use of Oklo, Obsidian and ancient glasses 4-18624
 nuclear waste, simulated, leaching, influence of gamma irradiat. 4-45186
 nuclear waste glass, surface layer alteration by boiling water, struct. (*French*) 4-52249
 optical fibres, γ -ray induced loss characts., drawing effects 4-33787
 optical properties, book 4-36811
 organic, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
 oxide glasses, Fe coordination using X-ray absorption K-edges 4-11964
 oxide glasses, internal friction and other rheological functions in glass transition region (*French*) 4-39379
 oxide glasses, tetrahedral, spectroscopic and morphological struct., advances in solid state physics, book 4-17647
 oxide glasses, tetrahedral, spectroscopic and morphological struct., book contrib. 4-20122
 oxide glasses, vibr. props. and intermediate range order 4-45292
 oxyfluoride glasses, Li ion conduction and IR spectra 4-45402
 paramagnetic glass, type Hoya FR-5, Faraday rot. temp. depend. 4-46233
 photosensitive glasses, review (*Rumanian*) 4-14766
 plates, unirradiated and He ion bombarded, stress relaxation, dimens. stability 4-50377
 polydimethyl phenylene oxide-polystyrene glassy mixture, dynamical elastic modulus meas. near and below T_g (*French*) 4-39362
 polystyrene-glass bead composite, craze form., effect of interfacial adhesion 4-7549
 pore glasses, modified water on surface, evaluation by EPR 4-2055
 porous silicate glass for carbonaceous microcomposite, low-temp. resistance thermometer, appl. 4-8906
 preparation from gels, conf., Wurzburg, Germany (Jul. 1983) 4-53344
 preparation from solns and gels, chem. basis and technical appl. 4-57124
 properties, pseudo-topological disorder 4-55740
 protective coating on SiO₂ ceramic, radiation-optical props. 4-55873
 pyrex, elec. double layer props., thermal and radiation control 4-35913
 pyroxene glass ceramics, Fe-bearing and spinel type, synthesis 4-51611

glass continued

- quality control, optical differential profilometer appl. 4-3315
 quartz, wetting by Al, contact reactions 4-50614
 quartz glass-sand ceramics, strengthening by chem. activation of contact bonds 4-51594
 rapidly quenched, prep. in pseudobinary systems containing lithium ortho-oxosalts 4-25939
 rings in central-force network dynamics 4-20312
 silica, densified 4-11892
 silica glass, twin axis neutron diffr. studies 4-6282
 silicate glass, composition dependence of specific dispersion and refraction 4-20940
 silicate glass, rare earth elements, secondary ion yields meas. 4-16283
 silicate glasses, Se containing, cryst. inclusions, X-ray spectral anal. 4-15391
 silicate glass surface, ion exchange processed, optically stimulated exoelectron emission 4-7320
 silicate glasses, relax. processes (*Russian*) 4-2094
 silicate glasses, surface struct., ion scatt. and mol. dynamics simulation studies 4-29743
 silicates, Na and H depth profiles after Pb⁺ implantation and leaching 4-45171
 sintering equation derivation (*Japanese*) 4-12052
 sintering under varying temp., Fulcher's eqn. appl. (*Japanese*) 4-51614
 soda glass, etch rate, ⁵¹Ti ion track study, energy loss study 4-2232
 soda glass, heavy ion tracks study 4-5084
 soda-lime glasses, proton irradi., surface temp. increment 4-15550
 sol-gel synthesis, technical appl. 4-3117
 solid state ionic, conf., Grenoble, France (July 1983) 4-31962
 structure and intrinsic disorder of glassforming compounds (*German*) 4-2096
 structure modelling 4-55741
 structures loaded with external pressure, stress state and fracture conditions eval. 4-33958
 surface compression layer, stress and thickness meas., stratorefractometer, polarisation microscope (*Czech*) 4-17925
 surface reaction and Cs penetration, finite difference numerical analysis 4-2379
 thermal cond. meas. with guarded hot plate device glass board insulation 4-13644
 thermal stability theory of non-plastic solid state 4-30819
 thermooptic waveguide interferometric modulator/switch 4-33749
 transition metal oxide glasses, elec. transport and struct. props., small polaron theory 4-6783
 triboluminescence and blackbody temp. 4-7253
 tubes, thick-walled, viscous collapse 4-1637
 US pulses visualisation by stroboscopic photoelastic system 4-19678
 vanadate glasses, elec. cond. 4-6780
 vibrational props., fraction interpretation 4-6461
 volcanic glass from Mount St. Helens 1980-2 eruptions, comp. and abundances 4-17127
 Vycor glass containing liq. ³He, possible ³He superfluid phase obs. 4-11366
 Vycor porous glass, specific heat of H₂, D₂ and Ne 4-11313
 water glass, prod. by wet method 4-40739
 Ag-glass bonded thick films, sintering and microstruct. development 4-51587
 Al₂O₃-SiO₂-H₂O, glass formation and condensation (*Bulgarian*) 4-44967
 As-Se-I, long-wave IR reflection spectra 4-51253
 BaF₂-YF₃-LnF₃, vitreous transition and recrystallisation temp. determ., optical transmission meas. (*French*) 4-39505
 BaO-V₂O₅-Fe₂O₃ semicond. glasses, Fe and V ion interactions 4-6281
 BeF₂ glass, density of state, IR, Raman and neutron vibr. spectra simulation 4-11882
 BeF₂:Nd³⁺ glass, bonding and struct. by XANES and EXAFS spectroscopy 4-40568
 Ca-Si-Al-O-N glass, elastic moduli, refractive indices (*French*) 4-45247
 Cd ion desorption from glass, electron-impact-stimulated, optical obs. 4-25149
 (Cd₂GeAs₄)_{1-x}(TiAs)_x system, glass formation and elec. props. 4-45020
 K₂O-SiO₂ glass form., crit. cooling rates 4-2087
 K₂O-SiO₂ glass, atomic behaviour at fracture surface, molecular dynamics simulation 4-56133
 K₂O-SiO₂ glass, linear thermal expansion, dilatometric studies in low temp. region 4-15667
 K₂O-SiO₂ glass, surface struct., ion scatt. and mol. dynamics simulation studies 4-29743
 K₂O-SiO₂ glass, unidirectional crystallisation 4-44969
 K₂O-SiO₂ glass melts, struct. relax. and shear viscosity 4-15370
 K₂O₃SiO₂ glass, K diffusion at surface 4-50571
 La₂S₃2Ga₂O₃:Nd³⁺ glasses, upper active level filling process characts. 4-30526
 La₂S₃2Ga₂O₃:Nd³⁺ glass, luminescence quantum efficiency study 4-35489
 Li₂O-Al₂O₃-Nb₂O₅ glasses, rapidly quenched, struct. and props. 4-46538
 Li₂O-MoO₃-WO₃, roller quenched glasses, transitions, elec. cond. (*Japanese*) 4-40759
 Li₂O-SiO₂, prop.-morphology relations 4-24728
 Li₂O-SiO₂:Er³⁺ glass, Er³⁺ ⁴I_{13/2} level population inversion characts. 4-5592
 Li₂O₂SiO₂ glass, low temp. spin-lattice relax., polarised ⁸Li NMR study 4-40267
 Mg sialon glasses, factors influencing crystn. 4-39148
 MnO-SiO₂ glass, state of Mn and glass form. 4-15390
 Na₂O-CaO glass, crack resistance, a sensitive parameter for surface region mech. strength characterisation (*German*) 4-7589
 Na₂O-CaO-SiO₂ glass microstruct. form., defect related process (*German*) 4-2097
 Na₂O-CaO-SiO₂:Ce³⁺, As³⁺, reduced glass, UV irradi., photochemical reaction, ESR obs. 4-16094
 Na₂O-CaO-SiO₂-AsO₃-CeO₃ glass, solarisation mechanism and glass struct., EPR study 4-57583
 Na₂O-Fe₂O₃-SiO₂ glass system, ⁵⁷Fe Mossbauer absorption studies (*Chinese*) 4-56822
 Na₂O-K₂O-SiO₂ glass, alkali leaching mechanisms 4-25081
 Na₂O-SiO₂, differential thermal anal., optimum conditions 4-50510
 Na₂O-SiO₂, elementary electron excitations, localisation and migration 4-50735
 Na₂O-SiO₂, gel-glass conversion 4-57182
 Na₂O-SiO₂, glass form., crit. cooling rates 4-2087
 Na₂O-SiO₂, glass transition temp., water content depend. 4-11296

glass continued

- Na₂O-SiO₂, interaction of Na, dislocation, Si-O bonding 4-51619
 Na₂O-SiO₂, interdiffusion of Ag, rel. to electronic polarisability 4-39613
 Na₂O-SiO₂, prop.-morphology relations 4-24728
 Na₂O-SiO₂, gel and glass, crystallisation behaviour, X-ray diffr. study 4-55742
 Na₂O-SiO₂ glass, linear thermal expansion, dilatometric studies in low temp. region 4-15667
 Na₂O-SiO₂ glass, optical breakdown under conditions of two-photon absorpt. of laser radiation 4-29474
 Na₂O-SiO₂ glass, optical absorpt. of transition metal ions, effect of thermal stabilisation 4-51306
 Na₂O-SiO₂ glass, rheological props. and fracture, mol. dynamic simulation 4-40947
 Na₂O-SiO₂ glass melts, struct. relax. and shear viscosity 4-15370
 Na₂O-SiO₂ glasses with high water content, dielec. characts. 4-56846
 Na₂O-SiO₂ system, crystn. of glasses (*French*) 4-55751
 Na₂O-SiO₂-CaO glasses, γ-ray irradi. and rare earth additives effects on insulation 4-11521
 Na₂O-SiO₂-TiO₂ glass, state of Ti³⁺ ion and Ti³⁺-Ti⁴⁺ redox reaction 4-6283
 Na₂O-ZrO₂-SiO₂, vitreous electrolyte, NASIGLAS, phys. props. 4-45404
 2 Na₂O.CaO.3SiO₂, crystallisation, appl. of Kolmogorov's formula 4-20119
 Na₂O₂-Na₂CO₃-CaCO₃-SiO₂, glass melting reactions, DTA obs. 4-46484
 Na₂Si₂O₅-Cs₂SiO₅, struct. and props. rel. to phase diagram 4-50211
 Nd₂glasses, thermal distortion by flash lamp (*Chinese*) 4-56053
 Nd₂ production in cold plasma reactor, solid dielectric influence 4-19991
 PbO-PbCl₂, X-ray diffraction study 4-39154
 PbO-SiO₂, colour centres form. and photoelasticity effect by laser radiation (*Russian*) 4-51413
 PbO-SiO₂, statistics of atomic network 4-50210
 PbO-SiO₂ frit, Pb solubility rel. to metal oxide additions 4-20361
 PbO-SiO₂ glass, optical breakdown under conditions of two-photon absorpt. of laser radiation 4-29474
 PbO-SiO₂-CuO glass, EPR line width and X-band spectra, freq. depend. 4-46099
 SiO₂, elementary electron excitations, localisation and migration 4-50735
 SiO₂ from colloids 4-57180
 SiO₂, fused silica, thermal annealing of radiation induced defects, rel. to MOS devices 4-45179
 SiO₂ gel, densification below 1000°C, microstruct., gel to glass conversion temp. 4-57171
 SiO₂ glass, anomalously narrow Raman lines, mol. models 4-56912
 SiO₂ glass, hyper-Raman scatt., selection rules for vibr. spectra wave vector and matrix elements 4-35453
 SiO₂ glass, prep. by sol-gel process 4-57173
 SiO₂ glass, surface topographical changes induced by low energy ion beam sputtering 4-16286
 SiO₂ glass, transparent sol-gel prep. 4-57179
 SiO₂, mag. opt. props. and temp. depend. recomb. of Ag atoms, review (*Russian*) 4-38344
 SiO₂, vitreous, devitrification rates, trace impurities effect 4-15387
 SiO₂:Nd³⁺ glass fibre, optical dephasing meas. using two-pulse photon echoes 4-19525
 SiO₂-Cr₂O₃(CoO) coloured glasses, spectral absorption coeff. in near IR region 4-16174
 SiO₂-Na₂O-CaO glass, containing Cu ions, γ-irradiated, elec. cond. study 4-2373
 SiO₂-PbO-BaO-K₂O-Na₂O system glasses, viscosity, temp. depend. (*Czech*) 4-50556
 SiO₂-PbO-K₂O-ZnO glass, silicate and glass form. 4-40738
 SnO₂:F(Sb) heat reflecting layer formation on glass, optical props. (*Czech*) 4-50685
 Sr-containing glasses, liq. phase separation and glass forming regions 4-15653
 SrO-TiO₂-Na₂O-SiO₂ system glasses, opt. dielec. and thermal props., conc. depend. (*Rumanian*) 4-46278
 TeO₂-PbO-CuO-ZnF₂ glasses, optical absorpt. and site symmetry of Cu(II) 4-30485
 TeO₂-V₂O₅ glass, struct. determ. by X-ray diffr. 4-15386
 TiO₂-SiO₂ glass, hyper-Raman scatt., selection rules for vibr. spectra wave vector and matrix elements 4-35453
 TiO₂-SiO₂ glass layers formed by gel process, O diffusion 4-57181
 V₂O₅-SeO₂ binary semicond. glasses, hopping cond., ESR studies 4-45770
 V₂O₅-TeO₂ binary semicond. glasses, hopping cond., ESR studies 4-45770
 V₂O₅-TeO₂-M₂O (M=Li, Na, K, Rb, Cs) glass, VO²⁺ complex, EPR study (*Russian*) 4-46092
 ZnBr₂ glass, struct. interpretation 4-6284
 ZnCl₂-based glasses, devitrification fusion and glass transition, water effects 4-15638
 ZrF₄-BaF₂-LaF₃ glass, crystn. kinetics, DSC study 4-24729
 ZrF₄-BaF₂-LaF₃-AlF₃-NaF optical fibres, improved crucible fabrication technique 4-33819
 ZrO₂-TiO₂-SiO₂ glasses, low temp. synthesis by sol-gel method, struct. obs. 4-57176

glass fibre reinforced plastics

- acrylonitrile-butadiene copolymer, thermal cond. meas. at high temps. using line source technique 4-37107
 anisotropic composites, stress analysis by transmission optical patterns 4-34017
 circular cylinders, axial compressive buckling, surface imperfections effect 4-38745
 conductive plastics, microstruct., elec. and mech. props. 4-15407
 damping capacity and natural freqs. 4-40878
 epoxide binders, strength testing apparatus for polymers in three-dimens. stressed state 4-46700
 epoxy matrix, hybrid composite with C fibres, direct jobs. of failure and toughness 4-3212
 epoxy matrix, hygrothermal ageing and fracture 4-7552
 epoxy matrix, mech. props. rel. to 2 MeV electron irradi. 4-30757
 epoxy matrix, moisture and thermal expansion coeffs. 4-50543
 epoxy matrix, short fibre, J-integral as fracture criterion, expt. approach 4-30787
 epoxy matrix, thick filament wound ring, transverse tensile strength anisotropy rel. to void size 4-51744
 epoxy matrix 4-34544

glass fibre reinforced plastics continued

- epoxy matrix laminates, bilinear failure analysis 4-16510
 epoxy resin matrix, laminated, elevated temp. testing for comparison of thermal and mech. props. 4-41112
 epoxy resin matrix, mech. props. at cryogenic and elevated temp. 4-51772
 epoxyphenol laminate, glass fabric reinforced, fatigue, moisture influence 4-46609
 fatigue and fatigue degradation model investig. 4-35679
 holographic moiré method exam. of anisotropic problems 4-44511
 Kevlar-glass fibre reinforced polymer, intermingled hybrid composites, elastic props. 4-40846
 laminates, environmental stress corrosion rel. to toughness design 4-16519
 laminates, three-component, fracture criterion 4-12167
 non-ceramic insulators for HV transmission lines, AE 4-57517
 phenolic resin matrix, laminated, elevated temp. testing for comparison of thermal and mech. props. 4-41112
 plates and beams, damping characts. of structures, determ. using Zoom-FFT 4-38775
 polyamide matrix, diffusional stabilization, effect on props. 4-51758
 polyamine matrix, fatigue characts. 4-46608
 polycapromide matrix, failure mechanisms 4-30815
 polyester matrix, elastic and strength properties 4-16436
 polyester matrix, filament wound pipes, wind angle effects 4-51733
 polyester matrix, hybrid composite, flexural and impact properties (Japanese) 4-26041
 polyester matrix, laminate, multiparametric characterisation of cracking 4-26033
 polyester matrix, mech. strength, temp. depend., effect of fibre-matrix interfacial bond strength (Japanese) 4-57264
 polyester matrix, tensile strength, winding angle depend. 4-12115
 polyester matrix 4-16444
 polyester resin matrix, toughening by resin modification 4-35636
 polyethylene matrix, five-layer panel, reaction to static and shock-wave loading 4-12118
 polyimide matrix, woven fabric, nonlinear elastic behaviour 4-35663
 polyimide matrix 4-34544
 polyimide resin matrix, mech. props. rel. to 2 MeV electron irradi. 4-30757
 polymer melt matrix, unstable capillary flow 4-24475
 polypropylene matrix, elec. cond. 4-21192
 polypropylene matrix, mech. props. rel. to fibre length and interfacial shear strength 4-16438
 polypropylene matrix, stressed, acoustic emission study 4-35796
 polypropylene melts, rheological behaviour between rotating parallel plates, effect of glass fibres 4-50554
 polyurethane matrix, rigid foam, thermal and photodegradation 4-35749
 properties, sensitivity to adhesion changes 4-46732
 quartz, fibre based ceramic material, acoustic props. and test methods 4-12297
 relation between fibre orientation and tool wear 4-12075
 sheet material for tensile testing 4-26127
 sheet moulding compound composite, notched plates, fracture toughness, mixed mode criteria 4-3224
 shells, cylindrical, dynamic deform. and fracture on internal impulse loading 4-12116
 short fibre reinforced thermoplastics, deform. design 4-51705
 space exposure effect on physicochem. props. of fibre/glass 4-46571
 technological advancements in reinforcements, filters, resins and processes 4-46489
 thermal curing, IR studies of AG-4V 4-21193
 tribology rel. to filler material (German) 4-16514
 woven, fatigue life prediction 4-12298
 Ti glass fibre reinforced plastics, elec. and mech. tests (Polish) 4-57240

glass fibres

- see also fibre optics; optical fibres*
 acidic and alkaline treatment, morphology and comp. 4-41026
 alkali-resistant fibres development for glass-ceramic fibre reinforced cement 4-40736
 BaF₂-GdF₃-ZrF₄ fluoride glass optical fibre prep. (Japanese) 4-49590
 cement, total porosity, diffusion coeff. and strength 4-51615
 chalcogenide glass optical fibre prep. (Japanese) 4-49591
 chemical surface state, XPS studies using Ag L α X-rays 4-48273
 drawing process, finite element method simulation 4-30675
 fluoride glass optical fibres, strength and fatigue 4-5726
 insulation for electrochemical batteries, energy density 4-35992
 mechanical damage, strength of fibres based on glasses 4-51767
 optical, compressive strain and low temp. characts. of nylon jacketed fibre (Japanese) 4-1507
 optical fibre manufacturing processes and developments (Croatian) 4-10449
 phosphate glass optical fibre fabricated by continuous drawing 4-24263
 ZrF₄-BaF₂-LaF₃ glass fibres for telecommunication appls. 4-28797
 Al₂O₃-SiO₂ fibres, refractive index, composition and crystallisation relationship during heating (Czech) 4-50208
 Li₂O-TiO₂-Al₂SiO₂ system, crystn. of glass fibres 4-55750
 MgO-Al₂O₃-SiO₂, mechanical damage, strength of fibres based on glasses 4-51767
 SiO₂ glass for optical fibres, fatigue, stable crack growth (Japanese) 4-49547
 SiO₂, vitreous, mechanical damage, strength of fibres based on glasses 4-51767
 SiO₂-Na⁺ fibre, optical dephasing meas. using two-pulse photon echoes 4-19525
 SiO₂-Al₂O₃ VAD fibres, fabrication, transmission loss and refr. index dispersion (Japanese) 4-49588
 SiO₂-GeO₂ glass optical fibre prep., equilibria concs. in SiCl₄, GeCl₄ oxidation 4-24262
 ZrF₄-BaF₂-GdF₃-AlF₃ glass optical fibre, impurity level reduction using sublimation purification technique 4-19607

glass formation *see* vitrification**glass industry**

- conducting film on glass, fabrication by pyrolysis or vacuum deposition (French) 4-35575
 containers, lightweighting, strengthening and coatings developments 4-41022

glass-metal seals

- light detection obs., possible optical fibre light detectors 4-48203
 foamed glass ceramic lead through seal, dielec. const., microwave appls. 4-17896

glass structure *see* glass; noncrystalline state structure**glass transition (glasses)***see also vitrification*

- alkali silicate glass, prop.-morphology relations 4-24728
 aluminofluorophosphate glasses, durability and props. 4-15396
 amorphous alloys, atomic transport, comp. depend. scaling 4-45376
 amorphous metals, atomic level struct., mol. dynamics study 4-44991
 density fluctuations, thermodynamic quantities at transition 4-11292
 dielectric relaxation at glass transition as free vol. process 4-16145
 first-order phase transition, evidence from vol. and entropy changes 4-45330
 fluoronitride glasses in Zr-metal-F-N system 4-46483
 glassy metals, structural relax. influence on thermal cond. 4-20423
 liquid metals, atomic level struct., mol. dynamics study 4-44991
 metallic glasses, enthalpy relaxation near glass transition temp. 4-45014
 metallic glasses, internal friction and other rheological functions in glass transition region (French) 4-39379
 metallic glasses, local structural fluctuations and defects 4-44987
 metallic glasses, structural relax. and glass transitions 4-55749
 metallic glasses prepared with different quenching rates, struct. relax., DSC study 4-45008
 molecular dynamics study of quenching of model liqs. 4-45332
 oxide glasses, internal friction and other rheological functions in glass transition region (French) 4-39379
 oxynitride glass formation from gels 4-25938
 PMMA, dielec. relaxation modes as function of tacticity using TSC 4-20907
 polydimethyl phenylene oxide-polystyrene glassy mixture, dynamical elastic modulus meas. near and below T_g (French) 4-39362
 pre-vitrification by viscosity feedback 4-2367
 rapidly quenched glass 4-25939
 relaxation phenomena and tunnelling centres, free vol. model 4-45331
 statistical mechanical model 4-2335
 structural changes of glass melts, temp. effects (Russian) 4-6509
 tetraethylammonium-water system, glass transitions, liq.-liq. immiscibility 4-29615
 vitreous solid, internal friction in glass transition 4-11290
 Ae-S-Te-Se system, glass form. and props. 4-11295
 AgX-Ag₂O-B₂O₃ glass, (X=I, Br or Cl), struct., ionic cond. and IR spectra 4-39159
 Al-As-Te glass system, elec. switching phenomena 4-6843
 β -Al₂O₃-Na₂O, dielectric response from ionic cond. and NMR data 4-40329
 As₂₀Ge_{80-x} chalcogenide glasses and melts, thermal and elec. cond. 4-11528
 B-oxide glass, vapour-phase synthesis, grafted polymerisation 4-51613
 B₂O₃ glass, annealing, enthalpy relax. 4-2349
 B₂O₃ glass melt, one phase, struct. anal. (Russian) 4-2098
 B₂O₃-Fe₂O₃-Mn₂O₄ glass, rapidly quenched, crystn. behaviour with regard to thermal and mag. props. (German) 4-2093
 BaF₂-YF₃-InF₃, vitreous transition and recrystallisation temp. determ., optical transmission meas. (French) 4-39505
 BaO-B₂O₃-V₂O₅ system, glasses with low softening points 4-57170
 CsNO₂ crystal, phase transition and freezing of ionic disorder 4-25023
 Cu-Zr based glasses, thermal props., stability, struct. factor, density 4-6290
 Ga₂S₃-La₂X₃-MnS (X=S,O), glass formation, EPR and optical study (French) 4-6508
 GeO₂-La₂O₃, phase diagram, glass transition and thermal expansion 4-11255
 Ge₂₀Te₈₀ glass, double stage crystallisation, DSC, X-ray diffr., TEM 4-34643
 LiI-tetraalkylammonium iodide melts and glasses, glass transition temps. and elec. cond. 4-39586
 Li₂O-Al₂O₃-Nb₂O₅ glasses, rapidly quenched, struct. and props. 4-46538
 Li₂O-MoO₃-WO₃, roller quenched glasses, transitions, elec. cond. (Japanese) 4-40759
 NaF-BaO-B₂O₃ system, glasses with low softening points 4-57170
 Na₂O-B₂O₃, high-alkali, CO₂ retention in glass form. 4-6277
 Na₂O-B₂O₃ borate one phase glass struct. (Russian) 4-2098
 Na₂O-BaO-B₂O₃ system, glasses with low softening points 4-57170
 Na₂O-SiO₂, differential thermal anal., optimum conditions 4-50510
 Na₂O-SiO₂ glass transition temp., water content depend. 4-11296
 Na₂O-ZrO₂-SiO₂ vitreous electrolyte, NASIGLAS, phys. props. 4-45404
 NaOH, frozen glassy solution, chemiluminescent and calorimetric studies of phase changes 4-51384
 Pd_{33-x}M_{16.5} metallic glass, M=Hf, Ta, W, Re, Os, Ir, Pt, Ru or Rh (Chinese) 4-5537
 Sb-S amorphous films, local struct., Raman scatt. studies 4-6677
 Se, glassy, dynamical elastic modulus meas. near and below T_g (French) 4-39362
 Se-based chalcogenide glasses, internal friction background below T_g (French) 4-39383
 SiO₂, vitreous, vacancy-bridge defect form., pseudoequilib. approach 4-10995
 SiO₂-Al₂O₃-CaO-K₂O-Cu₂O glass, phase transforms, Cu₂O effect 4-10993
 Sr-containing glasses, liq. phase separation and glass forming regions 4-15653
 SrO-TiO₂-Na₂O-SiO₂ system glasses, opt. dielec. and thermal props., conc. depend. (Rumanian) 4-46278
 Te₁₉Si₂₂ glass, structural relax. near T_g, DSC meas. 4-34414
 TiNO₂ crystal, phase transition and freezing of ionic disorder 4-25023
 ZnBr in ethyl acetate, glass forming non aqs. electrolyte, viscosity type study 4-39506
 ZnCl₂-based glasses, devitrification fusion and glass transition, water effects 4-15638

glass transition (polymers)

- N-acetylpolyurethanes, rheological props., density of cohesion energy, intermol. interactions influence (Russian) 4-6299
 amorphous polymers, viscoelastic behaviour in glass-rubber transition region, birefringence obs. 4-30742
 bisphenol-A polycarbonate-diluent blend, intermolecular interactions, temp. depend., NMR spin lattice relax. 4-11244
 α,ω -divalent cation dicarboxylate polybutadiene, viscoelastic props., glass transition 4-25069

glass transition (polymers) continued

- epoxide resins, cured, frictional behaviour in glassy, transition and rubbery regions 4-7608
 epoxy resin, softening temp., mech. characts. (*Russian*) 4-29614
 filled elastomers, relaxation processes and filler particles thermal mobility 4-35649
 ionomeric materials, TSC study of dielec. props. and cond. 4-11836
 laser spectroscopy applications 4-16209
 methacrylate-acrylate copolymers, dynamic relax. 4-39170
 oligomethylphenyl siloxanes, free vol. parameters and viscosimetric obs. at low temps. (*Russian*) 4-39163
 PET, glass, secondary relax. transition, 310K (*Russian*) 4-30736
 PMMA, photon correl. polarised light scatt., relax. processes, activation energy and vol. meas. 4-56950
 PMMA and oligomers, enthalpy relax., mol. wt. effect, DSC obs. 4-39542
 poly(propylene oxide), coordination to $ZnCl_2$, glass transition, reaction kinetics 4-35894
 poly-N-vinylcarbazole, doped, amorphous and photoconductive, glass transition in charge carrier transport phenomena 4-39916
 poly-p-phenylenesulfide, elec. transport and breakdown near glass transition temp. 4-25357
 polyamide-12, carbon filler effects on mol. mobility and struct. (*Russian*) 4-15402
 polycarbonate, equilibrium elastic modulus impulse technique 4-46545
 polycarbonate urethanesiloxane block copolymers, glass transition temp., mech. and dielec. props. (*Russian*) 4-29613
 polydiethyleneglycolterephthalate, birefringence and glass transition temp. 4-39508
 polymer glasses, relax. near glass transition, free vol. and density fluctuations 4-11004
 polymers, bulk, line broadening in ^{13}C NMR spectra above T_g 4-40249
 polymers, glassy, dynamic shear modulus, temp. dependence, calc. 4-30745
 polymers near glass transition, thermally activated processes 4-34644
 polypropyleneglycol networks, glass transition study 4-39507
 polypyrromellitimide, different unit structures effect on glass transition temp. (*Russian*) 4-56011
 polystyrene, atactic, Rayleigh-Brillouin light scatt. studies through densification cycle 4-2933
 polystyrene, equilibrium elastic modulus impulse technique 4-46545
 polystyrene, near glass transition, relax. function, photon correl. spectra 4-11294
 polystyrene, near glass transition, relax. of intensity fluctuations, laser speckle obs. 4-11293
 polystyrene, Rheomolded, annealing, rubbery state instability, DSC obs. 4-11291
 polystyrene films, mol. struct., glass transition temp., IR spectra (*Russian*) 4-55757
 polystyrene-polyvinyl methyl ether blends, deform., vibrational spectroscopy 4-40923
 polystyrene-thermotropic liquid crystal composite, rheological and thermal props. 4-46553
 polyvinylacetate, segmental motion, diluent and temp. effects, NMR and ESR obs. 4-45028
 propylene ethylene block copolymers, anelastic props., thermostimulated creep study (*French*) 4-39386
 PVC, dielec. relax. at glass transition as free vol. process 4-16145
 PVC, glass transition temp. and relax. time 4-39509
 PVC blended with styrene maleic anhydride copolymers, heat resistant material developments 4-7412
 PVC dielectric losses around glass transition, freq. and temp. depend. 4-20906
 In, oscillating interface model, photoacoustic amplitude and phase angle 4-34587

glasses see glass**glassy state see vitreous state****glide, dislocation see slip****globular star clusters**

- A-type horizontal branch stars, visible energy distrib. 4-42445
 Arp-Madore 1, CM diagram and population 4-47662
 black holes formation in globular clusters, accretion of gas in cluster core 4-22421
 blue globular clusters in LMC, relation to discrete epochs of star form. 4-13433
 ω Centauri, discovery of two SX Phoenixis stars 4-42470
 ω Centauri, integrated brightness and colour 4-17566
 ω Centauri, photon-counting area photometry rel. to finite width of main sequence 4-47666
 distance scale revisions 4-27189
 dynamical evolution, effects of binary stars 4-22448
 dynamics, post-collapse evolution of gaseous cluster model 4-22449
 E3, faint stellar photometry with CTIO SIT vidicon 4-8537
 energy distribution, effect of second parameter and metallicity, Vilnius integrated photometry 4-13384
 evaporative and tidal disruption of galactic proto-globular clusters 4-47663
 flattening of galactic globular clusters, contrib. of foreground interstellar absorpt. 4-22450
 flattening of globular clusters in LMC and Milky Way, relation to cluster luminosity 4-36723
 galactic, metallicity ranking and second parameter problem 4-22445
 galactocentric orbits, eccentricities 4-31873
 gas in globular clusters, accretion by stars rel. to black hole form. 4-22447
 giant branches and metallicity scale 4-31831
 giant stars, H α emission obs. 4-58428
 giant stars, IR photometry, bolometric luminosities and effective temps. 4-27070
 giant stars with CNO-enriched outer layers, evolution 4-3985
 horizontal branch stars in M3, M5, M13, rot. vel. anal. 4-31869
 integrated photometric parameters of open and globular clusters 4-4058
 LMC globular clusters, SIT Vidicon photometry 4-47665
 M15, IUE and optical obs. of planetary nebula (K648) 4-58493
 M15, planetary nebula K 648, appearance, electron density, ionised nebula mass 4-13399
 M15, UV and optical fluxes of blue horizontal branch stars 4-8469
 M33 globular clusters, age/metallicities, spectrophotometry 4-13377
 M3, nature of radio source M3A 4-27195
 M3, radial vels. of blue stragglers 4-36722

globular star clusters continued

- M55 red giants, CN and methylene band bar. 4-17570
 M71, metal abundances from spectroscopic obs. 4-22451
 M79 (NGC 1904), X-ray globular cluster, colour-magnitude diagram 4-27136
 main-sequence photometry for three galactic globular clusters, SIT Vidicon results 4-47664
 metal-rich globular clusters, metal abundances determ. 4-31870
 nature and characts. 4-13383
 NGC 1856, LMC blue globular cluster, age, populations and comp. 4-53229
 NGC 2121, LMC globular cluster, age, comp., evolutionary status 4-13376
 NGC 2133 and 2134 in LMC, ages 4-58490
 in NGC 2403, candidates study of late-type spiral galaxy 4-42504
 NGC 2808, giant stars, CN distrib., visible obs. 4-13379
 NGC 362, UV photometric brightness profiles 4-13380
 NGC 5466, proper motions and membership of stars above horizontal branch 4-13382
 NGC 6397, metal abundances, ages and temps. of stars, uvby β obs. 4-22446
 NGC 6681, photometric obs. of variable stars 4-4057
 NGC 6809 (M55), southern globular cluster, automated star counts 4-53230
 NGC 7099 (M30) discovery of cataclysmic variable 4-8480
 nonlinearly pulsating models; stability 4-13375
 phase-space models expressed in elementary functions 4-27140
 post-collapse evolution, self-similar solns. 4-17567
 SMC globular clusters, dynamical parameters 4-42540
 stability as galactic satellites, linear anal. 4-42505
 stability of gravitational systems and gravothermal catastrophe in astrophysics 4-53022
 system of NGC 5128, characts. 4-53267
 true shapes of globular clusters in LMC and Galaxy, rel. to kinematic props. 4-17565
 47 Tucanae giant stars, radial vels. from CORAVEL obs. 4-27137
 velocity dispersion of spherical stellar system, effect of addition of point mass 4-58488
 X-ray pulsar proper motion rel. to cluster dynamics 4-22481
 X-ray sources, nature and X-ray luminosity function 4-13378
 He abundance from R-method 4-22444
- glossaries**
 photoergonomy, glossary of some useful terms rel. to skin darkening (*Italian*) 4-47809
 photoergonomy, glossary of terms, photokeratoconjunctivitis, annotated bibliography 4-17665
 photoergonomy, glossary of terms, vitamin D form., annotated bibliography 4-17663
 photoergonomy, glossary of terms used, counterpart of Abney's law for nonvisual effects 4-47810
- glow curves see thermoluminescence**
- glow discharge deposition see plasma deposition**
- glow discharge lamps see discharge lamps**
- glow discharge microphones see microphones**
- glow discharges**
 attachment instability development 4-38954
 device for selective detector of trace and micro anal. for liq. chromatography 4-2026
 electron temperature determ. from diffusion voltage meas. 4-20053
 gases, low press. glow discharge, interelectrode gap effect 4-55672
 high-density discharge conductivity meas., optical method and Kerr cell 4-34319
 hollow cathode discharge, mag. field influence on cathode fall space 4-10910
 hollow cathode lamp, optogalvanic signal temporal behaviour 4-24677
 hollow-cathode tube discharge, high-voltage regime, comparison with plane cathode discharge 4-29269
 ionisation waves obs. in glow discharges 4-8685
 ionised gas, glow discharge positive column, heat flow processes 4-15323
 lamps, positive ion importance in optogalvanic detection 4-24678
 light from cathode fall space 4-10908
 magnetically stabilised, gas transport, computer simulation 4-39027
 microwave diagnostic of the pulsed plasma generation in the hollow-cathode glow discharge 4-2004
 multielectrode chamber with glow discharge, subsonic flow, nonequilib. parameters 4-34350
 optogalvanic effect in hollow-cathode discharge mechanism 4-19924
 optogalvanic spectroscopy, intermodulated and double reson., in hollow cathode 4-17955
 particle-cathode collision, energy distrib. 4-29278
 plasma electrodes for electro-optical switch appl. 4-44195
 positive column, coronal and collisional-radiative model of H plasma 4-20045
 positive ion species, mass-spectrometric anal. 4-44859
 thermal and electrical characteristics 4-15322
 thin film preparation technique using glow-discharge plasma (*Japanese*) 4-57112
 Ar, electron temp., spectroscopic determ. 4-49934
 CO $^+$, glow discharge cathode sheath, ion mobility laser induced charge, optogalvanic detection 4-24621
 CO-H $_2$ discharge, plasmachemical conversion to hydrocarbons (*French*) 4-15320
 CO $_2$, low press. glow discharge CO $_2^-$ ion densities 4-29273
 CO $_2$ -N $_2$ -He bulk self-sustained discharge in long gaps 4-24682
 Cu CW UV hollow cathode laser in 260 nm region 4-5612
 Cu $^+$ pulsed hollow cathode laser, ignition method influence on output power 4-55022
 Ge II hollow cathode discharge lasers 4-14670
 He glow discharge, nonlinear ionisation wave packets, selfmodulation 4-39018
 He-Cd white light laser using negative glow discharge 4-55023
 He-Cd-Hg CW hollow-cathode laser characts. 4-10283
 He-Cd $^+$ hollow cathode discharge multicolour laser for colour scanning 4-24011
 He-Kr ion laser in a DC hollow cathode discharge 4-55014
 Hg II compact laser excited by transverse electron beam glow discharge, 6149.5 Å transition 4-23958
 Kr atomic linewidth spatial variation, optogalvanic signal obs. in hollow cathode discharge 4-18988

glow discharges continued

- Li metastable quartet atoms, meas. in hollow-cathode discharge, XUV laser proposal 4-43841
- N₂ glow discharge, vibr. relax. effects on shock wave param. 4-34359
- N₂ recombination ionisation role in glow discharge instability 4-34363
- N₂ TEA laser, miniature, with automatically timed UV preionisation 4-24017
- N₂⁺, glow discharge cathode sheath, ion mobility laser induced charge, optogalvanic detection 4-24621
- NH₃, glow discharge, IR laser optogalvanic spectroscopy 4-23691
- NH₃, plasma chemical synthesis, electrode material effect 4-16660
- NH₄ radical, Rydberg states, emission spectra obs. 4-54736
- NO₂, glow discharge, IR laser optogalvanic spectroscopy 4-23691
- Na metastable quartet atoms, meas. in hollow-cathode discharge, XUV laser proposal 4-43841
- Ne glow discharge, local temp. of atoms meas. by polarisation spectroscopy 4-50117
- Ne glow discharge, reson. optogalvanic effect investigation 4-19925
- Ne glow-discharge plasma, laser excited, electron density temporal var., relationship to optogalvanic signal 4-49932
- Ne positive column discharge, optogalvanic effects 4-19926
- O flowing afterglow discharge switches, photodetachment as control mechanism 4-39024
- Si:H, F amorphous thin films, RF glow discharge deposition from SiF₄, plasma anal. 4-21169
- a-Si:H, film deposition by glow discharge, bias effects on props. 4-51497
- a-Si:H, glow discharge film, silane dilution effect on intrinsic stress 4-50673
- SiF₄, decomposition in glow discharge 4-49082
- Te II hollow cathode discharge lasers 4-14670
- U hollow cathode discharge, relative enhancement of ²³⁵U optogalvanic signal 4-43840

glueballs *see colour model; quark confinement*

gluonia *see colour model; quark confinement*

GO calculations

- see also GTO calculations*
- molecules, SCF calcs., extended FSGO basis sets 4-48903
- organic cpds., elec. polarisability, mag susceptibility, floating spherical CO calcs. 4-48915
- Co₂, atomic cluster calc., augmented Gaussian-orbital basis 4-19315
- Fu, BCC and FCC, ferromagnetism, lattice parameter depend. 4-20803
- H₂O, SCF calcs., extended FSGO basis sets 4-48903
- H₂X-HY, (X=O, S, Se, Y=F, Cl, Br), H-bonded complexes, geometry dissc. energies, ab initio GO-SCF-MO calcs. 4-38064
- He_n⁺, (n=2-4), stability, LCAO MO GO SCF calcs. 4-33316
- Li, energy bands and density of states, linear combination of Gaussian orbital calc. 4-56199
- NH₃, elec. field gradients, Gaussian basis sets, ab initio STO calcs. 4-28363
- NaOH, GAUSSIAN-80 calc. with MP3 and CID electron correl. 4-18909
- SiH_m⁺, mass spectrum, Gaussian 80 (6-21G) study 4-43802
- SiH_m, mass spectrum, Gaussian 80 (6-21G) study 4-43802

gold

see also nuclei with

- (111) surface elastic and plastic deform. obs. 4-39653
- (111) surface He atom scatt. 4-3009
- adsorbed Ar, Kr, Xe, N₂, O₂, methane and ethane, triple point wetting study 4-39673
- adsorbed monolayer on Pt (001) surface, electronic struct. calc. 4-45847
- adsorption on W, work function, AES and electron backscattering studies 4-6645
- atom, ionisation, L_α X-ray satellite 4-18973
- atom, nuclear excitation during ionisation 4-27832
- atom, photon induced L-shell X-ray intensity energy depend. 4-18974
- atom, relative intensity meas. of L-shell X-rays in energy range 17- to 60 keV 4-43848
- atomisation by fission fragments 4-15558
- Auger backscattering factor, effects of electron energy and angle of incidence 4-35528
- band structure, appl. of 4-15806
- band structure Lambda line, direct transitions, ARUPS studies 4-45612
- bulk metal/thin metal film interface, room temp. compound form. 4-25166
- calibration standard, eqn. of state, compression to 70 GPa 4-48067
- chemisorption of pyridine, surface enhanced Raman scatt. 4-30474
- clusters, supported, unit charge in photoemission final state 4-25852
- clusters in plasma polymerised matrices, crystallographic and elec. props. 4-35035
- coating, modification by ion bombardment during deposition 4-15559
- collision cascade, energy distrib. calc. (Russian) 4-50365
- cross section for emission of bremsstrahlung by electrons 4-47881
- crystallites on surfaces, model for growth shape 4-34430
- deposition, high speed maskless patterning by laser-enhanced jet plating 4-12033
- diffusion in Ni, Rutherford backscatt. study 4-20410
- double hole binding energy shifts, rel. to AES results 4-3002
- electrode-electrolyte interface, difference photoacoustic and difference reflectance spectra 4-41223
- electrodeposited, mech. props. 4-3213
- electrodes, adsorpt. of Fe phthalocyanine, laser Raman spectra 4-2434
- electrodes, elec. field penetration depth, ellipsometry 4-40402
- electrodes, S deposition and reaction 4-16347
- electrodes on Melinex, strong adhesion, phys. props. and microstruct. 4-15794
- electron stopping power, 1 to 10 keV 4-11206
- electron-phonon interaction, relativistic APW band struct. calc. 4-34886
- epitaxy by vacuum arc evaporation 4-35574
- FCC, defect trapping by ¹⁰⁰Pd, PAC meas. 4-34526
- FCC, lattice dynamics using ionic Morse pot. in sea of free-electron gas 4-55945
- Fermi surface, temp. depend., de Haas-van Alphen study 4-6691
- film, absorbing, for composite bolometer 4-48195
- film, polycryst., specific adsorption of Br⁻ and I⁻, electrode resist. in electrochem. cell, size effect anal. 4-34799
- film prep. by vacuum evaporation and etching, gauge factor meas. 4-48106
- films, grain-boundary scatt. and surface plasmon attenuation 4-40082
- fivefold symmetry particles, microdiffraction and lattice resolution studies 4-50237
- floating target surface pot. meas. with parallel beam technique 4-39066
- foil, ultrathin, combined refl. and transmission ellipsometry 4-43021
- hardness of single crystals, size effect (Russian) 4-57324
- indentation hardness meas. at 20 nm penetration depth 4-7572
- ion-plated coatings, tribology and XPS depth profiling 4-7605
- island film, elec. dipole reson. freq. shifts 4-51209
- island film, energy distrib. of emitted electrons 4-21115
- isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
- isomer shift calibration of ¹¹⁹Sn in Au, internal conversion meas. 4-40285
- laser prod. plasmas, ion expansion vel., recombination effect 4-38983
- laser-irradiated target, spectrum-resolved absolute X-ray emission energy meas. 4-15081
- liquid, struct. and thermodynamics from generalised OPW and reson. model approaches 4-15371
- liquid metal ion source, high resolution mass spectrometry 4-33232
- metal recovery systems using radiation grafted structures 4-46762
- molecule, relativistic calculations of dissociation energies and related properties 4-33352
- multiply twinned particles, surface struct. and energetics 4-39644
- overlayer on Pt surface, electronic struct., XPS and UPS studies 4-25416
- particles dispersed in polyester thin film, electron microdiffraction obs. 4-50152
- particulate film, potential optical storage material, TEM anal. 4-29846
- passivation-depassivation behaviour in HCl-glycerol soln., appl. to electroplating 4-57449
- photoelectric cross sections around K edge 4-19019
- plonic, 3d state anomalous strong interaction shifts and widths 4-49191
- plasma, laser-irradiated, soft X-ray spectrum, non-LTE anal. 4-38979
- plasma, prod. by laser beam, ablation and lateral energy transport 4-1952
- plating, high speed, anodic bath degradation and search for stable low polarisation anodes 4-25901
- point defects produced by cold working, Mossbauer spectroscopy and PAC study 4-35260
- polycrystalline targets, elastically reflected electrons, spatial distrib. 4-25838
- polystyrene-Au interface, injected charge carriers props. 4-11594
- proton small angle scatt. at glancing incidence, MeV range 4-51436
- recovery stage III, vacancy migration 4-16419
- self-consistent relativistic band struct. calc. 4-29875
- solubility of H under high press., thermodynamics 4-20367
- sputter-coated and ion-beam sputter-coated films, struct. analysis 4-15780
- sputtering, at. excitation, projectile incidence angle depend. 4-11997
- sputtering yield of Ar⁺ ions, ang. dependence 4-35536
- strained, NMR line shape, effect of quadrupole interaction 4-30356
- substrate for amino acid overlayers, secondary ion emission and AES study 4-46413
- surface, (111), angle resolved photoemission spectra, zero-slope points and electronic energy bandmapping 4-30601
- surface, (111), one-phonon atom-surface scattering, pot. cutoff calc. 4-30584
- surface, adsorbed Br⁻, characterisation using visible electroreflectance spectroscopy 4-56144
- surface, adsorbed ethyl ether, characterisation using visible electroreflectance spectroscopy 4-56144
- surface, H interaction, atomic level shift and broadening 4-11983
- surface, new intense CO₂ laser induced electron emission 4-25851
- surface, roughened, with adsorbed mols., surface enhanced Raman scatt. theory 4-51266
- surface energy calc. using Baskes and Melius interatomic pot. 4-45482
- surface restitution from electron micrographs of extended surface replicas in situ 4-30866
- target, accel. with 350 nm laser pulses, lateral energy transfer effect on vel. uniformity (French) 4-38977
- target, electron bombardment, two photon bremsstrahlung emission 4-10109
- tensorresistor with Te-Au point contact 4-38771
- thick-film laser targets, density meas. 4-4497
- thin disordered films, Hall effect, Coulomb anomaly 4-50956
- thin film, electrical resist., grain boundary and surface Debye temp. effects 4-35093
- thin film, evidence of EM quantum 1/f noise 4-40001
- thin film, internal stresses, microstruct. model anal. 4-45565
- thin film on didymium glass, optical absorption spectra, photothermal displacement spectroscopy study 4-40554
- thin film on GaAs (110), valence bands, UPS studies (Chinese) 4-50955
- thin films, α-particle stopping power meas. 4-50385
- thin films, optical and reflection coeffs., free-electron parameter anal. 4-51402
- thin films sputter deposited on Si, adhesion changes induced by electron irradiation 4-39342
- thin island films, dielec. props., statistical theory, appl. and comparison with expt. results 4-51398
- twist boundary, large angle, detection of expansion using electron diffr. 4-2216
- vacancies and self-interstitials, form. and migration energies 4-20185
- very thin films, conversion electron Mossbauer spectra 4-40307
- wires fabrication with 80 angstrom diameter, using etched tracks in mica 4-57140
- Al-Al₂O₃-Au struct., influence of electrode metal on negative differential resistance (French) 4-35088
- Al-poly(3-methylthiophene)-Au, electrochemically grown polymer film cell props. 4-40077
- Al-polythiophene-Au, electrochemically grown polymer film cell props. 4-40077
- Au against Pd connector contacts and inlay coupons, HCl and Cl₂ effects 4-30048
- Au electrode, photoelectron and photohole emission processes in aqs. soln. 4-52017
- Au/anodic oxide/GaAs struct., proton irradiation effects 4-35084
- Au/Co bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
- Au/Cu bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
- Au/GaAs (110) struct., interface states, Schottky capacitance spectra studies 4-15929

gold continued

- Au/InSe Schottky barriers, photovoltaic effect and solar energy conversion 4-6863
 Au/Langmuir-Blodgett film/n-Ga electroluminescent structures 4-21043
 Au/n-Si Schottky-barrier solar cells optical characterisation 4-12478
 Au/Si (100) Schottky diodes, elec. characts. and electron beam annealing 4-15961
 Au-Ag clusters with adsorbed molecules, surface enhanced Raman scatt. theory 4-25747
 Au-Al thin step-shaped couple, growth rates of diffusionally formed Au₂Al, spectral refl. 4-46343
 Au-C multilayer normal incidence mirrors for soft X-rays, spherical and plane, study using synchrotron radiation 4-22894
 Au-C spherical and plane multilayer normal-incidence mirrors for soft X-radiation 4-27637
 Au-CdTe Schottky diode, defect study by SEM/EBIC 4-15480
 Au-CdTe:Li low resistance contacts 4-30049
 Au-Cu-Ag matrix, PIXE evaluation of major components, matrix effects 4-3431
 Au-electrolyte interface, electroreflectance spectroscopic study 4-46232
 Au-GaAs, interfacial reactions study by TEM 4-39699
 Au-Ge-Ni ohmic contacts to GaAs, metallurgical props., Auger depth profiling, contact resist. meas. 4-30050
 Au-InP interface and Schottky diodes formation (French) 4-56430
 Au-MgO mixture, solar selective absorbing surfaces produced by ion implantation 4-26310
 Au-phthalocyanine-Au, sandwich cells, photovoltaic props. 4-45897
 Au-Si contacts, elec. and energy struct. props. 4-35070
 Au-Si interface, dose enhancement factors 4-48844
 Au-Si Schottky barrier solar cell performance calculation using Monte Carlo simulation 4-21553
 Au-ZnO-Zn struct., nonohmic characts., trap clusters 4-56449
 Au+H⁺, M-subshell ionisation cross sections X-ray prod. cross sections 4-9927
 Au+H⁺(He⁺) L-subshell ionis. 4-9989
 Au+1 deep inelastic collisions at 795 and 840 MeV, nuclear reaction-time effect on δ -electron emission 4-9997
 Au+light ion impact, L-subshell ionisation 4-19178
 Au+N⁺ L-shell ionis., 3.0-18.2 MeV 4-23794
 Au+N²⁺ (Ar⁺), L-X-rays; ang. distrib. 4-19200
 Au+S⁺, L₂₃-vacancy alignment at small impact parameters, X-ray detection 4-19199
 Au+U, asymmetric collision, δ -electron spectrosc. obs. of inner quasiatomic shells 4-9900
 Au¹⁵⁺+He, transfer ionisation and excitation, correl. two-electron effects 4-43977
 Au¹⁷⁺+He, emergent charge states, coincidence with forward electron spectra 4-9956
 Au¹⁸⁺+H collisions, total electron capture cross sections charge depend., nonmonotonic behaviour 4-19233
⁷⁵Au+F ions, direct ionisation and electron capture in M-shell X-ray prod. 4-11980
¹⁹⁷Au, conversion electron Mossbauer spectroscopy 4-7097
¹⁹⁸Au, neutron flux density meas., Au leaflet activation method (Rumanian) 4-18706
 Cd,Hg_{1-x}Te:Cu, Bridgman grown crystals, Au segregation, elec. props. 4-46432
 GaAs-Au, correl. between prep. method, barrier height and interface states (French) 4-6888
 n-GaAs-Au MIS Schottky barriers, interfacial charges in oxide layer investig. 4-20733
 GaP-Au contacts, struct. effects on heating 4-39696
 Mg-MgO-Au structures, investigation of visible emitted radiation 4-11602
 Nb-Au-Nb Josephson SNS junction, mag. field depend. study 4-30117
 Ni-Au, vacancy-solute complex creation and annihilation during irradi. 4-45124
 Ni-Au bilayers on Si(SiO₂), ion induced reactions, glancing angle X-ray diffr. and particle backscattering spectrometry 4-6410
 Pb-In-Au thin-film tunnel junction fabrication (Chinese) 4-2696
 Si (111)-Au interface interdiffusion due to Cr catalyst 4-11350
 Si-Au, Au diffusion and solubility, neutron-activation anal. and spreading resist. meas. 4-34710
 p-Si:Au, hole capture cross section temp. depend. (Chinese) 4-11538
 Si:Au, low symmetry EPR results 4-2815
 Si:Au, nonequilibrium carrier lifetime determ., dynamic grating method 4-6806
 a-Si:Au films, transport props., metal-insulator transition and supercond. 4-39995
 Si:Au single cryst., impurity gettering by porous Si during annealing 4-2382
 Si:Au-Fe, deep levels in band gap, EPR and DLTS study 4-50754
 Si-SiO₂ interface region, Ag distrib. profiles, DLTS 4-45177
 Si-SiO₂-Au MIS struct., photoemission threshold 4-40608
 Ta-Ta₂O₅-Au MIM structures, negative resist. and electron emission props. 4-50949
 Ti-Au bimetal films, interdiffusion and elec. resist. changes under annealing 4-35092
 Zn/Al₂O₃ cermets, optical props., multiple scatt. corrections 4-46214

gold alloys

- see also gold compounds
 electron microdiffraction pattern anal. 4-24696
 n-GaAs-Au/Te/Ni low resist. ohmic contact fabrication 4-2652
 metallic glass forming ability by splat cooling (German) 4-39157
 Ag-Au, corrosion and selective dissolution in HNO₃ 4-7652
 Ag-Au, molten, thermal diffusion and thermoelec. power 4-34678
 Ag-Au liq. alloys, elec. resist., pseudopot. calcs. 4-50788
 Ag-Co electrodeposits, Auger anal. for light elements 4-45174
 Ag-Sn alloys, surface comp. and segregation, ESCA studies 4-6637
 AgAuTe₂, cryst. struct. and antiphase boundaries 4-29389
 Au based binary liquid alloys, free energy and entropy of mixing 4-45355
 Au/Ni/Au-Ge alloyed ohmic contact to GaAs, interface structure and contact noise 4-29827
 Au-Ag, dental casting alloys, tarnish and corrosion resist. in artificial saliva 4-46658
 Au-Ag, dilute alloy, impurity migration, vicinity of developing atom-atom collision chain (Russian) 4-45416
 Au-Ag, interstitial impurity caging near collision cascade 4-56092
 Au-Ag liquid alloys, enthalpies of mixing, 1379K 4-39516

gold alloys continued

- Au-Ag (15 at.%), short-range order form. and quenched-in vacancy annihilation by resistivity meas. 4-7482
 Au-Bi amorphous alloys prod. by laser quenching and ion irradi. 4-15382
 Au-Cd, martensitic transform., US study 4-40780
 Au-Co, activity coeffs., phase equilib., 1073-1673K 4-35607
 Au-Co (2 at.%), precipitation kinetics, elec. resist. and magnetisation meas. 4-7472
 Au-Co metastable solid solns., electrodeposition and growth from melt 4-40689
 Au-Co thermocouple electrode, thermal EMF props. determ. for low-temp. appl. 4-8908
 Au-Cu liquid alloys, enthalpies of mixing, 1379K 4-39516
 Au-Cu alloy, track-plated, electrodeposition, analytical electron microscopy study 4-12039
 Au-Cu alloys, order-disorder transform., EXAFS study 4-45327
 Au-Cu-Ag, industrial, 18 carat, struct. and props. 4-7480
 Au-Fe, FCC, Mossbauer spectrum and hyperfine splitting 4-56828
 Au-Fe (1.5 at.%), canonical spin glass, linear and nonlinear susceptibilities 4-30173
 Au-Fe FCC alloys, Mossbauer spectrum and mag. struct. 4-11812
 Au-Fe thermocouple electrode, thermal EMF props. determ. for low-temp. appl. 4-8908
 Au-Ge/GaAs ohmic contacts, redistributed component mapping after laser annealing 4-34806
 Au-In, dil., damage rate expts., PAC study 4-34525
 Au-Mn, dil., nucl. spin lattice relax. of impurity nucl. 4-40264
 Au-Mn spin glass, remanent magnetisation time decay 4-51101
 Au-Ni, clustering above miscibility gap 4-7460
 Au-Ni (30 at.%), internal friction rel. to short-range directional order (French) 4-40864
 Au-Pd, dental casting alloys, tarnish and corrosion resist. in artificial saliva 4-46658
 Au-Si, hypoeutectic alloys, room temp. dissoc. of Au₂Si 4-21194
 Au-Si-Be liquid metal ion source with 100 kV mass-separating focused ion beam system for selective Si and Be implantation in GaAs 4-34503
 Au-Te, liq., electronic props., cond. and susceptibility meas. 4-6758
 Au-Ti, laser quenched, glass forming ability 4-34408
 Au_{1-x}Ag_x, Fermi surface, quantum oscillations obs., 40 T pulsed field de Haas-van Alphen spectrometer appl. 4-34860
 Al₂O₃, optical characts. and colour (Russian) 4-51218
 Au_{100-x}Cu_x, FCC, surface segregation, low energy ion scatt. 4-39648
 (Au_{100-x}Cu_x)₇₅Si₂₅Ge₁₄, amorphous alloys, cryst. nucleation 4-6274
 Au₂₃Cu₃₀Zn₄₇, premartensitic phase, struct., EXAFS study 4-21067
 Au₂₃Cu₃₀Zn₄₇, lattice dynamics above martensitic transformation, neutron scatt. study 4-50449
 AuFe alloys, double mag. transitions and allied phenomena, metallurgical explanation 4-56616
 AuFe, Mossbauer spectra, mag. field effects 4-35275
 Au₈₁Fe₉, anisotropy in zero-field-cooled states, irreversibility effects, spontaneous magnetisation 4-25549
 Au₈₁Fe₉, mag. hysteresis, irreversible effects below the de Almeida-Thouless temp. 4-40192
 Au₈₂Fe₁₈, spin glass freezing and absence of ferromagnetism, PAC study 4-30184
 Au₈₂Fe₁₈, spin glass freezing temp. internal field distrib., PAC study 4-35176
 AuIn₂ thin films, elec. resist. and grain size at 4.2K 4-40079
 Au_{1-x}La_x, amorphous alloy, interdiffusion reaction prep. and free energy 4-45429
 Au₂Mn, X-ray diffuse scatt. meas. with energy-dispersive detector and white radiation source 4-44892
 AuNi dilute alloys, elec. resist., free electron scatt. by localised pot. 4-29957
 Au₅₅Pb₂₂Sb_{22.5}, molten, kinematic viscosity and elec. cond. anomalies rel. to glass form. 4-2365
 Au₃Si, room temp. dissoc. in Au-Si hypoeutectic alloys 4-21194
 Au₈₁Si_{18.6} amorphous alloy, free energy of crystallisation 4-44951
 AuSn₄, crystal structure refinement 4-45057
 Au_{100-x}Ag_x, amorphous, density of states, photoemission study 4-45598
 AuTe₂, cryst. struct. determ. 4-29388
 Au₂Y_{1-x} amorphous alloy, interdiffusion reaction prep. and free energy 4-45429
 Au₂Zn(H), dissociated antiphase boundaries and dislocations 4-29645
 Be-Si-Au 100 keV focused ion beam system with EXB mass filter for maskless ion implantation 4-32380
 Be-Si-Au ternary alloy liq. metal ion sources, characteristics meas. 4-13720
 Cd-Ag dilute alloys, hyperfine interactions and recoil-free fractions of ¹⁹⁷Au, Mossbauer study 4-35255
 Cd-Au dilute alloys, quadrupole moments and low temp. thermal relax. 4-35256
 Cu-Al particles, growth by gas-evaporation, comp., cryst. struct. and habit 4-40614
 Cu-Au, ordering in elastic stress field 4-21204
 Cu-Au, spherical crystals, melt growth, surface melting and segregation 4-15643
 Cu-Au, spherical crystals, melt growth, surface topography and dendrites 4-15796
 Cu-Sn-Au bulk alloys and thin films, microstruct. and elec. props. 4-34821
 Cu-Zn(Au), solute redistrib. assoc. with nucleation and growth of α_1 plates 4-30704
 Cu₂Au (100), O₂ adsorption, Auger electron spectra studies 4-45506
 CuAu_{1-x}Ag_x, L₁₀ ordered alloy, axial ratio, effect of additions of Ag 4-15426
 Cu₂Au(Mn) spin glasses, mean-free-path effects 4-56636
 CuAu_{1-x}Ni_x, L₁₀ ordered alloy, axial ratio, effect of additions of Ni 4-15426
 CuAu_{1-x}Pt_x quasi-binary system, phase relations 4-34442
 Cu_{0.85}Mn_{0.15}Au metallic spin glass, torque and hysteresis 4-6989
 Fe-Au, dil., impurity hyperfine field, temp. depend., effect of lattice dynamics 4-40164
 Fe-Au, dil., local moment induced elec. quadrupole splitting of dil. ¹⁹⁸Au, NMR-ON study 4-46127
 Fe-Au (0.18 at.%), grain boundary struct., effect of solute segregation 4-45143
 Fe-Ni-Au, microstruct. and mag. props. 4-25043
 Fe₇B₁₁Au₂ metallic glass ribbons, Mossbauer spectra and crystallisation products 4-56825
 Fe(Pd_{1-x}Au_x), mag. struct. study 4-20795

gold alloys continued

- FePd₂Au alloy, sp. ht. of ordering, annealing studies 4-11315
 La₄Au, high press. synthesis and supercond. props. (Chinese) 4-57134
 Ni-Au binary alloys, composition changes due to sputtering, computer simulation 4-3007
 Ni-Au dilute alloys, interface with Si, ion-induced or thermal reactions, Rutherford backscatt. and glancing angle X-ray diffr. 4-6411
 NiAu-Ge contacts to InP, laser alloying 4-25443
 Pb-In-Au films, fine grained, vacuum deposition for Josephson base electrodes appl. 4-16317
 Pb-In-Au Josephson electrodes, thermal stability 4-7362
 PdAu, residual resistivity, deviations from Kurnakov-Nordheim rule (Russian) 4-25319
 PdAu₂₅Fe₂₁, mag. transition and props. (Chinese) 4-2753
 PdAu₂₅Fe₂₁Al₄, mag. transition and props. (Chinese) 4-2753
 TbAuCu₄, mag. struct., mag. susceptibility and moments, neutron diffr. obs. 4-56549
 V₁Au, high temp. NMR studies, Knight shift 4-56803
 Yb₈₀Au₂₀, amorphous, atomic struct, Mossbauer study 4-55727
 Yb₈₀Au₂₀, amorphous, short range order, dense random packing, quadrupole splitting, Mossbauer study 4-35293
 Zn-Au dilute alloy, hyperfine interactions and recoilfree fractions of ¹⁰⁷Au, Mossbauer study 4-35255

gold compounds

- see also gold alloys
 halides, relativistic band structure calculations 4-34856
 An complexes, bis(ethylene)dithioformamidinium dihalides-Au(I), preparation and IR spectra 4-51283
 Au cluster cpds., charge distrib., elec. struct., XPS 4-54804
 Au complexes, ³⁵Cl NQR and ¹H NMR, spin-lattice relax., Zeeman-quadrupole cross relax. 4-30329
 Au complexes, bis(N,N'-dimethyl)dithioformamidinium-Au(I), IR spectroscopy 4-23696
 Au halide complexes with dithioformamidinium halides, struct., IR spectra, conductivity meas. 4-7204
 Au-acetylene(ethylene) complexes, matrix isolation ESR spectra 4-33425
 AuF₆, electron affinities and electron struct., Xα calc. 4-5515
 AuH, pot. curves, nonrelativistic all electron SCF, MCSCF and CI calcs. 4-1068
 CeAu₂Si₂, mag. ordering, neutron diffr. study 4-51031

goniometers

- double-crystal topography camera 4-34371
 electronic vertical goniometer, a semi-automatic instrum. for aerial camera lens image geometry determ. 4-49481
 goniophotometer for calibrating small luminous flux standard lamps 4-27567
 high accuracy three-axis goniometer for channeling studies (Chinese) 4-28812
 interference goniometer image information parameters 4-33743
 TEM appl., top entry design with specimen level varying facilities 4-22879
 texture goniometer, computer controlled, appls. (French) 4-50130
 texture goniometer, computer-operated 4-46719
 texture goniometer measurements, principles 4-46718
 three axis knee goniometer diagnostic test, on-line meas. and interpretation 4-3643
 X-ray diffractometer for synchrotron radiation 4-53809

GP zones see Guinier-Preston zones

grain boundaries

- for grain boundary diffusion, see diffusion in solids; for grain boundary segregation, see segregation
 see also bicrystals; subboundary structure; twin boundaries
 β-brass, polycryst., stress corrosion cracking (Japanese) 4-26097
 A15 supercond., flux pinning mechanism at high field (Chinese) 4-51004
 alloys, Laves phase structure simulation by polystyrene latexes, optical microscopy 4-50532
 BCC transition metals, interactive potentials 4-29379
 bicrystal, stressed two-dimensional, mech. response, Monte Carlo simulation 4-45537
 brass, corrosion and dezincification in 1% H₂SO₄ soln., effect of mixed inhibitors 4-51849
 cavity growth modelling using envelopes of crack like surfaces 4-39377
 cavity growth on sliding grain boundary 4-15492
 cavity nucleation at particles on sliding grain boundaries, shear crack model in creeping polycrysts. 4-50305
 cellular structures, grain boundary near onset of convection 4-6381
 ceramics, plasticity and deformation (Japanese) 4-21276
 coarse grained polycrystal and bicrystals, grain boundary bending (Russian) 4-50308
 creeping materials, cavity growth mechanisms, review (German) 4-57307
 damping materials, mechanisms and appls. 4-40850
 deformable polycrystalline samples, plastic rotations of the lattice (Russian) 4-50406
 diamond-structure materials, interfacial defects 4-20214
 diffusion induced dislocation glide 4-11152
 diffusion-induced migration, grain boundary-dislocation climb mechanism 4-15702
 diffusional crack growth, energy release rate 4-5839
 diffusional creep, interface-controlled 4-20283
 dislocation motion, Rayleigh-Benard convection, wavenumber selection mechanism 4-29705
 dislocations, extrinsic model of nonequilibrium changes 4-15495
 dislocations, Fresnel effects and high resolution images 4-39068
 dislocations, ledges and glide props. (Russian) 4-34500
 drag force of second phase particles, shape effect 4-15494
 FCC hard-sphere crystals, systematic study of symm. tilt boundaries 4-20208
 film thickening kinetics by grain boundary diffusion 4-56061
 Fourier analysis, computed grain boundary structures representation 4-11155
 fracture surfaces, precipitate crystallography, appl. of SEM 4-3339
 growth of sub-critical bubbles on grain boundaries 4-55844
 Hadfield steel, cold brittleness study (Russian) 4-7542
 HSLA, martensitic, high temp. ductility, effects of austenite grain size and grain boundary segregation 4-16452
 ice, polycrystalline, TSEE in vacuum, 190-205K, electron bombardment effect 4-3035
 ice, recrystallisation growth rate 4-29368
 ice crystals, deformed, dislocations at large-angle grain boundaries, generation and absorpt. 4-29439

grain boundaries continued

- IN 738LC, Ni-base superalloy, cast, low cycle fatigue behaviour, effect of environment 4-57314
 IN-738, -939, Ni-base superalloys, creep crack growth 4-7557
 Incoloy 800, Ni-base superalloy, sulphidation attack at intermediate temps. 4-41081
 internal friction, impurity grain boundary maximum theory (Russian) 4-6438
 isothermal treatment, austenitizing, microstruct. of intermediate temp. transform. (Chinese) 4-46503
 metal-semiconductor contact, interface resistance, effective Richardson const. calc. using Landauer formula 4-11592
 metallic thin films, thermopower, surface roughness depend. 4-30088
 metals, cubic, {100} twist boundaries, analysis of diffr. 4-2211
 metals, recrystallisation as an irreversible phenomenon, grain boundary nucleation and migration (Czech) 4-7478
 metals, yield stress, grain size effects 4-26012
 noble metal films, grain-boundary scatt. and surface plasmon attenuation 4-40082
 3,4,9,10-perylenetetracarboxylic dianhydride thin films, ion irradi., elec. resist. 4-40100
 plastic flow study using microgrid technique 4-57293
 polycrystalline aggregates, triple lines as disclinations 4-39307
 polycrystalline material, transport props. at grain boundaries under illumination 4-15874
 polycrystals, intercryst. cracking, grain-boundary sliding and delayed elasticity at high temps. 4-34570
 polycrystals, surface morphology and electromigration during annealing 4-11394
 positron annihilation studies of vacancy-type defects, review 4-40560
 rare earth permanent magnets, R-Co, domain wall pinning 4-7001
 refractory bricks, deformation mechanisms at high temp., grain boundary phase analysis 4-51768
 semiconductor, grain boundaries, light-beam-induced current characterisation 4-39957
 semiconductor bicrystal, grain boundary tunnelling cond. 4-40025
 p-semiconductors, effective carrier mobility theory 4-11539
 semiconductors, mechanical properties, recrystallisation and diffusion, effect of doping, review 4-20213
 sink strengths for grain-boundary cavities 4-29449
 splitting and grain boundary dislocation motion (Russian) 4-34501
 steel, austenitic, He ion implanted He bubble nucleation at grain boundaries, TEM studies 4-25034
 steel, austenitic Mn-Cr, microstructure and precipitates 4-21293
 steel, austenitic stainless, BN precipitation on surface 4-16398
 steel, austenitic stainless, cellular precipitation in Al- and Ti-containing alloys 4-40800
 steel, austenitic stainless, composition of Cr depleted zone, atom probe field ion microscopy 4-16403
 steel, austenitic stainless, const. load tensile creep at 550°C 4-40898
 steel, austenitic stainless, fracture along grain boundaries, cavity growth control mechanisms 4-16509
 steel, austenitic stainless, heat-resisting, creep rupture strength (Japanese) 4-3227
 steel, austenitic stainless, intergranular SSC, Cr depletion near grain boundaries, Auger spectrosc. (Japanese) 4-25962
 steel, austenitic stainless, low cycle fatigue, at FBR temps., effects of strain rate and strain wave form. (Japanese) 4-3228
 steel, austenitic stainless, low cycle fatigue life of SUS 321, thermal ageing effect 4-3249
 steel, austenitic stainless, plastic deformation, early stages, TEM study 4-21268
 steel, austenitic stainless, Sb-doped 25 Cr-20 Ni, creep behaviour 4-30755
 steel, austenitic-ferritic, work hardening, effect of grain size 4-16416
 steel, C, methane bubble growth 4-57328
 steel, Co eutectoid, partitioning of Co during pearlite growth 4-30705
 steel, Cr-Mo, austenite nucleation and growth, memory effect 4-21206
 steel, Cr-Mo-V, turbine rotor, etching technique for revealing prior austenite grain boundaries 4-57507
 steel, Cr-Mo-V-Ti-B, H attack 4-40963
 steel, Cr-W, heat resist., strength loss rel. to Ce microalloying 4-51763
 steel, ferritic, incremental step creep test, determ. of creep damage coeff. 4-46669
 steel, ferritic, low C, with fine grain size, cleavage fracture 4-30802
 steel, ferritic heat resistant, microstruct. after long term service 4-30729
 steel, ferritic stainless 4-6377
 steel, fracture toughness rel. to high temp. thermomechanical treatment, recrystallised austenite grains 4-3233
 steel, high speed, MZ, as-cast, 4-30730
 steel, high speed, P and S segregation along grain boundaries, cleaning action of rare earth elements (Chinese) 4-16394
 steel, high speed, W-Cr-V-Mn, hot plasticity, effect of trace S (Chinese) 4-16435
 steel, HSLA, cold-rolled, delamination behaviour (Korean) 4-40958
 steel, hypoeutectoid graphitic, tensile props. rel. to microstruct. (Japanese) 4-35664
 steel, low C, hot ductility, AlN and NbC precipitation 4-30703
 steel, massive ferrite, intermediate temp. transform. (Chinese) 4-57214
 steel, medium strength, fatigue crack growth, low freq., effect of environment and stress ratio 4-57395
 steel, mobile impurities study by AES 4-29461
 steel, Ni, intergranular tempered martensite embrittlement 4-16478
 steel, Ni-Cr, P-doped, intergranular fracture surfaces, rel. between impurity-induced embrittlement and residual strains 4-30806
 steel, Ni-Cr and Cr-Mn-Si, temper brittleness, grain boundary segregation of P, AES (Chinese) 4-3205
 steel, Ni-Cr-Mo-V, rotor, caustic SCC, effect of impurity segregation and alloy comp. 4-7635
 steel, quenched and tempered, precip. induced voids 4-7461
 steel, stainless, austenitic, types 316L and 321, hydrogen induced delayed failure 4-3211
 steel, stainless, impact energy rel. to impurity levels and heat treatment 4-12166
 steel, stainless, intergranular attack during crevice corrosion 4-57388
 steel, stainless, structural, irradiation, in-pile nucleation and growth of gas bubbles on grain boundaries 4-15544
 steel, stainless, toughness improvement of AISI 403 by double austenitizing heat treatment 4-7592
 steel, type 30KhGSN2A with brittle inclusions, fracture characs. (Russian) 4-51783

grain boundaries continued

- steel Cr-Mo-V, low alloy heat resistant, creep fracture mechanisms 4-30799
- subgrain coalescence, dynamic, during low-temp. large plastic strains 4-34564
- superplastic flow mechanisms, quantitative evaluation 4-21266
- thin film diffusion size effect 4-39608
- thin metallic films and wires, specularly 4-45899
- turbine rotor, temper embrittlement 4-35706
- twist boundary, large angle, detection of expansion using electron diffraction 4-2216
- two-dimensional bicrystal, interfacial free energy 4-34805
- Udimet 710, 720, microstruct. and props., effect of B and C additions 4-46512
- Ag, grain boundary heterodiffusion of Ni, segregation effect 4-39604
- Ag-O solid solutions, bulk and grain boundary self diffusion of Ag 4-2371
- Al alloy, precipitation hardening, fractographic analysis of fatigue crack propagation by modulated pattern method (*Japanese*) 4-51913
- Al alloys, deformation, gel electrode imaging 4-21412
- Al bicrystals, creep deform., grain boundary sliding, dislocation absorpt. 4-12122
- Al, commercially pure, recrystn. behaviour HVEM and TEM study 4-40817
- Al, diffusion creep speed, effect of transitions (*Russian*) 4-50414
- Al, high purity, plastic props., effect of grain vol. distrib. 4-30779
- Al, high temp. fatigue, low cycle, grain boundary migration, microstruct. obs. 4-12141
- Al, high temp. fatigue, low cycle, grain boundary migration meas. 4-12142
- Al, high temp. fatigue orthogonal grain config., expt. invest. 4-7548
- Al, internal friction peaks connected with grain boundary sliding 4-50433
- Al, internal friction peaks at high temp., inverted flexure pendulum meas. 4-55919
- Al, orientation depend. of special grain boundary energy 4-2217
- Al, twist boundaries, energy and struct., effect of interatomic pot. 4-39310
- Al, ultrafine-grained, high purity, struct. and props., effect of annealing temp. 4-16425
- Al-Cu-Li, recrystallised 2020, fracture rel. to intermetallic particles 4-21315
- Al-Fe (0.005-0.04 wt.%), high purity, recrystn. textures, influence of Fe content and annealing temp. 4-21232
- Al-Li, δ' - δ transform., STEM study 4-12065
- Al-Mg (7 wt.%), dynamic recrystallisation after extrusion 4-12082
- Al-Mg-Si, peak aged, fatigue crack propag., dispersoid particles effect 4-21324
- Al-Mg(Si), welded, solute segregation in 'white zones' 4-16406
- Al-Si (0.5 wt.%), with brittle inclusions, fracture characts. (*Russian*) 4-51783
- Al-Zn-Mg, powder consolidated extruded plate, microstruct., tensile props. 4-30663
- Al-Zn-Mg, static and dynamic SCC, influence of temp. (*Japanese*) 4-41078
- Al-Zn-Mg, welded, SCC mechanism 4-12221
- Al-Zn-Mg (6.0, 2.6 wt.%), cold working, ageing, ductility, 4-293K 4-51748
- Al-Zn-Mg-Cu, H embrittlement, effect of microstruct. and Cu content 4-26054
- Al-Zn-Mg-Cu, high strength, unworked fracture behaviour 4-30803
- Al-Zn-Mg-Cu, SCC susceptibility, influence of Zn, Mg and Cu conc. (*German*) 4-26110
- Al-Zn-Si (12, 6 wt.%), kinetics of phase transitions after deformation by quenching 4-30750
- Al-Zn(Mg), grain boundary region microstruct. after ageing at elevated temps. 4-2214
- Al-(Cu-Mg), mech. props., effect of grain boundaries, new model (*Slovak*) 4-46568
- AlN, hot-pressed, mech. props., influence of oxidation (*French*) 4-16558
- α -Al₂O₃, SCC, microstruct. effects on rel. between stress intensity factor and crack vel. (*Japanese*) 4-41079
- Al₂O₃-SiO₂, mullite, mech. props. 4-16483
- Al₂O₃-SiO₂, mullite/ZrO₂ composites, sintering and mech. props., zirconia addition effect 4-3114
- Au thin film, electrical resist., grain boundary and surface Debye temp. effects 4-35093
- Au/Co bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
- Au/Cu bilayer films, interdiffusion, elec. resist. and Auger studies 4-50591
- AuIn₂ thin films, elec. resist. and grain size at 4.2K 4-40079
- BaPb_{0.75}Bi_{0.25}O₃, reentrant superconducting resistive transition obs. 4-45921
- BaTiO₃, sintering in presence of LiF (*French*) 4-57165
- BaTiO₃-Y₂O₃, electrophysical and magnetochemical props. 4-56857
- Be-Co system alloys, struct. and physico-mech. props., Co influence 4-57254
- Bi thin film, elastoresist. relax., surface state density (*French*) 4-40097
- CdTe, defect imaging using X-ray and scanning cathodoluminescence 4-15482
- CdTe, small-angle grain boundaries, screw dislocations, refl. X-ray topography, scanning cathodoluminescence imaging 4-2213
- Ce₂O₃-ZrO₂ powders, sintering, dilatometry 4-57161
- Co-base superalloys, stress rupture at 704°C, effect of liq. sulphate-chloride environment 4-41083
- Co-Cr RF sputtered films, saturation magnetisation, atomic distrib. effects 4-56720
- Co-Cr-Mo-C implant alloy, ageing behaviour 4-7485
- Cr, computer simulation of tilt boundaries (*Russian*) 4-50307
- Cr-Fe, cold brittleness temp., plasticity and segregation (*Russian*) 4-51781
- Cu, cold worked, softening temp. and elec. resist., effect of additions of In, Pb, Sb or Sn 4-40815
- Cu, polycryst., fatigue cracks, threshold stress intensity and dislocation struct. 4-40961
- Cu, single crystals, deform. struct. and nucleation of dynamic recrystn. 4-12101
- Cu, Stoneley waves, grain boundaries 4-50306
- Cu/Sn binary diffusion couples, nonparabolic growth of intermediate phases 4-34726

grain boundaries continued

- Cu-Ag(Mg)(Sb)(In)(Cd)(Sn), diffusion induced grain boundary migration and discontinuous precip. 4-40803
- Cu-Al-Ni shape memory alloys, 4-7588
- Cu-As, diffusion induced grain boundary migration, colour metallography 4-21409
- Cu-Be (2.0 wt.%), grain boundary reaction, effect of additional elements 4-7474
- Cu-Bi, equilib. segregation of Bi, analytical electron microscopy study 4-40797
- Cu-Fe, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
- Cu-Ni-Sn, cellular precip., effect of B and P additions 4-16400
- Cu-Pd diffusion couples, diffusion-induced grain boundary migration, TEM, AES studies 4-20415
- Cu-Sb, creep cavity surfaces and grain boundaries, chem. comp. study 4-24829
- Cu-Sb alloy, rel. between creep cavitation and grain boundary orientation 4-45144
- Cu-SiO₂, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
- Cu-Zn, diffusion induced grain boundary migration, colour metallography 4-21409
- Cu-Zn, surface relief produced by diffusion-induced grain boundary migration 4-56091
- Cu-Zn-Al, rapidly solidified, microstruct. of β -phase 4-16384
- Cu-(Bi), corrosion, intercrystalline, factors controlled increase near grain boundaries 4-57400
- (Fe,Ni,Co)₃V ordered alloys, high cycle fatigue, 25-850°C 4-7560
- Fe alloys, STEM-EDS X-ray microanalysis of grain boundary segregations 4-2337
- Fe, demagnetising fields at grain boundaries, law of approach to saturation at intermediate fields 4-11743
- α -Fe, H induced grain boundary fracture, C segregation effect (*Japanese*) 4-7554
- Fe, intergranular fracture, effects of S segregation and H charging 4-12139
- Fe, intergranular subcritical crack growth, S in grain boundaries 4-40989
- Fe, magnetic domain wall motion and magnetomech. damping (*French*) 4-40214
- Fe, pure, fatigue crack nucleation sites, grain orientation depend. (*Japanese*) 4-21306
- Fe-Au (0.18 at.%), grain boundary struct., effect of solute segregation 4-45143
- Fe-B(P), grain boundary segregation, atomic struct. and stress distrib. 4-20356
- Fe-B(P), grain boundary segregation, electronic struct. and intergranular embrittlement 4-20357
- Fe-B(P), grain boundary segregation, vibr. states of atoms at grain boundaries 4-20358
- Fe-base alloys, stability of extrinsic grain boundary dislocations rel. to segregation and precip. 4-7458
- Fe-C (1.25 wt.%), positron-grain boundary interaction, trapping studies 4-35514
- α -Fe-Cr, bright nitrided alloys, grain boundary segregation, AES 4-7471
- Fe-Cr-Mo, BCC, dislocation annihilation in small-angle boundaries 4-39299
- Fe-Cr-Ni, radiation induced segregation, composition profiles 4-20368
- Fe-Cu, liquid phase sintered, austenite grain boundaries, etching obs. (*German, English*) 4-7683
- α -Fe-Mo, bright nitrided alloys, grain boundary segregation, AES 4-7471
- Fe-Ni system, low temp. diffusivity, STEM obs. 4-15677
- Fe-Ni-Cr, model alloy, stress-rupture in sulphidising and oxidising environments 4-7636
- Fe-Ni-Cr superalloy, mech. props., microstruct. on prolonged heat exposure (*Chinese*) 4-3172
- Fe-Ni-P, P conc. profiles across grain boundaries, theoretical estimates 4-21216
- Fe-P-C, grain boundary segregation of P, C conc. effect 4-16405
- α -Fe-Si, bright nitrided alloys, grain boundary segregation, AES 4-7471
- Fe-Si (3at.%), early fatigue crack propag., etch-pit study (*Japanese*) 4-3229
- FeF₃ thin films, inhomogeneous, elec. charge transfer, less resistance path, TSC 4-15978
- GaAs bicrystals, impact ionisation near grain boundaries, electroluminesc. study 4-20661
- GaAs:Cr, seminsulating, dislocation grain boundaries, photoEMF, photoconductivity spectra 4-15919
- GaSb ingots, Bridgman growth, texture, cryst. orientation, grain boundaries, SEM, chem. etching, electron channelling 4-29364
- Ge:Ga, diffusion of Ga along small angle grain boundaries 4-6563
- Ge:P, transient elec. props. of low angle tilt boundaries 4-15847
- ⁴He, FCC, grain boundaries, wetting by fluid ⁴He 4-11381
- InSb:Te(Se)(S) 4-40098
- KBr-KI mixed crystals, radiation hardening, dislocation and grain boundaries conc. meas. 4-11183
- Mg, polycrystalline, tensile deform., 473K, grain boundary band region (*Japanese*) 4-7511
- Mg(Cu_{0.10}Zn_{0.90})₂, defects, high resolution electron microscopy obs. 4-29448
- MgF₂-CaF₂, ceramic powders, sintering pre-eutectic densification 4-51588
- MgO, point defect form. energy in free surfaces and grain boundaries 4-15464
- Mo condensate, on steel, by vacuum arc discharge, influence of ion energy on microstructure and macrostresses (*Russian*) 4-50662
- Mo, electrical resistivity, influence of grain boundaries 4-25318
- Mo, intergranular embrittlement by O (*Japanese*) 4-35688
- Mo, polycrystalline, vacuum annealing, O desorption from grain boundaries, ductility recovery (*Japanese*) 4-35639
- Mo powder, explosively consolidated, heat treatment, microstruct., hardness 4-30712
- Mo-Ni, arc melted, recrystallisation temp. rel. to Ni content (*Japanese*) 4-7488
- Mo-W (5 wt.%), creep ductility, effect of thermomech. processing 4-40909
- Nb bicrystals, vortices interaction with grain boundaries, crit. current meas. 4-2711
- Nb thin films, vortex motion and critical currents 4-35129
- NbH_{1.2}, Compton line profile study 4-51403

grain boundaries continued

- Nb₃Sn, bronze-processed, chem. comps. near grain boundaries, AES study 4-2212
- Ni, corrosion in S- and Cl-containing environments, grain boundary penetration and embrittlement 4-21380
- Ni, demagnetising fields at grain boundaries, law of approach to saturation at intermediate fields 4-11743
- Ni, H embrittlement, influence of grain boundary penetration of O 4-57345
- Ni, intergranular H embrittlement, O penetration of grain boundaries (Japanese) 4-26095
- Ni, intergranular subcritical crack growth, S in grain boundaries 4-40989
- Ni, intermediate temp. embrittlement 4-40955
- Ni, neutron irradiation, voids, dislocations, annealing kinetics (Russian) 4-24872
- Ni, polycrystalline, grain boundary segregated S, chemical state, AES and XPS obs. 4-35633
- Ni/Fe system, vapour transport and diffusion-induced grain boundary motion 4-25099
- Ni-base superalloy, corrosion in S- and Cl-containing environments, grain boundary penetration and embrittlement 4-21380
- Ni-base superalloy, stress rupture at 704°C, effect of liq. sulphate-chloride environment 4-41083
- Ni-base superalloys, low cycle fatigue, effects of environment and struct. stability 4-40935
- Ni-base superalloys, serrated grain boundary form. 4-30707
- Ni-base superalloys (Chinese) 4-7465
- Ni-Co-Cr superalloy, creep rel. to Mg additions (Chinese) 4-57280
- Ni-Cr-Al high Cr alloy, complex recrystallisation and precipitation reactions (Russian) 4-51663
- Ni-Sn, cellular precip., effect of B and P additions 4-16400
- Ni-Sn, genesis of orientation boundaries, photoemission electron microscopy 4-21223
- Ni-Sn alloys, cellular precip. 4-16399
- Ni-Zr oxide coated cathode, interface layer formation and grain boundary study 4-29828
- Ni₃Al, strongly ordered L₁2 alloys, dynamic recrystallisation rel. to flow and fracture 4-57253
- Ni₃Fe₂Co₃ thin film, coercive force determ. (Russian) 4-51107
- NiO, recrystn., diffusion induced 4-21233
- NiO-Ni scales interface form. by oxidation, defect microstructures, TEM obs. 4-25168
- PLTZ ceramics, domain determ. by Ag photodeposition 4-35397
- Pb polycrystalline films, grain size reduction using Auln₂ barriers to grain growth 4-50667
- PbTe, thermoelectric figure of merit and thermal cond. 4-11354
- Si, electrical resist. and carrier conc., grain size and doping effects 4-29973
- Si, electronic transport at grain boundaries 4-20670
- Si films, seeded, recrystallized between SiO₂ layers, low angle grain boundary suppression 4-21134
- Si films, zone melting recrystallisation on insulating substrates 4-21131
- Si grain boundary, appl. of spectral limits theorem 4-6696
- Si, grain boundary electronic struct. calcs. 4-39825
- Si, microcrystalline, defect states study 4-50756
- Si, microcrystalline, elec. cond., EPR and gas adsorption effects 4-11522
- Si, microcrystalline, Raman scatt. and elec. cond. 4-51386
- Si, polycrystalline, dislocation content of some near-coincidence grain boundaries 4-20200
- Si, polycrystalline, elec. cond., modelling and numerical analysis 4-50805
- Si polycrystalline grain, minority carrier transport meas. in SEM, EBIC response 4-39931
- Si, pulsed electron beam annealing, struct. defects induced by thermoelastic stresses, SEM studies 4-24822
- Si, solar grade, cryst. growth techniques and segregation effects 4-7346
- Si, struct. defects effect on etching rate 4-57364
- Si, thermionic-field emission from interface states at grain boundaries 4-35543
- Si thin film on insulating substrates, recrystallisation using incoherent light sources 4-15381
- Si:As/Si bilayer films, As diffusion along grain boundaries 4-34725
- Si:H ribbon, H diffusion and passivation along grain boundaries 4-50581
- Si:P, diffusion in crystallised amorphous layers 4-45418
- Si/liquid contact, 7.2% efficient photoanodes 4-50862
- Si-TaSi₂ interface, P diffusion, lattice and grain boundary diffusion 4-29831
- SiAlON ceramic, hot pressed, grain boundary struct. 4-39311
- SiC, doped with (B,C) or (Al,C), pressureless sintering, microstructures 4-57155
- SiC, grain boundaries, microstruct. characterisation by TEM (French) 4-15493
- SiC, static fatigue limit at elevated temps. 4-26038
- Si₃N₄-SiO₂-Y₂O₃, SiYON[®] ceramics, hot-pressed, creep resist. (French) 4-16459
- Si₃N₄-Y₂O₃-SiO₂, hot pressed, oxidation kinetics and thermodynamics, diffusion model 4-51645
- Si₃N₄-Y₂O₃-SiO₂ system, hot pressing densification mechanism 4-57149
- Sm-Co magnets, sintered, coercivity mag. anisotropy 4-7016
- Sm-Co-Cu-Fe-Zr thin sheets, domain struct. during magnetisation-reversal 4-56737
- Sm(Co,Cu,Fe,Mn)_{7.8} permanent magnet, coercivity rel. to Cu segregation and as cast struct. (Chinese) 4-56685
- Sm(Co, Cu, Fe, Zr)_{8.92} mag. alloys, heat treatment, metallographic studies 4-51826
- Sm(CoFeCuZr)_{7.4} sintered magnets, microstruct. and mag. props., annealing effects (Russian) 4-25592
- Sn bicrystals, migration of <001> tilt grain boundaries, press. depend. 4-56093
- Sn-Ge interphase boundaries, isolated, In diffusion at high press. 4-29702
- Sn-Ge-In system, In diffusion along grain boundaries, compensation effects (Russian) 4-25079
- SiTiO₃ boundary layer capacitor material, grain boundary area, TEM obs. 4-55846
- steel, austenitic stainless, hot ductility and NbC precipitation, intergranular microvoids coalescence fracture mode (Japanese) 4-46566
- Ta₂O₅ amorphous films, leakage-current increase due to pinhole growth during annealing 4-35106
- α-Ta₂O₅/Sc₂O₃ defects and ionic transport 4-15693
- ThO₂, polycryst., grain boundary depressed O ion diffusion 4-56070

grain boundaries continued

- Ti, grain boundary segregation of impurities, X-ray microanal. study (Russian) 4-51665
- α-Ti, neutron damage structure 4-29482
- Ti-Al-Zr (-V), grain boundary segregation of impurities, X-ray microanal. study (Russian) 4-51665
- Ti-V-Fe-Al (10, 2, 3 wt.%), aged, tensile deform., fracture, microstructure 4-7522
- TiO₂ films, DC cond. meas. and mechanisms 4-56458
- UO₂-PuO₂, sintered mixed compacts, homogenisation and cation interdiffusion, X-ray obs. 4-54249
- V-Nb, mech. props. rel. to H content 4-40967
- W, grain boundaries, in BCC lattice, computer simulation (Russian) 4-50307
- W, high-temp. embrittlement, struct. form. 4-57340
- W, lattice and grain boundary dislocations, ion microscopy study (Russian) 4-50295
- W powder, active and activated isothermal sintering effect on porous struct. 4-51581
- W, sintered, Ni-Fe activated, AES study of C and P segregation 4-46613
- W-Fe, cold brittleness temp., plasticity and segregation (Russian) 4-51781
- W-Fe, dil. alloy, grain boundary segregation rel. to grain boundary movement 4-12072
- W-Ni-Fe, heavy alloys, liq. phase sintered, fracture behaviour 4-40972
- WC-Co, Co enrichment at WC grain boundaries, STEM study 4-16401
- Zn, grain boundary glide study (Russian) 4-6378
- Zn-Al (22 wt.%), superplastic deform., texture form. 4-57244
- Zn-Al-Mg alloy, fine-grained, positron study 4-46360
- Zn-Cu-Mn (0.92, 0.60 wt.%), superplastic deform. mechanisms, metallography 4-12113
- ZnTe:P,Na, pure and doped, defect struct., TEM and photoluminesc. study 4-51321
- Zr-Cr-Fe (1.15, 0.1 wt.%), ZrCr₂ precip., electron metallographic study 4-30708
- ZrO₂ films, stabilised, grain boundary resistivity 4-6547
- ZrO₂, P₂O₅ stabilised bicrystals, grain boundary grooving rel. to MgO sintering additive 4-57162
- ZrO₂, Y₂O₃ stabilised, grain boundary resistivity rel. to Al₂O₃ and SiO₂ additions 4-56076
- grain boundary diffusion** see diffusion in solids
- grain growth**
- dispersion strengthened, optimisation of mech. props. by suitable heat treatment 4-46522
- ice, Antarctic polycrystalline, grain growth rate, hydrostatic press. effect 4-31538
- kinetic equation of grain growth, interrelation of grain size distrib. and rate const. 4-51624
- metals, recrystallisation as an irreversible phenomenon, grain boundary nucleation and migration (Czech) 4-7478
- mullite, IR-transparent, prep. 4-40725
- sintered, mag. props. rel. to porosity 4-11747
- steel, low C, cold-rolled, recovery, recrystn. and grain growth during annealing 4-16417
- steel, microalloyed, grain coarsening, effect of Al, V, Ti and Nb additions 4-7491
- steel, microduplex stainless, superplastic, grain growth and strain rate sensitivity 4-7508
- steel, Ti-microalloyed, nitride stability during weld thermal cycles, role of alloy comp. 4-40796
- Al, high temp. fatigue orthogonal grain config., expt. invest. 4-7548
- Al, ultrafine-grained, high purity, struct. and props., effect of annealing temp. 4-16425
- Al-Al₂O₃, grain growth study 4-16407
- Al-Cu thin film conductors, grain growth as result of rapid annealing, semicond. technological appls. 4-40821
- Al-Si-Cu thin film conductors, grain growth as result of rapid annealing, semicond. technological appls. 4-40821
- Al₂O₃ powder, sintering, initial cryst. growth, X-ray line broadening obs. 4-57160
- Al₂O₃ powder compact, sinterability rel. to pore coordination no. distrib. 4-37145
- BaO-TiO₂-Nd₂O₃-SnO₂ system, phase reactions 4-57193
- BaPb_{0.5}Bi_{0.5}O₃ sputtered films, superconducting props., PbO₂ annealing atmosphere effects 4-6925
- BaTiO₃ ceramics, recrystn., kinetic process 4-57255
- BaTiO₃ ceramics, sintering, anomalous grain growth, twin lamellae 4-57159
- Be-Co system alloys, struct. and physico-mech. props., Co influence 4-57254
- CaZrO₃ powder, coprecipitation, sintering and densification (French) 4-57156
- Cu, polycryst, struct. and strength during hydrostatic extrusion 4-30766
- Cu-Al-Si-Co (2.8, 1.8, 0.4 wt.%), superplastic Corronze 638, deform., strain hardening effect 4-51726
- Cu-Al(-Ni), shape memory alloys, rapidly solidified, transform behaviour, effect of heat treatment 4-57208
- MgF₂-CaF₂, ceramic powders, sintering pre-eutectic densification 4-51588
- Mo powder, explosively consolidated, heat treatment, microstruct., hardness 4-30712
- Mo sheets, rolling effects on annealing textures 4-46523
- Mo, single-crystal sheet, large scale, prep. by secondary recrystn. 4-40645
- Nb₃Sn tapes, superconducting, microstruct. and neutron radiation damage 4-45193
- PZT powders, sintering and characterisation 4-16363
- Pb polycrystalline films, grain size reduction using Auln₂ barriers to grain growth 4-50667
- Pb/Ag superlattice, growth and X-ray diff. spectra 4-2470
- Pb₂Ge₂O₁₁ pyroelectric glass-ceramics, oriented grain growth from germanate glass 4-30676
- a-Si, on Si₃N₄, material migration, grain growth and crystallisation, in situ laser heating in STEM 4-10931
- Si ultrathin films, surface-energy-driven secondary grain growth 4-50657
- Si, zone-melting recrystn. on SiO₂, grain orientation control by orientation filtering 4-30627
- Si:P(As)(O)(Cl), CVD polycryst. film, impurity effect on grain growth 4-6674

grain growth continued

- Si₃N₄-TiN, sintering, effect of TiN additions 4-25936
 SmCo₅, microstructural effects of casting conditions and melt additions 4-57397
 W powder, active and activated isothermal sintering effect on porous struct. 4-51581
 W, powders processed by chemically activated sintering, mech. props. 4-7389
 ZnO, sintered, grain growth after primary recrystallisation 4-57158
 ZnO varistor ceramic, grain growth and elec. props. rel. to sintering temp. and additives 4-25914
 ZrO₂-Al₂O₃, ultrafine coprecipitated powders using spray-ICP technique, stability 4-25928

grain refinement

- recrystallisation, dynamic, single to multiple peak transition, effect of test method 4-40819
 steel, Cr-Mn, thermomechanically strengthened, mech. props., substructure 4-57271
 steel, Cr-Mo, austenite nucleation and growth, memory effect 4-21206
 steel, Nb, grain refinement by control of recrystn. during hot rolling 4-40832
 steel, plain C, case-hardening response, effect of Al treatment 4-51845
 Al-Ti-B system, phase relationships and grain refining of Al 4-40751
 Co-Cr-Mo-Ni, superalloy, HS 21, carbide grain refinement, nucleation entropy 4-12068
 Cu-Zn-Al, shape memory effect, degradation, grain size refinement, internal stresses, reflectivity obs. (*Japanese*) 4-46505
 Mg-Li-Si(Ce), rapid solidification processing, refined microstructure, Hall-Petch strengthening 4-40807
 Ni-Cr-Al superalloy, carbide comp. and struct. rel. to Nb and Ta additions 4-12069
 Ni-Sn, genesis of orientation boundaries, photoemission electron microscopy 4-21223
 Ti alloys, rapidly solidified, microstruct. 4-30697
 TiC hard metal with TiN additions, fracture characts. 4-7574

grain size

see also *grain growth; grain refinement*

- activation energies and diffusion data rel. to grain size 4-25074
 alloys, struct. and props., influence of weightlessness 4-51955
 Astroloy, P/M, fatigue crack growth at 650°C, effect of microstruct. 4-16492
 brass, forming limit diagram, influence of surface roughness and void growth at inclusions 4-3175
 brass sheets, limit-strains in biaxial stretching, thickness and grain size effects 4-21272
 brittle solids, anisotropic, crit. grain size/preexisting flaw size relations 4-15581
 ceramic ferroelectrics, structural engineering and tailormade materials 4-35374
 composite, radiation granulometry, time series statistical characts. 4-3356
 ferrite-pearlite composites, flow stress model, grain size depend. 4-30763
 ferroelectric ceramics, soft modes and grain size effects 4-30408
 forged specimen, strain distribution of interior grains 4-39369
 granular materials, nonsteady-state probe method, for thermal meas. 4-48125
 granular systems, Coulomb-quasigap and metal-insulator transition 4-39777
 hot rolled plates, mech. props., grain size and interstitials effect (*German*) 4-35657
 HSLA, martensitic, high temp. ductility, effects of austenite grain size and grain boundary segregation 4-16452
 ice, brittle-ductile transition and cracks 4-55998
 ice, strength rel. to grain size at high temp. 4-15583
 kinetic equation of grain growth, interrelation of grain size distrib. and rate const. 4-51624
 metallic deposits, discontinuous, granularity on C film, cond. meas. (*French*) 4-30086
 metallic materials, fatigue crack propag. thresholds, review (*Czech*) 4-7556
 metals, dynamic fracture, spalling, review 4-12170
 metals, polycrystalline, acoustic emission in deform. 4-51765
 metals, yield stress, grain size effects 4-26012
 molecular crystals, rheological model and acoustic props. in melting region 4-6447
 mullite, IR-transparent, prep. 4-40725
 phosphate foam glass ceramic, textural and mech. props., bone implant appl. 4-51589
 polycrystalline semiconductor-insulator-semiconductor solar cells, fill factor, grain size effects 4-7871
 polycrystals, damage model of creep crack growth 4-2262
 polycrystals, intercryst. cracking, grain-boundary sliding and delayed elasticity at high temps. 4-34570
 powders, small-angle X-ray scattering, effects on attenuation coeff. 4-44890
 recrystallisation, dynamic, mech. and microstruct. considerations 4-40809
 recrystallisation, dynamic, single to multiple peak transition, effect of test method 4-40819
 single and polycryst., strain hardening, yield point and deformation curves 4-46526
 sputter-coated and ion-beam sputter-coated films, struct. analysis 4-15780
 steel, alloy, surface layers, electron microscopic methods (*Czech*) 4-41147
 steel, anisothermal transformation, kinetic model, effect of austenite grain size 4-21203
 steel, austenitic stainless, creep, effect of grain size (*Korean*) 4-16443
 steel, austenitic stainless, Sb-doped 25 Cr-20 Ni, creep behaviour 4-30755
 steel, austenitic stainless, sensitisation, effects of C content and grain size 4-51848
 steel, austenitic stainless, transgranular SCC, rel. to γ' precipitation 4-12231
 steel, austenitic-ferritic, work hardening, effect of grain size 4-16416
 steel, Cr bearing, martensitic transform., effect of prior cold work 4-40784
 steel, Cr-Mn, multistage thermal cycling, struct., microhardness and strength 4-21229
 steel, Cr-Mo, tensile strength, H embrittlement rel. to H content (*Japanese*) 4-26044
 steel, Cr-Mo-V, heat treatment, creep rel. to P addition 4-12110

grain size continued

- steel, Cr-Ni, low C, rel. between fatigue limit, threshold and microstruct. 4-57313
 steel, dual-phase, ferrite-martensite, tensile deform. 4-57291
 steel, ferrite-austenite stainless, deformed by rolling, recrystn. annealing 4-40820
 steel, ferritic, low C, with fine grain size, cleavage fracture 4-30802
 steel, high strength, forged, comparative study of fracture and fatigue 4-57325
 steel, HSLA, fracture toughness, effects of microstruct. 4-7562
 steel, HSLA, H induced cracking, acoustic emission rel. to grain size 4-16550
 steel, HSLA, SCC, H induced cracking, prior treatment and microstruct., effect 4-16549
 steel, hypoeutectoid graphitic, tensile props. rel. to microstruct. (*Japanese*) 4-35664
 steel, low C, yield strength of nonpolyhedral structures (*Slovak*) 4-7515
 steel, low-alloy, continuously cast, mech. props. and struct. changes during hot deform. 4-40920
 steel, low-alloy, martensitic-ferritic struct., mech. props. 4-21286
 steel, microalloyed, grain coarsening, effect of Al, V, Ti and Nb additions 4-7491
 steel, microduplex stainless, superplastic, grain growth and strain rate sensitivity 4-7508
 steel, Mn-Si, dual-phase, yield and flow stresses, grain size depend. 4-57302
 steel, Nb, grain refinement by control of recrystn. during hot rolling 4-40832
 steel, plain C, case-hardening response, effect of Al treatment 4-51845
 steel, Si, duplex ferrite-martensite microstruct., fatigue crack growth 4-30800
 steel, Si, recrystn. and mag. props., effect of Sb additions 4-40816
 steel, stainless, intergranular attack during crevice corrosion 4-57388
 steel, structural, fracture toughness, appl. of fracture mechanics concepts (*French*) 4-46623
 steel, structural, plastic deform. in mixed $\gamma + \alpha$ range (*French*) 4-7535
 steel, W, laser hardened, thermal stability 4-21376
 steel components, ferritic, cold neutron radiographs, multiple refr. effects, grain size meas. 4-35794
 steels, US wave attenuation spectra, depend. on grain size and dislocation damping 4-35795
 steels, US wave attenuation spectra anal. 4-39404
 superplastic flow mechanisms, quantitative evaluation 4-21266
 Ag films, VPE grown, resist. ratios, size effects, radiation annealing, RHEED, electron microscopy studies 4-30087
 Al, commercially pure, recrystn. behaviour HVEM and TEM study 4-40817
 Al, high purity, plastic props., effect of grain vol. distrib. 4-30779
 Al-Cu-Mg, fracture toughness and strength, grain size influence 4-57330
 Al-Mg (10 wt.%), rapidly solidified powder, extrusion, microstruct. 4-30662
 Al-Mg (7 wt.%), dynamic recrystallisation after extrusion 4-12082
 Al-Si alloys containing bimodal particle distrib., recrystn. 4-40811
 Al-(Cu-Mg), mech. props., effect of grain boundaries, new model (*Slovak*) 4-46568
 AlN, hot pressed, friction and wear, temp. and environmental effects 4-30828
 α -Al₂O₃, SCC, microstruct. effects on rel. between stress intensity factor and crack vel. (*Japanese*) 4-41079
 Al₂O₃-MgO spinel ceramic, corrosion-resist. 4-40718
 Au-Cu alloy, track-plated, electrodeposition, analytical electron microscopy study 4-12039
 AuIn, thin films, elec. resist. and grain size at 4.2K 4-40079
 B₂C, hot-pressed, mech. props. (*French*) 4-16503
 BaTiO₃ ceramic, fracture studies 4-39372
 BaTiO₃ ceramics, recrystn., kinetic process 4-57255
 BaTiO₃, elec. degradation, composition and microstruct. effects 4-35349
 BeO thin film dosimeters, TSEE yield rel. to grain size, SEM obs. 4-7322
 CaTiO₃·Y³⁺, polycryst., dielec. props. 4-51176
 Co-Cr sputtered thin films, microstruct. inhomogeneity and mag. props. 4-56167
 Cr plating, hard, under reduced press. (*Finnish*) 4-12269
 Cu, dynamic recrystn., effect of initial grain size 4-30713
 Cu film, thermal effects, optical study 4-51231
 Cu, polycryst., fatigue cracks, threshold stress intensity and dislocation struct. 4-40961
 Cu, polycrystalline, acoustic emission in deform. 4-51765
 Cu-Al-Ni-Ti(Zr), shape memory alloy ribbons, melt spun, improvement of ductility by Ti or Zr addition 4-21271
 Cu-Al-Ti (10, 2.5 wt.%), struct., mech. props., Ti addition effect 4-26001
 Cu-Fe, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
 Cu-SiO₂, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
 Cu-Sn-Ni, self-lubricating sintered, bronze bearings, crushing strength, porosity, Ni addition effect 4-12198
 Cu-Zn, thin-walled tubing, L80, annealing effect on struct. and props. 4-3150
 Cu-Zn-Al, rapidly solidified, microstruct. of β -phase 4-16384
 Cu-Zn-Al, shape memory effect, degradation, grain size refinement, internal stresses, reflectivity obs. (*Japanese*) 4-46505
 DyFe₃, mag. props. and domain struct. 4-51089
 Fe, Armco, polycrystalline, acoustic emission in deform. 4-51765
 Fe, cast, spheruloid graphite, ferritic, embrittlement at 673K, influence of microstruct. 4-26065
 Fe, high purity, transient creep at low stresses and homologous temps. 4-3169
 Fe-Ni alloys, dicarburised, effect of quenched-in vacancies 4-7455
 Fe-Si-B metallic glasses, struct. after rapid heat treatment 4-20107
 Fe-V-Ni solid solution, deformed-and-recovered, dislocation substruct., influence of processing parameters 4-57292
 InP, polycrystalline ingots, synthesis by direct reaction, microstruct. and carrier mobility 4-40722
 MgO-Al₂O₃ refractories, electron cond. 4-56359
 Mn_{0.5}Zn_{0.5}Fe₂O₄ ferrites, mag. susceptibility and domain walls 4-6958
 Mo powder, explosively consolidated, heat treatment, microstruct., hardness 4-30712
 Mo, stress relaxation and thermally activated deformation, 292-550K 4-51723

grain size continued

- Mo, warm-worked, recrystn. 4-46531
 Mu-Cu, high damping capacity alloys, internal friction rel. to comp. and annealing 4-40865
 NH_4NO_3 , thermal props., modification transforms. and reproducibility of DTA curves 4-29601
 NbGe_2 , hexagonal phase thin films, resist. and supercond. transition temp. 4-45909
 Nb_3Sn , crystallisation from soln. in Nb tube 4-46430
 Nb_3Sn multifilamentary superconductor, struct. and props. (Chinese) 4-2679
 Nd-Fe-B, amorphous permanent magnet, high-energy product 4-40196
 Ni, passivation-depassivation in H_2SO_4 , grain size effect 4-57448
 Ni-Al films, Ni-rich, grain size and growth 4-20508
 Ni-Cr, solidification process, mech. strength, corrosion resist. 4-25949
 Ni-Cr-W-Co-Ti, ZrN modified, ductility 4-3193
 Ni-Zn ferrites, mag. permeability, microstruct. depend. 4-2789
 NiO , recrystn., diffusion induced 4-21233
 PLZT ceramics, domain determ. by Ag photodeposition 4-35397
 PLZT, transparent ceramics, prep. of active powders 4-12048
 PZT powders, sintering and characterisation 4-16363
 (Pb, La) TiO_3 ceramics, mech. props., ageing changes 4-35678
 Pb polycrystalline films, grain size reduction using AuIn_2 barriers to grain growth 4-50667
 Pb-In-Au films, fine grained, vacuum deposition for Josephson base electrodes appl. 4-16317
 Pb-In-Au Josephson electrodes, thermal stability 4-7362
 PbMo_2S_8 , crit. current density, magnetisation meas., grain size, neutron irradi. and doping effects 4-35128
 PbTiO_3 -La ceramic, internal stress anisotropy 4-39373
 Si, CVD structures formed by amorphous and crystalline growth 4-51511
 Si, directional solidification, reusable C mould, solar cells appl. 4-36012
 Si, electrical resist. and carrier conc., grain size and doping effects 4-29973
 Si, ion-implanted polycryst., IR radiation annealing using graphite heater 4-24854
 Si, polycrystalline, elec. cond., modelling and numerical analysis 4-50805
 Si:P(As)(O)(Cl), CVD polycryst. film, impurity effect on grain growth 4-6674
 Si-Si $_3\text{N}_4$ powder compacts, nitridation, sintering, microstructural development obs. 4-57154
 Si_3N_4 - SiO_2 - Ce_2O_3 , sintered in high press. N_2 , props. and struct. 4-40724
 Si_3N_4 - Y_2O_3 , amorphous powder, calcination, microstruct. and sinterability (Japanese) 4-51601
 SmCo_5 magnets, mag. props., role of grain size 4-7032
 $\text{Sm}(\text{Co}_{0.745}\text{-Fe}_{0.255}\text{Cu}_{0.055}\text{Zr}_{0.75})$ permanent mag., coercive force and microstruct. 4-56705
 SmMo_2S_8 , crit. current density, magnetisation meas., grain size, neutron irradi. and doping effects 4-35128
 Ti, commercial, deform. kinetics at low temps. 4-26010
 Ti-Al-Mo, dynamic recrystallisation (Chinese) 4-57245
 Ti-Al-V (6.4 wt.%), prealloyed powder compacts, low cycle fatigue, influence of thermomech. processing 4-26053
 α -U, high temp. strength, flow stress, rel. to Al, Fe and Si additives 4-16447
 U, wrought parts, grain size, US determ. 4-30915
 UO_2 , irradi. fuel, fission gas release, effect of initial grain size 4-4940
 WC-Co composites, fracture stress, elastic limit, microstruct. 4-51732
 YIG, ferromagnetic resonance and spin wave spectrum 4-35232
 Zn, polycrystalline, acoustic emission in deform. 4-51765
 Zn-Al-Mg (0.1, 0.05 wt.%), textured, flow stress, effect of grain size 4-16451
 ZnGeAs $_2$, chalcopyrite struct., Bridgman growth, melting point, elec. props., DTA, X-ray diffr. studies 4-15411
 ZnO luminophores, grain size effect on photoluminesc. and electroluminesc. 4-30505
 ZnO thin films, RF sputtered, on nonpiezoelec. substrates 4-21137

grain structure *see crystal microstructure*grain subboundaries *see subboundary structure*

grammars

- digital ionograms, automatic scaling using method of structural description 4-22125
 natural terrain scenes, image registration using perspective invariant graphs 4-36501

gramophones

- compact disc (German) 4-44252
 tone-arm outrigger damping devices 4-8734

Granato-Lucke theory *see dislocation damping*grand unified theory *see unified field theories*

granular materials

see also granular structure

- fluidised bed heat treatment of granular silicate particles, heat and mass transfer 4-19879
 frictional slip and plasticity 4-25905
 granular superconductors, ultrasonic attenuation calcs. 4-30110
 metals, granular density of electronic states, tight-binding model 4-45572
 packed bed, convective drying, heat and mass transfer 4-34074
 progressive damage continuum model 4-38710
 superconducting film, long-range phase coherence, zero-point fluctuation effects 4-56496
 tensile fracture, wave propag. 4-24373
 thermal measurement, nonsteady-state probe method 4-48124
 thermal measurement, nonsteady-state probe method 4-48125
 US dewatering of granular materials 4-1565
 α - Al_2O_3 pellets, additives influence on prep., granulation and props. 4-46479
 ZrO $_2$ pellets, additives influence on prep., granulation and props. 4-46479

granular metallic thin films *see discontinuous metallic thin films*

granular structure

see also granular materials

- metal shadowing replicas, granular structures, textural image processing 4-52547

graph theory

see also trees (mathematics)

- benzenoid systems, topological props., sextet polynomial computing 4-54583
 cluster expansions, tree graph identities and $1/N!$ factors 4-37286

graph theory continued

- molecular graph, counting spanning trees 4-8717
 natural terrain scenes, image registration using perspective invariant graphs 4-36501
 pattern recognition, graph metric appl. 4-38415
 simple graphs, group structure 4-47835

graphic equipment, computer *see computer graphic equipment*graphics, computer *see computer graphics*

graphite

- acceptor compounds, stage 3 and 4, c-axis charge distrib. 4-20542
 adsorbed ^3He , phonon interactions 4-11406
 adsorbed anthracene and naphthalene, laser photoionisation detection of submonolayer films 4-41278
 adsorbed Br $_2$, stretch modes, Raman study 4-49036
 adsorbed butane, ^1H solid state NMR study 4-30290
 adsorbed carbon tetrafluoride, wetting transition, RHEED study 4-39672
 adsorbed gases, generalised law of corresponding states 4-45496
 adsorbed Kr, commensurate phase melting 4-11252
 adsorbed methane, NMR study 4-46142
 adsorbed methane multilayers, thermodynamic study 4-2450
 adsorbed monolayer, weakly incommensurate phase, soliton theory 4-20467
 adsorbed N_2 monolayer, vapour press. isotherm study near tricrit. point 4-6652
 adsorbed Ne, energy and struct. of monolayer and bilayer solids 4-45503
 adsorbed Xe, NMR study 4-20874
 adsorption, of Xe, heat of adsorpt. and vibr. freqs., calorimetric obs. 4-29772
 angle resolved photoemission, secondary electron emission and band dispersion 4-12011
 anomalous magnetoresistance of graphite at high magnetic fields, CDW transition 4-25323
 aqueous-organic-graphite systems, contact angles meas. by interference microscopy 4-11385
 artificial, mech. props. anisotropy rel. to texture 4-35673
 basal face, Ar adsorption isotherms, first monolayer melting 4-25158
 cathodes, field emission in microwave current modulator 4-46428
 charged layer, nonlocal force constants due to electron-phonon coupling 4-29560
 chemical erosion yield, simultaneous bombardment with energetic protons and thermal atomic H 4-55888
 chemisorbed on Ni (110), surface struct. determ. 4-45495
 Compton X-ray profiles and electron momentum density 4-40567
 R Coronae Borealis stars, graphite grains form. models, mass loss rate effects 4-13321
 Coulomb interactions, treatment in Hartree-Fock calcs. of periodic systems 4-20589
 crack resistance determination from crack arrest 4-46675
 densities of states, ab initio calcs., evaluation technique 4-56183
 desorption kinetics of He, corrections to rigid wall approx. 4-20485
 distribution of D, meas. using nuel. microprobe 4-43134
 electrodes, polymer bound, reversible electrochemical intercalation of anions from aqueous soln. 4-46773
 electrodes, spark source mass spectrometry 4-35958
 exfoliated, synthesis from K-graphite-tetrahydrofuran intercalation cpds. 4-46462
 exfoliated SbCl_5 intercalated graphite for absorption substrates 4-45470
 failure viscosity, neutron irradiation effects, reactor material 4-45199
 fast neutron transport, benchmark expt. 4-37599
 fibre, intercalated and ion implanted, struct. and elec. cond. 4-24759
 fibre as positive electrode in rechargeable Li cell 4-41332
 films, surface electron states prediction 4-50890
 fracture characteristics, low-temp. neutron irradi. effect 4-30813
 fracture mechanics of polycrystals, energy principle of elastic-plastic fracture 4-38773
 furnace atomic absorpt. spectrometry anal., isothermal atomisation 4-3438
 furnace atomic absorption spectrometry, atomisation processes computer modelling 4-12431
 furnace atomiser, spatially resolved Arrhenius determination 4-3436
 graphite- ^{31}P , ion implanted, Landau level study 4-29908
 graphite particle reinforced Al-Si composite, deform. of graphite during hot extrusion 4-40905
 graphite- AlBr_3 , prep. of laminar compounds in presence of Br_2 4-55766
 graphite-InSe contact, electrical and photovoltaic props. 4-40044
 graphite-MnCl $_2$ - AlCl_3 , kinetics, struct. and mechanism of formation 4-34452
 ground state wavefunction from Compton profile meas. 4-23831
 Heisenberg Hamiltonian, coherent state, variational derivation 4-34843
 HTGR, air ingress accidents, graphite/ O_2 reaction kinetics, A3-3 and A3-27 materials (German) 4-43641
 insertion of KH_2 into graphite, struct. study (French) 4-39266
 intercalated graphite, thermodynamic model of staging transform. 4-11271
 intercalated with AlCl_3 (GaCl_3) (InCl_3) (TiCl_3), struct., low temp. anal. (French) 4-45103
 intercalated with alkali metals, correlation between intercalate-substrate orientation and substrate hexagonal site occupation probability (French) 4-45102
 intercalated with AsF_5 , $\text{C}_{80}(\text{AsF}_5)$, NMR and X-ray absorpt. study (French) 4-40254
 intercalated with AsF_5 , Z 4-51141
 intercalated with AsF_6^- , charge transfer and density of states 4-39749
 intercalated with Ba, C_6Ba , electronic struct., XPS and UPS studies 4-39755
 intercalated with Ba, C_6Ba , elec. resist., contactless inductive method anal. 4-39868
 intercalated with Br_2 , linearly polarised X-ray absorption spectra 4-57041
 intercalated with Br_2 , two-dimensional structure, X-ray diffr. study 4-6343
 intercalated with Br_2 and KHg , struct. and phase transitions 4-45097
 intercalated with Br, C_7Br , phonons and elastic consts., neutron scatt. meas. 4-45280
 intercalated with Br, electrode appl. in thermocell 4-46861
 intercalated with Br, two-dimensional struct., effect of intercalate desorption 4-45098
 intercalated with Br or ICl , single cryst. X-ray study 4-45099
 intercalated with CoCl_2 , mag. ordering study 4-40147
 intercalated with CoCl_2 , mag. props. studies 4-40157

graphite continued

- intercalated with CoCl_2 , mag. transitions, neutron study 4-40174
 intercalated with Cs, CsC_8 and CsC_{24} , charge transfer and Auger spectra 4-40583
 intercalated with Eu, C_6Eu , mag. props. study 4-40195
 intercalated with Eu, EuC_6 , Mossbauer study 4-40317
 intercalated with F, EPR study 4-40219
 intercalated with F and LiF, elec. cond. and intercalation reaction study 4-41200
 intercalated with FeCl_2 , Mossbauer, EPR and SEM studies 4-56829
 intercalated with FeCl_3 , mag. ordering study 4-40147
 intercalated with FeCl_3 , Mossbauer study 4-40318
 intercalated with FeCl_3 and SbCl_5 , struct. and stability 4-41265
 intercalated with GaCl_3 , elec. resist. studies 4-39869
 intercalated with H_2SO_4 , 1st and 2nd stage cpds., struct. modifications (French) 4-45101
 intercalated with H_2SO_4 , optical reflectivity and band struct. model 4-44044
 intercalated with heavy alkali metals, phonons study by inelastic neutron scatt. 4-45279
 intercalated with HNO_3 , struct. determ. by X-ray and electron diff. (French) 4-45104
 intercalated with HSO_3F , X-ray photoelectron spectra studies 4-40609
 intercalated with K, high resolution ^{13}C NMR 4-40252
 intercalated with K, KC_{72} , KC_{144} , KC_{168} , mag. props. EPR study 4-40156
 intercalated with K, KC_8 , valence band, XPS study 4-57068
 intercalated with K, KC_x , kinetic neutron diff. study 4-39442
 intercalated with k, KC_x , sorption of H_2 isotopes at low temps. 4-39688
 intercalated with K, NMR and CESR studies (French) 4-39757
 intercalated with K, staging transitions 4-40756
 intercalated with K and Cs, KCsC_{16} , heterostruct., X-ray diff. studies 4-39264
 intercalated with K and furan, tetrahydrofuran or NH_3 , Raman scatt. study 4-46272
 intercalated with K and Hg (or Tl), existence of nonisolated ternary phases (French) 4-39265
 intercalated with K and NH_3 , X-ray diff. studies of struct. 4-45096
 intercalated with K and Rb, $\text{K}_{1-x}\text{Rb}_x\text{C}_8$, elastic distortion fields, lattice parameter changes 4-45095
 intercalated with K and Rb, RbKC_{16} , heterostruct., X-ray diff. studies 4-39264
 intercalated with K or Rb, statics and dynamics of staging, in situ X-ray obs. 4-40757
 intercalated with KHg , KHgC_4 and KHgC_8 , XPS core levels 4-39805
 intercalated with Li, Ba, K, Rb, Cs, positron annihilation studies 4-40565
 intercalated with Li, C_6Li , metallic character from CESR mes. 4-40229
 intercalated with Li, LiC_6 , staging transitions 4-40756
 intercalated with Li, LiC_6 , Compton X-ray profiles and electron momentum density 4-40567
 intercalated with Li, LiC_6 , phonons study by inelastic neutron scatt. 4-45279
 intercalated with Li, stage-2, (P,T) phase boundary, order-disorder transition 4-39478
 intercalated with Li and K, C_8Li and C_8K , density of unoccupied states, bremsstrahlung studies 4-39748
 intercalated with metal chlorides, X-ray diff. and high resolution electron microscopy (French) 4-45100
 intercalated with NiCl_2 , BF_4^- and K^+ , electrochem. energy storage appls. (French) 4-46902
 intercalated with NiCl_2 , mag. ordering, neutron diff. and scatt. studies 4-46004
 intercalated with NiCl_2 , magnetisation meas. 4-25510
 intercalated with PF_6 , AsF_6 and SbF_6 with nitromethane, NMR study 4-40253
 intercalated with Rb, C_{24}Rb , in-plane Rb dynamics, neutron quasi-elastic meas. 4-45394
 intercalated with Rb, C_{24}Rb , physisorbed D_2 , elastic neutron scatt. study 4-45523
 intercalated with Rb, EXAFS and X-ray absorption threshold study (French) 4-46372
 intercalated with Rb, RbC_8 , NMR study of order-disorder transform. 4-39483
 intercalated with Rb and Hg (or Tl), existence of nonisolated ternary phases (French) 4-39265
 intercalated with Rb and KHg , C_8Rb , C_4KHg , magnetoplasma-helicon wave propag. 4-39950
 intercalated with SbCl_5 , ^{121}Sb NMR and EPR studies 4-40250
 intercalated with SbCl_5 , $\text{C}_{36}\text{SbCl}_5$ and $\text{C}_{60}\text{SbCl}_5$, cyclotron resonance studies 4-39758
 intercalated with SbCl_5 , high resolution ^{13}C NMR 4-40252
 intercalated with SbCl_5 , LF longitudinal lattice modes, inelastic neutron scatt. study 4-45275
 intercalated with SbCl_5 , ordering kinetics study 4-39469
 intercalated with SbCl_5 , struct. and cond., TEM obs. (Chinese) 4-50248
 intercalated with SbF_5 , electronic and struct. props., Mossbauer study 4-39268
 intercalated with SbF_5 , NMR study 4-40257
 intercalated with tetrahydrofuran, NMR and CESR studies (French) 4-39757
 intercalated with XeOF_4 , struct., basal plane cond. 4-50270
 intercalation compound, C_{24}K , physisorbed $\text{H}_2(\text{D}_2)$, low temp. sp. ht. meas. 4-15663
 intercalation compound, C_{36}Cs , phonon dispersion relations 4-15600
 intercalation compound, C_6Eu , four-spin exchange, high field magnetisation meas. 4-16025
 intercalation compound, C_6Eu , sp. ht. study 4-16044
 intercalation compound, KHgC_4 , intercalant ordering and lattice dynamics 4-34603
 intercalation compound with acceptors, fibrous, elec. resist. meas., current aging 4-45705
 intercalation compound with acceptors, fibrous, struct., elec. and optical props. 4-45703
 intercalation compound with acceptors, fibrous, synthesis kinetics and composite formation 4-46476
 intercalation compound with Br_2 , exfoliation, X-ray diff. study 4-46463
 intercalation compound with Br, intercalate struct., melting, and commensurate-incommensurate transition 4-20174
 intercalation compound with HSO_3F , prep. of various structs. 4-57127

graphite continued

- intercalation compound with $\text{ICl}(\text{Br}_2)(\text{CuCl}_2)$, fibrous, elec. resist. and Shubnikov-de Haas oscillations 4-45706
 intercalation compound with impurities, electronic struct. calc. 4-45680
 intercalation compound with K, fibrous, synthesis and elec. props. 4-45704
 intercalation compound with K, KC_8 , ab initio SCF pseudopotential energy band struct. 4-45574
 intercalation compound with $\text{Li}(\text{K})$, CESR studies 4-46111
 intercalation compound with NiCl_2 , second-stage, ESR studies 4-16085
 intercalation compound with SbCl_5 , stage 2, ^{121}Sb Mossbauer spectroscopy 4-30370
 intercalation compound with SbCl_5 , stage 4, US studies of phase transitions 4-34592
 intercalation compound with SbCl_5 , second stage, discommensuration struct. 4-15634
 intercalation compound with SO_2F_6 , elec. cond. meas. 4-20651
 intercalation compounds, acceptor and donor, theory of mag. susceptibility 4-56533
 intercalation compounds, conf., Pont-a-Mousson, France (May 1983) 4-42591
 intercalation compounds, ideal conductivity calc., electron-phonon scatt. 4-45761
 intercalation compounds, intralayer screening, self-consistent effective-mass theory 4-45587
 intercalation compounds, magnetic susceptibility, tight-binding calc. 4-45996
 intercalation compounds, precipitation of intercalants onto dislocations 4-15654
 intercalation compounds, stage-7, Fermi surfaces anal. 4-45585
 intercalation compounds, thermoelectric power calc. 4-45752
 intercalation compounds appl. to thermal energy storage (French) 4-46893
 intercalation compounds of HOPG, neutron monochromators appl. 4-44899
 intercalation compounds with AlCl_3 , synthesis and struct. 4-50257
 intercalation compounds with FeCl_3 , acceptor site for donated electrons, Mossbauer anal. 4-11810
 intercalation compounds with MoCl_5 , high-stage, successive mag. phase transitions 4-30163
 intercalation cpd., LiC_6 , valence and core electronic excitations, EELS studies 4-25275
 intercalation cpd., staging transition mechanism 4-39470
 intercalation cpd., with SbS_5 , basal elec. cond. meas. 4-45771
 intercalation cpd. with alkali metals, phonon dispersion relations. ang. force model 4-45287
 intercalation cpd. with Cs, valence band, from AES 4-51417
 intercalation cpd. with FeCl_3 , basal elec. cond. meas. 4-45771
 intercalation cpd. with GaCl_3 , chemical and struct. charact. (French) 4-39267
 intercalation cpd. with K and benzene, form. and struct. 4-45119
 intercalation cpd. with Li and tetrahydrofuran, synthesis, X-ray and mag. reson. studies (French) 4-46128
 intercalation cpd. with MnCl_2 , two-dimensional antiferromag., ESR study 4-51125
 intercalation cpds., CESR 4-46110
 intercalation cpds., electronic props., review 4-50703
 intercalation cpds., g-factor, theory 4-50706
 intercalation cpds., stage order, disorder, and phase transitions 4-34636
 intercalation cpds., valence band, from AES 4-51417
 intercalation cpds. electronic props. (French) 4-45575
 intercalation cpds. with CuF_2 and MgF_2 , elec. cond. and chem. bond 4-6757
 intercalation cpds. with FeCl_3 , CuCl_2 , MnCl_2 and CoCl_2 , for Li batteries (French) 4-46865
 intercalation cpds. X-ray topographic studies 4-44898
 intercalation of Br and ICl, intercalate displacement and exchange study 4-39559
 intercalation of InCl_3 , TDPAC study 4-40303
 ionisation chamber, central electrode diameter and material rel. to response to 60 Co γ -rays 4-5105
 irradiated, TSEE peaks 4-3025
 lattice dynamical model, inadvertent symmetries 4-55938
 manufacture, review of science and technology 4-7377
 mass absorption coefficients (25-250 μm), appl. to IRC+10216 dust shell anal. 4-30468
 microsphere filled TiB_2 , high-porosity sintered, prod. 4-25924
 monolayer on Ni (111), plasmons in response function 4-39801
 monolayer Xe films, melting transition, computer simulation study 4-50638
 neutron irradi., CESR study 4-25638
 nuclear grade, Young's modulus, elec. cond., thermal oxidation effect 4-15568
 nuclear grade isotropic dynamic Young's modulus, tensile and compressive stress effects 4-29506
 nuclear-grade isotropic, tensile deform. behaviour after hydrostatic loading 4-16440
 optical spectra, ab initio SCF band struct. model 4-46288
 overlayer on Ni (111) geometrical and electronic struct., EELS and photoemission studies 4-39729
 pellets, density meas., using differential He pycnometry 4-237
 phonon dispersion relations. ang. force model 4-45287
 physisorbed Xe and Kr, ground state props. calcs. 4-29785
 physisorbed Xe monolayer, struct. and freezing transition, X-ray scatt. study 4-20482
 powder, Cu coated, quality control using anodic voltamperometry 4-26147
 powder, metal coatings appl. by thermal deposition, charact. 4-51567
 powder, spectral method of determ. micro-impurities (Russian) 4-46838
 pyrolytic, highly oriented, and intercalation cpds. ^{13}C high resolution NMR spectra 4-16109
 pyrolytic, neutron Compton spectroscopy 4-39345
 pyrolytic, $\text{C}^+(\text{Ne}^+)$ ion implanted, elec. props. 4-20223
 pyrolytic, highly oriented, local density of unoccupied states, photolyield spectroscopy meas. 4-3020
 pyrolytic, neutron irradi., ESR studies at low temp. 4-7066
 pyrolytic and single crystal, wetting by Al, contact reactions 4-50614
 radiation creep measurement, in WWR-SM reactor (Russian) 4-50412
 radiation induced changes in properties 4-54273
 reflection coeff., heating in gaseous media effects investig. 4-10226
 rotating pyrolytic electrode, Raman spectra 4-51260

graphite continued

- secondary electron energy spectra emitted by ^{60}Co γ -radiation 4-35546
 single crystal, valence and conduction band dispersions 4-45581
 substrate for C-SiC CVD coating for fusion reactor 4-20527
 substrate for TiC coatings for fusion reactor first wall 4-20526
 surface, adsorbed Kr layer, incommensurate phase, mol. dynamics method anal. 4-34788
 surface, Ar, Xe and Kr submonolayer films, melting transitions 4-29787
 surface, complete and incomplete wetting of Kr and O_2 , reentrant type 2 growth 4-39676
 surface, D_2^+ implantation, Raman spectra 4-56902
 surface, dissociative chemisorption of H_2 , MINDO/3 study 4-2459
 surface, He thermal desorption, time of flight spectra studies 4-29799
 surface, high-temp. boundary layer, transport processes 4-44765
 surface, KOH adsorption on basal surface 4-2462
 surface, laser excitation, transient chemical forms of emitted mol. ions 4-25835
 surface (0001), adsorbed methane layer, mol. mobility and 2-D transitions 4-29825
 surface (0001), adsorbed Xe and Kr monolayers, surface vibr. and thermodynamic props. 4-6659
 surface (0001), K absorption and intercalation, LEED and AES studies 4-29786
 surface (0001), selective adsorption and interaction pot. for He atom scatt. from adsorbed Xe layer 4-35542
 surface (0001), Xe coated, He scatt., selective adsorption reson. close-coupling calcs. 4-21092
 surface properties in molten salt nuclear reactor environment (French) 4-27966
 surface struct., ordered, on edge surface, LEED study 4-34764
 surface vibr. amplitude and thermodynamic props. 4-29763
 synthetic, loading rate effect on strength and strain characts. 4-41138
 thermal diffusivity, 400-1000K, meas. apparatus 4-32265
 thermal diffusivity apparatus, for diffusivity meas. up to 1600K 4-42969
 valence orbital interactions, nonlocal topology 4-6310
 wetting by Al-Ca liquid alloy (Japanese) 4-25120
 Al-Si-graphite particle composite, deform. of graphite during hot extrusion 4-40905
 C_2Eu graphite intercalation cpd., mag. anisotropy due to π -f exchange 4-2750
 C_6Eu graphite intercalation cpd., ESR studies 4-16086
 C_{60}I intercalation cpds., $N=1-4$, supermetallic cond. 4-2577
 C_8K intercalation cpd., local density of unoccupied states, photoyield spectroscopy meas. 4-3020
 C_8Li intercalation cpd., local density of unoccupied states, photoyield spectroscopy meas. 4-3020
 $(\text{CoCl}_2)_{1-x}(\text{AlCl}_3)_x\text{C}$ mag. intercalation cpds., low temp. heat capacity 4-6993
 Cs^+ ion yield from Cs^+ sputtering, temp. effects 4-40592
 Li^+ secondary cells, charge-discharge characts. with graphite as positive electrode 4-46863
 $\text{MgB}_4\text{O}_7\text{:Dy}$, graphite mixed, TLDs for β -dosimetry 4-54441
 SbCl_5 -graphite intercalation compounds, stoichiometric determ. by Rutherford backscatt. spectrometry 4-50531

graphitic steel *see carbon steel***graphitisation**

- carbonaceous materials, TEM and X-ray diffr. obs. of graphitisability, model development 4-41146
 diamond: ^{57}Co , ion implanted, amorphisation, ^{57}Fe Mossbauer study 4-15548
 manufacture of graphite, review of science and technology 4-7377
 mesophase spherule, carbonaceous, microstruct. study using TEM. and X-ray diffr. 4-29643

graphitising

- Fe, cast, stabilised mottled, sulphide inclusion graphitising action 4-21251
 Fe-Si-C, phase transform., struct., rel. to microadditions 4-51655

graphs

- see also Bode diagrams; nomograms*
 beta-ray spectra atlas for nuclides important in radiation protection and biomedicine 4-4169
 charge transfer resistance estimation by graphical anal. of semicircular complex impedance diagrams 4-13627
 rolling, periodic section, graphical technique for determ. of contacting area (Russian) 4-57247

gratings (diffraction) *see diffraction gratings***gratings (optical)** *see diffraction gratings***gratings (spectra)** *see diffraction gratings***gravimeters**

- see also geodesy*
 laser ballistic gravimeter, gravitational acceleration precision meas. by interferometric method 4-8318
 meteorology affecting gravimeter readings, changes due to passage of cold fronts 4-13072
 sensitivity calibration, appl. of combination filter (Chinese) 4-17273

gravimetric instruments *see gravimeters***gravimetry** *see density measurement; weighing***gravitation**

- see also general relativity; gravitational collapse; gravitational lenses; gravitational red shift; gravitational waves; quantum field theory of gravitation; Schwarzschild metric; unified field theories*
 Abraham-Minkowski controversy and EM momentum in static fields 4-31229
 anisotropic Bianchi types VIII and IX locally rotationally symmetric cosmologies 4-8618
 anomalies in $4k+2$ dimensions, parity violation 4-47953
 antigravity, photon mass from gravitational red shift 4-152
 apparent transverse velocities in a static gravitational field 4-26985
 artificial satellite orbiting a planet, microgravitational field in rotating platform 4-42304
 axisymmetric mass distrib. in spherical coords., gravitational potential determ. 4-53034
 axisymmetrical planet, point mass system representation (Russian) 4-47554
 Bianchi type IX models, dynamical effects of EM fields 4-31947
 Bianchi type-I cosmologies and nonminimal coupling 4-8617
 Bianchi types I-IX, gravit. instanton solns. 4-17757
 bimetric theory, gauge-covariant, of gravit. and EM 4-8803

gravitation continued

- bimetric theory of gravit., models of slowly rotating superdense configurations 4-53196
 black hole thermodynamics, Tolman-Oppenheimer-Volkoff eqn. singular solns. 4-53204
 black holes, gravitational waves, plunging particle induced 4-22650
 black holes, rotating, vacuum polarisation of massive fields 4-53205
 Brans-Dicke cosmology, horizon problem 4-17785
 Brans-Dicke inflationary universe, theoretical estimation of grav. const. 4-53319
 Brans-Dicke theory, axially symmetric vacuum Bianchi type I soln. 4-53313
 Brans-Dicke theory, Bianchi type I vacuum field 4-4126
 Brans-Dicke theory, general dust solns. 4-53315
 Brans-Dicke theory, general vacuum type-V soln. 4-32131
 Brans-Dicke theory, LRS Bianchi type V vacuum cosmological soln. 4-53314
 Cauchy problem for the $R+R^2$ theories of gravity without torsion 4-27384
 classical Cartan form extension 4-47962
 Coleman-De Luccia eqns., finite action solns., tunnelling 4-47963
 conference, modified theory of relativity, Patna, India (June 1983) 4-31974
 continuous media, fluctuations in general relativistic theory 4-36972
 cosmological constraint by physical consts. 4-36756
 cosmology, Einstein field eqns., curvature coordinates 4-31948
 cosmology, physics and philosophy (book) 4-8668
 coupled Einstein-Weyl field eqns. with cosmological constant, gauge model coupled to Higgs field 4-32132
 differentially rotating charged dust with a force-free electromagnetic field 4-47951
 Dirac spinor theory, covariant, from Clifford and Lie bundles 4-4530
 discrete symmetries in Kaluza-Klein theories 4-47955
 dynamical systems, book 4-31989
 early Universe, gravitational effects in bubble collisions 4-8619
 early Universe, metastable state decay, gravitation effects 4-4133
 early Universe, monopole annihilation and gravitational clumping in stars and black holes 4-31946
 early Universe in Einstein-Cartan theory, earliest evolutionary stages, space-time torsion 4-13463
 Einstein equation, Cauchy problem 4-17770
 Einstein nonsymmetric field theory, invariant theorems on geometry 4-32122
 Einstein universe, $\text{SU}_{2,2}/\text{Z}_2$ group, evolution of inertial frame 4-58539
 Einstein-Cartan eqns., exact solns. (Portuguese) 4-8798
 Einstein-Cartan theory, cylindrically symmetric cluster 4-53561
 Einstein-Cartan theory, interior soln. of axially symmetric body 4-13555
 Einstein-Cartan theory of gravit., gravit. field of spin-polarised cylinder 4-22655
 Einstein-Dirac eqn., exact soln. for neutrino in curved space-time 4-32121
 Einstein-Maxwell eqns. shear free electrovac type II solns. 4-53560
 Einstein-Maxwell fields, algebraically special, shearfree, twisting and diverging 4-36992
 Einstein-Maxwell solns., non-null, with perfect fluid 4-36991
 Einstein-Maxwell solns. 4-42771
 Einstein-Maxwell-massless scalar field eqns., cylindrically symm. 4-42791
 Einstein-Straus-Klotz unified field theory, embedding of background space-time 4-17776
 Einstein-Straus-Klotz unified field theory, maximal extension of static soln. 4-17777
 electric dipole self interaction in weak gravitational field (French) 4-13552
 electric-magnetic duality of conformal gravitation 4-140
 electrogravitic repulsion in Reissner-Nordstrom geometry 4-22651
 electron gravitational field using Einstein unified field theory 4-150
 electrovacuum gravitational fields, method for generating exact nonsoliton solns. 4-147
 electrovacuum with two-parameter Abelian group of motions, Stueckel spaces 4-148
 equivalence principle, 5-D projective unified theory 4-27385
 exact Brans-Dicke-Friedmann-Robertson-Walker-Bianchi-Kantowski-Sachs vacuum solutions 4-53026
 extended, dimensional reduction and symm. gauge groups 4-42799
 extrinsic angular momentum 1/2 for gravity kinks, from group fields study 4-42686
 field theory in flat Minkowskian Universe from symm. tensors of rank three 4-13564
 Friedmann model, spherically symmetric perturbations, cosmic background radiation propag. 4-53328
 FRW cosmologies, Einstein field eqns. for viscous fluid, exact solns. 4-53325
 fundamental length, interaction strength and superheavy particles 4-156
 gauge fixing for internal and external Yang-Mills theories 4-27648
 gauge theory and Poincare symmetry, internal symmetry, supersymmetry 4-32463
 general relativity, torsion coupling constant 4-13553
 general theory with torsion, renormalisability, Lorentz symm. group breaking 4-27379
 generalised gravitational and EM fields, structural symm. and unification 4-42793
 Geroch's hypothesis for EM and neutrino fields in general relativity 4-53556
 gravitating disc equilb. noise level 4-36581
 gravitating mass dimensions estimation from its external field (Russian) 4-32120
 gravitational const., behaviour in finite-temperature induced gravity 4-17387
 gravity field reconstruction by trajectories defined in three-dimens. Fock space 4-17786
 GUT, dimensional compactification, from induced gravity 4-22654
 GUT with spontaneously compactified gravity, proton decay and $\sin^2\theta_w$ predictions 4-48381
 Harrison space-time metrics, asymptotic behaviour 4-42778
 hermitian gravity with spin and propagating torsion 4-42805
 Hermitian theory of relativity, exact solutions 4-17760
 higher-derivative theories, unification 4-4300
 HKX transformations on Weyl soln., action reps. 4-27380
 hoop conjecture for black holes, minimum size for static charged perfect fluid bodies 4-22653

gravitation continued

- Hoyle-Narlikar conformal gravity, appl. of V/V_m test to quasars 4-13458
- induced gravity and higher curvature terms, classical solns. 4-42795
- inflationary Universe model, primordial gravit. waves and grand unification scale 4-13465
- instability in magnetic field in expanding Newtonian Universe 4-4123
- interacting massless fields, soliton configurations 4-8802
- Jordan-Brans-Dicke field eqns. for static spherically symmetric perfect fluid distrib., general integral 4-42772
- Kaluza-Klein cosmology, Einstein solutions, horizon problem at dimensional reduction 4-53327
- Kaluza-Klein models, spontaneous compactification, Casimir effect 4-53558
- Kaluza-Klein reduction scheme on supermanifolds 4-17778
- Kaluza-Klein supergravity, cosmological and coupling consts. 4-4314
- Kaluza-Klein theories, discrete symmetries, CPT theorem 4-47956
- Kaluza-Klein theories, time variation of fundamental const. 4-42798
- Kaluza-Klein theories with torus, quantum effects 4-17782
- Kaluza-Klein theory, five-dimens., temp. effects 4-4296
- Kaluza-Klein theory, harmonic field expans., fermion mass problem 4-13562
- Kaluza-Klein theory, massive tensor fields, BRS symmetry 4-47960
- Kaluza-Klein theory, monopole solutions using $SO(3)$ 4-47961
- Kaluza-Klein theory, quantum dynamics 4-27386
- Kaluza-Klein-vacuum, Witten mechanism for decay 4-4301
- Kantowski-Sachs gravitational instanton solution 4-17756
- Licherowicz-York equation and conformal deformations on maximal slicings in asymptotically flat space-times 4-4297
- linear metric gravitational theories, equivalence to general relativity 4-153
- linearised nonsymmetric theory, Dirac constraint anal. 4-36990
- liquid bridges, axisymm., one dimens. self-similar soln. of dynamics 4-38785
- local physics using at. and gravit. clocks, testing for cosmological influence 4-8616
- Maxwell field propagating near Schwarzschild black hole, quantum vacuum energy 4-36984
- meron stability in gravitational models 4-13560
- metric theory of gravitation, Birkhoff theorem 4-22646
- microwave background radiation towards rich clusters, gravit. temp. decrease 4-42564
- minimum Euclidean action, zero cosmological const. and symm. breaking 4-17783
- Moffat's theory of gravitation, axially symmetric solns. 4-17780
- Newtonian, cosmological principle from Galilei manifolds 4-27383
- Newtonian gravitation, nonlinear and Lorentz-invariant version 4-3921
- non-local action for the trace anomaly 4-32144
- nonmetric theories of gravity, weak equivalence principle 4-4302
- nonmetric theories of gravity 4-4303
- nonrelativistic mechanism from special-relativistic theory of locally anisotropic space-time 4-154
- nonsymmetric, eight-dimens. Riemannian geometry, quaternion and octonion spaces 4-42792
- nonsymmetric gravitational theory, appl. to quadrupole moment of Sun and planetary orbits 4-26984
- nonsymmetric Kaluza-Klein theory, spherically symmetric soln. 4-36993
- parametrized post-Newtonian formalism, second-order contribs. to relativistic time delay 4-22316
- parametrized post-Newtonian metric theories and neutron star equilib. configs. 4-31855
- perihelion precession within generalised theory for the two-body problem 4-36566
- Poincare gauge field theory, spherically symmetric electro-vacuum soln. 4-4294
- Poincare group gauge theory, compatibility condition 4-36989
- potentials forming a double velocity field 4-36571
- relativistic gravitational effects in charged particle quantum interference 4-47937
- relativity and geometry, book 4-31995
- Riemann-Cartan space-time, arbitrary spin field eqns. and anomalies 4-4299
- Riemann-Cartan-type $R+R^2$ theories of gravitation, approximate solns. 4-4288
- Robertson-Walker Universe, spectrum of created particles 4-31940
- Rosen and Einstein theories of gravit., comparison 4-151
- rotating gaseous disks, gravitational instability with mag. field 4-26991
- scalar field effect ghosts and tachyons in gravitational theories 4-32133
- scalar-tensor theories 4-4298
- scalar-tensor theory, axially symm. solns. 4-32130
- scalar-tensor theory, scale invariant, cosmological eqn. solns. 4-13561
- self-consistent cosmologies, scalar trace anomaly and anti-gravitational interaction in perturbative approach 4-36763
- self-gravitating elastic sphere, oscillations due to gravit. waves 4-47948
- self-gravitating quasi-stationary systems, finite slow-motion approx. method 4-42782
- soluble theory with massive ghosts 4-17784
- space dimensionality, bound states, baryon and lepton conservation, in general relativity 4-27371
- spherically symmetric fluid bodies in general relativity, finite element methods 4-8795
- spherically symmetric static gravitational field, test body eqns. of motion 4-27381
- spin, characterisation in Euclidean space-time 4-27360
- stability of gravitational systems and gravothermal catastrophe in astrophysics 4-53022
- stationary axially symmetric electrovac solutions in the general scalar-tensor theory 4-27382
- stationary axisymm. fields, rank N HKX transforms. 4-47959
- stochastic model of universe, Fokker-Planck solution 4-27375
- strong gravity and fine structure constant 4-13563
- SU(1,1) spin coeff. eqns. with non-geodesic eigenrays, integration solns. 4-393
- SU(2) Yang Mills theory, vacuum solutions 4-53845
- SU(5) GUT, extension to satisfy inflation 4-42573
- Sun's gravity field, orbiting spacecraft tracking expt. 4-47989
- tensorial-scalar theory of gravitation 4-13556
- topological transitions 4-17795
- Treders tetrad field eqns. of gravitation, inverse variational problem 4-42790
- twistor theory, grav. field energy-momentum and ang. momentum 4-141

gravitation continued

- ultrarelativistic particles moving in mag. field in curved space-time, synchrotron emission 4-4029
- unification and supersymmetry 4-18123
- unification of gravitation, EM, strong and weak forces (French) 4-4304
- unified affine electromagnetism and gravitation theory 4-36988
- unified gauge theory of gravitation and EM from twistor bundles 4-42794
- universal gravit. field and de Broglie's waves 4-36994
- vacuum domain walls, gravitational field from Einstein eqns. 4-17765
- vacuum polarization near a distorted black hole 4-22652
- Vaidya space-time, 2-D stress tensor operator 4-27374
- wave packets, proportionality between energy content and frequency 4-17759
- wave propagation in self-gravitating medium, perturbation theory (Chinese) 4-47950
- Weyl-Levi-Civita, Hermitian generalisation of vacuum fields, colour force 4-53559
- gravitational acceleration** *see* gravitation
- gravitational collapse**
see also black holes; cosmology
- dust configurations in EM field, nonspherical nonradiative gravit. collapse 4-47936
- early Universe, gravitational effects in bubble collisions 4-8619
- Einstein field eqns., empty space soln., particle field, Schwarzschild soln., star grav. collapse 4-42787
- gas clouds, symmetrical, gravit. collapse in linear wave flow approx. 4-3915
- globular clusters, post-collapse evolution, self-similar solns. 4-17567
- interstellar clouds, ang. momentum transfer 4-47687
- interstellar clouds, collapse and fragmentation for various mass stars and multiple stars 4-53155
- interstellar clouds, gravit. torques rel. to star form. 4-22368
- interstellar contracting cloud, local dust clumps development 4-13408
- interstellar matter, collapse and star form., role of grains sedimentation 4-53150
- interstellar primordial clouds collapse and Population III stars form. 4-8536
- magnetic flux problem and ambipolar diffusion, 1-D collapse 4-31819
- massive protostar form. due to quasi-static contraction of mag. clouds via plasma drift 4-13406
- multibody fluid system, gravit. equilib. 4-58426
- neutron star, general relativistic collapse of rotating and accreting object 4-36705
- nonspherical, for cylindrical and pseudoplanar symmetric matter distrib. 4-8382
- nonspherically, for planar symmetric charged dust distrib. 4-8383
- Population III stars, form. and pregalactic evolution 4-17564
- quantum cosmological singularities 4-22497
- rotating gaseous disks, gravitational instability with mag. field 4-26991
- stellar collapse, neutrino flux estimates for giant underground detector 4-17384
- supernova matter, nuclei props. in hot and dense matter with degenerate neutrino 4-58459
- white dwarfs, collapse in low mass binaries to neutron stars 4-36680
- white dwarfs collapse to neutron stars in close binaries 4-58435
- gravitational constant**
 fine displacement of cylindrical masses determ., novel expt. set-up (German) 4-37267
- finite-temperature induced gravity, behaviour in 4-17387
- G constancy and other gravit. expts. 4-17810
- G variability expt. test using Viking lander ranging data 4-4317
- general relativity, torsion coupling constant 4-13553
- mass scale in gauge theory of Universe struct. 4-47991
- Newtonian constant determ. by a mine method 4-47536
- Newtonian inverse square law, test at lab. distances 4-36578
- variation, testing of Strong Equivalence Principle by radio ranging of planets 4-47727
- gravitational experiments**
 EM interferent antennae for gravit. waves detection 4-36982
- G constancy and other gravit. expts. 4-17810
- G variability expt. test using Viking lander ranging data 4-4317
- general relativity testing by solar orbiting spacecraft tracking mission 4-47989
- gravitational const., Newtonian inverse square law, test at lab. distances 4-36578
- gravitational wave detection by means of pulsar timing obs., effect of interstellar electron density fluctuations 4-36983
- gravitational wave propagation speed and struct., antennae and optical expts. review (French) 4-42834
- gravitational waves and possible excitation of solar oscillations 4-47537
- gravitational waves from Geminga astronomical object, negative findings 4-42833
- Josephson effect, use for detection of gravit. and inertial forces (Russian) 4-53568
- local physics using at. and gravit. clocks, testing for cosmological influence 4-8616
- metric theory verification using beam width correction for Sagnac effect (Chinese) 4-47990
- quantum counting gravity wave detectors, quantum watchdog effect, coherence destruction 4-32163
- quantum non-demolition measurements 4-17811
- ring gyroscope as search-coil for magnetic-type gravitational field 4-53569
- Sun as detector gravitational waves from Geminga (French) 4-32162
- tuning fork antenna with collective mass, three-degree of freedom model (Chinese) 4-53567
- wave detection using elastic plates and piezoelectric cells 4-32160
- wave detector, low dissipation support 4-32161
- ^4He , superfluid, analog. of RF SQUID and inertial and gravitational field detection 4-34735
- gravitational lenses**
 2347+007 A, B, double quasar, UVBr photometry rel. to gravit. lens hypothesis 4-58529
- extended lens galaxy, single star effect on QSO image 4-53279
- galaxies, max. flux amplification by star disturbances 4-42300
- historical aspects 4-13190
- light deflection, triangulation lines in stationary-space times with axial symmetry 4-3911
- light travel time differences, wavefront method study 4-22313

gravitational lenses continued

- light travel time differences between images, theory 4-22314
- MG 2016+112, triple radio source, identification as new gravit. lens system 4-47720
- nature and light ray paths 4-13191
- neutron star hot spots and near-field gravitational lens 4-13348
- observational status, review 4-47533
- Q2345+007A.B. case for two intervening galaxies or cluster 4-53303
- Q 0957+561 A.B. double quasar, appl. of image interferometry to gravitational lens parameters determ. (Russian) 4-13205
- quasar detect., multiple path effects (German) 4-36580

gravitational radiation *see gravitational waves***gravitational red shift**

- see also cosmology*
- galactic halos, red-shift limits 4-53285
- Newtonian gravitation, redshift in nonlinear and Lorentz-invariant version 4-3921
- photon mass and antigravity 4-152

gravitational waves*see also gravitons*

- acceleration radiation, isotropy 4-4293
- antennas, coincidence tests in Rome 4-42839
- bar detectors, wide-band five mode aluminium 4-27398
- binary black holes from massive Population III stars, gravit. wave radiation 4-58466
- black hole, nonrotating, gravitational radiation from scattered particle 4-22423
- black hole, Schwarzschild, gravitational radiation emitted by N particles in circular orbits 4-22422
- black holes, algebraically special perturbations 4-36987
- black holes, gravitational waves, plunging particle induced 4-22650
- black-hole collision, Smarr's zero-frequency-limit calc. of gravit. radiation 4-8515
- clean point-like nearly-Newtonian binary, gravit. radiation, momentum effects 4-17557
- conference, search for gravitational waves, Bogota, Colombia (March 1982) 4-42596
- cosmological, soliton solns. to Einstein eqns. 4-17768
- Cygnus X-3, gravit. wave luminosity and spin down time rel. to 10^{16} eV gamma rays 4-47654
- detection, possible sources, practical difficulties 4-42835
- detection, theory of electromechanical transducers 4-42836
- detection of gravitational waves by means of pulsar timing obs., effect of interstellar electron density fluctuations 4-36983
- detection using elastic plates and piezoelec. cells 4-22665
- detection using elastic plates and piezoelectric cells 4-32160
- detection using He liquid crystal design, mechanical noise 4-42838
- electronic instrumentation and system anal. of antenna 4-42837
- EM interferent antennae for gravit. waves detection 4-36982
- emission calc. using finite difference eqns. 4-32128
- Geminga, negative search for gravitational waves from astronomical gamma-ray source 4-42833
- inflationary universe, gravitational instability grav. wave perturbations, symmetry breaking 4-8626
- inflationary Universe model, primordial gravit. waves and grand unification scale 4-13465
- International Solar Polar Mission and gravit. waves search, use of Doppler data 4-31766
- isometries compatible with gravitational radiation 4-47949
- Klein-Gordon particles, Hawking radiation in Kerr-Newman-de Sitter space-time (Chinese) 4-8801
- laser spectroscopy in presence of gravitational fields 4-24069
- N=1 supergravity, linearised spin 3/2 field, Schwarzschild superboost 4-47983
- Newtonian limit, gravitational radiation reaction 4-17771
- nonexistence theorem in alternative approach to gravitation 4-4292
- nonthermal radiations near horizons in stationary Riemann space-time (Chinese) 4-47947
- planar gravit. wave interaction with scalar field 4-145
- propagation in self-gravitating medium, perturbation theory (Chinese) 4-47950
- propagation of gravitational waves in a magnetized plasma 4-17772
- propagation speed and struct., antennae and optical expts. review (French) 4-42834
- PSR 1937+214, millisecond pulsar, rot. slow-down rate rel. to EM and gravit. radiation 4-53194
- pulsars, pulsation freq. of nearby objects rel. to Earth seismic background 4-21897
- quantum counting gravity wave detectors; quantum watchdog effect, coherence destruction 4-32163
- quantum non-demolition measurements 4-17811
- quantum nondemolition measurements via quantum counting 4-8807
- radiation emitted by particle with nonzero orbital ang. momentum falling into Kerr black hole 4-22649
- radiation in the Einstein universe and the cosmic background 4-17773
- relativistic binary system, rate of change of orbital period 4-3907
- self-gravitating elastic sphere, oscillations due to gravit. waves 4-47948
- solar oscillation excitation by gravitational waves 4-47588
- solar oscillation of 160 min. period due to gravitational wave excitation? 4-47587
- solar oscillations, possibility of excitation by gravitational waves 4-47537
- solitons propagating on expanding universe, exact Einstein eqn. solns. 4-142
- spherically symmetric radiating shell near spinless radiating central body 4-47935
- spinning magnetised homogeneous post-Newtonian gravitating fluid, wave emission 4-13185
- Sun as detector gravitational waves from Geminga (French) 4-32162
- supergravity, construction tools, disintegration triangle and Lie group generalisations 4-42830
- tidal gravitational radiation from homogeneous stars 4-13175
- tuning fork antenna with collective mass, three-degree of freedom model (Chinese) 4-53567
- weak gravitational radiation, statistical props., Hanbury Brown-Twiss anal. 4-42788
- CG 195+04, possible connection between 159.96 minute periodicity and solar oscillation 4-47586

gravitons

- massive gravitinos, collisionless damping of density fluctuations in expanding Universe 4-13457

gravitons continued

- nonlinear σ supersymmetric model in 1+1 dimens., supergravity coupling, spinning string 4-43163
- polarisation operator, one-loop calc. in first-order quantum gravity 4-158

gravity*see also gravitation*

- absolute gravity meters at. Serves, comparisons 4-52936
- W. Africa continental margin, struct. and evolution, gravity, seismic, geo-mag. obs. 4-58130
- altimetry-gravimetry problem, spherical approx. soln. 4-12746
- anomalies, decomposition to Fourier series, Simpson's and Filon's methods comparison, errors anal. (Russian) 4-26571
- anomalies, interpretation theory (Russian) 4-12772
- anomalies, variances over cap on sphere, filter gains 4-41690
- anomalies due to two-dimensional struct., Hilbert transform technique 4-52558
- anomalies prospecting, characts, determ. method (Russian) 4-13076
- Antarctica, 192 point mass model (Russian) 4-47126
- Apennines, Italy, seismicity due to topography and isostatic compensation 4-47165
- mid-Atlantic Ridge relief, gravity anomalies and tectonics 4-41824
- Australia, elevation and gravity profiles rel. to tectonism 4-58065
- Baikal-Patom highlands, deep crust struct. from gravity anomalies 4-52652
- Bel'skaya depression, USSR, tectonic features from gravity and mag. prospecting anal. (Russian) 4-52670
- Bonin Arc, Pacific Ocean, tectonic history from bathymetry and gravity structural features anal. 4-52686
- Bouguer anomalies and seismicity in Italy, correl. determ. from pattern recognition anal. 4-36294
- boundary value problem for fixed boundary surface, satellite method 4-41689
- Brabant Massif, Belgium, interpretation of gravity anomalies 4-26570
- W Brabant Massif, Belgium, two structural models 4-41693
- China, free air gravity field rel. to seismology, tectonics and isostasy (Chinese) 4-12751
- Conception Bay, Newfoundland, gravity data rel. to geological interpretation 4-12910
- crust deformation due to gravity acting on density anomalies 4-17122
- deep structures investigation from centres of mass distrib. anal., Lake Khanka area appl. (Russian) 4-26862
- density determination of layer from gravity and relief anal. (Russian) 4-26861
- dipping lithospheric plate under Aegean island arc and Aegean Sea 4-36275
- distorted stars in close binary systems, gravity darkening 4-31862
- disturbing potential functionals estimation, appl. of integrated adjustment of geodetic networks (German) 4-47132
- Earth, global meas. of gravity field using gradiometric satellite 4-8366
- Earth, gravity field determination by two satellite range rate method 4-52946
- Earth, gravity field var. from satellite to satellite range rate 4-42220
- Earth, harmonic coefficient models of gravity field 4-41699
- Earth crust tectonic stress state calc. from gravity anomalies 4-52671
- Earth gravity anomalies in mantle convection model 4-3747
- Earth tides (book) 4-8659
- East Lothian volcanics, Scotland, lava bed thickness rel. to gravity and mag. anomalies 4-52561
- central Eromanga Basin, Australia, gravity sounding 4-58177
- spiral galaxy, 3-D gravitational potential 4-47711
- geodesy, subsurface based gravity surveying, corrections for hollow spaces 4-26836
- geodetic anomalies due to multilayer media, algorithm for selecting appropriate model 4-26870
- geodetic anomaly inversion by linear programming and stochastic inversion methods (French) 4-58076
- geodetic inverse problem of gravimetry and magnetics, simultaneous soln. by non-linear programming 4-42201
- geoid height above 3-D underground bodies within spherical Earth 4-36274
- geoidal height over oceans, altimetry-gravimetry problem soln. 4-41686
- geophysical gravity anomaly fields, soln. of direct problem for 3-D inhomogeneous bodies 4-52554
- geophysical gravity field of inhomogeneous body, use of higher derivatives with Green's integrals 4-52555
- geophysical prospecting, homomorphic deconvolution for gravity anomaly data 4-26834
- geopotential anomalies due to 2-D sheet-like underground structs., interpretation method 4-36516
- geopotential harmonics of order 31 from 1963-27A orbital inclination 4-26977
- Gorda Plate beneath N California, 3-D geometry from gravity maps 4-41867
- Greece, vertical deflections determ. using spherical harmonics/gravimetric data 4-12745
- half-degree gravity anomaly means from satellite altimetry, Australian regions 4-17044
- harmonic coefficients of Earth gravity models, testing and comparison procedure 4-8173
- harmonic effects from post-glacial rebound, Lageos obs. 4-31403
- harmonically forced Cavendish balance 4-49
- Hida mountain range, Japan, Bouguer anomaly rel. to tectonic stress 4-17134
- Himalaya, struct. constraints, gravity anomalies and lithosphere flexural model anal. 4-41814
- eastern Hungary, earthquakes, faults and gravity obs. 4-26604
- Hungary, regional Bouguer gravity maps 4-26568
- northern Iceland, vertical ground deformation observations 4-12896
- Illinois-Wisconsin region, gravity anomaly geological interpretation 4-41697
- N Indian Ocean area, crust and upper mantle struct. from geophys. data 4-36327
- Indian Shield, crust and upper mantle struct. from geophys. data 4-36327
- inverse gravimetry problem for group of point masses, stability of soln. 4-3670
- inverse problem approx. soln. for 3-D gravimetry and magnetometric problems 4-36521
- inverse problem of geopotentials, conditions sufficient for solvability 4-13070

gravity continued

- inverse problem soln., new algorithms 4-47440
- isostatic geoid anomalies over trenches and island arcs 4-52674
- central Japan, gravity anomalies rel. to topography, seismicity, tectonic lines, faulting 4-26583
- Jupiter, gravitational field and figure evolution 4-27040
- Kanto Plain, Japan, active fault anal. by prospecting and gravity (*Japanese*) 4-47217
- meteorology affecting gravimeter readings, changes due to passage of cold fronts 4-13072
- mixed boundary value problem of geodesy, matrix soln. 4-8175
- Mount St. Helens, Washington, temporal gravity vars. (March to May 1980) 4-12855
- mountain range gravity anomalies, crust struct. and tectonics 4-58144
- one-dimensional self-gravitating system, dynamical and statistical study 4-53474
- NW Ontario, Coldwell Complex rel. to petrology 4-41691
- pendulums, classical expt., simulation on Jupiter and Saturn 4-36872
- permafrost area, gravity obs. influenced by massive ground ice 4-22110
- Poltava Observatory, USSR, gravity, tidal var. spectral anal. (*Russian*) 4-26577
- Poltava Observatory, USSR, gravity tidal var. (*Russian*) 4-26572
- prospecting, interpretation techniques (*Russian*) 4-13077
- prospecting, inverse problem soln. method and algorithm 4-17291
- resonance perturbations in geostationary satellite orbits, determ. method (*Russian*) 4-13167
- ring zones of subvertical nonuniformities, identification from gravimetric method, appl. to Veselov platform (*Russian*) 4-12756
- SW Rockall Plateau, deep crustal structure, gravity models 4-58125
- San Andreas fault, California, elec. cond. struct. rel. to seismic and gravity data 4-41713
- Saturn, gravitational field and figure evolution 4-27040
- S Siberia, regional crust struct. from mag. and gravity anomalies 4-3731
- W Siberian Plate, gravity and mag. fields of Ob-Irtysh region 4-3768
- W Siberian platform, southern region, gravity anomalies nature, topography effects (*Russian*) 4-12755
- simultaneous interactive magnetic and gravity inversion 4-26591
- sound velocity, gravity effect 4-22566
- St. John's Island, Red Sea, gravity/mag. anomalies and ultramafic rock emplacement mechanisms 4-21903
- stars, main sequence, increasing internal gravit. field rel. to evolution to red giants. 4-13298
- station coordinates determ., use of geopotential model in orbital method (*Russian*) 4-13038
- Sun, effect of oblateness on gravit. pot. (*Russian*) 4-13274
- Tallin, USSR, gravity, tidal var., meteorological effects (*Russian*) 4-26574
- thin drop spreading by gravity and capillarity 4-34154
- Tien Shan, USSR, isostatic compensation, lithospheric anomalies 4-17137
- SW Tuscany, Italy, upper crust structure and evolution 4-36332
- United States, absolute gravity survey 4-41698
- Venus, gravity, topography and crustal evolution 4-27023
- Venus gravity field, Pioneer Venus Orbiter navigation results 4-53073
- Middle Vitim highlands, Siberia, crustal struct. and geology 4-3732

gravity meters *see* **gravimeters****gravity waves**

- acoustic-gravity waves, dispersion in atm. (*Chinese*) 4-3788
- atmosphere, nonlinear inertio-gravity waves, Korteweg-de Vries eqn. and solns. (*Chinese*) 4-42003
- atmosphere boundary layer, gravity waves generation 4-58263
- atmospheres, hydrodynamic and hydromagnetic waves, viscous and resistive dissipation 4-53037
- atmospheric convective storm-gravity waves interaction, case study 4-58232
- atmospheric equatorially trapped waves rel. to meridional wave convergence 4-58231
- bending-gravity waves in ice flow floating on infinite depth fluid (*Russian*) 4-12925
- deep ocean internal gravity wave spectrum, universality and strange attractors 4-14993
- deep-water gravity waves, subharmonic generation 4-34116
- Earth tidal-gravity waves at Sadievka, seasonal distortion (*Russian*) 4-26575
- fluid surface, justification of Stokes hypothesis 4-14994
- fluid surface, Maslov methods in linearised theory 4-13519
- free Kelvin wave with lateral and vertical viscosity 4-52737
- gravity-capillary waves with edge constraints, eigenvalue calc. 4-5904
- heavy fluid instantaneous releases in rectangular channel, gravity current prod. 4-15025
- highly nonlinear short-crested surface gravity water waves 4-14991
- internal gravity waves in large Reynolds number Boussinesq fluids, instabilities 4-10692
- internal gravity waves in troposphere and ionosphere, origin from cumuli clouds (*Russian*) 4-52839
- internal gravity waves-turbulence, statistical dynamics, oceanic appl. 4-14987
- internal wave dissipation in contained rotating stratified fluid 4-34113
- ionosphere, obs. of gravity waves in auroral zone 4-22247
- ionosphere, TID sources location by chain of rapid-run ionosondes in Quebec 4-22248
- long-crested surface gravity water waves 4-14992
- mean flow interaction in zonal-averaged dynamical model of middle atmosphere at solstices 4-26903
- mesosphere, gravity waves break-up rel. to winter-time radar echoes 4-22050
- mesosphere, gravity-wave motions, partial radio reflection meas. over Australia 4-52978
- nonlinear gravity-capillary standing waves in water of arbitrary uniform depth 4-49835
- numerical calcs. 4-32128
- ocean short waves on long waves 4-41952
- refraction waveguides for acoustic-gravity waves 4-13186
- solar core, gravity oscils. rel. to periodic vars. of neutrino flux (*German*) 4-31809
- solar spicules, acoustic-gravity wave theory rel. to solar atmosphere mass balance 4-58420
- Stokes' coefficients in theory of finite amplitude gravity waves, ϵ -algorithm appl. (*French*) 4-49833
- stratified accelerating shear flow over a rough boundary 4-38860

gravity waves continued

- Sun, atm. acoustic gravity waves refl./transmission (*Russian*) 4-17482
- Sun, detect. of gravity mode oscillations 4-22361
- surface gravity waves diffr. at vertical elliptical cylinder (*Russian*) 4-10686
- thermosphere, acoustic gravity waves anal., from HF radiowaves digitisation 4-8340
- thermosphere, response of F-region, effect of plasma diffusion 4-22229
- transition radiation of acoustic gravity waves for vertically moving point mass source 4-14830
- turbulent gravity-stratified shear flows 4-38861
- VLF/LF wave cross modulation 4-3874
- water wave, modulational instability, marginal state, Benjamin-Feir instability 4-17707
- water waves, peristaltic pumping 4-34114
- wave generation at inertial surface 4-44614
- wavefield behind moving cylinder in stratified fluid, interferometric visualisation methods 4-10693

greasing *see* **lubrication****Green's function methods**

- see also* **CPA calculations; KKR calculations**
- Φ^4 model in Euclidean space, renormalised normal product and eqns. of motion 4-43159
- acoustic wave propagation in random media calc. using quantum field theory 4-5744
- adsorption, surface props., Green's function calc. 4-6854
- AE signal evaluation, rise time effect of dynamic source 4-41152
- aerodynamic noise in moving media, high freq. Green function 4-28921
- aerodynamic noise in spreading jet, high freq. Green function 4-28922
- alloys, substitutionally disordered, density of states and local-environment fluctuations 4-34851
- Anderson model, degenerate, diagrammatic technique 4-56278
- Anderson model, perturbation expansions for systems with strong local correlations 4-2551
- anisotropic magnets, theory of props. 4-2748
- anomalous thermal conductivity near the metal-insulator phase transition 4-11443
- antiferromagnet, semi-infinite, local magnetisation oscils. 4-35137
- antiferromagnetic chain, non-ideal, local magnetisation oscils. due to impurities 4-25504
- antiferromagnetic model with Neel states as ground states 4-51018
- antiferromagnetic semiconductor, low temp. carriers 4-2574
- As_2H_4 , outer-valence ionic energies, Green's function ab initio calcs. 4-18917
- bag model, spherical quark and gluon propagators (*Russian*) 4-22995
- book, functional integrals in QFT and statistical physics 4-53377
- Bose-Einstein condensation in nonequilibrium systems 4-15744
- boson-fermion quantum field theory models anal. with solitons 4-4553
- charge-ordered cryst., electronic phase transition (*Russian*) 4-6721
- charged vector particle in external EM field 4-53917
- chromophore aggregates, absorpt. bandshape, retarded Green function FT resolvent expansion calcs. 4-38252
- cold plasma, upper hybrid and plasma reson., drives electrostatic oscils. 4-6049
- compact Abelian lattice gauge theory, Green's function Monte Carlo method appl. 4-4561
- composite theory, Green tensor of equilb. eqn., relations for operators 4-49692
- conjugated operators and propag. props. (*French*) 4-4248
- Coulomb Green's functions appl. to He-like energy level calcs. 4-18892
- crystals near melting temp., quantum field theory 4-6452
- decaying states, variational principles 4-4262
- deep-lying hole states in nuclei, microscopic approach 4-4733
- deformable macromolecules, wt. diffusion with mean local cylindrical symmetry 4-38362
- deterministic phase retrieval Green's function soln. 4-10246
- diamond, electronic charge density, recursion method generalisation 4-45578
- direct band gap semiconductor, exciton-polariton theory 4-2523
- disordered solids, sp. ht. at low temp. due to negative U-centres 4-15662
- disordered systems, electronic and vib. props., use of recursion method 4-6740
- dispersive media, Green's functions for acoustic fields 4-24282
- electric fields, Laplace and Poisson eqns., numerical soln., appl. of Green integral formula (*Polish*) 4-23855
- electromagnetic dyadic Green's function, eigenfunction expansion 4-28598
- electron gas, homogeneous, dielec. function, role of correls. between electrons with antiparallel spins 4-29911
- electron propagation in Markovian time-fluctuating medium, CPA calc. 4-34849
- electron-assisted exciton recomb., Green's function treatment 4-6705
- electron-impurity-centre interactions, velocity correlation funct. calc. 4-29940
- electrostatic instabilities, space-time evolution 4-49999
- EM wave scatt. from random discrete scatterers layer, strong fluctuation theory 4-54930
- energy distribution of surface source in inhomogeneous half-space 4-42725
- exact closed evolution equations for partial Green's function describing interacting particles 4-27400
- exciton absorption band spectral parameters, role of phonon anharmonicity (*Russian*) 4-7143
- excitonic molecule, ground state energy calcs. using Monte Carlo method 4-28983
- FCC crystal (111) surface, phonon dispersion relations and mean correl. displacement 4-2422
- fermion systems, second order phase transitions anal. by two-particle Green function (*Rumanian*) 4-27409
- fermions bound states theory in many-body systems 4-53548
- ferromagnetic semiconductors (*Russian*) 4-39831
- ferromagnet with single-ion anisotropy in mag. field, single-particle Green's funct. 4-2751
- ferromagnetic semiconductor, doped, spin wave spectra, Green's function calc. 4-56590
- ferromagnetic semiconductors, s-f exchange model, electron states in spin wave region 4-40159
- ferromagnetic uniaxial crystals, anisotropy, magnetisation, thermodynamic behaviour 4-56609
- fractional quantised Hall effect, many-body theory 4-34938

Green's function methods continued

- graphite intercalation compound with impurities, electronic struct. calc. 4-45680
- half planes, bonded or in contact, containing cracks or holes, stress-field anal. using integral-eqn. soln. 4-5836
- heat conductivity equation, Green function asymptotic coeffs., computer calcs. (*Russian*) 4-44338
- heavy-ion collisions, quantum dynamics, nonequilib. Green's function anal. 4-43498
- Heisenberg ferromagnet, anisotropic, $S=1/2$, thermodynamic props., unified first-order Green's function theory 4-2786
- Heisenberg ferromagnet, Dyson equation for spin Green's functions 4-56521
- Heisenberg ferromagnetic chain, easy-plane, spin-wave damping and two-spin-wave bond state 4-56594
- Heisenberg paramagnet, relax. function, temp. depend. fourth moment 4-45991
- hopping transport on randomly substituted lattice in presence of dilute deep traps 4-50803
- horizons and generating functionals for temp. Green's functions (*Chinese*) 4-53202
- Hubbard Hamiltonians, low-dimensional, quasiparticle spectral density 4-34848
- hydrogenic atom in semi-infinite space, energy levels, variational method 4-5140
- inhomogeneous medium, SH wave propag., point source, Green's function appl. 4-49742
- N-interface problem, general Dyson eqn. within tight-binding approx. 4-15931
- Ising model, damping of transverse and longit. excitations in transverse field 4-35390
- Ising spin glass, dynamics and stability from closed time path Green's funct. 4-30187
- Ising spin system, transverse dynamic susceptibility, exact eigenvalue eqn. for reson. freq. 4-35132
- isovalent-impurity clusters in Koster-Slater approximation 4-2543
- long-range correlated random pot. wave propag. and localisation 4-20607
- magnetic fields, Laplace and Poisson eqns., numerical soln., appl. of Green integral formula (*Polish*) 4-23855
- magnetic fringe field due to flux source near large permeable block, computation 4-28591
- many-particle clusters formation in nuclei from particle-vibration coupling 4-4782
- many-state quantum dynamics, recursive residue generation method 4-22628
- matrix composites, -mechanics, multipolar expansion method appl. 4-44389
- Maxwell equations in conformal invariant electrodynamics 4-18144
- metal, optical response from randomly rough surface 4-7142
- metal-H alloys, disordered interstitial electronic density of states 4-29860
- metal-insulator transition, phonon model and static cond. (*Russian*) 4-34877
- metals, b.c.c., mobile interstitial interactions with dislocations 4-50343
- metals, electron Green functions in magnetic fields 4-50800
- MHD equilibrium and stability of spheromak plasma in flux conserver 4-44814
- mixed valence Hamiltonian, Green function method 4-56293
- molecular crystals, energy spectrum, influence of planar defects and disorder 4-39785
- Morse-potential Green's-function with path integrals 4-17745
- moving boundary phase change problems, boundary integral eqn. soln. 4-32203
- multilayered isotropic media, tractable form of dyadic Green function 4-23864
- non-linear R_ξ gauge, Green's functions props. 4-48387
- nonequilibrium quantum processes, Green's function anal. 4-42738
- nonequilibrium quantum statistical operator. General definition of nonequilibrium real-time Green's function 4-42847
- nonlinear fluctuation-dissipation theorem from closed time path Green's function 4-37004
- nonlinear response eqns. from closed time path Green's functions 4-37003
- nuclear reactions, unified theory, quantum Green's functions formalism 4-592
- O(N) σ -model, composite operators, IR renormalons and operator product expansion 4-48285
- ocean, random, acoustic propagation, coherent Green's function 4-33851
- one-dimensional system with incommensurate lattice distortion, electronic struct. 4-45663
- one-dimensional system with incommensurate lattice potentials, electronic states 4-39742
- optical waveguide theory, book 4-33760
- partially ionised plasma, elec. cond., linear response theory and improvements of Lenard-Balescu eqn. 4-6005
- particles interacting by oscillator law, Sturm representation of Green's function 4-53549
- photoacoustic spectroscopy, coupled resonant photoacoustic T-type cell (*Chinese*) 4-53766
- planar optical waveguide, in-plane scatt., surface roughness effect 4-44208
- polar ferromagnet, coexistence of charge and mag. ordering 4-46046
- polarons, single electron Green function, coherent potential method 4-39790
- polyacetylene with soliton, Green's function theory 4-39839
- polymers, entanglement probabilities, Green function for half-plane barrier 4-23848
- potential scatt., projection-operator approach 4-8782
- pre-equilibrium nuclear reactions, multistep secondary particle emission mechanism, quantum Green's funct. anal. 4-43443
- proton decay in nucleus from SU(5) GUT 4-9054
- QCD approx., Schwinger-Dyson eqn. for quark propagator in IR region 4-53932
- quantum mechanical linearly damped forced harmonic oscillator soln. 4-32072
- quantum transport in high elec. fields for electron-reson. impurity systems 4-45800
- quasiclassical expressions for 1-D motion 4-53539
- quenched random fields and supersymmetry 4-43199
- quenched random system, dynamical theory from closed time path Green's funct. 4-27411
- random binary alloys, phonon freq. spectrum 4-45283

Green's function methods continued

- random one-dimensional lattice, Laplacian spectrum 4-53616
- randomly disordered Heisenberg chain, spin wave renormalisation treatment 4-6960
- rare earth compounds, nonmetal-metal transition, electronic density of states 4-20565
- rare-earth-transition-metal alloys, 'elementary excitations' spectrum 4-2774
- reactor criticality Monte Carlo as a paradigm for the quantum many-body problem 4-37714
- reduced model with fermions, nonperturbative treatment 4-4566
- resonant atoms, statistical quantum electrodynamics 4-48895
- s-d model, magnon damping above T_C , Green's function calc. 4-56596
- second-order susceptibilities, calc. using temperature-Green functions 4-4326
- synthetic seismograms calc. using elasto-dynamic Green's function 4-17072
- semiconductor disordered systems in mag. field, tunnelling transparency 4-20750
- semiconductors, ^{119}Sn implanted, electronic struct., Mossbauer isomer shifts 4-35272
- semiconductors, narrow gap, band mixing calcs. 4-50717
- SO(p,q) group of pseudo-orthogonal matrices, irreducible unitary representations 4-43244
- spin glasses, transport props., effect of including Kondo-like terms 4-51070
- spin rotational invariance and the thermal excitation of magnons at low temperatures 4-35157
- St.-Venant's torsion problem, integral eqns. (*German*) 4-38723
- static disorder systems, diffusion, hopping models 4-45380
- statistical averaging of the Green's function of channeled particles 4-20277
- superlattices, surface phonon theory 4-56135
- surface collective excitations, macroscopic and microscopic viewpoints 4-25142
- surface Green function matching for crystal lattice dynamics 4-50623
- symmetric Hadamard series 4-37278
- thermal diffusivity of two-phase isotropic homogeneous system 4-38698
- thermo field dynamics, renormalisation and perturbation 4-43160
- thermo field dynamics in interaction representation 4-13607
- three hard spheres, Faddeev eqns. for simple layer pot. density 4-17726
- three-dimensional thermodynamic system, critical dynamics 4-22742
- three-level atom, bichromatic field interaction, sum third order freq. mixing 4-1136
- three-level atom in V config., third-order nonlinear spectra of strong bichromatic field 4-14362
- transition metals, iteratomic Green functions calc. using continued fraction technique 4-32740
- transition metals, molten, static electroconductivity (*Russian*) 4-6760
- transition metals and their opds., electron-phonon interaction, self-consistent theory 4-15603
- valence transitions, Falicov-Kimball model, coulomb interactions 4-56285
- wave propagation, Fourier transform. and Green's function approach 4-22591
- Weinberg renormalisation scheme, Abelian case 4-48337
- Wilson-Polyakov lattice gauge theory, factorisation in large-N limit, Schwinger-Dyson eqn. anal. 4-32454
- X-ray diffr. eqn., Green's function soln. in Bragg case (*Chinese*) 4-50128
- X-ray diffr. eqn. soln. using Green's functions (*Chinese*) 4-2029
- Al, defect electronic structure, extension of muffin-tin Greens-function theory 4-45674
- Al, muffin-tin Green's function theory of H defects 4-45675
- Al-Cu(Ni)(Co) dil. alloys, extension of muffin-tin Green's function theory to defects 4-45674
- AsH₃NH₂, outer valence ionic energies, Green's function ab initio calcs. 4-18917
- CdCr₂S₄, dynamic behaviour of the s-d model 4-25532
- Cu, 3d, 4d and sp impurities, electronic struct., self consistent cluster calc. 4-34910
- Cu-based dilute alloys, lattice sp. ht. at low temp., Green's function theory 4-6519
- Cu₂O type film, exciton energy calcs. (*Russian*) 4-56233
- FCP, PES and ionisation pot. calc. by Green's function theory 4-5281
- Fe, three-spin correlation dynamics study by neutron polarisation 4-20793
- GaP, vacancy induced deep levels, density of states change 4-39747
- GaP:O, localised and resonant O vibr. modes, Green's function calc. 4-45291
- H atoms 4-19261
- HCP, PES and ionisation pot. calc. by Green's function theory 4-5281
- He-like isoelectronic series, ground state, Coulomb Green's function variables 4-48902
- ³He, solid, antiferromag. UUDD state for spin exchange interactions, Green funct. theory 4-29726
- ³He superfluid, quantum kinetic nonlinear eqn., free energies 4-39624
- III-V semiconductor:Sb, ion implanted, Mossbauer isomer shift studies 4-46152
- InP, vacancy induced deep levels, density of states change 4-39747
- KCl, surface, local density of electronic states 4-40012
- N₂, correl. effects, Auger spectrum calcs., Green's function method 4-19106
- N₂H₄, outer valence ionic energies, Green's function ab initio calcs. 4-18917
- Ni (111) layers, on C, heterogeneous catalytic props., effect of metal-support interactions 4-57602
- NiO, optical absorpt. and mag. ordering (*Russian*) 4-7217
- NiO, optical absorption coeff., Green's function anal. 4-25711
- PF₃NH₂, outer valence ionic energies, Green's function ab initio calcs. 4-18917
- P₂H₄, outer valence ionic energies, Green's function ab initio calcs. 4-18917
- PH₃NH₂, outer valence ionic energies, Green's function ab initio calcs. 4-18917
- Si, impurity nuclei at interstitial sites, hyperfine interactions 4-34899
- Si inversion layers, many-body correlation effects 4-2639
- Si, T₂ symmetric deep level wave functions, defect centres (*Chinese*) 4-50753
- Si:As (B), ion implanted, pulsed electron beam annealing 4-15536
- ZnO, deep level struct. of O vacancies, semi-empirical calc. 4-34906

grinding

- aspherical optical element grinding on modernised computer-controlled 'start-500' lathe 4-44256
- brittle materials preparation for TEM 4-22881
- contact lens, toric, design calc. and manufacture 4-58039
- convex aspherical condenser lens assembly-line fabrication 4-19611
- cylindrical plunge grinding, experimental investigation (*Japanese*) 4-15821
- fibre optic couplers, evanescent wave, fabrication methods 4-10470
- fibre-optic sintered element relative grinding hardness 4-33780
- fine diamond grinding process automation 4-33822
- metallography, efficient high vol. 4-35813
- metallography, new abrasives 4-30887
- metals, electrosparc alloying, electrode materials mass transfer (*Russian*) 4-7628
- microwelds, metallography using microtoming 4-35814
- optical components, ground, surface roughness estimation 4-10481
- optical fabrication technology improvements 4-38644
- optical glass composition influence on relative grinding hardness value 4-33821
- optical surface roughness measuring device valve rocker manufacture appl. (*German*) 4-32238
- steel, Cr, high-C, hardened rolls, depth of strengthening study by grinding away layers 4-41092
- thermites, consolidated, metallographic techniques 4-35818
- α - Al_2O_3 , synthetic corundum, exoelectron emission rel. to prep. conditions 4-3030
- Al_2O_3 - ZrO_2 , ground surfaces, residual stresses, stress induced phase transform. 4-3135
- Fe-Cu (30 wt.%), liquid phase sintered, large pore elimination, grinding, metallographic analysis (*German, English*) 4-51927
- α - FeOOH , goethite, grinding induced decomposition to α - Fe_2O_3 4-3269
- Mg alloys ML-5 and ML-8, vibr. grinding, foundry skin and surface layers struct. (*Russian*) 4-30846
- Ti, abrasive machining, coating effects on tribology 4-7600
- TiC, grinding material, mech. props., prep., appls. (*Polish*) 4-3246
- TiBr-TiI crystal grinding using bound-abrasive tool 4-33823
- TiCl-TiBr crystal grinding using bound-abrasive tool 4-33823

grinding mills *see grinding***ground services, aerospace** *see ground support systems***ground support systems**

- see also navigation; telemetering systems*
- artificial satellites electro-optical surveillance in daylight, reflected sunlight detection 4-22324
- data display system for Spacelab expts. 4-3925

grounding *see earthing***groundwater**

- aquifers, macrodispersion, three-dimens. anal. 4-17191
- aquifer, salt water-fresh water interface motion, simulation 4-17184
- aquifer hydraulic transmissivity determ. by elec. transverse resistance method 4-52927
- aquifer parameter identification with kriging and optimum parameterization 4-17195
- aquifer thermal energy storage, flow lines recoverable zone 4-3479
- aquifer thermal energy storage, injection-recovery expts. and convection suppression 4-52215
- aquifer thermal energy storage, well doublet expt. at increased temp. 4-16802
- Argo Tunnel water, Idaho Springs, Colorado, dissolved species chemistry 4-41997
- atmospheric pressure and Earth tide influence on groundwater vertical flow 4-52775
- basalt high level radwaste disposal site, geohydraulic characterisation and qualification 4-23248
- Burgundy, France, water loss from Tille River in calcareous regions 4-36418
- Cerro Prieto geothermal area, Mexico, elec. resistivity obs. 4-12764
- Cerro Prieto geothermal area, Mexico, production induced boiling 4-12826
- Cerro Prieto geothermal field, Mexico, groundwater dynamics rel. to inert gases 4-12948
- Cerro Prieto geothermal field, Mexico, heat and water transport model 4-52659
- Cerro Prieto geothermal field, Mexico, review of studies 4-17106
- Cerro Prieto geothermal field, Mexico, Rn study of reservoir thermodynamic conditions 4-12825
- Cerro Prieto geothermal system, Mexico, ground-water chemistry 4-12823
- Cerro Prieto geothermal system 4-12446
- Cerro Prieto hydrothermal system, Mexico, groundwater and heat source 4-12947
- chemical speciation described by FORTRAN computer program 4-47317
- coastal aquifers, seawater-freshwater interface, effect of irreversible hydraulic cond. var. 4-17185
- convection in liquid-saturated porous medium bounded by vertical coaxial cylinders, expts. 4-38828
- Delicias Valley, Mexico, use of ^{18}O and ^2H 4-8333
- dryland soil salinisation in Australia, Conf., Victoria, Australia (Oct. 1982) 4-42588
- ecosystem hydrodynamics and water at Earth surface 4-4176
- electrical prospecting by self-potential method for study of water flow 4-52930
- enrichment mechanisms for trichlorofluoromethane and dichlorodifluoromethane 4-17183
- ephemeral stream recharge of water table after wetting front arrival 4-17192
- ephemeral stream-aquifer interaction model for flow 4-52776
- filtration into heterogeneous multilayer beds, mathematical model (*Ukrainian*) 4-41989
- fissures in limestone studied by borehole magnetometric resistivity method 4-3674
- flow direction determ. underground by drilled well 4-8335
- flow routes in soil, use of gypsum spheres 4-42187
- flow systems, interaction of lakes with variably saturated porous media 4-52787
- fractured aquifer groundwater flow, finite element molding 4-52784
- fractured geothermal reservoirs boiling, heat transfer and flow 4-17193
- fractured granite, large scale hydraulic cond. 4-41990
- geologic high level radwaste repository siting and licensing, tectonic stability aspects 4-28022

groundwater continued

- geothermal reservoir, vapour-dominated, at Serrazzano, Italy, distributed parameter modelling 4-52788
- geothermal reservoir with waters of different salinity, simulation and resistivity modelling 4-17107
- geysers, theory and modelling, seismograph construction 4-41996
- Gorleben radwaste storage facility, radionuclide migration modelling, groundwater contamination (*German*) 4-4973
- heat emitting rad. waste depository, groundwater flow in hard rock region, finite element modelling 4-43567
- humic substances contrib. to acidity 4-31536
- Idaho, USA, forestry logging operations influence on granitic slope hydrology 4-52780
- N Illinois, Precambrian granite, stress state, permeability and fractures 4-41871
- N Illinois Precambrian granite cores, brine sampling and comp. 4-42215
- India, groundwater exploration via VLF EM prospecting 4-52963
- Lake Dieri (ancestral Lake Eyre), South Australia, salinity layering and Pleistocene sedimentation 4-26724
- level in drained soils, hydrodynamics and mass transfer during bilateral regulation, numerical simulation (*Russian*) 4-12946
- NE Mali, radiocarbon chronology of Holocene hydrological changes 4-17178
- Mount St. Helens area, props. of gases and groundwaters of deep origin 4-12956
- movement, hydrodynamic formulation of geochemical problems 4-47315
- multi-layer groundwater basin, solute transport model development 4-22030
- multilayered aquifer thermal energy storage system with buoyancy flow, field expt. prediction 4-52216
- nuclear waste glass, surface layer alteration by boiling water, struct. (*French*) 4-52249
- nuclear waste repository, safety anal., fluid transport theory in fractured media 4-14058
- nuclide migration through fissured geological media, numerical anal., radwaste disposal anal. 4-54261
- Oku-Aizu area hot springs, Japan, chemical anal. (*Japanese*) 4-31547
- ore body prospecting in Siberia by study of groundwater F and Cl contents 4-52968
- pollutant movement in unconfined aquifer, laboratory expts. 4-52227
- pollution, aquifer solutes identification, mathematical methods and exact solutions catalogue (*Italian*) 4-36047
- pore pressures at depth, effect of topographic relief erosion 4-58207
- porosity of granitic rock in Illinois deep holes, effect on thermal cond. 4-41901
- Puga Valley hydrothermal field, subsurface thermal conditions 4-31456
- radioactive waste, groundwater, effect on Pu, Np and Am isotopes 4-54266
- radioactive waste, radioisotope migration in groundwater bearing horizons 4-54265
- radioactive waste repository groundwater, actinide solubility controls in performance assessment 4-28030
- radionuclide migration in groundwater, influence of radwaste leach rates and other factors 4-28027
- radionuclide sorption on metal and polymeric materials, migration in rock appl. 4-719
- radwaste disposal facility radioactivity release, potential population exposure via food chain (*German*) 4-4974
- rock core moisture content measurement by microwave technique 4-22150
- Sherbro Island, Sierra Leone, SIR-A use for grassland swamp cartography (*French*) 4-41922
- West Siberian plate, D and ^{18}O content of groundwater and hydrocarbon prospecting possibilities 4-41998
- soil, water infiltration rates for wooded steppe zone arable and virgin land 4-22029
- Standard Galerkin finite element method appl. to groundwater flow, incongruity anal. 4-17202
- steady state variable density groundwater flow eqn., soln. 4-17196
- temperature gradients in crust perturbed by water flow 4-47197
- thermal energy storage in aquifer, surface heat exchange study 4-52214
- thermal energy storage in confined aquifer, temp. distrib. calc. 4-52213
- Transbaikalian boreholes, groundwater levels and yield rel. to 1980 October 2 earthquake 4-3714
- two-dimensional flow towards storage tunnels beneath water table 4-17197
- unsteady groundwater linear models, soln. in time, eigenvalue numerical technique 4-17292
- Valley of Mexico, seismic failure elastic models, hydrologic characts. 4-41763
- Vosges region, France, geothermal reservoirs, mixing and geochemical anal. 4-41830
- water resource planning, conf., Koblenz, Germany (Aug.-Sept. 1983) 4-53359
- water-rock interaction, fourth symposium, Misasa, Japan (Aug.-Sept. 1983) 4-4153
- well logging, electromagnetic methods 4-13103
- Pu speciation in basalt, granite, shale and tuff groundwaters, radwaste repository appl. 4-9269
- U mobility and geochemical processes in crystalline rock, isotopic anal. 4-41809

group theoretical schemes

- O(3) group, lattice gauge theories, double valued representations in cubic 4-D 4-32407
- O(4) group, lattice gauge theories, double valued representations in cubic 4-D 4-32407

group theory

- see also Clebsch-Gordan coefficients; crystal symmetry; elementary particle theory; group theoretical schemes; Lie groups; renormalisation; S_U theory*
- adatom self-energy and chemisorption, Newns-Anderson Hamiltonian anal. 4-25150
- alkali metal at. clusters, secular eqns., diatomics group theoretical calcs. 4-49205
- alloys, number of superlattices determ. by group-theoretic method 4-2131
- amorphous solids, short-range order, fuzzy symm. group, basic struct. characteristic parameters 4-44947
- antiunitary groups, vector and projective coreps., general irreducibility condition 4-42688
- atomic orbitals, group theoretical treatment 4-1018

group theory continued

- Backlund transformations, group prop. and algebraic structure 4-27282
 Baker-Campbell-Hausdorff formulae, Z_n graded, coset space parametrisations 4-8715
 Cayley-Klein geometries, group contraction and Lie algebra 4-42685
 coupling, subduction, and induction transformations 4-22569
 covariant vector fields, zero's for point groups 4-27308
 degenerate rearrangements, chem. pathways, double coset struct. 4-12363
 DFB gas lasers, helical and linear, group theory and expts. 4-44115
 diffeomorphism group representation, particle spin 4-22906
 diffeomorphism groups, gauge groups and quantum theory 4-22629
 dipole ghost, conformal rep., reduction to de Sitter and Poincare groups 4-43194
 Dirac eqn., nonlinear, invariant solns., group theory approach 4-13805
 EM scattering from mol. systems, group theory description 4-49237
 Euclidean algebra and group in plane 4-77
 extrinsic angular momentum $1/2$ for group fields, gravitation appl. 4-42686
 G_2 theory, degenerate enveloping algebra study 4-48361
 Gel'fand-Yaglom 16-D wave eqn. spinor formulation 4-121
 gravitation, Poincare group gauge theory, compatibility condition 4-36989
 helical DFB laser realisation, group theoretical anal. 4-24048
 interacting boson models of nuclear collective states, unification with supersymm. 4-43410
 irreducible reps., semiregular induction 4-42689
 Ising model, two-dimensional, with quenched site disorder, crit. sp. ht. 4-42870
 Landau-Lifshitz eqn., Riemann-Hilbert, gauge and H transforms. 4-43181
 lattices, whose covering graphs are S-graphs 4-32198
 linear systems, one-dimens., infinitesimal symm. transforms. 4-42708
 Liouville eqn., integrable systems as nonlinear realisations of infinite-dimens. symmetries 4-36889
 liquids, rotation time correl. function, molecular symmetry constraints 4-10944
 magnetic double point groups, projective irreducible coreps. and mag. space groups appl. 4-42687
 many-level molecule system, superradiation control eqn., group-theoretical approach 4-33637
 many-nucleon system, $U(6)/SU(3)$ hidden symm. in collective excitations 4-43408
 Monte Carlo configs., renormalisation group anal., Glauber kinetic Ising and Kawasaki models appl. 4-17843
 noncompact supergroups, unitary representations 4-391
 nonsymmetric gravitation, eight-dimens. Riemannian geometry, quaternion and octonion spaces 4-42792
 optical magnetization of crystals 4-24921
 permutation groups, transformation coeffs. 4-27330
 perturbative renormalisation from effective lagrangian scaling, appl. to $\lambda\phi^4$ theory with momentum cutoff 4-22909
 phase transitions, symmetry changes, book 4-47791
 Poincare and Einstein groups, K-representations 4-36902
 Poincare group, all linear representations up to dimension 8 4-53443
 Poincare group, unitary representation of $(4+1)$ -de Sitter group on irreducible representation 4-27649
 Poincare group representations associated with unstable particles 4-18081
 polarisation, geometric quantisation scheme definition 4-47903
 quantum theory, algebras with a commuting basal elements, space-time symmetries 4-53842
 quantum theory, Markovian KMS states 4-53582
 quaternionic supergroups, superspace rep. 4-43259
 Rayleigh convection problem, symm. breaking bifurcations, numerical approx. 4-10672
 $SO(3,1)$, identities satisfied by generators of Dirac algebra 4-42690
 selection rules for polymers and quasi-one-dimens. crystals from Kronecker products of line groups 4-8718
 selection rules for polymers and quasi-one-dimens. solids, line group Kronecker products 4-48027
 semigroup time generation, quantum dynamical, finite-difference evolution eqns. 4-47914
 simple graphs, group structure 4-47835
 simply subducible groups, ray groups and projectors for double groups and space groups 4-13507
 $SO(2n)$ in $U(n)$, infinitesimal operators of most degenerate representations 4-53895
 $SO(3,1)$ Lorentz group, irreducible rep. props. 4-4198
 $SO(5)$, degenerate enveloping algebra study 4-48361
 $SO(N)$ symmetric spin systems with long range interactions, correlation decay, upper bounds 4-53600
 $SO(p,q)$ group of pseudo-orthogonal matrices, irreducible unitary representations 4-43244
 soliton surfaces, solvable nonlinearities with trivial geometry 4-47845
 spinor loops, dimensional regularization, one-loop finite renormalisation counterterms 4-13758
 $SU_4 \supset SU_2 \times SU_2$ and $U_n \supset SO_n$, isofactors and bases of class 2 representations 4-4584
 supergravity group manifold approach, spontaneous dimension compactification 4-42817
 supergroup reparametrization, superspace as vectorspace 4-394
 symmetric and unitary groups, extended Schur-Weyl duality 4-22570
 symmetry-adapted LCAO functions, rel. to point group symmetries on spherical shell 4-28351
 $U(1)$ gap eqn., consistency condition in QCD 4-4625
 $U(1)$ symmetric Thirring model, 2-D, excitation spectrum 4-53835
 $U(3)$ group, C-G series, irreducible representations (Chinese) 4-27317
 $U(n)$ double Gel'fand polynomials, permutation group 4-53894
 unified gauge theory of gravitation and EM from twistor bundles 4-42794
 unified nonlinear spinor field model with indefinite metric, two-fermion sector 4-13751
 unitary group generator products, matrix elements calc. (Chinese) 4-47837
 Weyl group and subgroups, associated massless particles 4-48364
 Wigner coefficients, $3j$ and $6j$ identities 4-4257
 H atom, relativistic energy levels, spinor method calc. (Chinese) 4-54587
 Rb_2ZnCl_4 , ferroelec. phase transition and cryst. struct., neutron diff. study 4-16171
 SmS, defect-induced valence instabilities, group theory anal. 4-2557
- Gruneisen coefficient**
 adiabatic bulk modulus, temp. depend. 4-15569
 alkali halides, elastic and thermal props., compressible ion theory 4-15605
 alkali metals, melting, adiabats and Gruneisen parameter 4-45308
 anisotropic solids, thermal expansion and Gruneisen parameters 4-45298
 crystal-fluid interface, free energy, triple point, compressibilities and Gruneisen parameters 4-15620
 fluorocarbon fluids, vol. depend. of thermodynamic Gruneisen parameter 4-24942
 glass ceramic, machinable, elastic moduli, second-order press. derivatives 4-51709
 ionic crystals, thermoelastic params. 4-56052
 metal crystals with Zintlclade structure, interorbital theory 4-15607
 metals, melting temp. calc. eq., Gruneisen coeff. (Chinese) 4-2312
 minerals, thermal cond. at high press., phase transition effects 4-41902
 rare earth metals, thermal and elastic props., review 4-56044
 steel, austenitic stainless, type AISI 304, 310, 316, elastic moduli, press. depend. study 4-51710
 $TEA^+(TCNQ)_2$, order-disorder phase transition 4-24754
 transition metals, interionic interactions, total energy and elastic and bonding props. calc. 4-6726
 AgCl-AgBr mixed crystals, anharmonic elastic props. 4-55900
 $AgGaS_2$, anisotropy of Gruneisen parameters from thermal expansion data and elastic stiffnesses 4-11247
 AlN, phonon freqs., vol. depend. and effective charges 4-6463
 As amorphous, thermal expansion and Gruneisen, coeff. 4-45368
 BN(P), phonon freqs., vol. depend. and effective charges 4-6463
 Bi, third order elastic constns. and acoustic mode vibr. anharmonicity 4-6420
 $CdGeAs_2$, anisotropy of Gruneisen parameters from thermal expansion data and elastic stiffnesses 4-11247
 CoF_2 , rutile struct., elastic moduli, press. derivatives 4-45249
 $CuGeP_3$ ternary semicond., elastic behaviour, US pulse echo study 4-45242
 $CuInSe_2$, low-temp. thermal expansion 4-39546
 D_2 , solid, lattice constns. and thermal expansion (Russian) 4-45443
 K, compression, equations of state, and thermal expansion 4-20325
 K, high pressure equations of state and phase diagrams 4-34608
 KBr-KI cryst., dielec. props. 4-2861
 KCl-KBr cryst., dielec. props. 4-2861
 $KClO_3$, Raman spectra under high press. 4-11886
 Li, high pressure equations of state and phase diagrams 4-34608
 Li, thermal expansion, mode Gruneisen parameters 4-55951
 Li_2SO_4 , α - and β -phases, thermal expansion, X-ray diff. study 4-29658
 MnF_2 , rutile struct., elastic moduli, press. derivatives 4-45249
 Na, compression, equations of state, and thermal expansion 4-20325
 Na, high pressure equations of state and phase diagrams 4-34608
 NaCl, Anderson-Gruneisen parameter, temp. and press. depend. 4-2299
 NaCl-NaBr cryst., dielec. props. 4-2861
 NaCl-NaBr mixed crystals, anharmonic elastic props. 4-55900
 Pb, Debye temp., Gruneisen parameter, temp. depend. 4-15608
 Rb, compression, equations of state, and thermal expansion 4-20325
 Rb, purity influence on thermal expansion coeff. (Russian) 4-50544
 $ZnSiP_2$ crystal, press. depend. of Raman modes, Gruneisen parameter determ. 4-30458
- GTO calculations**
 see also *GO calculations*
 complex Gaussian type orbitals, numerical approx. of auxiliary functions using FZRI code 4-48908
 molecular integral calcs., auxiliary function calcs. using FRANKC code 4-48907
 second transition row elements, (Y-Cd), supplemental basis functions 4-5131
 Cr_2 , gaussian 4f functions, SCF and GTO calcs. 4-48950
 Cu, gaussian 4f functions, SCF and GTO calcs. 4-48950
 $Li^+ + He$ collision, pot. curves and non-adiabatic coupling matrix elements 4-43947
- GTO devices** see *thyristors*
- Gudden-Pohl effect** see *electroluminescence*
- guided electromagnetic wave propagation**
 see also *guided light propagation; waveguides*
 anisotropic waveguides, optical and microwave, finite element anal. 4-49521
 magnetosphere waveguides, shortwave propagation and transformation 4-17354
 nonreciprocal resonant effects when waves propagate in layered gyrotropic media and in periodic structures with a gyrotropic filling 4-54935
 plane EM wave scattering by parallel half planes with waveguide interaction region, E and H pol. 4-54934
 surface and spectral complex waves excited on a grounded ferrimagnetic slab 4-56598
 whistler ducts at low latitude, formation, lifetime and decay 4-31718
- guided light propagation**
 see also *optical waveguides*
 Airy-Hermite-Gaussian waveguide mode propag. in free space 4-24164
 anisotropic waveguides, optical and microwave, finite element anal. 4-49521
 beam propagation theory for integrated optics appls. 4-24173
 bent multi-mode light guides, Stokes vector transform. (Russian) 4-24226
 broadband spectroscopy of ultrathin layers by optical guided wave techniques, appl. to a-Si:H layer 4-43067
 corrugated waveguides, optical attenuation coeff. calc. method 4-14786
 dielectric film characterisation on semicond. substrates by leaky-mode meas. 4-46223
 dielectric waveguide directional couplers interferometers, normal mode loss effects 4-49522
 excitation mode efficiency through ends of optical waveguides 4-44210
 fibre, periodically deformed, light modulation study 4-33781
 fibre-optic system for observing through, effect of lighting conditions on perform. (Russian) 4-10445
 fibres, graded-index, intense short pulse amplitude-phase envelope form. 4-14808
 fibres, graded-index, multimode, relation between impulse response and excitation by laser 4-19576
 fibres, multimode, bent, light transmission anal. 4-10448
 fibres, multimode, cabled, transmission props. 4-19594
 fibres, multimode, index profile characterisation by differential excitation technique 4-19578
 fibres, multimode, mode-depend. attenuation determ. 4-1502

guided light propagation continued

- fibres, multimode, source config. effects on bandwidth and loss meas. 4-10442
- fibres, pulse propagation, nonlinear limits on bandwidth at min. dispersion 4-24217
- fibres, quadruple-clad, multimode struct. and mode propag., theoretical and expt. study 4-28848
- fibres, single mode, elliptic core, fundamental mode Gaussian approx. 4-44227
- fibres, single mode, weakly guiding, with Gaussian and smoothed-out profiles, scalar variational anal. 4-24216
- fibres, single-mode, perturbed wave propag. 4-28860
- fibres, single-mode, refr.-index profile determ. by propag. mode near-field scanning technique 4-24194
- fibres, single-mode, three-layer, W-type, polarisation property characts. 4-28861
- fibres, single-mode, with depressed inner cladding, mode coupling loss 4-24195
- fibres, ultrahigh birefr., mode anal. 4-49552
- Gaussian pulse propagation theory, complex-ray representation 4-44052
- graded-index media, coherent states and nonparaxial light propag. 4-10238
- GRIN optical fibre transfer characteristics (*Croatian*) 4-10450
- Hermitian-Gaussian beam transformation in square-law medium exhibiting simple astigmatism 4-23871
- inhomogeneous cylindrical layered structure anal. using equivalent circuits in Fourier space 4-1477
- intense short pulse dynamics in a fibre waveguide 4-14806
- metallic waveguides, circular, smooth and corrugated, TE₀₁ mode propag. at 394 μm 4-38579
- monomode optical transmission experiments 4-5710
- multilayered thin-film tunable separators, guided wave switching by SAW 4-19564
- multimode bent lightguides, linearly polarised light transmission 4-28858
- nonlinear pulse broadening in long lengths of monomode fibre 4-24075
- nonlinear pulse propagation simulation in optical fibres 4-5649
- semiconductor rib waveguide structures, III-V type, optical guiding anal. 4-24233
- single mode, irregular fibre light pipe, excited waves 4-44235
- single-mode waveguides and directional couplers with rectangular cross-section, scalar variational anal. 4-24174
- soliton laser incorporating single-mode polarisation preserving fibre into mode-locked colour-centre laser feedback loop, 1.4-1.6 μm 4-33680
- solitons in optical communications 4-49551
- tapered monomode planar waveguides, radiation patterns 4-24165
- TE mode theory in slab waveguides bounded by nonlinear media 4-5698
- waveguide coupler propagating beam anal. 4-44207
- waveguide theory, book 4-33760
- CdS thin film anisotropic refr. indices on a slab-type optical waveguide 4-46346
- LiF films, guided light modes, photoacoustic study 4-38581
- LiNbO₃ anisotropic diffusion waveguide, propagation of waveguide modes 4-1479
- LiNbO₃/Ti, transparent thin films 4-30547
- LiNbO₃/Ti channel waveguide, mode field calcs. 4-24175
- LiNbO₃/Ti graded index waveguides, metallic layers effect on light propagation (*Czech*) 4-10420
- LiNbO₃/Ti guided light interferometric modulators 4-33746
- SiO₂ film on Si substrate, index and thickness characterisation by leaky-mode meas. 4-46223
- Y₃Fe₂O₁₂/Pr, waveguide light propag., refractive index meas. 4-30547

Guinier-Preston zones

- homogeneous nucleation of a coherent precipitate, statistical thermodynamic approach 4-15650
- steel, stainless, Cr-Ni and Cr-Mn, radiation-stimulated transforms. in struct. 4-57230
- Al-Cu, 2011, microstruct. charact. using DSC 4-30870
- Al-Cu (1.7 at.%), single crystal, room temp. ageing, GP zone struct. 4-3146
- Al-Cu (1.7 at.%), solid soln., local atomic arrangements 4-21217
- Al-Cu-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
- Al-Mg, internal friction peaks rel. to microstruct. changes 4-40863
- Al-Zn (8.5 wt.%) positron annihilation characts., temp. depend. 4-40563
- Al-Zn alloy, preprecipitation studies by positron Doppler broadening meas. 4-39523
- Al-Zn-Ag (5.2, 1.5 at.%), precipitation, neutron small angle scatt. with isotopic contrast 4-3140
- Al-Zn-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
- Cu-Be (13 at.%), elec. props., influence of initial stages of precip. 4-12067

Gulyaev-Bleustein waves *see surface acoustic waves***Gunn devices**

- see also Gunn diodes*
- No entries

Gunn diodes

- ESR spectroscopy appl., transmission cavity stabilised source 4-42999

Gunn effect

- see also limited space charge accumulation; negative resistance effects*
- Te, current-voltage characts. and Gunn domains 4-34996

Gunn effect devices *see Gunn devices***Gunn oscillators**

- ESR spectroscopy appl., transmission cavity stabilised source 4-42999

guns, plasma *see plasma guns***gyration** *see rotation***gyromagnetic effect**

- see also gyromagnetic ratio; magnetic resonance*
- galvanogyromagnetic pulse power converters, limiting parameters anal. 4-5533

gyromagnetic ratio

- see also g-factor; magnetic resonance*
- copper(II) amino acid salts, mag. props. 4-56532
- coupled nuclei with opposite sign gyromagnetic ratio, relaxation rates and nuclear Overhauser effect, freq. depend. 4-49068
- Davidson-Beams gyromagnetic ratio expt., inverse Helmholtz pairs 4-22811

gyromagnetic ratio continued

- heavy particles in Kaluz-Klein theory 4-32134
- ¹⁸⁴W, 2⁺ rotational state, gyromag. ratio, large hyperfine anomaly 4-48521

gyroscopes*see also navigation*

- dithered-ring-laser gyroscope, mean beat freq. quantum noise 4-24030
- dry-tuned accelerometer/gyro instrument, design method 4-48119
- dynamic instability of gyroscopic conservative continuous systems, effects of damping and circulatory forces 4-19719
- dynamically tunable, transfer functions determ. 4-38709
- electrostatic gyroscope, perturbing moment probability charact. determ. 4-48156
- fiber gyrometer in a gravitational field 4-28857
- fibre gyros, integrated optical components 4-44214
- fibre gyroscope with highly birefr. fibre and integrated-optic LiNbO₃:Ti⁺ phase shifter 4-33799
- fibre gyroscope with phase-modulated single-sideband detect. 4-33777
- fibre gyroscopes, phase-nulling, dispersion-induced nonreciprocal effects 4-49553
- fibre gyroscopes using integrated optics components 4-33803
- fibre optic, Sagnac interferometer, review 4-44221
- fibre optic angular rotation sensor market forecast 4-44219
- fibre optic gyroscopes, principle and technological solns. 4-55212
- fibre optic gyroscopes, principles and performance limitations 4-5718
- fibre optic gyroscopes and related sensor systems 4-4397
- fibre optic sensor devices using single-mode fibres 4-24187
- fibre optical sensors, principles of operation, review 4-55211
- fibre optics and laser sensors, conf., Arlington, VA, USA (Apr. 1983) 4-31954
- gyro force measuring transducer, biomedical appls. 4-52520
- gyro-stabilised mirrors for IR imaging systems, optical configurations, Ferranti development 4-43061
- gyroscope, direct rotation-rate detection, digital DP system 4-17881
- gyroscopic-pendulum systems, eqns. of motion in Rodrigue-Hamilton parameters 4-55316
- gyrotheodolite adjustment by amplitude method 4-26818
- gyrotheodolite drift and influence on azimuth determination 4-26819
- Kovalevskaja gyroscope, exceptional case of motion 4-44358
- laser gyro lock-in-thresholds depend. on ring laser parameters (*German*) 4-55087
- laser gyro models, Sagnac effect (*German*) 4-32308
- laser gyroscopes, nonplanar ring resonators 4-38501
- mechanically adjusted gyroscope eqn. of motion determ. 4-49663
- optical gyro freq. correction (*Chinese*) 4-49404
- optical resonator axis stability and instability from first principles 4-38502
- optimum correcting moment of vertical gyroscope (*Russian*) 4-42954
- passive cavity gyro, performance, optical misalignment tests 4-43038
- phase conjugate ring gyroscopes, reduced lock-in effect 4-44118
- ring gyroscope as search-coil for magnetic-type gravitational field 4-53569
- ring laser, square config., distortion-induced mag. field bias 4-44117
- ring laser gyro, body dithered, nonlinear response anal. 4-55088
- ring laser gyro, phase conjugate 4-38500
- ring laser gyro class optics damage susceptibility 4-55106
- ring laser gyro data analysis with cluster sampling technique 4-38503
- ring laser gyroscopes, nonreciprocal optical effect (*Chinese*) 4-55084
- Sagnac and Mach-Zehnder fibre interferometers, effects of directional coupler asymm. losses 4-44215
- Sagnac interferometer fibre gyroscopes, compensation of linear sources of nonreciprocity 4-44218
- Sagnac passive gyro, use of 1.3 μm optical devices 4-44217
- stability anal. using large-scale systems with weighted function method (*Chinese*) 4-48120
- three-axis gyroscopic stabiliser, differential eqns. of motion on moving base (*Russian*) 4-44360
- Rb-Xe NMR gyroscope, CW single-mode GaAlAs laser appl. 4-42993

gyrotrons *see microwave tubes***gyrotropy (optical)** *see optical rotation***H-centres**

- calcium fluorophosphate, natural, annealing of absorbing defects, UV absorption spectroscopy 4-20997
- diamond, H3 vibronic centre excited states, absorpt. and luminesc. meas. 4-16223
- KBr, electron irradi., nanosecond absorption spectra studies 4-25790
- KBr, F_H-centre energy struct. 4-39822
- KBr, radiation-induced vol. charge, dynamical studies 4-2199
- KBr.I, laser excitation, F-H pair creation from localised exciton 4-50283
- KCl, F_H-centre energy struct. 4-39822
- RbCl(Br), relaxed excited states of interstitial H-centres, ODMR study 4-11806

H I regions

- Crab Nebula region, obs. at 21 cm wavelength (*Russian*) 4-53257
- Cygnus-X region, H166 α recomb. line and H I line survey 4-53297
- in early-type disc galaxies, sensitive 21-cm survey 4-31915
- in galaxies, 21-cm vels. and calibration of Las Campanas redshift survey 4-31912
- H 1538-32, candidate SNR, H I cloudlet obs. and 1420 MHz continuum 4-42562
- high latitude H I regions, search for assoc. ¹²CO emission 4-31885
- in isolated galaxies, H I 21 cm redshift distrib. 4-31903
- LMC giant interstellar shells, H I profiles, UHF obs. 4-42520
- in M31, high resolution 21-cm line survey 4-42546
- in M33, space distrib. rel. to radio continuum emission 4-13430
- in NGC 185 and 205, dwarf elliptical galaxies, VLA obs. of H I content 4-31908
- NGC 628 (M74), face-on spiral galaxy, H I synthesis obs. and optical surface photometry 4-58501
- planetary nebulae, evidence for H I zones outside ionised shells 4-42512
- in UGC 6081, double galaxy H I absorpt. line profile and radial vels. 4-31917

H II regions

- 94 micron bright sources, characts. 4-13449
- southern AFGL sources, ground-based IR survey and JHKL photometry 4-42560
- anomalous emission regions in irregular galaxies, line ratios 4-53281
- Becklin-Neugebauer object, 2-5 μm spectroscopy 4-17572
- bipolar and cometary nebulae, spectrographic and photometric obs. 4-53061

H II regions continued

- 4C 21.53W, distance determ. UHF obs. 4-4103
 Carina Nebula, giant H II region in absorption, interstellar lines 4-53237
 Carina Nebula, H166 α line and 1.4 GHz continuum obs. of extended low density ionised gas 4-53243
 catalogue of H II regions in late type galaxy M83 (=NGC 5236) 4-4093
 Cepheus A, mol. cloud condensation, H II regions nature, EHF/SHF obs. 4-47671
 Cepheus IV star formation region, morphology and kinematics from formaldehyde obs. 4-31886
 champagne phase, theoretical radiocontinuum maps, radiative transfer calcs. 4-13398
 compact H II regions, densities and isotope ratios of assoc. formaldehyde 4-13401
 Cygnus X region, ^{12}CO and ^{13}CO J=1-0 mapping 4-27197
 Cygnus-X region, H166 α recomb. line survey 4-53297
 extragalactic giant and supergiant H II regions, gas kinematics and struct. 4-8542
 G134.2+0.8 (GL 333), active star forming H II region, IR obs. 4-58492
 galaxies with giant H II region nuclei, extinction, dust emission and IR spectra 4-47701
 in Galaxy, scale length of radial distrib. rel. to Hubble type of Milky Way 4-22473
 Galaxy centre, high-resolution radio obs. of ionised gas in central 3 parsecs 4-22470
 Gum Nebula characts. from line of sight extragalactic radiosources anal. 4-4104
 heavy element opacity, effect on struct. 4-13390
 Herbig-Haro objects, nearby masers and compact H II regions sources, obs. and nature 4-47685
 IC 405 and 410, characts. and interstellar medium nonthermal radiation density 4-13456
 interstellar bubbles and young stars in LMC, statistical props. 4-8562
 LMC H II regions, internal motions rel. to giant bubbles 4-27149
 in low surface brightness spiral galaxies, spectrophotometry 4-4094
 LSS 3027, OB $^+$ star, nature of assoc. parabolic nebula 4-36730
 M16, H II region-mol. cloud, interaction with HD 168183 wind-driven shock 4-47679
 M17 SW, emission nebula, ionisation stratification models and obs. 4-13393
 M20, emission nebula, optical polarisation obs. 4-17574
 in M33, IUE obs. of supermassive exciting stars of giant H II regions 4-31911
 in M83 and M33, physical props. rel. to star form. 4-13385
 M8, M20, W28 region, dust clouds and filamentary nebulosity anal. 4-27141
 Markarian 1239, Seyfert galaxy, narrow line spectrum due to H II regions 4-53274
 N63A, supernova remnant and assoc. H II regions in LMC, kinematics and struct. from spectroscopic obs. 4-31877
 neutral gas ahead of expanding H II region ionisation front 4-53254
 in NGC 1068, Seyfert 2 galaxy, obs. of highly ionised nebulosity 4-42531
 in NGC 2814, irregular galaxy spectrophotometric investigation of condensation 4-17587
 in NGC 4151, Seyfert galaxy, props. of gas in nucleus 4-17586
 in NGC 4449, composition 4-42539
 NGC 604, giant extragalactic H II complex, internal kinematics 4-42510
 in NGC 628 (M74), spiral galaxy, determ. of radial gradient of O/H ratio 4-47707
 NGC 7635 (Bubble Nebula), spectroscopic obs. of inhomogeneities 4-13387
 OB stars, layer between H II region and shock front, star form. 4-13180
 ON 1, ON 2, ultracompact H II regions, 610 MHz obs. 4-4068
 inner Orion Nebula, 2 μ m radiation distrib. and nature 4-36726
 Orion Nebula, stellar proper motion membership anal. 4-13300
 S128, active star forming H II region, IR obs. 4-58492
 S201, star formation region, far-IR obs. rel. to energetics and mass struct. 4-58495
 Sagittarius A West, obs. of nearby mol. emission within central 10 parsecs of Galaxy 4-27147
 Sharpless 121, shell-type H II region, spectral obs. and physical modelling 4-4062
 Sharpless 22, ring nebulae assoc. with Of star HD 162978, identification (Russian) 4-31899
 Sharpless 235, large-scale far-IR mapping of assoc. mol. cloud 4-53246
 Sharpless 252, H α vel. study 4-4061
 Sharpless 58, identification as planetary nebula, spectral anal. 4-17579
 star-forming regions, search for Orion-like SiO masers 4-42436
 W3(OH), model for H II region based on radio recomb. line obs. (Russian) 4-31898
 W51, far IR obs., sequential star formation 4-8552
 Wolf-Rayet ring nebulae, atlas and types 4-42519
 H76 α survey and galactic electron temperature and element gradients 4-8567
 NH $_3$ non-metastable lines, SHF obs. 4-13397
 Ne abundances in nearby H II regions, determ. from Ne II 12.8 μ m line 4-13400
 OH, rot. excited, emission and absorpt. towards H II regions 4-42517

Hadfield steel see alloy steel

hadron classification schemes

No entries

hadron current

see also current algebra

No entries

hadron decay

see also baryon decay; meson decay

bottom hadron lifetime from decay leptons impact params. meas. 4-472

hadron-deuteron interactions

see also hadron-deuteron scattering; hyperon-deuteron interactions; meson-deuteron interactions; proton-deuteron interactions

dN, pion and proton multiplicity dist. in inelastic collisions (Bulgarian) 4-27745

hd, high p_T hadron prod., single and double scatt., quark-gluon plasma-like configs. 4-32877

hadron-deuteron scattering

see also hadron-deuteron interactions; hyperon-deuteron scattering; meson-deuteron scattering; proton-deuteron scattering

No entries

hadron electroproduction

baryon number production, TASSO results 4-32735

electroproduction on nuclei, quark and gluon distrib., QCD estimates 4-32870

jet production and quark fragmentation results from PEP 4-32736

nucleon resonance electroproduction, review 4-23023

polarized deep inelastic electroproduction 4-18166

scale breaking parameter and $F_2^{\text{em}} - F_2^{\text{ep}}$ behaviour 4-37385

twist-four spin-two effects, model depend. from quark confinement 4-13908

$e^+p \rightarrow 2^+ + e^-$, production process calcs. (Russian) 4-54001

e^+e^- , pp and deep-inelastic scatt. processes, universality features 4-37407

$e^+e^- \rightarrow 2$ jets, ang. distrib., spin zero quarks energy-energy correlation, squarks 4-18277

$e^+e^- \rightarrow 3$ jets, 22-36.4 GeV, particle distrib., first order QCD calcs. 4-18276

e^+e^- annihilation, charmed-strange exotic mesons, F^+ meson, 2020 MeV state 4-23025

e^+e^- annihilation, energy-energy correl., coloured Higgs bosons contrib. 4-32733

e^+e^- annihilation, recent results 4-32723

e^+e^- annihilation, two- and three-jet ang. distrib. in perturbative QCD (Chinese) 4-54005

$e^+e^- \rightarrow$ charmed hadrons, energy distrib. in QCD cluster model 4-4687

$e^+e^- \rightarrow e^+e^-$ hadrons, electroweak interference effects, photon structure functions (Chinese) 4-54004

$e^+e^- \rightarrow \eta X$, 34 GeV, inclusive η prod. obs. 4-9120

$e^+e^- \rightarrow F^+X$, 35 GeV, F obs. and branching ratio from $\phi\pi$ final state 4-48496

$e^+e^- \rightarrow$ hadrons, 12-35.8 GeV, total hadronic annihilation cross section, multiplicity, inclusive spectra 4-48494

$e^+e^- \rightarrow$ hadrons, multiple hadron prod. in QCD parton jets 4-18275

$e^+e^- \rightarrow$ hadrons, QCD semihard processes 4-27708

$e^+e^- \rightarrow$ hadrons ($\mu^+\mu^-$) ($\tau^+\tau^-$), JADE recent results 4-13910

$e^+e^- \rightarrow hhX$, weak neutral currents 4-18274

$e^+e^- \rightarrow hx$, inclusive cross-section and multiplicity meas. at 29 GeV 4-37388

$e^+e^- \rightarrow$ jets, small p_T , perturbative QCD calcs., scalar reson. anal. 4-22993

$e^+e^- \rightarrow \mu^+\mu^-$ hadrons, heavy quark fragmentation, PETRA expt. 4-32734

$e^+e^- \rightarrow qq \rightarrow 2$ jets, quark and gluon fragmentation, model independ. anal. 4-22989

$e^+e^- \rightarrow qq \rightarrow$ hadrons, electroweak interference, neutral currents, review 4-27693

$e^+e^- \rightarrow qqg$, 3-jet cross section, Gegenbauer integration method appl. 4-23026

$e^+e^- \rightarrow TX$, ARGUS detector results 4-32685

$e^+e^- \rightarrow TX$, mass determ. at DORIS II 4-43375

$e^+e^- \rightarrow Z(\bar{Z})X$, TASSO result 4-32735

$e\gamma$ deep inelastic scatt., hadron prod., QCD assessment, γ struct. functions 4-32650

$e^+e^- \rightarrow 3$ jets, 29.5-36.4 GeV, parton and colour flux line fragmentation model tests 4-32730

hadron-hadron interactions

see also baryon-baryon interactions; hadron-hadron scattering; meson-baryon interactions; meson-meson interactions

Drell-Yan cross sections, all-order factorisation in QCD 4-32595

hard hadronic collisions, parton annihilation, jets, Drell-Yan, ψ prod. 4-27769

helicity asymms., QCD radiative corrections 4-53951

inclusive diffractive dissociation, total, and elastic cross sections, review 4-37398

large p_T hadron collisions, quark and gluon fragmentation, model independ. anal. 4-22989

multi-chain fragmentation model 4-27747

multichain fragmentation model, particle production 4-13968

multiple hadron production, high-energy, theoretical anal. and model for decay events 4-23034

multiplicity and transverse mom. correlation at collider energy 4-54013

nondiffractive, KNO scaling and rapidity distrib. 4-48501

QCD perturbation theory, inclusive hadron production study, quark counting of anomalous dimens. 4-502

showers in Pb, meas., parametrisation and simulation 4-54569

string hadronisation, topological jet universality in pionisation region 4-48458

transverse correlation of charm pairs, $\psi\psi$ and partons transverse momenta 4-18201

two particle weak ground state hadron matrix elements, asymptotic selection rules 4-37340

$hA \rightarrow hX$, differential cross sections, quark struct. depend. in diffractive region 4-9078

hh high p_T exclusive interactions, quark scatt. amplitudes 4-37404

hh interactions, Feynman scaling model breakdown at high energies 4-27756

hh-jets, identification algorithm 4-4701

hh- l^+l^-X , transverse mom. calc. using soft gluon summation and QCD coupling const. 4-23037

hh-QQX, third-order QCD contrib. 4-449

hh-tX, p_N distrib. calc. for e^- decay product, t-quark mass determ. 4-13925

hh-X, Bose-Einstein correlations with increasing multiplicity 4-4656

hh-X, Monte Carlo simulation of QCD in hard collisions 4-18278

$h_1h_2 \rightarrow \gamma X$, decay ang. correl. for J/ψ prod. via intermediate χ states 4-48505

$\pi q \rightarrow q\mu^+\mu^-$, C- and P-odd effects, neutral currents (Ukrainian) 4-22972

ψ hadroproduction in colour-singlet model, quark-antiquark contrib. 4-32601

qg-cq, charm particle creation 4-43321

qh scatt., cancellation of Sudakov effects in Drell-Yan process 4-18179

hadron-hadron scattering

see also baryon-baryon scattering; hadron-hadron interactions; meson-baryon scattering; meson-meson scattering

elastic, total, and inclusive diffractive dissociation cross sections, review 4-37398

hadron-hadron scattering continued

exclusive, hadron scatt. amplitudes in QCD, $O(\alpha^2)$ Feynman diagrams calc. 4-447
 hh elastic scatt., end-point contributions at large angles 4-18279

hadron interactions see *hadron-deuteron interactions; hadron-hadron interactions; lepton-hadron interactions; photon-hadron interactions*

hadron leptonproduction

see also *baryon production; hadron electroproduction; meson production*
 deep inelastic leptonprod. struct. functions in quasielastic region, QCD double log. approx. 4-43366
 hadron production in deep inelastic lepton-nucleon scattering 4-32724
 perturbative QCD, SPS jets, leptonproduction, hard scattering, photon structure function 4-32609
 (ν, π^0) , coherent production 4-32667
 $\nu N \rightarrow \mu^- N \pi^0$, Dornbey-Read model generalisation 4-48466
 $\nu N \rightarrow \pi^0 X$, coherent production 4-32667
 $\mu N \rightarrow \mu \mu^-$, scaling X and Y distrib. meas. 4-32664
 $\mu N \rightarrow \nu \mu^-$, scaling X and Y distrib. meas. 4-32664

hadron-nucleus reactions

see also *hadron-hadron interactions; hyperon-nucleus reactions; meson-nucleus reactions; nucleon-nucleus reactions*
 cosmic ray data, 10^4 - 10^5 TeV, recent developments, review 4-47517
 differential cross-section, elastic, total, absorption, short interaction effects 4-23110
 multichain fragmentation model, particle production 4-13968
 review of high-energy hadron-nucleus interactions 4-37640
 $hA \rightarrow hX$, differential cross sections, quark struct. depend. in diffractive region 4-9078
 $^2H(h,X)$, high p_T hadron prod., single and double scatt., quark-gluon plasma-like configs. 4-32877

hadron-nucleus scattering

see also *hadron-hadron scattering; hyperon-nucleus scattering; meson-nucleus scattering; nucleon-nucleus scattering*
 differential cross-section, elastic, total, absorption, short interaction effects 4-23110
 radiative scatt. of hadrons by nuclei and Compton effect on hadrons 4-4821

hadron photoproduction

see also *baryon photoproduction; meson photoproduction*
 $\gamma\gamma \rightarrow h$, perturbative corrections at large momentum transfer 4-4719
 radiation amplitude zeros in radiative processes, null zone 4-53990
 real and virtual photoabsorption by nuclei, total hadron cross-sections (Russian) 4-48564
 $e\gamma$ deep inelastic scatt., hadron prod., QCD assessment, γ struct. functions 4-32650
 $\gamma\gamma$ interactions in e^+e^- , resonance prod., inclusive hadron prod., γ struct. functions 4-27772
 $\gamma\gamma \rightarrow qq$, high p_T jet prod., PETRA expts. 4-48515

hadron production

see also *baryon production; hadron leptonproduction; hadron photoproduction; meson production*
 deep inelastic scatt., hadron and jet production, perturbative QCD 4-54016
 fireballs, thermodynamic, multiple hadron production 4-18207
 QCD jets, multiplicity and hadron distrib. 4-18176
 quark jet hadronisation, flavour identification 4-32774
 $\gamma\gamma$, hadrons prod., unnatural-parity exchanges 4-27739
 J/ψ beam production, new horizons in nuclear physics 4-43490
 $\nu N \rightarrow \mu^- c s X$, charmed and strange hadron production, QCD anal., gluon distrib. funct. determ. 4-18227
 $\nu N \rightarrow \mu^- c s X$, charmed and strange hadron production, QCD anal., gluon distrib. funct. determ. 4-18227
 pp , CERN Collider, jets prod. and prods. meas. 4-4716
 pp , multi-quark interactions at collider energies, four or more jet events 4-13920
 pp (pp), $\sqrt{s}=53$ GeV, hadron prod. in central region 4-23031
 $pp \rightarrow$ jets, hadronic jet study, comparison with Monte Carlo, calcs. 4-18297

hadron scattering see *hadron-deuteron scattering; hadron-hadron scattering; lepton-hadron scattering; photon-hadron scattering*

hadronic atoms

see also *mesic atoms*
 book, leptons, hadrons and nuclei 4-36836
 LAMPF II facility requirements for K^+ , Σ^- and Ξ^- atoms 4-44007
 radiation rates, effect of vacuum polarisation 4-19306
 (p, p) , $A=12-89$, p -nucleus optical pots., ambiguities from antiprotonic atom data 4-37514
 Ξ^- atoms, H dibaryon formation 4-38358

hadrons

see also *baryon resonances; baryons; hadron classification schemes; hadron current; hadron decay; meson resonances; mesons*
 bag models, interactions and bag states, glueballs, strings, review 4-32632
 confinement from general relativity 4-43306
 cosmic rays, hadrons and leptons, energy spectra in atmos. 4-22286
 detection by Cherenkov ring imaging at 200 GeV 4-5091
 extended hadron model, weak form factors 4-53924
 lattice QCD, fermions, hadron spectrum, review 4-43318
 mass spectra, quark-gluon coupling, ECD 4-53970
 models for hadrons 4-32634
 quark-hadron duality for orbital excitations 4-4638
 resonance cooling of relativistic e^+e^- plasma 4-8380
 twistor theory method for hadron magnetic moments 4-43371

haemodynamics

see also *blood*
 abdomen blood flow vol. rate, US Doppler meas. 4-57972
 ambulatory blood pressure recorder 4-31358
 aorta-carotid artery arch, prognosis, nonlinear compartmental model appl. 4-52250
 aortic bifurcation, 3D model, numerical simulation of steady flow 4-31262
 aortic flow, foetal and maternal, Doppler-velocimetry and US multiple array obs. 4-31304
 aortic input impedance, model selection and parameter estimation 4-57923
 aortic valve prostheses, laser anemometry meas. of pulsatile flow 4-12676
 arteria femoralis, math. model for particle paths in segment (German) 4-21680
 arterial bifurcations, internal geometry rel. to flow 4-12614

haemodynamics continued

arterial blood flow patterns, changes during chemotherapy 4-47015
 arterial blood press. in rats during atrial fibrillation, spectral anal. 4-16905
 arterial blood press. level, correl. to press. pulse waveform amplitude 4-31356
 arterial pressure noninvasive recording, use of Mingograf 82 4-36247
 arterial pulse-wave vel., rel. to pulse freq. at different press., dog obs. 4-47028
 artery, human, 3D model, flow investigations with Newtonian and non-Newtonian fluids 4-31241
 atherosclerotic coronary artery casting and smooth tube, pulsatile and steady flowstudy 4-21719
 baromodulation rel. to short term blood press. variability 4-57933
 biomedical engineering conference, Columbus, OH, USA (Sept. 1983) 4-47753
 brain, regional blood flow, parametric imaging with the short-lived isotope ^{195m}Au 4-21782
 capillary blood flow meas. In microcirculation, intravenous injection effects obs. 4-3642
 cardiac volume-to-flow ratios, rel. to minimal cardiac transit times 4-41544
 cardiovascular effects of simulated zero-gravity in humans 4-8130
 cardiovascular fluid dynamics, book 4-31991
 carotid Doppler spectral broadening, in vitro model 4-12660
 catheter-tip micromanometer utilising a single polarisation fibre and He-Ne laser (Japanese) 4-31313
 cerebral blood flow meas. using ^{133}Xe , hemisphere cross talk and signal overlapping 4-52461
 cerebral blood flow studies in neonates using Doppler US, microcomputer evaluation 4-26486
 cerebral transit modelling, resolution and identification (French) 4-52379
 cerebral transit stochastic model of, numerical solution 4-36142
 conference on phys. in medicine and biology, Trieste, Italy (Mar.-April, 1982) 4-53355
 coronary blood flow and myocardial metabolism studies, short-lived radionuclides 4-12696
 coronary blood flow meas. using double fibre optic system and dye dilution tracings (German) 4-16936
 coronary death, catastrophe theory 4-12621
 coronary occlusion and reperfusion, flow and time depend. index of ischemic injury 4-3586
 diaphragm, effect of tension and timing of contraction on blood flow 4-3578
 Doppler technology physical principles, application to haemodynamics study (German) 4-41593
 Doppler US blood flow signals, spectral anal. by personal computer 4-26487
 Doppler US flowmeters, CW, anal. of PLL system as analogue processor 4-16931
 dual diode transducer for laser Doppler skin blood velocimeter 4-31314
 exercise-induced changes in regional blood flow, rel. to heat stress 4-36069
 expiratory and arterial partial pressure relations under different ventilation-perfusion conditions 4-3584
 femoral artery, Doppler US waveforms quantification, comparative study of methods 4-41597
 flow determination using recursive processing, digital radiographic method 4-8105
 flow disturbance measurements through a constricted tube at moderate Reynolds numbers 4-31251
 flow in circular duct, laminar heat transfer 4-47018
 flow measurement indices using Doppler US, computerised evaluation 4-31307
 flow prediction from thermal clearance during regional hyperthermia, math. model 4-7939
 fluid flow along a channel with an asymmetric oscillating constriction 4-1838
 heart, artificial, piston-bellows type, technique for real-time estimation of haemodynamic state and parameters 4-57921
 heart control, systems and models 4-57819
 heart valve prostheses, design of system for accelerated loading, press. and flow patterns obs. 4-58042
 hydraulic simulator, flexible, for cardiovascular studies 4-21866
 hyperthermic treatment of tumours, implication of blood flow 4-52525
 indicator-dilution process reproduction device 4-58049
 infant extracorporeal circulation, blood perfusion automatic control 4-3647
 infarcts, hydroelastic process model 4-21723
 inferior vena caval blood flow in dogs, inspiration effects 4-36145
 inflation waves in nonlinear distensible tubes 4-10779
 initial stress effects on the wave propagation on arteries 4-16916
 intestinal blood flow, canine, acute γ -irrad. 4-36143
 intrarenal backflow and renal perfusion during increased intrapelvic pressure in excised porcine kidneys 4-12600
 laminar flow anal. in corrugated tubes, appl. to arterial prostheses 4-38880
 laser microbubble detector for use in surgery (Japanese) 4-41606
 latex rubber tubes, reflection from elastic discontinuities, blood flow appl. 4-10781
 limb blood flow measurement, radioisotope plethysmography technique (Japanese) 4-31321
 lung, blood flow anal. with detailed anatomical and elasticity data, cat 4-21715
 lung, regional blood flow, meas. by videodensitometry 4-3606
 measurement of skin blood flow, methods 4-52516
 medical impedance plethysmography, electrode impedance changes, negligible errors 4-31352
 microcirculatory system, regulating mechanism (Russian) 4-36156
 optical blood analyser with hydrodynamic focusing of fluid, flow-type cuvette design 4-58051
 organ flow curve, stabilised deconvolution 4-26471
 perfusion studies, interpretation and computation of transfer functions (Hungarian) 4-52377
 post-stenotic dilation, numerical study 4-21687
 pressure, arterial and pulmonary, computerised anal. of radiotelemetrically transmitted data (German) 4-47087
 pressure, direct meas.: risks, technical evolution and problems, review 4-21835
 pressure measurement systems with external transducer, freq. response 4-21829

haemodynamics continued

- pulmonary haemodynamics and gas exchange props. during progressive edema 4-21706
- pulmonary veins, patency and compliance when airway press. exceeds blood press., cat expts. 4-3576
- pulse wave velocity in human peripheral arteries, noninvasive evaluation, diagnostic appl. 4-58030
- regional distribution of blood flow during mild dynamic leg exercise in the baboon 4-21708
- regulating mechanism of blood microcirculatory system (*Russian*) 4-26470
- similarity law and the dynamic simulation of blood flow in arteries (*Chinese*) 4-47016
- sitting, prolonged, haemodynamic responses expts. 4-3581
- skeletal blood flow measured with ^{18}F in patients with osteomalacia and hyperparathyroidism 4-3609
- sonographical examination of arteries, clinical applications (*German*) 4-41594
- stenosed elastic tube, unsteady flow with attenuation 4-24408
- stenoses, presymptomatic, detect. with Doppler US, minipig expts. (*German*) 4-47049
- stenosis severity effects for unbalanced simple-pulsatile bifurcation flow 4-21716
- strain gauge venous occlusion plethysmography 4-26544
- strain-gauge plethysmography in post-ischemic flow meas., crit. considerations 4-58023
- superior vena caval system, nonlinearity 4-52376
- sweep-frequency marker generator for blood pressure transducer testing 4-31354
- systematic arterial model, generation of state sensitivity functions 4-41549
- systolic blood pressure, resting, influences of exercise intensity, age and medication in rats 4-21713
- tilting disc heart valve, component materials and haemodynamic performance 4-41650
- tracer clearance and dilution curves, error estimation in digital represent. 4-3608
- transmural coronary vasodilator reserve and flow distribution during severe exercise in ponies 4-3580
- valve prostheses in model human aorta, steady flow development, centrally occluding valves 4-31256
- valve prostheses in model human aorta, steady flow development, tilting disc valves 4-31257
- vascular murmurs, vel. and press. spectra, model investigation 4-21718
- vasomotor control system, thermal, disturbance in Raynaud's disease, pilot study 4-57922
- velocity meas., software analysis of 20 MHz pulsed Doppler quadrature data 4-31306
- velocity profiles in annular perfusion chamber measured by laser-Doppler velocimetry 4-47027
- venous occlusion plethysmography meas. interpretation using a simple model 4-21836
- wall shear stress during pulsatile flow distal to a normal porcine aortic valve 4-57927
- wave propagation in arteries 4-16916
- zerocrossing density for US Doppler signals obtained from computer simulations, blood flow appl. 4-31308

haemoglobin *see proteins***haemorheology** *see biorheology; blood***hafnium**

- see also nuclei with*
- development history, prod. and applics., ASTM standards 4-46467
- diamond-Hf, ion implanted, elec. field gradients, TDPAC study 4-35273
- electron-phonon interaction, relativistic APW band struct. calc. 4-34886
- hydrothermal oxidation, reaction kinetics 4-26093
- island arc Hf, Nd, Sr isotopes and element geochemistry rel. to magma origin and crust evolution 4-52622
- microwave ion source for high current metal beams 4-43732
- oxidation, PAC in-situ studies 4-40302
- oxidation of electrode in arcing in O-bearing plasma-forming media, underoxidised melt 4-55668
- passive films, ion implantation or Au deposition, electronic props. 4-56467
- polycrystalline, surface core level shifts, XPS study 4-39803
- quadrupole moments and Sternheimer effect, muonic atom meas. 4-4754
- $\alpha\text{-Hf}_2\text{N}_3$, ion implanted, N diffusion 4-39596
- Hf-H₂, combustion mechanism, thermodynamic equilib. 4-7723
- Hf-O solutions, partial molar enthalpy of mixing 4-45339
- ^{181}Hf , obs. of $<100^\circ$ mixed dumbbell in W, TDPAC meas. 4-34528
- Ta₅₂Hf(W) (1T), commensurate CDWs, effects of doping, elec. resist. meas. 4-56328
- ZrS₂Hf, Hf doping PAC in-situ studies 4-40302

hafnium alloys

- see also hafnium compounds*
- development history, prod. and applics., ASTM standards 4-46467
- Al-Hf-Al₃Hf, lattice parameter variation, dispersion hardening characts. 4-11043
- Be₄₃Hf,Zr_{57-x}, metallic glasses, struct. 4-44982
- Co-Cr-Al-Hf coating, oxide struct., effect of deposition and processing variables 4-15788
- Cu-Hf amorphous alloys, Hall coeffs. 4-45739
- Hf-As-Ta system, ^{181}Ta electric quadrupole interaction, TDPAC study 4-46149
- Hf-Cu(Ni)(Co)-Ga, cryst. struct. and mag. props. (*Russian*) 4-24764
- Hf-Os constitution diagram, metallography, X-ray diffr. and electron microprobe studies 4-24969
- Hf-ZZ 4-25466
- Hf₈₈Ta₁₂Fe₂, magnetisation process in strong pulsed mag. fields 4-56695
- Hf_{1-x}Ta_xFe₂, antiferromag. to ferromag. transition (*Japanese*) 4-40173
- Hf_{1-x}Ta_xFe₂, itinerant electron magnets, mag. phase transitions study 4-11698
- HfV₂, elasticity moduli anomalies, in region of phase transitions 4-55901
- HfV₂, martensitic transformation, H absorption, TDPAC meas. 4-35300
- HfV₂, symm. props. of normal vibr. 4-40108
- HfZn₂, exchange enhanced paramagnet, mag. susceptibility and sp. ht 4-30147
- Hf₂Zr₂V₂, martensitic transformation, H absorption, TDPAC meas. 4-35300
- Hf_{1-x}Zr_{1-x}V₂, lattice transformation hysteresis, Γ -recoil effects 4-35304

hafnium alloys continued

- Hf_{0.5}Zr_{0.5}V₂H₂, C15 phase, phonon spectra rel. to supercond., H content depend. (*Chinese*) 4-50448
- Mo-Hf (0.2 wt.%), nitriding, plastic deform. effects 4-30858
- Nb-Ti-Hf multifilamentary superconductors, high-field props. 4-11654
- Ni₃₅Zr₃₅Hg₃₀, amorphous struct., X-ray diffr. study 4-44955
- SchF, residual resistivity, deviations from Kurnakov-Nordheim rule (*Russian*) 4-25319
- V₂Hf_{0.5}Zr_{0.5}Nb_{0.2} superconductors, phonon freqs. and transition temps. (*Chinese*) 4-56469
- (Y_{0.97}Hf_{0.03})Fe₂, hyperfine mag. field, γ -ray study 4-6992

hafnium compounds

- see also hafnium alloys*
- Hf-N films, reactively magnetron sputtered, struct. anal. 4-56158
- Hf-nitritoltriacetate binding, TDPAC study 4-41184
- Hf-transferrin binding, TDPAC study 4-41420
- HfC-TaC solid solution, creep rate study 4-57285
- Hf₂Cu₆Ge₄, cryst. struct., X-ray diffr. studies (*French*) 4-20164
- HfF₄, quadrupole hyperfine interactions, time differential perturbed ang. corrs. investig. 4-14386
- HfF₄, electron affinities and electron struct., X α calc. 4-5515
- HfF₄3H₂O, quadrupole hyperfine interactions, time differential perturbed ang. corrs. investig. 4-14386
- HfH, dissoln. by H₂ release at elevated temps. 4-6666
- HfH₂, electronic energy bands calc., APW method, optical props. 4-45619
- HfH₄-based glass, corrosion by water, TGA study 4-7618
- HfN coating on cemented carbide cutting tools, comparative evaluation with other coatings 4-3273
- HfN coatings, high rate reactive sputtering 4-3073
- HfN sputtered coating on stainless steel, adhesion and mech. props. 4-7603
- HfN, thermochemical cathodes in air, discharge, temp. in arc spot 4-41221
- HfO₂, optical coating resistance to alkaline solns. and sea water 4-55167
- HfO₂ passive electrodes, Xe⁺(Pd⁺) ion implantation effect on electrochem. behaviour 4-55855
- HfO₂·Y₂O₃, Raman spectra, X-ray powder diffr. studies, dopant conc. effect 4-2915
- HfO₂-CaO, phase relations and ordering 4-7439
- HfO₂-La₂O₃, elec. cond., ion transport number, defect struct. 4-11561
- HfO₂-PrO₃, refractories, electron cond. 4-56358
- HfO₂-TiO_{1.5}, synthesis, fluoritelike phase form., defective struct. 4-11137
- HfS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
- HfS₂, lattice vibr. anisotropy and IR two-phonon absorption spectra 4-15598
- Hf(SO₄)₂·2(NH₄)₂SO₄·4H₂O, cryst. struct., X-ray study 4-15440
- HfTe₂, layered cpds., Raman spectroscopic studies 4-25740
- HfV₂H₃, phase transition, NMR study, 20 to 320K 4-20885
- Ti_{1-x}Hf_xC_{0.5}N_{0.5}, solid solns., Debye temp., elastic moduli 4-55903
- Ti_{1-x}Hf_xSe₂, electronic and lattice dynamical props., IR reflectivity spectral meas. 4-29889
- Ti_{1-x}Hf_xSe₂, plasmon and interband transitions, IR thermoreflectance meas. 4-56256

half-lives (radioactive) *see radioactive decay periods***half wave rectification** *see rectification***halides**

- see also compounds of individual elements, e.g. "tungsten compounds" and "organic compounds"*
- see also alkali metal halides; halogens*
- fluorides, amorphous, Mossbauer quadrupole spectra anal. 4-11809
- fluorides, F⁻ ion conductors, props. and appl. 4-6555
- hydrogen halides, solvent effects on molecular vibrations; distortion and relaxation of the solute potential energy surface 4-28427
- linear-bonded halide cpds., EFG and electronic struct. 4-2561
- rare earth trihalides, molecules and embedded clusters, self-consistent Dirac-Slater calcs. 4-33354
- tetrahalides, cationic effect on intramolecular forces 4-19034
- thin layer chromatography, water effects 4-43833
- ZnCl₂ battery development for utility energy storage 4-12467

Hall constant *see Hall effect***Hall effect**

- 2D electron gas, heterojunctions and technical appls. 4-25439
- alloys, amorphous, resist., Hall effect, magnetoresist. and thermopower 4-56312
- amorphous metals, Hall effect, theory 4-45737
- conductance plateaus in quantised Hall effect 4-20632
- crystal electrons on square lattice, Landau level subband struct. 4-25264
- dielectric glass with semiconductor inclusions, Hall effect theory (*Russian*) 4-25382
- double layer, galvanomag. effects 4-57578
- 1-1 electrolytes, dilute aqueous soln., Hall effect meas. (*French*) 4-50551
- electron gas, quantised Hall effect, Laughlin wavefunction calcs. 4-39938
- electron gas, two-dimensional, quantised Hall effect in a hexagonal periodic pot. 4-56247
- energy-dependent and independent models, Hall mobility of hopping carriers 4-25346
- excited states, ESR and Hall effect studies 4-11480
- force balance in quantized Hall effect 4-50845
- fractional quantised Hall effect, many-body theory 4-34938
- glassy alloys, electrical resist. and Hall coeff. 4-45713
- graphite, pyrolytic, C⁺(Ne⁺) ion implanted, elec. props. 4-20223
- graphite-KHg intercalation cpd., C₆KHg, magnetoplasma-helicon wave propag. 4-39950
- graphite-Rb intercalation cpd., C₈Rb, magnetoplasma-helicon wave propag. 4-39950
- hopping Hall conduction, variable range, absence for two-dimensional conductors 4-25371
- hopping systems, energy-depend., Hall effect, thermopower, and AC and DC cond. 4-45813
- inhomogeneous semiconductors subjected to alternating elec. fields, cond. and Hall effect, theory 4-25375
- measurement at high temp., use of van der Pauw method 4-32279
- measurement techniques for metallic thin films 4-22794
- metallic glasses, electron transport, low temp., review, book contrib. 4-39874
- metallic glasses, Hall effect and thermopower meas. 4-45738
- metals, nonsimple, liquid and amorphous, electronic transport, tight-binding calc., effective medium approx. 4-45721

Hall effect continued

- MHD boundary layer flow, Hall effect 4-5965
 MIS structure, charge changes due to change in mag. flux under quantum Hall effect conditions 4-20735
 MIS structure, quantum Hall effect, bound state parameter determ. modulation methods 4-25453
 MIS structure, quantum Hall effect, surface states model 4-20734
 MOS structures, abnormal Hall effect obs. (*French*) 4-11546
 noble metal-nontransition element alloys, amorphous, evidence for Hume-Rothery phase, struct. and Hall coeff. 4-10989
 non-crystalline materials, electronic props. 4-2606
 oscillatory MHD flow in Stokes problem past infinite vertical porous plate, Hall effects 4-44710
 pulsar, dynamo model, Hall effect in unipolar inductor 4-22418
 quantised Hall effect, boundary conditions and many-body effects 4-39939
 quantised Hall effect, for fractional and integral quantum numbers 4-11543
 quantized Hall effect and edge currents 4-45815
 quantized Hall effect and localization, review 4-50847
 quantized Hall effect due to charge density waves 4-39866
 quantum Hall effect use for atomic fine struct. const. determ. 4-18958
 rotating fluid with Hall current, heat and mass transfer 4-24416
 semiconductor, doped nondegenerate, carrier mobility and scatt. mechanisms 4-11524
 semiconductor, Kane narrow gap, heavily doped, anomalous Hall effect 4-11547
 semiconductor inhomogeneous amorphous and polycryst. films, elec. and optical props. 4-30093
 semiconductor thin films, combined four probe method, Hall mobility, elec. resist. determ. 4-4423
 semiconductors, electrical characterisation using carrier transport phenomena, thin film resistivity meas. 4-25336
 semiconductors, Hall effect and magnetoresistance with two-type current carriers 4-6809
 semiconductors, zero gap, anomalous Hall effect 4-11548
 small-polaron formation and motion 4-34968
 SOL struct. form. by O_2^+ ion implantation, buried SiO_2 layer characts. 4-34512
 solid body plasma electric current distribution in magnetic field (*Russian*) 4-50857
 SOS films, ion implanted, elec. characts. 4-35072
 superionic conductors, Hall effect and mobility tensor, Smoluchowski eqn. anal. 4-25084
 thermodynamic derivation of Hall effect current 4-2589
 thermodynamic Hall impedance for two-dimensional models 4-11545
 (TMTSF) ClO_4 , low field and anomalous high-field Hall effect 4-20637
 two dimensional electronic transport in strong mag. fields, CPA calc. 4-29992
 two-dimensional electron delocalisation in mag. field 4-11469
 two-dimensional electron gas, anomalous quantum Hall effect 4-2572
 two-dimensional electron gas filled with Landau levels, Hall voltage 4-2571
 two-dimensional electron in random pot. under strong mag. field, Borel-Pade anal. 4-56305
 two-dimensional inversion layers, quantised Hall resistance 4-15888
 two-dimensional system, role of edge currents in quantised Hall effect 4-39864
 two-dimensional systems, quantised Hall effect 4-20676
 two-dimensional systems, quantised magneto-resist. in multiply connected perimeters 4-56438
 Widom Hall effect current formula 4-25321
 Al, electrical transport props., quantum oscils. 4-25320
 n-Al_{1-x}Ga_{1-x}As:Si MBE layers capacitance and Hall effect meas. 4-50962
 n-Al_{1-x}Ga_{1-x}As/GaAs heterostruct., electron gas for FET 4-50821
 n-Al_{1-x}Ga_{1-x}As/GaAs selectively doped heterostructs. for high electron mobility transistors 4-35048
 Au polycrystalline film, specific adsorption of Br⁻ and I⁻, electrode resist. in electrochem. cell, size effect anal. 4-34799
 Au thin disordered films, Hall effect, Coulomb anomaly 4-50956
 Bi, electron irradi., galvanomagnetic props. at 4.2K, rigid-band model 4-35014
 Bi films, 2D and 3D, weak localisation, spin-orbit and electro-electron interactions 4-25348
 Bi thin films, elec. characts., temp. depend. 4-30096
 Bi_{1-x}Sb_x semiconducting alloys, combined breakdown 4-34999
 Bi₂Se₃:Ga, point defects, elec. cond., Hall effect and reflectivity studies 4-2196
 C, glassy, elec. cond. and Hall effect 4-6754
 Cd_{0.7}Hg_{0.3}Te, ohmic contact techniques 4-25441
 Cd_{1-x}Hg_xTe, surface oxidation and Hall coeff. 4-56368
 Cd_{0.8}Hg_{0.2}Te, γ -irrad. effect on elec. props. (*Russian*) 4-56372
 Cd_{0.8}Hg_{0.2}Te sputtered epilayers, 32x32 planar IR photovoltaic mosaic arrays 4-55220
 CdS, photosensitivity, annealing effects 4-39987
 CdSe sprayed layers, physical props. 4-21060
 n-CdSiAs₂ film, photoelectric and luminescence props. (*Russian*) 4-50874
 n-CdSnAs₂, heavily doped, elec. resist. and Hall coeff., press. depend. 4-20657
 Cd₃SnO₂ reactively deposited films, ion bombardment effect on composition 4-50694
 Cd₃SnO₄ thin films, influence of point defects on electrical properties 4-40091
 p-CdTe, ohmic contact techniques 4-25441
 CdTe, plastic deform., thermopower and elec. props. 4-39943
 CdTe, plasticity, Hall effect, thermoelec. power meas., chemomechanical effect 4-15892
 Co silicides, layer growth on evaporated Si, elec. props. 4-35095
 CoNi, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
 Co,Pt_{1-x} thin films, mag. and transport props. 4-56718
 Cu-Ti(Hf) amorphous alloys, Hall coeffs. 4-45739
 CuBe₂, Hall coeff., influence of phase boundary scatt. 4-2588
 Cu₂Cr₂Se_{4-x}Br_x, ferromag. spinel single cryst., transport phenomena and mag. ion exchange 4-29988
 CuInSe₂ crystal growth from melt, Cu-In-Se phase relations, Hall meas. 4-50842
 Cu_{2-x}Se, true carrier concentration 4-56366
 Cu₂Si₂S₇, single cryst., elec. props. study (*French*) 4-34969
 Cu₂Si₂S₈, single crystal, elec. resist., Hall const., 77-400K (*French*) 4-34969

Hall effect continued

- EuMo₆Se₈, struct. phase transition, X-ray, elec. resist. and Hall effect studies 4-2331
 Fe-Ni, elec. resist., Hall effect, magnetoresist. meas., martensitic transform. 4-56316
 Fe-Zr amorphous alloys, Hall effect and magnetisation 4-56317
 Fe_{1-x}B_x amorphous thin film, magnetisation, resist. and Hall const. 4-30250
 FeCo, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
 FeNi, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
 Fe_{1-x}S_x, pyrrhotite, impurity band conduction and Hall coeff. 4-45769
 Ga chalcogenide layer compounds, growth and characterisation 4-7344
 Ga_{1-x}Al_xAs, Hall mobility, electron conc. and resistivity meas. at 300K 4-11544
 GaAs, carrier density and mobility, Hall meas. 4-39930
 GaAs, electron indicated, deep donor levels excitation and annealing (*Russian*) 4-56265
 GaAs heterostructures, dissipation and dynamic nonlinear behaviour in quantum Hall regime 4-2644
 n-GaAs ingots, electrical props. (*French*) 4-25337
 GaAs, MBE growth, elec. and luminescence props. 4-30637
 GaAs, magnetoresist. meas., electron scatt. mechanisms 4-2625
 n-GaAs, magnetoresistance hysteresis, current instabilities, in strong mag. fields 4-15895
 GaAs, radiation defect energy levels, light absorption and Hall effect studies 4-20602
 GaAs, semi-insulating, elec. transport parameters, three band model anal. 4-39899
 GaAs superlattice structs., optical and electronic props. 4-15948
 GaAs:Ge, neutron transmutation doping elec. and optical characterisation 4-34507
 GaAs:Mn, mag. susceptibility, Hall effect meas., Jahn-Teller strain energy 4-15854
 GaAs:Si, annealing effect on elec. and optical props. 4-25339
 GaAs:Si encapsulated in Si₃N₄, free carrier conc. and Hall mobility 4-50693
 GaAs:Si LEC crystals, Si doping effect on elec. props. 4-6810
 GaAs:Si(Se)(S), shallow ion implantation, elec. and structural props. 4-45166
 GaAs:Zn, implanted, IR rapid annealing, differential Hall meas. 4-20217
 GaAs:Zn, ion implantation, diffusion and segregation 4-34506
 GaAs-Al_{1-x}Ga_xAs, low temp. fractional quantum Hall effect 4-20675
 GaAs-AlGaAs heterostructures, Hall effect studies 4-11583
 GaAs-AlGaAs heterostructure, MBE grown, recent developments and device appls. 4-15952
 GaAs-AlGaAs heterostructures, hot electron transport, expt. anal. 4-40038
 GaAs-AlGaAs heterostructs., quantized Hall effect device, resistance std. 4-45871
 GaInAs, OMVPE growth, morphology, solid comp., optical and elec. props. 4-46441
 GaP, elec. and photoelectrical props. 4-35015
 GaP:Fe³⁺, excited states, ESR and Hall effect studies 4-11480
 GaS₂Se_{1-x} solid solns., elec. props. study, rel. to struct. and optical props. 4-29987
 n-GaSb, conduction band parameters, Hall effect and magnetoresist. 4-56370
 GaSe, γ -irrad., elec. props. 4-50808
 Gd-Ge amorphous alloy, mag. and transport props., conc. depend. 4-30210
 Ge, epitaxial growth by electron beam evaporation on Si, elec. characts. (*Japanese*) 4-29842
 Ge films, microcrystalline, RF glow discharge deposited, electronic transport props. 4-6911
 Ge, high energy proton irradi., defect cluster form., role of nonelastic nuclear processes 4-55890
 n-Ge, magnetoresist. and band struct. (*Chinese*) 4-39936
 Ge many-valley semicond., even magnetoconc. effect 4-29994
 p-Ge, phonon limited cond. and Hall mobility calcs. 4-20653
 n-Ge, plastically deformed, filling of dislocations by electrons, Hall effect study 4-29962
 Ge:Al (Ga)(In)(Sb), kinetics of decomposition, with separation, retrograde scheme 4-57231
 Ge:Ga, O and Ge:Sb, O, thermal donors, charge state and energy level spectrum 4-20600
 Ge:Sb, Cu, solubility of Cu, temp. depend. of Hall coeff. study 4-50521
 Ge:Sb, negative magnetoresist., impurity conc. depend. 4-20678
 Ge:Zn, electrophysical props. near semicond.-metal transition, Lifshitz impurity band model 4-6844
 p-Ge:Zn, nonequilibrium hole lifetime, recombination centre depend. 4-11542
 Ge:Zn, singly charged impurity excited states spectra, optical absorpt., photoconductivity, Hall coeff. meas. 4-7220
 GeSe, anisotropic elec. props. 4-39911
 Hg_{0.8}Cd_{0.2}Te, electron localisation, magnetoresist., Hall effect meas. 4-35016
 Hg_{0.8}Cd_{0.2}Te thin films, sputtered, annealed, elec. props., struct., comp. 4-40086
 p-Hg_{0.91}Cd_{0.09}Te, semimetal-semicond. transition under press., Shubnikov-de Haas effect study 4-34879
 Hg_{1-x}Cd_xTe, isothermal vapour phase epitaxy, surface morphology, Hall data 4-50652
 Hg_{1-x}Cd_xTe, LPE growth using slider boat, annealing effect on epilayer props. 4-34819
 HgCr₂Se₄, ferromag. semicond. thin film, elec. props. and prep. 4-29837
 Hg_{1-x}Mn_xTe, low temp. elec. and mag. props. 4-25381
 Hg_{1-x}Mn_xTe, tunnelling to reson. states, Hall effect meas. 4-50930
 HgTe, hole mobility and Hall effect 4-45802
 Hg_{1-x}Zn_xCr₂Se₄, ferromag. semicond., elec. props. and stoichiometry, heat treatment effects 4-6777
 In chalcogenide layer compounds, growth and characterisation 4-7344
 p-InAs, Hall coeff., low temp. sign inversion 4-20679
 InAs ion-implanted, laser annealing, defect and elec. props. study 4-11182
 InAs:Se, Czochralski grown, impurity distrib., Hall meas., at. absorpt. anal. 4-11170
 InAs:Te(Sn)(S), Hall coeff., elec. cond., hydrostatic press. effect 4-6813
 In_{1-x}Ga_xAl_yAs:Mn, MBE growth, doping and elec. characts. 4-30636

Hall effect continued

InGaAs films, LPE, carrier conc., Hall mobility, Al addition gettering effect 4-46456
 $\text{In}_{0.5}\text{Ga}_{0.5}\text{As}$ -GaAs strained-layer superlattices, electron mobilities 4-11576
 $\text{In}_{0.5}\text{Ga}_{0.5}\text{As}$ LPE on (100)-InP substrates at low growth temps., Hall meas. 4-21171
 $\text{In}_{0.5}\text{Ga}_{1-x}\text{As}_{0.5}\text{P}_{1-y}$ layers, high temp. LPE, electron Hall mobility, scatt. mechanism 4-40087
 InP, high purity, synthesis from melt, donor conc., Hall meas., photoluminesc. 4-40629
 InP, MOCVD epitaxy, C-V, Hall and photoluminesc. characts. 4-40664
 InP single cryst., intrinsic point defects, melt composition effects 4-34484
 InP, synthesis, crystal growth, Hall effect, photoluminesc., SIMS 4-40631
 InP, VPE, purity control, Hall mobilities 4-40656
 InP:Cd LPE layers, impurity concentration meas. by ionized impurity scatt. anal. 4-20231
 InP:Co(Fe), Hall effect, elec. resist. and DLTS studies 4-25374
 InP:Fe, Czochralski grown crystals, electron and Fe conc., SIMS, Hall meas. 4-34971
 InP:Fe, semi-insulating, Si^+ implantation, capless annealing of damage (*Chinese*) 4-20265
 InP:Mn, elec. resist., Hall effect and impurity ionisation energy 4-25352
 InP:Si, ion implanted, laser beam annealing, Hall effect and ellipsometry studies 4-30346
 InP:Si, elec. and photolum. obs. of Si implantation and damage, residual impurities 4-34511
 InP:Si, n-type doping in MBE growth, elec. and optical props. 4-2219
 InPe:Te, ion implanted, photoluminescence study 4-35481
 n-InSb, Corbino disc, multitransit generation of acoustic fluctuations 4-25377
 p-InSb film, polycryst., elec. props., effect of laser irradi. 4-2663
 InSb, ion-implanted, laser annealing, defect and elec. props. study 4-11182
 InSb, lattice relaxation controlled free carrier conc., transport props. study (*French*) 4-56357
 n-InSb, metal-insulator transition under high hydrostatic press. 4-56219
 InSb, multipass synchronous acoustic wave generation using AC Hall drift current 4-30027
 n-InSb, plastic deform. effect on elec. transport props. 4-56348
 InSb, plastically deformed, galvanomagnetic props. 4-15891
 InSb:Se, relationship between electron density and solubility 4-56031
 n-InSb:Te, negative magnetoresistance study 4-6812
 InSe high quality single crystals, growth and characterisation 4-7345
 La-Al metallic glasses, electronic transport props. 4-56310
 LiAl-Ga(In), doping effect on elec. transport props. 4-45742
 α -MnSe:I, elec. resist., Hall effect and thermoelec. power 4-39908
 MoTe_2 single crystals, semiconducting props. and band struct. 4-50851
 Ni-P amorphous electrodeposits, Hall effect and IR reflectivity studies 4-45740
 $\text{Ni}_3\text{B}_2\text{S}_2$ ($\text{B}=\text{Pb}, \text{Ti}, \text{Bi}, \text{Sn}$) and $\text{Ni}_3\text{Pb}_2\text{Se}_2$, elec. resist., Hall effect and paramag. susceptibilities (*French*) 4-45773
 $\text{Ni}_3(\text{Fe}_{1-x}\text{Ta}_x)$, transport and elec. props. (*Russian*) 4-6761
 $\text{Ni}_3(\text{Fe}_{1-x}\text{V}_x)$, transport and elec. props. (*Russian*) 4-6761
 $(\text{PbSe})_{1-x}(\text{SnTe})_x$ epitaxial films, elec. props., band struct., depend. on composition 4-56208
 $\text{Pb}_{1-x}\text{Sn}_x\text{Se}$, struct. phase transition, elec. cond. and Hall effect studies 4-11272
 $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$ heavily doped ferroelec. semicond., Curie temp. effects 4-35392
 $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$, multiply doped, electrophysical props. 4-29993
 PbTe epitaxial films, Hall effect and acoustoelectric phenomena 4-35098
 PbTe film, elec. cond., Hall effect, and thermoelec. power, adsorbed O_2 effects 4-11608
 PbTe film, with pot. barriers, transport coeffs., influence of IR illumination 4-15974
 PbTe:Ga, strongly doped, photoelec. behaviour near Curie temp. 4-39981
 PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
 PbTe:Ti, single cryst. growth by travelling heater method 4-51478
 PbTe:Ti,Na, influence of resonant states on Hall effect 4-56371
 PbTe:Pb $_{1-x}\text{Sn}_x\text{Te}$ modulated doped superlattices, hot wall technique prep., Shubnikov-de Haas effect 4-15950
 $(\text{PbTe})_{1-x}((\text{Cr},\text{Fe},\text{Ni})_x\text{Te}_2)$, solid solns., thermoelec. props. 4-6815
 RuS_2 single cryst., growth and phys. props. 4-29970
 Sb films, elec., galvanomagnetic and electrothermal props. 4-30097
 Sb films, vacuum deposited, struct. and galvanomag. props. 4-40096
 $\text{Sb}_{1-x}\text{Bi}_x$ alloys, Hall effect and thermomag. props., commutation effects 4-15898
 Se-Te, liquid, Hall coeffs., melting point to 750°C 4-6811
 n-Si, carrier scatt. anisotropy in mixed scatt. region 4-20644
 p-Si inversion layer in MOSFET, atomic roughness and Hall mobility 4-15963
 Si inversion layers, use of investigating electron states localisation, conduction oscils., quantised Hall resist. 4-45853
 Si MIS struct., magnetoresistance meas. 4-40066
 Si MIS struct., quantum Hall resistance 4-20730
 Si MOS inversion layers, in weak and strong mag. fields, review 4-50942
 Si, microcrystalline, Hall and photo-Hall study 4-50844
 Si, neutron doped and γ -irrad., nature of defects 4-55885
 n-Si, neutron transmutation doped, piezoresist. and Hall effect, annealing and quenching effects 4-6776
 p-Si, phonon limited cond. and Hall mobility calcs. 4-20653
 Si, proton and gamma irradi., dislocation effects on impurity-defect agglomeration interaction processes 4-6404
 Si, proton and γ -ray irradi., point defect-group radiation defect interactions 4-34531
 Si:As, implanted, struct. modification during annealing 4-50328
 Si:Er, γ -ray irradi. defects, Hall effect, elec. cond. and photocond. studies 4-34543
 Si:H, B, Hall effect and hole transport 4-20673
 a-Si:H, Cl films, doped and undoped, Hall mobility meas. 4-39940
 Si:H,F films, amorphous-microcryst. mixed phase, elec. props., appl. to power sensors and strain gauges 4-50855
 Si:H film, microcrystalline, formation kinetics and control 4-51545
 Si:Na, electron irradi., radiation defects, Hall effect meas. 4-50362
 Si:O, Hall effect, temp. depend., differential evaluation 4-25277
 Si:P, ion implanted, damage-dependent atom and carrier profiles 4-20227
 Si:P epitaxial layers, reflectance, transmittance and Hall mobilities meas. 4-40548

Hall effect continued

Si/dielectric/metal struct., electron gas Hall conductivity in inversion channels, ultraquantum limit 4-30077
 Si-metal-oxide semiconductor struct., quantum Hall effect, current effect on plateau width 4-56435
 Si_3N_4 plasma enhanced deposition, encapsulant for GaAs:Si 4-50693
 SnO_2 films, highly doped, Hall effect anal. 4-39996
 SnTe, crystal growth by iodide method, impurities and elec. props. (*Russian*) 4-6796
 SnTe epitaxial films, elec. transport props., two-circuit model 4-56460
 $(\text{TMTSF})_2\text{ClO}_4$, Hall effect, magnetoresist. meas. up to 22 T 4-25322
 IT-TaS $_2$, non-Ohmic conduction and weak localisation 4-50797
 Te, 2D accumulation layer, Hall cond. oscils. 4-25379
 TlInTe-InGaTe $_2$, electrophysical props. 4-56367
 $\text{V}_2\text{O}_5\text{-P}_2\text{O}_5$, vitreous, Hall effect, elec. cond. and thermopower 4-45814
 WSi_2 thin films, elec. cond. and Hall effect studies 4-50963
 $\text{Yb}_{1-x}\text{TM}_x\text{S}$, mag. and elec. transport props. 4-56541
 ZnO, annealed in Zn atm., elec. cond., Hall coeff. meas. 4-2605
 ZnO weak accumulation layers, electron transport phenomena 4-45854
 ZnS, Hall effect for bulk photovoltaic current 4-39979
 ZnS, piezoelec., bulk photovoltaic effect, mag. field influence 4-45823
 ZnSe MBE growth on GaAs(GaP), vacuum thermal treatment and substrate cleaning effects 4-12029
 ZnTe, epilayer crystals, effects of pulsed laser radiation on electrophysical props. 4-55867
 Zr-transition metal alloys, $\text{Zr}_{1-x}\text{M}_x$, M=Fe-Cu, glassy, Hall coeffs. and electronic struct. 4-56320
 ZrTe $_3$, transport and elastic anomalies, CDW transitions 4-55906

Hall effect devices
 high temperature Hall-effect apparatus, use of van der Pauw method 4-32279
 magnetic field sensor, offset reduction using sensitivity variation method 4-27542
 rare earth transition metal amorphous thin film device 4-27540
 GaAs Hall element, $1/T$ fluctuation, temp. depend. (*Japanese*) 4-30033

Hall effect transducers
 EM field stabiliser for RF spectrometer 4-37126
 planar, overlapping voltage contacts effect calc. and meas. 4-27500
 variable-reluctance probe, magnetite buildup meas. in PWR steam generator 4-28090

Hall generators see *Hall effect devices*

halogens
 see also *astatine; bromine; chlorine; fluorine; halides; iodine*
 acids and their Na salts, low freq. depolarised light scatt. 4-35432
 atoms, total energies and electron affinities, local spin-density approx. exact exchange extension 4-28571
 chemisorption and epitaxial growth on V and Cr surfaces 4-29817
 closed-shell ion+He(Ne) repulsive interactions, beam and transport meas. 4-28533
 cyanides, anharmonic force fields 4-49013
 molecule+alkali earth metal, chemionisation reaction 4-21452
 randomly oriented molecules, spin-polarised photoelectrons by unpolarised light 4-49102
 thermal desorption from Nb, Mo, Ta and W single cryst. surfaces 4-45521
 trihalogen systems, 3D pot. energy surfaces calc. using DIM method 4-28393

Hamidashi effect see *ferroelectricity*

hand tools
 optical fibre cutting tool, stapler type, hand-held design for end surface preparation 4-38645

handling, materials see *materials handling*

Hanle effect
 coupled levels, polarisation moments with large angular moment, asymptotic rate eqn. (*Russian*) 4-54997
 nonlinear, optogalvanic detect. and appl. to gas laser power enhancement 4-17953
 ruby, optically induced transverse magnetisation near zero mag. field, mag. detected transient Hanle effect 4-11868
 three-level atoms, optical bistability, coherent nonlinear mechanism 4-55118
 Ba, four-wave mixing, press. induced extra reson. 4-5644
 NO_2 excited state lifetimes, g-factor in 593 nm band 4-54809
 Ne, electronic excitation of $2p^33p$ levels, Hanle effect meas. of lifetimes 4-18992

hard soldering see *brazing*

hard-sphere fluids see *classical theories of fluid structure; liquid theory; quantum theories of fluid structure; statistical mechanics*

hardening
 see also *dispersion hardening; quench hardening; radiation hardening; solid solution hardening; surface hardening; work hardening*
 creep theory of hardening materials 4-49721
 fibre reinforced epoxy bonded composites, thermal stability (*Russian*) 4-7497
 gelatin emulsion layer hardening by diacetal hardeners (*Russian*) 4-13701
 glass fibre reinforced polyester composite, toughening by resin modification 4-35636
 kinematic hardening models at finite deformation (*French*) 4-1615
 material softening by impurities, disloc. motion (*Russian*) 4-34569
 photographic gelatin emulsion layer hardening mechanism by oxirane compounds (*Russian*) 4-17997
 steel, Cr, bearing, martensitic transform., effect of prior cold work 4-40784
 steel, Cr-Mn, austenite transform. and props. in uninterrupted cooling 4-21248
 steel, critical cooling rate, anal. rel. to hardening (*Russian*) 4-30725
 steel, eutectoid, mech. props., effect of Cr additions up to 1% 4-51773
 steel, high temperature thermomechanical treatment, hardening rel. to comp. and work geometry (*German*) 4-40828
 steel, high-speed high-C, optimum hardening and tempering cycles 4-40835
 steel, low C and low alloy armature, thermomechanical strengthening (*Ukrainian*) 4-7484
 steel, martensitic transformation, phase hardening effects (*Russian*) 4-35626
 steel, Ni-Cr-Mn, high-strength, far dynamic wear conditions 4-21332
 steel, stainless, type 316, plastic and viscoplastic constitutive eqns. 4-3200

hardening continued

- steel, stainless, under monotonic or cyclic loadings, constitutive eqns., strain hardening, memorisation, aging (*French*) 4-16456
- steel bimetal wear-resistant plate, deform. calc. in heat treatment 4-21244
- stress and strain concentration factor evaluation using the equivalent energy concept 4-21280
- viscoplastic and plastic constitutive eqns., internal variable concept rules 4-3199
- AgCl, strain ageing, room temp. 4-45252
- Al, microplasticity, internal friction meas. (*French*) 4-51915
- Al-Cu semiproducts, hardening 4-57267
- Al-Mg (6 wt.%), sheet, struct. changes during warm-forming 4-46536
- Al-Si, thermal cycling treatment, effect on struct. and props. 4-40840
- Be-Ni 360 alloy strip, mill hardened, considerations for connector design 4-46624
- Fe-Sn-C, cast high-strength, Sn effect on struct. and props. 4-21250
- In-Sn eutectic difference in cryogenic tensile props. of constituent phases 4-46581
- KBr, polymorphic transformation, hysteresis, influence of phase hardening and plastic deformation 4-50232
- KCl, polymorphic transformation, hysteresis, influence of phase hardening and plastic deformation 4-50232
- KCl single crystals, hardening and plastic deformation under hydrostatic press. 4-29528
- KI, polymorphic transformation, hysteresis, influence of phase hardening and plastic deformation 4-50232
- Mg-base alloys, heat-resistant, alloying principles 4-51620
- MgO, single crystals, hardening by X-ray irradiat. at room temp. 4-6403
- RbCl, polymorphic transformation, hysteresis, influence of phase hardening and plastic deformation 4-50232
- ZrO₂, MgO partially stabilized, stress-induced martensitic toughening 4-46617

hardness

- see also abrasion; hardness testing
- (*German, English*) 4-35644
- acrylic polyisocyanate, crosslinked copolymers, reactivity, coatings hardness (*Polish*) 4-21173
- ceramics, surface flaws produced by Knoop indentation, crack opening behaviour 4-40951
- ceramics, use in engines 4-51605
- coatings, electrolytically and chemically deposited, mech. props. (*German*) 4-51553
- cyclotrimethylenetrinitramine, RDX explosive crystals, X-ray orientation, hardness 4-39178
- dispersion strengthened condensates, struct., microhardness and mech. props. 4-40991
- fibre-optic sintered element relative grinding hardness 4-33780
- fluoronitride glasses in Zr-metal-F-N system 4-46483
- glass lightguide bulb, single-core, microhardness testing 4-7573
- graphite particle reinforced Al-Si composite, deform. of graphite during hot extrusion 4-40905
- ice, polycrystalline, creep, rate-controlling processes, plasticity 4-29514
- Inconel 718, age hardening, struct. transform., mech. props. 4-51755
- metals, refracting and scaling resistant, long-term softening 4-7585
- microbending equipment for hard and brittle material fatigue investing. with SEM (*German*) 4-16578
- Nimonic PE16, precip. hardening and particle growth 4-57243
- optical glass composition influence on relative grinding hardness value 4-33821
- oxynitride glass formation from gels 4-25938
- plastics, deep drawn sheet, limit drawing ratio prediction (*Japanese*) 4-21278
- polyamide-6, thermal treatment effects on mech. props. (*Polish*) 4-57269
- polyethylene, lamellar, surface mech. props., chlorosulphonation influence 4-26080
- polytrioxane, thermal treatment effects on mech. props. (*Polish*) 4-57269
- refractory bricks, deformation mechanisms at high temp., grain boundary phase analysis 4-51768
- sapphire characteristics and applications to orthopaedic implants 4-26550
- SBR-ground asbestos system, mech. props., filler shape effect 4-3330
- semiconductors, diamond-like, amorphisability and mech. props. 4-29492
- Si, ion irradiat., photomechanical effects 4-55912
- silk fibre reinforced nitrile rubber composites, mech. props. rel. to fibre-matrix bonding 4-51747
- steel, alloy, quenched, cutting by CBN tools (*Japanese*) 4-21378
- steel, alloy rail, high C, mech. props. and microstruct. (*Korean*) 4-40957
- steel, austenitic, nonmag. and cryogenic, mech. props. (*Chinese*) 4-16467
- steel, austenitic stainless, cold drawing, deform. and transform. textures (*Japanese*) 4-35628
- steel, C, plastic flow and residual stress distrib. caused by rolling contact (*Japanese*) 4-57289
- steel, carbon, hardness and residual austenite, cooling rate effects during quenching (*Russian*) 4-25981
- steel, carburise case hardening, struct. and hardness distrib., computer prediction 4-25975
- steel, chromised sintered, mech. props. 4-40709
- steel, Co, high-speed, surface hardening 4-21372
- steel, Cr, high-C, hardened rolls, depth of strengthening study by grinding away layers 4-41092
- steel, Cr, thermite rail welds, mech. props. and microstruct. 4-51752
- steel, Cr and Mn, powders, prod. by diffusional impregnation, struct. and props. 4-3098
- steel, Cr-Mn, multistage thermal cycling, struct., microhardness and strength 4-21229
- steel, Cr-Mn-Ti-B, hot forged, machinability rel. to heat treatment 4-3157
- steel, Cr-Mo, surface hardening, delayed fracture strength (*Japanese*) 4-26043
- steel, Cr-Ni-Mo, economically alloyed, for large forgings 4-40919
- steel, Cr-W, heat resist., strength loss rel. to Ce microalloying 4-51763
- steel, die, hardness rel. to strength and life in low-cycle loading 4-51931
- steel, eutectoid, mech. props., effect of Cr additions up to 1% 4-51773
- steel, eutectoid, subcritical thermomech. treatment, microhardness 4-12092
- steel, ferrite-pearlite, crack tip plasticity, monotonic and cyclic 4-30792
- steel, ferritic-pearlitic, weld heat-affected zone, max temps., metallo-graphic study 4-30709
- steel, heat treated, erosion behaviour rel. to mech. props. 4-7607
- steel, high speed, M2, carbide cracking, fracture mechanism 4-21325
- hardness continued**
- steel, high speed, sintered M2, mech. props., cutting performance 4-7571
- steel, high strength, sintered, machinability rel. to additives, drill life test 4-7390
- steel, high-speed, cast, props., C and rare earth metal contents influence 4-40977
- steel, high-speed, cast and powder, props. 4-40976
- steel, low alloy, mechanical props., α - γ transition and thermomech. treatment effects (*Russian*) 4-35659
- steel, low C, NDT, correcting for chem. comp. 4-46681
- steel, low C, pack aluminisation (*Korean*) 4-41073
- steel, low-alloy, cold-rolling rolls, heat treatment and props. 4-40843
- steel, mill, cylinders, DC flash welded, heat affected zone size, hardness, failure map 4-16512
- steel, Ni-Cr, age hardening, struct. transform., mech. props. 4-51755
- steel, Ni-Cr-Mo, H embrittlement, heat treatment, elec. current effect 4-46615
- steel, nonmag. and cryogenic, mech. props. (*Chinese*) 4-16466
- steel, notch effect zone determination, X-ray diff. method 4-46679
- steel, plain C, case-hardening response, effect of Al treatment 4-51845
- steel, polishing with magnetabrasive powders 4-26106
- steel, Si, bainitic transform., composition-prop. approach 4-16497
- steel, Si, recrystn. and mag. props., effect of Sb additions 4-40816
- steel, stainless, powder, compressibility, N content effect 4-25918
- steel, two phase, austenitisation, struct. and hardness (*Russian*) 4-25980
- steel, type 52100 and stainless type 303, electrical arc-induced wear, surface anal. study 4-7601
- steel, type AISI 4140, 4340 and stainless type 304, ion nitrided, tribology and microstruct. 4-7602
- steel, V, struct.-prop. relationship (*Korean*) 4-16489
- steel, W-Mo, high-speed, surface hardening 4-21372
- steel castings, wear behaviour for mining industry 4-40997
- steel fibre reinforced Al alloy, effect of surface treatment of fibre (*Korean*) 4-57141
- steels, plasma surface hardening 4-21374
- Stellite hardfacing coating on stainless steel, laser processing effects 4-7648
- surface, high purity, ion beam nitriding study 4-51902
- thin hard coatings, ion implantation effects 4-2487
- transition metal silicide, thermal oxidation resist. and hardness 4-3277
- U₂Fe, comminuted, density hardness, microstructure 4-30797
- wear resistant coatings, selection requirements for max. resistance 4-7620
- Ag, hardness of single crystals, size effect (*Russian*) 4-57324
- Ag-Al (10 at.%), μ phase precip., vacancy enhancement 4-57233
- Ag-Al(10 at.%), μ -phase precip. vacancy enhancement 4-30701
- Ag-Sn-Zn, dental amalgam, structure and mech. props. rel. to Zn content (*Korean*) 4-3226
- Ag-Tl system, retrograde solidus curve, microhardness, X-ray obs. 4-51671
- AgCl, strain ageing, temp. effect 4-57270
- Al alloys, anodized, H₂PO₄, relation between film microhardness and metallic coating adhesion 4-3291
- Al, commercially pure, recrystn. behaviour HVEM and TEM study 4-40817
- Al, ultrafine-grained, high purity, struct. and props., effect of annealing temp. 4-16425
- Al-Cu, 2011, microstruct. charact. using DSC 4-30870
- Al-Cu, 2219, rel. between microstruct., hardness and elec. cond. 4-7550
- Al-Cu, 2219, thermal history, hardness, NDE by elec. cond. 4-30916
- Al-Cu-Mn, chill cast, overageing, heat resist., hardness, precipitation struct. (*Japanese*) 4-7487
- Al-Cu-WC, sintered, precip.- and particle-hardening, combined effect 4-21186
- Al-Si-Cu-Fe, heat treatment, mech. props. rel. to Fe content 4-3187
- Al-Si-graphite particle composite, deform. of graphite during hot extrusion 4-40905
- Al-Zn, damping capacity, influence of cold-working 4-7498
- Al-Zn (15 at.%), coherent spinodal curve temp., hardness meas., TEM studies 4-30700
- Al-Zn-Mg-Cu, 7075, microstruct. in peak-aged and overaged conditions 4-7490
- Al-Zn-Si (12, 6 wt.%), kinetics of phase transitions after deformation by quenching 4-30750
- Al₂C₃ sintered body prep., mech. props., thermal expansion and corrosion resist. 4-12146
- Al₂Ga₃, as active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
- AlN ceramics, high press. hot pressing without additives (*Japanese*) 4-40727
- AlN, hot pressed, friction and wear, temp. and environmental effects 4-30828
- Al₂O₃, hardness testing, in air and simulated body environment 4-21314
- Al₂O₃, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
- β -Al₂O₃-Na₂O, fracture toughness anisotropy 4-26039
- As-Ge-Se glass-ceramic, IR transmission props. 4-28794
- As-Se films, photo-induced microhardness changes, composition depend. 4-29521
- Au, electrodeposited, mech. props. 4-3213
- Au, hardness of single crystals, size effect (*Russian*) 4-57324
- Au, indentation hardness meas. at 20 nm penetration depth 4-7572
- Au ion-plated coatings, tribology and XPS depth profiling 4-7605
- Au-Co metastable solid solns., electrodeposition and growth from melt, microhardness meas. 4-40689
- Au-Cu-Ag, industrial, 18 carat, struct. and props. 4-7480
- B₂C, hardness, temp. depend. 4-21302
- BN, superhard, compacts, shock compression, very high press. sintering, struct. 4-30669
- BaMoO₄, flux-grown single crystals, Vickers micromech. indentation 4-29519
- Be-Co system alloys, struct. and physicomech. props., Co influence 4-57254
- CH₃ films, amorphous, prep., struct., phys. and optical props. 4-7261
- CdSb-NiSb, eutectic composition, interaction in system 4-3127
- C₅₈Ni₁₀Fe₅Si₁B₁₆, Vitrovac 6010, annealed, mech. and phys. props. (*German*) 4-57273
- Cr plating, hard, under reduced press. (*Finnish*) 4-12269
- Cr/Cu microlaminate composites, struct.-prop. relationships 4-50650
- Cr-C(N) cathodic sputtered coatings, hardness, wear and fatigue 4-7359
- Cr-V-Mo electrolytic coatings, microhardness, internal stresses, comp. depend. 4-3285

hardness continued

- Cu binary alloys, metastable states by super-rapid quenching 4-46537
 Cu composite powder deposition by displacement under bubbling conditions, characterisation 4-40707
 Cu, dispersion hardened, friction and wear, transfer layer microstruct. and hardness 4-30831
 Cu, pure, cold worked, elec. resist., softening temp. rel. to alloying additions (*Japanese*) 4-46524
 Cu-Al, two phase, quenched, early stages of deform, microhardness obs. 4-16449
 Cu-Be (1.8 wt.%), friction and wear, transfer layer microstruct. and hardness 4-30831
 Cu-Ni-Si, thermomech. treatment, elec. resist. obs. (*Japanese*) 4-25982
 Cu-Pd-S system, phase diagram invest. 4-51646
 Cu-Sn-Au bulk alloys and thin films, microstruct. and elec. props. 4-34821
 Cu-Ti binary alloys, age-hardening, effect of rapid solidification 4-16408
 Fe alloys, impact wear testing, failure characts. 4-16608
 Fe, Armo, laser hardening, effect on struct. 4-21375
 Fe, cast, ductile, ferrite-bainite matrix, tensile props. (*Korean*) 4-16442
 Fe, cast, microstruct.-prop. relationships 4-30882
 Fe, cast, stabilised mottled, sulphide inclusion graphitising action 4-21251
 Fe, grey cast, dry abrasive wear rel. to eutectic domain struct. (*Rumanian*) 4-35731
 Fe powder, strength and contact growth kinetics rel. to pressing and sintering parameters 4-40710
 Fe, white, castings, wear behaviour for mining industry 4-40997
 Fe, white cast 4-41000
 Fe-C-Cr, borided, surface layers comp., struct. and hardness, Mossbauer spectra 4-7632
 Fe-Co-Ta, Recalloy, mag. props., thermal expansion, elec. resist., hardness (*Japanese*) 4-46069
 Fe-Cr alloys, irradiation, hardening 4-15543
 Fe-Cr-Mn-C, cast, high-Cr, phase transform. features 4-21205
 Fe-Ni-Al(Mo), coarsening kinetics of coherent NiAl-type precipitates 4-57232
 Fe-Ni-Au, microstruct. and mag. props. 4-25043
 Fe-Si-Al ferromagnetic alloy, mech. strength in mag. fields (*Russian*) 4-35677
 Fe-Ta(Mo)(W), semihard mag. alloys, mag. and mech. props. 4-41012
 FeCoNiCrBSi metallic glasses, internal friction, dynamic elastic modulus, microhardness meas. 4-40854
 Fe₂Co₂Si₂B₁₀ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
 Fe₉₀Ni₁₀P₁₀B₄ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
 GaAs active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
 GaAs whiskers, struct., mechanical props., impurity effect 4-56182
 GaAs-CdSe, phase equilibria, mol. interaction 4-57194
 GaAsSb_{1-x} active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
 Ge-Al (Ga)(In)(Sb), kinetics of decomposition, with separation, retrograde scheme 4-57231
 GeTe-AgSbTe₂, electrophysical props. of solid solutions 4-56374
 HfN sputtered coating on stainless steel, adhesion and mech. props. 4-7603
 Ho₂Se₂-GeSe₂, phase diagram, DTA, X-ray and microhardness studies 4-7434
 InSe deposition struct. and scratch microhardness 4-34841
 KBr-KI mixed crystals, radiation hardening, dislocation and grain boundaries conc. meas. 4-11183
 KCl, Br_{1-x}Ca²⁺, doped and undoped, thermolum., microhardness meas., quenching temp. depend., impurity dispersion state effect 4-11947
 KClO₄, deform., microhardness studies 4-2256
 K₂Ti₂O₁₈, single crystal, flux evaporation prep., thermal expansion, mech. props. 4-51479
 LiNbO₃ single crystals, hardness (*Korean*) 4-15582
 Mg-Zn-Y, phase equilib. and struct. 4-30692
 MgF₂, static loading and impact indentations, elastic recovery 4-24387
 Mn-Al-C wires, metastable FCC phase, prod. by in-rotating water spinning method 4-16385
 Mn-Cu-Ti(Zr), Elinvar characts., thermal expansion, Young's modulus, hardness, tensile strength rel. to heat treatment 4-21262
 Mn-Ge, antiferromag. Invar type alloy, thermal expansion, mech. props. rel. to Fe, Co or Ni additions 4-20847
 Mo alloys, low-alloyed cast, interstitial solid soln. decomp., fine struct. 4-51621
 Mo powder, explosively consolidated, heat treatment, microstruct., hardness 4-30712
 Mo, reorientation mechanism during rolling 4-12087
 Mo single cryst., dynamic recovery during rolling, hardness and yield stress studies (*Russian*) 4-35638
 Mo, warm-worked, recrystn. 4-46531
 Mo-Hf (0.2 wt.%), nitriding, plastic deform. effects 4-30858
 Mo-Nb-Zr-C single crystal, strengthening by internal nitriding 4-30711
 Mo-Ru-Rh-Pd system, phase equilibria 4-7428
 Mo-Ti-Zr alloy TsM2A, struct. and creep after internal nitriding 4-3147
 NaBrO₃, growth from aq. soln., selective etching, microhardness studies 4-3264
 NaBrO₃, X-ray irradiat., hardness, optical absorption and dislocation density meas. 4-29520
 NaCl:Ca²⁺, impurity dispersion role in microhardness and thermolum. 4-11949
 NaCl:Ca(Pb), yield stress, hardness, dislocation motion meas. 4-50403
 NaCl:Sm, impurity dispersion rel. to hardness anisotropy 4-50417
 NaCl:Sm²⁺, X-irrad., Z₁-centre contrib. to radiation hardening, hardness meas. 4-50351
 Na₂Zr₂(Be(PO₄)₄), gainesite, cryst. struct. and bond distances 4-20147
 Nb carbides protective coatings, thermal shock resist., SEM, optical microscopy (*Russian*) 4-26075
 Nb-N films, abrasion resist., microhardness, microstructure 4-2489
 NbB₂, microhardness in homogeneity ranges 4-40948
 NbB₂, Vickers microhardness, alloy composition depend. 4-11225
 Nb₂Sn diffusion layer, growth kinetics 4-56096
 Nd-Fe-B permanent magnets, anisotropy, magnetisation and Curie temp. 4-56703
 Ni electroless coatings, struct., corrosion resist., stripping rate rel. to heat treatment 4-46660
 Ni, indentation hardness meas. at 20 nm penetration depth 4-7572

hardness continued

- Ni, polycryst., fatigue development mechanism during thermal cycling 4-35699
 Ni-B composite electrolytic coatings, struct. and phase comp. 4-3288
 Ni-Mo, sintered, struct. and mech. props. after hot plastic working and heat treatment 4-26014
 Ni-P coating, electroless deposited on steel substrates, fretting wear and fretting fatigue 4-5797
 Ni-Pd-S system 4-51646
 Ni-Zr-B-H glass, continuous transition and H solubility 4-45324
 Ni₈₀Nb₂₀ metallic glass, annealing effects and homogeneous flow 4-7518
 Pb binary alloys, struct., mag., physical and supercond. props., quenching rate depend. 4-51651
 Pb-Ga-Te, containing PbTe, homogeneity region, solid solubility 4-57217
 Si, dislocation motion, doping effects 4-15476
 Si, indentation hardness meas. at 20 nm penetration depth 4-7572
 Si, ion implantation, surface softening 4-50378
 Si, ribbon, EFG, metallographic techniques 4-35816
 Si-C thin films, hydrogenated, plasma-enhanced CVD grown, microhardness 4-2488
 SiC, dense sintered, joining by hot-pressing, bending strength (*Japanese*) 4-7409
 SiC fibres, prep. and mech. props. 4-26019
 SiC, fused densified, elastic moduli, hardness and thermal expansivity (*Japanese*) 4-40847
 SiC, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 Si₃N₄ coatings, RF plasma deposited, energy dispersive X-ray anal. 4-2481
 β-Si₃N₄, dense, room temp. microhardness, effect of densification aid conc. changes 4-12145
 Si₃N₄ films, hollow cathode discharge in plating, props. 4-16344
 Si₃N₄, hot pressed, damage penetrations at elongated machining grooves 4-57319
 Si₃N₄, hot pressed, sintering behaviour, effect of lanthanide oxides additions 4-25933
 Si₃N₄ sputtered coating on stainless steel, adhesion and mech. props. 4-7603
 Sm₂(Co,Cu,Fe,Zr)₁₇ alloy, coercivity depend. on mag. processing 4-35738
 Sm₂(Co, Cu, Fe, Zr)₁₇-type permanent mag. alloys, hardness rel. to coercivity 4-30223
 TaB₂, microhardness in homogeneity ranges 4-40948
 TaB₂, Vickers microhardness, alloy composition depend. 4-11225
 Tb-Pb-S system, PbS based solid solns., microhardness study 4-50524
 TeO₂-B₂O₃ system, glass form., phase equilib., props. and struct. 4-34412
 Ti alloys, microstruct. characterisation by acoustic microscopy 4-21408
 Ti alloys, phase transitions and ageing, plastic deformation effects (*Russian*) 4-35658
 Ti/Ni microlaminate composites, struct.-prop. relationships 4-50650
 Ti-Al-Mo-Cr (7.5, 2.5, 1.8 wt.%), decomp. of metastable β-phase, effect of thermal treatment 4-40744
 Ti-N films, reactively sputtered, microstructure, phys. props., TEM study 4-2480
 TiB₂-TaC system, sintering kinetics, struct. and props. of heterophase materials 4-7406
 TiC, grinding material, mech. props., prep., appls. (*Polish*) 4-3246
 TiC, ordered, microstruct. and mech. props. (*Ukrainian*) 4-40932
 TiC-Ni-B, slurry coatings applic. using conc. solar energy 4-7643
 TiC_x, sintering, mech. props. rel. to nonstoichiometry (*Japanese*) 4-40926
 TiN coatings, high rate reactive sputtering 4-3073
 TiGaSe₂-TiGaTe₂, phase equilibria, microhardness, density, dark cond. 4-51641
 TiGaSe₂-TiInS₂, microhardness, density, dark cond. 4-51641
 UO₂, neutron irradiated, microhardness meas. 4-48657
 U-Al, high temp., oxidation, 800-993K, metallography and microhardness (*Japanese*) 4-46651
 W, failure in zone affected by electric discharge 4-35695
 W, powders processed by chemically activated sintering, mech. props. 4-7389
 WC-Ni-B, slurry coatings applic. using conc. solar energy 4-7643
 ZnAs₂-CdAs₂, DTA, X-ray phase anal., metallography, hardness meas., melting diagram 4-55963
 Zr O₂, transform. toughened ceramics, compressive surface stresses introduction technique 4-16411
 Zr-Nb (2.5 at.%), microstruct. and hardness, cyclic heat treatment effects (*Russian*) 4-25979
 ZrC-NbC(TaC)(WC) solid solution, creep rate study 4-57285
 ZrN coatings, high rate reactive sputtering 4-3073
 ZrSiO₄ powder, plasma sprayed coating, thermal cond. (*Slovak*) 4-46639
- hardness testing**
 electroacoustic method 4-3317
 glass, microplasticity, ductile behaviour mechanism indentation test obs. 4-12105
 instrument for automatically recording the impression diagrams of indenters 4-46688
 metals, sintered, indenter angles in hardness test 4-46670
 scratch tester, mounted in situ in an SEM 4-35786
 Shore hardness testers, new All-Union State Standard for checking means and methods 4-7677
 standard machines, from National Institutes of Metrology 4-3366
 steel, tool, cold work, interchangeability of hardness and strength values, tempering and quenching effect (*German*) 4-51799
 Al₂O₃, hardness testing, in air and simulated body environment 4-21314
 TiB₂, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
 TiC, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
 TiN, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
- harmonic analysis**
 see also waveform analysis
 atmospheric temperature, non-sinusoidal seasonal vars. in mid-latitudes 4-52841
 magnetic hysteresis loops, harmonic anal. 4-30213
 Venus gravity field, Pioneer Venus Orbiter navigation results 4-53073
 vertical deflections determ. using spherical harmonics/gravimetric data for Greece 4-12745
- harmonic generation**
 see also optical harmonic generation
 acoustic finite-amplitude focusing source, sound field 4-19639
 finite amplitude sound beam, nearfield, distortion and harmonic generation 4-55255
 nonlinear scattering from plasma column, theory 4-1927

harmonic generation continued

- nonlinear scattering from plasma column 4-1928
- semiconductors, nonlinear current density in DC mag. field, higher harmonic generation 4-25388

harmonic oscillators

- absorption spectra, line shapes from direct calc. of dissipated power 4-54661
- accidental degeneracy in energy levels and symmetry group 4-27352
- anharmonic, eigenvalues by series soln. method 4-27329
- anharmonic, energy levels and wavefunctions determ. 4-32077
- anharmonic, nonautonomous, transitions in stochastic behaviour 4-27292
- anharmonic and harmonic oscillators, path integrals without lattices 4-47920
- anharmonic Duffing's oscillator, chaotic motion 4-36918
- anharmonic oscillator, pot. well, link between period and height (*French*) 4-13527
- anharmonic oscillator model 4-36926
- anharmonic oscillator moving through random radiation and classical EM zeropoint field, Einstein-Hopf drag 4-48405
- anharmonic oscillator with negative harmonicity, large-order expansion of imaginary part of Stark effect 4-5168
- anharmonic oscillators, 1-dimens., two-step approach, two well appl. 4-47921
- anharmonic oscillators, analytical expressions for eigenvalues 4-22620
- anharmonic oscillators, coupled, with N degrees of freedom, Painleve property 4-53472
- anharmonic oscillators, exact relations between matrix elements and approx. methods 4-22626
- anharmonic oscillators, partition functions, variation-perturbation technique 4-126
- anharmonic oscillators, vibr. spectroscopy, isotopic substitution as symmetry operation 4-38251
- anharmonic oscillators, vibrational relaxation 4-17749
- anharmonic oscillators and double wells, closed-form global approximants for eigenvalues 4-47923
- anisotropic mol. oscillators, powder averages for neutron spectroscopy 4-38343
- band-matrix Hamiltonians for Schrodinger eigenvalue problem, doubly anharmonic oscillators 4-8772
- Birkhoff-Gustavson normal form, algebraic quantisation 4-22582
- Bogoliubov coeffs., action principle 4-4246
- Borel summability of unequal double well 4-32065
- charged, space-translation method and gauge-invariant formulation comparison 4-22617
- classical doubly anharmonic oscillator, free and forced oscils. 4-8760
- classical force acting on quantum oscillator 4-42753
- coherent state oscillator, radiational friction emission 4-44080
- colour confining potentials, spontaneous breaking of chiral symmetry 4-48431
- coupled oscillators, eigenvalues for Schrodinger eqn. 4-36920
- coupled oscillators. adiabatic approx. calcs. 4-4247
- damped harmonic oscillator, quantum solns. 4-22557
- deep inelastic heavy ion collisions, proton and neutron asymmetries, quantum treatment 4-27898
- Dirac eqn., even power potential soln., eigenenergies and Regge trajectories, heavy quark composite spectroscopy 4-4531
- dissipation from adiabatic approx. 4-36961
- dissipative linearly damped oscillator, Bateman's Hamiltonian 4-42745
- double-well anharmonic oscillator, energy levels calc. 4-4265
- energy eigenstates, coherent states and squeezed coherent states 4-47922
- energy uncertainty in the time-dependent coherent state 4-47915
- few-particle Schrodinger eqn., exact analytical solns., spatially symmetric states 4-22612
- forced harmonic and damped linear oscillators, state space and evolution operators construction 4-42709
- forced harmonic oscillator, propagator of charged particle in const. mag. field 4-47897
- Franck Condon factors and ladder operators, recurrence rels. and closed formulas 4-33452
- generalised anharmonic oscillators, perturbative soln. 4-36936
- gravitational wave detector, quantum nondemolition measurements via quantum counting 4-8807
- H-theorem for the harmonic oscillator in stochastic electrodynamics 4-27694
- heavy-ion collisions, dissipative effects in model of two coupled oscillators 4-27899
- Heisenberg chain, continuous, as constrained harmonic motion, inverse scatt. and Schrodinger eqn. equivalence 4-42749
- hyperons nonleptonic-decay matrix elements in bag-inspired harmonic oscillator model 4-32687
- isotropic anharmonic oscillators, energy eigenvalues calc. using phase-integral quantisation rule 4-4264
- matrix elements of x^n and $e^{m_1 x}$ in harmonic oscillator basis 4-22611
- molecule in strong quasi-monochromatic light, quasi-energy calcs. 4-23937
- Morse oscillator, laser excitation, semiclassical and quantum mech. aspects 4-33475
- multiplicative stochastic eqn., exact soln. for evolution operator 4-22679
- nonconservative damped continuous system, harmonic forced motion with nonpotential follower forces 4-38748
- noninteracting damped oscillators, inverse Lie and Lie admissible approaches 4-42744
- nonisotropic harmonic oscillator, geometric quantisation 4-36954
- nonlinear classical oscillator ensemble, statistics in external harmonic force field 4-53574
- otically perturbed, renormalised series technique anal. 4-32078
- one-dimensional, dynamic correl. functions, Monte Carlo algorithm 4-4815
- one-dimensional anharmonic oscillator, in thermal equilb., anal. probability distrib. function 4-27321
- one-dimensional tangential oscillator, noninteracting in pot. well of tangential shape, sp. ht. 4-4185
- particles interacting by oscillator law, Sturm representation of Green's function 4-53549
- partition function, variationally optimised canonical density matrix 4-27403
- perturbed energies, analytical expression 4-33478
- predictive relativistic mechanics, solvable model quantisation, rel. two-particle oscillator 4-53477

harmonic oscillators continued

- quantisation through wave-packet coupling between classically allowed and forbidden regions 4-32085
 - quantum Brownian motion, path integral approach 4-17832
 - quantum mech., Wigner representation 4-32090
 - quantum mechanical, interacting with environment, non-perturbative soln. 4-32076
 - quantum mechanical linearly damped forced harmonic oscillator soln. 4-32072
 - quantum nonlinear oscill., excitation by varied freq. 4-8786
 - quartic anharmonic oscillator and Zeeman effect, scaling, renormalisation and accuracy of perturbation calculations 4-54588
 - quartic oscillator, complex WKB method, 1-dimens. Schrodinger eqn. treatment 4-22601
 - relativistic canonical commutation relations and harmonic oscillator model of elementary particles 4-18213
 - relativistic harmonic oscillator, dynamical symmetry group, Infeld-Hull factorisation method 4-53541
 - relativistic harmonic oscillator quark model with unequal quark masses 4-43329
 - Schrodinger eqn. with Gaussian pot., eigenvalues and eigenfunctions 4-36932
 - single-spin model coupled to harmonic oscill., time evolution, Mori method 4-17719
 - singular perturbation problems, stretching matching technique 4-116
 - specific heat for harmonic chains with random masses, low freq. expansion 4-53640
 - stochastic electrodynamics, harmonic oscillator zero-point field system 4-13525
 - stochastic electrodynamics, perturbed harmonic oscillator zero-point field system 4-18145
 - stochastic electrodynamics, zero-point field 4-13524
 - stochastic processes, quantum dynamical evolution operator averaging, soluble model with coloured noise 4-53510
 - stochastic quantisation, variational solutions 4-27347
 - time dependent Hamiltonians, bound and propag. states 4-113
 - time-dependent, linear and quadratic invariants 4-4250
 - time-dependent forced harmonic oscillator, exact propagator derivation 4-8785
 - time-dependent problems, stationary formulation 4-22606
 - triple-well anharmonic oscillators, eigenvalues for Schrodinger eqn. middle well 4-32075
 - two level system interaction with bath, dynamics, variational calcs. 4-53639
 - under-damped balance, centre of swing estimation formulae 4-8876
 - H atom bound states, Schrodinger eqn. reduction to coupled harmonic oscillators wave eqn. 4-32074
 - H nonrelativistic atom, connection with harmonic oscillator, continuum case 4-22614
 - $I_2 + \text{He} (\text{Ar})$, energy transfer from high vibr. states, scaling behaviour 4-38298
- harmonics**
see also harmonic analysis
 shear flows, piecewise linear velocity profile, induced motions 4-5903
 thermoelastic harmonic waves, integral representation and uniqueness theorem 4-5827
- Hartmann lines** *see Luder's bands*
- Hartree calculations** *see SCF calculations*
- Hartree-Fock approximation** *see HF calculations*
- Hartree-Fock calculations** *see HF calculations*
- Hasiguti relaxation** *see anelastic relaxation; dislocation damping*
- Hastelloy** *see iron alloys; molybdenum alloys; nickel alloys*
- He** *see helium*
- headphones**
see also earphones
 electret electroacoustic transducers, stability anal. 4-28959
 electro-acoustical parameters meas. techniques (*Russian*) 4-44320
- health effects of radiation** *see biological effects of radiation*
- health hazards**
see also biological effects of radiation
 air activation by high-energy medical accelerators, ^{15}O and ^{13}N prod. 4-26525
 big nucl. accidents probability and consequences 4-48702
 biological effects of magnetic fields, counter-measures (*German*) 4-41566
 bone, human radionuclide conc. data collation 4-3635
 cigarette smoke radioactivity rel. to lung cancer 4-47034
 coal power plants, escaping radioactivity 4-52236
 concentration in Indian toothpastes, fission track techniques 4-12421
 deaths, quantified risk assessment in nuclear industry 4-47084
 dioxin management at Times Beach, Missouri, USA, implications for low-activity nucl. wastes 4-18813
 dipole antenna near field, power absorbed distribution inside sphere simulating human head (*Japanese*) 4-21732
 electric-field exposure of persons using video display units 4-57934
 elephantiasis, correl. with thermoluminesc. of volcanic soil 4-12905
 environmental pathways of radioactivity to man 4-47083
 environmental research for radionuclide distrib. and behaviour, future requirements 4-28209
 Ethiopian soil, exoemission, rel. to endemicity of non-filarial elephantiasis 4-3593
 evaporator explosions in nuclear waste and Pu-concentration processes, possibilities (*German*) 4-4971
 eye, clinical treatment, pot. risks of photo damage (*Italian*) 4-52420
 eye safety in fibre optic systems 4-8126
 fallout from Nevada nuclear tests, rel. to childhood leukaemia in Utah 4-47043
 fluorescent lighting, skin cancer and malignant melanoma 4-52388
 fusion power station, nonradiological occupational hazards, chem. hazards 4-54388
 fusion power station, nonradiological occupational hazards, nonionising EM field hazard 4-54389
 fusion reactor structural radioactivity accidental release, relative public health effects 4-9560
 gamma radiation from camera lenses due to ^{232}Th , annual dose assessment 4-47075
 gamma-ray meas., calibration at technical meas. centre, status 4-23199
 gamma-ray skyline from an on-site radwaste storage facility 4-23215
 hot-cell windows, engineering for radiation protection 4-28233

health hazards continued

- human body behaviour to electric shocks, standards (Portuguese) 4-36090
human exposure to Rn decay products inside UK dwellings, Royal Commission memorandum 4-26538
Japanese rice-field surface soils, ^{241}Am , ^{137}Cs and $^{239/240}\text{Pu}$ 4-31129
laser applications in medicine, safety standard 4-21761
laser safety 4-19467
long-term Chalk River employees, updated follow-up 4-52406
microwave radiant energy potential as heat source for human comfort 4-26478
microwaves applications in industry, science, medicine and consumer services, critical review 4-21768
milk, radionuclide concs., negligible contribs. of emissions from nuclear installations 4-3636
MUSEMET radioactivity release model, use in risk studies, comparisons (German) 4-5051
natural radiation survey by NRPB, pilot study report 4-26536
near-surface radwaste burial trenches, respiration of radioactive gases, 10 CFR 61 4-23239
NMR imaging, artifacts and hazards due to metal implants and cardiac pacemakers 4-52432
nonionizing EM radiation, protection of human body (Slovenian) 4-47081
nuclear industry, radiation and its control 4-43667
nuclear materials transportation within fuel cycle, radiological impacts, generic eval. 4-33212
nuclear power plants, USSR, radiation safety, dose limits, emissions, γ -doses 4-37857
nuclear power plants, USSR, radiation safety of personnel and the public 4-37858
nuclear power station radiation protection and health risks (Hungarian) 4-23436
nuclear radiation, control and effects on biological systems, book 4-42615
nuclear reprocessing and waste facilities, probabilistic risk anal. with dynamic accident progress (German) 4-4983
nuclear research reactor buildings, air radioactivity due to gaseous wastes (Hungarian) 4-52504
nuclear safety technology and public acceptance (German) 4-9361
occupational radiation exposure at nuclear power plants in Japan and the United States 4-33178
occupational radiation exposure reduction in nuclear power plants, cost effectiveness of ALARA principle 4-33177
ocular hazards of low-power lasers, functional approach to assessment 4-47031
off-site emergency preparedness training at nuclear facilities 4-23395
particulate air concentrations, normalised, observed and predicted data comparison 4-21601
public protection strategies for accident management at nuclear plants 4-23396
radiation exposure levels, biological bases, damage mechanisms 4-52393
radiation exposure levels of laser standards, threshold injury data 4-52394
radioactive chemical waste management, hazard identification and safety eval. 4-18528
radioactive material, accidental releases, nonlinear dose-response relationships for later health effects, sensitivity analysis 4-26481
radioactive materials transportation, radiological hazards risk assessment methodologies 4-33211
radioactive waste, low activity, on-site disposal, public health risk 4-14064
radioactive waste disposal in space, health risk benefit assessment 4-21610
radionuclide releases to rivers, exposure error anal. 4-21598
radwaste disposal facility radioactivity release, potential population exposure via food chain (German) 4-4974
RF dielectric heaters, occupational exposure in industry 4-52390
risk aversion in energy production and conservation 4-17673
risks of energy technologies 4-7794
sanitary landfills, radionuclides behaviour 4-46925
skeleton, rat, comparative retention of bone-seeking radionuclides 4-3610
spent fuel transportation, safety against sabotage 4-37799
steam generator replacement project, health phys. program 4-33187
symphony orchestra musicians, risk to hearing 4-26458
TAKANAWA-1 D-D ICF reactor, radiological aspects 4-14198
Three Mile Island reactor auxiliary building, aerosol sample characterisation 4-18732
tritiated water vapour exchange in sunflower, environmental influences 4-3634
Tritium Systems Test Assembly, safety anal. report 4-9562
TRUPACT radwaste transport system, A_2 determ. for radionuclide mixture 4-33213
uranium mill tailings, health effects, risk estimation 4-18522
uranium mill tailings site, radiological meas., stat. decisions, sampling pattern influence 4-18808
UV radiation Australian exposure standard, hazards to eyes and skin 4-18222
UV solar radiation at Penang, Malaysia 4-12969
WIPP, brine release through TRU waste area by human intrusion, radiological consequences 4-28037
X-ray equipment, calibration technique for health risk reduction (Swedish) 4-8081
X-ray JF-1 crystal analyser, laser aligner for human injury prevention (Chinese) 4-58018
Co pollution, book 4-42635
 ^{60}Co in EDTA, mobility in radwaste burial site, lab. and field eval. 4-28029
 ^{137}Cs fallout, distrib. in Hawaii, soils and lavas obs. 4-46905
 ^{125}I , accumulation in thyroid glands of laboratory workers 4-47085
 ^{125}I intakes in radiopharmaceutical prod. workers, determ. by thyroid radioactivity meas. 4-52480
 ^{125}I radiotoxicity reexamination for radwaste disposal rule 10 CFR 61 4-28032
 ^{131}I measurement in BWR exhaust air, radioiodine fallout (German) 4-7911
 ^{131}I removal under reactor accident conditions using active charcoal (German) 4-7912
Ni-metallised monofil cloth for protection in range 100 MHz to 100 GHz (German) 4-52498
 ^{210}Po distribution in uranium mill circuits 4-18807

health hazards continued

- Pu activity densities of airborne and surface soils 4-31126
Pu in Nagasaki soil, discrimination of Pu due to 1945 atomic explosion from global fallout Pu 4-31130
Pu shipping package design, US Federal Regulation changes 4-37880
T monitoring requirements of fusion reactors and Ontario Hydro experience 4-9599
U and its decay products on contaminated surfaces, obs. 4-52499
U, extraction from urine, radiochemical method 4-12710
U mill tailings, radiation control 4-23198
U tailings, reduction of ^{222}Ra emanation using chemical encapsulation process 4-18805
 $^{234}\text{U}/^{238}\text{U}$ activity ratios in Hiroshima 'black rain' soil 4-31128

health physics see dosimetry; health hazards; radiation monitoring; radiation protection

hearing

- see also bioacoustics; ear; hearing aids; speech
absolute pitch and pure tone identification 4-47008
acuity in a Norwegian standard population 4-26453
aid effective gain meas. in human auditory passage (German) 4-41647
airborne US noise, loudness 4-52364
alarm systems for the profoundly deaf, technical aspects (French) 4-8138
applied psychology laboratory, visual and acoustical perception stations, microprocessor-based systems 4-52550
auditory brainstem response, freq. information evoked by tonal transients 4-21675
auditory nerve, speech coding of consonants 4-57897
auditory nerve, speech coding of voiceless fricative consonants 4-57896
auditory nerve, speech coding of vowel-like sounds 4-57894
auditory nerve, speech coding of vowel-like sounds 4-57895
auditory nerve, speech coding of vowels in background noise 4-57898
binaural unmasking associated with a moving auditory pattern 4-3569
bone-conduction measurement and calibration using the cancellation method 4-8022
brainstem auditory evoked response, human, effect of broadband noise 4-12597
brainstem auditory evoked response, human, effect of broadband noise 4-12598
brainstem potentials and EEG spectra, simultaneous meas. 4-26543
brainstem response, effects of changes of stimulus intensity and sensory acuity 4-16882
brainstem response in patients with sensorineural hearing loss and abnormal stapedius reflex thresholds 4-52361
brainstem response to stimulus repetition rate and freq. 4-52357
brainstem responses generation, effect of lesions 4-16881
brainstem responses generation, effect of surgical section of trapezoid body 4-16880
brainstem responses generation, effects of local anaesthetic injection 4-16879
central lateral inhibition search in humans 4-47004
cochlea in cat, histological evaluation of damage, basilar membrane mechanics meas. 4-47003
cochlear hearing-impaired and normal listeners, factors influencing masking level difference 4-57908
cochlear inner hair cells, intracellular recordings, crossed olivocochlear efferents stimulation effects 4-16888
cochlear tuning, micromech. contrib., tonotopic organisation 4-26450
complex tonal signals, pitch and pitch salience extraction algorithms 4-47009
confusion matrices, three-mode principal component analysis based on identification of Dutch consonants 4-31233
consonant perception in reverberation 4-44308
constant stimuli method optimisation for freq. difference limen determ. (German) 4-41531
deafness correction, metrological aspects (French) 4-8021
dolphins, receiving beam patterns and directivity indices meas. 4-36136
Dutch speakers' voice and pronunciation, perceptual qualities analysis 4-31234
ear protection in noisy environments 4-10493
eardrum sound press., alteration by AC stimulation of scala media, gerbil obs. 4-26451
electric excitation of skin for transmission of speech information for the deaf (German, English) 4-41652
envelope frequency discrimination 4-21670
event-related potential in monkeys, task-relevant late positive component 4-47011
evoked potential abnormalities in myotonic dystrophy 4-26449
evoked potentials, early and middle latency, freq. specificity 4-26448
evoked potentials, late, occurrence without brainstem pots. 4-16878
evoked potentials estimation criteria, statistical point of view 4-7975
evoked response, digital processing (Japanese) 4-8059
evoked response, early, effects of click duration on latency 4-57905
examination effects in audiometric testing of children 4-26457
foetal hearing development in humans 4-26452
forward masking, additivity anal. 4-21668
frequency discrimination and signal detection in band-reject noise 4-21669
frequency patterns of temporary threshold shift 4-12593
harmonics-to-noise ratio and psychophysical measurement of the degree of hoarseness 4-57910
human auditory brainstem responses, freq. specificity for pure-tone masking profiles 4-57899
industrial noise, sound press. weighting and hearing damage (German) 4-28919
infant discrimination of five-voiced stop consonants 4-47012
inherited LF hearing loss, a new mixed conductive/sensorineural entity 4-52362
intensity discrimination at high freqs. in presence of noise 4-3568
intensity discrimination at high level as function of freq. and level 4-16884
level difference thresholds meas., rel. to early detect. of acoustic neuroma (German, English) 4-41534
loudness, effect of temporal post-masking 4-36135
loudness estimation and intensity discrimination, neural counting model 4-3562
loudness magnitude estimation, hearing aid selection appl. 4-57903
masking, frequency effects in backward masking 4-57901
masking, sinusoidal and noise maskers in simultaneous and forward masking 4-57900

hearing continued

- masking of brief test-tone pulses by tone-burst with abrupt switching transients (*Japanese*) 4-16887
- microwave auditory effects (*Japanese*) 4-3566
- middle-ear conditions, automatic classification using struct. simulation 4-57969
- minicomputer assisted audiometry system, design 4-41640
- modelling the auditory field in perceptive terms (*French*) 4-8020
- monaural and binaural detection, effect of random intensity fluctuation 4-12596
- monkey, neural mechanisms of pattern vision (*Japanese*) 4-41526
- music, freq. response limen meas. (*Japanese*) 4-41536
- music, intonation sensitivity for traditional and nontraditional chords 4-55283
- musical sounds hearing 4-57893
- neural counting model of auditory system applied to response of individual neural fibres 4-41535
- neural model of binocular brightness and binaural loudness perception, nonlinear sensory input summation 4-41520
- neural tuning reduction by altered activity patterns during development in mice 4-3567
- neuropile of bushcricket *Tettigonia viridissima*, tonotopic organisation 4-8023
- noise, fluctuating, annoyance levels, influence of temporal factors 4-19654
- noise, loudness, annoyance and noisiness growth rates determ. 4-36134
- noise, temporary effect on auditory function in man 4-26461
- noise effects, temporary threshold shifts induced by white noise (*Japanese*) 4-47010
- noise exposure, predicted and unpredicted temporary threshold shift 4-26455
- noise-exposed workers, acoustic neuroma identification 4-26456
- noisemaking toys, meas. and appl. in infant hearing assessment 4-41532
- nonspeech signals, infant's discrimination of rapid spectrum change duration 4-16889
- nonspeech sound discrimination, integration of spectral and temporal cues 4-21667
- normal and hearing impaired listeners, freq. resolution and discrimination 4-12595
- normal hearing and cochlear-impaired listeners, freq. resolution and off-freq. listening 4-12592
- optic tectum of barn owl, auditory map alignment by early auditory experience 4-31232
- perception thresholds of delayed sound by single-channel transmission and binaural hearing (*German*) 4-31229
- physical bases of perception 4-57818
- pigeon, auditory threshold determ. by heart-rate conditioning 4-52359
- pitch analysis, simulation using DWS pitch meter 4-21671
- pitch estimation, minicomputer based system for acoustic stimuli synthesis and analysis 4-24310
- presbycusis listeners, loudness perception 4-57904
- primary auditory cortex, cat, geometry and orientation of neuronal processes 4-8024
- protector evaluation in audiometric testing room 4-21824
- psychophysical tests, forced choice, bias reduction by PEST procedure 4-16883
- receptor physiology, review (*Japanese*) 4-21676
- rooms, sound localization by human listeners 4-16885
- sensorineural hearing loss, temporal integration of forward masking 4-57902
- sensorineural hearing loss and the discrimination of vowel-like stimuli 4-47006
- sentence identification in noise and hearing-handicap questionnaires 4-26460
- sentence intelligibility in quiet and noise in aged listeners 4-10508
- shipyard workers, hearing deterioration, serial audiometry over 4 years 4-26459
- single unit responses loosely time locked to stimulus, detection methods 4-47002
- sound production, by human ear, as means of hearing 4-31231
- spatial processing of sound, general model, C music sound synthesis 4-8019
- speech, vowel-type stimuli with triangular spectral envelope, phonetic interpretation 4-31237
- speech contrasts, auditory perception by subjects with sensorineural hearing loss 4-57907
- speech intelligibility, traffic noise effects for normal listeners and impaired hearing listeners 4-1554
- speech nasalisation, auditory and visual feedback using a modified accelerometer method 4-12722
- speech perception, trading relations among acoustic cues in speech perception 4-31236
- speech perception in noise, test standardisation 4-57911
- speech reception threshold in noise, clinical meas. 4-52363
- stereocilia of sensory cells in normal and hearing impaired ears 4-36137
- symphony orchestra musicians, risk to hearing 4-26458
- temporal gap resolution in narrow-band noises 4-47007
- temporal psychosensory discrimination apparatus (*French*) 4-8156
- temporary threshold shifts after onset and offset of moderately loud low-frequency maskers 4-47005
- testing, noise attenuating characteristics of TDH-39 earphones with MX-41/AR ear cushions 4-19655
- tests, mutual information estimation from limited expt. data 4-21666
- threshold and temporary threshold shift, test-retest reliability 4-26454
- thresholds with direct bone cond. vs. conventional bone cond. in hearing aid patients 4-52360
- tinnitus and neural activity 4-52358
- tinnitus masking compared to pure tones masking 4-57906
- tonal confusions in Thai patients with sensorineural hearing loss 4-57913
- two-channel acoustic signals, sound image quality and cross-correlation coeff. 4-21672
- upward shifts in the masking pattern with increasing masker intensity 4-12594
- voice, perceptual study in radiotherapy patients after larynx irradiat. 4-52365
- voice onset time stimuli, perception, sine-wave analogs 4-36140

hearing aids

- audioprostheses, energy sources comparison (*French*) 4-8147
- audioprostheses, electronic techniques, review (*French*) 4-8146

hearing aids continued

- audioprostheses, quantitative approach to carrying modality in young adults 4-8148
 - audioprostheses and acoustic information in profound deafness, conf., Besancon, France (March 1983) 4-4141
 - audioprostheses in France, evolution and prospects (*French*) 4-8144
 - audioprosthesis, acoustic information transmitted 4-8149
 - audioprosthesis, activity of (*French*) 4-8145
 - cochlear implant, multi-channel hearing prosthesis for profound-to-total hearing loss 4-47103
 - cochlear implants, first results of the Lyonaise school (*French*) 4-8150
 - directional characteristics assessment 4-41653
 - directional hearing aid characts, assessment (*German, English*) 4-17020
 - earmould modifications for wide-bandwidth, flat response hearing aid coupling systems for use in audiological measurements 4-41533
 - effective gain meas. in human auditory passage (*German*) 4-41647
 - electrical stimulation at the wrist as an aid for the profoundly deaf 4-21848
 - electroacoustics modelling 4-47102
 - induction field wireless amplifier, IC microphone switch 4-52533
 - interactions between hearing aid and patient in the individual fitting situation 4-52532
 - model for predicting hearing aid performance 4-26552
 - prostheses, ideal, artificial acouture head (*French*) 4-8153
 - prostheses, miniaturisation of electronic components (*French*) 4-8152
 - prostheses, new homologues (*French*) 4-8151
 - research in sensory aids, present state 4-52529
 - review of application of high technology 4-41651
 - selection, rel. to loudness magnitude estimation 4-57903
 - thresholds with direct bone cond. vs. conventional bone cond. in hearing aid patients 4-52360
 - wrist-worn sensory electrical substitution aid for the profoundly deaf 4-8143
- heart** *see* **cardiology**
- heart valves** *see* **cardiology; prosthetics**
- heat**
- see also* **heat transfer; heating; latent heat; specific heat; temperature; terrestrial heat; thermal variables control; thermal variables measurement; thermodynamic properties; thermodynamics**
 - Cu film, thermal effects, optical study 4-51231
- heat capacity** *see* **specific heat**
- heat conduction**
- see also* **thermal conductivity**
 - abrasive grains of arbitrary form, math. models of temp. field 4-57352
 - axisymmetric bodies of arbitrary shape, heat cond. problems soln. using Z-transform method 4-33897
 - bare electric conductors, heat transfer coefficient analysis (*Polish*) 4-55310
 - building heat transmission losses reduction, theory and measures (*German*) 4-19701
 - buried amorphous layers, ion implanted, thermal cond., laser probe studies 4-56104
 - casting solidification process 4-57210
 - components local heating conditions optimisation, algorithm development 4-57257
 - composite straight fin, transient response 4-33910
 - composite superconductors, stabilised, minimum propagating currents calc. 4-11632
 - conducting body, optimal insulation distrib. 4-33898
 - cylinder, hollow, with moving isothermal boundary, temp. field and residual stress calc. 4-57258
 - cylinder, solid, temp. field in sprayer quenching 4-57256
 - cylinder, traction-free, subjected to arbitrary axisymm. heat flux, distortion 4-14889
 - cylindrical coordinate system, coupled thermal stress problems, general treatment 4-38724
 - cylindrical elec. conductor, steady state temp. distrib., non-linear effects 4-5778
 - desiccant film flowing over roof, heat flux red. 4-21586
 - developing flow and transport above a suddenly heated horizontal surface in water 4-38815
 - diffraction problem for heat conduction in layered media 4-28961
 - elliptic plane problems, equilibrium finite element method appl. 4-28965
 - equations of transfer, 1D integral system, division of viscous and nonlinear parts (*Russian*) 4-4364
 - finite element techniques appl. to 1D system containing absorbing or emitting medium 4-33915
 - fluctuations near convective instability, kinetic theory 4-38821
 - fluidised bed, air, heat transfer, flow visualisation on flat surface 4-38830
 - gray dispersed medium, heat conduction and radiation, anisotropic scatt. effect 4-44344
 - Green function asymptotic coeffs. of heat cond. eqn., computer calcs. (*Russian*) 4-44338
 - heat transfer numerical props., conf., College Park, USA, Sept. 1981 4-31973
 - helium II, transient heat transport 4-45437
 - hyperbolic heat cond. eqn. soln. 4-33896
 - ideal gas mixtures, entropy, wave speed, frame depend., kinetic theory 4-34214
 - inhomogeneous half space, finite wave speeds, thermal transients 4-33895
 - integration of heat eqn. for linearly varying heat conductivity (*Rumanian*) 4-28962
 - inverse heat conduction problems pot. theory (*Polish*) 4-49652
 - iterative soln. procedure evaluation 4-33900
 - Joule heating of conducting medium, steady-state temp. soln. 4-8689
 - Kantorowicz' method applied to solve the conductivity equation (*Polish*) 4-10521
 - laser pulses with high-intensity leading spike, heating of heat-conducting targets 4-10346
 - liquid layers heated underneath, thermal and thermohaline instability 4-34078
 - longitudinal fluted tubes heat transfer coefficient (*German*) 4-38695
 - mass and heat transfer of reacting particles with flow, nonlinear boundary-value problems 4-38913
 - mass-lumping numerical models of three-dimensional heat conduction 4-44335
 - media with thermal memory, heat transfer 4-24334
 - metallic grid packet, woven, heat transfer coeff., geom. model, porosity and specific surface (*Russian*) 4-44333

heat conduction continued

- moving boundaries in heat conduction and mass diffusion, math. anal. 4-48050
- multilayered porthole, steady-state radial temp. distrib. 4-28963
- multilayered slabs, transient heat flow root-finding procedure 4-1572
- natural convective heat transfer on an unheated vertical plate attached to an upstream isothermal plate 4-38688
- nonlinear heat cond. with absorpt., space localisation and extinction in finite time 4-44588
- nonlinear optimal control 4-33909
- nonlinear transfer processes, localised structs., self-insulation 4-33921
- one dimensional heat conduction problem, variational embedding solutions 4-33911
- parabolic partial differential eqns., numerical soln., explicit method 4-34090
- phase transition boundaries, moving, nonlinear heat transfer, reverse problems 4-33907
- plane interface between condensed material, sublimation, supercritical struct. form. by laser, heat conduction 4-24991
- plates and infinite prismatic bodies, temp. distrib., time-varying heat-transfer coeff. 4-24335
- plates with circular holes, thermal elastoplastic anal. 4-49717
- polymers, crystallisation under shear, kinetics, meas. methods 4-6303
- regions with circular holes, steady heat conduction, boundary integral method 4-1569
- ribbed heat exchange surface, design of input part (Russian) 4-55312
- semiconductors, bounded, heat cond. 4-6575
- semitransparent material, heat transfer during nonstationary radiative heating, explt. verification of math. model (Russian) 4-44332
- shells, thin, deformable, with finite shear stiffness, thermodiffusion, variational eqns. 4-10554
- simulation of a simple reacting gas flow with an upwind scheme 4-49889
- solar pond as a collector and storage system, heat flow model used 4-7821
- solar water heater heat absorber efficiency, effect of thermal resistance of screen/heat-removing channel system 4-31115
- solids, heat and elec. cond., thermodynamic approach 4-17864
- stability of two-dimensional quasiharmonic dissipative structures 4-16658
- steam-water two-phase flow, heat transfer calc., bubble dynamics 4-34101
- Stefan problem, two-phase, near stationary soln. (Ukrainian) 4-38687
- temperature field obs., sp. heat, thermal cond. and heat transfer coeff. determ. 4-14874
- theory, solutions of problems 4-10522
- thermal blooming, time depend., in axial pipe flow 4-10382
- thermal contact in transient state, equivalent wall scheme (French) 4-38686
- three dims. coordinate transformation method 4-33901
- transient conduction forced convection anal., mixed time integration scheme 4-33899
- turbulent, from mag. field percolation 4-28601
- two dims. composite slab, transient conduction, temp. mode development 4-1570
- two dims. composite slab, transient conduction, temp. mode interpretation 4-1571
- two-dimensional composite substance, thermal transfer, point successive over relaxation method 4-10520
- two-phase media, diffusion and conduction, multiscale anal. 4-29149
- unsteady problem dual variational principles 4-44334
- variational embedding technique for conduction with phase change problems 4-33912
- viscous compressible heat conductive liqs., bubble oscillations, acoustic wave emission 4-1773
- volume heat-trap solar collector using fine-particle semitransparent liquid suspension, one-dimensional heat transfer 4-26317
- water supercooled solidification process, numerical anal. (Japanese) 4-15622
- Al-Si, LM6, hollow plate shaped castings, solidification times in sand moulds 4-14871
- SrZrO₃, thin ceramic layers, heat cond. coeff. meas. 4-2387

heat content *see enthalpy***heat convection** *see convection***heat dissipation** *see cooling***heat engines**

- chemical process networks, design process for equipment selection and process matching 4-31111
- Danish villages alternative future energy supplies, pilot project 4-57752
- gas turbines, low energy, solar energy conversion modelling (French) 4-31113
- gas-fired heat pumps developments (Dutch) 4-36024
- irrigation pump powered by solar-energy harnessing system, design optimisation 4-26309
- liquid-ZZ 4-31114
- multi-vane expanders as prime movers for low-grade energy organic rankine-cycle engines 4-52187
- plate-fin heat exchangers fin profiles selection 4-21565
- process networks, criteria for placement of heat engines and pumps 4-31110
- quantum mechanical open system model 4-52189
- Rankine cycle, solar power driven, exergy anal. 4-57751
- Rankine-cycle engines trichlorofluoroethane; lubricant mixtures thermal stability 4-52185
- thermodynamical paradox for engine converting heat into work, comments 4-26308

heat exchange *see heat transfer***heat exchangers**

- see also cooling towers*
- air/water heat pump mathematical model for modelling heat exchangers 4-57750
- convection three stream crossflow heat exchangers, thermal anal. 4-1573
- convection three stream crossflow heat exchangers, thermal anal. 4-1574
- crossflow tubular, acoustic vibr. control using porous baffles 4-38665
- domestic water-heater, with heat exchanger and two flat solar collectors (Bulgarian) 4-52198
- drag in a heat exchanger with a twisted flow 4-15028
- fin assembly, heat transfer, two dims. anal., soln. techniques 4-33913
- flow reversible, temp.-entropy bond graphs 4-27529
- forced convection in fluid-flow in heat exchangers corrugated wall channels 4-1712

heat exchangers continued

- Graetz problem with axial fluid conduction and uniform heat flux, solution using numerical methods (Italian) 4-24477
- heat pump systems for residential/commercial space and water heating 4-7891
- heat pumps, vapour compression type, dynamic interactions theoretical anal. 4-57748
- Hitachi helium liquefier-and-refrigerator, features and development progress 4-8905
- horizontal tube in evaporative heat exchanger, heat and mass transfer 4-5889
- inverted vertical spout evaporators for open cycle ocean thermal energy conversion 4-41360
- iteration free design of heat exchangers with free convection currents on one side (German) 4-17890
- natural gas supplied, for heating industrial baths (French) 4-53683
- NTS test bed for novel HVAC systems evaluation 4-52190
- nuclear reactor, crossflow countercurrent involute-tube heat exchangers, design calcs. (French) 4-54341
- nuclear reactor heat exchanger repairs, temp. control using fibre optics 4-4993
- nuclear reactor heat exchangers, economic effects of exchanger-regenerator with aftercooler (Czech) 4-43618
- perforated plate, hydraulic resistance and heat transfer 4-44580
- phase change heat exchangers, heat transfer 4-44349
- PWR steam generator and tube degradation countermeasures 4-4986
- regenerators, design using dispersion model 4-28966
- regular tube arrayed in circumferential fins, fin efficiencies 4-24337
- ribbed heat exchange surface, design of input part (Russian) 4-55312
- solar collector water heating system for transportable wash room (Czech) 4-41368
- solar industrial hot water systems with storage, design and optimisation 4-26321
- solar space heating systems heat exchange units design relationships 4-31117
- solar thermal transformer, for cold generation with positive and negative temps. 4-31112
- spiral tube bundle heat exchanger, interchannel mixing of heat carriers 4-42958
- synthesis by combined fuzzy and graphical approach 4-44345
- thermal energy storage, phase change shell and tube heat exchanger design 4-57792
- thermal wheels or rotary regenerators for industrial process waste heat recovery 4-57753
- tube bank in presence of upstream cross-sectional enlargement, heat transfer 4-19817
- tube bundles, vibrs. induced by crossflow of viscous liq., statistical anal. 4-28997
- tube bundles in crossflow, fluid-elastic instability, effect of tube layout 4-38694
- Ag, heat exchanger for liq. ³He cooling 4-8902
- Ca(OH)₂/CaO reversible chemical reaction system for thermal energy storage 4-57797
- Cu, heat exchanger for liq. ³He cooling 4-8902
- Pd, heat exchanger, for liq. ³He cooling 4-8902

heat flow *see heat transfer***heat insulation** *see thermal insulation***heat losses***see also thermal insulation*

- AMBRA program for buildings/thermal behaviour simulation, field validation 4-52092
- baffled rock bed, horizontal, thermal energy storage effectiveness 4-57787
- DC motor cryostat excitation winding eddy currents an heat production calculation (Russian) 4-48139
- domestic hot water solar heating systems materials review 4-26320
- evaluated tubular solar collector with internal reflector and heatpipe 4-57768
- flames, premixed, laminar, extinction by stretch and radiative loss 4-41215
- heat pumps, vapour compression type, performance coefficient 4-41362
- hybrid systems for drying tobacco, cost analysis 4-52108
- infrared sky radiation in Geneva, radiative Earth-sky deficit 4-52861
- packed-bed thermal storage unit, spherical, transient solid-fluid temp. responses 4-57788
- solar absorber converters thermal constants evaluation 4-52203
- solar energy conversion to heat and utilisation 4-7900
- solar pond, reflecting bottom, dynamic performance and optimisation 4-57758
- solar pond, shallow, experimental performance for water heating 4-57774
- solar pond design and instrumentation 4-57771
- solar ponds, potential applications, methods of improving performance 4-57772
- solar still performance under a solar simulator 4-57775
- thermal storage system optimum design 4-57789
- thermography use in heat losses determ. 4-37097
- tubular solar energy collector transit theory 4-26318
- Cu, precipitated H₂ bubbles, ortho-para conversion and time depend. heat leaks 4-13646

heat measurement *see thermal variables measurement***heat of adsorption**

- calorimetry, study of consecutive processes 4-29795
- dual-bed open-cycle solar cooling system feasibility and performance 4-12455
- Grafoil, adsorpt. of N₂, heats and entropies of adsorpt. at 79.3K 4-50631
- graphite, adsorbed Ne, energy and struct. of monolayer and bilayer solids 4-45503
- graphite, adsorpt. of Xe, heat of adsorpt. and vibr. freqs., calorimetric obs. 4-29772
- heterogeneous surface, adsorpt. isotherms press. derivatives, site energy distrib. charact. 4-50627
- kaolinite, heat of adsorption of water with Cs⁺(Li⁺) exchange cations 4-35934
- liquid mixtures, heat of adsorption on solid surfaces 4-15766
- stressed systems, heat of adsorption and thermodynamic equilb. 4-39675
- BN, basal planes, adsorption isotherms of benzene 4-20487
- CdO surface, adsorption, gas chromatographic study 4-35933
- CoO surface, adsorption, gas chromatographic study 4-35933
- Cu (111) and (110) oxidised surfaces, adsorption of CO, IR spectra, LEED, and surface pot. meas. 4-29794

heat of adsorption continued

- Cu, of O₂, electrochem. determ. and AES study 4-34798
 Fe, of H₂, Surface Orbital Modified Occupancy-Bond Energy Bond Order calc. 4-25159
 Ni (111) surface, H₂ thermal desorption, adsorption isotherms 4-20469
 NiO surface, adsorption, gas chromatographic study 4-35933
 Rh, adsorption isotherms of H₂, 193 to 500K 4-15762
 Rh, adsorption of N₂, surface struct. effect, FEM, TDS studies 4-39679
 TiO₂ powders, adsorption of HCl and water vapours, charact. of adsorbents 4-2435

heat of combustion

- WS₂, sp. ht., heat of form., Gibbs energy, calorimetric meas. 4-41245

heat of crystallisation

- alloys, amorphous, free energy of crystallisation 4-44951
 CaCl₂·6H₂O-SrCl₂·6H₂O latent heat stores reversibility problems 4-52209
 Fe₈₀B₁₄Si₃C₂ amorphous ribbon, mag., thermal and mech. props. 4-56617

heat of dissociation

- 1-nitropropene, model cpd. for TNT decomposition, MNDO and MINDO/3 methods 4-35864
 H₂⁺, heat of dissoc. determ. using ion mobility meas. 4-26221
 NdMnO₃, O dissociation press., 1173-1473K, enthalpy and entropy of reaction 4-51971

heat of formation

- alkali borate crystals, stability and bond energies, heats of formation 4-39202
 alkali metal chlorides, defect energy calcs. using repulsive parameters from charge density overlap 4-39283
 alloys, binary, vacancies and vacancy complexes, group theory anal. 4-24807
 block copolymer solns., crit. conc. for micelle formation 4-6239
 covalent inorganic cpds., heat of form. 4-12379
 α -cyanonaphthalene/triethylamine gas-phase exciplex, temp. depend. 4-31011
 1-cyclohexyluracil-acetyl glycine N-methylamine, H bond complex formation 4-49179
 diatomic monoxides, heat of form. and dissoc. energies, Gibbs energy functions 4-47778
 1,1-difluoroethane, struct., photoionisation efficiency curve, ab initio calcs., heat of form. 4-54817
 dispiro[3.1.3.1]decane-5,10-dione, mass spectrometric investig. 4-44002
 dispiro[4.1.4.1]dodecane-6,12-dione, mass spectrometric investig. 4-44002
 dispiro[5.1.5.1]tetradecane-7,14-dione, mass spectrometric investig. 4-44002
 glasses, disilicate, digermanate and metaphosphate, bond dissociation energies 4-26206
 heat of soln. and bond energy relations 4-25039
 homogenous void nucleation, Gibbs energy 4-24803
 1-III-VI₂ semicond., heats of form., spectroscopic model 4-31009
 indole, nonpolar solvents, self assoc., form. enthalpy, fluoresc. spectra 4-49084
 ketene dimers, mass spectrometric investig. 4-44002
 methane, diprotonated, struct. and stability, ab initio MO calc. 4-1044
 methanol and its radical and carbocations thermochemical props., methylation influence 4-46743
 methylamine and its radical and carbocations, thermochemical props., methylation influence 4-46743
 4-methylene-2-oxetanone, mass spectrometric investig. 4-44002
 phenol derivatives, H-bonded complexes, IR spectra, thermodynamic consts. and freq. shifts 4-46760
 point defects, long range distortion field and elastic dipole tensor 4-24808
 rare earth mixed-ligand quaternary complexes, heat of form. 4-12378
 semibullvalenes, MNDO study of the rearrangements 4-28371
 semiconductors, tetrahedral, cohesive energy features 4-50236
 1,1,2,2-tetrafluorocyclopropane, highly vibr. excited state, multistep collisional deactivation 4-12349
 2,2,4,4-tetramethyl-1,3-cyclobutanedione, mass spectrometric investig. 4-44002
 thiopivalic acid, self-association in solns., PMR chem., shift study 4-41199
 transition metal alloys, heats of form., density of states moments, tight-binding model 4-3425
 transition metal alloys, ordering and segregation, electronic theory anal. 4-45344
 transition metal silicides, review of form. and phys. props., book contrib. 4-6483
 transition metal-Si(Ge) alloys, heat of form., rigid band model anal. 4-11320
 AgI, thermodynamic props. and phase transitions, EMF meas. 4-6528
 As₂S₃(Se₃)(Te₂), chemical bonding and heat of formation 4-24733
 B₂H₆, correl. and polarisation effects in thermochem. props. 4-30930
 (CH₂CH₂NH₂)₂⁺, identification and struct. 4-10173
 (CH₂XH)₂⁺, X=F, Cl, Br, I, OH, identification and struct. 4-10173
 CN⁺ ion + molecule reactions, kinetics, selected ion flow tube obs. 4-46750
 C₂N₂, electron impact, parent and fragment ions. form. cross sections, ionisation pot. 4-14591
 CeNi₅, formation enthalpy and bonding, dissolution calorimetry studies 4-50540
 Ce₂O₂S, standard free energy of form. determ. 4-3423
 Cu-Ag-Ge, liq. alloys, enthalpy of form., dissoln. of Ge (*French*) 4-35611
 Cu-Ag-Si, liq. alloys, enthalpy of form., dissoln. of Si (*French*) 4-35611
 Cu-Ni solid solutions, quenched from 1323K, enthalpy of formation, dissolution calorimetry (*French*) 4-40763
 DyI₃-CsI system, vapour phase complex formation, Knudsen cell mass spectra 4-51978
 DyI₃-NaI system, vapour phase complex formation, Knudsen cell mass spectra 4-51978
 Fe-Na-O system, phase relationships, thermodynamics 4-35617
 FeAl-Y(La)(Ce), liq., enthalpy of form. 4-51628
 Fe₂Bi_{1-x}, amorphous, Mossbauer isomer shift 4-56833
 FeCo, stoichiometric, vacancy formation enthalpies, positron annihilation 4-34483
 GaAs, precipitation, in chloride and chloride-hydride processes, partial pressure diagrams 4-57083
 GdCl₃-AlCl₃, complexes, vapour press., comp. and thermodynamic props., radiochem. investig. 4-31008

heat of formation continued

- GeSe₂, chemical bonding and heat of formation 4-24733
³He, BCC solid, vacancy form. and mobility, pretransitional effects 4-6614
 Hg/soln. interface, entropy of form., solvent effect 4-31012
 Hg-Tl-Te, thermodynamic function of formation of ternary compound, phase equilibria 4-57197
 HgTe-metal chem. reactions, thermodynamic props. 4-57539
 In³⁺ ion in spinel struct., energy of preference of octahedral positions 4-52040
 K₂MCl₄ (M=Ba,Sr,Pb), cryst. struct. and thermodynamic props. (*German*) 4-39252
 LaMnO₃, decomposition, O partial press., elec. cond. and heat of form. 4-55988
 LiNi_{1-x}Cu_x, enthalpies of formation 4-41244
 Li₂SiO₃, solid and liquid, blanket materials, heat of formation meas. by vaporisation method 4-48714
 LuCo₂H₂, H₂ description isotherms and thermodynamic props. 4-39665
 Mg-Hg compound form., enthalpy meas. 4-57591
 MgO (001), vacancy form. energy, computer simulation calc. 4-50280
 MgO-P₂O₅, Mg(PO₃)₂, heat of soln. and bond energy relations 4-25039
 Mn₂Th₆, successive hydration steps and mag. props. 4-11054
 NaBr, point defect energy parameters, ionic cond. study 4-24811
 NbO₃, calorimetric studies 4-56043
 Ni₃Al alloy, vacancies, positron annihilation studies 4-29427
 Pb, elec. resist., pre-melting effects 4-50793
 PdO, standard free energy of form. galvanic cell meas. 4-25056
 Pu-O system, phase equilibria and thermodynamics, LMFBR fuel 4-20334
 Rh (111) chemisorbed naphthalene and azulene, surface struct. and form. energy 4-29800
 SrO-P₂O₅, Sr(PO₃)₂, heat of soln. and bond energy relations 4-25039
 TmCl₃-AlCl₃ complexes, vapour press., comp. and thermodynamic props., radiochem. investig. 4-31008
 U₂F₈ (8≤n≤12), electron affinities, ion-molecule reactions, mass spectra 4-51963
 WS₂, sp. ht., heat of form., Gibbs energy, calorimetric meas. 4-41245
 YNi₅, formation enthalpy and bonding, dissolution calorimetry studies 4-50540
 Y₂O₃S, standard free energy of form. determ. 4-3423
 Zn-Cd, cohesive props., density functional pseudopot. calc. 4-6316
 ZrO₂SiO₂, thermodynamic props. at high temp. 4-57594

heat of fusion

- alloys, amorphous, free energy of crystallisation 4-44951
 trans-azobenzene, sp. ht. and heat of fusion meas. 4-39535
 casting solidification, boundary element numerical model 4-57211
 clathrates, cool storage phase change materials 4-12490
 4-cyano-4'-n-propylbiphenyl, solid state polymorphism, thermal anal. and X-ray struct. determ. 4-11127
 energy storage using salt hydrates, refrigerants use for reflux boiling direct contact heat exchanging 4-57795
 lithium propanoates, heat capacities and thermodynamic props. 4-39536
 metals, entropy of fusion, vacancy model 4-15618
 nylon-6, annealing-crystallisation-melting cycles, cumulative memory effect 4-44921
 picric acid-naphthalene (anthracene) mixtures, organic eutectics and mol. complexes obs. 4-50474
 polycarbonate, fracture toughness, effect of loading history 4-35716
 polyethylene, mol. wt. blends, melt flow rate, tensile stress-strain, melting temp., crystallinity 4-39558
 polyethylene, single crystal mats drawing, dynamic props. DSC obs. 4-30678
 polypropylene film, isotactic, blended with rubbers, kinetic, morphological and thermodynamic props. 4-11016
 polytetramethyl-p-silphenylene siloxane crystal mats, solution annealing, X-ray obs. 4-45029
 potassium propanoates, heat capacities and thermodynamic props. 4-39536
 reactor core concrete, enthalpy of melting, appl. to meltdown accident (*German*) 4-28152
 solar domestic water heating with salt hydrate heat-of-fusion storage unit, expt. 4-3480
 trans-stilbene, sp. ht. and heat of fusion meas. 4-39535
 p-terphenyl, heat capacity and order-disorder transition, adiabatic calorimetry study 4-29597
 Pb-Sn system, heat of fusion, conc. depend. 4-55968
 TiBi₂(Se₂), semicond., heats and entropies of fusion, melting temps. 4-55969
 TiSb₂(Se₂)(Te₂), semicond., heats and entropies of fusion, melting temps. 4-55969

heat of mixing

- acetic-propionic acids mixtures, enthalpies of mixing, calorimetric meas. 4-29625
 alkali metal binary alloys, liq., Helmholtz free energies, variational calc. 4-55702
 n-alkanes-1-dodecanol mixtures, vap. liq. equil. and heats of mixing meas. 4-24985
 ethane-ethene mixtures, vap. press., density and enthalpy 4-11299
 formic-acetic (propionic) acids mixtures, enthalpies of mixing, calorimetric meas. 4-29625
 liquid mixtures, heat of adsorption on solid surfaces 4-15766
 oligohydroxypropylene polyols, thermodynamics of mixing with water (*Russian*) 4-29617
 oxyethylenes-n-alkane mixing, enthalpy and volume changes 4-11319
 polyethylene glycol-polypropylene glycol methylethers, oligomeric mixtures, thermodynamic props. 4-56051
 ternary systems, containing III-V and II-VI compounds, enthalpy of mixing 4-25025
 tetrachloromethane+CS₂, excess molar enthalpy, 0.1-330 MPa 4-25059
 tetrachloromethane+dichloromethane, excess molar enthalpy, 0.1-330 MPa 4-25059
 Ag-based binary liquid alloys, free energy and entropy of mixing 4-45355
 Au based binary liquid alloys, free energy and entropy of mixing 4-45355
 Au-Ag^o liquid alloys, enthalpies of mixing, 1379K 4-39516
 Au-Co, activity coeffs., phase equil., 1073-1673K 4-35607
 Au-Cu^o liquid alloys, enthalpies of mixing, 1379K 4-39516
 CO₂+cyclohexane, excess enthalpies, 7.5 to 12.5 MPa 4-25058

heat of mixing continued

- Cu-based binary liquid alloys, free energy and entropy of mixing 4-45355
- Cu-transition metal liquid alloys, free energy and entropy of mixing 4-45355
- Fe-Cu(-Co)-C melts, thermodynamic props., C solubility and Fe/Cu activity coeffs. (*Chinese*) 4-7421
- Hf-O solutions, partial molar enthalpy of mixing 4-45339
- Hg-based liq. alloys, thermodynamic and electronic props., higher order correlation effects 4-45709
- LiBr aqueous solns., thermophysical props. correlation 4-24704
- Na-Cs liq. alloys, Gibbs energy of mixing 4-45356
- Na-group VIB liq. alloys, thermodynamics of mixing 4-45357
- Ni alloys, glass forming ability, liquid quenching 4-39522
- Zr alloys, glass forming ability, liquid quenching 4-39522
- Zr-Ni amorphous films form. by solid state reactions 4-45553
- Zr-O solutions, partial molar enthalpy of mixing 4-45339

heat of reaction

- see also *heat of combustion; heat of dissociation; heat of formation*
- ethylene adipate oligomer, filled, thermodynamic state of macromolecules in boundary layers 4-39539
- α,ω -thiadiazines, ^{13}C NMR chemical shift, heat of protonation 4-46785
- N-vinylcarbazole, polymerisation, reaction enthalpy determ. 4-35895
- $\text{FeO}\cdot\text{Ce}_2\text{O}_3$, ferrous cerite, synthesis and props. 4-57131
- Mg_2H_3 , Mg_2Hg , Mg_3H_2 and Mg_3Hg , evaporation, enthalpy changes 4-57591
- SrAl_2O_9 , thermodynamic props., 1245-1380K, EMF method 4-56048
- Ti+Ga powder mixture, reaction and intermetallic form., exothermic effect 4-7741
- U chlorides, gaseous, thermochem. studies 4-41243

heat of solution

- alkali metal alloys, binding energy, heat of soln., bulk modulus and shear elastic const. 4-50716
- alloys, thermodynamics and phase equilibria, graphical representation 4-25053
- dilute solns., chem. equil. anomalies near crit. points 4-3424
- dissolution in La-Sn melt at high temp., enthalpy (*French*) 4-50511
- heat of soln. and bond energy relations 4-25039
- homologous series of solutes in H_2O , thermodynamics 4-56026
- metals, solubility of H under high press., thermodynamics 4-20367
- polydimethylsiloxane-solvent systems, heats of dilution, calorimetric meas. 4-29652
- transition metals, solution of H, enthalpy and vol. 4-15649
- Ag (111), Cl adsorption, LEED, Auger effect and desorption studies 4-29802
- Ce dissolution in Ce-Sn melt at high temp., enthalpy (*French*) 4-50511
- CeN, homogeneity range, heats of soln. 4-12381
- CeNiO, homogeneity range, heats of soln. 4-12381
- Cu-Ni solid solutions, quenched from 1323K, enthalpy of formation, dissolution calorimetry (*French*) 4-40763
- Fe-Ni solid solutions, thermodynamics of S solubility 4-3145
- $\text{MgO}\cdot\text{P}_2\text{O}_5$, $\text{Mg}(\text{PO}_3)_2$, heat of soln. and bond energy relations 4-25039
- NaCl, aq. soln., thermodynamic parameters comparison with Born eqn. predictions 4-2342
- Ni-H, dil. elec. resist. and solubility meas. 4-6764
- $\text{SrO}\cdot\text{P}_2\text{O}_5$, $\text{Sr}(\text{PO}_3)_2$, heat of soln. and bond energy relations 4-25039

heat of sublimation

- DyI_3 , evaporation, Knudsen cell mass spectra 4-50480
- $\text{DyI}_3\text{-CsI}$ system, vapour phase complex formation, Knudsen cell mass spectra 4-51978
- $\text{DyI}_3\text{-NaI}$ system, vapour phase complex formation, Knudsen cell mass spectra 4-51978
- Ni, saturated vapour press. 4-50483

heat of transformation

- see also *heat of crystallisation; heat of fusion; heat of sublimation; heat of vaporisation*
- benzil, crystalline, heat capacity, phase transition and thermodynamic props. 4-6491
- binary systems, mean molar excess enthalpies and liq.-vapour equil. determ. (*German*) 4-2315
- bis-triphenyllead diacetylene, phase transitions, Raman and calorimetric study 4-46240
- bis-triphenyltin diacetylene, phase transitions, Raman and calorimetric study 4-46240
- butyl-p-(alkoxybenzylidene)-aminobenzoates, smectic phases, DSC, density, and refr. index meas. 4-11281
- 4-n-butyl-4'-n-alkanoxyazobenzene, thermodynamic props., DSC study 4-11288
- cholesterol, 37°C phase transition, H bonding struct. pattern 4-39447
- ethyl-p-(alkoxybenzylidene)-aminobenzoates, smectic phases, DSC, density, and refr. index meas. 4-11281
- ionic solids, melting and ionic cond., correlations 4-39445
- lithium stearate, phase transitions studied by differential scanning calorimetry, enthalpy meas. (*French*) 4-15632
- p-nitrobenzylidene-p-n-alkoxy anilines, liq. cryst. phase transitions, DSC, positron annihilation studies 4-39494
- oligethylene glycoladipole, thermal stability in thin interlayers (*Russian*) 4-29651
- pure components and mixtures, heats of phase changes, book 4-22529
- ternary systems, mean molar excess enthalpies and liq.-vapour equil. determ. (*German*) 4-2315
- AgI , thermodynamic props. and phase transitions, EMF meas. 4-6528
- $\text{Al}_2\text{Si}_2\text{O}_7(\text{OH})_4$, kaolinite, heat decomposition, spinel phase form., struct., lattice energy 4-3142
- CsNO_2 crystal, phase transition and freezing of ionic disorder 4-25023
- $\text{Li}_2\text{SO}_4\text{-ZnSO}_4$ system, phase diagram, elec. cond. and cation diffusion 4-34699
- Rb_2ZnBr_4 , heat capacity, 3 to 300K, thermodynamic props. of incommensurate transitions 4-6517
- TiNO_2 crystal, phase transition and freezing of ionic disorder 4-25023

heat of vaporisation

- acridine, vapour pressure, enthalpies of vaporisation 4-24987
- benzene, enthalpy, sp. heat and latent heat of vaporisation 4-39533
- dichlorosilane, physical and thermodynamic properties 4-55475
- entropy, temperature-pressure relationship 4-55981
- graphite furnace atomic absorpt. spectrometry anal., isothermal atomisation 4-3438
- graphite furnace atomiser, spatially resolved Arrhenius determination for absorbance meas. 4-3436
- 9-methylanthracene, vapour pressure, enthalpies of vaporisation 4-24987

heat of vaporisation continued

- thianthrene, vapour pressure, enthalpies of vaporisation 4-24987
- K vapour accurate vapour press. determ. using optical absorpt. 4-1861
- Si, liq. 4-55983
- SiC , powder, mechanochemical activation of evaporation, crystal growth 4-51466

heat of wetting see wetting**heat pipes**

- applications of heat pipe (*Dutch*) 4-33908
- capillary struct. under thermal loading, transient behaviour meas. 4-55313
- evaluated tubular solar collector with internal reflector and heatpipe 4-57768
- evaporation and condensation zones in heat pipes with intensively heated ends, heat transfer 4-34079
- gas loaded heat pipe, vapour gas region, heat and mass transfer 4-19703
- gas-filled thermal tube, elec. wind influence on heat transfer characts. (*Russian*) 4-38706
- injection heat pipe for laser induced fluoresc. spectroscopic study 4-32323
- irrigation pump powered by solar-energy harnessing system, design optimisation 4-26309
- latent heat storage tanks, heat transfer with phase change around finned cylindrical tubes 4-57785
- maximum heat flux through heat pipe with varying cross sections 4-19808
- solar heat-pipe water heater, analytical model 4-57761
- steam generation via solar heat pipes 4-57668
- tube bundles, hydraulic drag, angle of attack of viscous fluid 4-29226
- underground shallow solar pond water heater, effect of thermal trap on performance 4-57766
- wicks, thermophysical characts., porous surface defects effects 4-19708
- Na heat pipes, transient heat and mass transfer 4-19807

heat pumps

- active and passive systems for solar housing 4-7901
- air/water heat pump mathematical model for modelling heat exchangers 4-57750
- chemical process networks, design process for equipment selection and process matching 4-31111
- compression-type, variable-capacity, mathematical model, experimental verification 4-57750
- Danish villages alternative future energy supplies, pilot project 4-57752
- domestic hot water from heat pump and sun 4-7890
- dual energy conversion, integrated cold reservoir and energy roofing brine circuit system (*German*) 4-46882
- economical application, preparation and implementation of heat pumps (*German*) 4-57749
- electricity-powered, comparison with gas-fired heat pumps (*Dutch*) 4-36024
- gas-fired heat pumps developments (*Dutch*) 4-36024
- hot water production with solar energy or electricity, costs comparison (*German*) 4-52096
- indoor swimming pools, heat recovery system design using heat pumps 4-57754
- Kerava solar village, Finland, simulation of expected performance 4-21576
- multi-circuit heat pump system, theory and appls. 4-21564
- noise and vibration of residential electrically driven heat pumps (*German*) 4-44287
- noise criteria for domestic air-to-water heat pumps 4-26340
- noise from small heat pumps for houses 4-14840
- NTS test bed for novel HVAC systems evaluation 4-52190
- Oslofjord energy extraction (*Norwegian*) 4-41361
- process networks, criteria for placement of heat engines and pumps 4-31110
- residential/commercial space and water heating 4-7891
- serial combustion motor heat pumps for space heating (*German*) 4-52188
- solar absorber roof, houses, simulation of three systems (*German*) 4-26326
- solar assisted, performance in residential applications 4-41363
- solar pond performance improvement using heat pumps and district heating, computer analysis 4-52194
- space heating, an alternative form of heating, cost effectiveness in Netherlands (*Dutch*) 4-26307
- TRNSYS/GROCS simulation of the TECH House I ground-coupled series solar-assisted heat pump system 4-46884
- vapour compression type, dynamic interactions theoretical anal. 4-57748
- vapour compression type, economic comparison of fixed speed, two speed and variable speed pump 4-52186
- vapour compression type, performance coefficient 4-41362
- water/water heat pump, space heating appl. (*German*) 4-16792

heat radiation

- anisotropic scatt., radiative transfer two-flux model 4-42893
- architectural coating design principles rel. to window thermal performance and aesthetics 4-24109
- atmosphere, boundary layer radiative heat transfer, effect of aerosol characts. 4-47322
- bare electric conductors, heat transfer coefficient analysis (*Polish*) 4-55310
- blackbody radiation, thermodynamics 4-53417
- blackbody radiation spectrum from equivalence principle in classical phys. and EM zero-point radiation 4-47887
- body surface heat loss of guinea pigs, comparison of convection and radiation 4-31176
- boiler surface, radiational heat transfer, scatt. influence on coeff. 4-33916
- carbonaceous flat disks, stagnation-point ablation 4-28968
- combined convection and radiation in rectangular ducts 4-38813
- droplet population above quench front during reflood, heat transfer 4-55403
- emitter-receptor geometrical configuration influence on radiative heat transfer 4-19704
- explosive driven compressor, high vel. jet generation impact, radiation emission 4-34322
- finite element techniques appl. to 1D system containing absorbing or emitting medium 4-33915
- fins, heat radiation efficiency, directional effect 4-44346
- fission reactors, radiative contribution to heat transfer in liquid uranium 4-54333

heat radiation continued

- flames, premixed, laminar, extinction by stretch and radiative loss 4-41215
- fluid frame, radiation transfer eqn. 4-5783
- fly ash, radiative scatter in pulverised coal fired furnace, Monte Carlo method appl. 4-1577
- free convection, influence of heat radiation, thermal regularity theory appl. 4-1728
- glass fibre drawing process, finite element method simulation 4-30675
- graphite, reflection coeff., heating in gaseous media effects investig. 4-10226
- gray dispersed medium, heat conduction and radiation, anisotropic scatt. effect 4-44344
- heat transfer numerical props., conf., College Park, USA, Sept. 1981 4-31973
- HTGR, high porosity materials on heat transfer surfaces, radiative props. 4-14085
- infrared curing of thick film inks 4-5785
- IR radiators, radiation and optical effects of combined irradiation and convection (*German*) 4-44343
- metallic surfaces, solar absorbance, thermal emittance (*Spanish*) 4-41364
- modified Gardon heat flux probe for radiative plus convective flux meas. 4-27516
- moving boundary problems in simple shapes solved by isotherm migration 4-28964
- natural convective heat transfer on an unheated vertical plate attached to an upstream isothermal plate 4-38688
- nonisothermal gas with variable elemental composition, radiant heat transfer 4-44566
- numerical methods in radiation heat transfer 4-33919
- one dimensional heat conduction problem, variational embedding solutions 4-33911
- open fires for cooking, expts. and theory 4-52014
- optically generated thermal waves for non-destructive material testing 4-37101
- organic alcohols, heat transfer, from 30°C to boiling point 4-50595
- organic liquids, thermal properties, 20-100°C, hot-wire technique 4-50594
- partial heat fluxes, P_N method calcs., refl. boundary conditions 4-19705
- particle suspensions, ignition by radiant emission from bounding walls 4-21475
- particulate clouds and mol. gases in cylindrical system, radiative heat transfer 4-19706
- particulate scatt., total hemispherical emittances 4-24339
- plane parallel media with nonuniform surface illumination, radiation transport 4-8853
- PMMA, bottom stagnation region combustion under natural convection 4-21468
- polyethylene, radiative heat transfer 4-20419
- radiant energy transfer 4-8694
- radiation transfer, solns. using integrals involving Legendre polynomials 4-44352
- radiative cooling with MgO and/or LiF layers 4-38540
- refractory semitransparent crystal, melt grown, crystallisation front, temp. distrib., radiative heat transfer effect 4-30621
- semitransparent material, heat transfer during nonstationary radiative heating, exptl. verification of math. model (*Russian*) 4-44332
- solar pond as a collector and storage system, heat flow model used 4-7821
- solar ponds, radiation transmission functions (*Spanish*) 4-41365
- spatially inhomogeneous radiation, absolute meas. 4-27589
- spherical irradiance meas. instrument 4-27588
- statistically uneven surface, quasistatic approx. 4-38697
- thermal radiation, integral evaluation using Gauss-Laguerre approx. 4-38696
- thermal stresses in partially absorbing plate subjected to cyclic thermal radiation 4-49657
- thin films, heating by optical radiation, nonlinear problems 4-33918
- transient natural convection past doubly infinite plate, radiation effects 4-19840
- travelling thermal waves in rot. fluid, induced fluid motion 4-17383
- turbine grid, radiant heat flux investigated using Monte Carlo method 4-33917
- Ar, shock wave radiation over broad spectral range 4-34130
- Bi plasma produced by laser interaction, thermal radiation flux 4-49952
- CO₂, particulate scatt., total hemispherical emittances 4-24339
- Fe₂O₃, powder insulation, improvement of extinction props., IR opacifiers 4-14873
- W, rough surface, thermal radiation, polarisation props., spectral emissivity 4-39548
- Xe, shock wave radiation over broad spectral range 4-34130

heat sinks

- Cu/GaAs/AlGaAs injection laser-heat sink system, internal stresses 4-5617

heat systems

- see also boilers; heating*
- air water solar heater 4-41317
- characteristics of thermosiphonic solar energy water heaters 4-52114
- cylindrical parabolic concentrating collector with sun tracking system 4-26313
- domestic hot water from heat pump and sun 4-7890
- domestic hot water systems, actual and predicted performance comparison 4-57658
- dynamic simulation and parametric sensitivity studies on a central solar domestic hot water system 4-52098
- energy management and solar water heater retrofitting in process industry - a case study 4-57673
- feedforward water level control, hot water self-evaporation effects 4-10727
- matrix air heater, solar powered, thermal analysis 4-57667
- passive solar water heating, increased use and systems available in USA 4-7809
- rating procedure for solar domestic water heating systems 4-46859
- solar hot water system rating test 4-7808
- solar water heater systems, experimental investigations 4-57660
- water heaters manufactured in West Africa, performance 4-57659

heat transfer

- see also condensation; convection; cooling; evaporation; heat conduction; heat radiation; radiative transfer; thermal diffusivity*
- 2D flow channel with backward facing step and rib roughening, axial vel., AGR appl. 4-14108
- absolute receiver for measuring solar radiation density in a vacuum 4-13673
- aerodynamics, direct statistical modelling, macroscopic parameters in Monte Carlo methods 4-55425
- air past heated backstep, laminar flow, heat transfer 4-38832
- air-fluidised bed, heat transfer from immersed heater at subatmospheric press. 4-19813
- alkali metal halides and their binary mixtures, molecular heat transfer and thermal cond. 4-39618
- alkali metal heat pipe, high-temp. heat transfer, flow study 4-19809
- annular channel with intermediate heat carrier, heat exchange 4-24431
- applications of heat pipe (*Dutch*) 4-33908
- aqueous salt solns. boiling, heat transfer study 4-44565
- asymmetric convective flows in the high speed rotating frame 4-1830
- attached end of cylinder in crossflow, heat transfer coeff. 4-38814
- axisymmetric jet interaction with plane obstruction heat transfer and friction (*Russian*) 4-1796
- axisymmetric MHD stagnation point flow, heat transfer, quasilinearised soln. 4-55408
- baffled rock bed, horizontal, thermal energy. storage effectiveness 4-57787
- bibliography, Japanese works 4-53391
- bibliography of Polish works on heat and mass transfer 4-36844
- bibliography of Soviet works on heat and mass transfer 4-17666
- binary mixture, pool boiling phenomena 4-11263
- Blasius flow over horizontal flat plate, thermal stability 4-44532
- blood flow in circular duct, laminar heat transfer 4-47018
- boiler surface, radiational heat transfer, scatt. influence on coeff. 4-33916
- boiling dynamics, negative feedback control 4-5890
- boiling in pipes, heat transfer relationships 4-33923
- boiling incipience, rel. to contact angle hysteresis, dynamic effects 4-38690
- boundary layer, laminar, turbulence generation, determ. method 4-44527
- bubbly gas-liquid mixture, crossflow, heat transfer 4-34065
- building thermodynamics, physical model and experimental test 4-26274
- buoyancy-induced laminar flow in porous media, multiple steady-state solns. 4-44720
- buried pipe networks in soils, temp. distrib., temp. depend. thermal cond. 4-44356
- butyl alcohol, thin films, vaporisation, heat transfer 4-28970
- carbonaceous flat disks, stagnation-point ablation 4-28968
- channel, circular, with eccentricity, numerical modelling of gasdynamics (*Russian*) 4-10778
- channel, heat exchange, effect of geometric characteristics of multijet mixing chamber 4-34083
- Chebyshev collocation operator spectrum for heat eqn. 4-10673
- chemically reacting systems, turbulent micromixing, heat and mass transfer 4-34203
- chemically reactive flow, heat and mass transfer coeff. calc. 4-34202
- combined convection in wavy channels, const. fluid props. calcs. 4-38886
- combustion characteristics, heat flow relax. effect, integro-differential eqns. (*Ukrainian*) 4-41214
- composite slabs for thermal insulation, heat flow, entropy generation, freq. domain anal. 4-5782
- composite straight fin, transient response 4-33910
- concentrating solar oven for outdoor cooking 4-57665
- condensate film flow, heat transfer investig. 4-14973
- condensation theory developments 4-34161
- condensing flows inside tubes under Earth gravity and space environments, analytical comparison 4-14961
- conducting body, optimal insulation distrib. 4-33898
- conjugate problems in heat and mass exchange 4-24336
- cooking woodstove and heat transfer, modelling 4-52015
- cooling towers, wet, thermal performance, mathematical and physical models 4-38692
- correlation of heat transfer data, property evaluation methods 4-49814
- corrugated-sheet-flat-plate solar collector, thermal anal. 4-57762
- cosmic instrumentation engineering, heat exchange of surface coating with surroundings (*German*) 4-47523
- coupled heat-transfer problem for a controlled laminar boundary layer in a magnetic field 4-38898
- cross-flow heat exchange, electronic cond., Senftleben effect 4-44575
- cryogenic liqs., heat transfer in centrifugal force field 4-34071
- cylinder, streamlined by transverse flow, intensified heat transfer at critical values of Reynolds number (*Russian*) 4-14968
- cylinder, vertically vibrating horizontal, inside stationary perforated tube, heat exchange (*Russian*) 4-28967
- cylinder covered with close fitting fabrics, heat transfer on stagnation point 4-10662
- cylinder in transverse flow with pulsating temp. (*Russian*) 4-44589
- cylindrical concrete vessel, moisture migration, thermal gradient 4-1824
- cylindrical crystal, melt growth, quasisteady Stefan problem, perturbation method 4-29355
- deformed shell, heat exchange with two-phase chemically reacting flow (*Russian*) 4-14977
- dense gas dispersion, heat transfer modelling 4-49919
- density discontinuity interaction with turbulent boundary layer at permeable channel surface, heat transfer 4-10666
- dielectric in horizontal slots, boiling, heat transfer 4-19801
- dielectric-dielectric system, heat flux rectification theory 4-38691
- differential rotation, hydrodynamic eqn. anal. 4-49829
- distilled water boiling on tube bundles, heat transfer 4-19803
- doped semiconductors, pulsed electron annealing dynamics 4-45191
- draft towers, natural and mechanical, thermal performance, mathematical model appl. 4-38693
- drag and heat transfer in bubbly flows 4-29157
- drag reduction mechanism, heat and mass transfer in resulting turbulent flow 4-19859
- dropwise condensation, heat transfer, microscopic study 4-44690
- dry horizontal spent LWR fuel assembly, heat transfer, RIGG code validation 4-37822
- EM stirring in coreless induction furnace 4-44608
- EMFOR gas filled cask, FBR spent fuel transport, heat transfer problems 4-37812
- energy balance approach to low-cycle fatigue 4-24378

heat transfer continued

- equilibrium temperature calc. on profile with variable heat capacity 4-24342
 evaporation and condensation zones in heat pipes with intensively heated ends 4-34079
 Exergy loss on mixing working bodies with different temperatures 4-33924
 exothermic reaction mass, surface temp. gradients and internal heat evolution at criticality 4-24338
 external heat transfer conditions, use of regularisation method 4-33904
 FBR HCDA, hot liquid pool penetration into melting miscible substrate 4-54364
 ferromagnetic particles, air fluidised beds, heat transfer, mag. field effect 4-19880
 fibrous materials, thermophysical and optical props. 4-56101
 film boiling on vertical surface, mathematical relation 4-14975
 film condensation of stationary vapour on vertical surface, heat exchange anal. 4-33922
 finite difference circuit for heat and moisture transfer problems soln. (Ukrainian) 4-37052
 finite slab, freezing and melting, heat generation effect 4-24343
 finned heat exchanger, heat transfer, two dims. anal., soln. techniques 4-33913
 fire, thermal flow, finite element anal. and simulation 4-49816
 float glass, on-line coating, appl. in highly insulating windows and heated glass (French) 4-35754
 flow in vertically vented compartments, oscillatory behaviour, finite difference study 4-34061
 flow over bodies of various shapes, heat and mass transfer, blowing 4-44579
 flow over immersed bodies in air fluidised beds, heat and mass transfer 4-34180
 flow past cylinders with variable viscosity, heat transfer 4-34098
 fluid layer with recirculating flow between concentric/eccentric spheres 4-38825
 fluidised and pulsed beds, heat transfer coeffs. fluctuations 4-19812
 fluidised bed boiler furnace, fine-grained material mixing and internal heat transfer 4-19883
 fluidised bed furnaces, heat transfer on staggered tube bundles 4-19814
 fluidised bed heat treatment of granular silicate particles, heat and mass transfer 4-19879
 fluidised bed particle-surface contact, thermal resist. 4-55440
 fluidised bed-immersed wall, heat transfer 4-19811
 fluidised beds, external heat transfer coeffs. 4-19878
 fluidised beds, heat transfer, mechanistic theory 4-24468
 fluidised beds, nonhomogeneous, vertical transport of heat and solid particles 4-24469
 fluidised beds, vertical tube bundles, high press. heat transfer 4-1715
 free convection and heat exchange of vertical heated wall of transformers (Russian) 4-38818
 free convection in channels of structural members, heat transfer (Russian) 4-1714
 free convective flow through porous medium, effects of magnetic field 4-15024
 freon film flowing over horizontal tube bundles, heat transfer 4-19800
 Freon-11, flashing and evaporation due to sudden depressurisation 4-38703
 fuel, liquid, surface diffusion combustion of heterogeneous systems (Russian) 4-12372
 fully developed turbulent flow in a pipe, local heat transfer coeff. 4-1719
 fusion reactor Solid Breeder Integral Simulation Test for PE-II, design and anal. 4-9402
 gas fluidized bed heat transfer 4-34179
 gas in half-open tube, nonlinear oscills. effects 4-19715
 gas loaded heat pipe, vapour gas region, heat and mass transfer 4-19703
 gas motion in porous medium, heat transfer 4-24470
 gas phase thermal lens expts., mass diffusion effects 4-43064
 gas suspension, polydisperse flow, heat transfer in channels and pipes 4-19892
 gas-filled thermal tube, elec. wind influence on heat transfer characts. (Russian) 4-38706
 gases, compressible, laminar flow calc. in presence of heat transfer in two dims. channels 4-44521
 gases in explosion cavity for water-free and steam saturated silicate soils, heat exchange dynamics 4-7730
 geostrophic turbulence transition, in rot. annulus, dims. meas. 4-1699
 geothermal heat diffusion with time-depend. convective boundary conditions 4-34076
 Graetz problem, eigenvalue upper and lower bounds by weighting function approxs. 4-13508
 Graetz problem with axial fluid conduction and uniform heat flux, solution using numerical methods (Italian) 4-24477
 gravity flow, synthetic adsorbents thermal regeneration, heat and mass transfer 4-19810
 grid pack, heat transfer coeff., smallest grid-thickness sections (Russian) 4-10668
 harmonic systems, thermal energy transport and entropy 4-44357
 heat and mass transfer, conf., Minsk, USSR, Sept. 1980 4-17627
 heat carrier of variable props., heat transfer and resistance with turbulent flow 4-14972
 heat exchanger, regular tube arrayed in circumferential fins, fin efficiencies 4-24337
 heat exchangers, perforated plate, hydraulic resistance and heat transfer 4-44580
 heat pipe capillary struct. under thermal loading, transient behaviour meas. 4-55313
 heat pipes, varying cross sections, maximum heat flux 4-19808
 heat pumps, vapour compression type, dynamic interactions theoretical anal. 4-57748
 heat sensitive material, vacuum freeze drying, heat & mass transfer 4-19799
 heat transfer in heat exchanger tube, spiral turbulator effect 4-44577
 heat transport in steep temp. gradient 4-4365
 heat tubes, operational possibilities in nuclear technology (German) 4-9355
 heat-of-fusion storage using salt hydrates, refrigerants use for reflux boiling direct contact heat exchanging 4-57795
 high viscosity non-Newtonian fluid, laminar pipe flow, heat transfer 4-19795
 horizontal tube in evaporative heat exchanger, heat and mass transfer 4-5889

heat transfer continued

- horizontal tube in freeboard region of fluidized bed 4-29166
 hot gas jet, interaction with liquid bath, heat transfer 4-24461
 hot rigid sphere melting through cold medium, Stokes's problem 4-1806
 hot-wire probes directional sensitivity determ., aerodynamic disturbances exam. 4-24489
 HTGR, heat transfer meas. in fission tube bundle (German) 4-14118
 hypersonic flow over blunt noses, heat transfer calc. using unsteady implicit scheme 4-34099
 hypersonic stagnation point heat transfer at low Reynolds number 4-29079
 impinging jet, wall flow development suction effect 4-49864
 incompressible fluid flow and heat flow, two dims., control vol. finite element method 4-44583
 incompressible fluid laminar boundary layer heat exchange optimisation, heat balance eqn. 4-24436
 incompressible Newtonian fluids, wire in violently fluctuating flow, transient heat transfer 4-1720
 incompressible rarefied visco-elastic fluid convective flow in mag. field, heat/mass transfer 4-10661
 interphase heat and mass transfer in turbulent liquid flows 4-34068
 interphase heat transfer in high-temp. dust-laden flow 4-34067
 inverted annular boiling, liq. penetration to vapour film 4-1807
 inverted vertical spout evaporators for open cycle ocean thermal energy conversion 4-41360
 inviscid fluids, thermoacoustic effects and entropy oscillations 4-45269
 jet, axisymmetric, heat transfer and hydrodynamics, during interaction with plate, turbulence influences (Russian) 4-44673
 jet-pipe flow, heated, issuing into cold cross stream, heat transfer meas. 4-14971
 jets, round, impinging on flat plate, heat transfer 4-19821
 laminar film boiling, finite difference method study 4-24421
 laminar flat plate flow, momentum and heat transfer variable fluid props. effects 4-19839
 laminar flow at supercritical press., local heat transfer coeff. 4-14945
 laminar flows of heavy-fuel oils through internally insulated pipelines 4-10765
 laminar pipe flow, thermal entrance region, transient heat transfer 4-1717
 laminar pipe flow with liq. solidification, heat transfer 4-44570
 laminar recirculating flow in tubes with circumferential fins, heat transfer 4-55401
 laminated cylindrical slabs, heat energy drains, short-circuited diffusion phenomena 4-19699
 laser mirror, porous substrate, cooling and heat transfer 4-10524
 latent heat storage tanks, heat transfer with phase change around finned cylindrical tubes 4-57785
 Leidenfrost point for subheated drops 4-34085
 level indicator for heat transfer agents (Russian) 4-27485
 levitated metal droplet, heat and fluid flow under zero gravity conditions 4-57094
 liquid film, falling, for cooling overheated surfaces 4-14877
 liquid flow in porous solid, heat and mass transfer, surface phenomena 4-34073
 liquid metal heat transfer in turbulent pipe flow with uniform wall flux 4-34193
 liquids, momentum, heat and mass transfer diffusion coeffs. evaluation 4-5780
 LMFBR coolant channel flow distribution planning 4-23264
 local heat transfer in tube bundle stagnant zones in heat-stress heat exchangers (Russian) 4-43625
 longitudinal air flow with impinging jets, heat transfer on surface 4-29084
 longitudinal flow over cylinder, heat transfer augmentation 4-29083
 magnetic fluids, mass transfer process characts. 4-29712
 mass transfer across water-vapour interface taking into account radiation (Russian) 4-10523
 matrix solar collector fabricated from broken glass pieces, anal. 4-21571
 measurement of heat flow rate density, effect of mass. conditions 4-257
 mechanical screens, bluff-body, circulation zones in wakes 4-19851
 media with thermal memory, heat transfer 4-24334
 melting on horizontal tube with convective boundary 4-44349
 metal-metal system, heat flux rectification theory 4-38691
 metals, ultrashort heat transients under laser irradi. 4-14875
 micropolar boundary layer in crossflow over non-isothermal circular cylinder, heat transfer characts. 4-5892
 microwave bioeffects, heat transfer in surface cooled objects subject to microwave heating 4-12545
 mixing chambers, coolant mixing, nonstationary heat transfer 4-44567
 moving boundary phase change problems, boundary integral eqn. soln. 4-32203
 moving boundary problems in simple shapes solved by isotherm migration 4-28964
 moving material subjected to surface energy transfer, temp. distrib. 4-19700
 multicomponent gas mixtures, transport coeffs., approx. calcs. 4-19834
 natural gas-air, coaxial turbulent jets, mixing, combustion, heat and mass transfer 4-34063
 Neumann moving interface problem generalisations, numerical soln. into two dims. 4-34617
 non-Newtonian fluid, laminar nonisothermal pipe flow, heat transfer and drag 4-19794
 nonfoaming gas-liquid systems in packed bed, cocurrent downflow study, flow regimes 4-55432
 nonisothermal flow of chemically reacting media with viscosity depending on temperature and pressure 4-15038
 nonlinear heat diffusion, parabolic partial differential eqn., finite difference approx. 4-32208
 nonstationary plasma flow parameter effects on heat exchange with barrier (Russian) 4-44818
 nozzle wall two-phase flow heat exchange with droplet removal from condensed film 4-1727
 nuclear fuel rods transient heat transfer, TRANS program results and analytical solutions (Italian) 4-33080
 nuclear materials, thermal accommodation coeffs. for inert gases 4-1576
 numerical modelling with supplementary data 4-29082
 oceans, seasonal heat transport in a forced equatorial baroclinic model 4-36386
 oil-fluorocarbon mixture boiling heat transfer, effect of fluorocarbon concentration (Japanese) 4-39451

heat transfer continued

one dimensional heat conduction problem, variational embedding solutions 4-33911
 one-dimensional Stefan problem, numerical soln. by Newton's method 4-5779
 oscillatory MHD flow in Stokes problem past infinite vertical porous plate, Hall effects 4-44710
 packed-bed thermal storage unit, spherical, transient solid-fluid temp. responses 4-57788
 paraffin wax storage sub-systems parametric sensitivity studies 4-26316
 parallel plates, heat transfer in continuum to free molecular regime 4-1725
 particulate solids, comparison between distillation and fluidisation 4-34178
 passive cooling measurements for a concentrating photovoltaic array 4-46879
 passive solar collector-storage walls efficiency and heat removal factor 4-57770
 phase change material in pool, heat transfer, effect of cycling 4-57794
 physical property correlations, industrial viewpoint 4-20339
 planar channels, friction and heat transfer, supersonic flow with shock waves nonuniformity influence 4-5958
 plane surface, liq.-liq. and liq.-solid fluidised beds, heat transfer coeff. meas. 4-29081
 plane turbulent oblique impinging jet, flow and heat transfer calc. 4-34100
 plasma device input region, hydrodynamic and heat transfer eqns. (*Russian*) 4-44812
 plasma particle heat and momentum transfers, bibliographic study (*French*) 4-55493
 plasma spraying, heat transfer and fluid flow, mathematical model 4-57098
 plate-fin heat exchangers fin profiles selection 4-21565
 polyacrylamide, ag. solns. with memory, rheodynamics, heat transfer 4-19796
 polymer solns., conc., heat transfer in solvent evaporation 4-34066
 polymer solutions, turbulent function factors and heat transfer coeffs., corrls. 4-5923
 polymeric composites, heat transfer in dry sliding 4-12196
 porous annulus, laminar flow and heat transfer 4-14962
 porous media, nonaturated with phase change nonequilibrium thermodynamics (*French*) 4-217
 porous medium, stability of unsteady thermal diffusion zone, linear analysis (*French*) 4-38804
 postaccident heat removal, downward heat transfer from heat-generating boiling pools 4-23362
 radial flows between two parallel disks, flow separation and heat transfer 4-44569
 radiation terms linearisation for improved convergence by use of zone method 4-44336
 radioactive material packaging, thermal anal. using integral method 4-37949
 rarefied gas flow and heat transfer around heated circular cylinder 4-44656
 reactor core with asymmetric fuel element distrib., temperature fields, heat transfer (*Russian*) 4-14101
 reflux condensation and transition to natural circulation in a vertical U-tube 4-38705
 Refrigerant-12 stationary vapour, heat transfer with condensation on horizontal tube banks with different diameters 4-14974
 regenerators, design using dispersion model 4-28966
 relativistic, thermal equilibrium rel. to temp. gradient (*German*) 4-47939
 resistance to heat flow associated with conical constriction 4-19826
 review of 1982 literature 4-17662
 ribbed heat exchange surface, design of input part (*Russian*) 4-55312
 rock beds velocity profile measurements, non-uniform flow effect on solar contribution 4-52211
 rotating disk, jet cooling optimisation 4-33925
 rotating fluid with Hall current, heat and mass transfer 4-24416
 rotationally oscillating cylinder in crossflow, heat transfer 4-24422
 rough surfaces, turbulent boundary layers, heat transfer and skin friction 4-10658
 saturated liquids on horizontal heated surface, minimum film boiling, press. depend. 4-44348
 secondary flow and turbulence in a cone-and-plate device 4-38838
 selective suction at boundary layer, heat and mass transfer 4-19831
 semiconductor growth, heat and mass transfer in melt-crystal system 4-25880
 semiconductors, nonlinear current-volt. characts. and heat transfer to cryogenic liq. 4-11535
 sharp-nosed cone, shadow region, supersonic gas flow and heat transfer 4-29123
 shells, spherical with internal heat generation, temp. distrib. 4-28971
 single crystals, growth from melt, heat and mass transfer, review 4-21128
 single- and two-phase jet flow collisions, interphase heat transfer 4-19816
 singular perturbation problems, numerical anal. 4-33902
 slab surface, plane, one-dimens. heat flux identification problem (*Polish*) 4-49654
 slender cone with heat transfer and angle of attack, transverse curvature effects, boundary layers 4-29128
 soil freezing, heat and mass transfer, computer calcs. 4-22024
 solar absorber convertor thermal characteristic linearized efficiency equations 4-52204
 solar absorber convertors thermal constants evaluation 4-52203
 solar collector, honeycomb structure, for space heating 4-52200
 solar energy conversion to heat and utilisation 4-7900
 solar heat-pipe water heater, analytical model 4-57761
 solar hothouse subsurface regenerative gravel heat accumulator heat and mass transfer 4-16798
 solar pond, reflecting bottom, dynamic performance and optimisation 4-57758
 solar ponds, immiscible, laboratory tests, for Hawaii 4-57773
 solar ponds, radiation transmission functions (*Spanish*) 4-41365
 solar powered water heaters, natural-circulation, measured performances 4-52191
 solar still, coupled with ground water heater, thermal performance 4-21570
 solid breeder blankets, PE-II scoping tests; heat transfer and stability 4-9396
 soot-laden gas flow, heat transfer coeff. from plate 4-19815

heat transfer continued

spent fuel waste packages, maximum temp. estimates via generalised corrl. for convective heat transfer 4-18571
 spent nuclear fuel cask, JINS safety anal. code systems 4-37937
 spherical particles, dissolution rates growth eqns. 4-11297
 spiral tube bundle heat exchanger, interchannel mixing of heat carriers 4-42958
 spouted-bed dryer, heat and mass transfer 4-33903
 steam, condensation in tubes with finned surfaces, heat transfer, press. drop 4-19806
 steam, condensation on bed of solid dispersed materials 4-19833
 steam, pure and gas mixtures, condensation, heat transfer shell-side coeff. 4-19804
 steam condensation in capillaries 4-10526
 steam generator with chemically reacting coolant, heat transfer mechanism (*Russian*) 4-14100
 steam-water dispersed flow, heat transfer, calc. model 4-10667
 steam-water flows, countercurrent, stratified, condensation, heat transfer coeff. 4-38862
 steam-water mixture generated by rupture of high press. vessel, temp. dynamics 4-10663
 steam-water mixtures, critical flow, separated flow model 4-1810
 Stefan problem, multidimens. single-phase quasi-stationary (*Ukrainian*) 4-37051
 Stefan problem, mushy region, melting by volume heating 4-1575
 stratification development in rectangular tank by horizontal inflow 4-10529
 stratified fluid, high Rayleigh number heat transfer in horizontal cylinder 4-55407
 stratified liq., turbulence, heat and mass transfer 4-29069
 submerged axisymmetric twisted jet, heat and mass transfer 4-44674
 sugar, thermolabile suspensions, boiling, heat exchange 4-44350
 suspensions, heat and mass transfer control by elec. and mag. fields 4-34163
 temperature conditions of the interaction of a medium with a thin inclusion 4-33906
 temperature field obs., sp. heat, thermal cond. and heat transfer coeff. determ. 4-14874
 temperature functionals, variational principles 4-44337
 thermal cond. meas. techniques for wet soils and biological tissue 4-31377
 thermal conditions optimisation 4-16795
 thermal contact problems, fictitious finite element layer method 4-44351
 thermal contraction during heat exchange between hot plasma and metal surface 4-15164
 thermal energy absorption in electrodes at breakdown of air in superimposed fields 4-10915
 thermal energy storage, phase change shell and tube heat exchanger design 4-57792
 thermal energy storage cylindrical capsule, cyclic phase change 4-57791
 thermal energy storage using alveolar containerization, of phase-change materials 4-57793
 thermal explosion, criticality, transition, variable heat transfer coeff. calcs. 4-10527
 thermal explosion, criticality, transition, variable thermal cond. calcs. 4-10528
 thermal instability in pool boiling on wires at constant pressure 4-44342
 thermal NDT, defect detectability 4-26119
 thermal performance testing, generalised method, attainable accuracy 4-52202
 thermal plasma, heat transfer to immersed particle, Knudsen number effect 4-1881
 thermal storage system optimum design 4-57789
 thermal waves propagation in anisotropic media (*Russian*) 4-10691
 thermodiffusive flow, elec. anisotropic effects on thermal instability 4-44680
 thermoelastic problem of uniform heat flow disturbed by penny-shaped crack 4-49761
 thermohydraulic situation in steam-generating tube following loss of coolant accident 4-19802
 thermometric bridges, local heat transfer coeffs. 4-27513
 thermophotovoltaic systems using Si solar cells, theoretical estimation of efficiency 4-26304
 thermosyphons, internally baffled, boiling crisis, flow props. 4-19871
 three-phase fluidised beds, heat transfer 4-10750
 Tokamak fusion reactor, liquid metal in mag. field, convection, boiling heat transfer (*Japanese*) 4-14220
 toluene, free motion in horizontal tube, heat transfer, supercrit. press. effects 4-19889
 transfer eqn. soln. for plane medium 4-44354
 transient analytical solution of solar energy devices 4-21573
 transient droplet heating at high Peclet number 4-10674
 transient of reactor solids with surface convection and radiation, boundary element anal. 4-23134
 TRUPACT, TRU waste transportation, thermal testing 4-37792
 tube bank in presence of upstream cross-sectional enlargement 4-19817
 tube in staggered tube bank, heat transfer 4-44568
 tube rewetting by falling film and pressurised downflow in nucl. reactor core 4-28089
 tubular solar collectors, single-ended, evacuated, water-in-glass manifolds for heat extraction 4-41372
 tubular solar energy collector transit theory 4-26318
 turbulence, heat transfer 4-34069
 turbulent boundary layer, fluid free-stream turbulence effect (*Russian*) 4-14970
 turbulent boundary layer, heat transfer modelling 4-1726
 turbulent boundary layer with press. gradient, heat exchange and drag 4-44553
 turbulent flow and heat transfer in narrow isosceles triangular duct 4-38802
 turbulent flow downstream of abrupt pipe expansion, heat transfer 4-10650
 turbulent heat and mass transfer in rough pipe Newtonian and polymer solns. flow 4-24474
 turbulent heat transfer and fluid friction in helical wire coil inserted tubes 4-19820
 twisted oval tube, heat transfer and hydraulic resistance (*Russian*) 4-14969
 two dimensional fluid flow and heat transfer, control vol. finite element method 4-44582

heat transfer continued

- two phase flow in evaporators and condensers, heat transfer calc. 4-34102
 two-phase flow, pressure drop and countercurrent flow limited breakdown prediction 4-38870
 two-phase heat transfer in two component vertical flows 4-44578
 two-phase systems, detonation, shock wave, laminar boundary-layer, mass exchange 4-5973
 unsteady dispersed-film flow in channels of complex geometry, heat transfer 4-34064
 unsteady flow past heated impulsively started circular cylinder 4-34089
 vapor condensation inside horizontal pipes 4-33927
 vaporisation and condensation in electric field, heat transfer 4-34195
 vapour bubble shape in subcooled boiling, light refraction 4-19873
 vapour condensation on turbulent jets of liq., heat transfer 4-34082
 vapour droplet flow in postburnout zone, nonequilibrium 4-10791
 vapour-gas mixture, heat exchange during condensation; electrohydrodynamic action (*Russian*) 4-19793
 vapour-liquid medium, with bubble struct., thermal problem 4-10739
 vapour-liquid mixtures with bubbles, press. wave propag. 4-19872
 vapour-noncondensable gas mixt., condensation within horizontal air-cooled tube 4-50478
 variational method for heat and mass transfer problems 4-19819
 variational techniques 4-32207
 vascular system, relations between heat transfer is perfused biological tissue and local symmetry components 4-52279
 vertical flat plate condenser, heat transfer coeff. for film condensation (*Japanese*) 4-5781
 vertical tube, heat and mass transfer coeffs. during condensation, 2D model (*Russian*) 4-15626
 vibration-augmented heat and mass transfer between gas and suspension 4-19798
 viscoelastic liquid, flow and heat transfer between two wavy walls 4-38852
 vortex instability of horizontal and inclined natural convection flows from simultaneous thermal and mass diffusion 4-38841
 wall heat transmission and storage under sinusoidal insolation 4-21566
 wall jet, thermal study 4-1795
 water, boiling, heat to below saturation temp., hydraulic resist. meas. 4-44727
 water, distilled, thin films, vaporisation, heat transfer 4-28970
 water, heat transfer, crossflow effect 4-19824
 water, magnetic and ultrasonic fields effects (*Russian*) 4-5925
 water, pool boiling on microsurfaces, temp., heat transfer 4-19713
 water, superheated, base to define normal components of expansivity and compressibility of stable water 4-39432
 water, turbulent flow in compact triangular rod bundle, heat transfer, gas phase effect 4-14965
 water spray in a condensable environment (steam), laminar flow 4-44692
 workshop I: passive solar systems design for heating of dwellings 4-12460
 Zircaloy PWR fuel element cladding, azimuthal temp. variation under LOCA conditions 4-33001
 in zz 4-44577
 Al alloy plate, autogenous GTA welding, three-dimens. heat flow and solidification 4-16611
 Al₂O₃ suspensions in water, heat transfer, pool boiling study 4-24344
 CO₂, supercritical, turbulent pipe flow, heat transfer and flow resist. 4-10777
 Cd, Hg, Te, polycrystalline ingot, thermal modelling of casting 4-3055
 H, electrolytic gas generation, heat transfer enhancement mechanism, photographic study 4-44340
 He at supercritical press., viscous quasistable pipe flow, heat transfer and drag calcs. 4-14944
 He at supercritical press., viscous-inertial regimes of turbulent flow in heated pipe 4-24428
 He I, superheated, boiling, light-induced bubble nucleation, photographic study 4-11361
 He, supercritical, ascending flow in heated tube, heat transfer 4-10665
³He, liquid, heat transfer to sintered metal heat exchangers 4-56111
³He-⁴He mixtures, dil., heat transfer meas. 4-6604
 Hg, liq. tube flow, heat transfer, temp. distrib. in longit. mag. field 4-38824
 Li loop in transverse mag. field, flow and heat transfer, fusion reactor appl. 4-9392
 LiBr, falling wavy laminar liq. films., heat and mass transfer coeff. 4-19805
 Mg plates, heat exchange during chem. interaction with NaCl aq. solns. 4-44347
 N₂, boiling on porous surface 4-14872
 Na heat pipes, transient heat and mass transfer 4-19807
 Na₂SO₄ heat storage characts. in solar storage systems 4-26328
 Si, Czochralski crystal growth, heat transfer model 4-45037
 Si-B X-ray masks, heating and temp.-induced distortions 4-37264

heat treatment

- see also annealing; normalising; quenching (thermal); spheroidizing; tempering; thermomagnetic treatment; thermomechanical treatment
 alloys, amorphous, atomic diffusion, thermal and mech. treatment effects 4-56065
 cadmium stearate Langmuir-Blodgett multilayers, struct. effects on elec. cond. 4-35107
 coatings, electrolytically and chemically deposited, mech. props. (*German*) 4-51553
 cold deformed wire, thermal expansion and dilatometric effects (*Russian*) 4-25064
 components local heating conditions optimisation, algorithm development 4-57257
 cylinder, hollow, with moving isothermal boundary, temp. field and residual stress calc. 4-57258
 dispersion strengthened, optimisation of mech. props. by suitable heat treatment 4-46522
 glass components of complicated form, residual stresses formed in heat treatment, approx. calc. methods 4-16426
 glass fibre reinforced polyester, mech. strength, temp. depend., effect of fibre-matrix interfacial bond strength (*Japanese*) 4-57264
 glass fibre reinforced polyurethane, thermal and photodegradation 4-35749
 glass-ceramics, surface damage and fracture, effect of crystallites 4-16482
 glassy metals, structural relax. influence on thermal cond. 4-20423

heat treatment continued

- graphite, reflection coeff., heating in gaseous media effects investig. 4-10226
 graphite fibre reinforced Al. wires, nondestructive evaluation of thermal cycling, US torsional vel. obs. 4-30899
 Hadfield steel, cold brittleness study (*Russian*) 4-7542
 ice, cubic, homogeneous nucleation from conc. solns. of LiCl.D₂O 4-29570
 impact energy rel. to impurity levels and heat treatment 4-12166
 kaolin, water interaction, dehydration, IR spectroscopy study 4-56924
 laser heat treatment, book contrib. 4-7495
 laser heat treatment, equipment and technology, review 4-21249
 laser materials processing, Nd:YAG appls., book contrib. 4-5635
 lithium stearate, phase transitions studied by differential scanning calorimetry, enthalpy meas. (*French*) 4-15632
 medium C steel, heat treated, fatigue processes (*Japanese*) 4-35810
 metals, heat treatment in fluidised bed, in-situ protective and carburising atmospheres (*Finnish*) 4-7496
 metals, tensile testing, heat treatment and prestrain effects, ductility indices 4-25991
 multicomponent glass fibres, drawing induced absorption losses 4-7218
 nuclear reactor heat exchanger repairs, temp. control using fibre optics 4-4993
 optical fibres, silicone-coated, loss increase with heat treatment 4-21338
 Permalloy 79NM, short range atomic order (*Russian*) 4-6321
 PET fibres, melt spun, isothermal heat treatment, microstructure rearrangement, birefringence, X-ray scatt. 4-12091
 point defect, cluster annihilation emission model in heated crystal, 4-34490
 polyacrylonitrile, struct. rel. to heat treatment and copolymerisation, wide angle X-ray diff. 4-25983
 polyamide-6, thermal treatment effects on mech. props. (*Polish*) 4-57269
 polyethylene, nascent and superhigh mol. weight, struct. dependence on heat treatment temp. 4-30722
 polyethylene fibres, radiation-crosslinked, lamellar crystn. of pendant chains 4-34421
 polymer molecular composite fibres and films, solution processing 4-46486
 polyoxymethylene, ultrahigh modulus, prod. by drawing under dielec. heating 4-35643
 polypropylene-polyethylene blends, heat treated, drawn, morphology 4-45030
 polytrioxane, thermal treatment effects on mech. props. (*Polish*) 4-57269
 polyurethane, dielec.-semicond. type transition on heating (*Russian*) 4-39993
 polyurethane, heat treatment effect on struct., elec. and mech. props. (*Russian*) 4-40823
 rubber, vulcanisation, S percentage var. effects, temp. profiles, cure state 4-30677
 semiconductor films, amorphous, new-phase nucleation kinetics during pulsed heating 4-2476
 steel, alloy, diffusion layer failure formation after chemothermal treatments 4-3235
 steel, alloy, nitrided layers, strengthening mechanism 4-3287
 steel, alloy, residual stresses in impulse hardening 4-57402
 steel, aluminisation by thermochem. method, thermodynamic calc. (*French*) 4-21367
 steel, austenitic, precipitation-hardening, with Pb impurity, thermocyclic treatment effect on props. 4-40845
 steel, austenitic precipitation hardening, heat treatment effect on struct. and props. 4-21245
 steel, austenitic stainless, aluminised layer struct. and phase comp. after heat treatment 4-3158
 steel, austenitic stainless, ferromagnetic traces at 4.2K 4-51100
 steel, austenitic stainless, metallographic study of α - σ phase transform. 4-30883
 steel, austenitic stainless, weld metal, microstruct., neutron diff. study 4-16422
 steel, austenitic stainless, weld metals, long term heating, morphology and deterioration prevention 4-3160
 steel, C, heat treated, failure mechanism in abrasive wear 4-41001
 steel, carbide transformation rel. to heat treatment (*German*) 4-40789
 steel, carbon, evolutions of H, effects of Si or Mn-contents (*Japanese*) 4-3159
 steel, carburisation and decarburisation, mass exchange 4-3286
 steel, carburise case hardening, struct. and hardness distrib., computer prediction 4-25975
 steel, Co-Mo-Ni-Ti, maraging, mech. props., heat treatment effect 4-21253
 steel, Cr, bearing, cast and wrought, carbides transform. 4-21246
 steel, Cr, bearing, martensitic transform., effect of prior cold work 4-40784
 steel, Cr-Mn-Ti-B, hot forged, machinability rel. to heat treatment 4-3157
 steel, Cr-Mo, low-C, oxidation and oxide spalling, influence of thermal cycling 4-16552
 steel, Cr-Mo, pressure vessel, H embrittlement (*German*) 4-12185
 steel, Cr-Mo, ultrahigh strength, heat treatment, mech. props. 4-16495
 steel, Cr-Mo low alloy, coercivity and microstruct., TEM studies 4-7492
 steel, Cr-Mo-V, cold-rolling work rolls bearing necks, hardening 4-40844
 steel, Cr-Mo-V, for rolls, isothermal decomp. of austenite by pearlitic mechanism 4-40743
 steel, Cr-Mo-V, heat treatment, creep rel. to P addition 4-12110
 steel, Cr-Mo-V, structural, austenite form. under rapid heating (*Russian*) 4-7448
 steel, Cr-Mo-V, thermal fatigue crack initiation, SEM obs. (*Japanese*) 4-26050
 steel, ferritic heat resistant, microstruct. after long term service 4-30729
 steel, ferritic stainless, toughness, effect of B 4-3245
 steel, ferritic-pearlitic, weld heat-affected zone, max temps., metallographic study 4-30709
 steel, heat treated, erosion behaviour rel. to mech. props. 4-7607
 steel, heat treated, fatigue damage, positron annihilation detection (*German*) 4-16586
 steel, high speed, high temp. heat treatment, primary carbide network transform. 4-21242
 steel, high speed, MZ, as-cast, 4-30730
 steel, high speed, sintered M2, mech. props., cutting performance 4-7571
 steel, high-speed, phase comp., heat treatment effect (*French*) 4-30731
 steel, HSLA, SCC, H induced cracking, prior treatment and microstruct., effect 4-16549
 steel, linepipe, for use in wet environments containing H₂S 4-41061

heat treatment continued

- steel, low alloy, nitride dissolution and formation, hot extraction analysis (German) 4-26148
 steel, low-alloy, cold-rolling rolls, heat treatment and props. 4-40843
 steel, low-C, anodic electrolytic heating, surface-active substances influence (Russian) 4-7629
 steel, low-C, controlled decarburisation in N_2 -based atm. 4-30721
 steel, martensitic low C, low temp., two-phase precipitation, X-ray diff. study (Russian) 4-35631
 steel, Mn-Nb, dual phase, coercivity rel. to heat treatment (Chinese) 4-56686
 steel, Ni-Co-W-Mo, maraging, mech. props., heat treatment effect 4-21253
 steel, nitriding in electrostatic field 4-21243
 steel, ShKh15, thermal treatment, temps., thermal stresses calcs. 4-21241
 steel, stainless, ferritic, Cr-Al, struct. and embrittlement, heat treatment effect 4-21256
 steel, stainless, isothermal treatment, austenitizing, microstruct. of intermediate temp. transform. (Chinese) 4-46503
 steel, stainless, photostimulated exoelectron emission kinetics, deform. rate effect 4-7330
 steel, stainless, toughness improvement of AISI 403 by double austenitizing heat treatment 4-7592
 steel, stainless maraging, weldments, struct. and props. after heat treatment 4-40838
 steel, structural, low-C, with Ti and Ce, nonmetallic inclusions 4-40981
 steel, tool, \circ Cr-Mo-V, H-11, fracture toughness anomalies, microstruct. analysis 4-12190
 steel, tool, high speed, phase transform., influence of Nb, X-ray diff. study (German) 4-16386
 steel, two phase, austenitisation, struct. and hardness (Russian) 4-25980
 steel, W-Mo, high-speed, cooling rate in liq. N_2 , effect on retained austenite transform. 4-40837
 steels, plasma surface hardening 4-21374
 textile fibres, light absorption coeff., heat treatment process effects 4-20934
 thin metallic layers, hot stage microscopy (German, English) 4-35801
 TiN_x , vacancy ordering, Ti-N phase relationship, X-ray diff., neutron scatt. expts. 4-11142
 tribological surfaces, microscopic contour changes by chem. and mech. action 4-12193
 vermiculite, surface morphology, heat treatment effects 4-45468
 9-vinylcarbazole oligomers, electro-photographic props., heat treatment effect (Russian) 4-4486
 wire production, elec. heat treatment 4-12093
 Zircaloy-4, stress-relieved, creep at 673K 4-16441
 Al alloys, 7XXX, fatigue, variation of crack rate scatter 4-3215
 Al thin films, heat treatment effect on intrinsic stress 4-51696
 Al-(Mg)-(Cu)-(Zn)-Ti, dendrite liquation of Ti 4-57209
 Al-Ag, Portevin-Le Chatelier effects, influence of heat treatment 4-12103
 Al-Mg, phase transitions and mechanical props., thermal cycling (Russian) 4-50491
 Al-Mg-Li-Zr, struct. and props., effect of cooling rate during crystn. 4-57299
 Al-Si, decomp. features 4-57235
 Al-Si, thermal cycling treatment, effect on struct. and props. 4-40840
 Al-Zn (8.5 wt.%) positron annihilation characts., temp. depend. 4-40563
 Al-Zn-Mg, 7075, slow fatigue crack growth rel. to heat treatment, microstruct. and humid environment 4-40973
 Al-Zn-Mg-Cu, SCC susceptibility, influence of Zn, Mg and Cu conc. (German) 4-26110
 AlN, hot-pressed, mech. props., influence of oxidation (French) 4-16558
 Al_2O_3 -Mn, valency changes induced by heat treatment or γ -irrad. 4-11912
 Al_2O_3 - P_2O_5 - SiO_2 system, glassy solids, low temp. synthesis 4-35598
 BP, stoichiometry deviations, elec. cond. study, vacancies and anti-site defects obs. 4-39902
 C, glassy, elec. cond. and Hall effect 4-6754
 C, glassy, negative magnetoresistance study 4-15894
 $CaCO_3$, single crystals, \circ TSEE glow curves rel. to heat treatment 4-3028
 $CaSiO_4$, β - γ transform., thermal history effect (Japanese) 4-40774
 CdS/CdTe electroplated thin film solar cells, high efficiency 4-46873
 Cd_3SnO_4 thin films, influence of point defects on electrical properties 4-40091
 CdTe-metal junctions, surface prep. effect on props. 4-2653
 CdTe-metal junctions and heterojunctions, surface effects 4-25442
 Co_2 , precipitated, thermal treatment, texture rel. to atmosphere 4-40728
 Co-Cr RF sputtered films, saturation magnetisation, atomic distrib. effects 4-56720
 Co-Ti, martensitic transformation, ageing and phase hardening effects (Russian) 4-35627
 CoCr sputtered films, mag. props. and microstruct., heat treatment effects 4-56721
 Cr solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
 Cr-Al-Y-Fe (Co) coatings on stainless steel, laser surface fusion and oxidation 4-7649
 Cr-Mo-V steel macrostructure and props., effects of electroslog founding 4-35703
 Cr-Ni, elec. and mag. props. 4-2585
 Cu-Ni-Mn-Fe alloys, elec. resist. and Kondo effect at Fe impurities (Russian) 4-25329
 Cu-Sn, thermal cycling effect on intracryst. heterogeneity and struct. 4-21247
 Cu-Zn-Al, acoustic emission during partial martensitic transform. (French) 4-40782
 Cu-Zn-Al, shape memory effect, degradation, grain size refinement, internal stresses, reflectivity obs. (Japanese) 4-46505
 $Cu(IO_3)_2$, ^{128}I recoil, pre-heat treatment study 4-55883
 Cu_2S , vacuum evaporated thin films, phase transitions, electron diff. 4-25176
 (Fe,Ni,Co), $_{1-x}$ (B,P,Si), alloys, amorphous, phonon thermal cond., 2 to 100K, heat treatment effect 4-6573
 Fe alloys, impact wear testing, failure characts. 4-16608
 Fe, aluminisation by thermochem. method, thermodynamic calc. (French) 4-21367
 Fe, Armco, heat treated, failure mechanism in abrasive wear 4-41001
 Fe, cast, bainitic nodular, for construction of speed gears 4-46541

heat treatment continued

- Fe, cast, fracture toughness rel. to ferrite and pearlite distrib. 4-21298
 Fe, cast, nodular, austenitising, microstruct. rel. to Mo addition (French) 4-51700
 Fe, dispersed on graphitised C-B, mag. and Mossbauer study 4-25659
 Fe, white cast, rapidly solidified powder compacts, room temp. strength and ductility 4-7528
 Fe-Al-Si (20, 5 at.%), antiphase domain growth kinetics 4-16424
 Fe-Co-V, heat treatment, ductility and structure 4-7509
 Fe-Cr alloy, AE during martensitic transformation 4-57227
 Fe-Cr-Co-Si-Ti, permanent mag. alloy, microstruct., mag. props. rel. to treatment and comp. 4-16065
 Fe-Cu, fibrous composite wires, age hardening 4-46521
 Fe-Mn (19 wt.%), shape memory effects and α - γ transition (Russian) 4-35661
 Fe-Nd rapidly quenched alloys, mag. hardening, magnetisation and thermomag. studies 4-56704
 Fe-Ni (28 wt.%), austenitic, deformation-induced transform., effects of cyclic heat treatment (Korean) 4-30758
 Fe-Ni-B-P-Cr amorphous alloy passivation, Cr addition and heat treatment effect 4-57445
 Fe-Ni-C, Invar effect, C addition influence, Mossbauer studies (Russian) 4-51161
 Fe-Ni-C, Mossbauer study of atomic and mag. ordering (Russian) 4-7100
 Fe-Ni-Cr superalloy, mech. props., microstruct. on prolonged heat exposure (Chinese) 4-3172
 Fe-Ni-Mo (13.3 wt.%), strength and low temp. toughness 4-30821
 Fe-Ni-V (28, 1.5 wt.%) foils, residual austenite layers (Russian) 4-7415
 Fe-Pr rapidly quenched alloys, mag. hardening, magnetisation and thermomag. studies 4-56704
 Fe-Pr-B-Si, rapidly quenched, mag. and struct. props., permanent magnet appls. 4-2790
 Fe-Si strips, grain-oriented, desulphurisation during heat treatment in vacuum 4-16421
 Fe-Si-Al ferromagnetic alloy, mech. strength in mag. fields (Russian) 4-35677
 Fe-Si-B metallic glasses, struct. after rapid heat treatment 4-20107
 Fe-Sn-C, cast high-strength, Sn effect on struct. and props. 4-21250
 Fe-V, σ phase form. mechanisms, elec. resist., acoustic emission obs. (Japanese) 4-25953
 FeCoNiCrBSi metallic glasses, internal friction, dynamic elastic modulus, microhardness meas. 4-40854
 FeN, phase form. by N^+ ion implantation and heat treatment 4-39326
 $Fe_3Ni_2Cr_{14}P_{12}B_6$, metallic glass, internal friction and Curie temp. 4-25552
 $Fe_{40}Ni_{40}P_{14}B_6$, amorphous, field induced anisotropy, and Curie temp. 4-25547
 Fe_2O_3 , haematite, mag. susceptibility and mag. moments, temp. depend. (Russian) 4-25521
 FeO.H₂O, goethite, mag. susceptibility and mag. moments, temp. depend. (Russian) 4-25521
 $Fe_{0.9}V_{0.1}$ alloy, coupling between mag. and chem. interactions 4-30180
 GaP single cryst., heat-treated, electrophys. props. and photolum. 4-25808
 GaP:N, effect of heat treatment on N conc. change, cathodolum. study 4-24842
 Ge, γ -ray irrad., A centres, energy levels and annealing 4-50760
 Ge solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
 Ge:Cu, plasma hydrogenation, deep levels and Cu solubility 4-29923
 GeO_2 , phase transform. on heating (Japanese) 4-50502
 Ge_2Se_3 chalcogenide IR optical glass, flocculent inhomogeneities 4-6280
 $Hg_{1-x}Zn_xCr_2Se_4$ ferromag. semicond., elec. props. and stoichiometry, heat treatment effects 4-6777
 InGaAsP DH laser, heat treatment effects 4-44104
 InP, low temp. electron irrad., defects, DLTS studies 4-50758
 InP, P ion irradiated, photoluminesc., thermal processing effect 4-16248
 InP substrate, deform. of etched V-grooves by heat treatment 4-46636
 InP:Co(Fe), Hall effect, elec. resist. and DLTS studies 4-25374
 InP:Fe, pure and doped, deep centres, optical studies 4-11479
 KCl:Ba²⁺ solid soln., solvus, single cryst. density studies 4-34655
 La_2Au , high press. synthesis and supercond. props. (Chinese) 4-57134
 $LiAlO_2$, ^{128}I recoil, pre-heat treatment study 4-55883
 $LiIO_3$, polymorphic transformations, DTA, heat treatment and X-ray diff. studies (Chinese) 4-55776
 $Li_2O-Al_2O_3-SiO_2-(TiO_2)$ glass, ESR study of change of structural state of Li^+ during crystallisation 4-20856
 Mg-Mn (1.58 wt.%), precipitation, TEM and elec. resist. obs. 4-12070
 MgO, fused, electrical-grade, heat treatment in induction plasma 4-51702
 Mn-Ge, antiferromag. Invar type alloy, thermal expansion, mech. props. rel. to Fe, Co or Ni additions 4-20847
 $Mn_{1-x}Sb_x$ mag., elec., and struct. props. after high press. high temp. treatment 4-11753
 Mo-Ti-Zr alloy TSM2A, struct. and creep after internal nitriding 4-3147
 NaCl crystals, electrification kinetics, deformation and heat treatment effects 4-30051
 NaI crystals, effect of heat on radiation damage 4-959
 Na_2O - CaO - MgO - Al_2O_3 - SiO_2 (TiO_2) glass, ESR study of change of structural state of Cu II during crystallisation 4-20856
 $Na_2O-L_2O_3-TiO_2-B_2O_3-SiO_2$ system, heat treatment, leaching, phase decomposition 4-7470
 Nb-Al superconducting wires, powder metallurgy processed, high field performance 4-45967
 Nb-Ti (56 wt.%), supercond., flux pinning on normal precipitates 4-40127
 Nb-Ti superconducting composite wire, props. 4-45982
 Nb-Ti-Hf multifilamentary superconductors, high-field props. 4-11654
 Nb-Ti-(Ta) multifilamentary superconductors, fabrication 4-45968
 NbN, synthesis and superconductivity 4-56473
 Nb_3Sn , bronze-processed, chem. comps. near grain boundaries, AES study 4-2212
 Nb_3Sn , bronze-processed multifilamentary wire, critical current study 4-30131
 Nb_3Sn composite processes superconductor, effect of Ti addition to Nb core on initial props. (Japanese) 4-25492
 Nb_3Sn multifilament superconductors, AC loss depend. on struct. props. 4-45952
 Nb_3Sn multifilamentary superconductor, struct. and props. (Chinese) 4-2679

heat treatment continued

- Nb₃Sn multifilamentary superconductors, effect of hot isostatic pressing on stress effect 4-47071
- Nb₃Sn superconducting multifilamentary wires prepared by bronze route, crit. currents, anomalous increases 4-45974
- Nb₃Sn tape superconductor, props., influence of Nb₂O suboxides in substrate 4-45977
- NbTa-Sn multifilamentary composite wire by solid-liq. reaction, supercond. props., appl. above 20 T 4-16003
- Ni deactivation during activated C gasification, XPS 4-41262
- Ni electroless coatings, struct., corrosion resist., stripping rate rel. to heat treatment 4-46660
- Ni films on Si, SiO₂ or glass ceramic substrates, monitoring of heat treatment by FMR 4-51136
- Ni, polycryst., fatigue development mechanism during thermal cycling 4-35699
- Ni solar selective films, oblique angle deposited, high temp. optical degradation 4-36031
- Ni-B, electroless surface coatings, passivation and pitting 4-3296
- Ni-B composite electrolytic coatings, struct. and phase comp. 4-3288
- Ni-Cr-Co, Udimet 520 superalloy, γ' strengthened, mech. props. rel. to protective coatings 4-40971
- Ni-Cr-Nb(W), cast heat-resist., carbide reactions and precip. 4-40788
- Ni-Cr-W superalloy, CMSX-2, improvement of creep strength by heat treatment 4-7489
- Ni-Fe-Mo alloy, thermal treatment effect on dislocation structure (Polish) 4-30724
- Ni-P-Cu, electroless surface coatings, passivation and pitting 4-3296
- Ni-Si-C, codeposited composite coatings, bond strength, surface roughness rel. to heat treatment 4-46659
- Ni-Si contacts, chemically deposited, struct. and elec. meas. 4-35064
- Ni-Ti, internal friction during incomplete thermal cycling 4-40859
- Ni₂Zr₇₆, amorphous, structural relax. kinetics, elec. resist., shear modulus, internal friction meas. (French) 4-39145
- Pb₂SeNbO₆, single crystal growth, phase transitions, dielectric nonlinearity 4-51474
- Pd-Fe, ferromagnetism 4-56578
- Pt-Ni-Si bimetallic condensates, monitoring of heat treatment by FMR 4-51136
- Se-Sn as chalcogenide glass and cryst. cpds., ¹¹⁹Sn Mossbauer studies 4-56836
- p-Si (100), denuded zone form., heat treatment effects 4-39514
- Si, amorphous, solar cells, reverse bias and heat treatments 4-57717
- Si, amorphous and microcrystalline, vacuum deposition form. 4-46442
- Si, defect form., heat treatment condition effects, X-ray diffr. studies 4-2194
- p-Si, heat treatment-induced deep levels, DLTS study 4-56269
- Si, low temp. surface cleaning, MBE apps. 4-16332
- Si, plasma hydrogenation, deep levels 4-29923
- Si, proton and γ -ray irradi., point defect-group radiation defect interactions 4-34531
- Si solar cells fabrication techniques for single and semicrystalline Si substrates 4-52139
- SiO₂, Czochralski grown, defects study 4-15461
- SiO₂, minority carrier lifetime, heat treatment effects 4-6803
- Si:P, ion implanted, laser annealed, precipitation study 4-39520
- Si:P⁺, ion implanted, extended defect reduction by uniform heating 4-29450
- SiO₂ glass, transparent sol-gel prep. 4-57179
- SiO₂ multilayer systems, adhesion meas. by scratch method 4-26171
- SiO₂-B₂O₃-P₂O₅ systems, monolithic aerogel prep., glass conversion 4-57177
- SiO₂-GeO₂, optical fibres, heat-treated, optical loss increase, ESR study 4-21337
- SiO₂-GeO₂, optical fibres, diffused H₂ gas chem. change to OH⁺, expt. study 4-38612
- Sm-Co-Cu alloys, high-coercivity state form. and cryst. struct. (Russian) 4-25593
- Sm-Co-Fe-Cu-Zr sintered alloys, struct. and mag. props. (Russian) 4-35198
- Sm(Co, Cu, Fe, Zr)_{8.92} mag. alloys, heat treatment, metallographic studies 4-51826
- Sm(Co, Fe, Cu, Zr)_{7.2} magnet, microstructure, mag. props., heat treatment effect 4-7018
- SmCo₅ magnets, sintered, heat treatments, mag. hysteresis, microstructure 4-7022
- SmCo₅ phase homogeneity ranges, X-ray study 4-30686
- SrO-TiO₂-Na₂O-SiO₂ system glasses, opt. dielec. and thermal props., conc. depend. (Rumanian) 4-46278
- Ta-Al-N alloy, anodised thin film capacitor, Auger electron spectroscopy, dielec. loss study (Japanese) 4-7125
- Ta₂S₃, orthorhombic, spontaneous decay of metastable CDW states 4-29953
- Ti-Al-Mo-Cr (7.5, 2.5, 1.8 wt.%), decomp. of metastable β -phase, effect of thermal treatment 4-40744
- α - β Ti-Mn, fatigue crack propag. rel. to phase comp. 4-40968
- Ti-Mo (10 at.%), α - β - γ transition during heating, diffusion mechanism (Russian) 4-24996
- TiC_{0.8}, chem. struct. transformations, effect of thermobaric treatment 4-50493
- TiNiO photoelectrochem. electrodes, struct. and elec. props. 4-15443
- TiO₂, anatase-rutile transform., inhibiting effect of PO₄³⁻ 4-50498
- TiBr-TiI single crystal heat treatment for improved optical quality and reduced ultrasonic wave damping 4-46635
- TiCl-TiBr single crystal heat treatment for improved optical quality and reduced ultrasonic wave damping 4-46635
- W, heat treated in nearly equil. conditions, structural changes 4-25985
- W, powder metallurgical, crack resist., temp. and heat treatment influence 4-26061
- W-Fe, dil. alloy, grain boundary segregation rel. to grain boundary movement 4-12072
- YCrO₃, sintered refractory, heat treatment, physical props., MHD electrode appl. 4-3112
- YIG epitaxial films, mag. props. and structural defects (Russian) 4-25612
- YIG-Ga, effect of ionic migration induced by heat treatment on Faraday rotation 4-25727
- (YLa)₂Fe₂-Ga₂O₁₂ laser annealed films, thermal anal., bubble statics 4-25618
- ZnO films, Pd salt impregnated, H₂ sensitivity rel. to heat treatment 4-42945

heat treatment continued

- ZnS crystal, CVD, low resistivity rel. to heat treatment in Zn 4-16301
- ZnS films, activation for blue emission by embedding techniques (Japanese) 4-30503
- ZnSe MBE growth on GaAs(GaP), vacuum thermal treatment and substrate cleaning effects 4-12029
- Zr O₂, transform. toughened ceramics, compressive surface stresses introduction technique 4-16411
- Zr₃Cu₃₀, amorphous supercond., surface normal regions induced by thermal relax. 4-20771
- ZrO₂-TiO₂-SiO₂ glasses, low temp. synthesis by sol-gel method, struct. obs. 4-37176

heated cathodes see thermionic cathodes

heating

- see also electric heating; induction heating; ovens; plasma heating; refractories; space heating
- air water solar heater 4-41317
- bilinear solar heating system, optimal periodic control 4-31077
- buoyant boundary layer flow during heating of stably stratified fluid 4-55430
- components local heating conditions optimisation, algorithm development 4-57257
- domestic hot water systems, actual and predicted performance comparison 4-57658
- dynamic analysis of X-ray heating and cooling (Croatian) 4-48272
- fibre reinforced polymer cylinder, thermal stresses during heating and cooling 4-44416
- fluid layer, thermal convection onset, time depend. temp. distrib. 4-44572
- gas diffusion through capillary, local heating effects 4-50559
- heat carrier of variable props., heat transfer and resistance with turbulent flow 4-14972
- metal heating by nanosec. -XeCl* laser radiation pulses generating a surface plasma 4-24856
- passive solar heating system performance evaluation by tandem-type test house 4-12454
- passive solar water heating, increased use and systems available in USA 4-7809
- rating procedure for solar domestic water heating systems 4-46859
- residual welding stresses in plates, heating and cooling conditions selection 4-33961
- scanning Gaussian laser beam temp. distrib. due to absorpt. by solid target 4-24040
- solar domestic hot water systems at National Bureau of Standards, thermal performance 4-21583
- solar heater performance, influence of collector plate temp. gradient 4-7894
- solar hot water system rating test 4-7808
- solar power passive water heating systems, thermal performance testing method, general overview 4-57755
- solar swimming pools, thermal model 4-7898
- solar water heater systems, experimental investigations 4-57660
- solar water heaters manufactured in West Africa, performance 4-57659
- solar water heating, design and performance data from 28 European systems 4-52196
- solar water heating systems, forced circulation mode, long term performance 4-57757
- surface heating, periodic, meas. using SAW 4-2419
- thermoluminescent continuous layers, heating with localised laser beams 4-48758
- transient performance of built-in-storage water heater, effect of baffle plate 4-7896
- two-pass modified reverse flat-plate collector performance 4-7899
- vibrating spiral heater, mechanothermal self-oscill. and temp. oscill. obs. 4-19709
- viscous liq., wave hydrodynamic excitation by hot surface (Russian) 4-29102
- water heating by solar flat collector systems, economic justification (Croatian) 4-12458
- Al wall, laser heating, vaporisation and effect on vapour (Russian) 4-34541
- Fe, cast, elastic modulus, var. on heating 4-40883
- Zr ceramic, brittle fracture in bending under laser impulse heating 4-35696

heating, buildings see space heating

heavily doped semiconductor materials see heavily doped semiconductors

heavily doped semiconductors

- see also degenerate semiconductors; superconducting semiconductors
- impurity excited states effects 4-39817
- impurity-band tails, simplified approach 4-11474
- Kane narrow gap, heavily doped, anomalous Hall effect 4-11547
- nonideal heterojunctions, tunnel-recombination currents 4-25437
- polar, plasma freq., cryst. lattice polar vibr. effect, carrier conc. correction 4-39414
- polyacetylene:I₂, heavily doped, IR transmission 4-2914
- polyacetylene:I₂(HSO₃F) heavily doped, elec. and optical props. 4-50802
- ZnO/Si p-n and n-n heterojunctions, conductivity 4-45864
- n-CdSnAs₂, heavily doped, elec. resist. and Hall coeff., press. depend. 4-20657
- GaAlAs:Si and GaAs:Si, heavy doping during MBE 4-16319
- GaAs, heavily doped, electron irradi., annealed, internal quantum efficiency of deep-centre luminesc. 4-7246
- GaAs heavily doped MBE layer, defects study 4-34497
- GaAs, high dose ion implanted, halogen lamp annealing, Raman scatt. study 4-15520
- GaAs:Ge(Sn), LPE growth rate 4-34831
- GaAs:Si MBE films, Si doping, photoluminescence studies 4-11160
- GaAs:Te, heavily doped, plasma-assisted epitaxy, nonalloyed ohmic contact appl. 4-21165
- GaAs:Te, heavily doped, photoluminescence study 4-40502
- GaAs:Te, impurity distrib. around dislocations 4-11175
- n-GaAs:Te,Ge epitaxial layer, edge photoluminescence, compensation effects 4-11938
- GaAs:Zn, implanted, IR rapid annealing 4-20217
- GaAs:Zn, ion implanted, heavy doping, enhanced activation 4-39316
- a-Ge, Coulomb gap, disorder effect, cond. study 4-45781
- Ge, heavily doped, implanted laser annealed, and bulk grown, photolum. study 4-21031
- Ge, heavily doped, laser annealed, photolum. study 4-21032
- n-Ge, heavily doped, light scatt. by plasmons 4-56942

heavily doped semiconductors continued

- Ge:Ga(P)(B)(As), ion implanted, laser annealed, phonon softening, Raman study 4-15597
 InP, doped and undoped VPE, optical characterisation of acceptors 4-35477
 InP:Co, LEC single crystals, precip. identification 4-35563
 InP:Ge, LEC single crystals, mech. strength, use as substrate for VPE InP layers 4-11215
 InP:Ge LEC ingots, dopant inhomogeneity, segregation nature and minimisation 4-35562
 InP:Si, compensating aspects of implantation damage 4-34510
 InP:Se, implanted, transient annealing using graphite strip heater and electron beam methods 4-34509
 InP:Si, elec. and photolum. obs. of Si implantation and damage, residual impurities 4-34511
 InP:Sn(S)(Zn) crystal, liq. encapsulation Czochralski grown, defect struct., synchrotron X-ray topography 4-45137
 n-InSb:Te, negative magnetoresistance study 4-6812
 InSb:Te(Se)(S) 4-40098
 PbSe:Cd, heavily doped, elec. and optical props. 4-15920
 $(\text{Pb},\text{Sn})_{1-x}\text{Sb}_x$ sputtered thin film, heavily doped, Mossbauer effect studies 4-51170
 $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$ heavily doped ferroelec. semicond., Curie temp. effects 4-35392
 n-PbTe layers, heavily doped, LPE grown, temp. depend. of mobility 4-20749
 PbTe:Ga, strongly doped, photoelec. behaviour near Curie temp. 4-39981
 Si, amorphous based alloy solar cell modelling 4-52151
 Si diodes, heavily doped, bandgap narrowing in space charge region 4-40031
 Si, dislocation motion, doping effects 4-15476
 Si, energy gap narrowing meas. 4-50835
 Si, heavily doped, ion implanted, laser annealed, electronic struct. study 4-15838
 Si, heavily doped, laser annealed, photolum. study 4-21032
 Si, heavily doped, pulsed laser annealed, optical and elec. props. 4-20650
 Si, hole and electron mobilities, device models implications 4-20655
 Si, n- and p-type, photoluminesc. and excitation spectra, optical and reduced band gap 4-46326
 Si p-n junction, abrupt, open-circuit photovoltage, degeneracy and heavy doping effects 4-40037
 Si p-n junctions, built-in voltage in heavily doped region 4-40032
 n-Si:As, ion implanted, laser annealed, Brillouin study of phonon softening 4-40466
 $\text{p}^+\text{-Si:Bi/Al}$ Ohmic contacts on ion implanted shallow Si layers, formation by halogen lamp annealing 4-15960
 Si:Ga MBE growth, high Ga implantation doping using liq. metal Ga ion source 4-39320
 Si:Ga(P)(B)(As), ion implanted, laser annealed, phonon softening, Raman study 4-15597
 a-Si:H, elec. cond. study 4-39905
 Si:P epitaxial layers, reflectance, transmittance and Hall mobilities meas. 4-40548
 Si:P films, dielectric props. meas. 4-40327
 Si:P(As), polycryst., solubility of implanted dopants 4-34508
 Si:P(As) superheavily doped SOS films, absorption edge studies 4-2982
 Si:P(As)(Sb), effect of free carriers on Raman freq. 4-40461
 Si:Sb, high concentration Sb diffusion using auxiliary wafers 4-45419
 Si:Te, ion implanted, pulsed laser annealing, supersaturated solid soln. formation 4-24863
 SnO_2 :V, needle crystals, vapour phase growth, elec. resist. 4-21116
 SnO_2 :Rhodamine B interface, photocurrent vs. electrode pot. characts., tunnel electrodes (Japanese) 4-35062
 p-Te, heavily doped, Raman study of A_1 -phonon asymmetry 4-7194
 ZnS:Mn, heavily doped, electroluminescence study 4-46334

Heavyiside layer *see E-region***heavy ion excited X-ray emission** *see ion microprobe analysis***heavy ion-nucleus reactions**

for inelastic heavy ion-nucleus scattering, see "heavy ion-nucleus scattering"

- $A_p \leq 12$ projectile reactions and scatt., density distrib., double folding model, review 4-37652
 anomalous, searches and anal. (French) 4-32931
 anomalous, Zudek effect, toroidal nuclei explanation 4-54114
 atomic excitation processes assoc. with heavy ion collisions, semiclassical calcs. 4-38284
 beam-foil scatt. and transmissions, atomic and nuclear polarisation 4-33514
 Boltzmann eqn. soln. for inclusive reactions, nuclear eqn. of state 4-37657
 bremsstrahlung background γ -ray emission 4-43507
 central, semicentral and peripheral nucleus-nucleus cross sections in a multiple collision model 4-13967
 central collisions at large excitation energies, fusion and competing reactions 4-18456
 central nucleus-nucleus collision, pion multiplicity, reaction mech. 4-32912
 coexistence model of entrance and exit channel effects 4-27900
 conference on heavy ion nuclear physics, Catania, Italy (Mar. 1983) 4-17630
 conference on nuclear physics, Mikolajki, Poland (1980) 4-4148
 conference on quark matter formation and heavy ion collisions, Bielefeld, Germany (May 1982) 4-42601
 cosmic ray data, 10^2 - 10^6 TeV, recent developments, review 4-47517
 cosmic ray heavy nucleus reactions, 4-1000 GeV/N, multiple particle prod., collective mech. 4-36549
 Crystal Ball 4π γ -detector, nuclear physics, heavy ion collisions, rot. nuclei 4-18873
 deep elastic reactions and fusion 4-18458
 deep inelastic collisions, coherent and incoherent aspects, TDHF, stat. S-matrix 4-18459
 deep inelastic processes, energy dissipation, mass transfer, giant resonances 4-18455
 deeply inelastic collisions, polarisation, partial reaction amplitudes statistical fluctuations effects 4-620
 deeply inelastic reactions, theoretical models and open problems 4-18460
 deepn inelastic heavy ion collisions, proton and neutron asymmetries, quantum treatment 4-27898
 deuteron vol. influence on d/p ratio in 400-800 MeV/nucleon heavy-ion collisions 4-37530

heavy ion-nucleus reactions continued

- direct reactions, collision dynamics of barrier, direct-compound-like reaction link 4-18409
 dissipative diabatic dynamics, large amplitude collective motion, shell model, heavy ion collisions 4-18321
 dissipative effects in model of two coupled oscillators 4-27899
 dissipative processes for heavy ions with nucleonic energy close to Fermi level (French) 4-619
 dynamical quark-hadron phase transitions in heavy ion collisions 4-18374
 electron-positron field behaviour in presence of external EM field 4-27901
 energetic heavy-ion collision, expansion and disassembly phase, dynamical instabilities 4-37529
 entropy production in heavy-ion collisions due to rapid phase transitions 4-18397
 entry state ang. momentum direction 4-27823
 exotic pionic atoms in heavy-ion collisions 4-32929
 fast light particle nonequilibrium emission 4-18446
 fission, ang. distrib., transition state theory, flexible rotor model 4-48604
 fragment emission in 3-D hydrodynamical model 4-9232
 fragmentation, shell effects in mass transfer drift potential 4-32914
 fusion, generalised critical distance model 4-691
 fusion, heavy ion subbarrier data, interpretation using 2-D tunnelling model 4-18473
 giant dipole resonances built on continuum states in heavy ion reactions, review 4-4829
 giant nucl. systems, positrons from supercritical fields 4-4901
 hadron bubbles formed in relativistic ion reactions 4-37473
 hadronic mass spectrum, temp. delimiting 4-18208
 heavy fragment emission in ^{12}C -emulsion interaction 4-54170
 heavy fragmentation, structural forbiddenness in heavy ion reactions 4-32852
 heavy ion accelerators with energy >100 MeV/N for exotic nuclei search 4-18833
 heavy nuclei fusion, expt. results and models, review 4-32943
 (HI, 4n), fission and neutron emission competition near $N=126$, shell and collective effects 4-18469
 (HI, πX): two-particle correlation and inclusive distrib. from statistical model 4-14001
 (HI, NX), medium energy, preequilib. nucleon emission, exciton and equilibration model 4-23130
 (HI, xn) reactions, rare earth atom prod., K X-ray multiplicity, cross sections 4-18467
 high energy, nuclear matter study with hydrodynamical model 4-18470
 high energy collisions, Bevalac results, quark-gluon plasmas, anomalous 4-43519
 high energy collisions, light particle spectra, collective nuclear flow 4-43520
 high energy collisions, particle prod., additive quark and parton models, review 4-43518
 high-energy, anomalon production 4-43512
 highly dissipative heavy ion reactions, complete fusion, fast fission (French) 4-686
 incomplete fusion reactions, interface between direct and compound reactions 4-54159
 interaction potential in energy density formalism 4-4878
 intermediate energies, quark-gluon plasma form., hydrodynamical description 4-43513
 intermediate energy, NN collision dominance 4-43500
 intermediate energy collisions, 100 MeV-2 GeV, nuclear dynamics models, open problems 4-18462
 intermediate energy collisions, instabilities, phase transitions 4-18461
 intermediate energy collisions, mean field approx. to pion prod. 4-48596
 intermediate energy heavy-ion collisions, expt. results 4-18463
 internucleus pot., inversion formula using sub-barrier fusion cross sections 4-4888
 intranuclear cascade calculations of momentum transfer in light-ion collisions with complex nuclei 4-18395
 light particle emitting reaction, direct description 4-608
 liquid-gas phase transition, (p,X) and (H₁,X) fragment distrib. data, condensation theory anal. 4-43417
 liquid-vapour phase transition in hot nuclear systems, collision induced, dynamical aspects 4-18375
 low mass reactions, extra-push model, intermediate mechanisms 4-48546
 many particle final states (French) 4-4907
 mass asymmetry influence on onset of incomplete and limit to complete fusion 4-54164
 neutron emission to fission reduced widths ratio Γ_n/Γ_f from cross sections 4-4902
 neutron nuclei (^2n , ^3n , ^4n) production in heavy ion collisions 4-54115
 neutron transfer heavy ion reactions, differential cross sections, DWBA calcs., spectroscopic factors 4-678
 nuclear far from beta stability, prod. in heavy ion fusion reactions, review 4-4926
 nuclear matter under extreme conditions, pion condensation and Lee-Wick condensation (German) 4-27819
 nuclear molecules, present status 4-27896
 nuclear far from stability, equipment used at 20 MV Daresbury tandem 4-18849
 nuclei far from stability production (French) 4-4905
 nucleus-nucleus collisions, average P_T depend. on multiplicities, cosmic ray events 4-32918
 nucleus-nucleus collisions, intrinsic motions with external correlations 4-18476
 nucleus-nucleus optical model pot. 4-13969
 observable expectation value, time-depend. variational principle, mean field theory appl. 4-18368
 optical potentials at finite temp., using complex effective interaction 4-43502
 particle correl. expt. studies, review 4-23112
 particle densities in ultrarelativistic heavy ion reactions extrapolated from proton-nucleus collisions 4-13966
 particle-to-fission competition at high excitation energies in heavy ion reactions 4-48556
 phase-space constraints on the momenta of projectile fragments 4-32923
 pion production collective effects from multiplicity distrib. calc. 4-683
 pion production from intermediate energy nucleus-nucleus collisions (French) 4-4906
 Plastic Ball spectrometer, charged particle exclusive meas. for 4π solid angle 4-18850

heavy ion-nucleus reactions continued

- pre-equilibrium dynamics and emissions in reactions between heavy ions (French) 4-618
- preactinide nuclei, $170 \leq A \leq 210$, in (^{12}C , f), statistical model anal. with shell effects 4-18490
- preequilibrium particle emission, dynamical study (French) 4-27859
- properties of heavy-ion reactions 4-43499
- quantum dynamics, nonequilibrium. Green's function anal. 4-43498
- quark matter form. in ultra-relativistic heavy ion collisions, QCD, hadronic fluid dynamics 4-43522
- quark-gluon formation signatures in nuclear collisions, review 4-43523
- quark-gluon matter formation in nucleus-nucleus collisions, parameters and signals, review 4-43514
- quark-gluon plasma, high density hadronic matter in ultrarelativistic heavy ion collisions 4-4632
- quark-gluon plasma formation in nuclear collisions, trailing cascade and sequential decay models 4-43516
- quark-gluon plasma in heavy ion collisions, classical dynamical descript. 4-43524
- quark-gluon-plasma evolution in scaling hydrodynamics 4-37528
- quasi-molecular systems from heavy ion-reactions, moment-of-inertia calc. 4-54035
- quasimolecular states and nuclear struct. from heavy ion collisions 4-18450
- rapidly rotating nuclei from heavy ion collisions, single particle and collective degrees of freedom 4-18322
- recoil-atom ionisation, ionic charge distribution 4-18472
- relativistic collisions, SATURNE expts. with DIOGENES (French) 4-4908
- relativistic heavy ion collision, fireball expansion, nucleon collisions during expansion 4-32910
- relativistic heavy ion collisions, pion instability effect on proton inclusive distribts. 4-9235
- relativistic heavy ion reaction dynamics, review 4-43517
- relativistic heavy ion reactions, 100 MeV/N-1 GeV/N, 1-dimens. viscous hydrodynamical model 4-48586
- relaxation parameters for degrees of freedom, collective transport theory 4-18320
- statistical model, neutron nuclear reaction theory 4-37531
- strongly interacting matter in ultra-relativistic heavy ion collisions, deconfined phases, QCD 4-43327
- sub-barrier fusion enhancement in quantum mechanical coupled channels model 4-48606
- sub-barrier fusion of heavy ions 4-32930
- sub-barrier fusion reaction, open problems, cross sections 4-18457
- sub-Coulomb heavy-ion nuclear reactions 4-18452
- subbarrier fusion and dynamical deformations 4-27852
- subthreshold pion prod., cooperative process 4-48595
- surface friction model, comparison with TDHF method 4-32856
- TDHF calcs. of nuclear molecular resonances 4-32924
- TESSA, γ -array for high spin states from heavy ion fusion 4-18874
- three-dimensional nuclear dynamics in the quantized ATDHF approach 4-14000
- time evolution, approach to chemical equilib., thermal model anal. 4-54111
- transfer reaction kinetics, ejectile vels. 4-9227
- transfer reaction mechanisms, multistep interactions, α -cluster transfer 4-18454
- transfer reactions, nuclear struct., cross sections, high spin states 4-18453
- transfer reactions, semiclassical approx., transfer amplitude symmetry props. (Chinese) 4-54168
- two interacting deformed nuclei, proximity type pot., double folding model comparison 4-43510
- two-nucleon transfer heavy ion reactions, differential cross-section, DWBA approx., spectroscopic factors 4-677
- ultra-relativistic central collisions, hydrodynamics 4-18447
- ultra-relativistic heavy ion collisions, future expts., correlations, spectra, detectors 4-43521
- ultra-relativistic mean-field QCD model for hot dense matter 4-27820
- ultra-relativistic nucleus-nucleus collisions, space-time picture, hydrodynamical and cascade models 4-43515
- ultrarelativistic, dimuon mass spectrum of quark-gluon plasma and pionised phases 4-37658
- ultrarelativistic, high multiplicity events anal. from multiple NN viewpoint 4-14007
- vaporization wave model for ion-ion central collisions 4-617
- Δ -isobar formation, pion production, in heavy ion collisions 4-13938
- e^+e^- excitations, quantum mechanical treatment 4-9223
- (^{40}Ar , xn), on Z=65-90, forward angle α -energy spectra 4-4883
- Ag (^{12}C , X), 15, 30 MeV/N, complex nuclei emission cross section 4-14003
- Ag (^{12}C , X) 4-37654
- Ag (^{40}Ar , α X), A=107, 109, 285 MeV, α -emission channel dominance in deep inelastic transfer, cross sections 4-674
- Al (^{16}N , π^+ X), 35 MeV/A, pion prod. cross sections 4-32916
- Al (^{16}O , x), 0.8-2.4 GeV, light ion emission, differential cross section 4-4887
- ^{27}Al (^{14}N , X), dissipative processes for heavy ions with nucleonic energy close to Fermi level (French) 4-619
- ^{27}Al (^{16}O , p), proton emission mechanism model 4-32926
- (Ar, X), 44 MeV/u, peripheral reactions, high energy fragmentation reaction similarities 4-23127
- (^{40}Ar , X), 1.82 GeV/A, secondary fragment charge-changing reactions, cross sections, path lengths 4-48593
- (^{40}Ar , X), 1.85A GeV, anomalous effect in secondary nuclei mean free paths, CR-39 meas. 4-14002
- (^{40}Ar , X) on Ba, Cd, W, Gd, Dy, Al, ionisation of recoil atoms 4-4896
- (^{40}Ar , X), 1.8 GeV/N, secondary fragments mean free path meas., anomalous production 4-43505
- Au (^{40}Ar , X), 42-137 MeV/N, fragment meas., entropy determ. 4-9224
- Au (^{16}O , x), 0.8-2.4 GeV, light ion emission, differential cross section 4-4887
- ^{197}Au (^{12}C , X), 15, 30 MeV/N, complex nuclei emission cross section 4-14003
- ^{197}Au (^{40}Ar , X), 44 MeV/u, projectile-like fragments, isotopic distrib. 4-14004
- ^{197}Au (^{12}C , X), 64, 67, 71.5 MeV, energy spectra and ang. distribts. of transfer reactions 4-37653
- ^{197}Au (^{12}C , X), 720 MeV, highly excited compound-like nuclei formation 4-680

heavy ion-nucleus reactions continued

- ^{197}Au (^{12}C , X), 86 MeV/N, semirelativistic reaction, fission and total observable cross sections 4-4894
- ^{197}Au (^{12}C , X) ^{196}Au , 2.1 GeV/N, cross section meas., electromag. dissociation 4-48592
- ^{197}Au (^{12}C , x), 30 MeV/A, spectra and ang. distrib. meas., coalescence model anal. 4-14006
- ^{197}Au (^{16}O , X), 107 MeV/N, semirelativistic reaction, fission and total observable cross sections 4-4894
- ^{197}Au (^{16}O , $\alpha^{12}\text{C}$), fast α -particle ang. distribts., interaction model 4-673
- ^{197}Au (^{40}Ar , p), 400 MeV, localised high excitation region form. and decay 4-9225
- ^{197}Au (^{18}O , p), proton emission mechanism model 4-32926
- ^{197}Au (^{20}Ne , α X), fast forward α -particle emission mechanisms 4-23126
- ^{197}Au (^{20}Ne , X) ^{196}Au , 2.1 GeV/N, cross section meas., electromag. dissociation 4-48592
- ^{197}Au (^{20}Ne , f), 292 MeV, fission fragments ang. correl., linear momentum transfer limitation 4-4921
- ^{197}Au (^{22}Ne , $\alpha^{18}\text{O}$), fast α -particle ang. distribts., interaction model 4-673
- ^{197}Au (^{22}Ne , α X), 20-80 MeV, alpha ang. distribts. and spectra 4-675
- ^{197}Au (^{40}Ar , X) ^{196}Au , 1.8 GeV/N, cross section meas., electromag. dissociation 4-48592
- ^{197}Au (^{40}Ar , α X), 290 MeV, α -emission channel dominance in deep inelastic transfer, cross sections 4-674
- ^{197}Au (^{56}Fe , X) ^{196}Au , 1.7 GeV/N, cross section meas., electromag. dissociation 4-48592
- ^{197}Au (^{58}Ni , X), 15.3 MeV/N, fragment charge and energies, damped reaction energy division 4-32915
- ^{197}Au (^{6}Li , f), high-spin fission of A \approx 200 compound nuclei, rotating liquid drop model anal. 4-54188
- ^{197}Au (^{86}Kr , X), ^{350}MeV , equilibration of neutron-to-proton ratio 4-37656
- ^{10}B (^{13}C , X) 4-4882
- ^{11}B (^{13}C , X), fusion and neutron-transfer cross sections at subbarrier energies 4-4882
- ^{11}B (^6Li , ^6He) ^{12}C , single proton stripping reactions, single particle strength 4-4870
- ^{138}Ba (^{14}C , ^{12}C) ^{140}Ba , 64 MeV, two-neutron transfer reaction, pairing enhancement 4-4904
- Bi (^{12}C , X), Bi, Po, At, Rn yields 4-27891
- ^{209}Bi (^{12}C , α), double- α direct transfer process, EFR-DWBA calcs., preformation probability 4-37526
- ^{209}Bi (^{136}Xe , X), 8.31 MeV/A, deep inelastic collisions, dissipations and fluctuations, dynamical method (Chinese) 4-43511
- ^{209}Bi (^{136}Xe , X), nucleon exchange, energy loss correlation in deep inelastic collisions 4-54174
- ^{209}Bi (^{20}Ne , f), X 4-4921
- (C, X), on A=84-238, inclusive fragmentation, charge yield curves 4-48555
- (^{12}C , X), use of large area detectors for intermediate energy collisions 4-18876
- (^{12}C , X) on targets Be to U, relativistic collisions, factorisation of fragment prod. cross sections 4-4891
- (^{12}C , α), high interaction cross section component for α -emission 4-54169
- ^{12}C (^{10}B , x), 54 MeV, fast light-particles prod. cross section 4-4889
- ^{12}C (^{12}C , X), decay of nuclei into α -particles near yrast-region 4-23122
- ^{12}C (^{12}C , X), high spin states effects in fusion reactions 4-54176
- ^{12}C (^{12}C , X) ^{11}C , 0.4, 1.05, 2.1 GeV/nucleon, cross sections for prod. of ^{11}C 4-4892
- ^{12}C (^{12}C , X), 30 MeV/A, spectra and ang. distrib. meas., coalescence model anal. 4-14006
- ^{12}C (^{16}O , ^{12}C) $^{16}\text{O}^*$, alignment and double excitation mechanism 4-27888
- ^{12}C (^{16}O , X), 215 MeV, fission and emission of H and He 4-37659
- ^{12}C (^{16}O , α), 1=9 resonance at $E_{\text{CM}}=11.4$ MeV 4-32919
- ^{12}C (^{28}Si , α , α) ^{28}Si , compound nuclei transition ang. moments (French) 4-685
- ^{12}C (^6He , spallation), cross-sections, mass yields, two step vector model 4-37661
- ^{12}C (^6Li , d) ^{16}O , ^{16}O α -cluster struct. at high excitation energies 4-4899
- ^{13}C (^{10}B , X), 54 MeV, fast light-particles prod. cross section 4-4889
- ^{14}C (^6Li , B), 82 MeV, ^{13}B observation, mass, decay width 4-18334
- Ca (^{40}Ar , X), 44 MeV/u, subthreshold prod. of neutral pions 4-37660
- ^{40}Ca (^{16}O , x), A=40,44,48,102,142 MeV, deep inelastic collisions, neutron, proton and alpha emission 4-4886
- ^{40}Ca (^{16}O , X), 9-13 GeV/N, target fragmentation modes, π^+ , K^0 , Λ , $\bar{\Lambda}$ and \bar{p} prod. 4-43525
- ^{40}Ca (^{20}Ne , fusion), diffraction model anal. 4-37651
- ^{40}Ca (^{32}S , X), 10 MeV/u, fragment meas., deep-inelastic processes 4-4880
- ^{40}Ca (^{40}Ca , X), fusion cross-section, microscopic energy depend. potential 4-54173
- ^{40}Ca (^{40}Ca , X), resonance-like structure excitation, quasifree scatt. model 4-18464
- ^{40}Ca (^{40}Ca , $3p\gamma$) ^{77}Rb , deduced levels and branching ratios in ^{77}Rb 4-9177
- ^{40}Ca (^6Li , X), 156 MeV, breakup, coupled channel anal., dynamical polarisation potential determ. 4-27860
- ^{40}Ca (^6Li , X), 156 MeV, inclusive charged particle spectra, spectator breakup component studies 4-27897
- ^{40}Ca (^6Li , cX), c=p- α , emission of high velocity light particles 4-9234
- ^{40}Ca (^6Li , t), 156 MeV, breakup reaction, triton anomalous behaviour 4-679
- ^{40}Ca (H, X), proton pickup, DWBA anal., spectroscopic factor inconsistency 4-43506
- ^{116}Cd (^{12}C , 3n), 47 MeV, ^{125}Xe collective states, recoil distance lifetime meas. 4-37487
- Cl (Ar, X), 800 MeV/N, hadronic matter eqn. of state, hydrodynamical model, hadron-quark collective aspects 4-43418
- Cm (U, X), quasimolecular collisions, positron spectra, possible internal conversion cause 4-23128
- ^{59}Co (^{25}S , X), intermediate mechanisms, fission-like fragment 4-18466
- ^{63}Cu (^{63}Cu , X), resonance-like structure excitation, quasifree scatt. model 4-18464
- ^{63}Cu (^{16}C , X), 25 GeV, fragmentation phenomena, peripheral nature 4-54177
- ^{63}Cu (^{40}Ar , X), 80 GeV, fragmentation phenomena, peripheral nature 4-54177
- ^{158}Er , fission cross-section excitation functions 4-9233
- ^{158}Er (^{86}Kr , X), 8.18 MeV/A, deep inelastic collisions, dissipations and fluctuations, dynamical method (Chinese) 4-43511
- ^{166}Er (^{86}Kr , X), quasistationary props., diabatic aspects of single particle motion in TDHF 4-23129

heavy ion-nucleus reactions continued

- ¹⁷⁰Er(³⁰Si, fission) fission fragment ang. dist. 4-37671
¹⁷⁰Er(³⁰Si, f), high-spin fission of A≈200 compound nuclei, rotating liquid drop model anal. 4-54188
¹⁷⁰F(Ne,X) on NaF, 2.1 GeV/A, K⁺ prod. cross section in three-dimensional cascade model 4-32921
¹⁷⁰F(Ne,X), on NaF, 2.1 GeV/A, K⁺ prod. differential cross section, transport theory 4-32922
¹⁷⁰F(Ne,X), relativistic, on NaF, multiparticle emission, thermodynamic-hydrodynamic anal. 4-23123
¹⁷⁰Fe(X), 1.88 GeV/A, secondary fragment charge-changing reactions, cross sections, path lengths 4-48593
¹⁷⁰Fe(X), relativistic fragmentation in emulsion, general characteristics 4-32913
¹⁷⁰Fe(X) on nucl. emulsion, 100 GeV, fragmentation cross section 4-4898
¹⁷⁰Fe(X) on targets Be to U, relativistic collisions, factorisation of fragment prod. cross sections 4-4891
¹⁷⁰Fe(X), 1.9 GeV/N, in emulsion, ³⁴He secondary interactions, comparison with primary interactions 4-4872
¹⁷⁰Fe(¹²C,pn), 40 MeV, ⁶⁷Ga g-factor meas. for 15/2⁺ and 5/2⁺ levels 4-32794
¹⁷⁰Gd(³⁴S,4n), ¹⁸⁶Hg aligned $\nu_{1/2}$ bands coupled to nuclear shape, cranked shell model calc. 4-13929
¹⁷⁰Gd(⁴⁰Ar,4n), 185 MeV, ¹⁹²Pb 12⁺ isomer mag. moment meas. 4-32802
¹⁷⁰Gd(¹⁶O,6n), ¹⁷⁰Hf moment of inertia for spin ~40 ħ 4-18445
¹⁷⁰Gd(²⁰⁸Pb, X), 1550 MeV, equilibration of neutron-to-proton ratio 4-37656
¹⁷⁰Gd(³²S, X), 10 MeV/u, fragment meas., deep-inelastic processes 4-4880
¹⁷⁰Ge(¹⁶Ge, fusion), diff. cross-section 4-9228
¹⁷⁰Ge(¹⁶C, ^{16,17}O), 72 MeV, ¹⁵⁴Zn levels and mass excess, HFB anal. 4-37453
¹⁷⁰H(¹⁶O, α), 65.6 MeV, ¹⁵N 5/2⁺ state g-factor and lifetime 4-4753
¹⁷⁰H(¹⁵N, P), 25 MeV, ¹⁶N 3⁺ state, g-factor and lifetime meas., shell model anal. 4-37448
¹⁷⁰He(¹⁶O, α), 25.6 MeV, ¹⁵O 5/2⁺ state g-factor and lifetime 4-4753
¹⁷⁰He(⁴⁰Ar,p), 190 MeV, ⁴³K 7/2⁺ state, mag. moment and lifetime meas. 4-32793
¹⁷⁰Ho(²⁰Ne,f), 292 MeV, fission fragments ang. correl., linear momentum transfer limitation 4-4921
¹⁷⁰Ho(²⁰Ne,X), emission of high velocity light particles 4-9234
¹⁷⁰Ho(⁵⁶Fe, X), 465 MeV, strongly damped, alpha-particle emission 4-18468
¹⁷⁰Ho(³⁶Fe,af), pre- and near-scission α -emission, isotropic evaporation mech. 4-4919
¹⁷⁰Ho(⁸⁴Kr,X), 8.5 MeV/A (Chinese) 4-43511
¹⁷⁰K(Ar,X), 800 MeV/N, hadronic matter eqn. of state, hydrodynamical model, hadron-quark collective aspects 4-43418
¹⁷⁰Mg(²⁰Ne,X), 51 to 400 MeV, complete fusion 4-48590
¹⁷⁰Mn(¹⁴N, 2pn), ⁶⁶Zn mag. moment meas., g-factor ratios 4-18474
¹⁷⁰Mo(³⁵S,X), A=92, 94, 96, 98, 100, B=32, 36, sub-barrier fusion cross-sections, structure effects 4-27913
¹⁷⁰(¹N,X) in emulsion, 2.1 GeV/N, projectile He fragments, factorisation and limiting fragmentation test 4-32911
¹⁷⁰(¹⁴N, ¹²B), ¹²B nuclear spin polarisation systematics 4-32861
¹⁷⁰Na(Ne,X) on NaF, 2.1 GeV/A, K⁺ prod. cross section in three-dimensional cascade model 4-32921
¹⁷⁰Na(Ne,X), on NaF, 2.1 GeV/A, K⁺ prod. differential cross section, transport theory 4-32922
¹⁷⁰Na(Ne,X), relativistic, on NaF, multiparticle emission, thermodynamic-hydrodynamic anal. 4-23123
¹⁷⁰Nd(⁶⁴Ca, X), A=142, 144, 145, 146, 150, 193-266 MeV, cross section meas., potential energy surface effects 4-37655
¹⁷⁰Nd(¹⁶O, fission) fission fragment ang. dist. 4-37671
¹⁷⁰Nd(¹¹B, 5n), ¹⁵²Tb, high spin states 4-18475
¹⁷⁰Nd(¹Li, 5n), ¹⁵⁰Eu, high spin states 4-18475
¹⁷⁰(^ANe, α), A=20,22, on Z=65-90, forward angle α -energy spectra 4-4883
¹⁷⁰Ne(¹⁶O,¹²C), 22-39 MeV, gross resonant structures obs., DWBA and optical model anal. 4-18405
¹⁷⁰Ne(²⁰Ne,X), low-energy cross section and fusion oscils. 4-18494
¹⁷⁰Ne(X) on Ba, Cd, W, Gd, Dy, Al, ionisation of recoil atoms 4-4896
¹⁷⁰Ni(¹⁴N,²⁰X), 35 MeV/A, pion prod. cross sections 4-32916
¹⁷⁰Ni(¹⁶O,X), 0.8-2.4 GeV, light ion emission, differential cross section 4-4887
¹⁷⁰Ni(⁵⁸Ni,X), A=58, 64, sub-barrier fusion cross sections enhancements from inelastic-transfer channel coupling 4-18495
¹⁷⁰Ni(¹²C,X), 30 MeV/A, spectra and ang. distrib. meas., coalescence model anal. 4-14006
¹⁷⁰Ni(³²S, X), 10 MeV/u, fragment meas., deep-inelastic processes 4-4880
¹⁷⁰Ni(⁴⁰Ar, X), 44 MeV/u, projectile-like fragments, isotopic distrib. 4-14004
¹⁷⁰Ni(⁴⁰Ar,X), 280 MeV, deep inelastic scatt., form factor, two parameter distrib. (Chinese) 4-54158
¹⁷⁰Ni(⁵⁸Ni,X), 15.3 MeV/N, fragment charge and energies, damped reaction energy division 4-32915
¹⁷⁰(¹⁶O,X) on Ba, Cd, W, Gd, Dy, ionisation of recoil atoms 4-4896
¹⁷⁰(¹⁶O,X) on targets Be to U, relativistic collisions, factorisation of fragment prod. cross sections 4-4891
¹⁷⁰(¹⁶O,p), forward-backward multiplicity correlations for proton emission in emulsion 4-54171
¹⁷⁰(¹⁶O,¹²C)²⁰Ne, 50,60,68,72 MeV, alpha transfer reactions, diff. model fits 4-4890
¹⁷⁰(¹⁶O,X), low energy collisions, classical microscopic description 4-682
¹⁷⁰(¹⁶O,¹Li, d)²⁰Ne, ²⁰Ne α -cluster struct. at high excitation energies 4-4899
¹⁷⁰(¹⁶O,¹Li, α), 48 MeV, large angle enhancements 4-48588
¹⁷⁰(¹⁶O,¹Li, d), ²⁰Ne rot. bands, α -cluster states, distorted wave anal. 4-516
¹⁷⁰(¹⁶O,¹Li, d)²⁰Ne, α -transfer reactions spectroscopy, resonating group method anal. 4-4893
¹⁷⁰(¹⁶O,X), use of large area detectors for intermediate energy collisions 4-18876
¹⁷⁰(¹⁶O,X) on ⁶⁰Ni, ²⁸Si, elec. dipole strength built on highly-excited continuum states, characts. 4-681
¹⁷⁰(¹⁶O,X) on targets Be to U, relativistic collisions, factorisation of fragment prod. cross sections 4-4891
¹⁷⁰Os, fission cross-section excitation functions 4-9233
¹⁷⁰Os(¹⁶O, fission) fission fragment ang. dist. 4-37671
¹⁷⁰Pb(¹²C,X), Bi, Po, At, Rn yields 4-27891

heavy ion-nucleus reactions continued

- Pb(²⁴Cr,X), element 106 isotopes spontaneous fission props. study 4-37673
¹⁷⁰Pb(⁵⁶Fe,X), 1.9 GeV/nucleon, search for fractional charges 4-4884
¹⁷⁰Pb(¹⁶O,X), 9-13 GeV/N, target fragmentation modes, π^{\pm} , K⁰, Λ , $\bar{\Lambda}$ and p prod. 4-43525
¹⁷⁰Pb(¹³⁶Xe, ¹³⁶Xe), 610 MeV, transient mag. fields for recoil through Gd 4-27827
¹⁷⁰Pb(⁵⁸Ni, ⁵⁸Ni), 222 MeV, transient mag. fields for recoil through Gd 4-27827
¹⁷⁰Pb(^{12,13}C, xn)²¹⁶Ra, excited energy level studies 4-18352
¹⁷⁰Pb(¹²C,⁸Be)²¹²Po, preformation probability of α cluster at heavy nuclei surfaces 4-4877
¹⁷⁰Pb(¹²C,X), 101 MeV, ¹³C and ¹¹B production, reaction asymm. and spin-orbit interaction 4-27781
¹⁷⁰Pb(¹⁶O,X), 215 MeV, fission and emission of H and He 4-37659
¹⁷⁰Pb(³⁷Cl, ³⁹Cl), 250 MeV, quasielastic neutron pickup, large cross sections 4-611
¹⁷⁰Pb(⁴⁸Ti, ⁴⁹Ti), 300 MeV, quasielastic neutron pickup, large cross sections 4-611
¹⁷⁰Pb(⁵⁸Ni, ^{59,60}Ni), 375 MeV, quasielastic neutron pickup, large cross sections 4-611
¹⁷⁰Pb(⁶Li,X), 156 MeV, inclusive charged particle spectra, spectator break-up component studies 4-27897
¹⁷⁰Pd(³⁵S,X), A=104, 105, 106, 108, 110, B=32, 36, sub-barrier fusion cross-sections, structure effects 4-27897
¹⁷⁰Pd(¹⁴C,¹⁶O) (A=106, 108, 110) transition spectroscopic strengths in reaction mechanism 4-54160
¹⁷⁰Po A=204,206,208,210, fission cross-section excitation functions 4-9233
¹⁷⁰Pt(¹²C, fission) fission fragment ang. dist. 4-37671
¹⁷⁰Pt(¹⁴C,¹⁶O)¹⁹⁶Os, excited states in ¹⁹⁶Os, structure of transition Pt-Os 4-4885
¹⁷⁰Pu(²⁰⁸Pb,X), A=242, 244, 5 MeV/u, yrast band study, backbending obs. 4-519
¹⁷⁰Pu, probability tables for neutron and nuclei collisions in unresolved resonance region (Russian) 4-43467
¹⁷⁰Rh(³⁵S,X), A=32, 36, sub-barrier fusion cross-sections, structure effects 4-27913
¹⁷⁰Ru(³⁵S,X), A=100, 101, 102, 104, B=32, 36, sub-barrier fusion cross-sections, structure effects 4-27913
¹⁷⁰Ru(¹⁴C,¹⁶O) (A=96, 100, 102, 104) transition spectroscopic strengths in reaction mechanism 4-54160
¹⁷⁰S(³²S, X), 10 MeV/u, fragment meas., deep-inelastic processes 4-4880
¹⁷⁰Si(¹⁶O, ¹²C), 45.5 MeV, cross section meas., DWBA and shell model anal., cluster expans. 4-27893
¹⁷⁰Si(³²S, X), 90, 97 MeV, proton and neutron transfer, DWBA anal. 4-4881
¹⁷⁰Sb(⁴³Ar, ¹²⁴I, ¹²⁴I, ¹²⁴Te orientation in Fe, ¹²⁴Te energy levels, study 4-32837
¹⁷⁰Sc(¹²C,2np), ⁵⁴Fe(10⁺) nuclear polarisation of high spin levels, quadrupole moment 4-43503
¹⁷⁰Se(¹⁸O, ²⁰Ne), ⁸⁰Ge mass meas. 4-23124
¹⁷⁰Si(¹⁶O,¹²C)³²S, 50,60,68,72 MeV, alpha transfer reactions, diff. model fits 4-4890
¹⁷⁰Si(³²S, X), 10 MeV/u, fragment meas., deep-inelastic processes 4-4880
¹⁷⁰Si(⁶Li, X), 99 MeV, breakup, coupled channel anal., dynamical polarisation potential determ. 4-27860
¹⁷⁰Sm(³²S,X), 180-230 MeV, fusion-fission cross sections, Pt fission props. 4-43535
¹⁷⁰Sm(⁴⁰Ca, X), A=144, 148, 150, 154, 193-266 MeV, cross section meas., potential energy surface effects 4-37655
¹⁷⁰Sm(²Al,X), neutron-deficient Os and Re isotope production and α -decay 4-27850
¹⁷⁰Sm(²Si,X), neutron-deficient Os and Re isotope production and α -decay 4-27850
¹⁷⁰Sm(⁴⁰Ar, X), 236 MeV, cross section meas., potential energy surface effects 4-37655
¹⁷⁰Sm(⁸Kr,X) bombarding energy depend., projectile-like fragments 4-32928
¹⁷⁰Sn(⁴⁰Ar,X), 44 MeV/u, subthreshold prod. of neutral pions 4-37660
¹⁷⁰Sn(¹⁶O,X), 0.8-2.4 GeV, light ion emission, differential cross section 4-4887
¹⁷⁰Sn(³²S,X), 130-247 MeV, A=122-124, evaporation residue cross sections, K X-rays and recoil meas. 4-43509
¹⁷⁰Sn(⁴⁰Ar,X), A=118,120,122,124,185 MeV, ^{154,156,158,160}Er γ -ray spectra from high spin states, major-shell effects 4-9139
¹⁷⁰Sn(¹²⁹Xe,X), quantum-mechanical model of coupled proton-neutron asymmetries, deep inelastic collisions 4-27890
¹⁷⁰Sn(¹²C,X), 106 MeV, compound system, E_x , correlations 4-48589
¹⁷⁰Sn(¹²C,6n), 106 MeV, ¹²Ba yrast band, band crossing, transitions, cranked shell model anal. 4-32786
¹⁷⁰Sn(⁴⁰Ar,X), sub-barrier fusion cross sections enhancements from inelastic-transfer channel coupling 4-18495
¹⁷⁰Sn(¹²⁹Xe,X), quantum-mechanical model of coupled proton-neutron asymmetries, deep inelastic collisions 4-27890
¹⁷⁰Sn(¹⁴C,¹²C)¹²⁶Sn, 59.7 MeV, two-neutron transfer reaction, pairing enhancement 4-4904
¹⁷⁰Sn(²⁵Si,X), elec. dipole strength built on highly-excited continuum states, characts. 4-681
¹⁷⁰Ta(C,X), 4.2 GeV/c per nucleon, γ -rays, Λ hyperons and K_s⁰ mesons prod. 4-27885
¹⁷⁰Ta(C,X), 4.2 GeV/c/N, large transverse mom. baryon prod., cascade model anal. 4-18471
¹⁷⁰Ta(¹⁶O,X), 215 MeV, fission and emission of H and He 4-37659
¹⁷⁰Ta(¹⁹F, f), high-spin fission of A≈200 compound nuclei, rotating liquid drop model anal. 4-54188
¹⁷⁰Ta(²⁰Ne,f), 292 MeV, fission fragments ang. correl., linear momentum transfer limitation 4-4921
¹⁷⁰Ta(²Ne,X), light particle emission probability, ang. and energy depend. 4-48591
¹⁷⁰Tb(¹²C,X), light particle emission, energy spectra and ang. distrib. meas., incomplete fusion model anal. 4-37654
¹⁷⁰Tb(²Ne,f), 113-161.5 MeV, fission and evaporation residue excitation functions, fission barriers 4-54191
¹⁷⁰Tb(⁶Li,X), breakup fusion, ang. distribution 4-9230
¹⁷⁰Te(¹²C,xn), 100 MeV, ^{130,134,136}Ce high spin state deexcitation, γ - γ energy correlations 4-32842
¹⁷⁰Te(³⁴S,X), elec. dipole strength built on highly-excited continuum states, characts. 4-681
¹⁷⁰Th(¹B, ¹⁰He)²³Cf, ¹⁰He search 4-18444

heavy ion-nucleus reactions continued

- $^{232}\text{Th}(^{12}\text{C},\text{X})$, 720 MeV, highly excited compound-like nuclei formation 4-680
 $^{232}\text{Th}(^{19}\text{F},\text{X})^{251}\text{Es}$, fission neutron ang. distrib. following fusion, accelerated fission fragments 4-48594
 $^{232}\text{Th}(^{38}\text{Ni}, ^{58}\text{Ni})$, 230 MeV, transient mag. fields for recoil through Gd 4-27827
 $\text{Ti}(^{16}\text{O},\text{X})$, 227 and 310 MeV, light particle emission 4-27892
 $^{48}\text{Ti}(^{18}\text{O},\text{X})$, 6.4 MeV/u, neutron emission from quasi-projectile and target fragments (*French*) 4-4910
 $^{169}\text{Tm}(^{12}\text{C},\text{f})$, 78.2-122.6 MeV 4-54191
 $\text{U}(^{40}\text{Ar},\text{X})$, 44 MeV/u, subthreshold prod. of neutral pions 4-37660
 $\text{U}(\text{Cm}, \text{e}^+ \text{X})$ beam energy depend. on spontaneous positron emission in delayed collisions 4-18478
 $\text{U}(\text{U},\text{X})$, quasimolecular collisions, positron spectra, possible internal conversion cause 4-23128
 $^{238}\text{U}(^{12}\text{C}, \text{fission})$ fission fragment ang. dist. 4-37671
 $^{238}\text{U}(^{12}\text{C},\text{X})$, 720 MeV, highly excited compound-like nuclei formation 4-680
 $^{238}\text{U}(^{14}\text{N},\text{X})$ E/A=15-30 MeV, linear momentum transfer limitations 4-32920
 $^{238}\text{U}(^{16}\text{O}, \text{fission})$, fission fragment ang. dist. 4-37671
 $^{238}\text{U}(^{16}\text{O},\text{X})$, 215 MeV, fission and emission of H and He 4-37659
 $^{238}\text{U}(^{16}\text{O},\text{f})$, fission anisotropies and sequential fission 4-32917
 $^{238}\text{U}(^{20}\text{Ne},\text{f})$, 292 MeV, fission fragments ang. correl., linear momentum transfer limitation 4-4921
 $^{238}\text{U}(^{40}\text{Ar}, \text{X})$, 334 MeV, fusion fission reaction, ^4He emission study 4-14005
 $^{238}\text{U}(^{58}\text{Ni}, ^{58}\text{Ni})$, 230 MeV, transient mag. fields for recoil through Gd 4-27827
 $^{51}\text{V}(^{16}\text{O}, \text{p}2\text{n})$, ^{64}Zn mag. moment meas., g-factor ratios 4-18474
 $\text{W}(^{40}\text{Ar},\text{X})$, Hf and Lu isotope production from heavy-ion collisions 4-43501
 $\text{W}(^{84}\text{Kr},\text{X})$, Hf and Lu isotope production from heavy-ion collisions 4-43501
 $\text{W}(^{14}\text{N}, \pi^0\text{X})$, 35 MeV/u, pion prod. cross sections 4-32916
 $\text{W}(^{136}\text{Xe},\text{X})$, Hf and Lu isotope production from heavy-ion collisions 4-43501
 $^{136}\text{Xe}(^{209}\text{Bi}, \text{X})\text{X}$, statistical correlations of amplitudes in deep inelastic collisions 4-4900
 $^{89}\text{Y}(^{12}\text{C},\text{X})$, light particle emission, energy spectra and ang. distrib. meas., incomplete fusion model anal. 4-37654
 $^{170}\text{Yb}(^{16}\text{O},\text{X})$, 90-148 MeV, fusion-fission cross sections, Pt fission props. 4-43535
 $^{174}\text{Yb}(^{12}\text{C}, \text{fission})$ 4-37671
 $^{176}\text{Yb}(^{16}\text{O}, \text{xn})$, 95-141 MeV, Pt γ -transition multiplicity, mean value of ang. moment, stat. anal. 4-549
 $^{90}\text{Zr}(^{16}\text{O},\text{p})$, proton emission mechanism model 4-32926
 $^{92}\text{Zr}(^{64}\text{Ni},\text{xn})$, 233 MeV, neutron emission suppression after fusion 4-92226

heavy ion-nucleus scattering

- $A_p \leq 12$ projectile reactions and scatt., density distrib., double folding model, review 4-37652
 conference on heavy ion nuclear physics, Catania, Italy (Mar. 1983) 4-17630
 elastic, enhanced large-angle scatt. prediction 4-27894
 elastic, semiclassical theory of anal. powers 4-54163
 elastic, strong absorption theory validity and amendment 4-43497
 elastic and inelastic collisions, Regge poles, 2nd order effects, sub-Coulomb scatt. 4-18451
 elastic and inelastic scattering wave function, classical trajectory approx. 4-672
 elastic scatt. data, separation of nuclear and Coulomb rainbow components 4-18399
 generalised optical pot. 4-4897
 grazing heavy ion collisions, surface degrees of freedom role, scatt. pot. 4-18449
 inelastic scatt., DWBA anal., ang. momentum mismatch 4-54097
 interaction potential in energy density formalism 4-4878
 large angle elastic scattering anomalies from resonant interactions 4-671
 multi-centre potential scattering approach 4-54106
 nucleus-nucleus potentials, rainbow scatt., spins, possible origin, review 4-18448
 nucleus-nucleus scattering, Glauber theory and rigid projectile approx. comparison (*Chinese*) 4-596
 phase shift analysis, statistical significances 4-23092
 polarisation effects in heavy-ion pot. in coupled-channel framework 4-37508
 sub-barrier heavy ion elastic scattering, giant resonance and relativistic effects 4-18465
 $^{138}\text{Ba}(^{14}\text{C}, ^{14}\text{C})$, elastic and inelastic scatt. meas. and anal. 4-4904
 $\text{C}(\text{C},\text{C})$, 200-300 MeV, elastic scatt., microscopic optical pot. anal. 4-48587
 $^{12}\text{C}(^{12}\text{C})$ on ^{12}C , ^{16}O , folding model, analytical expression for pot. 4-4903
 $^{12}\text{C}(^{12}\text{C}, ^{12}\text{C})^{12}\text{C}$, interaction potential in α -particle cluster model 4-27889
 $^{12}\text{C}(^{12}\text{C}, ^{12}\text{C})^{12}\text{C}$, alignment and resonances, cross-sections 4-32925
 $^{12}\text{C}(^{12}\text{C}, ^{12}\text{C})^{12}\text{C}$, struct. of O_2^+ state 4-48597
 $^{12}\text{C}(^{12}\text{C}, ^{12}\text{C})$, 6-31 MeV forward glory effects, Woods-Saxon interaction potential 4-43504
 $^{12}\text{C}(^{12}\text{C}, ^{12}\text{C})$, 1016 MeV, optical model and Glauber model calcs. 4-4895
 $^{12}\text{C}(^{12}\text{C}, ^{12}\text{C})^{12}\text{C}$ elastic scatt., optical limit of Glauber theory 4-9229
 $^{12}\text{C}(^{12}\text{C}, ^{12}\text{C})^{12}\text{C}$, spin alignment and phase angles 4-9231
 $^{12}\text{C}(^{16}\text{O}, ^{18}\text{O})$, 82 MeV, $^{18}\text{O}-^{14}\text{C}$ study, spin meas., strong absorption model anal. 4-43439
 $^{40}\text{Ca}(^{16}\text{O}, ^{16}\text{O})$, 50 MeV, orbiting mechanism 4-54175
 $^{40}\text{Ca}(^6\text{Li}, ^6\text{Li})$, 156 MeV, coupled channel anal., dynamical polarisation potential determ. 4-27860
 $^{248}\text{Cm}(^{238}\text{U}, ^{238}\text{U})$, peak structure obs. in positron spectra 4-22971
 $^{56}\text{Fe}(^7\text{Li}, ^7\text{Li})$, 36-48 MeV, elastic and inelastic, CC anal. using superposition model, optical pots. 4-4879
 $^{139}\text{La}(^{86}\text{Kr}, ^{86}\text{Kr})$, 5-10 MeV/u, elastic scatt. study using avalanche detectors 4-18862
 $(^6\text{Li}, ^6\text{Li})$ on ^6Li , ^{12}C , ^{16}O , folding model, analytical expression for pot. 4-4903
 $^{24}\text{Mg}(^{16}\text{O}, ^{16}\text{O})$, 72 MeV, Frahn semiclassical diffraction model anal. 4-54172
 $^{20}\text{Ne}(^{16}\text{O}, ^{16}\text{O})$, 22-39 MeV, gross resonant structures obs., DWBA and optical model anal. 4-18405

heavy ion-nucleus scattering continued

- $^{58}\text{Ni}(^{18}\text{O}, ^{18}\text{O})$, 60 MeV, phase shifts calc. by uniformly approximated WKB method 4-54167
 $^{58}\text{Ni}(^6\text{Li}, ^6\text{Li})$, 20 MeV, elastic and inelastic, tensor interactions and polarisation phenomena, coupled channel anal. 4-54162
 $^{58}\text{Ni}(^6\text{Li}, ^6\text{Li})$, elastic and inelastic, projectile excitation and structure effects, coupled channel anal. 4-54161
 $^{58}\text{Ni}(^7\text{Li}, ^7\text{Li})$, 14.2-20.3 MeV, elastic and inelastic, tensor interactions and polarisation phenomena, coupled channel anal. 4-54162
 $^{58}\text{Ni}(^7\text{Li}, ^7\text{Li})$, elastic and inelastic, projectile excitation and structure effects, coupled channel anal. 4-54161
 $^{60}\text{Ni}(^{40}\text{Ar}, ^{40}\text{Ar})$, 44 MeV/u, elastic scatt. ang. distrib. 4-54165
 $^{16}\text{O}(^{16}\text{O}, ^{16}\text{O})$, heavy-ion pot., polarisation effects in coupled-channel framework 4-37508
 $^{16}\text{O}(^{16}\text{O}, ^{16}\text{O})$, 50 MeV, phase shifts calc. by uniformly approximated WKB method 4-54167
 $^{16}\text{O}(^{16}\text{O}, ^{16}\text{O})$, elastic and inelastic, polarisation effects in adiabatic propagator approx. 4-23093
 $^{16}\text{O}(^{16}\text{O}, ^{16}\text{O})$, folding model, analytical expression for pot. 4-4903
 $^{16}\text{O}(^{28}\text{Si}, ^{28}\text{Si})$, interaction radius, surface waves and reflection evidence 4-684
 $^{192}\text{Os}(^{16}\text{O}, ^{16}\text{O})$, first 2^+ state quadrupole moment determ. 4-4755
 $^{208}\text{Pb}(^{22}\text{Ne}, ^{22}\text{Ne})$, 132 MeV, elastic and inelastic, ^{22}Ne moments, deformation parameters, optical pot., CC anal. 4-43400
 $^{208}\text{Pb}(^{28}\text{Si}, ^{28}\text{Si})$, 209.8 MeV, elastic and inelastic, ang. distrib., deformation length 4-43508
 $^{208}\text{Pb}(^{40}\text{Ar}, ^{40}\text{Ar})$, 44 MeV/u, elastic scatt. ang. distrib. 4-54165
 $^{194}\text{Pt}(^{16}\text{O}, ^{16}\text{O})$, first 2^+ state quadrupole moment determ. 4-4755
 $^{32}\text{S}(^{28}\text{Si}, ^{28}\text{Si})$, 77-99 MeV, optical model anal. (*French*) 4-4909
 $^{28}\text{Si}(^{16}\text{O}, ^{16}\text{O})$, 55 MeV, elastic scatt. dynamics at large angles 4-27895
 $^{28}\text{Si}(^{16}\text{O}, ^{16}\text{O})$, backward angle scatt. at low energies, coupled channel approach 4-23125
 $^{28}\text{Si}(^{16}\text{O}, ^{16}\text{O})$, 72 MeV, Frahn semiclassical diffraction model anal. 4-54172
 $^{28}\text{Si}(^{16}\text{O}, ^{16}\text{O})$, elastic scatt. ang. distrib., first resonant struct. spin assignments 4-32927
 $^{28}\text{Si}(^{28}\text{Si}, ^{28}\text{Si})$, elastic and inelastic, nuclear molecular barrier resonances form., coupled channel calc. 4-54166
 $^{28}\text{Si}(^6\text{Li}, ^6\text{Li})$, 99 MeV, coupled channel anal., dynamical polarisation potential determ. 4-27860
 $^{120}\text{Sn}(^{40}\text{Ar}, ^{40}\text{Ar})$, 44 MeV/u, elastic scatt. ang. distrib. 4-54165
 $^{88}\text{Sr}(^{12}\text{C}, ^{12}\text{C})$, 80 MeV, elastic and inelastic, CC anal. using superposition model, optical pots. 4-4879
 ^{173}Yb Coulomb excitation of 636 keV level by C, N, O and α , lifetime 4-676

heavy leptons

- asymptotically free SU(5) theory, τ -leptons, ν mass, leptoquark bosons, cosmology 4-37317
 conference, electroweak interactions at high energies, Hamburg, Germany (Sept. 1982) 4-42600
 cosmic ray delayed particles with $E=10^{15}$ - 10^{18} eV, heavy lepton model 4-3894
 LICEPP, particle physics, present and future, DASP, JADE, review 4-13909
 massive neutrinos in cosmology, effects on galaxy clustering 4-8585
 mirror heavy electron neutrino evidence in ^3H β -decay 4-43436
 models of heavy leptons with long life in cosmic ray EAS above 10^{15} eV, models 4-47516
 neutrino mixing, intermediate boson coupling 4-27265
 slow monopole, superheavy lepton and quark searches in Japan 4-14282
 $\text{SO}(10)$, neutral massive leptons with massless neutrinos 4-9046
 e^+e^- -hadrons ($\mu^+\mu^-$) ($\tau^+\tau^-$), JADE recent results 4-13910
 $L \rightarrow \bar{\nu}_e \nu_e (\bar{\nu}_e \text{QQ})$, heavy lepton signal identification 4-23016
 $\text{pp} \rightarrow \text{W} \rightarrow \text{tb}(\text{L}_\nu)$, signatures for top quark and heavy leptons 4-27753
 τ , lifetime meas., charged weak current coupling 4-27732
 τ , mass determ. from spectra of τ -lepton atom 4-10189
 τ , semileptonic decay, duality in QCD 4-37378
 τ , semileptonic decays, weak decay props. from hadronic system anal. 4-53987
 τ decay widths and local current commutators calcs. (*Bulgarian*) 4-43360
 $\tau \rightarrow \text{K}^*\nu$, 4-9102
 $\tau \rightarrow \nu, \text{X}$ decay modes, ν_τ mass estimate 4-18249
 τ production by $\text{e}^+\text{e}^- \rightarrow \tau^+\tau^-$, composite spin 3/2 model of τ heavy lepton 4-13893
 $\tau \rightarrow \pi \nu_\tau (\text{K}^-\nu_\tau)(\text{p}^-\nu_\tau)(\text{K}^+\nu_\tau)$, mesonic decays, effects of neutrino mass and mass mixing 4-23017
 $\tau \rightarrow \text{e} + \nu + \bar{\nu}$, weak and EM interactions (*Russian*) 4-23005

heavy water

- biomedical irradiation facility, (γ, n) reactions in heavy water moderator, beam quality effects 4-33234
 brain tumours treatment by B neutron capture therapy, use of heavy water 4-21801
 gaseous and liq., viscosity, thermal cond. and diffusion coeff. 4-47777
 IR absorpt. spectra in liq. and supercooled ranges 4-11879
 laser, far IR, angular divergence of forwards and backwards emission at 66, 116 μm 4-44090
 liquid, supercooled region, neutron diff. studies 4-10954
 molecular ion D_3O^+ , UV laser photodissoc., momentum analysis of fragments 4-9859
 molecule, C'B₃ states, mol. predissoc. dynamics, multiphoton ionis. spectrosc. 4-38260
 molecule, electron impact, threshold excitation, optically forbidden transitions 4-10162
 molecule, kinetically isolated subsystems of rot. levels 4-19038
 molecule, struct. stabilisation by tetrabutylammonium ion 4-10950
 thermalisation, weighted dynamics method for neutronics 4-54222
 thermodynamic props. calc. from acoustic data 4-15664
 thermodynamic props. in critical region 4-4165
 US velocity, temp. variation calc. 4-50438
 US velocity studies 4-15590
 $\text{D}_2\text{O}-\text{CO}_2$ van der Waals complexes, RF and microwave spectra, struct. and internal rot. 4-54678
 $\text{D}_2\text{O}-\text{H}_2\text{O}$ mixtures, tritium-labelled, self-diffusion coeff., determ. by H NMR spin-echo technique 4-56056
 $\text{D}_2\text{O}-\text{K}$ -palmitate, self-diffusion, D NMR spin echo meas. 4-30354
 $\text{D}_2\text{O} + \text{Ca}_x\text{Al}_y\text{O}_z$, reaction rate meas. 4-51957

HEED see high energy electron diffraction

height measurement

- MLA digital image data, geometry effects on height meas. 4-21929

height measurement continued

sea wave, pulse radar appl. 4-36504
wavelength multiplexing for height contouring 4-42924

Heisenberg model

amorphous ferromagnets and spin glasses, magnetic phase transition, mol. field theory 4-16028
amorphous Heisenberg ferromagnet, 2-D, long-range order and magnetisation 4-30138
anisotropic, ground state props. 4-25502
anisotropic, helimagnets, spin wave spectrum quantum effects 4-56586
anisotropic, validity of low temp. expansions 4-56518
anisotropic chain, solitons and two-magnon bound states, dynamic form factor 4-25503
anisotropic linear chain, thermal props. 4-11739
anisotropic quantum Heisenberg model on self-dual hierarchical lattice, criticality, comments 4-35135
antiferromagnet, 2D, on triangular lattice, phase transition 4-51083
antiferromagnet, diluted, struct. factor, diffraction anal. 4-51027
antiferromagnet, magnon-phonon coupling, self-consistent field anal. (*Russian*) 4-51039
antiferromagnet, quasi-1D, phase diagrams, paramag., spin-Peierls and Neel states 4-51017
antiferromagnet, quasi-one-dimensional, spin-Peierls state vs. Neel state, interchain exchange interaction 4-11657
antiferromagnetic chains, ground-state props. for integer and odd half-integer spins 4-11658
antiferromagnetic deformable spin-1/2 chains, thermodynamics 4-30197
binary mag. alloy, competing exchange interactions 4-6963
binuclear unit $t_2^2-t_{2g}^2$, mag. behaviour study 4-20781
bond-mixed quantum Heisenberg ferromagnet, critical props. 4-40187
chain, integer-spin, finite-size scaling 4-56673
classical chain, discrete, soliton dynamics, vel. modulation and stochastic depinning 4-196
classical easy plane Heisenberg ferromag. chain, static form factors 4-56677
classical Heisenberg ferromag., bilinear soliton eqns. generation 4-42735
continuous ferromag. as constrained harmonic motion, inverse scatt. and Schrödinger eqn. equivalence 4-42749
dilute Heisenberg chain, dynamic scaling near percolation threshold 4-16057
easy-axis ferromagnet, impurities, anisotropy, spin waves 4-56595
ferromagnet, anisotropic, $S=1/2$, thermodynamic props., unified first-order Green's function theory 4-2786
ferromagnet, Dyson equation for spin Green's functions 4-56521
ferromagnet, magnetoelastic easy plane, solitary wave 4-7045
ferromagnet, spin-wave dispersion, small dilution correction 4-46017
ferromagnet, two-dimensional, spin wave dynamics, density of states exponent at percolation threshold 4-51086
ferromagnet, with single-ion planar anisotropy, perturbative Dyson-Maleev transform, approach 4-40133
ferromagnetic chain, easy-plane, spin-wave damping and two-spin-wave bond state 4-56594
ferromagnetic classical chain, easy-plane, with in-plane mag. field, thermodynamics 4-2713
ferromagnetic Heisenberg model, classical, spin-wave mode at high temp. 4-11685
frustrated quantum spin 1/2 models, ground state, variational study 4-51016
frustration in a finite spin system 4-35136
generalised continuum ferromagnetic spin chain eqn. and generalised Hirota's eqn. with linear inhomogeneities, equiv. forms 4-20778
graphite and linear lattices, Heisenberg Hamiltonian, coherent state, variational derivation 4-34843
Heisenberg-Ising chain, spin-1, with uniaxial anisotropy, finite size scaling study 4-2785
integrable model with impurities 4-30139
isotropic, N-soliton soln. 4-42867
isotropic Heisenberg ferromagnetic chain, energy fluctuations 4-2783
magnet, EPR signal, influence of nonadiabatic dynamic susceptibility 4-7050
magnetic quantum systems, existence of gap in energy spectrum 4-16006
magnetic solitons in a compressible Heisenberg chain 4-6940
magnets, amorphous, renormalised field theory 4-56676
methylammonium manganese chloride, quasi-one-dimensional antiferromagnetism 4-56674
nonmetallic solids, magnetism, magnons, phonons and solitons 4-25541
one-dimensional antiferromagnetic Heisenberg chain, spin dynamics simulation 4-51082
one-dimensional disordered, low-temp. thermodynamic props. 4-35189
one-dimensional Heisenberg system with long-range interaction, thermodynamic props. 4-56522
paramagnet, relax. function, temp. depend. fourth moment 4-45991
periodic magnet, 1-D, density of states in reciprocal lattice 4-30136
randomly disordered Heisenberg chain, spin wave renormalisation treatment 4-6960
spin glass, lower critical dimensionality 4-35188
spin glass models with short-range forces 4-16049
spin glass with correlated bond distrib., model 4-16056
spin glasses, disorder and competing interactions, finite cluster calc. 4-2784
spin glasses, exchange stiffness and macroscopic anisotropy 4-35187
spin glasses, infinite range, irreversibility 4-56658
spin glasses, Ising and Heisenberg, irreversibility, review 4-56656
spin systems and Griffiths singularities, large-N reduction 4-22914
TCNQ salts, complex, charge ordered, with lattice distortions, mag. props. 4-56520
transition metal monoxides, superexchange, itinerant versus localised picture 4-56603
two-dimensional classical Heisenberg model with easy-plane anisotropy, Monte Carlo simulation 4-11730
two-sublattice antiferromagnet, optical transitions in saturated paramagnetic region 4-11659
unified Heisenberg-Ising model and fermion system recursion relations (*French*) 4-47994
XXZ exactly soluble quantum system, functional eqn. method 4-25505
CsSe_{1-x}Te_x solid solns., mag. props. 4-6964
Cs₂Cr₂Br₆, collective excitations, inelastic neutron scatt. study 4-11738
CsMnBr₃ Heisenberg system, EPR study 4-16087
CsMnBr₃·2H₂O, spin flop relax. study 4-20818
CsMn₂Mg_{1-x}Br₃, dilute one-dimens. magnet, mag. excitations 4-56601

Heisenberg model continued

CsNiF₃, linear and non-linear spin fluctuations, polarised neutron study 4-40185
Cu complexes, magnetic layer compounds, Heisenberg antiferromag., sp. heat meas. 4-56671
Fe_{100-x}Zr_x, amorphous ferromagnets, crit. behaviour 4-51085
KNiF₃, superexchange interaction, approx. anal. 4-35166
(La_{0.8}Ca_{0.2})MnO₃, monoclinic phase, mag. heat capacity meas. 4-51084
MnO antiferromagnet, mag. interactions, band theory 4-20805
MnS antiferromagnet, mag. interactions, band theory 4-20805
NiO antiferromagnet, mag. interactions, band theory 4-20805
VBr₂, triangular lattice Heisenberg antiferromag., ESR study 4-46086
VCl₂, triangular lattice Heisenberg antiferromag., ESR study 4-46086
V₁, triangular lattice Heisenberg antiferromag., ESR study 4-46086

Heising modulation *see amplitude modulation***helical dislocations** *see screw dislocations***helicity (elementary particles)**

Compton effect, diff. cross section, t-channel helicity amplitudes and dispersion inequalities 4-18268
cross sections with polarized spin-1/2 particles in terms of helicity amplitudes 4-27676
cubic interaction terms for arbitrarily extended supermultiplets, light-cone superspace formalism 4-333
cubic self-interaction terms, light-cone formulation of dynamics 4-332
fermion-monopole system, bound state observer, helicity conservation 4-18088
finite particle number approach to physics 4-32118
hadronic inclusive interactions, QCD radiative corrections to helicity asymms. 4-53951
massive spin-1 particles Compton scatt. on massless fermions, helicity selection rules 4-37308
pp(pp)-llX, lepton pair asymmetries, test of electroweak gauge models 4-500
P-wave quarkonium decay to p-p, helicity characts. of massless QCD 4-43326
transition amplitudes, helicity formalism 4-18113
 $e^+e^- \rightarrow W^\pm(Z^0)X$, polarisation in pair production, dominant helicities 4-37360
 $K^+p \rightarrow \pi^+n$, cross sections and polarisation from Regge pole model, helicity amplitudes 4-43381

helicons

see also solid-state plasma

graphite-KHg intercalation cpd., C₄KHg, magnetoplasma-helicon wave propag. 4-39950
graphite-Rb intercalation cpd., C₈Rb, magnetoplasma-helicon wave propag. 4-39950
resonances in metals, review 4-39946
semiconductor, weakly damped slow eddy EM waves, helicons 4-50860
semiconductor superlattices, transverse collective excitations, retardation effects 4-45660
semiconductor surfaces, periodically and randomly uneven, surface and vol. helicon interaction 4-6822
InSb, nonreciprocal propag. of surface helicons 4-56377
n-InSb short-wave helicon isolator, operating power increase 4-56378
InSb-insulator interface, surface helicon propag. in solid state plasma 4-2630

helicopters

rotor, circulation control, acoustics 4-38655
Ti complex geometry parts, fatigue crack detection, elec. current perturbation method appl. 4-35832

heliotron *see plasma devices***heliports** *see airports***helium**

see also nuclei with

see also helium atoms; helium films; liquid helium; solid helium

abundance in globular star clusters, R-method 4-22444
adsorption on adsorbed Xe layer on graphite (0001), atom scatt. 4-35542
angle resolved thermal and flash desorption from W 4-25145
arc, electron temperature determination/ in LTE and non-LTE plasmas 4-49935
atmospheric, discharge pumped, excited state population, time resolved meas. 4-24643
atom scatt. by metal surface 4-46411
atomic spontaneous Raman scatt. as a high-resolution XUV radiation source 4-49473
bubble growth and blistering in Fe-Ni-Mo-B 200-600K 4-15551
bubble growth in Fe-Ni-Mo-B, free-vol. relax. model 4-15552
bubbles in neutron irradi. austenitic stainless steel, microstruct 4-29483
bubbles in Ni, gas density and size distrib. meas. by neutron scatt. 4-20263
chromospheric spectra emission from α Aur 4-27074
cooling superconducting cables, internally, heat transfer 4-33905
density meas. using thick-source alpha particle gas densimeter, gas composition effect 4-42928
desorption kinetics, corrections to rigid wall approx. 4-20485
Earth, mantle heat, He and convection 4-17113
electron impact ionisation, obs. of $n=1, 2, 3$ states 4-10123
electron impact ionisation at intermediate energy, asymmetric conditions 4-10122
energy loss and straggling in Ag 4-5116
forbidden line satellites, plasma elec. field determ. 4-50067
fusion blanket coolant, performance comparison with Li and flibe 4-28186
gas, bulk discharge ignition volt., impurity effects 4-6220
gas, self-sustained volume discharge with preionisation, initial-stage dynamics 4-29285
gas, subexcitation electron energy distrib., stopping cross sections 4-10102
gas, thermal cond. meas. 4-34223
gas discharge with electronegative component bounded by a dielect., change in form study 4-34358
glow discharge, nonlinear ionisation wave packets, selfmodulation 4-39018
He-Ne laser stroboscopic high speed interferography (*Chinese*) 4-43037
Hitachi helium liquefier-and-refrigerator, features and development progress 4-8905
intercrystalline adsorption on Ni, neutron irradiation effects, radiation embrittlement 4-39687
ion beams generation, hollow-cathode magnetron ion source 4-32382

helium continued

- ion implantation in Cu(Ni) foils, effects 4-45168
ion implantation in Mo, interaction with H self-interstitial atoms 4-11177
ion stopping cross-sections in a-Si:Ar(Kr)(Xe) 4-24880
ionspheric F_2 -layer H^+ and He^+ ion replenishment following storms 4-17339
isotopes in nature and measurement methods (book) 4-47799
isotopic analysis of Hawaii and Loihi Seamount volatiles, appl. to hotspot volcanism theory 4-41845
isotopic characteristics of Icelandic volcanics, implications for mantle 4-41797
isotopic variations in Hawaiian and Loihi Seamount volcanoes rock, volcanic plume model 4-41844
laser breakdown from single-mode ruby laser irradiation 4-55478
migration in irradiated structural materials, cavity form. 4-56079
partially ionised, simple mixture rule for elec. cond. 4-1875
physiosorption on metals, ground-state energy and bound levels spectrum calcs. 4-45489
physiosorption on noble metal, van der Waals interaction 4-34790
plasma, Doublet III Tokamak, ion temp. and rotation vel. meas. by He III 4686 Å line 4-20026
positron induced cluster and positronium bubble 4-57024
resonant electron elastic collisions, average energy variations 4-14573
seawater anomalous Ne/He ratios due to sea ice freezing processes 4-47303
shock wave propag., luminance 4-34129
solubility in snow and ice 4-29631
steel, austenitic, He ion implanted He bubble nucleation at grain boundaries, TEM studies 4-25034
sticking coeff., friction and scatt. on metal surface, perturbation approach 4-45515
stopping cross section of 4He 4-1012
thermal desorption from graphite, sapphire and Nichrome, time of flight spectra studies 4-29799
two-phase flow in horizontal pipe, press. drop meas. 4-34167
viscosity at intermediate temp. 4-10806
viscous quasistable pipe flow at supercritical press., heat transfer and drag calcs. 4-14944
working gas for Li high-intensity ion source 4-13725
 μ^4He atom, vacuum polarisation effects and Born-Infeld EM theory 4-18146
 Al_2O_3 , pure and He-doped, electron irradiation, void and Al precipitate form. 4-15541
 CO_2 -He RF discharges, UV-visible emission, residence time anal. 4-24641
 CO_2 -N $_2$ -He bulk self-sustained discharge in long gaps 4-24682
Cu-He, gas evolution, under alpha-particle irradiation (Russian) 4-39595
 α -Fe:He, impurity migration, vicinity of developing atom-atom collision chain (Russian) 4-45416
 α -Fe:He, interstitial impurity caging near collision cascade 4-56092
He I D $_3$ Stokes profile in solar prominences, mag. fields determ. 4-36653
He II Lyman α radiation field and solar O III lines 4-3965
He II transitions, stimulated radiation as a result of proton beam pumping 4-14668
He $^-$, near threshold two electron photoionisation absolute cross section 4-19015
He/Ne mixture, low-energy electron energy characts. 4-34228
He-aniline Van der Waals mols., radiationless relax., fluoresc., disperse emission, mass spectra 4-28491
He-Ar, collision induced dipole moment, ab initio HF treatment 4-54593
He-Ar, flow fields generated by opposed free jets, optical and mass spectrometric meas. 4-34155
He-Ar, thermal diffusion factors, temp. depend. 4-15055
He-Ar systems, mutual diffusion coeff. from 350 to 1300K 4-34221
He-Ar-N $_2$ mixtures, e-beam pumped, N $_2(B^3\pi_g)$ and N $_2(C^3\pi_u)$ vibr. temps. 4-28490
He-Br mixture, electron temp. and density 4-39015
He-Cd laser, output stabilisation using feedback with axial magnetic field 4-55078
He-Cd laser for high speed high resolution data recording 4-24006
He-Cd lasers for high speed writing appls. 4-24010
He-Cd white light laser using negative glow discharge 4-55023
He-Cd-Hg CW hollow-cathode laser characts. 4-10283
He-Cd $^+$ hollow cathode discharge multicolour laser for colour scanning 4-24011
He-Cd $^+$ hollow cathode white light laser, stabilisation by floating metal grid 4-38451
He-Cd $^+$ laser, mag. reson. obs. through high freq. modulation (French) 4-23963
He-F $_2$ laser mixtures, stable impurity species, mass spectrometric meas. 4-23961
He-K collisionally excited XUV lasers 4-49333
He-Kr ion laser in a DC hollow cathode discharge 4-55014
He-Ne, anomalous discharge current in transverse mag. field 4-44881
He-Ne, gas laser, mode interaction suppression 4-33639
He-Ne, mutual diffusion coeffs., 350-1300K 4-49916
He-Ne 3.39 μm laser, single-mode self-pulsing instabilities at the Lamb dip 4-1384
He-Ne 3.39 μm single-mode standing-wave laser, anomalous mode pulling, instabilities 4-55015
He-Ne 633 nm lasers, two-mode frequency stabilised, short-term and long-term stability 4-24015
He-Ne frequency-stabilised lasers, gas-lens effect and cavity design 4-10329
He-Ne Gaussian laser beam dia. meas. through direct inversion of knife-edge data 4-10337
He-Ne laser, internal-mirror, amplitude- and frequency-stabilisation 4-24033
He-Ne laser, mag. field dip and lifetime of spherical tensor element 4-44087
He-Ne laser, simultaneous generation in transitions 4-55013
He-Ne laser, striation quenching and output enhancement 4-33696
He-Ne laser, up to 5 mW, for meas. and control appl. (Czech) 4-38497
He-Ne laser Al cathode anal. using scanning electron microscope (Chinese) 4-49385
He-Ne laser at 612 nm, $^{127}I_2$ stabilised, precision wavelength comparisons with He-Ne laser at 633 nm 4-10279
He-Ne laser Gaussian beam parameters, saturation and population inhomogeneity 4-19423
He-Ne laser meter for vibration displacement 4-32236

helium continued

- He-Ne laser radiation, output intensity intracavity modulation by liq. cryst. acoustooptic effects 4-10335
He-Ne laser radiation spectrum control by laser phase anisotropy induced in amplifying or absorptive media by external mag. field 4-5629
He-Ne laser system design, for patient treatment in dermatologic clinics (Czech) 4-58034
He-Ne lasers for making analytical instruments (Russian) 4-44088
He-Ne model HND-120 visible multi-wavelength laser, tuned by dispersion prism (Chinese) 4-55072
He-Ne multi-line, laser characts., construction and operation (Chinese) 4-10318
He-Ne multimode linear Zeeman laser, radiation characts. 4-33701
He-Ne plasmas, low temp., low press., electron energy distrib. functions 4-10817
He-Ne ring laser beat frequency under discharge-current fluctuations, thermal effects 4-5618
He-Ne single-mode laser beam, spatial coherence radius evaluation by speckle contrast (Russian) 4-1424
He-Ne stabilised laser radiation wavelength ratio at 3.39 μm and 0.633 μm , meas. using servo controlled Michelson interferometer 4-10338
He-Ne thermally stabilised two freq. laser meas. system for industrial use 4-10319
He-Ne three mode 3.39 μm laser, mode locking chaos, secondary beat freq. 4-10280
He-Ne two-mode laser, freq. stabilisation using mag. hyperfine components of methane $F_2^{(2)}$ 3.39 μm line 4-10345
He-Ne Zeeman laser, $^{127}I_2$ stabilised, evaluation of stability and wavelength (Korean) 4-38447
He-Ne/methane laser based optical time standard (Russian) 4-238
He-s-tetrazine, mixed complexes, rot. struct., laser induced fluoresc. 4-54779
He-Xe, mutual diffusion coeffs., 350-1300K 4-49916
He-Xe laser, H $_2$ CO stabilised, optical alignment equipment for laser system 4-28707
He $^+$ C $^{4+}$, charge exchange, multiple scatt. theory appl. 4-14543
He $^+$ H $^+$ (He $^{2+}$ Li $^{3+}$) collisions, double ionisation cross section, 4KL8 calcs. 4-9975
He+He, elastic and inelastic collision kinetics with spin-orientation 4-28535
He+Rb, elastic and inelastic collision kinetics with spin-orientation 4-28535
He+Ti, collisional shift and adiabatic broadening of ground state Ti hyperfine transition lines 4-49126
He $^+$ +He collision, He I $1s^2^3D$ levels impact excitation, level crossing signals 4-28409
He $_2$, dissociation energies, pot. energy curves, multiconfiguration SCF method 4-33309
He $_2$, microwave discharge, mol. optogalvanic detection, double probe method 4-24675
He $_2$, triplet state, struct., electronic spectra 4-14435
He $_2^+$ ions, dissociative recomb. 4-30973
He $_2^{2+}$ stability, LCAO MO GO SCF calcs. 4-33316
He $_2^+$ +CO $_2$, thermal energy charge transfer reaction, CO $_2^+$ emission 4-26178
He $_2^+$ +N $_2$, kinetic modelling at high press. 4-35885
He $_2^+$ +N $_2$ (CO), thermal energy charge-transfer reactions 4-21444
He $_2^{2+}$ stability, LCAO MO GO SCF calcs. 4-33316
He $_4^{2+}$ stability, LCAO MO GO SCF calcs. 4-33316
He $_n$ clusters, supersonic free jet expansion, magic numbers, condensation onset 4-1312
 3He gas, spin polarised system, transport phenomena 4-11369
 3He , pionic and muonic X-ray meas. 4-33566
 3He track anal. using mass spectrometer and proportional counter 4-43765
 $^3He/^4He$ in methane-rich natural gases, rel. to magmatic origin 4-8193
 $^3He/^4He$ ratios in diamond, implications for early Earth history 4-36322
 3He - 4He gas mixtures, spin polarised system, transport phenomena 4-11369
 4He on graphite, phonon interactions 4-11406
 4He stopping cross section in H $_2$, He, N $_2$, O $_2$, Ne, Ar, Kr, Xe, methane and CO $_2$ 4-1012
 4He , viscosity coeffs., temp. depend. 4-34222
He * , pot. calcs. 4-5292
He $^*(2S)+Ar$, product angle-vel. distrib. for doubly differential cross section 4-9935
SF $_6$ -He mixture, optically induced drift of SF $_6$ molecules 4-23758
Si:He, microstruct. study by Rutherford backscatt., TEM and SEM 4-24839
Xe-He mixture, afterglow, recomb. population of Xe excited states 4-20056
- helium, liquid see liquid helium
helium, solid see solid helium
helium-3 interactions see helium 3-nucleus reactions
helium 3-nucleus reactions
for inelastic helium 3-nucleus scattering, see "helium 3-nucleus scattering"
 $A_p \leq 12$ projectile reactions and scatt., density distrib., double folding model, review 4-37652
symmetric fission mode, (α ,f), (3He ,f) mass distrib. meas. 4-48561
two-nucleon transfer reactions, transition amplitude props. 4-23087
Ag(3He , X), 90 MeV, compound nucleus decay via heavy nuclei emission, equilib. statistical mechanism 4-23121
 $^{26}Al(^3He, \alpha)^{26}Mg$, alpha particle emission in statistical reactions 4-9219
 $^{12}B(^3He, \pi^+)$ coherent pion production, energy dependence 4-48585
 $^{10}Be(^3He, p_{pol})^{11}B$, proton polarisation meas., time reversal invariance (French) 4-27882
 $^{10}Be(^3He, p)$, p polarisation and anal. power, time asymmetry 4-43236
 $^{10}Be(^3He, p)^{11}B$, 13-14.2 MeV, polarisation and differential cross sections (French) 4-48582
 $^{10}Be(^3He, p)^{11}B$, 14 MeV, time reversal invariance violation, no evidence 4-32904
 $^{10}Be(^3He, p)^{11}B$, 5 MeV, differential cross section 4-37645
 $^{13}C(^3He, d)^{13}N$, 13 MeV, differential cross section and spectroscopic factors 4-37646
 $^{12}C(^3He, \gamma)^{15}O$, GDR of mass-15 nuclei 4-54152
 $^{162}Dy(^3He, \alpha)^{161}Dy$ gamma-ray spectra, nonstatistical cooling mechanism 4-27828
 $^{48}Er(^3He, X)$, 100 MeV, A+166,167, projectile breakup process, breakup fusion contrib., charge particle spectra 4-37647

helium 3-nucleus reactions continued

- ^{18}F , high yield prod. in water target via $^{16}\text{O}(^3\text{He},\text{p})^{18}\text{F}$ reaction, radio-pharmaceutical appl. 4-36236
 $^2\text{H}(^3\text{He},\text{p})^4\text{He}$, fusion reaction meas. in Princeton Large Tokamak 4-37686
 $(^3\text{He}, \text{X})$, 2 GeV/N, in emulsion, comparison with secondary interactions, anomalous effect 4-4872
 $(^3\text{He}, ^3\text{He})$ reaction, decay from two-quasiparticle states in even-even rare earth nuclei 4-4874
 $^3\text{He}(^3\text{He}, \pi^+)$, 350, 420, 500, 600 MeV, energy depend. of cross sections 4-18440
 $^4\text{He}(^3\text{He}, \gamma)$, 10 keV, total cross section and resonating-group calc. astrophysical S factor 4-43494
 $^4\text{He}(^3\text{He}, \gamma)$, 10 keV, total cross section and resonating-group calc. astrophysical S factor 4-43494
 $^{163}\text{Ho}(^3\text{He}, \text{X})$, 100 MeV, projectile breakup process, breakup fusion contrib., charge particle spectra 4-37647
 $^6\text{Li}(^3\text{He}, \pi^+)$ coherent pion production, energy dependence 4-48585
 $^7\text{Li}(^3\text{He}, \text{p})^6\text{Be}$, 14 MeV, time reversal invariance violation, no evidence 4-32904
 $^{28}\text{Mg}(^3\text{He}, \alpha)$, 8.05-20.425 MeV, α -emission two-step anal. 4-23120
 $^{28}\text{Mg}(^3\text{He}, \text{p})^{27}\text{Al}$, pre-compound processes, statistical features 4-9193
 $^{146}\text{Nd}(^3\text{He}, \alpha)$, ^{145}Nd , deep lying $\nu_{1/2}$ hole states 4-43427
 $^{208}\text{Pb}(^3\text{He}, \alpha)$, energy depend. of neutron pickup cross sect. 4-18410
 $^{147}\text{Sm}(^3\text{He}, 3\text{n})$, ^{147}Gd medium spin levels using γ -ray spectroscopy 4-18441
 $^{149}\text{Sm}(^3\text{He}, \alpha)^{148}\text{Sm}$, 26 MeV, transition probabilities in continuum, γ -ray energy depend. 4-4804

helium 3-nucleus scattering

- $A_p \leq 12$ projectile reactions and scatt., density distrib., double folding model, review 4-37652
 $^3\text{He}(^3\text{He}, ^3\text{He})$, high energy scatt., Glauber amplitude 4-670

helium-3 scattering see helium 3-nucleus scattering**helium atoms**

- 2-5 keV He ions and neutrals, Bendix multiplier efficiency determ. 4-982
 3^1P state, electron-photon coincidence and λ -parameter 4-5436
beam-foil excited, electronically oriented, tensor polarizability meas. by quantum beat method 4-5511
chains, ground state energy and binding energy in superstrong mag. fields 4-38032
charge exchange involving ion excitation, asymptotic theory, cross section calc. 4-33526
collisions with neutral atmospheric gases, differential cross sections 4-19163
correlation energies, third-order, calc. using first-order pair functions 4-23620
deexcitation rate consts. by ats. and mols., temp. depend. 4-33509
dimer (trimer), van der Waals interaction potentials: many-body basis set superposition effects 4-5315
Dirac equation basis-set expansion without var. collapse, fourth-back free-particles Foldy-Wouthuysen transformation 4-9654
discharge, HF, spectroscopic and probe investigations 4-50115
double-electron photoionis. cross-section, CI calcs. 4-1112
doubly excited states, classification and supermultiplet struct. 4-48957
doubly excited states, energies and widths, electron correl. and relativistic effects 4-54616
doubly excited states, transition probability distrib. over radiative and radiationless decay channels 4-5167
elastic electron collisions in elec. field 4-19263
elastic electron scatt., two-pot. high energy higher order Born approx. 4-43983
elastic scatt. of positrons 4-1272
elastic small angle electron scatt. 4-5364
electron and positron impact excitation, second order distorted wave model 4-19268
electron elastic scatt., eikonal exchange amplitude calc. 4-5382
electron impact excitation, high energy, impulse approx., kinematical correction 4-43994
electron impact excitation from 2^1S and 2^3S states 4-5424
electron impact excitation of 2^1P state, orbital angular-momentum transfer 4-5430
electron impact excitation of 2^1P state, orientation 4-5437
electron impact excitation of 2^3S and 2^1S states, high resolution study 4-5421
electron impact excitation of $3^1\text{P}(3^1\text{D})$ states, complex scatt. amplitudes 4-5429
electron impact excitation of 'S-'S(^3S) transitions, differential cross-sections 4-5451
electron impact ionisation, double differential cross sections, energy sharing 4-10121
electron impact ionisation, high energy, absolute triple differential cross-sections 4-5449
electron impact ionisation, satellite spectrum, CI wavefunctions calcs. 4-19266
electron impact ionisation, triple and double differential cross sections for energy sharing kinematics 4-14577
electron impact ionisation, triple differential cross sections, second-order effects 4-19270
electron impact ionisation at small momentum transfer, quantum-defect anal. 4-23825
electron impact ionisation triply differential cross sections 4-10120
electron scattered wave functions using extended Numerov algorithm 4-5378
electron scattering, quasifree scatt. model for the imaginary part of the optical pot. 4-10103
electron-photon ang. correls., symm. props. 4-5435
electron-photon angular correlations for 2^1P state 4-5439
electron-photon excitation cross-sections 4-38337
electronic correlations, hyperspherical description in bound and continuum states 4-5413
eleven state electron scatt. calc. 4-5384
exchange effects, singlet-triplet splitting, semiclassical model 4-38050
fast electron impact ionisation, second Born term 4-10111
fluoromethane-He, symmetric top mols., viscosity in presence of mag. and elec. fields 4-19908
fully stripped ions, double- and single-ionisation cross sections ratio 4-9976
ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
ground state energy and binding energy in superstrong mag. fields 4-38032

helium atoms continued

- ground state wavefunctions, energies and binding energies in uniform mag. field 4-38057
ground-state orbitals, momentum space chem., electron spectra 4-23818
HF wave functions, local accuracy, reduced local energy moments 4-43799
inner shell fluorescence polarisation and ang. distrib. variations 4-1086
International Solar Polar Mission, interstellar neutral-gas expt. 4-31735
ion+ $\text{Cd}(\text{Sn})(\text{Te})(\text{I})(\text{Ba})$ surface impact, L-shell X-ray prod. cross section 4-12004
ionisation by collision with fast protons 4-1257
ions, nonperturbative effects in inner-shell ionization 4-9990
isoelectronic sequence, ground states, ang. eigenfunctions 4-54579
isoelectronic sequence, var. calcs. 4-43800
isoelectronic series, ($Z=2$ to 10), quantum defect theory treatment of Isns and Isnp series 4-14321
isoelectronic series, energy-density eqn. for isoelectronic changes, Z -depend. of electrostatic pot. 4-28356
isoelectronic series above $n=2$ continuum, autoionis. states positions and widths 4-9949
Lamb shift, $\text{Is}2\text{p}-\text{Is}3\text{d}$ transitions fluoresc. obs. 4-23652
laser assisted electron impact ionization 4-14585
mass anal. by atom-probe field ion microscopy 4-37260
metastable, 2^1S , adsorbed on metal, deexcitation processes, effect of surface electronic struct. 4-33381
metastable, relaxation rate meas., diffusion length determ. for arbitrary shape vessel 4-39003
metastable atoms, chemi-ionisation reactions at high energy 4-1249
metastable state, inelastic differential electron scatt. 4-5423
microwave ionisation of highly excited atoms, anticrossings role 4-9740
muonic, excited states, hyperfine struct., approx. methods 4-19303
photoabsorpt., electron correl. effect 4-43854
photoionisation cross-sections, for satellite processes, relaxed Hartree-Fock calcs. 4-5298
polarisation propagator based on AGP state, appl. 4-33294
positron collisions, positronium form. 4-23823
positron excitation 2^1S state 4-14580
pressure broadening of CO IR lines perturbed by H_2 and He 4-33397
pseudostate model of electron shadow scattering 4-5365
radial Sternheimer shielding-antishielding factors 4-43821
radiative transition probability, $2^1\text{P}_1-2^1\text{S}_0$ 4-23659
resonance dechanneling in Si , ionic charge meas. 4-45235
resonance photoionisation to He^+ ($N=2$), cross-sections calcs. 4-1116
Rydberg levels, radiative lifetimes, high freq. deflection technique 4-18995
scattering from Au (111) surface 4-3009
scattering from metal surface, theoretical aspects 4-30591
scattering from stepped surface, quantum mech. time-depend. simulation 4-16282
scattering from Xe coated graphite, selective adsorption reson., close-coupling calcs. 4-21092
series wave functions 4-33289
simultaneous electron-photon excitation, quadrupole effect 4-14584
static multipole polarisabilities, London dispersion coeffs. calcs. 4-18919
strong magnetic fields, atom behaviour, variational calcs. 4-18954
thermal source for highly polarised metastable atoms 4-23842
three Coulomb-bound particles, expectation values and wavefunctions calcs. 4-4245
total electron scatt. cross section in energy range 4 to 300 eV 4-5375
two-electron at. wave functions, asymptotic behaviour 4-54595
van der Waals interaction potentials: many-body basis set superposition effects 4-5315
 $^4\text{He}+\text{p}$, He rot. inelastic scatt., adiabatic calcs., semiclassical exponential perturbation theory 4-19154
 $\text{Cl}^{11+}+\text{He}$ collisions, K X-ray prod. cross section meas. 4-9987
 $\text{H}+\text{B}^{3+}$ electron capture collision, relative population between $\text{B}^+(2\text{s})$ and $\text{B}^{2+}(2\text{p})$ meas. 4-1238
 $\text{H}+\text{He}$ collisions, double differential distrib. prod. by collisional electron loss 4-38305
 H_2+He , collision induced IR absorpt. spectra 4-43878
 H_2+He , collision induced translation rot. spectra 4-38285
 H_2+He collisions, vibr. transitions in forced Morse oscill., algebraic approach 4-28537
 $\text{HCl}+\text{He}^+$ collisions, Penning ionisation optical spectroscopy, Franck-Condon distrib. 4-38303
 He beam+ LiF , resonance in atom diff. by cryst. surface 4-25842
 He I, Isn^{D} levels impact excitation by He^++He collision, level-crossing signals 4-28409
 He I $2^3\text{P}-3^1\text{D}$ intercombination satellite, collision induced, kilometre path-length absorpt. meas. 4-14359
 He II, 2p state, lifetime meas. 4-18994
 He II 587.6 nm line absorption in main-sequence stars ϵ Eri and κ Ceti 4-22372
 He II emission from Cygnus X-1, obs. (Russian) 4-17562
 He ion, MeV region, Zr oscil. of equilb. mean charge 4-19250
 He ions+ $\text{Cu}(\text{Ti})$ foils, total K-shell vacancy prod. cross sections for 200 to 1600 keV/amu ^3He 4-9985
 He , positron scatt., positronium form. inexact target wave functions 4-5471
 He , van der Waals dimers, multipole polarisabilities, dispersion interactions, HF calcs. 4-14311
 He^+ , $\text{Is}2\text{s}2\text{p}^2\text{P}^0$ reson., cross sections, complex transformations, probability amplitude calcs. 4-33288
 He^+ , $\text{Is}2\text{s}2\text{p}^4\text{P}$ state, relativistic effects 4-38056
 He^+ , $2\text{p}^4\text{S}_0$ multiplets, half-capacity configs. 4-18925
 He^+ ($^4\text{P}^0$), photo-double detachment, near threshold meas. 4-1125
 He^+ , doubly excited states, Bohr-Rydberg spectrum 4-18941
 He^+ , electron impact excitation, metastable atoms yield, resonances 4-5410
 He^+ photodetachment, $\text{Is}2\text{p}2\text{p}^4\text{P}^e$ reson. obs. 4-1129
 He^+ triply excited states, electronic correlations, hyperspherical description of radial and angular correlations 4-5415
 He^+ , Wannier ridge reson. 4-5150
 He^+ bombardment of Rh (001), CO desorption stimulation 4-11404
 He^+ , dielectronic recomb. cross-section 4-19285
 He^+ , electron elastic scatt. using hyperspherical coords. and incorporating the Fock expansion 4-5379
 He^+ , electron impact $\text{Is}-2\text{s}$ excitation, modified Glauber approx. 4-54867
 He^+ , electron impact excitation, Coulomb-Born approx. 4-10104
 He^+ , electron impact excitation, modified Glauber approx. 4-10133

helium atoms continued

- He⁺; electron impact excitation cross section, Coulomb-Born approx, 4-10137
- He⁺, electron impact excitation calcs. 4-19284
- He⁺, excited state, prod. by atom (ion)(mol.) impact on C foil, population investig. 4-43831
- He⁺ ion scatt. from metal surface, low energy, Auger vs. reson. neutralisation 4-30590
- He⁺ mass-identified ions transverse diffusion in parent gases 4-38934
- He⁺, scatt. and interaction from NiFe surface, optical radiation 4-11994
- He⁺, scatt. and neutralisation from Ni (110) and adsorbed O 4-11987
- He²⁺ transport in PDX Tokamak 4-44811
- He electron capture and stripping, high energy 4-23800
- He-acetylene flame, diffusion reaction, spectroscopic studies 4-21471
- He-aniline solvation, mol. supersonic jet studies 4-35878
- He-I₂ van der Waals complex, metastable level, quantal model calcs. (Spanish) 4-38270
- He-I₂ van der Waals mol., vibr. predissoc., close-coupling calcs. 4-9866
- He-like ^{6,7}Li⁺, excited 1s2s ³S₁ and 1s2p ³p hyperfine multiplets, laser-microwave spectroscopy 4-33552
- He-like ions, [∞] collisional radiative model for emission-line intensities 4-34242
- He-like ions, electron scatt. cross-sections, reson. effect 4-5469
- He-like ions, energy level shifts, polarisation 4-28405
- He-like ions, forbidden lines, resons. effects 4-23640
- He-like ions electron impact 2³S excitation 4-5425
- He-like ions in dense plasma, X-ray emission profile calcs. (French) 4-48971
- He-like isoelectronic series, ground state, Coulomb Green's function variables 4-48902
- He+2-pentanone, low energy collisions of threshold, kinetic to internal energy conversion 4-33493
- He+alkali metals, j₁m₁→j₂m₂ transitions cross sections 4-5340
- He+Ar_n scattering, TOPS anal. 4-19316
- He+Ar⁺, charge stripping, collision gas press. depend. 4-33521
- He+Ar²⁺, state-selective electron capture studied by translational attenuation method 4-19223
- He+Ar²⁺(C²⁺)(C³⁺)(N²⁺), state-selective electron capture 4-14553
- He+Ar³⁺, electron capture energy loss spectra 4-14547
- He+Ar³⁺ single e⁻ capture, energy loss spectra diff. cross sections 4-43979
- He+Ar³⁺(Ar⁶⁺), Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
- He+Ar³⁺(Ar⁶⁺), electron loss peak, charge state depend. 4-9944
- He+Ar⁴⁺, Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
- He+Au¹⁵⁺, transfer ionisation and excitation, correl. two-electron effects 4-43977
- He+Au¹⁷⁺, emergent charge states, coincidence with forward electron spectra 4-9956
- He+Be⁺(2s), collisional excitation, several electron atomic basis calcs. 4-19189
- He+C⁶⁺(N⁶⁺)(O⁶⁺)(Ne⁶⁺), electron capture into different (n,l) states 4-14556
- He+C⁶⁺(N⁷⁺)(O⁸⁺) collisions, electron capture study by multichannel model 4-19235
- He+C⁹⁺(N⁹⁺)(O⁹⁺), electron capture processes, final state anal. 4-14548
- He+C⁹⁺(O⁹⁺), electron capture cross sections 4-14537
- He+CO collisions, close coupled scatt. calc. comparison with meas. at E_{cm}=27.7 meV 4-19168
- He+CO(NO), excitation mechanisms, charge exchange 4-10018
- He+Ca(4s5p ¹P₁), electronic energy transfer, radiative lifetimes, spin and fine struct. changing cross sections 4-1248
- He+closed-shell ion repulsive interactions, beam and transport meas. 4-28533
- He+D₂ collisional excitation at low keV energies 4-10007
- He+D₂ collisions at low keV energies 4-19162
- He+e⁻H⁺+Ze, nonrelativistic many particle scatt. theory 4-609
- He+F⁺ collisions, electron detachment study by differential time of flight energy loss study 4-9970
- He+F⁺ electron capture, F K-Auger emission spectra meas. 4-23805
- He+F⁺(q=6,7,8), electron capture processes, energy-gain spectroscopy 4-54859
- He+F⁴⁺(Ne⁹⁺), electron capture, final state anal., translational energy spectra 4-14549
- He+Fe²⁶⁺, high velocity asymmetric and near-asymmetric collisions, charge exchange cross sections 4-5348
- He+Fe²⁶⁺, total charge transfer cross sections 4-33525
- He+H, collisional ionisation 4-9883
- He+H, collisions below 1 keV 4-9885
- He+H, Rydberg states transition, interaction pot. 4-33518
- He+H₂, chemionisation, interaction pot. long-range component 4-43969
- He+H₂, Penning ionisation, diatomics-in-mols. model, pot. energy surface 4-38302
- He+H₂, scatt. calcs. using time-depend. semiclassical methods 4-38280
- He+H₂, semiclassical collision theory with Feynman path integral formalism, perturbation stationary state 4-54827
- He+H₂ reson. energy and autoionisation widths, semiempirical DIM calcs. 4-28543
- He+H₂* reactions, inert gas dihydrides prod. 4-51985
- He+H⁺, fast collision, electron loss double peak in forward direction 4-9945
- He+H⁺ collisions, electron detachment cross sections 4-9967
- He+H⁺ doubly differential electron detachment cross-sections, target depend. 4-38316
- He+H⁺(L⁻)(Na⁻)(K⁻), keV collisions, electron detachment, scaling law 4-9904
- He+H⁺(O⁻), energy distrib. of detached electrons 4-9963
- He+H⁺, continuum electron capture 4-10020
- He+H⁺, density matrix describing electron transfer determ. 4-19228
- He+H⁺, differential scatt., orbiting struct. meas. 4-9893
- He+H⁺, elastic scatt., excitation and ionisation 4-9878
- He+H⁺, electron capture, orthogonality effects on initial and final states 4-10050
- He+H⁺, electron capture and excitation collisions 4-23798
- He+H⁺, H(2P) excitation, charge-changing collisions, polarisation obs. 4-10030
- He+H⁺, K-K shell electron capture in asymmetric collisions at high and intermediate energies 4-10051
- He+H⁺, low energy scatt., semiclassical Regge-Pole description 4-9894

helium atoms continued

- He+H⁺, parity-unfavoured autoionising states, excitation cross-sections calcs. 4-9958
- He+H⁺, triplet state excitation 4-9896
- He+H⁺ collisions, ionisation cross sections for 5 to 4000 KeV H⁺ in gases 4-9973
- He+H⁺(H₂⁺)(He⁺)(He²⁺) simple collision systems, target ionisation and projectile electron loss 4-54847
- He+H⁺(H), electron capture and loss into continuum 4-10022
- He+H⁺(He⁺)(Li⁺)(Li²⁺)(Li³⁺), autoionisation spectra 4-9948
- He+H⁺(He²⁺) collisions, Hartree-Fock calcs. 4-10054
- He+H⁺(Li³⁺)(Be⁴⁺)(C⁶⁺)(O⁸⁺) electron capture cross-sections, unitarised distorted wave approx. calcs. 4-38317
- He+HF, rot. inelasticity, interaction pot., cross section computation 4-38294
- He+HF, vibr.-rot. deexcitation, state-to-state cross-sections calcs. 4-9912
- He+HF collisions, vibr. and rot. inelasticity calc. 4-19165
- He+H(H⁺)(H⁻), charge transfer cross section, expt. data compilation 4-42621
- He+He, 2¹P excitation at various substate combinations 4-9886
- He+He, differential cross section meas. 4-14574
- He+He, electron loss into continuum, H⁺ form. 4-9903
- He+He, Penning- and associative-ionisation, electron spectra 4-33519
- He+He²⁺, one and two electron capture, time-dependent HF description 4-23802
- He+He*, vel. depend. total scatt. cross sections 4-5327
- He+He*(2¹S,2³S), scatt. cross sections, pot. energy curves 4-33309
- He+He(1¹S) thermal collisions, collisional depopulation rate meas. 4-19183
- He+He(n¹P) thermal collisions, collisional depopulation rate meas. 4-19183
- He+I₂, energy transfer from high vibr. states, scaling behaviour 4-38298
- He+I₂, vibr. and rot. inelastic collisions, ang. momentum limitation 4-19156
- He+inert gas, diabatic pot. interaction 4-5341
- He+K(4p_{3/2}), fine struct. transitions, polarisation effects 4-9887
- He+Kr²⁺, low-lying state transitions, ion energy-loss 4-14519
- He+Li, 4²D-4²F excitation transfer 4-43968
- He+Li₂ (A²Σ_u⁺), rot. transfer, reorientation, polarisation scaling laws 4-38293
- He+Li₂, rot. energy transfer, scaling laws 4-54843
- He+Li⁺, excitation mechanism, coherence study 4-19140
- He+Li⁺ collision, pot. curves and non-adiabatic coupling matrix elements 4-43947
- He+light ion collisions in time-depend. HF theory, excitation and charge transfer cross sections 4-10019
- He+methane, Penning and dissociation, ionisation 4-43967
- He+methane-d₄, vibr. deactivation rate const., laser fluoresc. study 4-49128
- He+N₂, collisional excitation, 1-2000 eV 4-10005
- He+N₂(CO), high energy scatt., obs. of vibr. 'rainbow' 4-9918
- He+N⁷⁺, two-electron capture, N⁵⁺ autoionisation, electron spectra 4-49147
- He+NO⁺, collision induced dissociation kinetic energy distrib. 4-7702
- He+Na, Penning ionisation cross sections calc. 4-9937
- He+Na, selective population transfer, two step collision model 4-19147
- He+Ne, He 2¹P₁ state quenching by Ne 4-38123
- He+Ne, He 2¹P₁-S¹S₀ radiative transition probability 4-23659
- He+Ne, He 2¹P₁-level decay kinetics 4-33499
- He+Ne, nonresonance excitation transfer 4-9889
- He+Ne⁺, Ne 2p³p level excitation, oscillatory total cross section 4-54846
- He+Ne²⁺ collisions, single- and double-electron capture cross sections 4-43976
- He+Ne⁴⁺ (q=7,8,9), electron capture processes, energy-gain spectroscopy 4-54859
- He+Ne⁴⁺, q=2-5, electron capture cross sections 4-19221
- He+Ne⁴⁺(Ar⁴⁺)(Kr⁴⁺)(Xe⁴⁺), electron capture and transfer ionisation cross section 4-49154
- He+O₂(Cl₂), penning ionisation and ion pair form., secondary electron emission 4-33516
- He+O⁺, charge transfer cross-sections, distorted wave calcs. 4-38283
- He+O¹⁺, excitation, alignment of O¹⁺ (H-like ion), plane wave Born approx. 4-38304
- He+Rb, Rydberg atom thermal collisions, Faddeev Watson expansion appl. 4-19215
- He+Rb collision, broadening of level crossing signals 4-23778
- He+Rb(Cs), transition cross sections within second and third n²P levels, quantum-mechanical calcs. 4-9940
- He+Si¹¹⁺, electron capture and loss cross sections 4-14534
- He+Sr, Sr reson. line broadening, absorpt. coeff. 4-18986
- He+ZnH, rot. and spin-rot. collision transfers 4-38292
- He⁺+^{158,160}Gd, K-shell ionisation cross section meas. from intensity ratios of K X-rays to 2⁺-0⁺ γ-rays 4-54153
- He⁺+2He-He⁺+He association reaction, temp. depend. 4-41208
- He⁺+acetylene, selective excitation, energy loss spectra 4-43953
- He⁺+Ar, electron loss, single differential cross-sections calcs. 4-9943
- He⁺+Ar, multiple ions, by charge transfer and direct ions 4-10032
- He⁺+Ar collision, ion induced L₃-subshell alignment of Ar 4-43959
- He⁺+CO(NO), excitation mechanisms, charge exchange 4-10018
- He⁺+H(He⁺) charge transfer and ionisation processes 4-10056
- He⁺+He, autoionisation spectra 4-9948
- He⁺+He, autoionisation spectra in electron energy range 3-2000 eV 4-19207
- He⁺+He, elastic scatt. and charge exchange at E_{cm}=0.5-30 eV 4-9879
- He⁺+He, excitation mechanism at various collision energies 4-19142
- He⁺+inert gas atoms, multiple ionisation cross sections meas. 4-23803
- He⁺+laser excited atoms, He I 2³P-3³D intercombination satellite, kilometre path-length absorpt. meas. 4-14359
- He⁺+Li, charge exchange cross-sections calcs. 4-10060
- He⁺+Ne, He(3³P) prod., ang. correl. meas. 4-9999
- He⁺+Ne, Ne 2p³p level excitation, oscillatory total cross section 4-54846
- He⁺+O₂-He+O+O⁺, dissociation, charge transfer, production ang. distrib. and energy spectra 4-10070
- He⁺+surface impact, M-shell, X-ray prod., survey 4-12005
- He⁺+Dy, ionisation, ang. correl., L X-ray and α particle scatt. 4-28546
- He⁺+H, charge transfer, exponential distorted-wave approx. calcs. 4-38318
- He⁺+H, charge transfer cross section, mol. calcs. 4-14561

helium atoms continued

- He²⁺+H, electron capture, close-coupling calc. 4-19220
 He²⁺+H, electron capture cross sections, coupled channel approx. 4-49158
 He²⁺+H collisions, electron capture and excitation cross section 4-43961
 He²⁺+H collisions in presence of a laser field, charge transfer cross section calc. 4-14566
 He²⁺+H(1s), excitation and ionisation cross sections calc. 4-14526
 He²⁺+H(1s)-He⁺+H⁺, electron capture, high energy, close-coupling calcs. 4-10041
 He²⁺+H(1s), charge transfer cross sections, HeH²⁺ quasimolecule 4-10015
 He²⁺+He, electron capture, global transfer cross sections calc. 4-5346
 He²⁺+He collisions, double ionisation cross section, 4KL8 calcs. 4-9975
 He²⁺+He(S) collisions, Hartree-Fock calcs. 4-10054
 He²⁺+Li, single electron capture cross sections, AO expansion method 4-54853
 He²⁺+Li collisions, charge transfer calc. 4-19236
 He²⁺+Li collisions, electron capture cross section calc. 4-19237
 He²⁺+Li collisions, two electron capture at high energies 4-19238
 He²⁺+surface impact, M-shell, X-ray prod., survey 4-12005
³He+CO, vibr. relax., rot. sudden approx. calcs. 4-5329
⁴He+CO, vibr. relax., rot. sudden approx. calcs. 4-5329
 He^m+He, inelastic scatt. channels investigated using optical spectroscopy 4-9890
 He^{q+}+Ar(N₂) close atomic collisions, He ion charge distrib. anomalous effect 4-54848
 He₂⁺, long-lived metastable states obs. 4-43829
 He₂⁺, doubly excited states, ab initio pot. energy curves calcs. 4-23627
 He₂⁺, kinetic field functions, normalisation 4-18883
 He₂⁺+Cs, two-step electron capture, long-lived metastable He₂⁺ prod. 4-43829
 He₃ clusters, dipole polarisability three-body contrib. 4-48949
 He₃ Au L-subshell ionis. 4-9989
 He⁺S¹⁺(S¹³⁺)(Kr^{q+}), one-electron capture cross sections, R_c depend. 4-43973
³He gas, nuclear polarisation at low temp. by optical pumping 4-5180
³He+He(Ar) simple collision systems, target ionisation and projectile electron loss 4-54847
³He⁺+He(Ar) simple collision systems, target ionisation and projectile electron loss 4-54847
⁴He, muonic, hyperfine struct., perturbation theory calcs. 4-49193
⁴He⁺, muonic, metastable ions, lifetime and quenching rate meas. 4-49192
⁴HeK⁺ atom, possible bound state 4-14613
⁴He+CO, ro-vibr. relax. in large *j* limit, semiclassical model 4-49133
⁴He+CO, vibr. deactivation rate consts. for CO, semiclassical study 4-23785
⁴He⁺+rare earth atom, M-shell X-ray production cross-sections 4-19182
 He*, oscillator strengths, atomic Fues potential 4-5292
 He*+Ar₂ van der Waals mol., Penning ionisation study 4-33515
 He*+He(Ne)(Ar), vel. depend. total scatt. cross sections 4-5327
 He*+He(1¹S), scatt. cross sections, pot. energy curves 4-33309
 He*+molecule reactions, optical and electron spectrosc. investig. 4-10009
 He*+Ne, collisional polarisation. transfer, even-odd isotope effects 4-19000
 He*+Ne⁺→Ne*+He⁺(1¹S), charge transfer cross-sections meas. 4-10031
 He*+SO₂ reactions, optical and electron spectrosc. investig. 4-10009
 He*+Ne(AR), Penning ionis. and collisional destruction investig. 4-10011
 He₂⁺, mol. model pot. calc. on first ³Π_u states, at. Fues pot. appl. 4-1231
 He*(2¹S) impact on Se surface, deexcitation mechanisms, electron spectra 4-30585
 He(2¹S) collisional deexcitation rate consts., temp. depend., 4-10002
 He(2¹S) metastable states, electron impact excitation differential cross sections 4-33540
 He(3¹P), prod. in He⁺+Ne collision, ang. correl. meas. 4-9999
 He(3¹P)+Ne, autoionisation width for Penning and associative ionisation cross sections 4-9932
 He(5¹P)+He, laser excited, thermal energy collisions, associative ionisation of Hornbeck-Molnar type 4-9931
 I₂-He van der Waals mol., vibr. predissoc. calcs. 4-14487
 Li³⁺+He collisions, charge exchange process 4-9981
 Xe⁺+He⁺ collisions, reson. state population by charge transfer excitation, flow drift tube study 4-38286

helium compounds

- flibe fusion blanket coolant, performance comparison with He and Li 4-28186
 HeCl, ²Σ⁺ transition, CNDO, INDO calcs. 4-33321
 HeF, ²Σ⁺ transition, CNDO, INDO calcs. 4-33321
 HeH⁺ (HeD⁺), IR bound-quasibound vibr.-rot. spectrum, isotope effects 4-19051
 HeH⁺, gas target collision, H⁺ loss reaction study 4-21458
 HeH⁺, struct., channel coupling theory appl., global basis-set expansions 4-23594
 HeLi⁺ quasimol., infinitely excited states, energies and couplings 4-9981

helium films

- adsorbed spin polarised H superfluid film, sound propagation (Chinese) 4-2404
 adsorption of H in liq. He surface, two dimens. triplet H-H scatt. 4-36940
 superfluidity and third sound 4-50607
 Wigner crystal over He film, reson. effects (Russian) 4-2638
³He, liquid film, mag. coupling with fluorocarbon substrate 4-56117
³He, liquid film, paramagnetism singularities 4-50608
³He, superfluid, orientation effects in 2D 4-39623
³He superfluid film, Bose spectrum in elec. field (Russian) 4-2395
³He-He film, dil., density fluctuations induced by impurities 4-15738
³He-He mixture films, third-sound studies 4-34742
³He-He thin films, dil., density fluctuations 4-11375
⁴He, FCC, grain boundaries, wetting by fluid ⁴He 4-11381
⁴He film, mass transport and third sound meas. near Kosterlitz-Thouless transition 4-2391
⁴He film, superfluid, nonlinear third sound 4-11362

helium films continued

- ⁴He films, third sound propag. 4-15734
⁴He liquid, charged thin film, deform. phenomena (Russian) 4-56108
⁴He, liquid film, surface electron props. calcs. 4-50609
⁴He, superfluid film, flow dissipation over coarse alumina substrate 4-11379
⁴He thin film, interaction with metal surface (Russian) 4-56116
- helium I** see liquid helium-4
helium II see superfluid helium-4
helium nuclei see nuclei with mass number 1 to 5; nuclei with mass number 6 to 19
Hellman-Feynman theorem see quantum theory
Helmholtz free energy see free energy
hemoglobin see proteins
hemorheology see biorheology; blood
Hertzsprung-Russell diagram see stellar evolution
heterodyne detection see demodulation
heterodyne wavemeters see wavemeters
HEXFET see insulated gate field effect transistors
h.f. amplifiers see high-frequency amplifiers
HF calculations
 see also *Xalpha* calculations
 1p shell hypernuclei, binding energies, HF method in multicentre shell model (Chinese) 4-43422
 5d-metal hexafluorides, electron affinities and electron struct., X_α calc. 4-5515
 accurate Hartree-Fock wave functions without exponent optimization 4-33284
 acetylene, photoionisation cross sections 4-49101
 adiabatic fission, hydrodynamic approx., decay width of metastable many-body system 4-18489
 alkali halides, F and F_A centres, unrestricted Hartree-Fock cluster anal. 4-20998
 alkali metal atoms, excited d-states, photoionis. cross-sections, Hartree-Fock calcs. 4-1115
 alkaline earth atoms, electron impact ionisation, HF vel. distrib. 4-19273
 astrophysically important molecules, photoexcitation and photoionis. cross sections calc. 4-9847
 atom-ion collisions, time dependent HF theory appl., many-body aspects 4-28531
 atomic, mol. and solid state theory conf., Flagler Beach, USA, March 1983 4-31952
 atomic collisions, time-dependent Hartree Fock eqn., wave packet soln. 4-9673
 atomic form factors, relativistic HFS modified, small angle Rayleigh scatt. of photons 4-4164
 atomic Gaussian orbital calcs., Roothaan HF program 4-18889
 atomic HF wave functions, local accuracy, reduced local energy moments 4-43799
 atomic inner-shell transition rates, DF wave function, gauge depend. 4-9717
 atomic many electron collisions, capture probabilities, time depend. HF calcs. 4-14559
 atomic radiative transitions, Hartree-Fock and random phase approximations 4-43835
 atoms, Dirac-type functions, relativistic SCF calcs. 4-48920
 atoms, mol. and ionic solids, electronic struct., relativistic ab initio calcs. 4-38102
 atoms, mol. and solids, relativistic effects, conf., Vancouver, Canada, Aug. 1981 4-36796
 atoms, relativistic corrections, numerical DF calcs. 4-38095
 atoms, total energies and electron affinities, local spin-density approx. exact exchange extension 4-28571
 atoms and ions, correl. energy, universal Gaspar function, HF wave functions 4-33342
 atoms and ions, spectral parameters, HF functions, orthogonalisation procedure 4-33313
 atoms with filled shells, static dipole polarisability, coupled perturbation theory 4-28367
 benzoquinones, mol. orbital energies, topological effects calcs. 4-28354
 bonding and correlation in atoms and mol., high energy electron elastic scatt. investig. 4-10101
 bonding energies, HF Slater transition state method, relativistic effects 4-38062
 bound-free dipole matrix elements and zeros, initial state props. depend. 4-1056
 closed shell atomic and ionic systems, static quadrupole polarisability 4-33304
 collective energies from periodic time-depend. HF solns., Bohr-Sommerfeld quantisation rule 4-54025
 collective excited states, effective interaction, HF calc. (French) 4-4784
 collective motion, variational approach 4-27807
 collective-coordinate method, self-consistent, in time-depend. HF theory, geometrical structure 4-13946
 complex inorganic ions, vibr., thermodynamics, ab initio SCF MO LCAO calcs. 4-28369
 Coulomb interactions, exchange integral upper bound 4-33479
 Coulomb interactions, treatment in Hartree-Fock calcs. of periodic systems 4-20589
 cranked Hartree-Fock wave functions 4-54061
 cyclobutanol, struct. props., ab initio HF gradient calc. 4-18907
 cyclobutylamine, struct. props., ab initio HF gradient calc. 4-18907
 cyclopropane, ab initio prediction of structs., force consts. and vibr. freqs. 4-14313
 density-dependent effective interactions, Coulomb-energy shifts depend. on symmetry energy 4-18369
 diatomic collision system, collective charge flow dynamics 4-14504
 diazines, absorpt. and emission transitions, solvent effects, self-consistent reaction field theory 4-38043
 dielectric functions, long-wavelength limit and logarithmic singularities 4-20586
 2,3-dimethyl-1,3-butadiene, geometries, rot. barriers, HF level ab initio gradient computation 4-38034
 Dirac-Fock one-centre expansion method 4-38099
 doubly-closed shell nuclei, charge distrib., 2p-2h ground state correl. influence 4-4750
 dye-polymer complex, circular dichroism, linear response theory 4-41436
 electron correlation, intrinsic and extrinsic disorder effects 4-25298
 electron gas with screened Coulombic interactions 4-17820

HF calculations continued

electronic dielec. const., quantum theory, Clausius-Mosotti limit 4-35330
 ethene, adsorbed in zeolites, NMR spectra, MO calcs. 4-23714
 ethylene imine, ab initio prediction of structs., force consts. and vibr. freqs. 4-14313
 ethylene oxide, ab initio prediction of structs., force consts. and vibr. freqs. 4-14313
 extended time depend. HF eqns. in Liouville space of one-body density matrix 4-18370
 fermion systems, many, bound state quantisation, HF solutions, RPA spectrum 4-22674
 ferromagnets, HF eqn. with screening potential, effective mass discontinuity at Curie temp. 4-6974
 Feynman-Goldstone diagrams, many-fermion, in time-depend. basis, HF eqns. determ. 4-54051
 finite nuclei, pion condensation, pion field dynamical growth, HF calc. 4-18355
 fluoroacetamide, stability and struct. of radical anions, EPR study 4-1184
 Fock space effective Hamiltonians 4-8768
 formaldehyde, general multiconfigurational wave functions, analytic energy second derivatives 4-54592
 free and impurity ion spectra, wave function and excitation energy changes on free ion entering cryst. 4-11495
 general multiconfigurational wave functions, analytic energy second derivatives 4-54592
 giant isoscalar reson. in medium and heavy nuclei excited with medium energy protons 4-27856
 harmonic force constants, scaled quantum mech. force fields calcs. 4-38349
 Hartree-Fock-Bogoliubov ground state under constraints, stability condition 4-13953
 heated rotating nuclei, first order phase transitions, statistical fluctuations, HF-Bogoliubov cranking theory anal. 4-13928
 heavy ion collisions, TDHF calcs. of nuclear molecular resonances 4-32924
 heavy ion deep inelastic collisions, coherent and incoherent aspects, TDHF, stat. S-matrix 4-18459
 heavy ion systems, three-dimensional nuclear dynamics in the quantized ATDHF approach 4-14000
 heavy-ion collisions, giant nucl. systems, positrons from supercritical fields 4-4901
 heavy-ion intermediate energy collisions, mean field approx. to pion prod. 4-48596
 heme-proteins-CO ligand, H bonding, HF-Slater electronic struct. calcs. 4-48906
 high-Z atomic systems; relativistic many-body calcs. 4-18938
 Hubbard model, magnetic ordering effect on thermodynamic and elec. props. 4-25569
 Hubbard model, magnetic phase diagram, incommensurate phases 4-2758
 light atoms, electron densities, HF and local density approx. 4-1051
 many-electron atoms, relativistic two-body interaction 4-48959
 many-electron systems, different versions of perturbation theory based on Hartree-Fock functions 4-14316
 methane cation, pot. surface, dissociation, ab initio restricted HF calcs. 4-18899
 methanol ion, dissociation, reaction paths calc. using open-shell RHF method 4-46742
 methoxy radical, isomerisation, reaction path hamiltonian study 4-51991
 methyl cyclobutane, struct. props., ab initio HF gradient calc. 4-18907
 2-methyl-1,3-butadiene, geometries, rot. barriers, HF level ab initio gradient computation 4-38034
 methylglyoxal, ground and first excited triplet states, geometry and separation energy calcs. 4-1023
 model chains, configuration space HF Roothan method, convergence of lattice sums anal. 4-44008
 molecular symmetry, use in Hartree-Fock-Dirac SCF calcs. 4-38023
 molecules, electronic states, local density HF theory with self-interaction correction 4-48917
 molecules, electronic struct., relativistic SCF theory 4-38098
 molecules and crystals, relativistic HF theory, LCAO calcs. 4-38065
 multi-electron transitions in atoms and mols. 4-5126
 Nilsson model for equilib. deformation calc., Hartree mean-field approx. equiv. 4-542
 nuclear collective excitations, fluid dynamic models 4-9135
 nuclear excitations in nucl. response theory 4-27817
 nuclear fluid dynamics, microscopic foundations 4-27808
 nuclear isospin symmetry, constraints in nuclear mean field (Korean) 4-37444
 nuclear nonlinear responses and collective motion in TDHF approx. with Skyrme forces 4-509
 nuclear structure, microscopic calculations in spin- and number-conserving quasiparticle spaces 4-32824
 nuclear structure, microscopic calculations in spin- and number-conserving quasiparticle spaces 4-32825
 observable expectation value, time-depend. variational principle, mean field theory appl. 4-18368
 odd-odd nuclei, spectroscopic props. in self-consistent field theory (French) 4-547
 one-electron atom, Dirac eqn. basis-set expansion without var. collapse, fourth-back free-particles Foldy-Wouthuysen transformation 4-9654
 optical model pot. radius and incident energy depend. of effective interaction 4-54107
 optical model potential, Brueckner-Hartree-Fock approx. calc., complex effective NN interaction determ. 4-13942
 Peierls condensate, electron-phonon system in 1D, phase solitons 4-45652
 periodic systems, evaluation of densities of states in ab initio calcs. 4-56183
 polyenes, cyclic, bond length alternation, restricted HF calcs. 4-9658
 polyenes, cyclic, unrestricted HF calcs. 4-9659
 polyethylene, one dimens. infinite, energy gradient in ab initio HF cryst. orbital formalism 4-2295
 polymers, configuration space HF Roothan method, convergence of lattice sums anal. 4-44008
 positrons, hydrated, HF-MO-LCAO SCF calcs. 4-28353
 pyrazine, $n \rightarrow \pi^*$ (B_{30})- $n \rightarrow \pi^*$ (B_{2g}) splitting ab initio RHF calcs. 4-9669
 quantum nuclear hydrodynamics in the mean-field approximation 4-13955
 radicals, small, hyperfine struct., ab initio CI calcs. 4-38079
 random phase approximation in a deformed Hartree-Fock basis 4-54064

HF calculations continued

rare earth elements, core level binding energies in free atom and metallic phase 4-6727
 rare earth nuclei, fission, mean field description, HF calcs. 4-4917
 relativistic Hartree-Fock theory struct., nuclear matter binding energy 4-32826
 rhodopsin system, spectral shifts, environmental effects, quantum mech. calcs. 4-28511
 saddle point variational method appl. 4-33280
 SCF HF HF calcs., rel. between intrinsic convergence props. and stability conditions 4-1019
 selenophenes, 2-substituted, electronic and vibr. struct. studies, by PES, comparison with thiophene 4-49093
 self-consistent collective coord. method for maximally-decoupled collective subspace and boson mapping 4-27806
 semiconductors, Frenkel pair generation, ab initio adiabatic potentials (Russian) 4-25193
 single particle and collective excitation in nuclei 4-27811
 small molecules, Bethe surfaces, rel. to oscill. strengths and electron energy loss spectra 4-9672
 solids, electronic energy bands, density functional theory, self-interaction correction 4-20540
 solids, quantum mech. description 4-25253
 spherical nuclei, local-scale transformation method appl. in HF theory 4-27816
 spurious centre of mass effects in dynamically determined basis 4-13954
 stability conditions for closed-shell restricted HF solns. in framework of projected HF method 4-14301
 stationary states, SCF procedure using algebraic approach and maximum entropy formalism 4-38040
 stochastic soln. of model meson-nucleon field theory 4-4766
 symmetric nuclear matter fragmentation instability in expanding fireball 4-37474
 symmetry restoration by time-depend. mean field quantisation 4-27804
 thiirene, and isomeric structs., ab initio MO studies 4-38074
 three Coulomb-bound particles, expectation values and wavefunctions calcs. 4-4245
 time dependent variational principle, matrix element calcs. 4-32087
 trichlorofluoromethane anion+H-(CHFCF₂)+Cl⁻, reactivity and energy surface, SCF-HF ab initio study 4-21425
 trifluoroacetamide, stability and struct. of radical anions, EPR study 4-1184
 two-electron systems, ion+atom collisions, Hartree-Fock calcs. 4-10054
 unrestricted, behaviour near crit. point, BH mol. pot. curves appl. 4-1066
 van der Waals dimers, multiple polarisabilities, dispersion interactions, HF calcs. 4-14311
 Ag, 20-400 eV electron impact excitation, autoionising transitions, ejected-electron spectrum 4-14579
 Ag I-like array 4d¹⁰5s-4d⁹5s5p 4-48972
 Ag isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 Ag XI to XIV, laser-produced plasma, 4p-5s transitions 4-38117
 Al, low-energy electron elastic multiple scatt. 4-50386
 Al, electronic energy bands, density functional theory, self-interaction correction 4-20540
 Ar, solid, ground- and excited state props., perturbation model calc. 4-25218
 Ar-He(Kr)(Ne), collision induced dipole moment, ab initio HF treatment 4-54593
 Au isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 BH, mag. props., electron correl. effects 4-23616
 B₂H₆, correl. and polarisation effects in thermochem. props. 4-30930
 B₂H₆, ionisation pot., ΔE_{SCF} , ab initio LCAO-MO-HF-SCF calcs. 4-48936
 B₂H₇, correl. and polarisation effects in thermochem. props. 4-30930
 Ba, binding energies, L level X-ray absorpt. spectra 4-48968
 Be (0001), chemisorption of H, ab initio HF calc. 4-56149
 Be clusters, with and without H impurity, spin polarised HF calcs. 4-34898
 Be, electron density, HF and local density approx. 4-1051
 Be, electronic shells, momentum space, correl. effects 4-33340
 Be, energy surface, DF discrete basis 4-48905
 Be, struct., DF discrete basis calcs. 4-1039
 Be, structure factor, γ -ray meas. and band struct. calcs. 4-39205
 Be²⁺, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
 BeF₂⁺, ² Π_g state Renner splitting, ab initio UHF calcs. 4-1038
 Be₂H₄, struct. and stability, ab initio calcs. 4-9665
 CO and CO₂, photoexcitation and photoionis. cross sections calc. 4-9847
 CO, density shaping to fit one-electron props., constrained RHF calcs. 4-23585
 CO, photoionis. cross sections of valence orbitals 4-9846
 CO₂⁺, ² Π_g state Renner splitting, ab initio UHF calcs. 4-1038
¹²C form factors from HF functions, centre-of-mass motion separation effects 4-4748
¹²C(e,e'), quasi-elastic scatt., density depend. HF response functions and sum rules 4-18418
 Ca, 2p Auger spectrum, 3d orbital collapse 4-9743
 Ca, relativistic effective core pot., DF SCF calcs. 4-38100
 CaH, bond distance, dissociation energy, core-valence correl. effects, CI calcs. 4-23614
 Cr, 3p photoelectrons, ang. distrib. calc. 4-19011
 Cs, 6d excited state photoionisation 4-54650
 Cs, 6p and 7p subshells, excited, photoionis. cross-section calcs. 4-1127
 Cs, autoionising continua, Rydberg series, UV spectra 4-9728
 Cs, electron impact excitation, Auger electron spectrum 4-9742
 Cu isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
⁴Dy, A=158, 164, high-spin behaviour, cranked HFB anal., g-factor and pair correlation variations 4-54022
¹⁵⁸Er, shape coexistence at high spins 4-37440
¹⁶⁶Er, high-spin behaviour, cranked HFB anal., g-factor and pair correlation variations 4-54022
¹⁶⁶Er(⁸⁶Kr,X), quasistationary props., diabatic aspects of single particle motion in TDHF 4-23129
 FH, density shaping to fit one-electron props., constrained RHF calcs. 4-23585
 Ga VI, 3d⁸-3d⁷4p transition study, 200-270 Å range 4-54629
 Gd_{1-x}Dy_xAl₃ alloys, Curie temp. and exchange interactions 4-11705
 Gd_{1-x}Er_xAl₃ alloys, Curie temp. and exchange interactions 4-11705

HF calculations continued

- Gd_{1-x}Ho_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
¹⁵⁸Gd, high-spin behaviour, cranked HFB anal., g-factor and pair correlation variations 4-54022
 H⁺ + Ar(Cu)(Kr)(Ag)(Xe), L-shell ionisation 4-14518
 H⁺ + He(S) collisions, Hartree-Fock calcs. 4-10054
 H₂, molecular X-ray- and electron-scattering intensities, directional elastic intensities 4-49163
 H₂, photoionisation calcs. using numerical continuum wavefunctions 4-54820
 H₂, reduced local energy surface profiles 4-23771
 H₂CO, H₂CS, H₂O and H₂S, photoexcitation and photoionis. cross sections calc. 4-9847
 (H₂NHSH)⁺, H⁺ transfer along H-bonds, ab initio MO calc. 4-49146
 (H₂O)_n-N₂ pot. energy surface, ab initio MO STO calcs. 4-48955
 H₂O⁺, ground electronic state pot. energy surface, ab initio rot.-vibr. energy 4-14345
 (H₂OHS)⁺, H⁺ transfer along H-bonds, ab initio MO calc. 4-49146
 H₂S, low energy elastic scatt., rot. and vibr. excitation 4-38331
 He, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
 He, HF wave functions, local accuracy, reduced local energy moments 4-43799
 He, isoelectronic series, energy-density eqn. for isoelectronic changes, Z-depend. of electrostatic pot. 4-28356
 He photoionisation cross-sections, for satellite processes, relaxed Hartree-Fock calcs. 4-5298
 He⁺He²⁺, one and two electron capture, time-dependent HF description 4-23802
 He+light ion collisions in time-depend. HF theory, excitation and charge transfer cross sections 4-10019
 He²⁺ + He(S) collisions, Hartree-Fock calcs. 4-10054
³He liquid, fully spin-polarised, microscopic theory 4-6581
⁴He, Peierls-Yoccoz translational mass from Hartree-Fock wave functs. 4-27786
 Hg, binding energies, L level X-ray absorpt. spectra 4-48968
¹²⁰In, giant isovector monopole resonance spreading width, HF-RPA calc., p-h coupling 4-13973
 Kr isoelectronic series, direct SCF calc. of excited level structs. 4-43795
¹⁴⁰La, giant isovector monopole resonance spreading width, HF-RPA calc., p-h coupling 4-13973
 Li clusters, with and without H impurity, spin polarised HF calcs. 4-34898
 Li, electron density, HF and local density approx. 4-1051
 Li isoelectronic series, dielectronic recombination rate coeffs. 4-38127
 Li, oscillator strengths and excitation cross sections for forbidden transitions 4-54640
 Li⁺, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
 Li₂, pot. energy surfaces, restricted and spin unrestricted Hartree-Fock calcs. 4-28526
 LiCl, electronic energy bands, density functional theory, self-interaction correction 4-20540
 LiCl₂, ground state, vibr. RHF calcs. 4-54589
 LiF₂, ground state, vibr. RHF calcs. 4-54589
 LiH, density shaping to fit one-electron props., constrained RHF calcs. 4-23585
 Mg, KL_{2,3}-L_{2,3}V satellite Auger transitions, SCF Hartree-Fock calc. 4-40578
 MgBeH₄, struct. and stability, ab initio calcs. 4-9665
 Mg₂H₄, struct. and stability, ab initio calcs. 4-9665
 Mn, 3p photoelectrons, ang. distrib. calc. 4-19011
 N₂, density shaping to fit one-electron props., constrained RHF calcs. 4-23585
 N₂, directional elastic intensities 4-49163
 N₂, electronic states, local density HF theory with self-interaction correction 4-48917
 NI isoelectronic series, ground config., multiconfiguration HF Breit-Pauli approx. 4-48921
 Na₂, low-lying electronic states, HF pseudopotential, CI and core-valence perturbation 4-18934
 NaCl₂, ground state, vibr. RHF calcs. 4-54589
 NaF₂, ground state, vibr. RHF calcs. 4-54589
¹⁴⁴Nd, rotationally constrained Hartree-Fock calcs., fission barrier 4-27815
 Ne, van der Waals interaction pots., basis set superposition effects in electron correl. calcs. 4-23772
 Ne⁺ isoelectronic series, atomic X-ray transition probabilities, dipole length velocity and accel. comparison 4-43843
 Ne⁸⁺, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
 Ne-Ar(Kr), collision induced dipole moment, ab initio HF treatment 4-54593
²⁰Ne, left-right asymmetry degrees of freedom in HF calcs. 4-18341
 Ni, crossed second-order specific mass isotope shift 4-23663
 Ni(II) complex, porphyrinato nickel (II), band struct. calcs. 4-29865
 Ni(II) complex, tetraporphin nickel (II), band struct. calcs. 4-29865
 NiO surface, O chemisorption, perfect surfaces and cation vacancies, theoretical study 4-39677
⁵⁸Ni, collective excited states, effective interaction, HF calc. (French) 4-4784
 O, fine struct. excitation by electron collisions and E-region electron energy balance cooling 4-31717
 O isoelectronic sequence, forbidden transitions, multiconfig. HF calcs. with Breit-Pauli corrections 4-18921
 O isoelectronic sequence, electric dipole transitions, MCHF and BP results 4-54597
¹⁶O, Peierls-Yoccoz translational mass from Hartree-Fock wave functs. 4-27786
¹⁹²Os, nucl. charge densities in transition region 4-54033
²⁰⁸Pb, giant reson. at finite temp., sum rule description 4-23091
²⁰⁸Pb, giant resonance excitation during positron annihilation 4-27775
 PdCl₄²⁻, electronic struct. calcs. 4-33355
 PdCl₄²⁻, electronic struct. calcs. 4-33355
 SF₆, nucl. elec. shielding, coupled HF study 4-5132
 S₂N₂, excitation energies and ionisation pots. calc. using HF Slater eigenvalues 4-33293
 Sc to Ni elements, Sternheimer antishielding, 3d contrib. 4-33310
 Si (111), adsorbed Cl atom location and electronic struct., first principles study 4-40007

HF calculations continued

- Si surface, adsorbed F atoms, electronic struct. and associated nucl. quadrupole interaction 4-39663
²⁸Si backbending from cranked Hartree-Fock-Bogoliubov calc. 4-43391
²⁸Si(d,p)²⁹Si, 17.85 MeV, cross section meas., spectroscopic factors for bound and unbound states 4-9211
 Sm³⁺ + Ar(Xe) collision, (q=52 to 54), M-subshell effects in electron capture 4-19248
¹⁵²Sm, collective excited states, effective interaction, HF calc. (French) 4-4784
¹⁵⁴Sm, high-spin behaviour, cranked HFB anal., g-factor and pair correlation variations 4-54022
⁸⁷Sr(n,n')⁸⁸Sr^m, ~3 MeV, giant resonance virtual excitation, HF anal., cross sections (Chinese) 4-657
 Tl, relativistic effective core pot., DF SCF calcs. 4-38100
²⁰⁸Tl, giant isovector monopole resonance spreading width, HF-RPA calc., p-h coupling 4-13973
 UO₂²⁺, excited states, LCAO-MO-HF Slater calcs., relativistic effects 4-54605
²³³U II, hyperfine struct. laser-RF double reson. 4-5159
⁵¹V, mag. form factor at very high momentum transfer 4-13932
 W(CO)₆(PH₃)₂(H₂) complex, bonding, struct., ab initio HF level calcs. 4-33298
 Xe IX, extreme UV spectra, 4d-mp, nf transitions 4-1081
 Xe VII extreme UV spectra, 4d-mp, nf transitions 4-1081
 Xe VIII 4-1081
 Xe⁶⁺, resonant excitation double autoionisation 4-9729
 Xe-like ions, 4f orbital collapse, time depend. HF tech. 4-9666
 YPd, electronic struct., bonding, all-electron HF calcs., bonding, dissc. energies, vibr. freq. 4-5127
⁹⁰Y, giant isovector monopole resonance spreading width, HF-RPA calc., p-h coupling 4-13973
¹⁰⁰Yb, shape coexistence at high spins 4-37440
 Zn isoelectronic series, E1, E2, E3, M1 and M2 transition calcs. 4-38125
^AZn, A=73,74, levels and mass excess, HFB anal. of ⁷⁶Ge(¹⁴C, ^{16,17}O) 4-37453
- Higgs particles** see intermediate bosons
- high-energy cosmic ray interactions**
 conference on quark matter formation and heavy ion collisions, Bielefeld, Germany (May 1982) 4-42601
 EAS, long-lived heavy particle with primary E>10¹⁵ eV 4-13160
 EM showers in crystals, cascade theory 4-3895
 emulsion, nuclear, exposed in Intercoms 6 satellite, high energy primary interaction (Rumanian) 4-23038
 hadron-nucleus reactions, cosmic ray data, 10²-10⁶ TeV, recent developments, review 4-47517
 hadronic event, superhigh energy, high P_T components of Mt. Kambala (Chinese) 4-58351
 heavy leptons with long life in cosmic ray EAS above 10¹⁵ eV, models 4-47516
 neutrino production, ν energy spectrum, and flux from primary proton obs. 4-17368
 nonsymmetrical double core event (Chinese) 4-58350
 nucleus-nucleus collisions, average P_T depend. on multiplicities, cosmic ray events 4-32918
 nucleus-nucleus reactions, cosmic ray data, 10²-10⁶ TeV, recent developments, review 4-47517
 prompt lepton generation, atmospheric muon and neutrino spectra 4-13161
 scaling violation and mass comp. 4-17363
 synchrotron radiation from TeV electrons in geomag. field 4-13202
- high energy electron diffraction**
 see also reflection high energy electron diffraction
 Nb, superconducting proximity effect tunnelling anisotropy 4-20768
 SiC layers grown by Si surface C contamination, crystallographic struct., THEED study (French) 4-5558
- high-energy nuclear reactions and scattering** see nuclear reactions and scattering
- high fidelity amplifiers** see audio-frequency amplifiers
- high field effects**
 see also Gunn effect; hot carriers; impact ionisation; limited space charge accumulation; Poole-Frenkel effect; Schottky effect; Zener effect
 dielectrics, conduction and breakdown phenomena rel. to electrodes 4-16151
 dimethyl siloxane, dielectric fluid, current response 4-35002
 electron gas, anomalous skin effect under high elec. field 4-6818
 hopping conduction in strong elec. fields, percolation approach 4-39921
 III-V semiconductor junctions, magnetophonon reson. (French) 4-25246
 insulating expansion filled with dielectric liquid, charge accumulation and filtration 4-35003
 mica, electrical cond., dehydroxylation effect, ¹H and ²⁷Al NMR studies 4-45797
 MNOS structures, polarisation kinetics, temp. effect 4-50939
 PET films, elec. and high field cond. 4-20913
 poly-p-xylylene films, vapor phase polymerised, thermally deactivated high field cond. 4-20662
 polyethylene, low density, IR absorption rel. to current injection in high elec. field 4-16208
 quantum transport in high elec. fields for electron-reson. impurity systems 4-45800
 semiconducting and semimetallic plates, nonlinear I-V characteristic, degenerate electron redistrib. 4-50825
 semiconductor, intra-collisional field effect, Airy function formalism 4-2619
 semiconductor, nonlinear current density in weak mag. fields 4-6808
 semiconductor bar with partially narrow cross-section, current oscill. (Japanese) 4-2620
 semiconductor heterostructures, subjected to heating elec. fields, surface EM wave excitation 4-6883
 semiconductor, non-stationary high-field electron transport, Langevin eqn. approach 4-6795
 semiconductors, nonlinear current-volt. characts. and heat transfer to cryogenic liq. 4-11535
 silicone oil, current response threshold parameter variation 4-35004
 thiourea, high elec. field ferroelectric transitions 4-30411
 transformer oil, aged, DC cond. in non-uniform high fields 4-35001
 trigger semiconductor medium, self-oscillatory processes 4-56362
 p-xyline, electronic conduction 4-39978
 Al-Si₃N₄-SiO₂-Si MNOS structs., injection props. of contacts, degradation effects 4-50938

high field effects continued

- Al-SiO₂-Si structures, trap generation and electron detrapping in SiO₂ during high field stressing 4-40053
 CdO-ZnO-P₂O₅ glass, thin film samples, memory switching effects 4-30030
 CdO-ZnO-P₂O₅ glasses, high field cond. 4-39919
 GaAs, deep levels, electric field enhanced emission, DLTS 4-45665
 GaAs, electron momentum relax. time meas., third harmonic generation in crossed MM elec. and static mag. fields 4-6821
 GaAs submicron n⁺nn⁺ structs., quasiballistic transport, injection depend., Monte Carlo simulation 4-6881
 GaAs, white noise, 1/f noise, elec. cond. spectral features, mag. field effects, hot electrons (*Dutch*) 4-15925
 GaAs-Al_{0.1}Ga_{0.9}As heterostructure, 2D electron gas, parabolic negative magnetoresist. 4-25432
 n-Ge, fast neutron irradiated, electrophys. props. 4-56351
 Ge, IR modulation, hole-hole collisions, warm hole distrib. 4-15883
 HgCr₂Se₄, mag. semicond., microwave elec. and mag. noise in strong elec. field 4-30032
 InP, transient electronic transport under condition of high-energy injection 4-50822
 n-InSb, degenerate, electron heating in quantising mag. field 4-20684
 InSb solid-state plasma, MM propag., elec. and mag. field effects 4-11552
 n-InSb, thermal-electric instability in static mag. and elec. fields 4-34997
 KCl(Br), vacancy breakdown during elec. cond. 4-25361
 NaCl, vacancy breakdown during elec. cond. 4-25361
 NiNaTeX zeolites switching effects and S-type I-V characts. 4-11536
 Se, amorphous, hole lifetime in strong elec. fields 4-6807
 Se hexagonal single cryst., photocond. in strong elec. fields (*Russian*) 4-45824
 Si microcontacts, electronic Knudsen flow, thermovoltaic evidence 4-11580
 Si, S-type I-V characts. in strong mag. and elec. fields (*Russian*) 4-39922
 a-Si:H film, electric field induced conduction drift (*Chinese*) 4-20746
 a-Si:H thin films, high field breakdown 4-40341
 SiO₂/SiO₂, charge injection during field effect and photo-field effect 4-40064
 SiO₂ films in MOS struct., tunnelling and high field breakdown 4-6919
 SiO₂, high field current-induced positive charge transients 4-6801
 SiO₂ RF sputtered films, high field variable range hopping of holelike polarons 4-6918
 SmS, elec. props. in strong elec. field 4-25362
 TiN film, amorphous ion plated, elec. cond. mechanism 4-11609

high-frequency amplifiers

see also *microwave amplifiers; radiofrequency amplifiers*
 pulse echo flow detector, automatic time control of sensitivity 4-3353

high-frequency discharges

- acetaldehyde, RF discharge effects 4-24666
 bipolar discharge burning on autoemission and thermoemission electrodes 4-10916
 formic acid, RF discharge effects 4-24666
 fusion mass-splines for optical fibres using high-freq. discharge 4-55233
 Heliotron D runaway electron behaviour during ohmic discharges 4-20005
 long microwave discharge in the diffusion regime sustained in a waveguide 4-39016
 methanol, RF discharge effects 4-24665
 microwave discharge, gasdynamic propag., plasma heating 4-34357
 microwave discharge, mol. optogalvanic detection, double probe method 4-24675
 microwave discharge, O dissociation and recombination 4-2022
 microwave discharge, O dissociation and recombination study 4-2023
 nonlinear striation theory in low-temperature plasma 4-29279
 plasma electric fields, temporally and spatially resolved meas. method 4-44864
 radiation pulse excitation by relativistic electron beams in vacuum and plasma systems 4-33248
 RF H-type discharges, electron temp. asymmetrical double probe meas. 4-55645
 RF plasma discharges, props. 4-50118
 supersonic SHF discharge, CO₂ decomposition, nonequilibrium plasmachem. processes 4-52000
 thermal energy absorption in electrodes at breakdown of air in superimposed fields 4-10915
 UHF gas discharge plasma, parametric instabilities obs. (*Russian*) 4-6029
 vacuum spark discharge, elect. and optical characts. study by mass spectrometry 4-24645
 Ar metastable and resonant state radial density distrib. in plasma positive column (*French*) 4-15319
 CO-He RF discharges, UV-visible emission, residence time anal. 4-24641
 He, spectroscopic and probe investigations. 4-50115
 N₂+O₂ reaction in RF discharge, metal and metal oxide effects 4-35890
 Ne high-frequency discharge plasma interference effects 4-10912
 O₂-Ar gas mixture for reactive ion sputtering of Si, Ar metastable states (*French*) 4-34837
 Xe, Rydberg states, optogalvanic study 4-23629

high-frequency effects

- see also *helicons; hot carriers; skin effect; solid-state plasma*
 hydrocarbons, irradiated, DC conductivity and geminate ion recombination, model calcs. 4-29682
 inhomogeneous semiconductors subjected to alternating elec. fields, cond. and Hall effect, theory 4-25375
 metal plate, resonant excitation of EM waves, surface scatt. of cond. electrons (*Russian*) 4-6817
 metal-metal point contacts, HF rectification, spreading resistance contrib. 4-50923
 metals, high freq. EM phenomena, de Haas-van Alphen effects 4-20683
 narrow-gap semiconductors, electron density fluctuations, parametric excitation 4-11551
 nondegenerate electron gas, nonlinear EM wave dispersion (*Russian*) 4-25391
 orthoferrites, high freq. mag. susceptibility near tricritical point 4-35149
 polar semicond., carrier screening effect on longit. optic phonon emission time 4-39947
 polyetherimide, thermoplastic resin, mech., elec. and phys. props. 4-30754

high-frequency effects continued

- semiconductor, subjected to external mag. field, high-power EM pulse propag. 4-25390
 semiconductor diodes, high-frequency current pulsations under quasiballistic electron motion 4-6820
 semiconductor heterostructures, subjected to heating elec. fields, surface EM wave excitation 4-6883
 semiconductor surface space charge layer, band degeneracy and nonparabolicity effects 4-15933
 semiconductors, impact ionisation by microwave field in static mag. field 4-25360
 semiconductors, nonlinear current density in DC mag. field, higher harmonic generation 4-25388
 surface microwave conductivity spectroscopy 4-50856
 TCNQ salt, N-methyl, 2,4-dimethylpyridinium (TCNQ)₂, low temp. cryst. struct. and phys. props. 4-11128
 Z pinch dynamical development, rarefaction magnetosonic soliton, HF oscill. generation 4-1990
 α-AgI, dielectric const., microwave cond., complex transmission factor meas. 4-29695
 α-AgI, sample prep. effect on microwave cond. 4-29694
 Bi, EM wave reson. interaction (*Russian*) 4-30001
 GaAs, electron momentum relax. time meas., third harmonic generation in crossed MM elec. and static mag. fields 4-6821
 GaAs n⁺-n⁺ ballistic diode, high-freq. negative conductance, computer simulation 4-40028
 GaAs-Al_{0.1}Ga_{0.9}As heterostructure, electron gas, a.c. conductivity study 4-11581
 GaSe layer cryst., photocond. anisotropy meas. by contactless microwave method 4-25399
 Ge, carrier drag by photons in far IR and sub-MM spectral ranges 4-6832
 Ge, dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907
 Ge, electron-hole liq. decay and recomb. under CO₂ laser pulse irradiation, microwave cond. meas. 4-6819
 Ge-Si superlattice struct., nonlinear HF props. 4-56428
 HgCr₂Se₄, mag. semicond., microwave elec. and mag. noise in strong elec. field 4-30032
 n-InSb, cryst., electron density fluctuations, parametric excitation 4-11551
 n-InSb, impact ionisation by millimeter radiation in external mag. field 4-34998
 InSb solid-state plasma, MM propag., elec. and mag. field effects 4-11552
 InSb, surface magnetoplasma waves at microwave frequencies, expt. study 4-56376
 InSb:Cr, compensated, electron energy phenomenological relax. time 4-15943
 InSe layer cryst., photocond. anisotropy meas. by contactless microwave method 4-25399
 RbAg₄I, solid electrolyte, high freq. ionic cond. 4-29687
 Si, dislocation electron spectrum and mech. of dislocation microwave cond. 4-15907
 Si, photoelectromagnetic effect, influence of HF field 4-56389
- high-frequency electronic transport** see *high-frequency effects*
high-frequency heating see *radiofrequency heating*
- high level languages**
 see also *BASIC; FORTRAN; PASCAL*
 FASTBUS Diagnostic Language for multimeter multisegment FASTBUS system testing 4-23565
 Forth appl. to astronomical telescope pointing and tracking 4-31760
 SuperForth appl. to multiple mirror telescope servo control system 4-31761
 UNIX time sharing system, data acquisition with PDP-11/44 and MBD-11 branch driver 4-28319
- high-pressure effects in solids**
 see also *high-pressure solid-state phase transformations; piezo-optical effects*
 basalt rocks, high-pressure induced irreversible mag. susceptibility changes 4-12904
 p-dichlorobenzene, torsional oscillations due to uniaxial press., NQR, spin-lattice relax. 4-30327
 Earth interior, eqns. of state for metals, halides and oxides 4-52694
 equations of state theories up to 10 TPa, review 4-55953
 ferroelectric-H-bonded crystals, NQR under high hydrostatic press. 4-30315
 fibre reinforced plastic, mechanochem. reactions at high press. (*Japanese*) 4-2268
 forsterite, shock compression of single crystals up to 165 GPa 4-41899
 glass ceramic, machinable, elastic moduli, second-order press. derivatives 4-51709
 hexachlorostannate crystals, CI NQR, press. variation effect, spin-lattice relax. meas. 4-30326
 ice, Anticrystalline polycrystalline, grain growth rate, hydrostatic press. effect 4-31538
 inert gas crystals, band struct. props. at high press. (*Russian*) 4-2506
 metallic glasses, electrical resist. at high press. 4-45714
 metals, melting temp. calc. eq., Grüneisen coeff. (*Chinese*) 4-2312
 metals, simple, under hydrostatic loading, mech. stability and theoretical tensile strength (*Chinese*) 4-3174
 metals, solubility of H under high press., thermodynamics 4-20367
 methylene chloride, high press. FT IR meas., second-order phase transition 4-56905
 methylene chloride, liq. and mol. crystal, high press. Raman spectra, second-order phase transition 4-56904
 MIM junctions, tunnel conductivity, electron-phonon interaction function calc. 4-35089
 nylon 6, annealing at elevated press., reequilibration effects 4-15399
 rare earth metals, heavy, Cd impurities, electric field gradient, press. depend. study 4-39847
 rocks, thermal diffusivity meas. 4-32266
 solid solns., stability under press. (*Russian*) 4-25027
 steel, austenitic stainless, type AISI 304, 310, 316, elastic moduli, press. depend. study 4-51710
 tetrachloromethane+dichloromethane, excess molar enthalpy, 0.1-330 MPa 4-25059
 TGSe_{0.10}TGSe_{0.90} solid soln., ferroelec., thermodynamic state, press. effects 4-30414
 (TMTSF)₂F₂PO₂, resist. meas., metal-insulator transition obs. 4-30031

high-pressure effects in solids continued

- (TMTSF)_xReO₄, organic supercond., influence of cooling rate on ground state 4-30101
 (TMTTF)_xBF₄, metal-insulator transition under press. 4-45841
 AgBr_{1-x}Cl_x, $x=0.15$, 0.6, excitons press. induced phase transition, photoluminescence obs. 4-2522
 AgCl, solid, thermal conductivity, press. depend. calcs. 4-45431
 AgCl(Br), third- and second-order elastic consts. calc. 4-24894
 Al-Zn-Mg, shear band form., influence of press., struct. study 4-57278
 Al₂O₃:Cr³⁺, thermal cond. meas., uniaxial stress effects 4-15728
 Al₂O₃:Cr³⁺, ruby, crystal structure, hydrostatic press. effects, theory 4-15436
 Au calibration standard, eqn. of state, compression to 70 GPa 4-48067
 BN, cubic, high press. synthesis from amorphous state 4-7353
 BaBiO₃, compression curve, X-ray diff. study 4-34581
 Bk, delocalisation of 5f electrons under press., X-ray diff. study 4-55782
 CS₂, liq. and cryst., high-pressure Raman study up to 45 kbar at 300K 4-25739
 Cd-Mg(Hg), press. effect on band struct. (Russian) 4-6697
 Cf, delocalisation of 5f electrons under press., X-ray diff. study 4-55782
 Cl, solid, press. effects on Raman spectra 4-16198
 CoAs, cryst. struct. determ. 4-39222
 CoF₂, rutile struct., elastic moduli, press. derivatives 4-45249
 CsCdCl₃:Mn, EPR under press. 4-2813
 Cu₂PSi₂, Raman spectra, hydrostatic press. effect 4-30476
 Eu_{1-x}Ho_xMo₂S₈, press. induced supercond. 4-56476
 EuMo₆S₈, bulk supercond. behaviour under hydrostatic press. 4-20752
 EuMo₆S₈, bulk supercond. behaviour under press. 4-56477
 EuO, insulator-metal transition and valence instability near 130 kbar, optical refl. spectra 4-45639
 (Fe,Mg)₂SiO₄, olivines, high-press. spinel polymorphs, elec. cond. meas. (French) 4-41890
 Fe-W, amorphous, radical distribution function and bulk moduli at high press. 4-6275
 FeAs, cryst. struct. determ. 4-39222
 Fe₉₀B₁₀, amorphous to cryst. transform. under press., thermoelec. power meas. 4-6766
 (Fe₉₀Co₁₀)₅₅Ni₄₅Si₁₄, metallic glass, crystn., precip. sequence (Chinese) 4-51662
 Fe₉₀Ni₁₀P₁₄B₆, press.-induced struct. relax. 4-45265
 Fe₂SnMo₆S₈, supercond. props., press. and impurities effect 4-35114
 GaAs:Se, donor-level deepening under hydrostatic press., photoluminesc. study 4-21011
 GaS under uniaxial press., indirect absorpt. edge 4-20990
 GaS(Se) lamellar cpd., elastic consts., press. depend. 4-2254
 GaSb:Se, press. spectroscopy of impurity states 4-45679
 Ge, electrical resist. under shear stresses and high press. 4-29978
 (GeSe₃)_{100-x}Bi_x, amorphous, elec. transport props. under high press. 4-45786
 Hg_{1-x}As_xF₆, supercond. state, press. and temp. depend., mag. susceptibility meas. 4-20753
 p-Hg₉₉Cd_{0.09}Te, semimetal-semicond. transition under press. 4-34879
 HgCr₂Se₄, ferromag. semicond., high press. elec. resist. 4-50809
 InAs:Te(Sn)(S), Hall coeff., elec. cond., hydrostatic press. effect 4-6813
 InP₅₄, Raman spectra, hydrostatic press. effect 4-30476
 InSb, lattice relaxation controlled free carrier conc., transport props. study (French) 4-56357
 n-InSb, metal-insulator transition under high hydrostatic press. 4-56219
 InSb:S, crystals, doping with S at high press. 4-2221
 InSe lamellar cpd., elastic consts., press. depend. 4-2254
 KCl single crystals, hardening and plastic deformation under hydrostatic press. 4-29528
 KCl:Li, F₂-centre absorpt. and emission 4-46292
 La, superconducting transition temp., press. depend. 4-2668
 Li/Li(Al₂O₃) interface, in solid state galvanic cell, effect of press. 4-41325
 Mg-OH-SO₄-H₂O, solubility in seawater 4-3756
 Mg₂GeO₄, high-press. elastic moduli expts., as analogue of Mg₂SiO₄ behaviour 4-41903
 Mg₂SiO₄ elastic moduli at high-press., analogue expts. on Mg₂GeO₄ 4-41903
 Mn_{1-x}Cr_xSb, press. effect on Curie temp. (Russian) 4-6975
 MnF₂, rutile struct., elastic moduli, press. derivatives 4-45249
 Mn_{1-x}Sb, mag., elec., and struct. props. after high press. high temp. treatment 4-11753
 Mn_{0.36}Zn_{0.35}Fe_{2.09}O₄, ferrite, mag. disaccommodation, press. dependence 4-35204
 N₂, solid, compression at 296K from 5 to 10 GPa 4-39368
 NH₄PF₆, PMR and ¹⁹F NMR study at high press. 4-16111
 NaCl, hydrostatically compressed, fracture study 4-6437
 NaNO₂, incommensurate phase, press. and elec. field depend., neutron scatt. and dielectric meas. 4-25001
 NbS₂ (2H), supercond. layer cpd., pyridine intercalation and press. effects 4-15986
 Ni, correl. effects, mag. props. 4-30158
 Ni-P, amorphous, radical distribution function and bulk moduli at high press. 4-6275
 NiSiF₆, press. effect on isotropic exchange interaction 4-25512
 P, black; press.-induced supercond., excitonic mechanism 4-50975
 p-PbTe-Ag, thermoelectric properties in pressing and thermal treatment 4-29997
 Pd₂Cu_{1-x}-Fe, high press. elec. cond. study 4-39877
 Pr, superconducting transition temp., press. depend. 4-2668
 Si, electrical resist. under shear stresses and high press. 4-29978
 Si, intervalley effective mass eqn. and deep chalcogen donors 4-39824
 Si, neutron irradiated, DLTS studies using uniaxial stress apparatus 4-42976
 SmB₆, energy gap suppression under press., elec. resist., semicond. and metallic behaviour 4-25409
 Sn-Ge interphase boundaries, isolated, in diffusion at high press. 4-29702
 T₂, solid molecular, high press. eqn. of state, semiempirical calc. 4-45447
 Ti₉₀Si₁₀, amorphous alloy, quenched, annealed, crystallisation at high press. 4-15379
 U(Fe_{1-x}Co_x)₂, mag. props., press. effects 4-20817
 UNi₃, mag. props., press. effects 4-20817
 UO₂(NO₃)₆H₂O, photoluminescence, high press. study 4-11913
 V, Fermi surface, press. depend. 4-6692
 Y₂Co₇, mag. and supercond. props., high field, high press. meas. 4-56487
 Zn crystals, twin boundaries, incoherent, accommodation range form. under high press. (Russian) 4-6382

high-pressure effects in solids continued

- ZnS:Mn(Cl), excitonic excitation spectra under press. 4-21016
 Zr, dislocation struct. and strain hardening during creep at 77K (Russian) 4-24817
 Zr, phase equilibrium using a novel diamond chamber (Russian) 4-48149
- high-pressure phenomena and effects**
 see also high-pressure effects in solids
 alkali metals, liq., struct. factors under press. 4-6245
 ammonium dichloroacetate, NQR, hydrostatic press. influence 4-7091
 benzene dimerisation under high press. conditions, quantum mech. calcs. 4-12348
 cryogenic mixtures, phase equilibria calcs. at very high press. 4-24950
 n-decane, p(V_mT) values, to 300 MPa and 673K 4-24988
 di-(4-n-octyloxyphenyl)-trans-cyclohexane-1,4-dicarboxylate, smectic C phase stability, effect of press. 4-11277
 Earth interior conditions, high-pressure experimental data reduction methods 4-26689
 heptyloxy-p'-pentylphenylthiobenzoate/octyloxy-p'-pentylphenylthiobenzoate mixtures, high press. studies 4-11279
 heptyloxyazoxybenzene, nematic liq. cryst., high press., volumetric study 4-6501
 hexane, liq., press. depend. of expansivity, model for liquids 4-55898
 ice Ih crystallite, press. melting, simulation 4-29577
 liquid or solid samples, infrared and Raman spectroscopy at high pressures 4-56913
 p-nonyloxybenzoic acid, smectic C phase stability, effect of press. 4-11277
 4-nonyloxybenzoyloxy-4'-cyanoazobenzene, partially bilayer and monolayer smectic A phase, high press. studies 4-11278
 4-octyloxybenzoyloxy-4'-cyanoazobenzene, partially bilayer and monolayer smectic A phase, high press. studies 4-11278
 octyloxycyanobiphenol, nematic liq. cryst., high press., volumetric study 4-6501
 organic liquids, thermal cond., effects of temp. and pressure 4-50596
 n-pentyl-4-(4-n-decyloxybenzylideneamino) cinnamate, smectic C phase stability, effect of press. 4-11277
 phase equilibria, high pressure computation, review 4-20315
 poly(vinylidene fluoride) cryst. form II, dielect. relax. and mol. motion under high press. 4-40339
 polyorganosiloxane rubbers, rheological props. of melts under hydrostatic press. (Russian) 4-5861
 pure gases, thermal cond. at high press. 4-29231
 review (German) 4-27819
 TBBA and its homologues, liq. cryst., microscopic and thermal phase studies at high press. 4-39127
 tetramethylethylenediamine, programmed desorption at high pressures 4-15760
 tetrachloromethane+CS₂, excess molar enthalpy, 0.1-330 MPa 4-25059
 toluene, free motion in horizontal tube, heat transfer, supercrit. press. effects 4-19889
 water, liq., eqn. of state, struct., thermodynamic props., press. effects 4-10940
 water, liq., H bond struct., press. effects 4-44918
 Ag-Ag₂Rb_{1-x}Ag system, press. induced EMF 4-11593
 Bi-BiBr₃ liquid mixtures, nonmetal-metal transition and elec. cond. under press. 4-45636
 CO₂-Ar (methane), binary mixtures, thermal cond. at high press. 4-29232
 CO₂-cyclohexane, excess enthalpies, 7.5 to 12.5 MPa 4-25058
 Cs liquid, sp. heat at temp. up to 2000K and press. up to 12 MPa 4-15656
 D₂, solid, crystal field determ. model 4-20613
 Ga₂Te₃, liq., nonmetal-metal transition under press. 4-2512
 H, metallic liq., ground-state energy 4-29717
 para-H₂, crystal struct. determ. using neutron diff. 4-15424
 H₂, solid, crystal field determ. model 4-20613
 Hg, liquid, sp. ht. and high temp. and press., metal-nonmetal transition 4-45349
 MgO, dissolution mechanisms of H₂O and CO₂, O⁻ state 4-34647
 N₂-O₂(Ar), binary mixtures, thermal cond. at high press. 4-29232
 Se-Te liquid mixtures, semicond.-metal transition at high temp. and press. 4-45635
- high-pressure solid-state phase transformations**
 alkaline earth metals, phase transitions under press. 4-34635
 alloys, second-order phase transition, press. effects (Russian) 4-6975
 colloidal crystals in wedge, struct. transitions in high press. limit 4-39457
 Falicov-Kimball model, effect of conduction-electron interaction 4-11442
 graphite intercalation cpd. with FeCl₃, basal elec. cond. meas. 4-45771
 graphite intercalation cpd. with SbS₅, basal elec. cond. meas. 4-45771
 graphite-K intercalation cpds., staging transitions 4-40756
 graphite-Li intercalation cpd., Li₂C₆, staging transitions 4-40756
 graphite-Li intercalation cpd., stage-2, (P,T) phase boundary, order-disorder transition 4-39478
 ice, polymorphs, high press. phase transitions and H-bonded symm. 4-39192
 ice compressed, transition to symm. H bonds 4-29527
 manganese formate, press. effect on mag. props. 4-11702
 minerals, thermal cond. at high press., phase transition effects 4-41902
 simple metals, analytic pair pot., appl. to struct. phase transitions in Na, Mg and Al 4-29384
 squaric acid, transition temp., uniaxial stress effect, dielec. meas. 4-11269
 step-loading technique for WC anvil setup, Yb transform. obs. 4-4416
 tetramethylammonium iron tetrachloride, ferroelec. region in press.-temp. phase space, dielec. const. meas. 4-2883
 TGS_{0.10}-TGS_{0.90} solid soln., ferroelec., thermodynamic state, press. effects 4-30414
 TMCC, phase transitions under hydrostatic press., dielec. study 4-50496
 AgGaTe₂, high press. struct. phase transition and resist., X-ray studies 4-29595
 AgI polytypes, growth and characts., review 4-39185
 AgTe₂, pressure-temperature relations 4-7440
 BaWO₄, press. induced phase transition, high press. Raman vibr. study 4-7200
 Be, isothermal compression and phase transition to 28.3 GPa, X-ray diff. study 4-29602
 Bi, shock compressed, phase transform. 4-2270
 CS₂, liq. and cryst., high-pressure Raman study up to 45 kbar at 300K 4-25739
 CaF₂, shock compression and shocked-induced radiation, phase transitions obs. 4-39399

high-pressure solid-state phase transformations continued

- β - $\text{Ca}_3(\text{PO}_4)_2$ - Cu^{2+} , ESR study 4-11762
 Ca_2SiO_5 , phase stability, effects of pressure and temp. 4-20351
 CeAg , magnetic and struct. props. at high press., elec. resist. study 4-30162
 CeTe , high press. effects and phase transform. 4-29604
 $\text{Co}_2\text{Ni}_{1-x}\text{MnGe}$, structural and mag. transitions under press. 4-6978
 Cr-Ga (0.92 at. %), elec. resist. anomaly at incommensurate-commensurate SDW transition under hydrostatic press. 4-20624
 CsI , eqn. of state and high press. phase transition 4-39477
 CsI , press. induced successive phase transitions, eqn. of state and metal-lisation 4-39479
 CsI , structural and bonding changes at high press. 4-45328
 Fe-Ni , inverse martensitic transform. induced by high press. (*Russian*) 4-25956
 FeO polymorphism at Earth core conditions 4-52628
 Fe_2O_3 , high press. phase, Mossbauer study 4-56840
 Fe_2SiO_4 (fayalite), martensitic olivine-spinel transition at Earth interior conditions 4-52700
 GaAs , phase transition, NaCl-type lattice under press. 4-39471
 GeO_2 (rutile), cryst. and vitreous, phase transitions at high-press. and -temp. 4-3758
 InSb , phase transition, NaCl-type lattice under press. 4-39471
 K , phase transitions under high press., cryst. struct., energy dispersive X-ray diffr. 4-25008
 KBr , polymorphic transformation, hysteresis, influence of phase hardening and plastic deformation 4-50232
 KCl , polymorphic transformation, hysteresis, influence of phase hardening and plastic deformation 4-50232
 KClO_3 , Raman spectra under high press. 4-11886
 KI , polymorphic transformation, hysteresis, influence of phase hardening and plastic deformation 4-50232
 Li , phase transition, press. effects 4-15631
 N_2 solid, compression, at 296K from 5 to 10 GPa 4-39368
 NH_4Br , third order elastic const. near λ point, anomalous temp. depend. 4-55907
 NH_4Cl , third order elastic const. near λ point, anomalous temp. depend. 4-55907
 Na , phase transition, press. effects 4-15631
 $\text{Na}_2(\text{Al}_2\text{Si}_2\text{O}_7)_2$, sodalite, struct. transitions study 4-25020
 NaNO_2 , incommensurate phase, press. and elec. field depend., neutron scatt. and dielectric meas. 4-25001
 $\text{NiSiF}_6 \cdot 6\text{H}_2\text{O}$, mag. phase transitions under press. 4-25558
 O , solid, librons, vibron, phase transition, high press., low temp. Raman scatt. obs. 4-51276
 P , black, high press. phase transition, elec. study 4-39456
 PbTe narrow-gap semicond., high press. phase transition, X-ray diffr. study 4-29605
 PbTiO_3 , press. depend. Raman study of phonons 4-25738
 Rb , phase transitions under high press., cryst. struct., energy dispersive X-ray diffr. 4-25008
 RbBr , structural transform. under press., neutron diffr. high press. apparatus obs. 4-32271
 RbCl , polymorphic transformation, hysteresis, influence of phase hardening and plastic deformation 4-50232
 RbCl , press-induced B1-B2 transition, orientation rel. obs. in diamond anvil cell 4-39463
 RbCl:Ag^+ , off-centre to on-centre transition under hydrostatic press., paraelec. reson. study 4-11851
 ReO_3 , novel p-V relationship under press. 4-55999
 $\text{Sm}_{1-x}\text{La}_x\text{S}$, T-P-x phase diagram, piezometric study 4-30695
 SmS , isostructural phase transitions under press., phenomenological model 4-11273
 SmS , mechanical props. and semicond.-metal transition under hydrostatic press. 4-24901
 ThS , high press. phase transform. study 4-6500
 Ti , polymorphic α - ω transformation, press. induced, elec. resist. study 4-6486
 Ti_2O_3 , chem. struct. transformations, effect of thermobaric treatment 4-50493
 Ti_2O_3 , semicond.-metal phase transition, mag. susceptibility meas., high press. effects 4-50725
 US , high press. X-ray diffr. studies 4-6499
 YbH_2 , first order phase transition, high press. X-ray diffr. studies 4-56004

high-pressure techniques

- coherent anti-Stokes Raman spectrosc. thermometry, high press. technique 4-32262
diamond, carbonado-type, synthesis using high press. and high temp. apparatus 4-8917
diamond anvil pressure cell, temp. distribution calc. at high temps. 4-32269
diamond-anvil high-pressure cell for improved single-crystal X-ray diffraction measurements 4-34370
differential pressure indicator, gas and oil piston gauges comparison 4-32270
dilatometer for Si_3N_4 sintering obs. 4-263
electric resistance of metals meas., up to 40 GPa, in diamond-anvil cell 4-22798
EM mass accelerator, railgun development status, appl. to impact fusion research 4-37113
EPR and NMR studies using high-pressure low-temp. locknut cell 4-13665
ESR spectroscopy, magnetic field production in high-pressure, low-temp. chamber 4-42998
geophysical high-pressure phenomena and measurement techniques, review 4-8227
hydraulic connector for joining high-pressure units 4-42975
hydriding system for moderately severe conditions of pressure and temperatures 4-22789
magnetic permeability measurement, high pressure technique, computer program (*Japanese*) 4-17905
microwave spectroscopy up to 215 GHz, multimode resonator system 4-32289
mixing dilatometer, inexpensive design 4-53699
neutron angle dispersive diffraction, high press. apparatus 4-32271
oblique-impact shock study of solids, using keyed-powder gun 4-42956
optical cells for high-pressure spectrophotometry, absorbance corrections 4-32292
optical cells for phase equilibrium meas. 4-22788

high-pressure techniques continued

- optical cells for spectrophotometry, truly constant diameter design 4-32293
optical low-temp. cell, for Raman studies of gases and liquids 4-17959
polyethylene, fracture toughness by novel high press. technique 4-35683
rare-earth hydrides synthesis, using conventional very high-pressure technique 4-7714
sediments of deep sea, permeability and thermal cond. meas. apparatus 4-26853
self-clamping pressure cell, low-temp. pressure variations 4-42977
synthetic Carbonado diamond chamber (*Russian*) 4-48149
thermal diffusivity, meas., of rocks 4-32266
uniaxial stress apparatus for DLTS studies 4-42976
Cs optical transmission obs. up to 1500°C; expt setup 4-53727
laser window for 80 W CW CO_2 laser beam 4-33681
 SF_6 gas handling system for Buenos Aires 20 MV accelerator 4-54478
WC anvil setup for solid-state polymorphic transformations obs., step-loading technique 4-4416
Xe X-ray detector, spatial resolution analysis 4-22897
- high speed steel** see tool steel
- high spin states (nuclear)** see nuclear collective states and giant resonances
- high-temperature phenomena and effects**
see also refractories
garnet, elasticity and thermal expansion at high temp. 4-47253
internal friction and US attenuation in solids, conf., Villeurbanne, France (July 1983) 4-36782
materials, high temp., industrial applications. 4-46515
optical opacities as a tool for studying high temperature equilibria 4-17915
review (*German*) 4-27819
steel, structural, primary creep, stepwise temp. change effect 4-40897
steel column, creep buckling at high temps. 4-40896
stellar interior dense high-temp. liquid metal phase matter, elec./thermal cond. 4-3973
tridymite to cristobalite transformation, high temp., kinetics 4-55967
vapour press. and composition in equilib. at high temp. 4-15627
Al, high temp. fatigue, low cycle, grain boundary migration, microstruct. obs. 4-12141
Al, high temp. fatigue, low cycle, grain boundary migration meas. 4-12142
 Al_2O_3 - Cr_2O_3 system, solid soln. form., high temp. X-ray diffr. (*German, English*) 4-51635
 Fe_2O_3 , powder-insulation, improvement of extinction props., IR opacifiers 4-14873
 Fe_2SiO_4 (fayalite), martensitic olivine-spinel transition at Earth interior conditions 4-52700
 $\text{Mg-OH-SO}_4 \cdot \text{H}_2\text{O}$, solubility in seawater 4-3756
Pt-W (8 wt. %) alloy, for strain meas., gauge factor considerations at elevated temps. 4-8890
 Si_3N_4 , liq. phase sintered, high temp. failure initiation 4-12136
 V_3Ga , Knight shift, 300-1300K, temp. depend. 4-46118
- high-temperature techniques**
see also pyrometers; refractories
bend testing units for high-temp. investigations of sintered ceramics 4-51932
bending apparatus, four-point, for precision meas. at high temp. 4-41125
ceramics, thermal conductivity meas. in range 10 to 1000°C and 1-40 bar press. 4-15727
coherent anti-Stokes Raman spectrosc. thermometry, high press. technique 4-32262
compression mode accelerometer, vibr. and press. monitoring in high temp. environments 4-48122
diamond, carbonado-type, synthesis using high press. and high temp. apparatus 4-8917
diamond anvil pressure cell, temp. distribution calc. at high temps. 4-32269
dilatometer for Si_3N_4 sintering obs. 4-263
electrolytic process optimisation 4-26224
electron impact heated oven for H prod., dissociation fraction meas. 4-14612
gas turbine combustor exit, temp. meas. by gas analysis technique 4-13637
guarded hot plate device, thermal cond. meas. of high temp. powder and glass board insulations 4-13644
Hall effect apparatus, use of van der Pauw method 4-32279
laser interferometer for thermal expansion and optical length meas. 4-43043
mass spectrometer attachments, ion sources for high-temp. thermodynamic expts. 4-8985
metallographic microscope, high-temp., with variable magnification 4-41132
noise resistor, LaCrO_3 ceramic, noise temp. meas. 4-13643
nuclear reactor instrumentation, review 4-23267
optical pyrometry, thermodynamic temp. meas., effects of detector responsivity 4-13642
oven for vibrating sample magnetometer 4-261
pH sensing using IrOx thin film electrodes 4-57612
pipe flow velocity meas., using laser Doppler anemometry 4-24506
polymer composites, thermal cond. meas. at high temps. using line source technique 4-37107
protective coatings, fabrication using exploding wires (*German*) 4-3262
radiation volume reduction systems, fluid bed dryer and incinerator, high temp. equipment design 4-18639
sample chamber for neutron scattering work, at high and low temp. 4-5082
sediments of deep sea, permeability and thermal cond. meas. apparatus 4-26853
specific heat measurement, of refractory metals and oxides in solid and liq. states 4-15657
thermal diffusivity apparatus, for diffusivity meas. up to 1600K 4-42969
thermal diffusivity meas. by laser-flash method (*Japanese*) 4-19496
thermal diffusivity meas. of materials at high temp. (*French*) 4-17894
thermal diffusivity measurement, 400-1000K, stainless steel and graphite 4-32265
thermal diffusivity measurement, of molten salts, use of simple ceramic cell 4-15726
thermocouple level gauge for liquid metals 4-53652
thermophysical properties, conf., Baden-Baden, Germany (Sept.-Oct. 1982) 4-13472
treatment diffusivity measurement, of rocks, at high pressure 4-32266
US thermometer, pulse echo technique, PLL appl. 4-48137

high-temperature techniques continued

- vacuum adiabatic calorimeter, heat capacity of synthetic sapphire; α - Al_2O_3 , 70-700K 4-22782
- Al_2O_3 - Cr_2O_3 system, solid soln. form., high temp. X-ray diffr. (*German, English*) 4-51635
- Cs optical transmission obs., up to 1500°C, expt setup 4-53727
- V_3Pt , high temp. ^{51}V and ^{193}Pt NMR, linewidth and Knight shift investig. 4-46117

high vacuum gauges *see vacuum gauges***high-voltage engineering**

- see also high-voltage techniques*
- DC power supply, using chain of HV capacitors, electron microscope appl. 4-37255
- PET, contact-injected space charge 4-11596
- plasma focus project, Dusseldorf Univ. 4-34336
- unequal spheres using symmetric and asymmetric applied voltages 4-10207
- vacuum current lead-ins for electron injectors 4-37954

high-voltage techniques

- current leakage ratio detector for high DC voltage meas. 4-53707
- DC voltage meas. systems up to 1 MV, traceable calibration methods 4-53706
- electric field vector measuring instrument 4-4419
- high-voltage measuring means, accuracy of electrostatic field calcs. 4-4418
- measurement traceability, conf., London, England (February 1984) 4-53360
- nanosecond current probe for high-voltage experiments 4-32280
- neutral beam injector for JT-60, 100 kV test 4-55559
- Poly-C belts for Van de Graaff accelerator 4-931
- resistive divider, 100 kV, design and traceability 4-53704
- resistive dividers, BCS Laboratories at AERE, comparative methods, traceability 4-53705
- subnanosecond risetime electrical pulse generator, for Nd:YAG picosecond laser 4-33679
- UV radiation-triggered rail-gap switches 4-34356
- wirewound reference voltage divider, 1 MV, design 4-53708

hip joint replacements *see prosthetics***history**

- astronomical observations from balloons in France 4-13212
- Ben Nevis Meteorological Observatory, Scotland, 1883 to 1904, observational activities 4-3804
- Britain, earthquakes occurrence and damage 4-12805
- cardiac pacing, historical review 4-58043
- channelling phenomenon, appl. to solid state problems 4-73
- P/Comet Biela 4-42671
- P/Comet Halley, observational history, orbit and prospects for 1985/6 apparition 4-27047
- CT, history and some recent developments 4-58003
- diagnostic imaging, 40 years of development 4-42675
- Einstein gravit. as long wavelength effective field theory 4-17761
- electrified hand, patient treatment in 19th century, psychotherapeutic implications 4-70
- electrodynamics, M.A. Leontovich's research 4-32015
- energy resources R&D at ETL (*Japanese*) 4-3446
- Faraday's law, historical reconstruction, special relativity postulate 4-32012
- gravitational lenses 4-13190
- Gregorian Calendar, historical aspects and rules 4-47547
- hospital physics, reviews on various topics over 40 years, conf., Newcastle upon Tyne, England (Sept., 1983) 4-42589
- Hunt, 1840, early thermographic systems 4-36879
- hyperfine structure, historic survey 4-32021
- ions and atoms spectra, progress in study and current level of knowledge 4-32018
- de Lalande, Jerome (1732 to 1807), astronomer (*French*) 4-27016
- laser programmes at Los Alamos, brief history 4-8702
- lasers, physical principles, history and applications 4-14703
- liquids, negative press. obs. 4-8700
- LSS and the integral equations of transport theory 4-71
- luminescent materials, historical development and radiological engng. appls. 4-32020
- many-particle distrib. functions, dissipative eqns. 4-32017
- Marconi, Guglielmo, physics of invisible information 4-17671
- Max Planck and the concept of the quantum of luminous energy $E=h\nu$ (*French*) 4-47828
- medical instrumentation over 40 years 4-42677
- medicine, radioisotope nonimaging techniques, 40 years of development 4-42679
- metallic glasses 4-53436
- metals, amorphous, historical development and future trends 4-42673
- meteorology, numerical weather prediction and general circulation modelling 4-22067
- meteors and meteor shower studies 4-27275
- Mills Observatory, Dundee, location, history and instruments 4-3924
- Mississippi Valley earthquake sequence, 1811 to 1812, contrib. to documentation 4-3697
- Mossbauer spectroscopy, 25 years after the discovery 4-27274
- nuclear physics in Rutherford's laboratory before the discovery of the neutron 4-41
- nuclear weapons, comprehensive test ban negotiations, history 4-8710
- nuclear weapons, strategic arms limitations 4-8713
- optical engineering history at Los Alamos 4-8701
- optical illusion of hollow mask, Bust of the Tyrant 4-41519
- optics and acoustics, researches of M.A. Leontovich 4-32016
- optogalvanic spectroscopy, Rumanian contribs. 4-17672
- orrieres and jovialibium of Romer, historical review (*Danish*) 4-13210
- photokeratoconjunctivitis, glossary of terms in photoergonomy, annotated bibliography 4-17665
- private scientific societies rel. to scientific research popularisation 4-27273
- pseudopotential methods 4-32019
- radiation dosimetry, 40 years of development 4-42676
- radiation protection, 40 years of development 4-42678
- radiation protection regulations over 40 years 4-42683
- radioactive dating methods and techniques 4-47471
- radioactive waste transport case histories, review 4-36843
- radiobiology over 40 years, its impact on radiotherapy 4-42575
- radioisotope imaging, 40 years of development 4-42680
- radiosources, extragalactic (discovery in 1951-1952) 4-27196

history continued

- radiotherapy, 40 years of development 4-42674
- research in plasma science from 1956 to 1984 4-47829
- SALT/START negotiations, past and future 4-8714
- school science in USA, current problems 4-13503
- semiconductor physics, research developments after discovery of transistor action, brief overview 4-47830
- semiconductor superlattice development, perspective 4-50921
- solar ponds electricity generation research 4-57689
- statutory measurements, historical survey and bibliography (*German*) 4-4372
- stopping powers, higher-order Z_1 effects 4-72
- sub-atomic particles, discovery, book 4-22534
- theodore von Karman and applied mathematics in America 4-42681
- thermographic systems, Niepce (1859) 4-42672
- Thompson, Silvanus Phillips, (~1852-1916), rel. to prehistory of X-rays 4-47736
- trichromatic theories before Young 4-36878
- Venus, pre-space age studies 4-42334
- vitamin D formation, glossary of terms in photoergonomy, annotated bibliography 4-17663
- volcanism, 1500 BC to AD 1500, correl. with European dry fogs and Greenland acid precip. 4-17128
- X-ray crystallography, synchrotron radiation reveals secrets of small crystals (*German*) 4-24690
- X-ray diffraction in the development of atomic energy 4-17670
- Yucatan peninsula, Maya prehistory and climate effects 4-13013

HIXE *see ion microprobe analysis; X-ray chemical analysis***HMO calculations**

- caesium pentacyanopropenide salt, glass and cryst. state, adsorpt. and fluorescence, thermal modulation spectra 4-30509
- 2,3'-dipyridyl, conform., internal rot. energy barrier, semiempirical calcs. 4-33327
- enaminodicarbonyl cpds. in 8-azasteroid series, electronic absorption spectra 4-20992
- heteroconjugated mols., Huckel MO energy levels, topology, pairing theorem 4-43814
- microcomputer algorithm, teachings appl. 4-54608
- trans-polyacetylene, electronic transition moments and optical absorpt. 4-2941
- transition metal-Mg clusters, H atom interaction, extended HMO calc. 4-50630
- valence orbital interactions, nonlocal topology 4-6310
- Li, cluster, binding energy calc. (*Russian*) 4-10197
- Mg-Al clusters, H atom interaction, extended HMO calc. 4-50630
- Mg_2Bi_2 , semicond., electronic struct., X-ray spectra and Huckel technique studies 4-29882
- Mg_2Sb_2 , semicond., electronic struct., X-ray spectra and Huckel technique studies 4-29882
- Ti clusters, ion implanted H atom location, extended HMO calc. 4-45150

 H_3O^+ *see hydroxonium ion***hodoscopes** *see cosmic ray apparatus***hole mobility** *see carrier mobility***hole theory of liquids** *see liquid theory***hole traps**

- see also electron traps*
- amorphous semiconductors, carrier diffusion, review 4-6791
- disordered materials, trap-controlled recombination model 4-15916
- hopping transport on randomly substituted lattice in presence of dilute deep traps 4-50803
- Il_2V_2 semicond. cpds., local dilation and stoichiometric vacancies 4-55818
- MIS structures containing borazone and diamond layers, basic props. 4-35087
- MIS systems with multilayer dielectric, electronic cond. and trapping, review 4-56441
- MNOS structs., switching and elec. instability 4-45893
- molecular cryst., optical trapping, vibr. struct. of transitions 4-11926
- nonhomogenous solids, one-carrier space-charge-limited currents under planar, spherical and cylindrical flow 4-11541
- p-n junctions, traps, DLTS curves corresponding to nonexponential transients 4-45673
- n-phenylenediamine, photoconductor, carrier trapping by deep impurity levels 4-6833
- phthalocyanine-polymer photoreceptor, metal-free, electron acceptor doping, TSC meas. (*Japanese*) 4-39953
- poly-N-epoxypropylcarbazole, UV photosensitivity, low-molecular impurities effects 4-6834
- polyethylene terephthalate films, radiation induced conductivity 4-45904
- polyolefin films, chemical modification of near-surface charge trapping, SEM, ATR, TSC meas. 4-56364
- semiconductor junctions, trapped charge emission rates from nonexponential capacitance transients 4-45866
- semiconductors, compensated, capacitance and relax. times at carrier exclusion 4-45807
- semiconductors, surface photovoltage under sub-bandgap illumination, bulk trap effects 4-45836
- semiconductors, trap trajectories, dissipative effects cutoff 4-25369
- SOS structure, review of physico-chemical and electrical props. (*French*) 4-40068
- tetracene in anthracene, charge carriers quadrupolar traps cross section 4-50833
- thermoluminescence kinetics, non-integer order, electron traps 4-40541
- time development of trap fluorescence following pulsed excitation 4-21021
- $\text{Al}/\text{Al}_2\text{O}_3/\text{Ag}/\text{Se}/\text{Ag}$ struct., I-V characts. and thermostimulated depolarisation (*Russian*) 4-40063
- $\text{Al-SiO}_2\text{-Si}$, MOS capacitor, hole traps optical generation in thermal oxide, electron irradiation effects 4-50929
- $\text{Al}_2\text{O}_3/\text{GaAs}/\text{GaAs}$ interface, selectively doped, illumination stimulated persistent channel depletion 4-45861
- Au-phthalocyanine-Au, sandwich cells, photovoltaic props. 4-45897
- CdTe thin films, elec. props. study 4-25461
- CdTe thin films, electrodeposited, hole traps, SCL current meas. 4-56462
- p-CdTe-CdS thin film solar cell, electrochemically deposited, hole trap 4-50911
- $\text{Cu}_3\text{In}_2\text{S}_3$, single cryst., trapping levels, TSC and space-charge-limited current studies 4-34912

hole traps continued

- GaAs epitaxial layers, plastically bent, dislocation levels, DLTS study 4-25279
 GaAs, LEC growth, deep traps at implanted layer interface 4-25291
 GaAs:Cr(O), extrinsic photoconductivity, thermal quenching behaviour 4-50869
 GaAs:Se, implanted, deep levels, TSC and photolum. studies 4-2542
 n-GaP, luminescence and deep level studies of dislocations 4-16257
 GaP red-emitting LED, 0.75 eV killer centre, dark transient capacitance study 4-11471
 Ge:Cu, plasma hydrogenation, deep levels and Cu solubility 4-29923
 Ge:H, H⁺ implanted or electron irradi., H-divacancy complexes, DLTS study 4-15833
 Ge:P, transient elec. props. of low angle tilt boundaries 4-15847
 In chalcogenide layer compounds, growth and characterisation 4-7344
 InP, electron irradi. defects, elec. and optical investigations 4-34902
 InP, undoped and doped, DLTS obs. of electron irradi. defects 4-34903
 InP-SiO₂ MISFET, slow current drift model 4-50926
 InSe single crystals, trapping centres, elec. and photoelectronic meas. 4-6799
 NbO₂, threshold switching, decay and recovery of on-state, trapping effects 4-6842
 Se, amorphous, hole lifetime in strong elec. fields 4-6807
 Si amorphous film, hydrogenated, photocond. and trapping parameters 4-6823
 Si CVD VPE from SiCl₄-H₂ system, deep levels study 4-15836
 p-Si, defects induced by electron beam deposition, DLTS study 4-50886
 Si, electrical resist. and carrier conc., grain size and doping effects 4-29973
 Si, field assisted emission from shallow levels, transient-current study 4-45799
 Si, plasma hydrogenation, deep levels 4-29923
 Si, polycrystalline, elec. cond., modelling and numerical analysis 4-50805
 Si submicrometer inversion layer in MOSFET, discrete resist. switching and interface traps 4-30079
 p-Si:Au, hole capture cross section temp. depend. (*Chinese*) 4-11538
 a-Si:H, time of flight photocond. study 4-39969
 a-Si:H, trapped electron-trapped hole recomb., dangling bonds, photocond., EPR studies 4-39834
 a-Si:H diodes, n-i-n struct., photo-induced degradation 4-35056
 a-Si:H film, low temp. photocond. and photolum. study 4-39971
 a-Si:H film, short lived photoinduced midgap absorpt. 4-40551
 a-Si:H films, photocond., optical and thermal quenching 4-11558
 Si-SiO₂, electron and hole traps study 4-11473
 Si-SiO₂ interface, γ-ray damage, annealing characts. 4-45185
 Si-SiO₂ interface in MOS capacitor, hole trap props. 4-45887
 Si-SiO₂ MIS, computer model of radiation effects 4-45886
 Si-SiO₂ MOS devices, charge trapping 4-50946
 Si-SiO₂ MOS struct., interface state generation 4-50947
 Si-thermal oxide structure, hole capture cross sections in thermal oxide, field depend. 4-11597
 Si₃N₄, amorphous, defect states energy levels, trap states 4-50750
 Si₃N₄ low-pressure CVD layers, electron and hole conduction 4-11532
 SiO₂ films, elec. props., electron irradi. and HCl treatment effects 4-56465
 SiO₂ films, electronic conduction study using MOS capacitors 4-45889
 SiO₂ layers of MOS capacitors, hole traps. 4-50948
 SiO₂ trapped charge distrib. by C-V anal. in polycrystalline Si-SiO₂-Si capacitors 4-50925
 SiO₂-Na₂O-CaO glass, containing Cu ions, γ-irradiated, elec. cond. study 4-2373
 TiO₂:transition metal, UV irradi., trapping centres, ESR studies 4-29924

hollow cathodes *see cathodes***holmium**

- see also nuclei with*
 electric field gradient at Cd-impurities, press. depend. of elec. field gradient 4-39847
 magnetic structure, neutron diff. study 4-56547
 BaY₂F₈:Ho³⁺, phonon bottleneck, ESR line doubling 4-2292
 CaF₂:Ho³⁺, Eu²⁺ single cryst., Eu²⁺ luminesc. decay 4-40517
 CaF₂:Ho³⁺ activated crystals, laser generation with electron beam pumping 4-51303
 Ho:LiYF₄ laser, high efficiency mid-IR generation by Raman down conversion in liq. N₂ 4-1442
¹⁶³Ho, photon-induced electron capture 4-1264
 LaF₃:Ho³⁺, electron-phonon coupling S factor in multiphonon transitions (*Chinese*) 4-55946
 LiYF₄:Ho, γ-irrad., colouring study 4-29477
 YIG:Ho³⁺, FMR, laser irradi. effect 4-2827

holmium alloys

- Gd_{1-x}Ho_xAl₂ alloys, Curie temp. and exchange interactions 4-11705
 HoAl₂, thermal expansion and lattice consts., X-ray diff. study 4-20381
 HoCo₂, lattice distortion meas. using X-ray powder diff. 4-6497
 HoCo₅, mag. struct., neutron diff., magnetisation, and Mossbauer studies 4-6952
 Ho₉Co₈₁ thin films, sputter deposit, vertical Bloch line pair movements, electron microscopy obs. 4-20840
 Ho₂Co_{17-x}M_x (M=Ni,Fe,Mn,Cr,V,Ti,Cu,Al), cryst. struct. and mag. props. 4-40169
 Ho₂Co_{17-x}M_x, M=Al, Y-Fe, Ni, Cu, lattice consts., Curie temp., coercive force, comp. depend. 4-6979
 Ho(Co_{1-x}Ni_x)₅, magnetic moments and sublattice magnetisations (*Russian*) 4-25587
 HoFe₂Al₆, mag. struct., neutron diff. study 4-6953
 HoFe₂Al₇, ferromagnetism and hyperfine studies 4-7010
 Ho₂Fe₂D₈, D site occupation and magnetisation, neutron scatt. study 4-2143
 Ho₂Fe₂H₈, H₂ absorption thermodynamics 4-2441
 Ho_{0.01}Gd_{0.97}-Fe₂, ferrimag., domain and domain wall spin echo NMR spectra 4-35193
 HoNi, mag. struct., neutron diff. study 4-56550
 HoRh₂Si₂, mag. ordering, neutron diff. study 4-25518
 HoRu₂Si₂, mag. ordering, neutron diff. study 4-25518
 Tb_{1-x}Ho_xCo₂, struct. changes and spin-reorientation, X-ray diff. study (*Russian*) 4-34632

holmium compounds

- see also holmium alloys*
 Eu_{1-x}Ho_xMo₆S₈, press. induced supercond. 4-56476
 Ho-EDTA mixed ligand chelates, with bidentate ligands, spectrophotometric obs. 4-14434

holmium compounds continued

- Ho-Mo-S Chevrel phase, mag. susceptibility, supercond. 4-56531
 HoBi, antiferromagnetic, mag. structures and transitions 4-40144
 HoFe₂O₄, valence fluctuation and Verwey transition, Mossbauer study 4-51164
 Ho₂Fe₂O₁₂, garnet, electric field gradient calcs. 4-50779
 Ho₂Gd_{1-x}Rh_xB₄, Gd mag. moment orientation, Mossbauer studies 4-56564
 HoIG, magneto-optical props., 1.1-1.7 μm 4-51244
 Ho₂Lu_{1-x}Rh_xB₄, rare earth ion dynamics, supercond. effects, muon spin-lattice relax. rate meas. 4-56841
 HoMo₆S₈, anisotropic mag. superconductor, fluctuations study 4-50989
 HoMo₆S₈, superconducting, magnetic phase transitions, neutron scatt. study 4-2684
 HoMo₆Se₈, supercond., temp. depend. sinusoidal mag. order 4-30166
 HoNbF₇, mag. props., 4.2 to 200 K 4-6943
 Ho₂O₃-BeO system, phase equilib. 4-40755
 Ho₂O₃-TiO₂, phase equilib., polymorphism 4-12057
 Ho₂O₃-SO₄, mag. props., optical absorpt. spectroscopy study 4-35146
 Ho(Rh_{1-x}Ru_x)₂B₄ supercond., phase diagram and XPS studies 4-50467
 HoSe₂-GeSe₂, phase diagram, DTA, X-ray and microhardness studies 4-7434
 HoVO₄, hyperfine-enhanced nucl. spin order, neutron diff. study 4-56557
 HoVO₄, paramagnetic props. study 4-20783
 LiHoF₄, uniaxial ferromag. elec. susceptibility anal. and crit. behaviour using correlated-effective-field theory 4-30176

holograms *see holography***holographic gratings**

- aberrations of holographic gratings 4-44057
 aerosols, plasmon resonant, nonlinear medium for large holographic optical element config. in space 4-10355
 applications, a survey 4-14656
 benzopyran, in water-dioxane mixtures, holographic relax. spectrosc. 4-38433
 blazed grating sawtooth groove profile control method 4-44077
 cell-oriented non-axis computer-generated holograms for use in Fresnel diff. mode 4-38421
 coherent optical correlation with liquid crystal light valve and hologram matched filters (*French*) 4-38569
 concave gratings, aberration reduced, for fibre optic WDM multiplexer/demultiplexer system 4-10461
 electron beam generated holographic masks for optical vector-matrix multiplication 4-49301
 electrooptical cryst. with bipolar cond., light wave wavefront inversion during holographic grating recording (*Russian*) 4-24099
 elements with ultrahigh spatial-freq. surface corrugations 4-1364
 erase rates in Bi₁₂SiO₂₀ photorefr. materials with two photoactive species 4-1363
 formation in plane-parallel optically isotropic gyrotropic layer 4-33632
 generation, precise, versatile set-up 4-28639
 groove depth control in holographic gratings 4-44076
 holographic lens CAD 4-10267
 interferometer employing hologram lenses for studying spatial inhomogeneities 4-32306
 interferometers using focusing holographic optical elements 4-5560
 interferometrically recorded holographic optical elements in light of reduced coherence 4-54979
 IR holographic gratings in LiNbO₃:Ti waveguides by two-step process 4-33628
 laser fusion expts., holographic gratings for light scattering meas. 4-6207
 lenses, recording technique for IR and UV wavelengths (*Chinese*) 4-14658
 light beam deflection through nonlinear wave mixing process, obs. using opto-optical light deflection technique 4-5640
 mixed volume hologram grating coupled wave anal. 4-44203
 multifaceted holographic optical elements for window aberration correction in laser velocimetry 4-49295
 multiple exposure thick absorpt. gratings, interference fringes due to strong coupling 4-44069
 off-axis volume holographic lens, efficiency evaluation 4-14659
 optical system design, analysis and production, conf., Geneva, Switzerland (Apr. 1983) 4-36775
 photorefractive using two holographic optical elements (*German*) 4-19405
 photorefractive incoherent-to-coherent optical convertor using holographic recording and phase conjugation 4-19399
 ray tracing program for holographic optical elements 4-44075
 reflection properties analysis 4-44204
 reflection volume holographic scanners with field-curvature corrections 4-14654
 scalar volume diffraction, generalized coupled-wave theory using Fourier techniques 4-33627
 scanner for laser printer 4-23919
 self-induced diffraction grating in CdS crystals subjected to CW laser excitation 4-28820
 slide projector with holographic elements, construction and realisation (*German*) 4-33631
 spherical grating stigmatic props. for hot plasma diagnostic device appls. 4-2005
 spherical holographic grating for stigmatic grazing incidence spectrometer for hot plasma diagnostics 4-24622
 stray radiation meas. in spectrophotometer 4-14776
 substrate effect on holographic optical element quality 4-28642
 thick multiplexed filter for coloured object recognition 4-54992
 toroidal transmission type, in convergent illumination at grazing incidence, design parameters 4-34983
 transient holograms in dyed plastic 4-38419
 video disc and laser scanning optics 4-54982
 volume and phase holographic gratings, bleaching efficiency characterisation 4-38563
 volume holograms formed in bleached photographic emulsion, swelling effects 4-54984
 volume holograms recorded by two strong and N weak plane waves, coupled wave theory 4-23928
 volume phase gratings, diff. efficiency, material charact. curve influence 4-23927
 volume phase gratings, multiwave regime of light diff. and focusing effect 4-24153
 white light Fourier transform lens 4-55160
 white-light holographic system to compensate phase distortion 4-14653

holographic gratings continued

- wideband space division switching, light beam steering using photoinduced holographic grating (*French*) 4-24238
- Ag halide emulsions, reflection hologram processing for high efficiency 4-54978
- Ag ultrafine particle based holographic gratings 4-44074
- Bi₁₂GeO₂₀:Al(Ca), holographic recording 4-49306
- Bi₁₂SiO₂₀ monocrystals, holographic storage, readout light influence 4-19406
- Bi₁₂SiO₂₀:Al(Mn)(Ni), holographic recording 4-49306
- Cu with oxide film, hologram writing by photochemical etching 4-49307
- CuS, films, holographic recording (*Russian*) 4-10269
- GaAs, grating formation by one-step laser-photochem. etching 4-28892
- LiNbO₃:Fe self-starting nonlinear mirror for Cu vapour laser 4-44113
- NiS films, holographic recording (*Russian*) 4-10269
- PLZT 9.2 ferroelectric ceramic, photorefractive sensitivity study 4-25724

holographic instruments

see also holography

- coherent receiver for meas. of reflector profile of 30-m mm-wave radiotelescope 4-27000
- enlarger, two-element 4-1371
- fibre optic laser interferometer, Michelson-type equal-arm, with holographic wavefront correction 4-10446
- instant hologram recorder for industrial appls. 4-44070
- interferometer, three-pass, longitudinal tomographic interferograms 4-28643
- interferometers using focusing holographic optical elements 4-5560
- intraeye volume hologram recording technique characts. 4-36200
- plate camera construction for 12 beam position laser recording (*German*) 4-49300
- reflection volume holographic scanners with field-curvature corrections 4-14654
- scanners, concepts, design and hologram types, review 4-54981
- screen projection system for static three dimens. images, parameters and aberrations (*Chinese*) 4-49298
- slide projector with holographic elements, construction and realisation (*German*) 4-33631
- two-coordinate light-beam deflection device 4-43004

holographic interferometry

- anisotropic composites, stress analysis by transmission optical patterns 4-34017
- applied holography, a survey 4-10265
- automated digital analysis of holographic interferograms of pure translations 4-38427
- automatic scanning with improved sensitivity of fringe patterns using microdensitometer 4-53741
- blade vibrational displacement and stress meas. using time-average holographic interferometry (*Chinese*) 4-49786
- book, holographic and speckle interferometry 4-53375
- closed basin, mass transfer processes meas. using holographic interferometry 4-26851
- comparative holographic moiré interferometry in real time 4-54977
- computer-based evaluation of holographic interferograms of displacement field 4-38426
- contactless optical measuring techniques in real time (*German*) 4-28887
- continuous exposure holographic interferometry of ramp transition between two stationary states 4-54994
- defects under surface of solid objects, holographic detection 4-8674
- deformation measurements using holography and image analysis 4-4457
- difference holographic interferometry of displacements 4-49296
- differential movement observation using dynamic interferometric technique 4-19400
- diffusely reflecting object holographic interferometry improved sensitivity 4-44079
- displacement and strain determ. for non-plane objects 4-37066
- displacement measurement, 3D, using holographic plate 4-37068
- displacement measurement by regulated path length interferometry 4-37067
- double exposure speckle-hologram for strain measurements in frescoes diagnostics 4-28641
- double layer plates, lack of bonding defects, holographic and US inspection 4-3350
- double-exposure method, displacement field of solid body calc. method 4-14929
- elastic coefficient determ. using step hologram method 4-44507
- electronic speckle pattern interferometry, industrial appls. 4-49297
- fracture mechanics, stress intensity factors determ. method 4-49789
- fringe modification with amplification, appl. for strain and rot. determ. 4-38425
- graphite fibre reinforced epoxy resin, out of plane thermal expansion, holographic interferometry 4-20380
- heterodyne speckle photogrammetry, scintillation noise effect 4-53733
- industrial applications of laser technology, conf., Geneva, Switzerland (April 1983) 4-36774
- inverse optical method meas. acoustic wave propag. in water 4-19403
- IR region sensitivity enhancement for plasma density diagnostics 4-15302
- liquid surface deforms., laser induced, holographic real-time interferometry obs. 4-45456
- loudspeakers, emitted sound field, radiating surface vibr. means by holographic interferometry 4-38683
- medical applications of optical processing 4-57976
- microdisplacement measurements by holographic digital image processing 4-42912
- moiré method for exam. of anisotropic problems of mechanics of deformed bodies 4-44511
- moiré technique, real-time, for slope change meas. 4-54985
- multimode light pipes, phase and polarisation modulated light signals, universal holographic correction 4-44234
- NDT, real time, fringe control method 4-46701
- nondestructive testing using real time holographic interferometry in Bi₁₂SiO₂₀ crystals 4-44071
- oil film recording medium, real-time interferometry using IR holography 4-38422
- optical glass uniformity tester using holographic interferometry, collimator requirements (*Chinese*) 4-44254
- osteosynthesis, external, external fixation prototype, performance anal. using holographic interferometry 4-47054
- pattern formation theory in animal coats, holographic interferometry visualisation of vibr. modes 4-14652

holographic interferometry continued

- plasma, laser-initiated, reduced density channels, collinear holographic interferometry and schlieren photography studies 4-19992
 - plate surface strain dist. meas. by speckle correlation in reflection holograms (*Chinese*) 4-49779
 - portable hologram interferometric system for 3D displacement meas. in industry 4-38431
 - rainbow holography, one-step pseudoscopic, interferometric exam. of phase objects 4-54990
 - reference beam phase shifting for holographic interferogram automatic evaluation 4-38424
 - residual stresses, examination by holography and speckle interferometry 4-12301
 - residual stresses, holographic interferometry determ. using one hologram 4-49788
 - review of holographic interferometry and speckle metrology 4-38423
 - rigid body displacement meas. 4-1369
 - rotating object vibr. mode meas. by holographic methods 4-38430
 - rotating structure strain meas., electronic speckle pattern interferometry using pulsed laser 4-49783
 - sandwich-speckle hologram, a combined method for local displacement anal. 4-5558
 - shock wave research using holographic interferometry 4-44643
 - single-two hologram interferometry, a combined, dynamic test method for painted wooden statues 4-1370
 - spatial filtering based, information separation on different forms of motion 4-54988
 - speckle holograms, focused, imaging props. 4-5559
 - surface contour maps, tribological parameters 4-45259
 - thermal distortion meas., X-ray masks exposed to radiation 4-14661
 - tomographic interferograms of longit. sections, three-pass holographic interferometer 4-28643
 - ultra low frequency holographic interferometry using fibre optics 4-54980
 - US intensity profiles meas. using holographic interferometry 4-24311
 - vibration analysis, high amplitude, holographic interferometry extension 4-38429
 - vibration mode meas., time average, phase modulation and double pulse holography methods 4-38428
 - vibration of rectangular sheets, holographic-interferometric determ. of freq. and forms (*Russian*) 4-24388
 - Co film, recorded magnetisation patterns obs. by electron holography 4-25601
- holographic optical elements** *see holographic gratings*
- holographic storage**
- aberration compensation in holographic memory working with two-wavelength reading-recording (*Russian*) 4-10261
 - higher spatial frequencies in records of graphical-text documents (*Russian*) 4-10262
 - streamer chamber appl., with high optical resolution 4-23511
 - LiBbO₃:Fe(Cu), shift holograms, model using photovoltaic and photorefr. effects (*Russian*) 4-19397
 - LiTaO₃:Fe, two step excitation for optical data storage 4-49293
 - TeO₂ acousto-optical deflector for holographic memory 4-55175
- holography**
- see also acoustic holography; computer-generated holography; holographic gratings; holographic instruments; holographic interferometry; holographic storage; microwave holography*
- 3-D picture reproduction using holography, TV applns. (*German*) 4-1368
 - aberrations influence on light intensity distrib. in image plane 4-23922
 - aerosols, plasmon resonant, nonlinear medium for large holographic optical element config. in space 4-10355
 - Agfa-Gevaert emulsions for holography, soln. physical development 4-23921
 - amplitude division off-axis Fresnel holography in TEM 4-19351
 - applied holography, a survey 4-10265
 - applied holography, a survey 4-14656
 - applied holography, a survey 4-14657
 - BEBC bubble chamber, high-resolution two-beam holography tests 4-28304
 - bubble dynamics obs. using ultra, high speed holocinematography 4-24499
 - channelled spectra, coherence props. 4-23925
 - coherent compact real-time optical correlators 4-48174
 - coherent CW image amplifier and oscillator using two-wave interaction in a BaTiO₃-crystal 4-5641
 - colour holography, book contrib. 4-49311
 - contactless optical measuring techniques in real time (*German*) 4-28887
 - correlator, signal value, effect of image scale and rot. change and filter shift 4-54989
 - Denisjuk pulsed holography applied to materials testing 4-44072
 - density pseudocolour encoding by holographic techniques with three primary colours 4-49302
 - dichromated gelatin holograms derived from Agfa 8E75 HD plates 4-38418
 - dielectric liquids, breakdown, using holographic interferometry 4-35355
 - digital picture processing on high speed holograms, bubble fields dynamics obs. appl. 4-23932
 - dilute solutions, reson.-enhanced Rayleigh scatt., efficiency and its relation to diff. by vol. holograms 4-1353
 - Doppler holograms, 3D, inversion, refractive index influence 4-49303
 - dynamic holography, optional hysteresis and bistability in phase conjugation 4-49460
 - dynamic holography using coherent cooperative processes 4-54986
 - dynamic time varying hologram writing by partially coherent light beams 4-49305
 - electron microscopic Fourier holography, influence and compensation of aberrations (*German*) 4-19350
 - evanescent reference wave based holography 4-54993
 - ferroelectrics, phase conjugate optics and dynamic holography appls. 4-33717
 - fibre optic pulses laser holography 4-1366
 - fibre optics use to produce holograms 4-5555
 - filtering for echo structure anal. 4-38417
 - fine gasborne particles meas., size, conc. and vel. determ., laser holography appl. 4-48082
 - flatness assessment using holography 4-42911
 - focused speckle hologram recording as basis of single-stage data recording method 4-19409
 - Fourier holography with electrons (*German*) 4-22880
 - Fourier transform spectroscopy, infinite resolution (*Chinese*) 4-53767

holography continued

- Fourier transforms in optics (*Polish*) 4-1361
 gelatin, dichromated, holographic recording, He-Cd laser appl. (*Russian*) 4-19396
 generalised Fourier hologram, speckle pattern anal. (*Russian*) 4-49308
 generalised geometries for holography 4-1372
 higher order diffracted wave imaging, aberration compensation 4-23924
 hologram laser scanners for nonimpact printing 4-23918
 image plane multiplex holography method 4-19408
 image subtraction by spatial filtration, holographic method 4-33635
 instant holography for industrial appls. 4-44070
 instrumentation in aerospace simulation facilities, conf., St. Louis, France (Sept. 1983) 4-22520
 intensity distribution of waves diffracted in a hologram, analytical evaluation 4-44047
 interferometry techniques for materials evaluation, advancements and appl. 4-17931
 IR holography in FTIROS with CO₂ lasers 4-5562
 Jacobi elliptic functions with random-phase, first-order statistics, holography appl. 4-33629
 laser beam wavefront distortion diagnosis and compensation (*Chinese*) 4-49412
 laser deuterium streamer chamber at 5 atm. in self-shunt regime 4-23484
 laser Gaussian beam diameter meas. using generalisation of Ronchi ruling method 4-4448
 lasers, physical principles, history and applications 4-14703
 lenses, recording technique for IR and UV wavelengths (*Chinese*) 4-14658
 lensless one-step rainbow holography using a synthesized masking slit 4-1365
 medical use of holographic images 4-8064
 microcrack detection in ancient golden paintings using real-time holography 4-5561
 microhologram recording in photothermoplastic carriers developed by CO₂ laser radiation 4-23930
 mirror hologram analyser capabilities 4-33634
 multi-cavity lasers for holography 4-49425
 multichannel Bragg cells, acoustic spreading compensation 4-19402
 multifocus dichromated gelatin hololens, design techniques and appls. 4-10264
 multiplex hologram distortion compensation 4-23923
 museum exhibits, integral hologram using scanning electron micrographs 4-38434
 noise reduction in holographic images reconstructed with blue light 4-10263
 object reconstruction having latent reference points 4-10244
 oceanic dynamic particles, holographic image analysis 4-42183
 one-step rainbow holography, lensless, no-aperture method 4-44068
 one-step rainbow holography of diffuse 3-D objects with no slit 4-19401
 optical metrology, conf., Arlington, VA, USA (Apr. 1983) 4-8635
 optical system design, analysis and production, conf., Geneva, Switzerland (Apr. 1983) 4-36775
 organic liquids, dynamic hologram recording and nonlinear light scatt. 4-1373
 phase conjugation, real time optical treatment appls. 4-55141
 phase conjugation by four-wave mixing, birefr. effects 4-33718
 phase grating, three-dimens., induced by light pulses in a nonlinear medium, diff. efficiency 4-28819
 photoobjective using two holographic optical elements (*German*) 4-19405
 photorefractive incoherent-to-coherent optical converter using holographic recording and phase conjugation 4-19399
 picosecond pulse shaping by photochemical time-domain holography 4-5669
 polarization filtering in holographic microscopy (*Russian*) 4-5564
 printed character recognition from paper, optical correlator appl. 4-28644
 progress in optics, book 4-47768
 pseudo- and orthoscopic image recording with same resolution in one hologram using rainbow holographic technique 4-54995
 pulsed lasers for colour holographic filming (*Russian*) 4-10328
 rainbow hologram recording using monochromatic light in recording process and wave front reconstruction in white light (*German*) 4-19404
 raster holograms with suppressed discrete structure (*Russian*) 4-10268
 raster-holographic human portrait shooting (*Russian*) 4-32358
 reciprocity law failure 4-38420
 reconstructed image fields, magnifications and aberrations 4-23920
 recursive phase retrieval using boundary conditions 4-10245
 reflection holographic lens having nonspherical wavefront designed by a microcomputer 4-5557
 resist-profile control in holographic lithography 4-28640
 review of developments at CSIO, Chandigarh, India 4-43000
 SAW, holographic display, optical system (*German*) 4-38435
 scalar volume diffraction, generalized coupled-wave theory using Fourier techniques 4-33627
 scanner for laser printer 4-23919
 self-imaging in connection with holography of periodic objects (*German*) 4-33630
 small particle size analysis, far-field holography at non-image planes 4-44067
 speckle holograms, focused, imaging props. 4-5559
 static three-dimensional image projection system, principle, struct. and appls. (*Chinese*) 4-44066
 stimulated Brillouin scattering holograms with a variable phase component 4-23931
 stroboscopic holography, determ. of vibrational phase distrib. 4-14655
 synthesized subpicosecond pulse holographic reconstruction 4-44073
 technique and application 4-38432
 thermoelastic structures for increasing available acoustic power in US NDT 4-35850
 thick multiplexed filter for coloured object recognition 4-54992
 thick-layer speckle-field hologram reconstruction theory 4-28646
 time-lapse holographic technique for uniformly moving object vel. meas. 4-10266
 transient holograms in dyed plastic 4-38419
 turbid-medium-objective system, coherent transfer characts., holographic wavefront recording 4-54974
 two-wave mixing and energy transfer in BaTiO₃, appl. to laser beamsteering 4-55116
 two-wave mixing experiments with Bi₁₂SiO₂₀ crystals, energy transfer spatial freq. depend. 4-23926

holography continued

- underground object imaging, pulse-radar holography use 4-13113
 volume holograms, secondary scatt. effects 4-28647
 volume holograms formed in bleached photographic emulsion, swelling effects 4-54984
 volume holograms recorded by two strong and N weak plane waves, coupled wave theory 4-23928
 volume phase holograms and their application to avionic displays 4-44078
 white-light holographic system to compensate phase distortion 4-14653
 white-light holography utilizing solar illumination 4-14651
 whitening of holograms (*Russian*) 4-49309
 Ag halide emulsions, reflection hologram processing for high efficiency 4-54978
 As thin films, photographic and holographic characts. (*Russian*) 4-17987
 Bi₁₂GeO₂₀:Al(Ca), holographic recording 4-49306
 Bi₁₂SiO₂₀ monocrystals, holographic storage, readout light influence 4-19406
 Bi₁₂SiO₂₀:Al(Mn)(Ni), holographic recording 4-49306
 CdS, nonlinear susceptibility anisotropy and hologram recording (*Russian*) 4-49441
 Cu with oxide film, hologram writing by photochemical etching 4-49307
 CuS, films, holographic recording (*Russian*) 4-10269
 LiNbO₃:Fe Z-cut crystals, dynamic hologram, form. by transverse photogalvanic effect 4-28645
 NiS films, holographic recording (*Russian*) 4-10269
 Si, dynamic holography, charact. relax. times, optical props. (*Russian*) 4-5563
 (Sr,Ba_{1-x})₂-(Nb₂O₆)₂:CeO₂, dynamic hologram recording 4-49304
 TiO₂ thin film hologram recording (*Russian*) 4-49310
- homogenising** see heat treatment
- homopolymers** see polymers
- hopping conduction**
- acetylcholine perchlorate polycrystalline electrolyte, radiation damage induced spectral and elec. props. 4-11186
 amorphous semiconductors, carrier diffusion, review 4-6791
 amorphous semiconductors, localisation, deep states in gap, and hopping transport 4-45685
 amorphous semiconductors, magnetoresist. in variable range hopping regime 4-45812
 binary semicond. glasses, hopping cond., ESR studies 4-45770
 Boltzmann approximation relaxation, in Dohler's cond.-thermopower anal. 4-39894
 boride film thick, AC cond., freq. depend. of resist., cond. mechanisms 4-6850
 continuum tight binding systems, dynamically disordered, quantum transport 4-11506
 coronene layers, evaporated, dispersive electron transport 4-15976
 disordered metallic chain, hopping cond. at low freq. 4-34955
 disordered semiconductor, thermoelectric power due to variable-range hopping 4-45816
 disordered system, transient processes 4-34939
 disordered systems, hopping transport, electronic correl. effects 4-45776
 energy-dependent and independent models, Hall mobility of hopping carriers 4-25346
 energy-dependent hopping systems, Hall effect, thermopower, and AC and DC cond. 4-45813
 geminate recombination, time depend., Monte Carlo simulation 4-45808
 graphite intercalation compounds, thermoelectric power calc. 4-45752
 Hall conduction, variable range, absence for two-dimensional conductors 4-25371
 impurity elec. cond., self-consistent current relax. theory 4-20643
 ionic crystals, radiative-tunnel hopping diffusion of electrons over system of F-centres 4-11530
 localised electrons, interacting, hopping transport 4-45780
 metals, amorphous and liquid, high-resistivity conductors, transport theory 4-45700
 metals, disordered 1-D, localisation length singularity and hopping cond. 4-29944
 metals, one dimens., geom. reson. in LF conductivity 4-56323
 oligonaphthols, elec. cond., naphthoxyl type paramag. centre contrib. 4-6787
 one dimensional systems, temperature depend. cond., eigenstates tunnelling theory 4-45760
 one-dimensional disordered systems with localised carriers, kinetics study 4-15879
 percolation approach to hopping cond. in strong elec. fields 4-39921
 3,4,9,10-perylenetetracarboxylic dianhydride thin films, ion irradi., electronic resist. 4-30090
 3,4,9,10-perylenetetracarboxylic dianhydride thin films, ion irradi., elec. resist. 4-40100
 PET films, elec. and high field cond. 4-20913
 n-phenylenediamine, photoconductor, carrier trapping by deep impurity levels 4-6833
 poly-N-epoxypropylcarbazole, photoconductor, carrier trapping by deep impurity levels 4-6833
 polyacetylene:1, magnetoresist. at low temps. 4-29954
 polyethylene, dispersive hopping transport cond. mech. 4-11531
 polyethylene, high density, surface pot. kinetics, trapping model 4-45856
 polypyrrole perchlorate, optical transmittance and conductivity spectra 4-16196
 proteins, hopping charge transport models, tunnelling process features, electronic processes 4-16828
 random lattice diffusion, weak disorder expansion 4-27466
 randomly substituted lattice in presence of dilute deep traps 4-50803
 semiconductor, electron passage through pot. barrier, tunnelling and thermal transfer 4-50902
 semiconductor disordered systems in mag. field, tunnelling transparency 4-20750
 semiconductors, hopping magnetoresistance in an alternating current 4-15896
 semiconductors, many-valley, hopping elec. cond. under AC conditions 4-50817
 small-polaron formation and motion 4-34968
 TCNQ complex salts, lattice distortions and donor induced charge, electron-phonon coupling 4-45289
 TCNQ salt, (DPPE)(TCNQ)₂(H₂O), optical phonon assisted hopping 4-56352
 temperature dependence of the conductivity near the localization threshold 4-25335

hopping conduction continued

- thick film resistor, electrical conductivity, electron hopping and diffusion coeff. 4-6778
 transition metal oxide glasses, elec. transport and struct. props., small polaron theory 4-6783
 triarylmethane-bisphenol-A-polycarbonate solid soln., hole transport 4-25344
 β' - Al_2O_3 - Na_2O - Ag_2O , anomalously large conductivity prefactor at low-temp. 4-15680
 $\text{BaO-V}_2\text{O}_5$ glass, elec. cond. 4-6780
 CH_3 films, amorphous, prep., struct., phys. and optical props. 4-7261
 $\text{Cd}_3\text{Hg}_{1-x}\text{Te}$, mag. field induced metal-insulator Mott transition, hopping cond. 4-2514
 CdTe , amorphised, hopping and band transport 4-25338
 CuCl_2 anhydrous non-stoichiometric phase, Mossbauer studies 4-20890
 FeF_3 thin films, inhomogeneous, elec. charge transfer, less resistance path, TSC 4-15978
 GaAs , amorphised, hopping and band transport 4-25338
 GaP , amorphised, hopping and band transport 4-25338
 Ge bicrystals, ultralow temp. two-dimensional cond. 4-40013
 n - Ge , fast neutron irradiated, electrophys. props. 4-56351
 a - Ge , hopping transport, extended theory 4-45778
 Ge-Zn , electrophysical props. near semicond.-metal transition, Lifshitz impurity band model 4-6844
 In-H films, elec. and supercond. characts. near metal-insulator transition 4-45912
 InP , amorphised, hopping and band transport 4-25338
 n - InSb , US attenuation in mag. freeze-out and carrier hopping regions 4-20693
 n - InSb , ultrasonic effects in hopping cond. regime 4-39406
 $\text{KFe}_2(\text{CN})_6 \cdot \text{H}_2\text{O}$, elec. cond. study 4-2610
 KMnO_4 , water mol. interstitial impurity-induced electronic cond. 4-39906
 KNO_3 doped ferroelec. semicond., phase transitions and props. 4-46205
 $(\text{La}_{0.8}\text{Ca}_{0.2})\text{MnO}_3$, homogeneous ionic distrib., elec. cond. 4-29972
 $\text{Na}_2\text{O-SiO}_2$ - CaO glasses, γ -ray irradi. and rare earth additives effects on insulation 4-11521
 PbZrO_3 - $\text{Pb}_2\text{FeNbO}_6$ - PbTiO_3 pyroelec. ceramic, elec. cond. 4-39898
 $\text{Pr}_{10}\text{O}_{18}$, elec. cond., O_2 press. and composition meas. 4-20649
 Pr_2O_3 , meas. of elec. cond., O_2 press. and composition 4-20648
 Si , amorphised, hopping and band transport 4-25338
 a - Si , hopping transport, extended theory 4-45778
 Si:N,H amorphous glow discharge films, elec. props. 4-6792
 SiO_2 RF sputtered films, high field variable range hopping of holelike polarons 4-6918
 SiO_2 - Na_2O - CaO glass, containing Cu ions, γ -irradiated, elec. cond. study 4-2373
 TaS_2 (1T), Anderson localisation, effect of cryst. defects 4-6738
 TaS_3 quasi-1D cryst., elec. cond. and dielec. const., freq. depend. 4-45755
 TeO_2 - V_2O_5 - Fe_2O_3 glasses, elec. cond. and ESR 4-50814
 VO_2 , NMR studies 4-25648
 V_2O_5 - B_2O_3 glass, elec. cond. 4-6780
 V_2O_5 - Bi_2O_3 glasses, adiabatic hopping cond. 4-56345
 V_2O_5 - GeO_2 binary semicond. glasses, hopping cond., ESR studies 4-45770
 V_2O_5 - SeO_2 binary semicond. glasses, hopping cond., ESR studies 4-45770
 $\text{V}_{1-x}\text{W}_x\text{O}_2$, NMR studies 4-25648
 ZnS:Al film, amorphous, low resist., optical and elec. props. 4-40514

horn antennas *see waveguide antennas***horology** *see time measurement***hospital administration** *see medical administrative data processing***hospital engineering** *see biomedical engineering***hospital information systems** *see medical administrative data processing***hot carrier conduction** *see hot carriers***hot carriers**

- ambipolar semicond., drift distrib. of carriers heated by spatially inhomogeneous radiation 4-34994
 laser radiation interactions with hot electrons in solids, theory 4-25363
 photogenerated hot electrons, energy fluctuation conversion into electric power 4-21563
 polyethylene, high mobility states search by internal photoemission 4-11843
 semiconductor microcontacts, hot electrons relax. time, energy depend. 4-34995
 semiconductor quantum well structs., transient behaviour of hot carriers 4-2645
 semiconductors, electron heating, pulsating nonequilibrium systems 4-184
 semiconductors, hot electron relax. in strong mag. field 4-11537
 semiconductors, nondegenerate, hot electrons absorpt. coeff., mag. field effect 4-16185
 semiconductors, nonequilibrium phonon distrib. function, cyclotron output 4-45277
 semiconductors, nonradiative multiphonon hot electron capture coeffs. of deep traps, electron temp. depend. 4-39827
 n - $\text{Al}_x\text{Ga}_{1-x}\text{As/GaAs}$ heterostruct., electron gas for FET 4-50821
 GaAs , activated, photoelectron energy distrib. and spin polarisation 4-25850
 GaAs , polarons, cyclotron resonance study under hot electron conditions 4-6717
 GaAs , white noise, 1/f noise, elec. cond. spectral features, mag. field effects, hot electrons (*Dutch*) 4-15925
 GaAs-AlGaAs heterostructure, MBE grown, recent developments and device appls. 4-15952
 GaAs-AlGaAs heterostructures, modulation-doped, hot electrons 4-40027
 GaAs-AlGaAs heterostructures, hot electron transport, expt. anal. 4-40038
 GaAs-AlGaAs multiple quantum wells and bulk GaAs , photoexcited, hot carrier relaxation 4-56361
 GaP reverse biased diodes, electroluminescence spectra (*Russian*) 4-40537
 n - Ge , electron heating in L and X -valleys under uniaxial deformation 4-50826
 Ge , IR modulation, hole-hole collisions, warm hole distrib. 4-15883
 n - Ge , magnetophonon reson. at low temps. 4-25372
 HgCrSe_4 , mag. semicond., microwave elec. and mag. noise in strong elec. field 4-30032
 n - InAs , degenerate, electron temperature, Shubnikov-de Haas oscillations in mag. field 4-29995
hot carriers continued
 InGaAsP/InP heterojunctions, field and hot carrier enhanced electron leakage, model calc. 4-25430
 InGaAsP/InP LEDs, field and hot carrier enhanced electron leakage, model calc. 4-25430
 InP , impact ionisation of excitons and shallow donors, photoluminesc. study 4-7241
 InP /electrolyte interface, hot carrier injection of photogenerated carriers 4-15956
 n - InSb , degenerate, electron heating in quantising mag. field 4-20684
 n - InSb , degenerate, electron temperature, Shubnikov-de Haas oscillations in mag. field 4-29995
 InSb , hot electron bolometers, nonequilibrium Johnson noise 4-27592
 InSb:Cr , compensated, electron energy phenomenological relax. time 4-15943
 PbTe , hot electron drift vel., Monte Carlo simulation 4-20664
 Se , amorphous, hole lifetime in strong elec. fields 4-6807
 Si , electron drift velocity in bulk material, semi-empirical eqn. 4-50804
 Si MOSFET, electron temp., determ. from broadband far IR emission 4-35080
 Si many valley semicond., loops for hot electron props. 4-15882
 SiC diodes, prebreakdown electroluminescence emission (*Russian*) 4-40536
 a - $\text{Si}_{1-x}\text{C}_x\text{H}$, AC electrolum., polarisation effects 4-40534
 IT-TaS_2 , non-Ohmic conduction and weak localisation 4-50797
hot cathode tubes *see thermionic tubes*
hot cathodes *see thermionic cathodes*
hot electrons *see hot carriers*
hot pressing
 ceramic, tough components, development trends 4-46478
 ceramics, plasticity and deformation (*Japanese*) 4-21276
 ceramics and composites, high temp., research in Shanghai Inst. of Ceramics 4-57166
 corundum refractories, lightweight, prod. by semidry pressing 4-51598
 graphite manufacture, review of science and technology 4-7377
 isostatic, mechanisms 4-7380
 isostatic pressing apparatus for metal powders 4-46464
 magnetic head ferrite blocks manufacturing process 4-25925
 metal powder, in porous shells, densification kinetics, fund. eqns. 4-51582
 metallography of hot isostatically pressed materials 4-3340
 metals, pore dissolution induced by current pulses 4-51570
 mica, phosphate-bonded, fabrication by hot isostatic pressing 4-35592
 mulitite, IR-transparent, prep. 4-40725
 PLZT , hot-pressed, translucent, prep., characterisation and props. 4-51607
 powders, hot isostatic pressing combined with reactive sintering using gases 4-40697
 powders, isostatic press technology 4-30658
 Rene 41, Ni-base superalloy, diffusion processes and weldability 4-57265
 Rene 95, creep crack growth rates, environmental sensitivity 4-40974
 sintering, pressure, anal. by computer simulation 4-51564
 steel, high speed, prep. by hot isostatic pressing, struct. and contact fatigue (*Slovak*) 4-46469
 Synroc D, nuclear waste ceramic, large scale densification by hot isostatic pressing 4-27962
 SYNROC fabrication by uniaxial hot-pressing in bellows containers 4-709
 SYNROC waste, from basaltic melts, microstruct. anal. 4-28039
 thermites, consolidated, metallographic techniques 4-35818
 Ag-Cu bimetallic composite, interfacial struct., cohesion strength (*Chinese*) 4-56153
 Al_4C_3 sintered body prep., mech. props., thermal expansion and corrosion resist. 4-12146
 AlN ceramics, high press. hot pressing without additives (*Japanese*) 4-40727
 AlN, hot pressed, friction and wear, temp. and environmental effects 4-30828
 Al_2O_3 , ceramic tools, hot isostatic pressing process 4-30670
 Al_2O_3 , ZrO_2 -toughened, change of tetragonal ZrO_2 by hot isostatic pressing 4-57168
 B fibre reinforced Al-Mg, fatigue props., effect of fibre-matrix interface (*Slovak*) 4-46602
 BaTiO_3 ceramic, ferroelec. props. and hot pressing 4-56858
 BaTiO_3 ceramics, sintered, production of fine grain size by fast firing 4-12049
 C electrode, porous, oxygen reducing, fabrication and performance 4-36004
 Cr_3C_2 -Ni-P hard metal layers appl. to steel parts by hot press-facing 4-51901
 Cr_3C_2 and Cr_2C_6 , high-density specimens prep., corrosion and electrochem. props. 4-7407
 KNbO_3 ceramic, ferroelec. props. and hot pressing 4-56858
 LiAlO_2 , porous matrix electrophoretic deposition for molten carbonate fuel cell 4-12469
 $\text{MgO-Al}_2\text{O}_3$ - SiO_2 , cordierite glass-ceramic, hot-pressed, thermal expansion 4-45364
 Nb_3Sn multifilamentary superconductors, effect of hot isostatic pressing on stress effect 4-40701
 $(\text{Pb, Ba, La})\text{Nb}_2\text{O}_6$ ceramics, hot-pressed, transparent, anisotropies 4-20945
 $(\text{Pb}_{0.6}\text{Ba}_{0.4})_{0.97}\text{La}_{0.02}\text{Nb}_2\text{O}_6$ piezoelectric ceramic, mechanical props. 4-40940
 $\text{PbBi}_2\text{Nb}_2\text{O}_9$, grain-oriented ceramic, fabrication process 4-40726
 SiAlON ceramic, hot pressed, grain boundary struct. 4-39311
 SiC , dense sintered, joining by hot-pressing, bending strength (*Japanese*) 4-7409
 SiC whisker reinforced Si_3N_4 ceramic composite, hot pressing, mech. props. (*Japanese*) 4-40927
 β - Si_3N_4 , dense, room temp. microhardness, effect of densification aid conc. changes 4-12145
 Si_3N_4 , hot pressed, damage penetrations at elongated machining grooves 4-57319
 Si_3N_4 , hot pressed, liq. phase sintering, microstruct. correl. with mech. props. 4-57350
 Si_3N_4 , hot pressed, sintering behaviour, effect of lanthanide oxides additions 4-25933
 Si_3N_4 , hot pressed, statistical strength evaluation 4-21297
 Si_3N_4 , hot-pressed, heat conduction rel. to processing conditions and microstruct. 4-12051
 Si_3N_4 , prod., props. and applications 4-51604

hot pressing continued

- $\text{Si}_3\text{N}_4\text{-Y}_2\text{O}_3$, hot isostatic pressing, effect of Y_2O_3 additions 4-51597
 $\text{Si}_3\text{N}_4\text{-Y}_2\text{O}_3$, hot pressed, strength degradation, structural reliability at high temp. 4-40952
 $\text{Si}_3\text{N}_4\text{-Y}_2\text{O}_3$, ultrafine powder, hot isostatic pressing 4-25935
 $\text{Si}_3\text{N}_4\text{-Y}_2\text{O}_3$ (3-7 wt.%), densification, hot isostatic pressing 4-7404
 $\text{Si}_3\text{N}_4\text{-Y}_2\text{O}_3\text{-SiO}_2$, hot-pressed, oxidised, struct. and morphology rel. to intergranular phase 4-57382
 $\text{Si}_3\text{N}_4\text{-Y}_2\text{O}_3\text{-SiO}_2$ system, hot pressing densification mechanism 4-57149
 $\text{Si}_3\text{N}_4\text{-ZrO}_2\text{-MgO}$ composites, hot-pressed, oxidation behaviour 4-57383
 $\text{Si}_3\text{N}_4\text{-ZrO}_2\text{-Y}_2\text{O}_3$ ceramic, hot pressed, microstruct., strength oxidation resist. 4-57287
 $\text{SrBi}_2\text{Nb}_2\text{O}_9$ piezoelectric ceramic, mechanical props. 4-40940
TiC, high-pressure hot pressing kinetics 4-3113
TiC-ZrC, charact. of fracture, 20-600°C 4-26063
WC-Co-BN composites, prod. methods 4-3103

hot rolling

- Al, rolled plates, acoustic stress measurements, texture and thickness effects 4-51943
ceramics, plasticity and deformation (*Japanese*) 4-21276
hot rolled plates, mech. props., grain size and interstitials effect (*German*) 4-35657
roll-pressure distribution and coeff. of friction in hot rolling by caustics 4-10623
steel, Cr, deform. and fractography, carbide particle struct. (*Japanese*) 4-26042
steel, dual-phase, as-rolled formable, Mo replacement by less expensive additions (*Italian*) 4-25986
steel, dual-phase, Barkhausen jumps, effect of heat treatment in intercrit. temp. range 4-56694
steel, fracture surface, flake form. mechanism (*Chinese*) 4-3204
steel, low C, aluminide coated, deformation and diffusion bonding 4-46663
steel, low C, Nb-V and Nb-free, controlled-rolled, texture development, effect of finishing temp. 4-16420
steel, low C, warm-rolled, texture-induced cleavage fracture 4-26056
steel, Nb, grain refinement by control of recrystn. during hot rolling 4-40832
steel, Nb-Mn, controlled-rolled, microalloyed, dual-phase, microstructure props. (*Chinese*) 4-46535
steel, stainless, ferritic, Cr-Al, struct. and embrittlement, heat treatment effect 4-21256
Al, rolled plates, acoustic stress measurements, texture and thickness effects 4-51943
Al-Cu-Mg, hot rolling, secondary phase particles investigation (*Rumanian*) 4-30723
Al-Mg (7 wt.%), dynamic recrystallisation after extrusion 4-12082
Fe-Ni (13 wt.%), strength and low temp. toughness, effect of rolling temp. 4-30820
Fe-Si (3 wt.%), grain-oriented, hot rolled microstruct. (*Korean*) 4-30728
Fe-Si (3 wt.%), hot rolling, texture study (*Korean*) 4-16412
Mg-Zn-Al, strain hardening prediction from high temp. tensile tests 4-51691

hot shortness *see brittleness***hot strength** *see tensile strength***hot working**

- see also hot rolling*
graphite particle reinforced Al-Si composite, deform. of graphite during hot extrusion 4-40905
steel, austenitic stainless, precipitation strengthened, microstructure and strength rel. to hot working 4-40834
steel, Cr, sintered, hot-forged parts, corrosion, heat treatment influence 4-3295
steel, Cr-Mn-Ti-B, hot forged, machinability rel. to heat treatment 4-3157
steel, high speed, AISI M2, hot deformability, impurity effects, AES studies 4-51731
steel, low-alloy, continuously cast, mech. props. and struct. changes during hot deform. 4-40920
steel, stainless, Cr-Ni-Ti, wire, electroplastic drawing, phase composition and struct. 4-12086
Ag-Cu-In (35, 5 wt.%), hot extrusion, structural superplasticity, strain rate and temp. depend. 4-3186
Al-Cu-Mg, heat-resistance, electroslog refined, hot workability and hot deform. 4-7494
Al-CuAl₃, single eutectic grains, hot deform. in tension, role of phase boundaries 4-21263
Al-Mg (6 wt.%), sheet, struct. changes during warm-forming 4-46536
Al-Si-graphite particle composite, deform. of graphite during hot extrusion 4-40905
Co-Cr-Mo, surgical implant alloys, microstructural changes during isothermal forging 4-40833
Mg-Ca eutectic, superplasticity 4-35656
Mo, warm-worked, recrystn. 4-46531
Ni-Mo, sintered, struct. and mech. props. after hot plastic working and heat treatment 4-26014
Ti-Al-Mo, dynamic recrystallisation (*Chinese*) 4-57245
Ti-Al-Sn-Zr-Mo (6,2,4,2 wt.%), thermomech. treatment, Widmanstätten alpha microstructure 4-16423
TiC powder, hot drop forging, density depend. (*Russian*) 4-30671

household appliances *see domestic appliances***HSLA steel** *see alloy steel***Hubbard model**

- binary alloys, disordered, including short range order, in cluster Bethe lattice method, appl. to Hubbard model 4-56526
charge-ordered cryst., electronic phase transition (*Russian*) 4-6721
degenerate Hubbard model, spin susceptibility and alloy analogy approx. 4-56528
delocalised vacancy scatt. by spin fluctuations 4-11663
dimerised chains, uniform, thermodynamic props. 4-6687
disordered systems, hopping transport, electronic correl. effects 4-45776
extended Hubbard model, multicritical behaviour 4-50701
Falicov-Kimball model, effect of conduction-electron interaction 4-11442
fermion lattice model, discrete Hubbard-Stratonovich transformation 4-171
ferromagnet with single-ion anisotropy in mag. field, single-particle Green's funct. 4-2751
ferromagnetic metal, equations of motion, Hubbard model 4-35138
finite-size scaling, weak coupling const. singularity 4-29857

Hubbard model continued

- graphite and linear lattices, Heisenberg Hamiltonian, coherent state, variational derivation 4-34843
isovalent-impurity clusters in Koster-Slater approximation 4-2543
linear responses, role of exchange field fluctuations 4-2718
localised electron limit in one-dimens., Gutzwiller state, exact and Monte Carlo calcs. 4-29918
low-energy excited states in a Hubbard chain with on-site attraction 4-15798
magnetic ordering effect on thermodynamic and elec. props. 4-25569
magnetic phase diagram, incommensurate phases 4-2758
magnetic response of spin-density waves in a quasilinear half-filled Hubbard band 4-11687
metal-insulator transition in disordered high temp. phases, Hubbard model 4-29890
mixed valence cryst., ordered states taking into account electron-phonon interaction 4-34887
one-dimensional N-sites N-electrons system, extended Peierls-Hubbard model, optical and mag. excitations 4-45653
one-dimensional N-sites N-electrons system, extended Peierls-Hubbard model, lattice relax. 4-45654
one-dimensional N-sites N-electrons systems, extended Peierls-Hubbard model 4-25227
pair theory of the Hubbard Hamiltonian 4-6688
quasiparticle spectral density of low-dimensional Hubbard Hamiltonians 4-34848
random itinerant-electron spin model, critical behaviour, Hubbard model anal. 4-56527
TCNQ salt, spin-Peierls critical temp. 4-11517
(TMTSF)₂X, mag. susceptibility calcs. 4-51038
transition metals and their cpds., electron-phonon interaction, self-consistent theory 4-15603
two-dimensional Hubbard model, Monte Carlo studies 4-11660
Co, FCC, two-photon pair momentum-density distrib., angular correl. for positron annihilation radiation calcs. 4-56198
Fe, spin susceptibility near Curie temp., wavevector and temp. depend. 4-20784
Mn, momentum density, band struct. calc. 4-34870
Si (111), unreconstructed, mag. props., Hubbard model anal. 4-46031

Hubble model *see cosmology***Huckel molecular orbital calculations** *see HMO calculations***hue** *see colour***Hugoniot diagrams** *see equations of state***human engineering** *see ergonomics***human factors**

- see also biocybernetics; ergonomics; man-machine systems*
cloud cover extent judgement by human observers, consistency of method 4-13033
nuclear power station safety improvements and precautions (*Hungarian*) 4-23327
nuclear power stations, control rooms, remedial human factors engineering 4-33064
personnel reliability, MAPPS a maintenance model 4-14141
PRA, human reliability anal. 4-14137
PRA, modeling methods in reliability anal. 4-14140
PRA, review of human reliability anal. 4-14139
PRA, reviewing human interactions 4-14138

human-machine systems *see man-machine systems***human relations** *see social and behavioural sciences***humanities**

- see also archaeology; art; history; linguistics; literature; music*
museum exhibits, integral hologram using scanning electron micrographs 4-38434

humidity

- see also atmospheric humidity; hygrometers*
photovoltaic solar energy conversion, air pollution effect in Athens, Greece 4-57729
saturated humid gas, compression process (*Russian*) 4-10804
stainless steel, spectral emittance meas., during oxidation, 800-1400K 4-51871
Pd connector contacts and inlay coupons, HCl and Cl₂ effects 4-30048

humidity control

- cross-cooled desiccant dehumidifier 4-21533
digital psychrometer and humidity controller low-cost design and appl. 4-27536

humidity measurement

- see also hygrometers*
air moisture content-determ. using hygrometers (*Swedish*) 4-13647
atmospheric humidity profile remote sensing by lidar method 4-22097
atmospheric water vapour determin., lidar measurement method 4-22096
capacitive humidity sensor charact. and expt. results 4-27535
digital psychrometer and humidity controller low-cost design and appl. 4-27536
electronic resistance hygrometer and fan-ventilated psychrometer 4-8913
meters for industrial applications 4-22787
thin-film resistance humidity sensor, using crosslinked polymer 4-58289
UK standards, role of NPL 4-8912
NaPO₃-ZrSiO₄ sintered mixtures, humidity sensor based on impedance at 100 Hz (*Japanese*) 4-53692

h.v. engineering *see high-voltage engineering***HVEM** *see electron microscopy***hybrid integrated circuits**

- see also flip-chip devices; microwave integrated circuits*
ceramic substrates, surface finish and microstruct., theoretical considerations 4-29737
downhole logging using transversely mounted circuitry 4-31680
medical electronics using surface mounting components and hybrids, trends 4-36246
Ag-glass bonded thick films, sintering and microstruct. development 4-51587

hybrid reactors

- afterheat and decay heat removal, design criteria 4-48710
blanket materials compatibility considerations for a fusion-fission hybrid reactor design 4-9595
blanket structure lifetime analysis for tandem mirror hybrid reactor 4-9546
commercial fusion-fission hybrid reactor development, cost/benefit anal. 4-28201

hybrid reactors continued

- CTHR hybrid reactor design study 4-920
dense plasma focus in fusion-fission symbiotic concept 4-33063
direct neutron-pumped gas laser driver for inertial confinement fusion reactor 4-34309
DTHR hybrid reactor design study 4-920
fast hybrid thermionic blankets with actinide waste fuel 4-54397
fusion breeder for fission reactor fuel production 4-33173
fusion breeder/fission client and fission breeder/fission client systems comparison for elec. energy prod. 4-9306
fusion reactor design and technology 4-14
fusion-fission hybrid reactor, plasma focus driven 4-33175
fusion-fission hybrids, evaluation by electric utility planners 4-54422
fusion-fission hybrids evaluation 4-33174
LOTUS fusion-fission hybrid test facility, blanket design and performance calc. 4-54421
molten salt blankets, neutron transport and nuclear performance 4-28195
natural uranium hybrid blankets for the AYMAN project 4-54424
nuclear performance, burn up calcs., energy multiplication 4-923
nuclear waste actinides as fissile fuel in hybrid blankets 4-54425
satellite D-³He system, fusion/fission hybrid supported, reaction balance and efficiency anal. 4-28188
STARFIRE, model for low activation hybrid reactor design 4-922
tandem mirror hybrid reactor, feasibility study of fission suppressed blanket 4-921
Tokamak fusion, commercial fusion technological pathways 4-14194
Be pebbles, lifetime anal. in hybrid fusion blankets 4-9596
D-T driven expt. Th hybrid blankets with actinide multipliers, neutronics investigations 4-54420
Th hybrid blankets, (D,T) driven, experimental model in cylindrical geometry 4-54423
ThO₂ slurries as blankets for fissile producing fusion reactors 4-9508

hydrated electrons *see solvated electrons*

hydration *see solvation*

hydraulic amplifiers

No entries

hydraulic control equipment

- see also hydraulic amplifiers*
respiratory servo system, hydraulically operated for ventilation and lung function testing 4-17027
servohydraulic fatigue machine, variable amplitude loading, test speed increase 4-3328
servohydraulic-controlled load frame for SEM fatigue studies 4-3329

hydraulic systems

- hydraulic drive channel, model of nonstationary fluid motion, undissolved gases and wall compliance influence (*Russian*) 4-44728

hydraulic turbines

- blade profile optimisation calcs. 4-49828
maximum efficiency, asymptotic and exact solns. 4-44661

hydroacoustics *see underwater sound*

hydrodynamics

- see also jets; liquid waves; viscosity of liquids*
accretion discs, shock wave propag. due to central explosion 4-13181
axisymmetric Stokes flow images in spherical free surfaces with applications to rising bubbles 4-5944
binary stars, fission theory, bifurcation problem formulation 4-17545
black holes optically thick accretion 4-36704
boundary layer hydrodynamics, integral characts. (*Russian*) 4-10648
Burnett transport coeff., long time behaviour 4-10633
chiral smectic C phase, macroscopic dynamics 4-55710
circular cylinder, Oseen drag 4-55390
complex lamellar motion, Earnshaw conjecture 4-27300
cylinder cluster, flexibly interconnected, dynamics in axial flow 4-88
cylinders, circular, induced mass meas. and hydrodynamic theory 4-37072
dilute dispersion, sedimentation with vertical inhomogeneities 4-49873
disc galaxies, self-gravitating warps, N-body simulation 4-36736
disc-halo galaxies, mergers simulation 4-17593
dissipative fluxes, fluctuations, equilib. third moments and nonequilib. second moments 4-17862
dissipative structure form. in hydrodynamic flows with chem. reactions (*Ukrainian*) 4-5974
droplet emission from small tubular pumps, hydrodynamics 4-49874
dynamic interaction of liquid filled reservoirs with an elastic half-space (*Russian*) 4-10690
early Universe, large-amplitude spherically symm. perturbations, initial data sets 4-13459
elastohydrodynamic lubrication theory, Grubin's film thickness formula 4-34015
ellipsoidal voids in expanding Universe 4-13462
floating body in regular waves, comput. of wave drift forces 4-55415
flow, 2-D ideal infinite liquid, surface speed dist. 4-44520
flow about elastic plates, drag coeff. meas., hydrodynamic characteristics 4-34057
fluctuating hydrodynamic forces derivation from stochastic fluid eqns. 4-27304
fluid, liq. to amorphous solid or glass range, generalised hydrodynamic theory 4-49860
fluid layer, semi-infinite, steady-state, harmonic vibrs., discrete radiation boundary conditions 4-15037
fluidized-bed coal combustion: in-bed sorbent sulfation model 4-12368
forces acting on cylinder set in motion abruptly 4-44784
galactic disc as two-fluid system, rel. to critical stellar vel. dispersion and form. of condensations in gas 4-47694
galactic discs, two-fluid gravit. instabilities 4-47693
galaxies, self-consistent hydrodynamic theory for gas accretion onto disc 4-27186
galaxies, spiral density waves, three-mode interaction (*Russian*) 4-53289
galaxy, gaseous disc stability 4-27187
generalized hydrodynamics, Stokes Law corrections, neutron scatt. function 4-32053
gravitating disc equilib. noise level 4-36581
gravitating liquid planet with phase transition surfaces, stability 4-47553
gravity-capillary waves with edge constraints, eigenvalue calc. 4-5904
groundwater level in drained soils, hydrodynamics and mass transfer during bilateral regulation, numerical simulation (*Russian*) 4-12946
Hamiltonian representation of hydrodynamics eqns., appl. to atm. boundary layer motion (*Russian*) 4-49834
helium II, transient heat transport 4-45437

hydrodynamics continued

- hexatic liquid crystals, 3-dimens., stacked, hydrodynamic eqns. 4-44946
high temperature solutions for cryst. growth, convection flow rates 4-38823
hydraulic drive channel, model of nonstationary fluid motion, undissolved gases and wall compliance influence (*Russian*) 4-44728
hydraulic turbines, maximum efficiency, asymptotic and exact solns. 4-44661
hydrofoil profile experiments using two dimensional test section inserted in cavitation tunnel (*Chinese*) 4-44772
ideal fluid dynamic 1-D model with shock waves, BOREAS program 4-49854
intermittencies, type III, Pomeau-Manneville, assoc. with subharmonic bifurcation 4-182
interstellar gas in disturbed galaxies, continuum model eqns. 4-47668
ionising waves, turbulence (*German*) 4-55396
isolated baroclinic eddy, laboratory analogue of Jupiter's Great Red Spot 4-47566
journal bearing, optimum design 4-27303
Keplerian gaseous discs, low freq. one-armed oscils. 4-13182
laminar film flow over sphere, hydrodynamic stability 4-29056
liquid crystals, three-dimensional systems with long ranged 2D translational order 4-10985
liquid jets, dynamic eqns. 4-5931
liquid longitudinal heat and sound modes description (*Russian*) 4-24401
liquid spheres in linear flow field, hydrodynamic interaction 4-44682
liquid-wall boundary conditions, microscopic theory, thermophoresis 4-29054
low-dimensional strange attractors and chaos 4-181
macromolecular rigid rodlike solns., kinetic theory and rheology 4-34139
membrane, viscoelastic, hydrodynamic stability 4-1700
methane, hydrodynamic rot. friction coeffs. 4-11329
microscopic foundation for the hydrodynamic description of flow near a macroparticle 4-34386
motion of circular cylinder in rectangular channel 4-5959
nematic liquid crystals, shear flow for positive Leslie viscosity, theory 4-50194
OB stars in solar neighbourhood, hydrodynamic motion 4-13374
Orr-Sommerfeld eqn., soln. using Galerkin method 4-10634
oscillations of rotating polytropic gas discs, theory 4-58372
oscillator motion in hydrodynamics, anomalous Doppler effect and radiative instability 4-10646
particle beams from thick accretion discs, luminosity, active galactic nuclei implications 4-17386
point explosion in exponential atmosphere with nonzero asymptote 4-13189
Poiseuille flow stability, Rayleigh var. principle study 4-44537
polymer diffusion in nonhomogeneous vel. gradient flows 4-29134
resistance and mobility functions for two unequal rigid spheres in low-Reynolds-number flow 4-49875
Reynolds equation as a solution of the Stokes equations 4-13518
Riemann ellipsoid stability 4-19787
rotating gas clouds, equilib. eqns., analytical solns. 4-53029
secondary flow induced between oscillating circular cylinders 4-44598
self-gravitating torus in field of large central mass, equilib. and stability 4-26992
self-isothermal flow behind radiation driven shock wave, approx. analytical soln. 4-13176
shock propagation in geometrically thin accretion disc 4-31748
shock wave propagation, two dimens. hydrodynamic code GASEX2 4-1787
sphere, Oseen drag, method of induced forces 4-55391
spherical isothermal gas shell, gravit. instability, astrophysical appl. 4-13180
spherical radiation-driven shock waves in a non-uniform atmosphere 4-13177
spherical shocks, gravit./dynamic instabilities, star and galaxy form. appl. 4-8372
spherically accreting black holes, shock model for quasars/active galactic nuclei 4-4027
stability of two-dimensional quasiharmonic dissipative structures 4-16658
stability with completely perturbed data 4-44534
star clusters, post-collapse evolution of gaseous cluster model 4-22449
stick boundary condition, molecule collisions, hydrodynamics 4-23767
Stokes eqns., integral representations 4-34029
stretched net with solid body in flow stream, oscillation invest. (*Russian*) 4-29103
strong shock propagation in accretion discs, self-similar solns. 4-31749
subterranean reservoirs, hydraulic calcs., rock permeability influence 4-5950
thermohydraulic situation in steam-generating tube following loss of coolant accident 4-19802
ultrahigh compression by shock collision of layered structures 4-34133
variable-density hydrodynamic circulation, two dimensional model validated 4-36413
variational method of solving several hydrodynamic problems, numerical realisation 4-19786
ventilated profile close to agitated water surface, hydrodynamic characts. (*Russian*) 4-10631
viscous liquid hydrodynamic problems, linearised eqn. soln. (*Ukrainian*) 4-5862
vorticity concentration and helical vortices 4-5899
CO₂, compressed, Raman spectrum motional narrowing, hydrodynamic theory 4-19062
CS₂, hydrodynamic rot. friction coeffs. 4-11329
He, boundary stability at supercrit. param. in heated channels 4-15735
He II, superfluid, turbulence, vortex chaotic cluster hydrodynamics 4-34738
He, two-phase flow in region of low press. 4-15022
³He, A-phase, superfluid currents at T=0 4-6588
³He-B, hydrodynamics in high mag. fields 4-2398
OCS, hydrodynamic rot. friction coeffs. 4-11329
SF₆, hydrodynamic rot. friction coeffs. 4-11329

hydroelasticity *see elasticity*

hydroelectric power stations

- see also dams; hydraulic turbines; tidal power stations; water supply; wave power generation*
dam seismic loads, elastic and inertial forces consideration 4-57650
environmental considerations 4-36042

hydroelectric power stations continued

- free surface vortex nondimensional parameter meas. for horizontally and vertically inverted intakes (*French, English*) 4-10679
- high-pressure air system, synchronous capacitor conversion 4-52088
- New Zealand's hydro reservoirs, scheduling releases 4-7805
- run-of-river hydro plants, H_2 production 4-57799
- seismic stressed state of underground hydraulic structures 4-57649
- spillways under conditions of double flow expansion, energy recovery under 3D conditions 4-3450
- testing methods improvement 4-48150
- three-dimensional reattached wall jet 4-10714

hydrogen

- see also nuclei with
- see also deuterium; hydrogen ions; hydrogen neutral atoms; hydrogen neutral molecules; protons; solid hydrogen; tritium

- absorption by La_2Ni_7 , mag. props. study 4-35170
- absorption in steel St.3, cyclic amine condensation products influence 4-57406
- absorption in thermally activated FeTi powder 4-2424
- absorption isotherms with interactions, theory 4-41250
- absorption kinetics in molten eutectic Pb-Li alloy 4-29779
- absorption on Ti, Ta, W, Fe and Pd films, volumetric study 4-20472
- adsorbed layer on Si (100) and (111), bonding, EELS studies 4-25164
- adsorbed on b.c.c. transition metals, binding energy and surface diffusion 4-2438
- adsorbed on Ni (110), vibr. modes 4-50622
- adsorbed on Ni (111), phase diagram, position-space renormalisation theory 4-34792
- adsorbed on Ru (001), binding sites, high resolution EELS study 4-20489
- adsorbed on Ta (110), photoemission study 4-20479
- adsorbed on W, struct. determ., EELS study 4-30578
- adsorbed on W(011), thermal and electron-stimulated disordering 4-11407
- adsorbed on W tip, interpretation of FEM patterns 4-2439
- adsorption, on Pt (111) and Pt (110) in presence of S, work function meas. 4-20705
- adsorption and storage in Ti-Mn alloy electrodes 4-21591
- adsorption effect on elec. charact. of InP-Pd/Ti Schottky diode 4-35068
- adsorption in Pd-GaAs Schottky barrier diode, effect on capacitance-voltage charact. 4-20722
- adsorption isotherms on Rh, 193 to 500K 4-15762
- adsorption kinetics and electron scatt. on Ni (110), angle-resolved UPS study 4-21109
- adsorption on α -Sn (100), effect on surface struct. 4-29750
- adsorption on cleaved Si (111)-(2 \times 1) surface, energy loss spectroscopy studies 4-39678
- adsorption on Cr thin films, internal stress meas. 4-39691
- adsorption on Fe, Surface Orbital Modified Occupancy-Bond Energy Bond Order calc. 4-25159
- adsorption on Ge (100) and (111), work function, surface cond., and EELS study 4-56148
- adsorption on metals, effect on evaporation film 4-30611
- adsorption on Ni (110), ordered low temp. phases, LEED study 4-45501
- adsorption on Pd electrodeposits, effect of Bi 4-57574
- adsorption on Si (100), photoelectron spectra studies 4-45516
- adsorption on Si (111), work function, desorption and surface cond. studies 4-45511
- adsorption on transition metal surfaces, ground state props., effective medium theory 4-34796
- adsorption on UV excited MgO surface, enhanced phosphoresc. 4-51324
- adsorption on Yb, surface 4f level shift, ARUPS study 4-50888
- arc, electron temperature determination in LTE and non-LTE plasmas 4-49935
- atmosphere of Earth, H atom escape rate 4-17321
- atomic, location on Ni surface, Ag decoration technique 4-16590
- chemisorbed on GaAs(110), reflection electron energy loss study 4-30576
- chemisorbed on Mn, O_2 -induced segregation study 4-6653
- chemisorbed on Ni, polarisation effect on chemisorption energy, mag. surface 4-25152
- chemisorbed on Si (001)-(2 \times 1), RHEED obs. of disorder 4-29747
- chemisorption of H on Pt, photoemission props. 4-9683
- chemisorption of H on Pt (111), SCF MO pseudopot. studies 4-52045
- chemisorption on Be (0001), ab initio HF calc. 4-56149
- chemisorption on Fe(Ni), atom-probe study 4-2458
- chemisorption on Pd (100) and Pd (111), H-Pd bond investig. and H diffusion in crystal lattice by SW X α calc. (*German*) 4-2429
- chemisorption on Pd (110) surface, selective transition to subsurface sites 4-6654
- chemisorption on Pd (111), subsurface electronic struct. and bonding 4-2453
- chemisorption on Si (111)-(2 \times 1) 4-29789
- chemisorption on Si (111)-(2 \times 1) surface, deconstruction mechanism 4-29789
- chemisorption on Si (111)-(7 \times 7) and -(1 \times 1), IR study 4-6658
- chemisorption on TiC (111), high resolution EELS study 4-11977
- coadsorbed with CO on Pd, methanol decomp. and interactions, TDS, LEED, AES studies 4-41256
- compressed, effective Raman laser amplifier on rot. transitions 4-38456
- containing mixtures, vapour-phase equilibrium 4-24980
- coverage changes during corrosion of stainless steel, Tafel consts. 4-35768
- cubic eqns. of state for vapour-liquid equilibrium calcs. 4-24956
- dense, liquidlike state, many-body perturbation theory 4-34746
- depth profiling in thin films by ion elastic recoil detection 4-45466
- desorption, from SiO $_2$ supported Rh, kinetics investig. 4-2433
- desorption from Si surface, electronically stimulated desorption and dissociation and strain induced localisation 4-2444
- desorption from stainless steel and Inconel 625 surfaces 4-34775
- desorption from W (100), LEED and work function study 4-45502
- desorption isotherms from $LuCo_3H_x$ 4-39665
- diffusion coefficient in $Pd_{81}Pt_{19}$ diffusion membranes, rel. to chemical pots. 4-20408
- diffusion effects on optical fibre transmission loss increase 4-19591
- diffusion in Al 4-11347
- diffusion in high purity Fe 4-39606
- diffusion in Ni-Cr-Mo steels, crack propag., load response in delayed failure (*Japanese*) 4-46595
- diffusion in Ni-Cu and Ni-Co, temp. depend., 200-1000K (*Japanese*) 4-25093

hydrogen continued

- diffusion in optical fibre, effect on attenuation 4-10431
- diffusion in optical fibres causing increased attenuation, fundamental and overtone absorpt. spectra obs. 4-33797
- diffusion in SiO $_2$ based fibres at room temp., effect on attenuation 4-10432
- diffusion in SiO $_2$ fibre cable filled with water, loss increase of cable 4-28851
- discharge, collisional processes, efficiencies and rate coeffs. 4-55678
- discharge, high-current, steady-state props. calcs. 4-55679
- dissociative adsorption on Ni, absence of magnetocatalytic effect 4-34797
- dissolved H_2 in Eurasian Arctic seawaters 4-52756
- electric susceptibility, nonreson. third order 4-28754
- electrolytic gas generation, heat transfer enhancement mechanism, photographic study 4-44340
- energy loss and straggling in Ag 4-5116
- ethanol photochem. dehydrogenation for production of H_2 from dilute aq. soln. 4-41237
- evolution, intense electrochem. SERS signal 4-43888
- film on Mo (011), electron stimulated ordering 4-39666
- fossil energy sources processing utilisation of hydrogen 4-3447
- gas, electron drift velocity determ., time-of-flight method 4-38928
- gas, forward Raman scatt. of circularly polarised KrF excimer laser beam (*Chinese*) 4-49446
- gas, production from water using solar energy (*German*) 4-31108
- gas, quantum fluctuations in transient stimulated Raman scatt. 4-28761
- gas, Raman gain coefficients determ. using excimer laser pump source 4-5573
- gas, rotational CARS spectroscopy of methane/ N_2O flames 4-19060
- gas, subexcitation electron energy distrib., stopping cross sections 4-10102
- gas discharge, low press., temp. determ. (*German*) 4-10901
- gas sensing using YIG sample resistivity changes 4-20646
- gas transport in highly crosslinked polypropylene glycol networks rel. to mol. wt. distrib. 4-45420
- glow discharge positive column, coronal and collisional-radiative model 4-20045
- p - H_2 , high-repetition-rate Raman amplification of 16 μm radiation 4-14754
- high current discharge plasma, collision processes rate coeff. 4-39025
- hollow cathode discharge optogalvanic double reson. spectroscopy 4-22848
- hydriding system for moderately severe conditions of pressure and temperatures 4-22789
- intercalation cpd. with C, struct. and annealing behaviour 4-39176
- ionospheric F_2 -layer H^+ and He^+ ion replenishment following storms 4-17339
- isotope separation in rotating plasma 4-44001
- isotopic analysis using a microcomputer 4-16718
- liquid, ortho phase, neutron diffusion theory 4-14024
- liquid, ortho-para conversion 4-11265
- liquid in porous Vycor glass, specific heat study 4-11313
- liquid under natural convection conditions, heat exchange in film boiling 4-14966
- maser, atomic frequency standards performance, development and appl. (*French*) 4-22763
- maser oscillator with external feedback loop, frequency stability obs. 4-28651
- metallic liquid, ground-state energy 4-29717
- mobility in amorphous $Fe_{40}Ni_{40}P_{14}B_6$, induced mag. anisotropy 4-39605
- molecular dissoci. on Cu with adsorbed O , ellipsometry 4-41261
- molecules, reduction of NiO (111) epitaxial film on Ni (111), investig. (*French*) 4-31026
- neutral polarised gas jet targets 4-54501
- optical fibres exposed to H_2 , attenuation/time relation for OH formation 4-55192
- overlayer on diamond, RBS anal. 4-45486
- partially ionised, simple mixture rule for elec. cond. 4-1875
- penetration in Ti, internal friction study (*French*) 4-39387
- permeability in Ni and Ni alloys 4-15712
- permeability of plasma Ti coatings 4-51899
- phase strain hardening of metals 4-51694
- physisorption by C_{60} ; low temp. sp. ht. meas. 4-15663
- plasma, density functional theory, dynamic correl. localisation onset 4-55485
- plasma, electric current generation by Thomson scatt. in plasma with vel. shear and temp. gradient 4-49939
- plasma, He fluoresce. induced by high-intensity dye-laser 4-24614
- plasma, partially ionised, electrical conductivity 4-38950
- plasma, pulsed thermal equilib. time meas. 4-20027
- plasma, recombining, continuum absorpt. and level populations, long-path meas. 4-15289
- plasma, transport coefficients of an N-component fluid 4-24535
- plasma, wall effects on atomic ion percentage 4-34273
- plasma confined by multicusp mag. field, H^+ production 4-34294
- plasma-atomic gas interaction, population behaviour 4-44796
- precipitated H_2 bubbles in Cu, ortho-para conversion and time depend. heat leaks 4-13646
- PWR LOCA, H_2 distrib. in containment, expt. results (*German*) 4-54348
- quartz:H, hyperfine splitting evaluation 4-11501
- α -quartz:H, quadrupole interactions, theory 4-29938
- rare earth intermetallic hydrides, magnetic props., H_2 absorption effects 4-2738
- rare earth metallic glasses, random anisotropy, exchange fluctuations and phase transitions, H_2 absorption effects 4-2749
- reacting gas, thermochemical instabilities in plasma model 4-17378
- reactor containment under accident conditions, effects on H_2 distrib. (*German*) 4-5020
- reduction of Ni surface oxide, ellipsometry, AES 4-41260
- selective adsorption resonances on Ag (110) mol./surface collisions 4-46408
- a-Si:H, mol. H_2 , calorimetric detect. 4-44964
- a-Si:H film, CVD deposition process 4-51519
- a-Si:H solar cell degradation, role of C 4-41338
- silicates, Na and H depth profiles after Pb 210 implantation and leaching 4-45171
- solid, containing tritium, IR absorpt. spectra 4-11893
- solid, crystal field determ. model 4-20613
- solubility in iron, defect trapping, anal. using $^1H(^{15}N, \alpha)^{12}C$ reaction 4-45333
- solubility in metal at high press., thermodynamics 4-20367

hydrogen continued

- solution in transition metals, enthalpy and vol. 4-15649
 sorption by carbon-K intercalation cpd. at low temps. 4-39688
 steel, Ni-Cr-Mo, H embrittlement, heat treatment, elec. current effect 4-46615
 stopping cross section of ^4He 4-1012
 thermal desorption from Ni (111), adsorption isotherms 4-20469
 Titan atmosphere, H_2 altitude distrib, loss and formation processes 4-17433
 transport in pure Fe single crystals by screw dislocations 4-15709
 truncation metals, H_2 absorption, Mossbauer spectra isomer shifts, SW- χ calc. (German) 4-46155
 working gas for Li high-intensity ion source 4-13725
 α -B-H films, transient and steady state photocond. 4-45834
 Be clusters, with and without H impurity, spin polarised HF calcs. 4-34898
 a-C-H film, complex, dielec. const., rel. to struct. 4-29845
 a-C-H film, ESR study 4-30267
 C-H films, amorphous, DC cond. and ESR meas. 4-56353
 a-C-H glow discharge film, white photoluminescence 4-40511
 C-H hard amorphous RF plasma deposited coating, optical and protective props. 4-24111
 a-C-H thin films, optical consts. and dielectric props. 4-46339
 CO-H $_2$ discharge, plasmachemical conversion to hydrocarbons. (French) 4-15320
 $\text{Ce}_0.9\text{Nd}_{0.1}\text{Ni}_{0.2}\text{Cu}_{0.8}$ and $\text{CeNi}_{1-x}\text{Cu}_x\text{Al}$, hydrogenation characteristics, H $_2$ storage appl. 4-41253
 D/H ratios in meteorite organic matter 4-36641
 $\text{ErMn}_2(\text{Fe}_2)(\text{Co}_2)(\text{Ni}_2)$, hydrogenation kinetics and surface compositions, AES study 4-2440
 F $_2$ -H $_2$ chemical laser, F atom absolute conc. determ. from UV absorpt. by FO $_2$ radicals 4-28677
 Fe-H base amorphous alloys, H diffusion study 4-45383
 Fe+H $_2$ system, thermal waves and nonuniform steady state 4-12382
 $\text{Fe}_2\text{B}_7\text{Si}_6$, metallic glass, Mossbauer study of H 4-25658
 Fe_3C -H, mag. struct. and Curie temp. (French) 4-51029
 FeH_x , internal friction and microdeformation (French) 4-50426
 $\text{Fe}_{40}\text{Ni}_{38}\text{Mo}_4\text{B}_8$, metallic glass, Mossbauer study of H 4-25658
 FeTi, activation for hydrogenation, H $_2$ storage appl. 4-41251
 a-GaAs-H, amorphous and microcryst., electronic struct., photoemission spectra 4-39767
 GaAs-H (110) Ga-H defect sites, photon stimulated desorption studies 4-45851
 GaAs:H sputtered thin film, RBS anal. 4-45546
 GaAs:H(D), implanted, damage ranges meas. 4-45157
 Gd- Fe_{1-x}H amorphous film, mag. and elec. props 4-46027
 GdFe $_2$ H $_x$, magnetic props., H $_2$ absorption effects 4-2738
 Ge-H, amorphous and microcryst., Ge-H bond stretching modes, IR absorpt. spectra study 4-40435
 Ge-H, C(Si)(O), crystalline, electronic struct. of impurity complexes 4-25290
 a-Ge:H, density of states modifications and 3d core levels binding energy effect 4-50707
 a-Ge:H, doped and undoped, defect correl. energy, IR absorpt. 4-40483
 a-Ge:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 Ge:H, H $^+$ implanted or electron irradi., H-divacancy complexes, DLTS study 4-15833
 a-Ge:H, H-atom local density of states, T-matrix anal. 4-24938
 a-Ge:H, semiconductor superlattices, phys. props. 4-15940
 a-Ge:H, spin-lattice relax. of paramag. states 4-40226
 a-Ge:H, thin film, homogeneous chemical vapour deposition 4-51513
 a-Ge:H film, magnetron sputtered, high photocond. 4-11555
 Ge:H film, reactively sputtered, IR absorpt. spectrum 4-20513
 a-Ge:H sputtered film, AC and DC conduction, H effects 4-25347
 H+HS- H_2 +S, transition state geometry, activation barrier, ab initio SCF CI calcs. 4-26182
 para-H $_2$ and HD, solid, IR spectra obtained using high sensitivity spectrometers, rot. region 4-56914
 H $_2$ gas, pulsed discharge, electron-molecule collision freqs., equiv. gas press. method 4-50110
 H $_2$ gas, viscosity coeffs., temp. depend. 4-34222
 H $_2$, ionisation and excitation yields on fast electron irradi. 4-55479
 p-H $_2$, stimulated rot. Raman scatt., transient effects and pump depletion 4-19505
 p-H $_2$, stimulated rot. Raman scatt., CO $_2$ laser pumped 4-24082
 H $_2$ /O $_2$ recovery by rapid cooling of low-pressure equilibrium mixtures in solar furnaces 4-35871
 H $_2$ -air-steam mixtures, combustion for various concentrations 4-57562
 H $_2$ -Ar shock tube, H $_2$ CARS intensity meas. behind shock waves 4-33403
 H $_2$ -D $_2$ system, liquidus curves meas. (Russian) 4-6473
 H $_2$ -I active medium, population inversion due to I * spin-orbit transition 4-28669
 H $_2$ -O $_2$ alkaline fuel cells, Ti-doped Raney Ni catalytic props. improvement by Ni(OH) $_2$ surface coating 4-21540
 H $_2$ -O $_2$ alkaline fuel cells, Ti-containing Raney-Ni catalysts long term perform. 4-57715
 H $_2$ -O $_2$ flames, Na D line emission intensity, mag. field effect 4-52010
 H $_2$ -O $_2$ fuel cells, Ti-containing Raney-Ni catalytic props. improvement for hydrogen anodes 4-57714
 H $_2$ -O $_2$ -N $_2$ -CF $_3$ Br systems, oxidation and combustion, 400-500°C (French) 4-30989
 H $_2$ +O $^{2+}$ (N $^{7+}$), low energy charge exchange, Lyman spectra 4-14555
 Hf-H $_2$, combustion mechanism, thermodynamic equilb. 4-7723
 Hg-H $_2$, pulsed discharge afterglow, Hg excited states radiative decay 4-33373
 LaNi $_5$ films for H $_2$ separation 4-46794
 LaNi $_5$, H $_2$ absorption, plateau pressures, H aliquot size effect 4-2442
 Li clusters, with and without H impurity, spin polarised HF calcs. 4-34898
 Li-Pb solutions, nonideal, N $_2$, O $_2$ and H $_2$ solubilities, chem. theory 4-45337
 Li $_2$ N-H, ionic cond. and defect migration 4-25085
 LiNbO $_3$:H waveguide fabrication, refractive index 4-5699
 MoO $_3$:H, optical absorption and elec. cond., band model anal. 4-50816
 N $_2$ -H $_2$ mixture, nitrating atmosphere for reaction bonded Si $_3$ N $_4$, H effect on transport props. 4-51590
 Nb-H systems, ordered structs., ground states anal. 4-29465
 Pd-Si-H base amorphous alloys, H diffusion study 4-45383
 Pd-W-H system, mag. and elec. props. (Russian) 4-51033
 R $_6$ Fe $_2$ H $_x$, H $_2$ absorption thermodynamics 4-2441

hydrogen continued

- RbCl:H, anion site H ENDOR study 4-11799
 Si, passivation of dry etching damage, low-energy H ion implantation technique 4-30839
 Si:(H, Cl) amorphous films, XPS and UPS investig. (Chinese) 4-21102
 Si:(H,C,N,O) background secondary ion emission under Cs $^+$ bombardment 4-46392
 Si:B-H, neutralisation of shallow acceptor levels by atomic H; resist. increase 4-25286
 a-Si:B-H films, prep. by CVD, optical parameters, effect of post-hydrogenation and H-exodiffusion 4-40390
 a-Si:C $_2$ O $_2$ H film, photolum. props., effect of O $_2$ 4-40513
 a-Si:Cl, H film, EPR study (Chinese) 4-20858
 a-Si:Cl, H films, photocond. and absorption study 4-39972
 a-Si:D(H), vibr. props., IR absorpt. spectra 4-40440
 a-Si:H, AC cond., photoinduced changes 4-45787
 Si:H, amorphous, CVD prep., optical, electronic and device props. 4-16337
 Si:H, amorphous, collection lengths and diffusion lengths in p-i-n solar cells 4-50830
 Si:H, amorphous, geminate recombination effect, prep. parameters (Chinese) 4-6798
 Si:H, amorphous, glow-discharge prep., sp. ht. meas. at very low temps. 4-50536
 Si:H, amorphous, growth mechanism anal. by Rutherford recoil meas. for glow discharge prep. 4-45540
 Si:H, amorphous, high-rate deposition from SiH $_4$ plasma 4-51529
 Si:H, amorphous, homo and heterojunction, internal pot. characterisation using backsurfaces refl. electroabsorption method 4-52147
 Si:H, amorphous, large area glass/TCO/p-i-n/metal solar cell, photovoltaic performance improvement 4-16776
 Si:H, amorphous, multilayered photoreceptor drum for electrophotography, glow discharge fabrication 4-40673
 Si:H, amorphous, multiple gap solar cell, limiting efficiency: calc. 4-16782
 Si:H, amorphous, periodically structured MSM structs., picosecond response photodetectors 4-37169
 Si:H, amorphous, photoinduced IR absorpt., dispersive relaxations 4-35443
 Si:H, amorphous, RF sputtered, light-induced optical absorption changes (Chinese) 4-21056
 Si:H, amorphous, reactive RF sputtering in Ne, Ar and Kr 4-7358
 Si:H, amorphous, silicide formation with metals for semitransparent photodiode electrodes appl. 4-56094
 Si:H, amorphous, solar cells, review 4-26295
 Si:H, amorphous, solar cells, light soaking and regenerative annealing 4-46876
 Si:H, amorphous, sputtered, photovoltaic props., solar cells appl. 4-21136
 Si:H, amorphous and microcryst., Si-H bond stretching modes, IR absorpt. spectra study 4-40435
 Si:H, amorphous film, magnetron sputtered, gap state density determ. 4-29862
 Si:H, amorphous films, localised states, photoluminesc. study method 4-39832
 Si:H, amorphous films, plasma deposition kinetics, optical emission spectroscopy 4-21164
 a-Si:H, anomalous surface photocond. 4-39975
 Si:H, B, amorphous, simultaneous depth profiling by elastic recoil detection anal. 4-29460
 a-Si:H, B, dopant states, tight-binding model 4-6743
 Si:H, B, Hall effect and hole transport 4-20673
 a-Si:H, B films, photoinduced metastable surface effects 4-15908
 a-Si:H, band edges, Fermi level position, surface H conc. 4-39763
 a-Si:H, carrier dynamics, surface and interface effects obs. by transient grating spectroscopy 4-39928
 a-Si:H, charge fluctuations electronic density of states calc. 4-45568
 a-Si:H, Cl film, photoluminescence spectra 4-40507
 a-Si:H, Cl films, doped and undoped, Hall mobility meas. 4-39940
 a-Si:H, Cl films, IR spectra study 4-40550
 a-Si:H, compensated, localised states, drift mobility, charge collection meas. 4-45692
 a-Si:H, computer model with periodic boundary conditions, struct. and vibr. spectra 4-39136
 a-Si:H, conduction mechanism and photocond. 4-25350
 Si:H, deep Au-related donor and acceptor levels hydrogenation by electrolytic doping 4-45668
 a-Si:H, deep level distribs., transient voltage spectroscopy 4-40046
 a-Si:H, deep trapping, disorder and band tail localisation effects 4-45809
 a-Si:H, density of gap states determ., const. photocurrent method; transient current spectroscopy 4-39762
 a-Si:H, density of states distrib. determ., capacitance-voltage method 4-39760
 a-Si:H, differential photocurrent transients, meas. using Fourier transform technique 4-39963
 Si:H, dislocated, hydrogenation, DLTS study 4-15504
 a-Si:H, dispersive transport, Monte Carlo study 4-45779
 a-Si:H, distant-pair recombination, tunnelling nonradiative transitions 4-46322
 Si:H, dopant effect on dislocation photoluminescence 4-16237
 a-Si:H, dopant states, tight-binding model calc. 4-6741
 a-Si:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 a-Si:H, effect of light irradi. on TSC 4-39927
 a-Si:H, effect of localised-state distrib. on photoconductive props. 4-39964
 a-Si:H, elec. cond. study 4-39905
 a-Si:H, electron-transport meas. 4-40090
 a-Si:H, electronic and optical props. 4-45687
 a-Si:H, F, dopant states, tight-binding calc. 4-6742
 Si:H, F amorphous thin films, RF glow discharge deposition from SiF $_4$ plasma anal. 4-21169
 a-Si:H, F film, deposition and photoconductivity 4-51540
 a-Si:H, film deposition by glow discharge, bias effects on props. 4-51497
 a-Si:H, gap state distrib., elec. props. meas. 4-39764
 a-Si:H, gap state parameters, isothermal capacitance transient spectroscopy (Japanese) 4-20609
 a-Si:H, gap states density, deep levels, TSC meas. in space charge zone 4-2623
 a-Si:H, glow discharge deposited, impurity diffusion study 4-39598
 a-Si:H, glow discharge deposited film, crystallisation 4-39721
 a-Si:H, glow discharge film, silane dilution effect on intrinsic stress 4-50673

hydrogen continued

- a-Si:H, glow discharge produced, appl. to solar coatings 4-31099
- a-Si:H, hydrogenated and pure, phonon density of states 4-39426
- a-Si:H, IR study of stretch freq. 4-11895
- a-Si:H, interface kinetics at metal contacts, Raman scatt. and elec. props. 4-40048
- Si:H, ion implanted, low-symm. EPR center 4-20864
- a-Si:H, light-induced metastable defects 4-39284
- a-Si:H, light-induced optical absorpt. changes 4-40485
- a-Si:H, luminescence, metastable excited carrier population 4-40525
- a-Si:H, luminescence quantum efficiency 4-40506
- a-Si:H, luminescence study of saturation of band tail states 4-40509
- a-Si:H, MIS diodes, trap level and conc., DLTS 4-15887
- Si:H, microcrystalline, RF-sputter deposition, substrate elec. cond. effect 4-16309
- Si:H, microcrystalline, reactive sputtering onto low temp. substrate 4-21138
- Si:H, microstruct. study by Rutherford backscatt., TEM and SEM 4-24839
- a-Si:H, N glow discharge films, optical band gap, H content effects 4-57011
- a-Si:H, nonequilibrium photon thermalisation 4-20421
- a-Si:H, nonsubstitutional dopant states and carrier density statistics 4-56271
- a-Si:H, occupied gap states distrib., photoelec. yield spectroscopy 4-40596
- a-Si:H, optical energy gap, H content depend. 4-40392
- a-Si:H, optically detected mag. resonance and luminescence 4-40282
- a-Si:H, P, mechanism of P-doping IR spectra study (*Chinese*) 4-39130
- a-Si:H, P films, transient-photocurrent studies 4-40094
- a-Si:H, p-type, used as photoreceptor, photoelectrical and optical study 4-40393
- a-Si:H, P(B), film, surface states study 4-30036
- a-Si:H, phonon density of states meas. 4-45295
- a-Si:H, phonon interactions in tail states 4-20308
- a-Si:H, phonon-induced delocalisation of band tail states 4-45684
- a-Si:H, photo-induced mid-gap absorption and transient photocond. 4-39970
- a-Si:H, photocond., Fermi level effect 4-39973
- a-Si:H, photoconductivity, light-induced defects 4-39965
- a-Si:H, photoconductivity absorpt. edge study 4-30021
- a-Si:H, RF glow discharge deposited, optoelectronic and photovoltaic props. meas. 4-50864
- a-Si:H, RF sputtered, light induced Si-H bond (*Chinese*) 4-11413
- a-Si:H, RF sputtered, props., effects of RF power and total gas press. 4-2981
- a-Si:H, radiative and nonradiative processes 4-21033
- a-Si:H, recomb. mechanisms, radiative and nonradiative processes, subnanosecond photoluminescence meas. 4-40503
- a-Si:H, recomb. processes, ODMR and photoluminesc. study 4-20889
- a-Si:H, recombination and spin depend. effects, comment 4-11803
- a-Si:H, recombination kinetics depend. on photoexcitation density 4-39925
- a-Si:H, recombination processes and spin-dependent photocond. 4-6831
- a-Si:H, recrystallisation, AES obs. 4-40579
- a-Si:H, reversible photoinduced changes of electron hole lifetimes and gap states 4-39926
- a-Si:H, SIMS anal. using superimposed D implant standards 4-46829
- a-Si:H, Schottky barrier, electron drift mobility 4-45766
- a-Si:H, semiconductor superlattices, phys. props. 4-15940
- a-Si:H, short-range order, EXAFS obs. 4-40570
- a-Si:H, solar cell, ion bombardment effect on efficiency 4-45211
- a-Si:H, solid H₂ detect. and thermal props. 4-45354
- a-Si:H, space-charge-limited I-V characts. and density of states 4-45798
- a-Si:H, spin-dependent photoinduced absorpt., ESR study 4-40225
- a-Si:H, spin-lattice relax. of paramag. states 4-40226
- a-Si:H, sputter deposition, energetic H-atom bombardment effects 4-45560
- a-Si:H, Staebler-Wronski effect meas., appl. of Meyer-Neldel rule 4-15910
- a-Si:H, Staebler-Wronski effect, dark cond. study 4-39966
- a-Si:H, Staebler-Wronski effect thickness depend. 4-39967
- a-Si:H, thermal props. at low temps. 4-56045
- a-Si:H, thin film, homogeneous chemical vapour deposition 4-51513
- a-Si:H, thin film solar cell modelling, uniform field approx. 4-31097
- a-Si:H, time of flight photocond. study 4-39969
- a-Si:H, transient photocurrent in weak electron phonon coupling 4-39974
- a-Si:H, transport props., effect of surface oxide 4-39977
- a-Si:H, trap statistics and gap density of states calc. method 4-11488
- a-Si:H, trapped electron-trapped hole recomb., dangling bonds, photocond., EPR studies 4-39834
- a-Si:H, travelling wave method for meas. drift mobility 4-11540
- Si:H, twisted, radiative recomb hydrogenation effects. 4-16236
- a-Si:H, two-beam photoluminescence study 4-40505
- a-Si:H, undoped layers, effect of dopant contamination on space charge limited currents 4-50824
- a-Si:H, vibr. density of states, bond CPA calc. 4-39425
- a-Si:H, vibr. resonance modes 4-39428
- a-Si:H, vibrational density of states 4-39427
- a-Si:H,B, density of gap states determ., space charge spectroscopy 4-39759
- Si:H,B amorphous films, glow discharge deposition, BF₃ doping 4-29456
- a-Si:H,B films, prep. by glow discharge, optical props. 4-35508
- Si:H,B microcrystalline films, plasma-deposited, substrate temp. effects 4-21162
- a-Si:H,B p-i-n solar cell, carrier collection enhancement by B doping in i-layer 4-52155
- a-Si:H,B(P) film, doping efficiency, crystallisation effects 4-44949
- Si:H,B(P) microcryst. film, preferential dopant segregation 4-45340
- Si:H,Cl, amorphous films, transport props. rel. to deposition parameters 4-6824
- a-Si:H,Cl, doping in RF glow discharge 4-45158
- a-Si:H,F, amorphous film, glow discharge deposition and high resistive props. 4-16342
- a-Si:H,F,P alloys, high conductivity, percolation process, effect of P-doping 4-39907
- a-Si:H,F, high cond. film, performance for power sensor and strain gauge 4-50813
- a-Si:H,N films, plasma deposition, optical and elec. props. 4-39716
- a-Si:H,O glow discharge coatings, photocond. 4-15915
- a-Si:H,P, dispersive photoluminescence decay 4-40510

hydrogen continued

- a-Si:H,P, doping depend. of carrier lifetime 4-2622
- a-Si:H,P, localised states and photoconductivity 4-39836
- a-Si:H,P, photoinduced transient localised states 4-39835
- Si:H,P (B), post hydrogenated, elec. cond. and ESR, doping effects 4-39900
- Si:H,P microcrystalline films, struct. and elec. props. 4-45551
- a-Si:H,P(B) film, optically induced excess cond. 4-40088
- a-Si:H,Sb(In)(Ti), doping by controlled evaporation into RF plasma discharge 4-40674
- Si:H amorphous film, growth characterisation of multiple angle of incidence spectroscopic ellipsometry 4-51523
- Si:H amorphous film, photocond. and trapping parameters 4-6823
- Si:H amorphous films, glow discharge deposited, Schottky barriers, photovoltaic props. 4-30047
- Si:H amorphous layer, broadband spectroscopy by optical guided wave techniques 4-43067
- Si:H amorphous layer on quartz, SHG, bulk material use in integrated optics 4-24242
- a-Si:H and a-Si, dangling bond states, rigorous energy bounds 4-45681
- a-Si:H and a-Si, hydrogenated bond states, rigorous energy bounds 4-45682
- a-Si:H CVD films, struct. and electronic props., Raman scatt. study 4-40436
- a-Si:H diodes, n-i-n struct., photo-induced degradation 4-35056
- a-Si:H evaporated film, IR vibr. spectroscopy studies 4-21059
- a-Si:H film, CVD deposition and photoconductivity 4-51520
- a-Si:H film, CVD growth and photoconductivity 4-51516
- a-Si:H film, carrier dynamics at surface and interface, transient grating method obs. 4-20667
- a-Si:H film, chemical vapour deposition characterisation 4-51514
- a-Si:H film, deposition characts. 4-51530
- a-Si:H film, electric field induced conduction drift (*Chinese*) 4-20746
- a-Si:H film, growth kinetics studied by pulsed RF discharge 4-51532
- a-Si:H film, ion bombardment effect on growth 4-51539
- a-Si:H film, ion implanted, elec. cond. study 4-15969
- a-Si:H film, laser CVD study 4-51515
- a-Si:H film, low temp. photocond. and photolum. study 4-39971
- a-Si:H film, microcrystalline, morphological fluctuations 4-50678
- Si:H film, microcrystalline, NMR and optical spectra 4-51142
- Si:H film, microcrystalline, ¹H NMR study 4-51143
- Si:H film, microcrystalline, formation kinetics and control 4-51545
- a-Si:H film, microwave glow discharge deposition method 4-51537
- Si:H film, optical band gap, IR absorpt. spectrum meas. 4-2984
- a-Si:H film, photoconductivity study 4-39968
- a-Si:H film, plasma deposited, mech. stress 4-29855
- a-Si:H film, plasma deposited, field effect conductance, temp. depend. 4-39903
- a-Si:H film, plasma deposition rate study 4-51534
- a-Si:H film, plasma deposition study 4-51535
- a-Si:H film, plasma deposition calcs. 4-51536
- a-Si:H film, plasma deposition and growth morphology 4-51543
- a-Si:H film, reactive evaporation deposition 4-51503
- a-Si:H film, short lived photoinduced midgap absorpt. 4-40551
- a-Si:H film, sputtered, transform. from microcrystalline state 4-51491
- a-Si:H film, UHV plasma deposition system 4-51538
- a-Si:H film 4-51544
- a-Si:H film Schottky barrier diodes, space charge capacitance, freq. and temp. depend. 4-40047
- a-Si:H films, CVD and plasma deposition, defect chemistry 4-29839
- a-Si:H films, dangling bonds, ENDOR study 4-40280
- a-Si:H films, diffusion of H 4-39597
- a-Si:H films, dispersion energy and oscill. strength 4-40549
- a-Si:H films, doped, elec. cond., kink in high temp. depend. 4-39904
- a-Si:H films, etch pit symm., disclinations, high resolution electron microscopy 4-39141
- a-Si:H films, glow discharge deposited, H incorporation, doping and thickness depend. conductivity 4-40089
- a-Si:H films, hydrogenated and pure, intermediate range order 4-39135
- a-Si:H films, IR photocond. and dark cond., annealing effects 4-35025
- a-Si:H films, local states in band gap, photocond. and dark cond. studies 4-25403
- a-Si:H films, medium range order, small-angle neutron diffr. study 4-39140
- a-Si:H films, P doped and undoped, optical gap, Urbach tail parameters, temp. and doping effects 4-40391
- a-Si:H films, photochem. CVD prep., struct., optical, and electronic props. 4-3078
- a-Si:H films, photocond., optical and thermal quenching 4-11558
- a-Si:H films, photocond. and photoluminesc. at low temps. 4-56979
- a-Si:H films, photocurrent reversal, time-of-flight expts. 4-6887
- a-Si:H films, prep. by ion beam deposition, photoacoustic spectroscopy, charge transport 4-40484
- a-Si:H films, RF glow discharge deposition and solar cell appls. 4-45825
- a-Si:H glow discharge films, photoexcited carriers ps recombination 4-25462
- a-Si:H heterogeneous LPCVD films, X-ray diffr. and Raman scatt. studies 4-39137
- a-Si:H MOSFET, photocond., Fermi level effects 4-6830
- a-Si:H n-j-n diodes, characts., SCLC model including diffusion 4-40034
- a-Si:H p⁺-i-n⁺ cells, electroluminesc. detected ODMR 4-40281
- a-Si:H p-i-n junctions, luminescence phenomena 4-40508
- a-Si:H p-i-n solar cells, effect of B₂H₆ profile on photovoltaic performance 4-52156
- a-Si:H p-i-n solar cells with graded B-doped active layers 4-16780
- a-Si:H photovoltaic cell performance (*Czech*) 4-7869
- a-Si:H RF sputtered coatings, microcryst. struct. 4-45550
- a-Si:H reactively sputtered films, electrophotographic photoreceptor props. 4-48229
- Si:H ribbon, H diffusion and passivation along grain boundaries 4-50581
- a-Si:H Schottky solar cells, effect of dopant contamination in undoped layer 4-7879
- a-Si:H solar cells, numerical computer simulation 4-52158
- a-Si:H solar cells (*Russian*) 4-41340
- a-Si:H sputtered, luminescence lifetime distrib. 4-40512
- a-Si:H sputtered film, preparation, elec. props. 4-51490
- a-Si:H sputtered films, optical props. 4-30544
- a-Si:H sputtered films, struct. studies in high resolution STEM 4-39139
- a-Si:H sputtered films, thickness depend. props., Raman and DC cond. meas. 4-39714

hydrogen continued

- a-Si:H thin films, gap-state struct., photoacoustic spectra, xerographic meas. 4-46355
 a-Si:H thin films, high field breakdown 4-40341
 a-Si:H ultrathin layers, quantum size effect, optical props. 4-21057
 a-Si:H/SiO₂, charge injection during field effect and photo-field effect 4-40064
 Si:H⁺, ion implantation and diffusion effects on laser induced defects, EPR study 4-15501
 a-Si:H/a-Si_{0.2}C_{0.8}H quantum well structs., optical props. 4-51387
 a-Si:H₂, optical absorpt. edge, site disorder effect 4-40473
 a-Si:H-Pt(Yb) contacts, density of gap states determ., transient junction spectroscopy 4-40045
 a-Si:H-Si n-p heterojunction, elec. props. 4-50910
 a-Si:H-metal contacts, Schottky barrier form. and struct. props. 4-6866
 Si:H(H,P) glow discharge films, density of states determ. by capacitance-freq. measurements (*Korean*) 4-15811
 Si:H(H₂), impurity-vacancy complexes, electronic struct. 4-45676
 Si:N,H amorphous glow discharge films, elec. props. 4-6792
 Si-C thin films, hydrogenated, plasma-enhanced CVD grown, microhardness 4-2488
 a-Si-H film, electronic struct. photoemission study 4-30037
 a-Si+H films, evaporated, gap states distrib. determ. before and after hydrogenation, SCL current meas. 4-39761
 Si:(H)-SiGe:(H), tandem type amorphous solar cells 4-52150
 Si_{100-x}Al_xH amorphous films, reactive co-sputtering, high p-type conductivity and optical props. 4-40647
 a-Si_{1-x}Au_xH films, metal-insulator transition, DC cond. and photoemission meas. 4-39994
 Si:C,H, amorphous, homo and heterojunctions 4-52147
 Si:C,H, amorphous doped films, Fermi level, XPS study 4-15808
 Si:C,H, amorphous films for solar cell window layer, compositional study 4-39730
 a-Si:C,H, diffusion of In and Sn from transparent electrode, XPS study 4-41344
 a-Si:C,H, glow discharge deposition and phys. props. 4-40676
 a-Si:C,H, prep. by GD-CVD, phys. props. 4-40668
 a-Si:C,H film, phys. props. 4-40438
 a-Si:C,H films, plasmons, XPS study 4-40597
 Si:C/H/Si amorphous/crystalline heterostruct. solar cell, performance and characts. 4-36008
 a-Si_{1-x}C_xH, AC electrolum., polarisation effects 4-40534
 Si_{1-x}C_xH, amorphous semiconductor superlattices, phys. props. 4-15940
 a-Si_{1-x}C_xH, ODMR study 4-40283
 Si₃C_{1-x}H, amorphous, luminescence study 4-40504
 Si₃C_{1-x}H, amorphous, photoluminescence study 4-25797
 Si₃C_{1-x}H, amorphous, plasmon behaviour, XPS study (*Chinese*) 4-2531
 a-Si₃C_{1-x}H, valence band struct., photoelectron spectra and pseudopot. study 4-39766
 Si₃C_{1-x}H amorphous films, plasma deposition, ion beam effects 4-25900
 a-Si₃C_{1-x}H films, optical consts., ellipsometric spectra 4-40394
 Si₃-Ge₂H amorphous alloy, three-stacked tandem type solar cells 4-16777
 Si₃Ge₂-x:H amorphous films, reactively sputtered, compositional gradients obs. 4-51487
 a-SiH glow-discharge films, H₂ evolution and annealing studies 4-39134
 Si:N,H, amorphous film, annealing behaviour, EPR study 4-7049
 Si:N,H amorphous film, plasma deposited, mech. stress 4-29855
 SiN₂H, amorphous, ion irradiat., dark cond. meas., defect states 4-39837
 SiN₂H, amorphous, valence and core level photoemission study 4-40598
 SiN₂H, amorphous semiconductor superlattices, phys. props. 4-15940
 SiN₂H:P(B), amorphous, glow-discharge deposition, doping effects on elec. props. 4-39314
 SiN₂H amorphous films, RF glow discharge deposition from SiH₄-N₂-H₂ silicon compounds 4-40671
 SiN₂H films, amorphous, prep. by RF glow discharge deposition, IR absorpt. 4-40552
 SiO₂ films, thermal nitridation, H content meas. 4-39702
 SiO₂H, amorphous, intrinsic defects and hydroxyl groups 4-50202
 SiO₂H₂ fibres, IR loss spectrum obs. 4-24189
 Si:Sn,H amorphous alloy films, RF glow discharge fabrication, conductivity transition 4-45839
 a-Si_{1-x}Sn_xH, sputter assisted plasma CVD films, props. 4-40439
 Ta:H, D, electromigration of H and D, isotope effect 4-15724
 Ta-H system, displacement field of H by fast ion channelling 4-45222
 Ti-Al-H system, superplasticity study (*Russian*) 4-50405
 Ti-H solid solutions, H decomposition press. and phase diagram 4-46490
 TiFe_{0.94}Al_{0.06} intermetallic cpd., H₂ absorption kinetics 4-46792
 TiFe_{1-x}Al_x, H₂ absorption props., H₂ storage appl. 4-46793
 Y₂Ni₃ mag. props., H₂ sorption effects 4-46009
 YIG:H⁺, ion implanted, Mossbauer study 4-56831
 Zr-Ni-H, amorphous, thermodynamics of H absorption 4-45358
 Zr-Ni-Hz system, intermetallic hydride cpd. form. under combustion conditions 4-57559
 ZrMn₂-based alloys, non-stoichiometric, H₂ sorption props. 4-41252
 Zr-Ni-H glass, struct. study 4-44993
 Zr₃Rh-H glass formation study 4-44959

hydrogen bonds

- acetamidacetone thiosemicarbazone monohydrate, cryst. struct. determ., X-ray diffr. study 4-34473
 acetate H-bond complexes, association, equilib. const. and thermodynamic props. 4-41197
 acetic acid, numerical reprod. of H-bond IR spectra 4-7186
 adenine-thymine pair, H-bonds 4-46927
 adenine-uracil base pairs, protein interaction, H bonds, ab initio MO STO calcs. 4-48914
 alcohols, substituted dimers, H bonded, chem. shift, nucl. mag. shielding tensor calcs. 4-16112
 aliphatic esters-HCl(H₂O) complexes, matrix isolation IR spectra 4-54706
 alkylpyridines aq. solns., substituent effect on intermol. H bonding from lattice gas theory for lower crit. points 4-11250
 7-amino-3-methyl-1,4-benzoxazine-2-one, excited states H-bond form. intramolecular charge transfer state, fluoresc. 4-9810
 5-aminoindazole, singly protonated, photoautomerism, absorpt. and fluoresc. spectra 4-9784
 ammonium dichloroacetate, NQR, hydrostatic press. influence 4-7091
 amorphous solid water, OH stretching spectra, theoretical anal. 4-29546
 aromatic acid crystals, solid-liq. equilib. and H-bond study 4-24976

hydrogen bonds continued

- aromatic ketone radical anions, H bond form., picosec. dynamics investig. 4-41193
 auxin, mol. conform., EPEN/2 calcs. (*German*) 4-33487
 7-azaindole, soln., H bonded, excited state reaction, luminesc. 4-49085
 azomycin(2-nitroimidazole), cryst. struct. determ. 4-45112
 benzaldehyde 2-nitrophenylhydrazone, cryst. struct. determ. 4-45114
 benzoic acid, H-bonded dimers, excited state dynamics, fluoresc. emission 4-54778
 3-benzoylamino propionic acid esters, H-bond formation, steric effects, IR study 4-54708
 bicyclo[2.2.1]hepta-2,5-dien-7-ol-d₈(-d₁) microwave and IR spectra, intramol. OH-π H bond 4-14400
 bifurcated H-bonded systems, H⁺ motion, spectrosc. and quantum chem. investigations 4-14325
 bilirubin, and derivatives, NMR spectrosc. investigation 4-54746
 bilirubin dimethyl esters, H-bonded dimers, PMR study 4-19090
 binary liquid systems, directionally bonded, coexistence, spinodal curves, four-cluster approx. calcs. 4-50486
 bis(ortho-aminobenzoato)zinc(II), cryst. and mol. struct., X-ray diffr. study 4-6356
 2-butanol, optical activity, racemic forms, H bonding 4-9837
 calcium acetate monohydrate, cryst. struct., X-ray diffr. study 4-29420
 carboxylic acid dimers, H bonded, H⁺ transfer, NMR relax. investig. 4-14447
 carboxylic acid dimers, H-bonded systems, polarised IR spectra by stretched-polymer method 4-14413
 carboxylic acids, substituted dimers, H bonded, chem. shift, nucl. mag. shielding tensor calcs. 4-16112
 cationic crown ether, intramol. bond stabilised, struct. investigation 4-14603
 cellulose, mercerised, cryst. struct., pot. energy calc. 4-39175
 chiral molecules, optical activity, racemic forms, H bonding 4-9837
 chlorofluoromethanes-NO free radical liq. system, H bond formation and mol. motion in solns. 4-30310
 cholesterol, 37°C phase transition, H bonding struct. pattern 4-39447
 cholesterol + esters (amides), H-bond equilib., IR spectra 4-7706
 crystals, H-bonded, proton-induced phase transitions 4-29377
 1-cyclohexyluracil-acetylglutamine N-methylamine, H bond complex formation 4-49179
 4,4'-diaminodiphenylmethane epoxy resin, cryst. and mol. structures, X-ray diffr. study 4-34426
 4,4'-diaminodiphenylsulphone hydrate epoxy resin, cryst. and mol. structures, X-ray diffr. study 4-34425
 1,2,7,8-dibenzazacridine, H bond association equilib. with OH donors, solvent effects, UV-VIS spectra 4-26201
 1,2,7,8-dibenzazacridine, H-bond association equilib. with OH donors, comparative IR and UV-VIS spectroscopic study 4-26200
 4,4'-dihydroxydiphenyldimethylmethane epoxy resin, cryst. and mol. structures, X-ray diffr. study 4-34424
 dimethyl ether-HCl(HF)(DCI)(DF), H-bonded heterodimers, IR obs., vibr. band assignment 4-5208
 dimethyl ether-HF complex, hydrogen bonded, vibr. predissoc. 4-5300
 dimethyl phosphate anion+H₂O, bifurcated vs. linear hydrogen bonds 4-1289
 dimethyl sulphide.(HF)₂ complex, gas phase timer identification by PES 4-28507
 1,3-dimethylurea, H-bonding, mol. deform., Raman obs. 4-43890
 dinucleoside monophosphates, perturbation of C-O stretch freqs. by assoc. in aq. soln., Raman study 4-9776
 dispersion energy of H-bonded system calc. as function of intermol. separation 4-43939
 epoxy oligomers, struct. and props. changes under vibr. treatment (*Russian*) 4-39162
 ethene-HCN H-bonding, ab initio SCF MO investig. 4-1028
 ethene-HF(HCl)(NO), H bonded clusters, IR photodissociation spectra 4-1310
 ethylenediamine, partially deuterated, allotropic, H-bonds, Raman spectra (*French*) 4-7206
 ethyne-HCN, H bonding, ab initio SCF MO investig. 4-1028
 ferroelectric crystals, H-bonded, NQR under high hydrostatic press. 4-30315
 ferroelectrics, H-bonded, Debye relax. time 4-55942
 ferroelectrics, pseudospin-phonon coupling, role of central peak in sound absorption (*Russian*) 4-34600
 formamide, assoc., matrix isolation IR investigation 4-14420
 formamide(-d₂)(-d₃), ab initio SCF MO calc. of force consts. and dipole derivatives, H-bond force const. estimation 4-1036
 formate anion+H₂O, bifurcated vs. linear hydrogen bonds 4-1289
 α-D-glucose, conform. and vibr. spectrum calc. in cryst. state 4-11126
 α-glycine ¹H chem. shift and EFG tensors 4-40256
 glycol-L-prolyl-D-leucylglycine, solid and solvated state conforms., X-ray diffr. and PMR investig. 4-11115
 graphite-HNO₃ intercalation cpd., struct. determ. by X-ray and electron diffr. (*French*) 4-45104
 heme-proteins-CO ligand, H bonding, HF-Slater electronic struct. calcs. 4-48906
 hexafluoroisopropanol complexes with aza-aromatic compounds, UV and visible spectra obs. 4-2940
 hydrates, crystalline, water mol. Thermal parameters, neutron diffr. study 4-15596
 2-(2'-hydroxy-5'-methylphenyl)-benzotriazole, H bonds, low temp. fluoresc. 4-23739
 β-hydroxyacrolein, valence ionised states, electronic struct., H bonds, ab initio calcs. 4-18904
 3-hydroxyflavone, intramolecular H⁺ transfer, excited state dynamics, fluoresc. 4-33433
 ice, charge partitioning between Bjerrum and ionic defects, ab initio MO calcs. 4-29466
 ice, polymorphs, high press. phase transitions and H-bonded symm. 4-39192
 ice compressed, transition to symm. H bonds 4-29527
 ice Ih, OH stretching spectra, theoretical anal. 4-29546
 ice Ih, struct., neutron diffr. investig. 4-29406
 ice X, symmetric H bonds, Raman meas. under press. 4-56936
 iminodiacetic-monomethylphosphonic acid, cryst. and mol. struct. determ. 4-11118
 indole in soln. and supersonic expansion, H-bond form., fluoresc. excitation spectra 4-5271
 indoles, H-bonded in supersonic jets, electronic spectra 4-9818
 lactic acid, conformation, double reson. microwave study 4-14458

hydrogen bonds continued

- lanthanum p-hydroxybenzoate $\text{SO}_4 \cdot 3\text{H}_2\text{O}$, mol. and cryst. struct., thermal behaviour 4-14604
- lignin model compounds, OH rot. barrier, H bonding, PCILO MO calcs. 4-33324
- methane disulphonyl fluoride, vibr. spectra and H bonding 4-5210
- methanol, mol. dynamics, far IR spectrosc., interferometric and computer simulation investig. 4-20968
- methanol-HCl(HF)(DCI)(DF), H-bonded heterodimers, IR obs., vibr. band assignment 4-5208
- methanol-methyl cyanide (methyl isocyanide) (H_2O) (methanol) (methyl fluoride), ab initio MO calcs. 4-43783
- methyl-HF complex, H bonded, ab initio calculations 4-1029
- methylproline peptides, cryst. struct., mol. conform., IR and ^{13}C , NMR spectra 4-35239
- MM2 force field calcs., development of O-H...O H-bond pot. 4-23572
- monomer-dimer system, strong H-bond lifetime relax. study in gas phase 4-3389
- nuclear quadrupole resonance spectroscopy, conference, Kingston, Ontario, Canada (July 1983) 4-27234
- nucleic acid bases, H-bonded pairing configurations, crystallography and computation correl. 4-7924
- oxoanions, protonated, bond lengths 4-38044
- phase transition and isotope effect in H-bonded crystals (*Japanese*) 4-56863
- phenanthrene, in alcoholic glass, addition of H-bond breaking gases, phosphoresc. temp. depend. 4-30508
- phenol crystals, solid-liq. equilib. and H-bond study 4-24976
- phenol derivatives, H-bonded complexes, IR spectra, thermodynamic consts. and freq. shifts 4-46760
- N-phenyl-O-methylurethanes, o-substituted, intramol. H bond energy determ. using PMR 4-9802
- D,L-phenylalanine ethyl ester chloroplatinate, cryst. struct. determ. (*Chinese*) 4-2182
- phosphonomethylglycine acid, cryst. and mol. struct. determ. 4-11118
- poly-L-alanine, picosec. relaxs., mm-wave spectroscopy obs. 4-36068
- polyheteroarylene fibre reinforced epoxy composite, IR spectra and struct. 4-12054
- propan-2-ol-HCl(HF)(DCI)(DF), H-bonded heterodimers, IR obs., vibr. band assignment 4-5208
- n-propylamine, hydrogen bonding and Fermi resonance, Raman spectra 4-23680
- proteins, picosec. relaxs., mm-wave spectroscopy obs. 4-36068
- PVC-solvent gels, morphology and props. 4-16697
- pyridinium salts soln., association with bases, IR spectra 4-23695
- resin solubility in organic solvents, prediction model based on H bonding potential 4-29635
- rubrine C hydrochloride, cryst. and mol. struct. 4-55810
- salicylic acid mol., vibr. spectrum and normal coord. calcs. 4-9778
- self-consistent phonon theory of H-bond melting 4-57824
- short bonds, structural studies by neutron diffraction, review 4-39052
- solute mols., electronic spectra, shifts, H bond and solvent effects 4-38112
- squaric acid, order-disorder transform., ^2H quadrupole coupling 4-46146
- strycyanine dye, unsymmetrical, solvent polarity indicator, solvatochromism, polarography and MO calcs. (*German*) 4-1054
- sultines, functionalised, conformation anal. by NMR and X-ray cryst., generalised Karplus eqn. appl. 4-2186
- tetraphthalic acids, disordered H-bonded dimers, neutron scatt. 4-29562
- tetraquobis(pyridine)-tetra(p-nitrobenzoato)dycopper(II), mol. and cryst. struct., X-ray study 4-14605
- theoretical chemistry, conf., Louvain-la-Neuve, Belgium (June 1983) 4-42577
- thioindigo, in benzoic acid, H bonds, UV and fluoresc. spectra 4-54775
- thujaplicatin methyl ether, cryst. struct. determ. 4-45113
- N-p-tolyl-N-methylhydroxylamine, struct. study 4-11116
- 3-tricyanovinylindole, cryst. and mol. structures, X-ray diff. study 4-24799
- tropolone- $\text{d}_0(\text{d}_1)$, supersonic free jet, H bonded complexes, H^+ tunnelling, fluoresc. obs. 4-28494
- water, H bond network organisation and lifetimes 4-20074
- water, liq. H bond struct., press. effects 4-44918
- water, liquid and supercrit., struct. study by X-ray diff., mol. density radial distrib. and paired correl. functions 4-55699
- water, OH stretching spectra, theoretical anal. 4-29546
- water, superheated, base to define normal components of expansivity and compressibility of stable water 4-39432
- water supercooled, hindered translational region, low freq. Raman study 4-25746
- water-organic hydrophobic mols. mixtures, assoc., H^+ mag. relax. rates 4-30945
- xanthene dyes, fluoresc. lifetime meas., picosec. time resolved spectroscopy 4-4476
- Ag (111) adsorption of H_2 , EHT study (*Chinese*) 4-2425
- Al (111) with adsorbed H_2 , EHT study (*Chinese*) 4-2425
- Au electrode, photoelectron and photohole emission processes in aqs. soln. 4-52017
- Co complex, μ -oxo-di(bis-dimethylglyoximatecobalt (III)), cryst. and mol. structures, X-ray diff. study 4-34461
- CoII complex, trans-bis(trichloroacetato) bis(N,N-dimethylethylenediamine) Co(II), cryst. struct., polarised spectra 4-11056
- (Cr(NH $_3$) $_6$ HP $_2$ O $_7$) $_2$ ·2H $_2$ O, cryst. struct. determ. 4-45072
- Cu (110), clean and O-covered, H_2O adsorption, UPS, desorption, work function and LEED studies 4-45509
- Cu (111), chemisorption of H, photoemission, thermal desorption spectra 4-2451
- Cu complex, CuCl with allyl alcohol, cryst. struct., H bonds, X-ray diff. study 4-34460
- Cu(OD $_2$) $_6$ (ND $_4$) $_2$ (SO $_4$) $_2$, struct., phase transition, H bonding, neutron powder diff., temp. depend. 4-55777
- Cu $_2$ (ZrF $_7$) $_2$ ·16H $_2$ O, proton location, H bonds, cryst. struct., neutron diff. study 4-34439
- D $_2$ O, supercooled region, neutron diff. studies 4-10954
- fluoromethane-Hf complex, H bonded, ab initio calculations 4-1029
- H^+ , struct. and props. 4-23571
- H-bonded complexes, assoc., thermodynamic parameters, dielec. relax. meas. 4-2872
- H-bonded dimers in gas phase systems, IR and microwave spectra 4-54703

hydrogen bonds continued

- H-complexes, molecular and ionic, isotopic substitution effect on IR bands 4-23694
- H-containing mols., H bonds, atomic charges from IR intensities 4-43876
- HCN...Hf, rovibr. anal., excited state lifetimes 4-33387
- HF, liq. struct., intermolecular pot. function, Monte Carlo simulations 4-34395
- (HF) $_n$ clusters, open chain and cyclic, stability, ab initio calcs. 4-14296
- (H $_2$ NHS $_2$) $^+$, H^+ transfer along H-bonds, ab initio MO calc. 4-49146
- H_2O dimer, MM2 force field calcs., development of O-H...O H-bond pot. 4-23572
- H_2O dimer configurations, pot. energy curves calc., SCF and CI calcs. 4-33364
- H_2O , H-O-H bending fundamental in solids and liqs. 4-24926
- H_2O -HF, H bonded dimer, pot. energy const., vibr. calcs. 4-43863
- H_2O -HF, in AR matrix, H bonds, inversion doubling; libration, IR obs. 4-5213
- (H $_2$ O) $_2$, dipole moments, IR absorpt. intensities, ab initio SCF calcs. 4-23582
- (H $_2$ O) $_2$, polarisability tensor, Raman scatt., ab initio SCF calcs. 4-33299
- (H $_2$ O) $_n$ -N $_2$, pot. energy surface, ab initio MO STO calcs. 4-48955
- (H $_2$ O) $_n$ clusters, ionisation energies and H-bond strengths 4-23850
- (H $_2$ OHS $_2$) $^+$, H^+ transfer along H-bonds, ab initio MO calc. 4-49146
- H $_2$ S-(H $_2$ O) $_2$, three-body nonadditive interactions, ab initio SCF MO study 4-48930
- H $_2$ S-HF complex, H bonded, struct., ab initio calcs. 4-28361
- H $_2$ X-HY, (X=O, S, Se, Y=F, Cl, Br), H-bonded complexes, geometry dissoci. energies, ab initio GO-SCF-MO calcs. 4-38064
- KCl:OH, γ -irrad., formation of H bonds 4-45047
- K $_2$ Fe(CN) $_6$ ·3H $_2$ O cryst., OH(OD) stretching vibrs. correl. and H bond struct. characts. 4-24923
- KH $_2$ PO $_4$ melts and crystals, proton correlations assoc. with ferroelec. transition, H bonds, Raman bands 4-30472
- KOH, alkali aq. solns., H bonds, IR and Raman studies (*French*) 4-40460
- Li:OH, γ -irrad., formation of H bonds 4-45047
- Li(NH $_4$)SO $_4$, thermally stimulated depolarisation current studies 4-6802
- LiNb $_3$ O $_8$, optical characts. study (*Chinese*) 4-2889
- Li $_2$ SO $_4$ ·H $_2$ O, pyroelectric, neutron diff. struct. investigation 4-29422
- Mg(B $_2$ O $_3$ (OH) $_6$) $_2$, pinnoite, struct. refinement, H atom location and H-bonds 4-34463
- (NH $_3$) $_n$, struct., ab initio MO calcs., H-bond stability 4-38041
- NH $_3$ -acetylene, struct., microwave spectrum, mol. beam elec. reson. study 4-43901
- (NH $_4$) $_2$ H(SO $_4$) $_2$, thermally stimulated depolarisation current studies 4-6802
- NH $_4^+$ (NH $_3$) $_n$, struct., ab initio MO calcs., H-bond stability 4-38041
- (N $_2$ H $_6$)SO $_4$, thermally stimulated depolarisation current studies 4-6802
- (2NH $_3$ ·H $_2$ O) $_n$, cryst., H^+ transfer patterns 4-34694
- NH $_3$...HX(HX) $_2$, H-bonded complexes, Gaussian orbital SCF-MO calcs., dissoci. energies, geometries 4-23598
- Na $_2$ Al $_2$ Si $_2$ O $_7$ ·2H $_2$ O, natural natrolite, cryst. struct., neutron diff. refinement 4-29412
- NaCl:OH, γ -irrad., formation of H bonds 4-45047
- Na $_2$ H $_2$ (PO $_4$) $_2$ (P $_2$ O $_7$), cryst. struct., X-ray diff. study 4-20159
- NaOH, alkali aq. solns., H bonds, IR and Raman studies (*French*) 4-40460
- Ni, adsorbed water activation by chemisorbed O, XPS anal. 4-41255
- PH $_3$ ·HX, H-bonded complexes, Gaussian orbital SCF-MO calcs., dissoci. energies, geometries 4-23598
- Pb, adsorbed water activation by chemisorbed O, XPS anal. 4-41255
- PdH $_x$, metal H bond, tight binding approx. anal. 4-11039
- potassium hydrogen diformate, cryst. struct. study 4-6352
- (PtCl $_2$ (NH $_3$) $_4$)(NO $_3$) $_2$, cryst. data, X-ray diff. study 4-20150
- Ru, adsorption of NH $_3$, mol. orientation, LEED, ESDIAD, TDS, work function meas. 4-39681
- a-Si:H, RF sputtered, light induced Si-H bond (*Chinese*) 4-11413
- a-Si:H film, growth kinetics studied by pulsed RF discharge 4-51532
- a-Si:H sputtered films, optical props. 4-30544
- a-SiC:H film, phys. props. 4-40438
- Sr(NO $_3$) $_2$ ·H $_2$ O, pyroelectric material, room temp. cryst. struct. 4-29404
- UO $_2$ (OH)(NH $_2$ SO $_3$) $_2$ ·3H $_2$ O, cryst. struct., X-ray diff. 4-29396
- V $_2$ O $_5$ ·xH $_2$ O xerogel, adsorbed water, H bonds, IR spectroscopy study (*French*) 4-2916

hydrogen compounds

- see also deuterium compounds; hydroxonium ion; ice; steam; tritium compounds; water
- ethene-HCN H bonding, ab initio SCF MO investig. 4-1028
- ethyne-HCN, H bonding, ab initio SCF MO investig. 4-1028
- halides, solvent effects on molecular vibrations: distortion and relaxation of the solute potential energy surface 4-28427
- HCl, ionisation pot., Feshbach reson., EELS 4-38340
- HSO $_3$ F-graphite, intercalation cpd., prep. of various structs. 4-57127
- ice:HF, electron as probe for defects 4-29983
- intercalation cpd. with graphite, graphite-H $_2$ SO $_4$, optical reflectivity and band struct. model 4-40404
- intercalation cpd. with graphite, graphite-HSO $_3$ F, X-ray photoelectron spectra studies 4-40609
- K-plus L-shell ionisation, electron transfer 4-25845
- metal hydrides, surface studies by SIMS and XPS 4-46422
- methyl-HF complex, H bonded, ab initio calculations 4-1029
- oleum solution on-line analysis using electrodeless conductivity 4-12422
- polyacetylene:(HSO $_3$ F) heavily doped, elec. and optical props. 4-50802
- trans-polyacetylene:HSO $_3$ F, DC cond. and optical absorption spectra 4-7213
- transition probabilities, PNO-CEPA and MCSCF SCEP calcs. 4-33456
- β -Al $_2$ O $_3$ ·H $_2$ O, study of atomic H centres by ENDOR and ESR linewidth 4-7093
- Cl+HBr→HCl+Br reaction, rate consts. determ. using mass spectrometric anal. 4-12346
- CICP, mol. struct., electron props., ab initio SCF calcs. 4-43788
- FCP, mol. struct., electron props., ab initio SCF calcs. 4-43788
- fluoromethane-Hf complex, H bonded, ab initio calculations 4-1029
- H-complexes, molecular and ionic, isotopic substitution effect on IR bands 4-23694
- H $_2$ -HF gasdynamic laser utilising purely rot. transitions, kinetic gasdynamic model and characts. calc. 4-10285
- H $_2$ A type mols., electronic charge distrib., geometric, force and electrooptic parameters calcs. 4-23596

hydrogen compounds continued

- HBr, inner-shell and outer-shell electron excitation; energy loss spectra 4-54876
 HBr, photoabsorpt., photoionis. and fragmentation, absolute dipole oscill. strengths 4-1150
 HBr pulsed and CW laser principles (*German*) 4-55024
 HBr⁺, A²Σ⁺ state, intramolecular dynamics, PES 4-5282
 HBr-H₂O(H₂S)(H₂Se), H-bonded complexes, geometry dissociation energies, ab initio GO-SCF-MO calcs. 4-38064
 HBr-F, IR chemiluminesc. obs. 4-21435
 HBr+H(D), exchange reactions, quantal sudden calcs. 4-21433
 HBr+hot atom reactions, product internal energy distrib., CARS meas. 4-23703
 HBr+OH, time-resolved laser-induced fluoresc., rate constants meas. 4-57534
 HCN, atom anisotropies and effective charges in vibrational intensity analysis 4-38169
 HCN, C state, photodissociation ang. distrib. generalised Franck-Condon theory 4-35922
 HCN, C state, predissociation rot. distrib. 4-35921
 HCN CW waveguide laser, RF-excited, operational characts. (*Japanese*) 4-28675
 HCN, dipole moment functions, anharmonic vibr. wavefunctions, IR intensities 4-5212
 HCN, electron elastic scatt., 21.6 to 700 eV, two-pot. hybrid method calcs. 4-23811
 HCN, force constants, ab initio, SCF and CI calcs. convergence and additivity of correl. and basis set effects 4-1067
 HCN, identification in C stars 4-8501
 HCN in C stars, effects of mol. opacity on model atmospheres 4-58437
 HCN identification by collisionally induced dissociation 4-16618
 HCN, isomerisation, internal rot., pot. function 4-1498
 HCN relaxation by V-T,R and V-V energy transfer 4-33505
 HCN, triply differential photoelectron spectra obs. of photoionis. dynamics 4-9831
 HCN-CO₂-(d₁) complex, RF and microwave rot. spectra and struct. anal. 4-38160
 HCN-PH₃ complex, weakly bound, rot. spectrum and struct. obs. by Fourier transform microwave spectroscopy 4-54676
 (HC¹³N)₂ and its deuterated analogue, rot. spectra and D-nuclear quadrupole coupling 4-14377
 H₂CN⁺, IR spectra, vibr. freq., SCF and CI calcs. 4-54694
 HCN₂, adsorption on Rh, mol. dissociation, AES, EELS, TDS studies 4-41258
 HCN...HF, rovibr. anal., excited state lifetimes 4-33387
 HCO+Br, reaction kinetics at 298K 4-51987
 HCO₂⁻, adsorbed on Pt, struct. determ., EELS-study 4-30578
 H⁺(CO)₂, struct. study 4-18928
 H₂CO, H₂CS, H₂O and H₂S, photoexcitation and photoionis. cross sections calc. 4-9847
 HCP, dipole moment functions, anharmonic vibr. wavefunctions, IR intensities 4-5212
 HCP, mol. struct., electron props., ab initio SCF calcs. 4-43788
 HCP, PES and ionisation pot. calc. by Green's function theory 4-5281
 HCl, absolute oscillator strengths for partial photoionisation, ionic fragmentation and photoabsorpt. 4-33454
 HCl, compressed, depolarised Raman spectrum, collision-induced component 4-19063
 HCl, dimer, liq. and ordered solid, struct. calc. using intermol. pot. model 4-38054
 HCl, EELS, 4-43981
 HCl, effect on Pd connector contacts and on inlay coupons 4-30048
 HCl electron energy loss spectrum, 12.748-16.254 eV 4-10088
 HCl, electron impact simultaneous rot. and vibr. excitation 4-54878
 HCl, electron impact vibr. excitation, electron gas correl. model; 4-10154
 HCl, electron scatt., review 4-33536
 HCl H-bonded heterodimers, IR obs., vibr. band assignment 4-5208
 HCl, IR spectrum anal. for Maxwell distrib. law demonstration 4-36868
 HCl in HCl-liq. Xe mixtures, vibr. relax. 4-38289
 HCl, in stratosphere, latitudinal distribution 4-42111
 HCl, inner-shell and outer-shell electron excitation, energy loss spectra 4-54876
 HCl, KLL Auger spectra energies and intensities 4-19111
 HCl liquids, vibr. energy relax., soft cores and anisotropic forces effect 4-34382
 HCl negative ion states investig. by CI methods 4-23623
 HCl, photoabsorpt., photoionis. and fragmentation, absolute dipole oscill. strengths 4-1150
 HCl pulsed and CW laser principles (*German*) 4-55024
 HCl sensitive detection by derivative spectroscopy with diode laser 4-52247
 HCl vapour adsorption on TiO₂ powders, adsorbent charact. 4-2435
 HCl⁺, A²Σ⁺-X² II transition, fluoresc. cross-sections and electronic transition moments 4-14472
 HCl-DCI mixed cryst., NQR study of quantum tunnelling 4-11793
 HCl-ethene, H bonded clusters, IR photodissociation spectra 4-1310
 HCl-H₂O(H₂S)(H₂Se), H-bonded complexes, geometry dissociation energies, ab initio GO-SCF-MO calcs. 4-38064
 HCl-halocarbenes, ion dipole complexes, mass spectra 4-35960
 HCl-N₂ mixtures, electron attachment coeffs., Monte Carlo simulation 4-14593
 HCl+Cl, reaction probabilities, rate coeffs., variational transition state theory, tunnelling approx. 4-35881
 HCl+Cl collinear reactions, exact quantum and vibr. adiabatic quantum, semiclassical and quasiclassical study 4-7712
 HCl+He* collisions, Penning ionisation optical spectroscopy, Franck-Condon distrib. 4-38303
 HCl+Na, crossed mol. beam reaction study 4-21451
 HCl+OH, time-resolved laser-induced fluoresc., rate constants meas. 4-57534
 HD autoionisation Rydberg state spectrum calc. 4-9843
 HF, appl. of multireference CI, size extensivity corrections using random phase average procedure 4-33335
 HF chemical laser, ring shaped active medium, quasi-1-dimens. calcs. 4-49339
 HF chemical laser initiated by discharge creeping on surface of a dielectric 4-14683
 HF chemical laser stabilization, photoacoustic Zeeman spectroscopy of Na¹⁹O 4-38217
 HF chemical lasers, electron-beam initiated, 250 J output energy 4-14681

hydrogen compounds continued

- HF, crystalline, lattice dynamic calcs. 4-6448
 HF, dipole moment curve calcs., significance of double substitutions in well-correl. wave functions 4-33333
 HF, electron impact vibr. excitation and assoc. detachment 4-10160
 HF, force constants, ab initio, SCF and CI calcs. convergence and additivity of correl. and basis set effects 4-1067
 HF H-bonded heterodimers, IR obs., vibr. band assignment 4-5208
 HF, IR double reson. spectroscopy of V-T, R relax., high-J populations meas. 4-49067
 HF, IR spectra of polycrystalline samples at 80K 4-7170
 HF, in stratosphere, latitudinal distribution 4-42111
 HF intermol. pot. calcs. 4-19124
 HF laser, electrically initiated, parametric characts. (*Chinese*) 4-49398
 HF laser excited by a capacitively coupled discharge 4-49399
 HF, liq. struct., intermolecular pot. function, Monte Carlo simulations 4-34395
 HF, Morse oscillator, laser excitation, semiclassical and quantum mech. aspects 4-33475
 HF multiline laser output line temporal meas. using grating spectrometer 4-28843
 HF negative ion states investig. by CI methods 4-23623
 HF photoinitiated chemical laser, effect of polyatomic gases on efficiency 4-38458
 HF, product state distrib. in F+H₂ reaction 4-21465
 HF pulsed and CW laser principles (*German*) 4-55024
 HF rot. laser emission from ClF+H₂ reaction, gain, time evolution 4-38457
 HF, second virial coeff. and rot. inelastic scatt. 4-38925
 HF single field chemical laser, mode interactions 4-5633
 HF solid, lattice vibr. calcs. 4-2283
 HF subliming from NH₄F, rot. and translation distrib. 4-14406
 HF, valence shell ionisation spectrum orthogonalised direct diagonalisation 4-54596
 HF, wavefunction cluster expansion, comparison with full CI results 4-1035
 HF⁺, transition probabilities, PNO-CEPA and MCSCF SCEP calcs. 4-33456
 HF-electron interaction, associative detachment and vibr. excitation 4-5477
 HF-ethene, H bonded clusters, IR photodissociation spectra 4-1310
 HF-H₂O, H bonded dimer, pot. energy const., vibr. calcs. 4-43863
 HF-H₂O(H₂S)(H₂Se), H-bonded complexes, geometry dissociation energies, ab initio GO-SCF-MO calcs. 4-38064
 HF-halocarbenes, ion dipole complexes, mass spectra 4-35960
 HF+CO₂(HF)(N₂O), vibr. relax., rate consts. meas. 4-9915
 HF+H, reactive scattering, quantum mech. collision resons., probability densities 4-7695
 HF+HF, vibr. relax., fast flow IR chemiluminesc. 4-1244
 HF+He, rot. inelasticity, interaction pot., cross section computation 4-38294
 HF+He, vibr.-rot. deexcitation, state-to-state cross-sections calcs. 4-9912
 HF+NH₃, proton transfer reaction, hydration effect, quantum chemical approx. 4-21450
 (HF)₂ clusters, open chain and cyclic, stability, ab initio calcs. 4-14296
 H₂F⁺, ν₁ and ν₂ bands, vel. modulation IR laser spectroscopy 4-54693
 H₂F₂ in Ar, N₂, CO and mixed matrices, IR matrix isolation spectra, vibr. freq. 4-54692
 HF...Xe(N₂)(CO)(H₂O), IR spectra, H...F stretching freq. obs. 4-54692
 HF-HF, dispersion energy calc. as function of intermol. separation 4-43939
 HFeCo₃(CO)₁₂, DFeCo₃(CO)₁₂, ¹H and ²H NMR spectra 4-28456
 HFeBr, isotope effects, force consts. vibr., rot., IR spectra 4-33398
 HI, hydriodic acid photodecomp. on n-WSe, electrodes 4-41348
 HI+I, interplay of vibrational and van der Waals type bonding 4-43941
 HI+I, pot. energy surface, hyperspherical description, nonadiabatic effects 4-46741
 HID collinear models, vibr. bonded quantum states 4-28414
 HIH collinear models, vibr. bonded quantum states 4-28414
 HIO₃ crystals, biphonons formation, phonon linewidths and oscillator strengths 4-15601
 α-HIO₃, phase matching angles and effective second-order nonlinear coefficients anal. (*Chinese*) 4-28759
 H₂IO₆, Zeeman effects, NQR, INDO and CNDO calcs. 4-30342
 HMO₃ in stratosphere, satellite obs. used to determine OH profile 4-3806
 H⁺(N₂)₂, struct. study 4-18928
 HNC identification by collisionally induced dissociation 4-16618
 HNC, interstellar, obs. of mol. emission within central 10 parsecs of Galaxy 4-27147
 HNC isomerisation, pot. surface, vibr.-rot. levels, ab initio SCR CI calcs. 4-26181
 HNC J=3-2 rotational emission line obs. of M17 SW molecular source 4-27161
 HNCO, barrier to linearity, SCF calcs., basis set depend. 4-1022
 HNF free radical, A²A'-X²A" vibronic transition, ab initio CI study 4-38073
 (H₂NHSH₂)⁺, H⁺ transfer along H-bonds, ab initio MO calc. 4-49146
 HNO₂, cis and trans, g-values, susceptibility anisotropy, quadrupole moments and electronic charge distrib. anisotropy 4-38218
 HNO₂ and C fibre cell with temp. difference between electrodes 4-46862
 HNO₂, etching of mixed single crystals of polyethylene, compositional heterogeneity obs. 4-34423
 HNO₂, in stratosphere over France, IR absorpt. spectroscopy obs. 4-42110
 HNO₂ intercalated with graphite, struct. determ. by X-ray and electron diffraction (*French*) 4-45104
 HNO₂, normal coord. anal., mol. consts. 4-23674
 HNO₂, removal from atm. by rain and snow scavenging 4-52796
 H₂N-HF, dispersion energy calc. as function of intermol. separation 4-43939
 H₂NBH₃, mol. dynamics and cryst. struct., X-ray diffraction study 4-11064
 H₂NBH₃, mol. dynamics and struct., NMR studies 4-11065
 HO+dimethylmercury, radical-initiated oxidation mechanism, kinetics, long-path FT IR obs. 4-30966
 HO₂, absolute intensity of ν band meas. 4-28415
 HO₂ and rel. species, interactions and reactions, ab initio MO study 4-46748
 HO₂, dissociation excitation at 147 nm, OH emission 4-30998
 HO₂⁺, geometrical struct. and vibr. freq., SCF and CI calcs. 4-28381

hydrogen compounds continued

- HO₂+Br, reaction kinetics at 298 K 4-51987
 HO₂+O₂, energy transfer reaction, H-atom prod., rate consts. 4-41177
 H₂O-HCl-MgCl₂ conc. electrolyte soln., vapour-liquid equilibrium calcs. 4-24982
 H₂O-HF, in AR matrix, H bonds, inversion doubling; libration, IR obs. 4-5213
 H₂O₂ aq. solns., clusters torsional barrier, Monte Carlo simulation 4-49203
 H₂O₂ effect on mixed cond. in pulse irradiated ice 4-31001
 H₂O₂ in rainwater, concentration measurement technique 4-52241
 H₂O₂, optogalvanic studies with a CO₂ laser 4-28431
 H₂O₂⁺, dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 H₂O⁺, ground electronic state pot. energy surface, ab initio rot.-vibr. energy 4-14345
 H₂O⁺, inversion mode band, high resolution IR spectra 4-33405
 H₂O⁺, vibr. states, ab initio SCF CI calcs. 4-48948
 H₂O⁺+H₂O, gas phase clustering, thermochemical data, ab initio calcs. 4-46758
 HO₂(A²A'), excitation mechanisms in various chem. systems 4-9695
 HOCP, mol. struct., electron props., ab initio SCF calcs. 4-43788
 HOCl, ground state, photodissociation rot. distrib. 4-35921
 HOCl, X state, photodissociation ang. distrib. generalised Franck-Condon theory 4-35922
 H₂O...HF, IR matrix isolation spectra, vibr. freq. 4-54692
 (H₂OHS⁺)⁺, H⁺ transfer along H-bonds, ab initio MO calc. 4-49146
 HONO and NO₂ formation in nighttime urban atmosphere 4-42079
 H₂O₂·AsO₄·3H₂O, layer cpd., fast proton conductivity 4-29680
 H₂O-HF, dispersion energy calc. as function of intermol. separation 4-43939
 H₂O-HOH, dispersion energy calc. as function of intermol. separation 4-43939
 H₂O...HF complex, interaction pot., symmetry adapted expansion and stable-conformation minima 4-38272
 HPO₃²⁻, multiple scatt. Xalpha calcs., P L X-ray emission spectrum 4-18976
 H₂PO₃⁻, multiple scatt. Xalpha calcs., P L X-ray emission spectrum 4-18976
 H₂PO₄, electrochemical adsorption on Pt, in situ Fourier transform IR spectroscopic study 4-34784
 H₂PO₄, organic and nucleotide derivatives, ³¹P NMR chem. shift spectra, comparative study 4-54759
 HS, multiphoton laser-induced fluoresc. studies 4-23648
 HS+H-H₂+S, transition state geometry, activation barrier, ab initio SCF CI calcs. 4-26182
 HS+NO₂+M, three body rate coeff. determ. 4-41186
 HS+NO+M, three body rate coeff. determ. 4-41186
 HS+O₂+M, three body rate coeff. determ. 4-41186
 H₂S adsorption kinetics on clean and O-covered Cu (110) 4-29806
 H₂S, anharmonicity corrections, mol. consts. calcs. 4-1232
 H₂S detector using SAW delay lines 4-31146
 H₂S, Einstein A coeffs. for rot. transitions 4-43923
 H₂S, electron impact, threshold excitation, optically forbidden transitions 4-10162
 H₂S, electron scatt., low-energy, fixed-nuclei approx. calcs. 4-10153
 H₂S, gamma radiolysis in presence of methyl bromide and HCl 4-16674
 H₂S gas evolution from north-eastern Kentucky oil shale pyrolysis 4-41305
 H₂S, indirect photodissoc. of bound ¹B₁ excited state, Franck-Condon factors 4-28516
 H₂S, isotropic and anisotropic Rayleigh spectra, collision-induced rot. scatt. contrib. 4-19064
 H₂S, line strengthens in ν₂ band 4-38172
 H₂S, liq., isotropic induced scatt. 4-20984
 H₂S, low energy elastic scatt., rot. and vibr. excitation 4-38331
 H₂S, one-electron props., ab initio calcs. 4-48912
 H₂S, optogalvanic studies with a CO₂ laser 4-28431
 H₂S, photodissociation, rot. distrib. 4-35921
 H₂S, Xe-sensitized photolysis study 4-16673
 H₂³⁴S, pure rot. FIR spectrum 4-9768
 H₂³⁶S, pure rot. FIR spectrum 4-9768
 H₂³⁴S, pure rot. FIR spectrum 4-9768
 H₂S-(H₂O)₂, three-body nonadditive interactions, ab initio SCF MO study 4-48930
 H₂S-D₂S system, H-D exchange kinetics, isotope selective laser anal. 4-35889
 H₂S-HBr(HCl)(HF), H-bonded complexes, geometry dissoc. energies, ab initio GO-SCF-MO calcs. 4-38064
 H₂S-HF complex, H bonded, struct., ab initio calcs. 4-28361
 H₂S-methane, liq. vap. equil. study 4-24983
 H₂S+CO₂, vibr. energy exchange, IR fluoresc. meas. 4-5332
 H₂S+N₂, discharge reaction products, NH₂SH microwave spectra 4-5202
 H₂S₂, basis sets for ab initio MO calcs., energies, struct., force consts. and dipole moments calc. 4-23576
 HSO₃ vapour in stratosphere during El Chichon eruption period 4-26761
 H₂SO₄ drops, S-coated, in Venus clouds, microphysics 4-53072
 H₂SO₄ intercalation with graphite, 1st and 2nd stage cpds., struct. modifications (French) 4-45101
 H₂SO₄ vapour in stratosphere during El Chichon eruption period 4-26761
 H₂SO₄ vapour in upper stratosphere 4-26758
 H₂SO₄-Ag interface, surface plasmon polariton excitation, IR ATR spectra 4-30478
 HSO₄⁻-(H₂SO₄)_n acid cluster, (n=0, 1, 2, 3, 4), hydration studies of atmospheric interest 4-33580
 H₂Se mol., Rydberg transitions, vacuum UV photoabsorpt. spectrum 4-19107
 H₂Se-D₂S system, H-D exchange kinetics, isotope selective laser anal. 4-35889
 H₂Se-HBr(HCl)(HF), H-bonded complexes, geometry dissoc. energies, ab initio GO-SCF-MO calcs. 4-38064
 H₂Se+Cl, IR chemiluminesc. obs. 4-21435
 H₂Se+F, IR chemiluminesc. obs. 4-21435
 H₂SnCl, isotopic and rot. line struct., high resolution IR spectra 4-43872
 H₂TiNbO₃·2H₂O, ionic cond., cryst. struct., IR spectra, TGA studies 4-56073
 H(UO₂PO₄)₄H₂O, proton diffusion, NMR study 4-29684
 HX, (H=Cl, Br, O) product distrib. from chemiluminesc. H atom reactions 4-38145

hydrogen compounds continued

- HX (X=Cl, Br, I), electron impact dissoc. ionis., rel. to van der Waals mols. (French) 4-19287
 HX van der Waals mols., (X=Cl, Br, I) electron impact double ionis. (French) 4-19287
 He+HF collisions, vibr. and rot. inelasticity calc. 4-19165
 Hf small CW chem. laser, struct. and performance (Chinese) 4-49338
 Hg-HCl, van der Waals complex, rot. const. microwave spectra 4-5201
 MgSO₄·HCl(H₂SO₄) aq. mixtures, acoustic absorpt., H⁺ ion conc. effects meas. 4-29530
 OH radical in stratosphere, balloon borne lidar meas. system and obs. 4-42213
 O₂⁺+HI system, photochem. and kinetics 4-52031
- hydrogen distribution** see *hydrogen economy*
- hydrogen economy**
 alkaline water electrolysis, advanced-stage, developments, for H₂ production 4-35911
 application of hydrides to the silver-hydrogen system 4-7906
 electrolytic decomposition of water in fused hydroxides 4-3488
 electrolytic H₂, economics and potential in Canada 4-36036
 energy economy based on hydrogen technology 4-12496
 energy situation and solar option 4-7825
 ethanol photochem. dehydrogenation for production of H₂ from dilute aq. soln. 4-41237
 European Community solar programme, photochemical and photobiological research 4-57747
 evolution site in photocatalytic process on Pt/TiO₂, H-D isotope effect 4-21484
 gas evolution from north-eastern Kentucky oil shale pyrolysis 4-41305
 H₂ energy prospects in Canada 4-36035
 H₂ energy systems outlook in European Communities 4-3482
 H₂ potential as energy vector, future supply and demand uncertainties anal. 4-3481
 heavy water production and electrolysis, new hydrogen technology development 4-32994
 inertial fusion energy source for hydrogen production 4-12493
 large-scale solar energy utilisation by conversion to hydrogen 4-3484
 MASCOB bench scale plant for H₂ production by UT-3 thermochemical water decomposition cycle 4-41384
 materials degradation problems in hydrogen energy systems 4-36041
 metal hydride electrochemical storage 4-26329
 metal hydrides, energy storage appl. 4-52221
 metallic glasses, device appl. for energy conversion and conservation 4-46903
 mischmetal-Ni-Cr-Fe, RNi₅ type, H₂ absorption (Bulgarian) 4-29771
 photoelectrochemical H₂ production, water dissociation by electrolysis (Dutch) 4-36017
 photoelectrochemical H₂ production using photoelectric solar cells (German) 4-46904
 potential of high temperature processes by the use of solar energy in particular with hydrogen production (German) 4-52219
 production from water using solar energy (German) 4-31108
 rare earth alloys, RNi₅, hydrogen storage material, poisoning by CO, O₂ and H₂O, XPS and UPS studies (Chinese) 4-52218
 Solar energy '82, conf. Igls, Austria (July-Aug. 1982) 4-4152
 thermochemical hydrogen production system based on a high-temperature fusion reactor blanket 4-12494
 transition metal-Mg clusters, H atom interaction, extended HMO calc. 4-50630
 water electrolysis by polyethylene based membranes electrolytes for H prod. (French) 4-16805
 CaNi₅H formation and enthalpic behaviour 4-36040
 Ce_{0.7}Nd_{0.3}Ni_{2.5}Cu_{0.5} and CeNi_{5-x-y}Cu_xAl_y, hydrogenation characteristics, H₂ storage appl. 4-41253
 FeTi, activation for H₂ absorption and storage, review 4-12495
 FeTi, activation for hydrogenation, H₂ storage appl. 4-41251
 FeTi, H storage, thermodynamics, cryst. struct. (Japanese) 4-52220
 FeTi powder, thermal activation, H absorption 4-2424
 FeTi-H system, geometric model 4-29386
 H₂ evolution from p-type semiconductors with small metal aggregates on surface 4-41353
 H₂ ground transportation fuel, safety aspects 4-36039
 H₂ production, direct water decomposition using solar power 4-36037
 H₂ production, electrolytic and thermochemical, using central receiver solar systems, assessment 4-41386
 H₂ production at run-of-river hydro plants 4-57799
 H₂ production by large scale solar energy utilisation 4-12497
 H₂ production by Ni-I-S thermochemical process using VHTR process heat 4-41385
 H₂ production by solar energy water electrolysis 4-3485
 H₂ production from fossil fuels, economic feasibility of advanced technology 4-3486
 H₂ production using α-Fe₂O₃ electrode 4-57800
 H₂ production using energy from HTGR-based nuclear power technological plants 4-3483
 H₂ production using photovoltaic electrolysis of water 4-57731
 H₂ storage systems mathematical modelling 4-41387
 H₂/diesel/H₂ fuel cell powered, techno-economic comparison 4-36038
 H₂-fuel cells for electric cars, H₂ being produced by electrolysis in nuclear power plants, economics 4-3487
 HfH₃, dissoln. by H₂ release at elevated temps. 4-6666
 La₂Mg₁₇, hydrogen storage behaviour (Chinese) 4-16803
 La₂Mg₁₆Ni, hydrogen storage behaviour (Chinese) 4-16803
 LaNi₅ films for H₂ separation 4-46794
 LaNi₅, H storage, thermodynamics, cryst. struct. (Japanese) 4-52220
 LaNi₅, intrinsic cycling degradation and annealing procedures 4-20362
 LaNi_{4.6}Al_{0.4} single- and dual-hydride bed devices dynamic characts. 4-21593
 LaNi₅H formation and enthalpic behaviour 4-36040
 Mg solvated clusters in low temp. matrices, H storage appl. 4-21592
 Mg-Al clusters, H atom interaction, extended HMO calc. 4-50630
 Mg₂Ni₂H formation and enthalpic behaviour 4-36040
 NbSe₂, H accumulation, absorptivity change after sorption-desorption cycles (Ukrainian) 4-39511
 P₂O₅ fuel cells, utilising co-product hydrogen, DC power applications economics 4-36003
 Pt group metal catalyst-semiconductor suspension contacts, photoelectrochem. H₂ evolution 4-31124
 Ti-Mn alloy electrodes, electrochem. H storage 4-21591
 TiFe_{1-x}Al_x, H₂ absorption props., H₂ storage appl. 4-46793

hydrogen economy continued

- TiH, dissoln. by H₂ release at elevated temps. 4-6666
 TiMn_{1.5}, H storage, thermodynamics, cryst. struct. (*Japanese*) 4-52220
 TiO₂ semiconductor electrodes, effect of noble metal doping 4-57733
 Ti_{0.8}Zr_{0.2}Mn_{0.8}Cr_{1.0}Fe_{2.0}(Co_{0.2}) alloys, H storage (*Chinese*) 4-57798
 V-H system, phase diagrams, structs. and isotope effects 4-11256
 Zr-based Laves phases, AB₂ type, H storage capacity, cryst. struct., electron-to-atom ratio 4-16804
 ZrH, dissoln. by H₂ release at elevated temps. 4-6666

hydrogen embrittlement

- crack tip plastic zone, defect discontinuity, positron annihilation obs. (*Chinese*) 4-3208
 materials degradation problems in hydrogen energy systems 4-36041
 metallic glasses, stressed, failure modes in aq. acidic media 4-21304
 metals, crack growth under monotonic and cyclic loading, environment effects 4-21388
 metals, H diffusion coeff. and dissolved H conc., determ. by electrochem. permeation method (*Japanese*) 4-25092
 metals, mechanical test apparatus, tubular specimens under internal H pressure 4-46685
 screen tests for hydrogen embrittlement, failure anal. rel. to SCC 4-7689
 steel, austenitic stainless, corrosion fatigue crack, growth Cl⁻ conc. influence on SUS 304 4-12237
 steel, austenitic stainless, fatigue in H₂ 4-7564
 steel, austenitic stainless, intergranular SSC, Cr depletion near grain boundaries, Auger spectrosc. (*Japanese*) 4-25962
 steel, ball-bearing, performance in corrosive environment 4-21369
 steel, C, methane bubble growth 4-57328
 steel, corrosion fatigue protection methods 4-21400
 steel, Cr-Mo, bainitic, H attack 4-35709
 steel, Cr-Mo, H embrittlement susceptibility, tempering temp. effect (*Japanese*) 4-46597
 steel, Cr-Mo, pressure vessel, H embrittlement (*German*) 4-12185
 steel, Cr-Mo, surface hardening, delayed fracture strength (*Japanese*) 4-26043
 steel, Cr-Mo, tensile strength, H embrittlement rel. to H content (*Japanese*) 4-26044
 steel, Cr-Mo-V-Ti-B, H attack 4-40963
 steel, eutectoid, prestressing, H embrittlement, effect of surface residual stress 4-12223
 steel, fatigue crack initiation at notch, H susceptibility and lifetime (*German*) 4-26066
 steel, fracture surface, flake form, mechanism (*Chinese*) 4-3204
 steel, H diffusion, derivation of diffusion eqns. from Boltzmann-type transport eqns. 4-11340
 steel, H diffusion, numerical study of permeation and trapping parameter determ. 4-11341
 steel, H trapping and repelling defect classification 4-7567
 steel, heat-resistant casing, accelerated crack development in hydrogen impregnating media 4-51895
 steel, high strength, cast and forged, comparative study of fracture and fatigue 4-57325
 steel, high-strength, stress corrosion cracking, H absorpt. and polarisation influence 4-51898
 steel, HSLA, fatigue crack thresholds, internal H effect 4-3239
 steel, HSLA, H induced cracking, acoustic emission rel. to grain size 4-16550
 steel, HSLA, SCC, H induced cracking, prior treatment and microstruct., effect 4-16549
 steel, HSLA, small fatigue crack initiation and growth in various environments 4-12153
 steel, interactions with H in cyclic loading 4-21329
 steel, linepipe, for use in wet environments containing H₂S 4-41061
 steel, low C, heater tubes, high press., brittle failure rel. to H embrittlement process 4-3251
 steel, low strength line pipe, sulphide stress cracking, H embrittlement mechanism 4-12252
 steel, martensitic, tempered, gaseous H₂ and liq. metal embrittlement, fractographic study 4-21295
 steel, mass transfer of H under repeated variable impact load 4-51900
 steel, mild, H embrittlement, metallographic study 4-35708
 steel, Ni-Cr-Mo, AISI 4340, H trapping 4-16499
 steel, Ni-Cr-Mo, crack propag., load response in delayed failure, H diffusion (*Japanese*) 4-46595
 steel, Ni-Cr-Mo, crack propag. in H embrittlement under repeating stress (*Japanese*) 4-46596
 steel, Ni-Cr-Mo, nucleation mechanism of stress corrosion cracking from notches 4-12255
 steel, pickling, PGU-2 inhibitor of H absorpt. and use in galvanising 4-51897
 steel, pipeline, H₂ embrittlement, US detection 4-21415
 steel, protection by inhibitors in H₂S medium 4-57405
 steel, reinforcing, H adsorpt. from cement extract, stress/strain state influence 4-57404
 steel, retarded fracture on welding, H influence 4-51808
 steel, review of recent aspects 4-40946
 steel, stainless, austenitic, types 316L and 321, hydrogen induced delayed failure 4-3211
 steel, stainless, cryoformed, α' martensite struct., H diffusion and permeation 4-45425
 steel, stainless, VVER-1000 nuclear reactor weld embrittlement obs. and countermeasures 4-14067
 steel, stainless SCC susceptibility in NaOH soln. rel. to yield strength (*Chinese*) 4-3275
 steel, structural, corrosion fatigue crack initiation and growth mechanism 4-46664
 steel, tensile testing, hydrogen embrittlement 4-16592
 steel, ultrahigh strength, fatigue crack closure, effect of H induced surface asperities 4-3238
 steel fatigue failure in aggressive environments, adsorpt., dissoln., and H embrittlement processes 4-21393
 steels for storage and transport of H₂, different tests method for determ. H embrittlement (*French*) 4-12305
 Zircaloy fuel cladding, H₂ injection effects on H₂ uptake in BWRs 4-736
 Al-Zn-Mg, static and dynamic SCC, influence of temp. (*Japanese*) 4-41078
 Al-Zn-Mg, welded, SCC mechanism 4-12221
 Al-Zn-Mg (4.6, 2.0 wt.%), intercrystn. corrosion and SCC in NaCl soln. (*German*) 4-51868

hydrogen embrittlement continued

- Al-Zn-Mg-Cu, H embrittlement, effect of microstruct. and Cu content 4-26054
 Cu, thermally charged, H-dislocation studies by positrons 4-21290
 Fe, fracture, computer simulation using long-range pair potentials 4-50416
 Fe, H enhanced crack propag., in situ HVEM obs. 4-57336
 α -Fe, H induced grain boundary fracture, C segregation effect (*Japanese*) 4-7554
 Fe, H trapping at TiC inclusions 4-20360
 Fe, H-charged single crystals, small angle X-ray scatt. 4-3242
 Fe, interaction of H with Fe oxide inclusions 4-21310
 Fe, intergranular fracture, due to S segregation and permanent H damage 4-3244
 Fe, intergranular fracture, effects of S segregation and H charging 4-12139
 FeSi, single crystals, gaseous H₂ embrittlement 4-7537
 Ni base alloys, refractory properties, N-H atm. effect 4-35778
 Ni, H embrittlement, influence of grain boundary penetration of O 4-57345
 Ni, intergranular H embrittlement, O penetration of grain boundaries (*Japanese*) 4-26095
 Ni, single crystals, gaseous H₂ embrittlement 4-7537
 Ni-Zr-B-H glass, continuous transition and H solubility 4-45324
 Pd-Ag binary alloys, H embrittlement 4-40954
 Ta-base alloys, corrosion resist., elimination of H embrittlement by substitutional alloying 4-57389
 Ta-W (10 wt.%), silicide coated, weld embrittlement 4-40931
 α + β -Ti alloys, fracture toughness and subcritical crack development, H influence 4-51807
 Ti tubing, multiaxial stress-strain behaviour, effect of H 4-26008
 V-Nb, mech. props. rel. to H content 4-40967
- hydrogen energy** see *hydrogen economy*
hydrogen ion activity see *pH*
hydrogen ion concentration see *pH*
hydrogen ions
 atomic beam polarised ion source at RCNP (*Japanese*) 4-43750
 atomic beam polarised proton source, optimisation methods 4-43749
 complex systems, H and H⁺ transfer, reaction probability curve, threshold region, analytical formulae 4-7698
 gas, glow discharge positive column, heat flow processes 4-15323
 H⁺+H, electron capture, differential cross section ang. distrib. 4-1259
 H⁺+H⁺, charge transfer, generalised exponential-linear model 4-19218
 H⁺ ion density measurement in a tandem multicusp discharge 4-55632
 hydrogenic heavy ions, in dense ICF plasmas, Stark broadening 4-44804
 hydrogenic ions, in dense plasmas, electron impact excitation, plasma screening effects 4-44798
 hydrogenic Rydberg atoms+H⁺, ion scatt., classical-trajectory Monte Carlo calcs. 4-1262
 hydrogenlike ions, arbitrary states, charged particle impact excitation, Coulomb-modified Glauber amplitudes 4-1240
 K-shell ionisation cross sections, relativistic corrections 4-48997
 Lamb shift semiclassical interpretation 4-28404
 Lamb-shift polarised ion source, fast spin flip device (*Japanese*) 4-43751
 magnetron ion source, hollow-cathode 4-32382
 photoionisation cross sections and eigenphases calc. using finite-vol. variational method 4-49104
 resonance dechannelling in Si, ionic charge meas. 4-45235
 surface impact, M-shell, X-ray prod., survey 4-12005
 three Coulomb-bound particles, expectation values and wavefunctions calcs. 4-4245
 Al₂D⁺, rovibr. levels, rot. consts., pots. 4-49009
 Ar¹⁷⁺+H⁺ plasmas, low-freq. elec. microfield 4-44803
 C foils, H and H⁺ bombardments, convoy electrons prod. 4-23796
 D⁻ extraction from sheet plasma 4-43734
 H ions+Na, charge changing cross section meas. 4-49153
 H⁺, electronic correlations, hyperspherical description in bound and continuum states 4-5413
 H⁺ extraction from sheet plasma 4-43734
 H⁺, ground state wavefunctions, energies, and binding energies in uniform mag. field 4-38057
 H⁺ intense ion source, using caesiated porous Mo converter 4-33239
 H⁺, optically pumped polarised ion source at KEK, polarisation meas. 4-43752
 H⁺, photodetachment cross section, polarised orbital method 4-9731
 H⁺, prod. and loss in hollow cathode discharge 4-39037
 H⁺, two-electron at. wave functions, asymptotic behaviour 4-54595
 H⁺ dense low energy beam prod. for DENISE 4-43722
 H⁺ desorption from NH₃ layer on Ni (110), X-ray induced electron stimulated and photon stimulated desorption 4-25161
 H⁺, electron capture by beam-foil interaction, n=3 states polarisation 4-28557
 H⁺, electron capture in gases 4-10048
 H⁺, electron capture in large angle scatt. 4-10042
 H⁺ ion fraction increasing technique, in multicusp source 4-6118
 H⁺, kinetic energy spectra, H₂ electron impact 4-5498
 H⁺, nonperturbative effects in inner-shell ionization 4-9990
 H⁺ scattering from polycrystalline caesiated W surface, H⁻ formation 4-7291
 H⁺ stopping power in H₂ and He gases 4-38281
 H⁺, struct. and props. 4-23571
 H⁺, transfer collisions, internal excitation effect 4-38323
 H³⁺, formation and vibr. deactivation, statistical model 4-23788
 H-H⁺ equilibrated beam in O₂ Balmer β radiation excitation cross section 4-10006
 H-like ions, alignment of 2P states, K X-ray emission 4-19198
 H-like ions in dense plasma, X-ray emission profile calcs. (*French*) 4-48971
 H⁺-Ar¹⁷(Ne⁹⁺), heavy ions in inertially confined plasmas, hydrogenic lines emission, Stark broadening, composition effect 4-10890
 H⁺-D chemical shift correl. spectroscopy 4-56801
 H⁺-FH(H₂O)(NH₃), interaction energies, SCF and Moller-Plesset levels 4-54831
 H⁺+(He)(Ne)(Ar), energy distrib. of detached electrons 4-9963
 H⁺+CO₂, shape reson. charge exchange, non-Franck-Condon behaviour 4-49148
 H⁺+CO₂ collisions, charge exchange to shape resonances 4-9971
 H⁺+H₂⁺, charge exchange cross-sections, 20-2000 eV 4-10028
 H⁺+H₂(N₂)(O₂)(H₂O)(C)(C cpds.), charge transfer cross-sections determ. 4-14527

hydrogen ions continued

- $H^+ + H^+$, neutralisation process, full CI calcs. 4-14529
 $H^+ + H(H_2)$, H^+ collisional electron detachment Born cross sections leading to H^0 in 1S, 2S and 2P final states 4-9962
 $H^+ + He$, fast collision, electron loss double peak in forward direction 4-9945
 $H^+ + He(Ar)(Xe)$ collisions, electron detachment cross sections in energy range 500 to 2000 eV 4-9968
 $H^+ + He(Ar)(Xe)(N_2)(O_2)(SF_6)$ collisions, elastic scatt. differential cross sections 4-9968
 $H^+ + He(Ne)(Ar)$, keV collisions, electron detachment, scaling law 4-9904
 $H^+ + He(Ne)(Ar)(Kr)(Xe)$, charge transfer cross section, expt. data compilation 4-42621
 $H^+ + He(Ne)(Ar)(chloromethane)$, doubly differential electron detachment cross-sections, target depend. 4-38316
 $H^+ + \text{inert gas } (H_2)(N_2)(O_2)$, detached electron prod., energy spectra 4-9959
 $H^+ + \text{inert gas atom}$, detachment collision, electrostatic vs. dynamical coupling 4-10027
 $H^+ + Kr$ collisions, autodetaching state excitation 4-9969
 $H^+ + N_2(CO)(H_2)(O_2)$, energy distrib. of detached electrons 4-9963
 $H^+ + N_2(O_2)(SF_6)$ collisions, electron detachment cross sections in energy range 500 to 2000 eV 4-9968
 $H^+ + Na$, electron detachment, free electron scatt. approx. calcs. 4-9960
 $H^+ + Na$, excitation cross sections to $Na(3p)$ level 4-19181
 $H^+ + Ne$ collisions, electron detachment 4-9925
 $H^+ + Ne(He)$ collisions, electron detachment cross sections 4-9967
 $H^+ + O$, collisional electron capture, loss and excitation, cross-sections 4-10029
 $H^+ + O_2(NO)$, charge transfer electron detachment to shape reson. 4-28555
 $H^+ + \text{acetylene}$, selective excitation, energy loss spectra 4-43953
 $H^+ + Ag(In)(Sn)(I)$, L-subshell ionisation cross section and L-X-ray production 4-9926
 $H^+ + \text{alkali atom}$, electron capture and excitation 4-10057
 $H^+ + Ar$, multiple ionis., δ -electron spectrosc. obs. 4-9899
 $H^+ + Ar$, multiple ionis. by charge transfer and direct ionis 4-10032
 $H^+ + Ar$ collision, ion induced L_3 -subshell alignment of Ar 4-43959
 $H^+ + Ar(Cu)(Kr)(Ag)(Xe)$, L-shell ionisation 4-14518
 $H^+ + \text{atom}$ charge transfer, large scatt. angles, strong pot. Born approx. calcs. 4-10052
 $H^+ + \text{atoms}$, double excitation and ionisation competing mechanism interference at high vels. 4-10112
 $H^+ + Au$ L-subshell ionis. 4-9989
 $H^+ + Au(Bi)(Pb)(U)$, M-subshell ionisation cross sections X-ray prod. cross sections 4-9927
 $H^+ + CF_4(SF_6)$ collisions, moderately resolved vibr. excitation, energy depend. 4-19159
 $H^+ + Cd(Sn)(Te)(I)(Ba)$ surface impact, L-shell X-ray prod. cross section 4-12004
 $H^+ + Cl_2(Br_2)$ gas, H^+ -stopping cross sections and excitation energies 4-9929
 $H^+ + Cs(Rb)(K)(Na)$, charge exchange collisions, Lyman-alpha emission cross-sections 4-10035
 $H^+ + Cu(Mo)(Ag)$, K-shell ionisation at large scatt. angles 4-9992
 $H^+ + Gd(W)$, K-shell ionisation cross sections 4-1250
 $H^+ + H$, differential cross sections meas. 4-9895
 $H^+ + H$, elastic differential cross sections meas. 4-9877
 $H^+ + H$, elastic scatt. cross sections at high energies 4-33489
 $H^+ + H$, electron capture, close-coupling calc. 4-19220
 $H^+ + H$, electron capture, second order Brinkman-Kramers approx. calcs. 4-10049
 $H^+ + H$, electron capture into highly excited states 4-10053
 $H^+ + H$, electron transfer and excitation, triple-centre basis calcs. 4-10055
 $H^+ + H$, resonant charge exchange mechanisms 4-49155
 $H^+ + H$, slow atomic collisions, quantum theory 4-33490
 $H^+ + H$, small-angle scatt., elastic differential cross-sections calcs. 4-38276
 $H^+ + H$ collision, electron transfer and excitation cross-section 4-38319
 $H^+ + H$ electron exchange, linear Stark effect in eikonal calcs. 4-54638
 $H^+ + H_2$, diabatic rearrangement, self-consistent eikonal treatment 4-57545
 $H^+ + H_2(D_2)$, isotope effects, linear- and circular-polarisation meas. 4-23804
 $H^+ + H_2(N_2)(O_2)(H_2O)(C)(C \text{ cpds.})$, charge transfer cross-sections determ. 4-14527
 $H^+ + H^+$, charge transfer, generalised exponential-linear model 4-19218
 $H^+ + H^+$, neutralisation process, full CI calcs. 4-14529
 $H^+ + H^+$ collisions, electron detachment 4-43963
 $H^+ + H(1s)$, charge exchange, high energy scatt. calcs. 4-10047
 $H^+ + H(1s)$, charge transfer, variational continuum distorted waves 4-14533
 $H^+ + H(1s) \rightarrow H + H^+$, electron capture, high energy, close-coupling calcs. 4-10041
 $H^+ + H(1s) \rightarrow H(nlm) + H^+$, electron capture into highly excited states 4-10016
 $H^+ + He$, autoionisation spectra 4-9948
 $H^+ + He$, continuum electron capture 4-10020
 $H^+ + He$, density matrix describing electron transfer determ. 4-19228
 $H^+ + He$, elastic scatt., excitation and ionisation 4-9878
 $H^+ + He$, electron capture, orthogonality effects on initial and final states 4-10050
 $H^+ + He$, electron capture and loss into continuum 4-10022
 $H^+ + He$, electron capture and excitation collisions 4-23798
 $H^+ + He$, electron capture cross-sections, unitarised distorted wave approx. calcs. 4-38317
 $H^+ + He$, low energy scatt., semiclassical Regge-Pole description 4-9894
 $H^+ + He$, parity-unfavoured autoionising states, excitation cross-sections calcs. 4-9958
 $H^+ + He$, triplet state excitation 4-9896
 $H^+ + He$ collisions, double ionisation cross section, 4KL8 calcs. 4-9975
 $H^+ + He(1S)$ collisions, Hartree-Fock calcs. 4-10054
 $H^+ + He(Ar)$, differential scatt., orbiting struct. meas. 4-9893
 $H^+ + He(Ar) H(2P)$ excitation, charge-changing collisions, polarisation obs. 4-10030
 $H^+ + He(Ar)$ simple collision systems, target ionisation and projectile electron loss 4-54847
 $H^+ + He(C)(Ne)(Ar)$ K-K shell electron capture in asymmetric collisions at high and intermediate energies 4-10051

hydrogen ions continued

- $H^+ + He(Ne)(Ar)(Kr)(H_2)(N_2)(CO)(CO_2)(CH_4)(CO_2)$ collisions, ionisation cross sections for 5 to 4000 keV H^+ in gases 4-9973
 $H^+ + He(Ne)(Ar)(Kr)(H_2)(N_2)(CO)(O_2)(methane)(CO_2)$, ionis. and electron capture cross-sections 4-19185
 $H^+ + He(Ne)(Ar)(Kr)(Xe)$, charge transfer cross section, expt. data compilation 4-42621
 $H^+ + \text{inert gas atoms}$, multiple ionisation cross sections meas. 4-23803
 $H^+ + K(Na)$, charge transfer to metastable 2S level of H 4-38321
 $H^+ + Kr(Xe)$, elastic scatt. and charge exchange at $E_{cm} = 0.5\text{--}30$ eV 4-9879
 $H^+ + Li$, charge transfer collisions, mol. state calcs. 4-10061
 $H^+ + Li$, electron capture, two-centre AO expansions 4-54852
 $H^+ + Li$, electron capture cross-section, H excited state form. 4-33522
 $H^+ + Li$, excitation and electron capture in inelastic collisions, 2-15 keV 4-10000
 $H^+ + Li$ charge transfer collisions, one-active-electron model 4-10058
 $H^+ + \text{methane}$, ion association reaction, drift tube meas. 4-41209
 $H^+ + Mg$, electron capture contrib. to 2p-vacancy prod. 4-49152
 $H^+ + Mo(Pd)(Sn)(Ba)(Ce)(Nd)(Sm)$ collisions, total K-shell ionisation cross sections 4-9983
 $H^+ + \text{molecule collisions}$, double differential ionisation cross-sections calcs. 4-9941
 $H^+ + N_2(H_2)$, excited state charge exchange reactions studied by micro-wave optical double reson. technique 4-51995
 $H^+ + Na$, emission cross-sections and reson. radiation polaris. 4-10004
 $H^+ + Na(K)(Rb)$, charge exchange cross-sections meas., 0.2 to 5.0 keV 4-10036
 $H^+ + Ne$, collective dipole polarisation, time-depend. variational density functional method 4-19180
 $H^+ + Ne$, Ne multiple outer shell ionisation 4-1252
 $H^+ + Ne$ collisions, double ionisation cross sections 4-9974
 $H^+ + Ne$ ionisation branching ratios and cross sections, VUV spectra 4-10115
 $H^+ + O$, collisional electron capture, loss and excitation, cross-sections 4-10029
 $H^+ + O_2$, vibr. energy transfers, pot. hypersurfaces 4-21459
 H_1^+ and H_2^+ beams with high proton ratio, using magnetic multipole ion source 4-23281
 H_2^+ $2\sigma_u$ reson., quantum chem. calcs. 4-5141
 H_2^+ dissoci. attachment, electron-nucl. correls., eigentime anal. 4-5483
 H_2^+ , 1/R perturbation series, exponentially small terms calc. 4-54585
 H_2^+ , C^{2+} excited states, translational-energy spectroscopy 4-23713
 H_2^+ , Dirac eqn. basis-set expansion without var. collapse, fourth-back free-particles Foldy-Wouthuysen transformation 4-9654
 H_2^+ electron collision, low energy, reson. calcs. 4-10085
 H_2^+ , finite element method soln., pot. energy curves, channel coupling array, Schrodinger eqn. soln. 4-23595
 H_2^+ , fractional gauge transformations, optimisation of cross section calcs. 4-43189
 H_2^+ , gas target collision, H^+ loss reaction study 4-21458
 H_2^+ , ground state, old quantum theory 4-48932
 H_2^+ in neutron star atm., vibr.-transition freq. and probabilities, mag. field effects 4-13350
 H_2^+ , low energy electron impact excitation, R-matrix method 4-43998
 H_2^+ , model wave function 4-9667
 H_2^+ perturbation theory calcs., rel. to Stark effect 4-18926
 H_2^+ , struct., channel coupling theory appl. global basis-set expansions 4-23594
 H_2^+ , struct., dissoci. energy under superintense laser fields 4-33306
 H_2^+ , vibr. excited, two-photon dissoci. cross sections calc. 4-9861
 H_2^+ , rot. predissociation, transition state effects 4-5306
 H_2^+ + acetylene, selective excitation, energy loss spectra 4-43953
 $H_2^+ + Ar$, electron loss, single differential cross-sections calcs. 4-9943
 $H_2^+ + Ar$ collision, ion induced L_3 -subshell alignment of Ar 4-43959
 $H_2^+ + Ar(H_2)(Mg)(Na)(Cs)$, charge exchange, C^{2+} state population, predissoc. 4-49144
 $H_2^+ + Ar(Mg)(Na)(Cs)$ dissoci. charge exchange obs., 1.5 to 6.5 keV 4-49143
 $H_2^+ + H_2$, electron transfer reactions, vibr. state and mol. orientation effects 4-41188
 $H_2^+ + H_2$, symmetric charge transfer reaction, state-selected investig. 4-28551
 $H_2^+ + H_2$ collision destruction 4-43971
 $H_2^+ + H_2(Ar)(Mg)(Na)(Cs)$ dissoci. charge exchange, translational spectrosc. obs. 4-10071
 $H_2^+ + H^+$, charge exchange cross-sections, 20-2000 eV 4-10028
 $H_2^+ + He$, dissoci. states, mol. excitation and alignment 4-10012
 $H_2^+ + He(Ar)$ simple collision systems, target ionisation and projectile electron loss 4-54847
 $H_2^+ + Mg$, dissociative near-reson. charge exchange, theory 4-49142
 $H_2^+ + Mg$ (alkali atom), near reson. dissoci. charge exchange, keV energies 4-10072
 $H_2^+ + Na$, emission cross-sections and reson. radiation polaris. 4-10004
 H_2^+ , correl. force calc. (French) 4-33329
 H_3^+ , electron impact dissoci. recomb., reaction product channel anal. 4-10172
 $H_3^+ \rightarrow H_3^+ + H^+$ in Ar, dissociation, electron capture and electron loss cross sections 4-9930
 H_3^+ ion, IR spectra, ion-mol. reactions 4-9671
 H_3^+ , rovibr. levels, rot. consts., pots. 4-49009
 H_3^+ , Rydberg states, emission spectra obs. 4-54736
 H_3^+ , three body dissoci. after collision induced excitation 4-12355
 H_3^+ , vibr. spectrum, 3D basis selection, CI wavefunction convergence 4-48945
 H_3^+ , vibr. spectrum, model hamiltonian CI calcs. 4-33385
 $H_3^+ + Ar$, collision, neutral H_3 prod. 4-19217
 $H_3^+ + Ar$, electron loss, single differential cross-sections calcs. 4-9943
 $H_3^+ + H_2$ collision destruction 4-43971
 $H_3^+ + H_2 \rightleftharpoons H_3^+$ equilibria in corona discharge, exptl. determ. 4-23851
 $H_3^+ + He$, dissoci. states, mol. excitation and alignment 4-10012
 $H_3^+ + Na$, emission cross-sections and reson. radiation polaris. 4-10004
 H_3^+ , heat of dissoci. determ. using ion mobility meas. 4-26221
 $H_3^+ + H_2 \rightleftharpoons H_3^+$ equilibria in corona discharge, exptl. determ. 4-23851
 HD^+ , prod. by collisional dissoci. translational spectrosc. obs. 4-12361
 HD^+ vibr. excited, two-photon dissoci. cross sections calc. 4-9861
 HD_2^+ , collisional dissoci., HD^+ prod., translational spectrosc. obs. 4-12361
 $HD_2^+ + H_2$, HD_2^+ collisional dissoci., differential positive fragment cross-section, 1.5 to 5 keV 4-10013
 $H_3^+ + H_2$ reactions, H/D exchange study 4-41206

hydrogen ions continued

- H^+ -H(1s) long-range force, momentum density interpretation 4-49117
 H^+ +rare earth atom, M-shell X-ray production cross-sections 4-19182
 $H\alpha$ -multiplet, combined Zeeman and translational Stark effect calc. 4-18984
 $He+e-H^+$ +Ze, nonrelativistic many particle scatt. theory 4-609
 $lnP:H^+$, high resistive layers obtained by ion implantation (*French*) 4-55853
 Ne^9+-H^+ plasmas, low-freq. elec. microfield 4-44803

hydrogen neutral atoms

- 2P-1S transition, corrections to exponential decay law 4-43850
 adsorption and mobility on surface of amorphous ice 4-29775
 adsorption in liq. He surface, two dimens. triplet H-H scatt. 4-36940
 adsorption on Pt (997), binding energy from low energy ion recoil scatt. 4-45485
 A.E. Haas's hydrogen atom model (*Danish*) 4-38025
 alkali metal atoms+H reson. interactions, polarisabilities and van der Waals coeffs. 4-48961
 atomic beams polarisation by collisional pumping 4-38314
 atoms, four, arranged isosceles trapezoid form, variational versions of CEPA 4-33331
 Balmer alpha line intensity meas. using photon counting photometer 4-58355
 Balmer H δ profile in low density H pulsed plasma 4-50065
 bound states, Schrodinger eqn. reduction to coupled harmonic oscillators wave eqn. 4-32074
 classical random electrodynamics 4-43790
 coherent states, quasi-classical props. 4-14323
 collisional transition between Rydberg states; adiabatic mechanism 4-38312
 collisions with neutral atmospheric gases, differential cross sections 4-19163
 complex systems, H and H^+ transfer, reaction probability curve, threshold region, analytical formulae 4-7698
 concentration in stressed metals, He-induced H recoil anal. for metallurgical appl. 4-46818
 confined in box, electric field influence 4-48896
 Coulomb and Morse potentials, exact path integrals 4-43943
 Coulomb excitation by molecular cluster of point charges 4-19191
 V1057 Cygni, FU Ori star, $H\alpha$ line anal. and mass ejection (*Russian*) 4-17510
 diamagnetism, adiabatic invariant elementary derivation 4-18916
 diffusion in Fe (*Japanese, English*) 4-20411
 elastic scatt. on ions with large impulse transfer 4-9876
 electron and positron electron scatt., polarised orbital method 4-19259
 electron collisions, laser polarisation effect 4-19264
 electron direct reactions; approximations 4-3375
 electron elastic collisions, functional anal. 4-5380
 electron elastic exchange collisions in laser field presence 4-19262
 electron elastic scatt., Fock expansion inclusion in hyperspherical coord. calcs. 4-5381
 electron elastic scatt., second Born forward scatt. amplitude calcs. 4-23809
 electron elastic scatt. using hyperspherical coords. and incorporating the Fock expansion 4-5379
 electron impact excitation, 1s-2p, orientation, alignment and differential cross-sections 4-5434
 electron impact excitation, differential cross section 4-5420
 electron impact excitation, second order multiple scatt. approx. 4-5417
 electron impact excitation, second-order Born and Faddeev-Watson approxs. 4-19267
 electron impact ionisation, eikonal exchange amplitude 4-10110
 electron impact ionisation, triple differential cross sections, second-order effects 4-19269
 electron impact ionisation triple differential cross sections 4-10124
 electron impact ionisation triple differential cross section, distorted wave model 4-10127
 electron inelastic scatt., eikonal expansion 4-19271
 electron mean excitation energies, analytical calc. 4-5422
 electron scatt., schwinger variational linear algebraic equations method 4-5409
 electron scatt. above ionisation threshold 4-43989
 electron scatt. cross sections 4-19261
 electron scatt. using polarised electron and at. beams, spin-depend. effects 4-5388
 electron scattering, coupled-channels optical calc. appl. 4-5419
 electron scattering, local energy-depend. optical pots. calcs. 4-19256
 electron-photon excitation cross-sections 4-38337
 elliptical radio galaxies, H I detect. 4-17598
 energy levels and wavefunctions in mag. fields 4-23591
 energy levels in mag. field, perturbation series summation 4-14299
 energy levels of hydrogenic atom in semi-infinite space, vibrational method 4-5140
 Epson bit plot graphics, electron density maps 4-18910
 Ermakov invariants and electron ray path eqns. 4-36935
 excited state, prod. by atom (ion)(mol.) impact on C foil, population investig. 4-43831
 excited state, quadratic Zeeman effect in weak mag. field 4-43847
 excited states in external mag. field, perturbation theory 4-47901
 fast electron impact ionisation, second Born term 4-10111
 fine structure studied using laser spectroscopy 4-38516
 Galaxy halo, H I detect. and struct., UHF obs. 4-17575
 ground state, nonlinear extra-atomic relax., anal. 4-43797
 ground state behaviour in weak electric and mag. fields 4-33358
 ground state energy, polynomial perturbation 4-14314
 ground state energy shift, role of virtual photon cloud 4-9724
 higher-order model for inelastic electron atom scatt. 4-1277
 hydrogenic atoms in mag. fields, energy spectrum anal. 4-23656
 hydrogenic bound states, multipole polarisabilities 4-48924
 hydrogenic Rydberg atoms+ H^+ , ion scatt., classical-trajectory Monte Carlo calcs. 4-1262
 hydrogenlike atoms, ionisation by polarised relativistic protons, ionisation cross section 4-1263
 interaction with Au surface atom level shift and broadening 4-11983
 interstellar abundance ratio of [D]:[H] from mol. obs. 4-27167
 interstellar column densities and ionisation balance calcs. 4-31890
 interstellar H I in dwarf galaxies near NGC 1023 4-47704
 ion-atom collisions, electron capture in high energy collisions, total cross section computation 4-10014
 ionisation by fast electrons, triple differential cross section calc. 4-23820

hydrogen neutral atoms continued

- isotope collision systems, elastic scatt. differential cross sections, momentum transfer scaling 4-19260
 Lamb shift and hyperfine structure meas., discrete quantum mechanics fundamental length bounds determ. 4-17734
 Landau excited states, autoionisation widths and energies in mag. fields 4-28410
 LMC giant interstellar shells, H I profiles, UHF obs. 4-42520
 LMC halo, H I detect. and struct., UHF obs. 4-17575
 metastable 2s state, electrons elastic scatt. at intermediate energies 4-1271
 minimum basis set calcs., Dirac eqn., algebraic approx. 4-33285
 multiphoton ionisation, drag current density calc. 4-1108
 multipole polarisabilities and shielding factors, discrete and continuum contribs. 4-9686
 narrow near-threshold reson. in strong mag. fields 4-38106
 nearby southern spiral galaxies, 21 cm continuum maps 4-27177
 negative muon capture, classical trajectory Monte Carlo calcs. 4-19150
 nonrelativistic atom, connection with harmonic oscillator, continuum case 4-22614
 nonrelativistic atom as projection of homogeneous space 4-5123
 one-dimensional at boundary, bound states and scattering 4-22558
 parity nonconservation in weak neutral current interactions 4-32543
 photoionisation near surface of semi-infinite substrate, var. calcs. 4-48916
 polarised, low temp. confinement, mag. field profiling 4-56120
 positron impact, positronium form. in excited s-states 4-1275
 positron inelastic scatt., coupled-static approx. 4-43993
 positron scatt., ideal space theory 4-5472
 positron scatt., positronium form. inexact target wave functions 4-5471
 production in electron impact heated H_2 dissociation oven, dissociation fraction meas. 4-14612
 production in energy transfer reaction of O_2+HO_2 4-41177
 pseudostate expansion in electron excitation scatt. 4-5418
 quadratic Zeeman effect for highly excited states 4-23657
 quasi-Landau reson. electron vibr. motion 4-5135
 radial probability density, textbook graph scale error 4-36869
 relativistic, ID, energy eigenvalues and eigenfunctions 4-8687
 relativistic energy levels, spinor method calc. (*Chinese*) 4-54587
 resonance four-photon ionisation at 365 nm in $H_2/D_2/O_2$ /Ar flame 4-1102
 Rydberg states, perturbation theory 4-18942
 Rydberg states, quadratic, Zeeman effect 4-18982
 scattering of n- H_2 , p- H_2 , n- D_2 , o- D_2 , selective adsorption reson. on Ag (111) 4-25843
 shielding efficiencies determined from atomic spectroscopy for use in semiempirical SCF-MO calculations 4-1074
 spectroscopy in intense mag. field (*French*) 4-5192
 spin current density and hyperfine interaction 4-36853
 spin polarised, gaseous superfluid acoustical props. (*Chinese*) 4-50611
 spin polarised, superfluid film, struct., energetics, and modes 4-6607
 spin polarised, surface relaxation props. anal. (*French*) 4-34745
 spin polarised, virial calcs. in two and three dimensions 4-2406
 spin polarised gas, thermal explosion 4-45450
 spin polarised gaseous superfluid film on He films, sound propagation (*Chinese*) 4-2404
 Stark effect, error estimates for complex eigenvalues of dilated Schrodinger operators 4-9720
 Stark effect, imaginary part, large-order expansion 4-5168
 Stark effect, renormalised series technique anal. 4-32078
 Stark mixed $n=2$ states, excitation and decay, electron-photon coincidence obs. 4-5438
 Stark-Zeeman effect for parallel fields, large-order perturbation theory 4-23655
 static multipole polarisabilities, London dispersion coeffs. calcs. 4-18919
 stationary states energy and mag. moment 4-18893
 strong magnetic fields, atom behaviour, variational calcs. 4-18954
 surface spin relax. for lowest two hyperfine states 4-19190
 trapped in frozen soln., electron spin echo modulation effect 4-23644
 trichlorofluoromethane anion+ $H-CH_2F_2+Cl^-$, reactivity and energy surface, SCF-HF ab initio study 4-21425
 two-photon transition amplitudes, optical and X-ray freq. regions 4-19031
 velocity field in M31, UHF obs. 4-8577
 wave functions, three-term recursion relations 4-53515
 Zeeman effect, eigenenergies and expectation values 4-36964
 Be_7+H collisions, pot. energy surface calc. 4-33578
 C foils, H and H^+ bombardments, convoy electrons prod. 4-23796
 CO_2^++H reactions, const. rate coeff. 4-51986
 Cu (111), chemisorption of H, photoemission, thermal desorption spectra 4-2451
 H (2s) metastable states, radiative deactivation at metallic surfaces 4-11995
 H I, Balmer Paschen lines ratio in solar prominences 4-36654
 H I absorption obs. of 4C 21.53, distance determ. 4-4103
 H I Balmer α line profiles for main sequence giant and supergiant stars, atlas 4-42325
 H I Balmer lines, Stark broadening 4-13178
 H I diameters for 238 galaxies, catalogue 4-36591
 H I in M31, single vel. contour maps 4-8578
 H I infall in elliptical galaxies NGC 1052 and 4278 nuclei 4-53265
 H I Lyman α and β line profiles of SB flare, OSO-8 LSPS obs. 4-53131
 H I spin temperatures in H I clouds 4-13396
 H I towards compact radio sources at low latitudes, spectra anal. 4-27150
 H^+ heavy ion collisions, charge equilib. 4-19249
 $H-H^+$ equilibrated beam in O_2 Balmer β radiation excitation cross section 4-10006
 H-like systems, stable variational calculations with the Dirac Hamiltonian 4-1050
 H+acetylene, reaction mechanism 4-51961
 $H+Ar^{q+}$, electron capture, electronic state population 4-14552
 $H+Ar^{q+}$ ($q=4$ to 9), ionisation collisions, time-of-flight analysis 4-9980
 $H+Ar^{q+}(C^{q+})(O^{q+})$, electron capture, ionisation, crossed beam coincidence study 4-19177
 $H+B^{3+}(C^{3+})(O^{3+})$, charge capture, fully quantal calcs. 4-14560
 $H+B^{3+}(C^{6+})$, charge transfer cross sections 4-14531
 $H+Be^{+}(2s)$ collision, several-electron basis set calcs. 4-9897
 $H+Be^{4+}$, charge transfer collisions with translation factors 4-14564
 $H+Br_2(Cl_2)(NO_2)(NO_2Cl)(PCl_3)$, chemiluminesc., product distrib. 4-38145
 $H+C^{3+}$, charge transfer cross-sections, distorted wave calcs. 4-38283
 $H+C^{6+}(N^{6+})(N^{7+})(O^{8+})$, X-ray emission cross sections meas. 4-28544

hydrogen neutral atoms continued

- $H + C^{6+}(O^{8+})(Ne^{10+})$, electron capture, sublevel Stark mixing 4-14565
 $H + CH$, reaction rate const. 4-14353
 $H + CO_2$, hot atom laser induced fluoresc. expts. 4-41241
 $H + CO_2^+(CH_3^+)$ reactions, flow drift tube expt. 4-41212
 $H + CO(NO)$, translation to vibr. energy transfer, CO vibr. state distrib. 4-14513
 $H + C(N)(O)(Ne)$ multiply charged ions collisions, electron capture at low keV energies 4-19234
 $H + Cl_2(SCl_2)(PCl_3)$, IR chemiluminesc., product distrib. 4-38146
 $H + D_2$, vibr.-rot. distrib. at translational energies 0.55 and 1.30 eV 4-16616
 $H + D_2 \rightarrow HD + D$, chemical exchanges product quantum state distrib. 4-21440
 $H + D^+$, n-body problem, reduction to (n-1)-body problem 4-17737
 $H + Dy^{4+}(Ta^{9+})(Re^{9+})(Au^{9+})(U^{9+})$ collisions, total electron capture cross sections charge depend., nonmonotonic behaviour for $q=4$ to 25 4-19233
 $H + e^- + h\nu \rightarrow H(2s) + e^-$, simultaneous electron-photon excitation 4-14583
 $H + F_2$ collinear chem. reaction, uniform asymptotic swallowtail approx. 4-41190
 $H + H_2$, 2D hindered internal rots. 4-46754
 $H + H_2$, boundary trajectories in collision-induced dissociation 4-41176
 $H + H_2$, cross section thresholds, quasiclassical trajectory and quantum reactive scatt. calcs. 4-26186
 $H + H_2$, exchange reactions 4-54594
 $H + H_2$, rot. inelastic reactive scatt., reaction path Hamiltonian 4-12337
 $H + H_2(FH)(FD)$, pot. energy surface, hyperspherical description, nonadiabatic effects 4-46741
 $H + H_2(N_2)(O_2)(H_2O)(C)(C \text{ cpds.})$, charge transfer cross-sections determ. 4-14527
 $H + H_2 \rightarrow H + H$, pot. energy surface, barrier height 4-35877
 $H + H^+$, H^- collisional electron detachment Born cross sections leading to H^0 in 1S, 2S and 2P final states 4-9962
 $H + H^+$, charge exchange, high energy scatt. calcs. 4-10047
 $H + H^+$, charge transfer, variational continuum distorted waves 4-14533
 $H + H^+$, differential cross sections meas. 4-9895
 $H + H^+$, elastic differential cross sections meas. 4-9877
 $H + H^+$, elastic scatt. cross sections at high energies 4-33489
 $H + H^+$, electron capture, close-coupling calc. 4-19220
 $H + H^+$, electron capture, differential cross section ang. distrib. 4-1259
 $H + H^+$, electron capture, second order Brinkman-Kramers approx. calcs. 4-10049
 $H + H^+$, electron capture into highly excited states 4-10053
 $H + H^+$, electron transfer and excitation, triple-centre basis calcs. 4-10055
 $H + H^+$, resonant charge exchange mechanisms 4-49155
 $H + H^+$, slow atomic collisions, quantum theory 4-33490
 $H + H^+$, small-angle scatt., elastic differential cross-sections calcs. 4-38276
 $H + H^+(He^{2+})$, electron capture, high energy, close-coupling calcs. 4-10041
 $H + HBr$, exchange reactions, quantum sudden calcs. 4-21433
 $H + HF(H_2)$ reactive scattering, quantum mech. collision resons., probability densities 4-7695
 $H + He$, electron capture and loss into continuum 4-10022
 $H + He$, electron loss into continuum, H^+ form. 4-9903
 $H + He$, Rydberg states transition, interaction pot. 4-33518
 $H + He$ collisions, double differential distrib. prod. by collisional electron loss 4-38305
 $H + He^{2+}$ charge transfer and ionisation processes 4-10056
 $H + He^{2+}$, charge transfer cross sections, HeH^{2+} quasimolecule 4-10015
 $H + He^{2+}$, charge transfer cross section, mol. calcs. 4-14561
 $H + He^{2+}$, electron capture, close-coupling calc. 4-19220
 $H + He^{2+}$, electron capture cross sections, coupled channel approx. 4-49158
 $H + He(Ne)(Ar)$, collisions below 1 keV 4-9885
 $H + He(Ne)(Ar)(Kr)(Xe)$, charge transfer cross section, expt. data compilation 4-42621
 $H + \text{heavy ions}$, electron capture processes, cross sections 4-13491
 $H + \text{inert gas atoms}$, excitation examined by obs. Balmer-alpha and Balmer-beta emissions 4-9939
 $H + \text{inert gas atoms}(H_2)$, collisional ionisation 4-9883
 $H + \text{ions}$, charge exchange, quantum electrodynamic approach 4-14530
 $H + Li^{2+}$, charge exchange cross sections 4-14563
 $H + Li^{3+}$, laser induced charge-transfer cross section collision, perturbation approach 4-49140
 $H + \text{methylidyne ground state } \Lambda$ doublet inversion, interstellar appl. 4-42302
 $H + \text{multiply charged ion}$, charge transfer, exponential distorted-wave approx. calcs. 4-38318
 $H + \text{multiply charged fully stripped ion}$, charge exchange, theoretical cross section data 4-47773
 $H + \text{multiply charged fully stripped ion}$, charge exchange, theoretical cross section data 4-47774
 $H + Na$, excitation cross sections to Na(3p) level 4-19181
 $H + Na(K)(Rb)$, charge exchange cross-sections meas., 0.2 to 5.0 keV 4-10036
 $H + Ne^{3+}(Ar^{2+})$, electron capture cross section for low vel. ions 4-19232
 $H + O$, collisional electron capture, loss and excitation, cross-sections 4-10029
 $H + O_2$, hot atom-laser induced fluoresc. expts. 4-46753
 $H + O_2$, state to state cross sections, classical trajectory calcs., reaction mechanism 4-46752
 $H + O_2$, vibr. energy transfers, pot. hypersurfaces 4-21459
 $H + OH$ exchange, quantum model 4-26191
 $H + X^{q+}$, state-selective electron capture, energy gain/loss spectra 4-14554
 $H + X^{q+} \rightarrow H^+ + X^{(q-1)+}$ cross beam expt., electron transfer coincidence meas. 4-19231
 $H + X^{q+} \rightarrow X^{(q-1)+} + H^+$, electron capture in slow collisions, $q \gg 1$ 4-19230
 $H + Xe^{+}$, charge transfer and fine struct. transitions, 2 to 20 keV 4-10033
 $H + O$, collisional electron capture, loss and excitation, cross-sections 4-10029
 $H^+ + H$ electron exchange, linear Stark effect in eikonal calcs. 4-54638
 $H^+ + H(1s) \rightarrow H(nlm) + H^+$, electron capture into highly excited states 4-10016
 $H^+ + n\text{-alkanes}$, kinetic isotope effects for H abstractions 4-57544

hydrogen neutral atoms continued

- $p\text{-}H_2 + He$, rot. inelastic scatt., adiabatic calcs., semiclassical exponential perturbation theory 4-19154
 $H_2 + F^-$ collisions, autodetaching states, electron spectra study 4-9972
 $H_2 + H^+$ collisions, ionisation cross sections for 5 to 4000 KeV H^+ in gases 4-9973
 $H_2 + He$, collision induced translation rot. spectra 4-38285
 H_2 , ab initio and model hypersurfaces for ground and excited state radical reactions 4-16615
 $H_2 + CO_2^+$ reactions, quasi-static drift tube study 4-41211
 $H^+ - H^+$ long-range force, momentum density interpretation 4-49117
 H^* , ang. distrib., translational energy prod. from H_2 -e collisions 4-5494
 $H(1s) + H(1s)$, total cross sections $H(2s)$ and $H(2p)$ prod., close-coupling nonexchange calcs. 4-5324
 $H(1s) + H(2s)$ collisions, ion pair production 4-9938
 $H(1s) + He^{2+}$, excitation and ionisation cross sections calc. 4-14526
 $H(2S)$, e^- elastic scatt. in two-potential eikonal approx. 4-23814
 $H\alpha$ profiles of Sun and solar analogue 16 Cyg B 4-13310
 $H\alpha$ multiplet, combined Zeeman and translational Stark effect calc. 4-18984
 $He^{2+} + H$ collisions, electron capture and excitation cross section 4-43961
 $He^{2+} + H$ collisions in presence of a laser field, charge transfer cross section calc. 4-14566
 $SF_6 + H \rightarrow SF_6^- + HF(v)$, vibr. energy disposal, flowing afterglow IR chemiluminesc. 4-51983
 Xe monolayer-H atom three-body interactions 4-29807

hydrogen neutral molecules

- adiabatic and diabatic mol. states, at small internucl. distances 4-18936
 adsorbed on Al (111) and Ag (111), EHT study (*Chinese*) 4-2425
 adsorbed on metal surface; oxidation mechanisms (*Russian*) 4-34779
 autoionisation, reson., two-photon, time development 4-5294
 autoionisation Rydberg state spectrum calc. 4-9843
 bound vibr. levels, spontaneous emission transition probabilities 4-9836
 CARS intensity meas. behind shock waves 4-33403
 correlation energies, third-order, calc. using first-order pair functions 4-23620
 dissociative attachment, semiclassical calcs. 4-5497
 dissociative chemisorption on graphite, MINDO/3 study 4-2459
 dissociative chemisorption on metal surfaces, role of d orbitals 4-29792
 dissociative photoionisation, continuum coupled-channels expansion 4-5297
 electron and positron total cross section study 4-5401
 electron impact, low energy dissociative attachment 4-5508
 electron impact dissoci., Balmer- β polarisation line shape 4-54873
 electron impact dissociative excitation, Balmer- α emission ang. distrib. 4-5493
 electron impact dissociative excitation, extreme UV spectra 4-5492
 electron impact dissociative ionisation, H^+ kinetic energy spectrum 4-5498
 electron impact excitation/dissociation, atomic Balmer line shape 4-5494
 electron impact from Rydberg series, vac. UV emission 4-10161
 electron impact ionisation, disparate effects of rot. energy excitation 4-1278
 electron impact rot. excitation, off-shell adiabatic nuclei theory 4-1279
 electron scatt., independent united atom model 4-5395
 electron scatt., low energy, model exchange pot. calcs. 4-5392
 electron scatt., low-energy, nonadiabatic effects 4-10150
 electron scatt., near-threshold rot. excitation, scaled adiabatic nuclear-rot. theory 4-23830
 electron scatt., rovibr. excitation reson. struct., frame transformation theory 4-33545
 electron scatt. at 40 eV, use of two-pot. theory 4-23812
 electron scattering, variational R-matrix calcs. 4-5391
 electron-photon coincidence expts. 4-10159
 energy unresolved electron scatt., vibr. effect 4-43984
 excited states, photoionisation, photoelectron spectra, Franck-Condon factors 4-49091
 excited states, quadrupole moment, vibr.-rot. states 4-54662
 free positron and ortho-positronium lifetimes in H_2 , CO_2 and methane 4-5521
 Fulcher- α bands, rot. struct., intensity anomalies 4-1143
 gamma-ray double photoionisation, electron-electron correl. effects 4-1223
 ground-state orbitals, momentum space chem., electron spectra 4-23818
 Herman-Wallis factors, ^{12}S -state Raman transitions 4-49038
 Hund's multiplicity rules, SCF and CI studies 4-23615
 intergalactic H_2 absorpt. in spectrum of quasar OQ 172, detect. and red-shift (*Russian*) 4-53308
 intergalactic H_2 towards quasars (*Chinese*) 4-58503
 interstellar diffuse clouds, H_2 density rel. to methylidyne (CH) prod. 4-42511
 interstellar H_2 , axisymmetric distrib. in Galaxy rel. to giant mol. clouds 4-47670
 interstellar H_2 distribution, use of γ -ray emission 4-3939
 IR $5\mu\text{--}4\mu$ emissions, extended anal. 4-33455
 Jupiter, evidence for disequilibrium of ortho and para H_2 from Voyager IRIS meas. 4-22345
 low energy electron thermalisation, nonequilibrium electron vel. distrib. 4-1282
 lowest $^3\Sigma_u^+$ state, pot. curve and polarisability tensor calcs. 4-28359
 magnetisability of excited states 4-23837
 molecular wavefunctions with correl. corrections 4-33343
 molecular X-ray- and electron-scattering intensities, directional elastic intensities 4-49163
 Mount St. Helens, continuous monitoring of ground H_2 on south flank of mountain 4-12859
 multiphoton ionisation process, photoelectron energy and ang. distrib. 4-49090
 multiply charged ion collisions, electron capture, target ionisation pot. effect 4-19243
 optical Stark shift influence on H_2 , $E,F^1\Sigma_g^+$ state two-photon excitation 4-49073
 photoionisation calcs. using numerical continuum wavefunctions 4-54820
 southern planetary nebulae, H_2 distrib. and spectra 4-36727
 positron collisions, positronium form. 4-23823
 positron elastic low energy scatt. cross sections, Kohn variational method 4-5404
 positron impact, elastic and rot. excitation, positronium form. 4-49164

hydrogen neutral molecules continued

- positronium scatt., elastic and vibr. excitation cross-sections, perturbative calc. 4-10185
 predissociation of $c^1\Pi_u$ and $d^3\Pi_u$ states, translational spectrosc. obs. 4-9864
 pressure broadening of CO IR lines perturbed by H_2 and He 4-33397
 quadrupole-allowed and collision-induced absorpt. spectrum, intercollisional interference dips asymmetry 4-49026
 radiative lifetimes, collisional quenching cross-sections of excited $B2p^1\Sigma_u^+$ state 4-28512
 reduced local energy surface profiles 4-23771
 resonant multiphoton ionisation, rot. resolved photoelectron spectra 4-9834
 rotational structure of bands in Fulcher α -system, intensity anomalies 4-28424
 rovibrationally excited, dissociation attachment 4-23829
 Rydberg series, extreme UV emission study by electron impact 4-38105
 a-Si:H, mol. H_2 , calorimetric detect. 4-44964
 solid, metal region, valence band calcs. 4-20553
 Stark effect, imaginary part, large-order expansion 4-5168
 suprathermal vibr. excitation at heated Re surface 4-43951
 total electron scatt. cross section in energy range 4 to 300 eV 4-5375
 two-photon absorpt. cross section of $X^1\Sigma_g^-(E,F)^1\Sigma_g^+$, ab initio calc. 4-5144
 two-photon autoionisation reson. states, model calcs. 4-23762
 two-photon rot. transition saturation obs. using photoacoustic and coherent active Raman spectroscopy 4-10176
 Van der Waals, const. upper and lower bands, Pade approximants 4-33476
 van der Waals dimers, multipole polarisabilities, dispersion interactions, HF calcs. 4-14311
 vibrational relax., two-photon Raman excitation, CARS study 4-33411
 vibrational state distribution determ. by VUV laser-induced fluoresce. 4-49077
 viscosity at intermediate temp. 4-10806
 $B^1\Sigma_u^+$ state, vibrationally excited, chem. reactions, H_4 prod. 4-48962
 $Be^+ + H_2 \rightarrow BeH^+ + H$ reaction, spin coupled VB description of pot. energy surfaces 4-12347
 $CO + H_2$ collisions, vibr. and rot. inelasticity calc. 4-19165
 D_2H , beam form., visible spectra, radiative lifetimes and charge exchange 4-49041
 $H + CO_2^+$ reactions, quasi-static drift tube study 4-41211
 $H + H^+$ collision, electron transfer and excitation cross-section 4-38319
 $H_2 \nu=1-0S$ lines in six planetary nebulae IR spectra 4-42513
 H_2 , struct., channel coupling theory appl., global basis-set expansions 4-23594
 $H_2, X^1\Sigma_g^+$ state, vibr.-rot. energies nonadiabatic, relativistic and radiative corrections 4-33357
 $H_2/O_2/N_2$ flames, chemical kinetics and thermodynamics 4-57560
 H_2 -HF gasdynamic laser utilising purely rot. transitions, kinetic gasdynamic model and characts. calc. 4-10285
 $p-H_2 + ^{12}C^{16}O$, rovibrational excitation cross-sections calcs. 4-23792
 $H_2 + Ar$, transport and relax. cross sections, close coupling calcs., Raman spectra 4-38279
 $H_2 + Ar^+$, charge transfer reaction, 10 eV region 4-10064
 $H_2 + Ar^+$, charge stripping, collision gas press. depend. 4-33521
 $H_2 + Ar^{2+}(Ar^{6+})$, Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 $H_2 + Ar^{2+}(Ar^{6+})$, electron loss peak, charge state depend. 4-9944
 $H_2 + Ar^{4+}$, Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
 $H_2 + B^+(^2P)$, pot. energy surfaces, diatomics-in-mols. calcs. 4-41179
 $H_2 + Be, C_{2v}$ insertion, multireference coupled-cluster method calcs. 4-43774
 $H_2 + Be$, multiref. many-body perturbation theory appl., vertical insertion pathways 4-33291
 $H_2 + Be(B)(C)$, cross-sections for one-electron capture 4-19219
 $H_2 + Br$, quenching of $Br^*(^2P_{1/2})$, electronic degrees of freedom, classical model 4-33503
 $H_2 + C^+$, endothermic reactions, threshold behaviour 4-57546
 $H_2 + C^+(O^+)(In^+)(Sn^+)(Pb^+)(Sb^{2+})$, electron capture cross-sections meas., 10-150 keV 4-10037
 $H_2 + C^{4+}$, charge exchange, multiple scatt. theory appl. 4-14543
 $H_2 + C^{4+}(O^{4+})$, electron capture cross sections 4-14537
 $H_2 + CO$, collisional energy transfer, pot. energy surface 4-33507
 $H_2 + CO^{2+}$, dissociation, charge exchange, predissoc. 4-38341
 $H_2 + CS$, approximate collisional excitation rates 4-13179
 $H_2 + chlorotrifluoromethane$, reaction in shock waves, 1400-1600K, rate consts. 4-30939
 $H_2 + Cl$, vibr. excitation, pot. energy barrier, quasiclassical trajectory study 4-3391
 $H_2 + ClF$, HF rot. laser emission, gain, time evolution 4-38457
 $H_2 + Cu$, dissociation, ab initio effective pot. Cl calcs. 4-46757
 $H_2 + D$, differential cross sections, mol. beam meas., pot. energy surface 4-57541
 $H_2 + D$, exchange reactions, rate consts., EPR and thermometric meas. 4-57535
 $H_2 + D$, reactions, reduced dimensionality quantum rate consts. 4-12335
 $H_2 + D_2^+$, collisional dissociation and charge exchange cross sections 4-12356
 $H_2 + D^+$ collisions, electron detachment cross sections 4-9961
 $H_2 + D-HD + H$, reactive scatt., rate consts., adiabatic T matrix theory 4-21445
 $H_2 + F$, HF product state distrib. at enhanced collision energies 4-21465
 $H_2 + F$, hot atom reaction, cross-sections, trajectory method 4-3422
 $H_2 + F$, pot. energy surfaces calc. 4-30924
 $H_2 + F$, reactive scatt., variation of direct process contrib. with collision energy 4-49127
 $H_2 + F$, role of angular momentum match in state-to-state reactive scattering and product rotational state distributions 4-51996
 $H_2 + F$, state to state reactive scatt., product rot. state distrib. 4-21457
 $H_2 + F$ reactions in a laser field 4-3388
 $H_2 + F(Br)$ collisions, in laser field, rot. wave approx. limitations 4-38278
 $H_2 + F(D)$, reactive scatt., infinite order sudden approx. 4-46751
 $H_2 + H$, boundary trajectories in collision-induced dissociation 4-41176
 $H_2 + H$, collisional ionisation 4-9883
 $H_2 + H$, cross section thresholds, quasiclassical trajectory and quantum reactive scatt. calcs. 4-26186
 $H_2 + H$, energies, wave functions, random walk method calc. 4-54594
 $H_2 + H$, pot. energy surface, hyperspherical description, nonadiabatic effects 4-46741

hydrogen neutral molecules continued

- $H_2 + H$, reactive scattering, quantum mech. collision reson., probability densities 4-7695
 $H_2 + H$, rot. inelastic reactive scatt., reaction path Hamiltonian 4-12337
 $H_2 + H_2$, Balmer alpha emission cross sections 4-19129
 $H_2 + H_2$ collision destruction 4-43971
 $H_2 + H_2$ collision induced dipole radiation in freq. range of the cosmic background 4-14507
 $H_2 + H_2^+$, charge exchange, $c^1\Pi_u$ state population, predissoc. 4-49144
 $H_2 + H_2^+$, electron transfer reactions, vibr. state and mol. orientation effects 4-41188
 $H_2 + H_2^+$, symmetric charge transfer reaction, state-selected investig. 4-28551
 $H_2 + H_2^*$, selectively excited rovibronic states, collisional quenching 4-9923
 $H_2 + H_2(H_2^+)(H_3^+)$ collision destruction 4-43971
 $H_2 + H^+$, collisional electron detachment Born cross sections leading to H^0 in 1S, 2S and 2P final states 4-9962
 $H_2 + H^-(D^-)$, detached electron prod., energy spectra 4-9959
 $H_2 + H^-(O^-)$, energy distrib. of detached electrons 4-9963
 $H_2 + H^+$, diabatic rearrangement, self-consistent eikonal treatment 4-57545
 $H_2 + H^+$, dissociation charge exchange, translational spectrosc. obs. 4-10071
 $H_2 + H^+$, excited state charge exchange reactions studied by microwave optical double reson. technique 4-51995
 $H_2 + H^+$, isotope effects, linear- and circular-polarisation meas. 4-23804
 $H_2 + HD^+$, HD_2^+ collisional dissociation, differential positive fragment cross-section, 1.5 to 5 keV 4-10013
 $H_2 + H(H^+)(H^+)$, charge transfer cross-sections determ. 4-14527
 $H_2 + H(O)(F)(Cl)$, 2D hindered internal rots. 4-46754
 $H_2 + H-H + H_2$, pot. energy surface, barrier height 4-35877
 $H_2 + He$, chemionisation, interaction pot. long-range component 4-43969
 $H_2 + He$, collision induced IR absorpt. spectra 4-43878
 $H_2 + He$, scatt. calcs. using time-depend. semiclassical methods 4-38280
 $H_2 + He$, semiclassical collision theory with Feynman path integral formalism, perturbation stationary state 4-54827
 $H_2 + He$ collisions, vibr. transitions in forced Morse oscill., algebraic approach 4-28537
 $H_2 + He$ metastable atoms, chemi-ionisation reactions at high energy 4-1249
 $H_2 + He(2^1S)$, Penning ionisation, diatomics-in-mols. model, pot. energy surface 4-38302
 $H_2 + He(2^3S)$ reson. energy and autoionisation widths, semiempirical DIM calcs. 4-28543
 $H_2 + heavy$ ions, electron-capture and -loss collisions 4-13489
 $H_2 + hot$ atom reactions, product internal energy distrib., CARS meas. 4-23703
 $H_2 + K$ collisions, 4^2P K at. multipole relax. 4-43965
 $H_2 + K$ collisions, transitions between 4^2P Zeeman sublevels 4-19161
 $H_2 + K^+$, slow collision, H atom form. and excitation 4-12360
 $H_2 + Li^+$, inelastic scatt., adiabatic-diabatic calcs., breathing sphere pot. 4-14511
 $H_2 + Li^+$ collisions, differential cross sections and energy transfer distrib. 4-19167
 $H_2 + Li$ -like ions charge exchange and radiative decay 4-19254
 $H_2 + methyl$ ion, radiative association, reaction conditions 4-51992
 $H_2 + methyl-methane + H$, reaction dynamics, intrinsic reaction coordinate approach 4-35863
 $H_2 + N^+$, chemiluminescence, $NH^+(ND^+)$ emission 4-21461
 $H_2 + N^{6+}(O^{6+})$, electron capture into different (n,l) states 4-14556
 $H_2 + N^{7+}$, two-electron capture, N^{5+} autoionisation, electron spectra 4-49147
 $H_2 + NH_3$, relaxation times, line widths, line shifts and double resonance effect calc. 4-1256
 $H_2 + Na^+$, optical selection rules in inelastic collisions 4-19131
 $H_2 + Ne^{q+}$, $q=2-4$, electron capture cross sections 4-19221
 $H_2 + Ne^{4+}(Ar^{4+})$, electron capture cross section for low vel. ions 4-19232
 $H_2 + O$, rate consts., quasi-classical trajectories 4-9703
 $H_2 + O_2$, reactive collisions, combustion, radiolysis, rate consts. and cross sections 4-35903
 $H_2 + O^{8+}(Ne^{10+})$ collisions, soft X-ray diagnostics 4-14509
 $H_2 + O^{9+}(P)$, singlet-triplet surface crossings and low temp. rate enhancement 4-30955
 $H_2 + Rb$, (SP) fine struct. transition, mol. rot. energy effects 4-9922
 $H_2 + SF_6$ laser, high current relativistic electron beam pumping 4-5579
 H_2 and D_2 , Rydberg states, emission spectra obs. 4-54736
 H_2 , energies, wave functions, random walk method calc. 4-54594
 H_2 excited dissociation and metastable states, obs. in neutralised ion beams 4-23626
 H_3 , prod. by fast $H_3^+ + Ar$ collision, detection 4-19217
 H_3 , quartet state and dissociation energies 4-14350
 H_3 , Van der Waals, const. upper and lower bands, Pade approximants 4-33476
 H_4 , electronic struct. studied using projected BCS Tamm-Dancoff method 4-23584
 H_4 , Rydberg states, ab initio frozen core CEPA calcs., dissociation energies 4-28378
 H_4 , strongly bound excited state, prod. by reaction of $H_2B^1\Sigma_u^+$ 4-48962
 HD beam scatt. from Pt (111) surface, rot. excitation probabilities 4-7306
 HD , collision-induced spectrum, fundamental band 4-49019
 HD , dissociative attachment, semiclassical calcs. 4-5497
 HD , prod. quantum state distrib. in $H + D_2$ reactions 4-21440
 HD , suprathermal vibr. excitation at heated Re surface 4-43951
 HD , vibration bands, absorpt. strengths and line shape parameters, astrophysical appl. 4-9783
 $HD, X^1\Sigma_u^+$ state, vibr.-rot. energies nonadiabatic, relativistic and radiative corrections 4-33357
 $HD + Cl$, vibr. excitation, pot. energy barrier, quasiclassical trajectory study 4-3391
 $HD + D^+$ collisions, electron detachment cross sections 4-9961
 $HD + F$, hot atom reaction, cross-sections, trajectory method 4-3422
 $HD + Ne$, recoupled states approx., state-selected differential and integral cross sections calc. 4-54840
 $HD + O_2^+$, state selected reactions, kinetic isotope effects 4-12345
 $H_2^+ + H_2$ reactions, H/D exchange study 4-41206
 $H_2^* + H_2(Ne)(Ar)(Kr)$, selectively excited rovibronic states, collisional quenching 4-9923
 $H_2^* + He(Ne)(Ar)$ reactions, inert gas dihydrides prod. 4-51985

hydrogen neutral molecules continued

- $N_4^+ + H_2$ reactions, internal energy study with N_2 and He buffer gas 4-41207
 $N^+(D) + H_2 \rightarrow NH^+(B^2\Delta) + H$, chemiluminesc. reactions, spectroscopy and dynamics 4-52016
 $Na^+(3p) + H_2$ collisions, polarisability studies in nonadiabatic quenching process 4-19173
 $Ne-H_2$, van der Waals mol., pot. energy surface, ab initio calcs. 4-5154
 $Ne^+ + H_2$ scattering, energy loss scaling at 3, 10, 15 and 25 keV 4-19172
 $Xe-H_2$ mixture, excitational cross-section, shock-tube meas. 4-43955

hydrogen power *see hydrogen economy***hydrogen production** *see hydrogen economy***hydrogen storage** *see hydrogen economy***hydrogen transmission** *see hydrogen economy***hydrological techniques**

- acoustic velocity metering, appl. to meas. of water surface and streambed elevation changes 4-52975
 active microwave sensors use for snow mapping 4-52905
 aquifer hydraulic transmissivity determ. by elec. transverse resistance method 4-52927
 brine sampling from igneous rock cores 4-42215
 depth remote sensing by airborne method using laser 4-31695
 diatoms in sediments, use as indicator of lake acidification 4-41409
 eigenvalue numerical technique for time soln. of unsteady groundwater linear models 4-17292
 fissures in limestone studied by borehole magnetometric resistivity method 4-3674
 groundwater exploration via VLF EM prospecting, field appls. in India 4-52963
 groundwater flow, Delicias Valley, Mexico use of ^{18}O and 2H 4-8333
 groundwater flow electrical prospecting by self-potential method 4-52930
 gypsum spheres use for water flow routes determ. in soil 4-42187
 ice thickness, radar meas. sensitivity to elec. parameter errors 4-47461
 inorganic anion detection in soil and water, appl. of ion exchange chromatography 4-46844
 passive microwave remote sensing from aircraft for soil moisture determ. 4-52964
 permafrost area, gravimeter method for detection of small-scale massive ground ice 4-22110
 principle components analysis appl. to East Africa rainfall stations regional classification 4-58321
 remote sensing, atmospheric correction of Landsat data via chromaticity of path radiance 4-31704
 remote sensing, irrigated lands assessment for water management in California 4-22031
 remote sensing by thermal IR imaging, multi-spectral information interpretation 4-21953
 remote sensing methods in environmental studies, conf., April 1983, Brussels, Belgium 4-25
 remote sensing of soil moisture, appl. to hydrological modelling of river basin 4-22032
 remote sensing of water resources by radar and IR 4-22182
 river bedload transport determination method, use of natural tracers 4-17293
 rock core moisture content measurement by microwave technique 4-22150
 satellite data use for La Plata River anal. 4-52888
 satellite passive microwave meas. for snowpack props. determ. 4-52965
 snow cover free water content measurement to electrical and non-electric methods 4-31677
 snow cover remote sensing at night using moonlight illumination 4-13041
 snow cover water equivalent measurement by airborne γ -ray surveying 4-31678
 snowfall measurement accuracy for weather stations in High Arctic 4-31534
 snowline altitude determ. for mountainous terrain, Himalayan basin appl. 4-42238
 soil erosion database, devel. techniques 4-17316
 soil moisture content microwave remote sensing, effects of soil texture 4-13091
 soil moisture measurement technique using airborne γ -ray survey method 4-31678
 soil moisture remote sensing, Monte Carlo simulation of microwave emission 4-26723
 soil moisture sensing, use of vegetation indices to improve microwave estimates 4-22146
 soil moisture sensing with orbital C-band radar, effects of land cover and crop type 4-22145
 soil water content and frozen soil depth measurement technique 4-31690
 time domain reflectometry for soil and snow unfrozen water content determ. 4-58309
 water level and temp. monitoring in boreholes and rivers, computerised portable equipment 4-26872
 water table exploration by means of Rayleigh and P-wave microseisms 4-12783
 ^{210}Pb dating of sediments, freshwater and marine appl. 4-13088
 Tc detection by resonance multiphoton ionisation mass spectrometry, hydrologic and geologic studies 4-22106

hydrology*see also groundwater; lakes; rivers*

- acidification of soils and waters, acidic deposition and internal proton sources 4-46906
 Amarantos area, NW Greece, atmothermal springs, hydrogeology 4-47316
 boreal peatland, string patterns origin in USA 4-12913
 calcite ($CaCO_3$) dissolution rates, mixed kinetic control 4-3755
 California, irrigated lands assessment for water management from Landsat obs. 4-22031
 California, water years 1948-77, entropy minimax hydrological forecasts 4-31532
 Cerro Prieto geothermal field, Mexico, review of studies 4-17106
 conceptual rainfall runoff models, parameter observability and uniqueness 4-17199
 conceptual rainfall-runoff model parameters, percolation process 4-17200
 conceptual rainfall-runoff models, max. likelihood parameter estimation techniques 4-17198
 conference on dissolved load in rivers and surface water quality, at Hamburg FRG (August 1983) 4-47762

hydrology continued

- conference on humid tropical regions hydrology at Hamburg, FRG (August 1983) 4-47763
 continental geomorphology, rel. to submarine volcanism 4-8249
 Cornish peninsula, England, point rainfall estimation by gauges and radar 4-12952
 engineering meteorology (book) 4-47795
 evaporation and transpiration using atmos. boundary layer model 4-52770
 flood analysis, cluster model 4-17194
 flood hazard models for United States DOE facilities, development 4-41774
 S France, water requirements, rainfall, evapotranspiration and water usage 4-58204
 geochemical exploration, conf. at Hannover, Germany (April 1980) 4-4160
 geological systems, surface adsorption and mobility effects 4-31484
 geothermal reservoir, vapour-dominated, at Serrazzano, Italy, distributed parameter modelling 4-52788
 geothermal reservoir with waters of different salinity, simulation and resistivity modelling 4-17107
 global water budget variations, conf. at Oxford, England (August 1981) 4-42602
 gravel bed rivers, conf., June 1980, Gregynog, Newton, UK 4-31976
 groundwater convection in liquid-saturated porous medium bounded by vertical coaxial cylinders, expts. 4-38828
 groundwater in water resource planning, conf., Koblenz, Germany (Aug-Sept 1983) 4-53359
 iceberg uses, applications and characts., conf., Cambridge, England (conf. 1980) 4-36776
 Idaho, USA, forestry logging operations influence on granitic slope hydrology 4-52780
 Illinois, USA, floods, streamflow and related climatic conditions 4-31528
 infiltration - microcatchment hydrograph, const. vel. kinematic anal. 4-17201
 isotopic geochemistry in hydrosphere (book) 4-53382
 Ispra, hydrological aspects of reactor site (*Italian*) 4-13010
 karstic aquifer in S France, crust deformation due to rainfall 4-12754
 lakes interaction with variably saturated porous media, numerical simulation 4-52787
 NE Mali, radiocarbon chronology of Holocene hydrological changes 4-17178
 meltwater runoff and erosion rel. to hillslope orientation to sunlight 4-22028
 N Michigan, USA, snowpack chem. species release during thaw 4-52768
 modelling of small river basis, appl. of complete soil moisture meas. 4-22032
 Mount Disgrazia glaciers, Italy, satellite remote sensing and hydrology 4-8248
 Mount St. Helens, eruption-triggered avalanche, flood and lahar 4-12841
 Mount St. Helens, Washington, hydrothermal events rel. to 1980 eruptive activity 4-12844
 Mount St. Helens region, rivers, debris dams, flood hazards from breaching 4-12959
 multilayered aquifer thermal energy storage system with buoyancy flow, field expt. prediction 4-52216
 Patagonian Andes, 18.6 yr lunar nodal term and induced drought 4-31535
 pluviometers in afforested mountain basins, precipitation meas. accuracy, comparisons 4-26727
 radar rainfall data, use in hydrometeorological services in United Kingdom 4-12951
 remote sensing of drainage networks, relative elevation determ. from LANDSAT imagery 4-31706
 runoff models of a small urban watershed, exp. study 4-36419
 E Sahara, landscape origin, role of drainage systems 4-31485
 Sahel drought and associated land surface albedo changes 4-42121
 Sahel region, Tunisia, desertification, soil characts. 4-31529
 sedimentary principles (book) 4-47803
 Sherbro Island, Sierra Leone, SIR-A use for hydrographic network anal. (*French*) 4-41922
 single-parameter conceptual model (*French*) 4-12949
 snowmelt model for hydrological forecasting 4-22019
 deep snowpack meltwater movement, numerical simulation model 4-52783
 deep snowpack meltwater movement obs., mountainous area of BC, Canada 4-52782
 soil, water infiltration rates for wooded steppe zone arable and virgin land 4-22029
 soil erosion by rain, effects of surface runoff depth 4-52789
 soil water content and frozen soil depth measurement technique 4-31690
 surface mining effects, symposium, Lexington, KY, (Nov.-Dec. 1983) 4-36797
 Swiss Alps, glacier flood freq. and characts. 4-22012
 Texas Hill Country, USA, thunderstorms of Aug. 1978 causing flash floods 4-52824
 Tille River, Burgundy, France, low water flows through water loss in calcareous regions 4-36418
 USA drought duration spatial characts. 4-26742
 use of Kalman filters in hydrologic modelling - a review 4-26728
 water management and short-term weather predictions 4-31561
 water-rock interaction, fourth symposium, Misasa, Japan (Aug.-Sept. 1983) 4-4153
 WIPP site, geotechnical acceptability, site eval. 4-28035
 WIPP site characterisation, pressurized brine reservoir effects on integrity 4-28036
 Zaire basin hydrometeorological anomalies rel. to conditions over Atlantic 4-26773

hydromagnetic waves *see magnetohydrodynamic waves***hydromagnetics** *see magnetohydrodynamics***hydrometers***see also density measurement*

No entries

hydrophones*see also sonar*

- calibration in pendulum chambers, band broadening 4-55309
 circular transducers, US diff. losses 4-24321
 conformal hydrophones, use of rigid piezoelectric composites 4-33870
 digital recording and signal processing systems for hydrophone arrays 4-49623

hydrophones continued

- external cavity diode laser sensor appls. 4-33705
 fibre optic hydrophone, use of optical waveguide couplers 4-28874
 fibre optic hydrophone array, pulsed Michelson interferometer config., design and characts. 4-28908
 fibre optic lever hydrophones, press. and press. gradient 4-38594
 fibre optic sensitive polarisation hydrophone 4-38596
 glass fibre sensors, state of the art (*Dutch*) 4-5700
 gradient, calibration error estimation 4-55260
 poly(vinylidene fluoride), piezoelectric meas., hydrophone appl. 4-35363
 polyvinylidene fluoride membrane hydrophones, pulsed ultrasonic field meas. 4-24294
 polyvinylidene shock resistant hydrophones 4-33871
 polyvinylidene US transducers with broadband transmission and focusing props. (*German*) 4-24322
 pressure-gradient hydrophone, cardioid directivity conditions anal. 4-49610
 Ba₂TiGe₂O₈, glass-ceramic, piezoelectric props. and hydrophone appl. 4-35364
 Ba₂TiSi₂O₈, glass-ceramic, piezoelectric props. and hydrophone appl. 4-35364
 PZT/polymer 1-3 and 1-3-0 piezoelec. composites, hydrophone appl. 4-40352
 PZT/polymer composite, sandwich transducer, hydrophone and NDT appls. 4-38682
 PZT/polymer perforated composites, piezoelec. props., hydrophone appls. 4-40351
 Sr₂TiSi₂O₈, glass-ceramic, piezoelectric props. and hydrophone appl. 4-35364

hydrophotometers *see photometers***hydrostatics**

No entries

hydrothermal crystal growth *see crystal growth from solution***hydroxonium ion**

- ground electronic state pot. energy surface, ab initio rot.-vibr. energy 4-14345
 inversion mode band, high resolution IR spectra 4-33405
 NMR chem. shifts and shielding consts. 4-23715
 spectroscopic props., SCEP CEPA wavefunctions calcs. 4-14298

hydroxyl group *see oxygen compounds***hygiene**

see also medicine

No entries

hygrometers

see also humidity measurement

- air moisture content-determ. using hygrometers (*Swedish*) 4-13647
 electronic resistance hygrometer and fan-ventilated psychrometer 4-8913
 industrial applications 4-22787
 polymer-based capacitive humidity sensor characts. and expt. results 4-27535
 transducers for humidity measurement, state of the art review (*French*) 4-8914
 VM-3 hygrometer meas. of Venus atmosphere 4-36608

hyperfine field interactions (condensed matter)

see also crystal hyperfine field interactions; nuclear screening

- amorphous materials, nuclear quadrupole splitting and topology of (V₂₂,η)-parameter space 4-45697
 binary semicond. glasses, hopping cond., ESR studies 4-45770
 fluorides, amorphous, Mossbauer quadrupole spectra anal. 4-11809
 liquid metals and alloys, nucl. quadrupolar spin relax., rel. to local degrees of freedom 4-40262
 liquid metals and alloys, nucl. quadrupole relax., atom pair dynamics 4-40263
 rare earth alloys, amorphous, struct. short-range order, Mossbauer spectra and EXAFS study 4-7104
 transition metal amorphous alloys, Fe-M, effective hyperfine field, Mossbauer studies 4-46160
 Al₂O₃-P₂O₅-B₂O₃-V₂O₅ glasses, EPR and optical spectra of V 4-7055
 Al₂O₃-P₂O₅-SiO₂-V₂O₅ glasses, EPR and optical spectra of V 4-7055
 Ca-Al metallic glass, electronic and atomic struct., pulsed NMR study 4-45599
 Co-Fe-B metallic glass and cryst., hyperfine fields and mag. moments 4-56568
 Fe-Sn-B-Si amorphous alloys, crystn. and mag. props. 4-46064
 FeB, cryst. and amorphous sputtered films, ferromag. and paramag. phases 4-30251
 Fe_{100-x}B_x metallic glass, atomic environment, spin-echo NMR study 4-56814
 Fe₈₀B₂₀ metallic glass, crystallisation obs. by DSC and Mossbauer spectroscopy 4-46157
 Fe₈₀B₂₀ metallic glasses, Mossbauer Zeeman spectrum, linewidth asymmetries 4-46159
 Fe₈₇B₁₃Au₂ metallic glass ribbons, Mossbauer spectra and crystallisation products 4-56825
 Fe₇₅B₁₄Si_{10.4}, amorphous, hyperfine field, isomer shift and Mossbauer spectra 4-11811
 (FeCo)₈₀B₂₀, amorphous, ¹¹B NMR relax. study 4-40265
 (FeNi)₈₀B₂₀, amorphous, ¹¹B NMR relax. study 4-40265
 (Fe_{0.25}Ni_{0.75})₇₅B₂₅ metallic glass and cryst., local struct., Mossbauer study 4-51167
 Fe₄₀Ni₄₀P₁₄B₆, Metglas 2826, ferromagnetic, quadrupole splitting, Mossbauer spectra 4-2852
 FeO-Al₂O₃-SiO₂ glasses, spin glass transition and hyperfine parameters 4-30178
 FeOCl, intercalated α-picoline, charge transfer effects, Mossbauer study 4-40313
 Fe_xTi_{100-x}, sputtered films, cryst. and amorphous, Mossbauer studies 4-56824
 In-Ni alloys, liq., NMR Knight shift and linewidth meas. 4-46119
 Li-Bi(Pb)(Sn)(Si), liq., electron localisation and cpd. form., ⁸Li spin relax. study 4-40261
 Sb-Te liquid semicond., mag. contrib. to hyperfine field, Knight shift meas. 4-56802
 V₂O₅-GeO₂ binary semicond. glasses, hopping cond., ESR studies 4-45770
 V₂O₅-SeO₂ binary semicond. glasses, hopping cond., ESR studies 4-45770

hyperfine field interactions in crystals *see crystal hyperfine field interactions***hyperfine structure, atomic** *see atomic hyperfine structure***hyperfine structure, molecular** *see molecular hyperfine structure***hyperfragments** *see hypernuclei***hypernuclei**

- 1p shell hypernuclei, binding energies, HF method in multicentre shell model (*Chinese*) 4-43422
 Σ- and Λ-hypernuclear states in finite nuclei, G-matrix calc., Nijmegen OBE interaction (*Japanese*) 4-4795
 A>4 hypernuclei, binding energies and AN forces 4-32835
 binding energies and three-body ANN forces 4-37476
 BNL, past, present and future studies 4-37477
 conference on hypernuclear physics, Japan, (Nov. 1982) 4-4156
 conference on nuclear physics, Mikolajki, Poland (1980) 4-4148
 dihyperon state in quark cluster model, double hypernuclei appl. 4-9083
 LAMPF II proton synchrotron role in hypernuclear physics 4-37971
 multibaryon and light Λ hypernuclei, energy levels in SU(6) model 4-13951
 polarized hypernuclei, pion and γ-ray spectroscopy 4-37479
 QCD in nuclear physics 4-36842
 resonances, nucleon decays, bound level population 4-4789
 RMS radius and oscillator spacing, A depend. for hyperon in nucleus 4-32834
 spectroscopy, hyperon-nucleon and hyperon-hyperon interactions 4-4791
 spectroscopy, states, phenomenological and theoretical considerations 4-37478
 spin physics with strangeness 4-37416
 strange dibaryon searches at KEK and LAMPF II, hypernuclear forces appl. 4-4793
 structure, Δp scatt. calc. from meson exchange potential 4-27821
 (K⁻, π⁻), stopped K⁻, hypernuclear spectroscopy, KEK proposals 4-4794
 (K⁻, π⁻) hypernuclear excitations, γ-lines from proton emission 4-9168
 Λ-α interaction, off-shell behaviour, hypernuclear few-body problems 4-54069
 Λ-hypernuclei excitation and struct. in (K⁻, π⁰) 4-23072
 AN potential in A≤5 hypernuclei 4-43421
 Σ-hyperon width in nuclear matter, NΣ→NA conversion process 4-4788
¹²Be_Λ, hypernuclear excitation through kaon photoproduction 4-4790
⁹Be_Λ, hypernuclear γ-ray transitions obs. 4-13958
⁹Be_Λ, spectra and level widths in α+Λ+x cluster model dynamics 4-4792
⁹Be_Λ→αpπ⁻, unified cluster struct. 4-4818
¹²Be, narrow width levels, quasistable configurations from ¹²C(K⁻, π⁺) 4-54068
¹²C_Σ, low lying states, absorptive central and spin-orbit potential 4-43420
¹²C_Λ, Λ(1520) formation and decay 4-43363
¹²(K⁻, π⁺), 400-450 MeV/c, Σ-hypernuclear state prod., state widths 4-48534
¹²C_Σ, narrow width levels, quasistable configurations from ¹²C(K⁻, π⁻) 4-54068
¹⁶C_Σ, narrow width levels, quasistable configurations from ¹⁶O(K⁻, π⁺) 4-54068
⁴He_Λ, hypernuclear excitation through kaon photoproduction 4-4790
⁶He_Λ, spectra and level widths in α+Λ+x cluster model dynamics 4-4792
⁷Li_Λ, hypernuclear γ-ray transitions obs. 4-13958
⁴Li_Λ, A=6,7,8, spectra and level widths in α+Λ+x cluster model dynamics 4-4792
²⁰⁸Tl_Λ, hypernuclear excitation through kaon photoproduction 4-4790

hyperon absorption

No entries

hyperon capture

see also hypernuclei

No entries

hyperon decay

- β-decay probability, logarithmic lepton mass singularities 4-9106
 chiral quarks and non-relativistic quark model 4-48448
 CP nonconservation due to particle/antiparticle rate asymm. 4-9104
 dilambda decays 4-4676
 direct quark-model calculation of weak nonleptonic matrix elements 4-37341
 hadronic, partial rate differences from CP violation hyperon hadronic decay, ZZ 4-13902
 leptonic decays, correlation and polarisation effects (*Russian*) 4-4678
 nonleptonic decays, soft pion approx. 4-37373
 nonleptonic-decay matrix elements in bag-inspired harmonic oscillator model 4-32687
 radiative decays, four-quark operators and Hara's theorem 4-4685
 semileptonic decays, Cabibbo model test of SPS 4-18248
 semileptonic decays, WA2 expt., Cabibbo fits 4-32691
 six quark scheme, weak mixing angles, exptal. determ. 4-9084
 Δ(1502) in ¹²C, resonance energy, lifetime, branching ratios 4-43363
 Δ decay, study of polarised semileptonic decays at LAMPF II 4-37375
 Λ→pπ⁻, branching ratio, axial vector/vector form factor ratio, EM corrections 4-18246
 Λ⁰→pπ⁻, coupling const., strangeness changing hadronic weak current 4-32690
 Λ⁺, hadronic decay branching ratio using quark combinatorics 4-18235
 Λ⁺, lifetime meas., review 4-32681
 Λ⁺, decay in νN and νN, lifetime meas. 4-27726
 Λ⁺, lifetime in statistical model 4-4675
 Ω→γΣ as penguin diagram test, pole model anal. using bag model matrix 4-23015
 Ω⁻ decays, branching ratios, lifetimes 4-32689
 Σ⁻→nπ⁻, branching ratio, centre-of-mass distrib., axial vector/vector form factor ratio 4-18247
 Σ⁺→pμ⁺e⁺, muon number violating decays 4-37374
 ξ(2.2)→k_sk_s, possible Higgs boson 4-37372
 Σ⁺→Λe⁺, branching ratio, axial vector/vector form factor ratio, EM corrections 4-18246
 Σ⁻→Σ⁰e⁻, branching ratio, axial vector/vector form factor ratio, EM corrections 4-18246
 Σ⁰→Λμ⁺e⁺, muon number violating decays 4-37374
 Ω⁻ nonleptonic decay, decay rate in standard model 4-18241

hyperon detection and measurement

No entries

hyperon-deuteron interactions

see also hyperon-deuteron scattering

No entries

- hyperon-deuteron scattering**
 see also hyperon-deuteron interactions
 No entries
- hyperon effects**
 No entries
- hyperon interactions** see hyperon-nucleon interactions; hyperon-nucleus reactions; kaon-hyperon interactions; lepton-hadron interactions; photon-hadron interactions; pion-hyperon interactions
- hyperon magnetic moment**
 baryon magnetic moments in covariant oscillator quark model with unequal constituent masses 4-18258
 nucleon octet, mag. moments, kaon cloud contribution in cloudy bag model 4-37382
 QCD sum rules, hyperon mag. moment calcs. 4-23018
 twistor theory method for hadron magnetic moments 4-43371
 Ω^- magnetic moment, relativistic corrections 4-18253
 Ξ^- mag. moment meas. 4-37381
- hyperon mass**
 stable baryon masses, internal state functions, energy formula 4-43344
 strange baryon mass differences in QCD sum rules 4-32701
 Σ^+ -p, hypercharge mass splitting, ω - ϕ mechanism 4-4722
- hyperon-nucleon interactions**
 see also hyperon-nucleon scattering
 beam line sessions at LAMPF II conf. 4-37396
 ΣN , meson exchange potentials (*Chinese*) 4-48498
 $\Sigma^- N \rightarrow \Lambda^+ \pi^-$ charged strange baryon, mass and lifetime meas. 4-32742
- hyperon-nucleon scattering**
 see also hyperon-nucleon interactions
 Λp scatt., total cross section and effective pot. for 1-450 MeV, quark model, BB scatt. 4-37395
 Λp scatt. calc. from meson exchange potential for hypernuclear structure determ. 4-27821
 Σp scattering, differential cross sections using naive quark model and resonating group method (*Chinese*) 4-27750
- hyperon-nucleus reactions**
 for inelastic hyperon-nucleus scattering, see "hyperon-nucleus scattering"
 see also hyperon capture; hyperon-nucleon interactions
 No entries
- hyperon-nucleus scattering**
 see also hyperon-nucleon scattering
 (Σ, X) , S-wave scatt. lengths from exotic atom data 4-32935
- hyperon production**
 Y^* production, problems of producing K^- beams 4-37414
 $e^+ + p \rightarrow \Sigma^+ + e^-$, production process calcs. (*Russian*) 4-54001
 $e^+ e^- \rightarrow \Xi^- (\Xi^-)$, production evidence 4-4688
 $e^+ e^- \rightarrow \Xi^- (\Xi^-) X$, TASSO result 4-32735
 $K p \rightarrow \Lambda p p$, 18.5 GeV, resonant struct. evidence 4-4698
 $K^- p \rightarrow (K^- K^+) \Lambda$, 4.2 GeV/c, P-wave/S-wave interference, perturbative QCD calcs., scalar reson. anal. 4-22993
 $K^- p \rightarrow K^+ X^-$, Ξ resonances above 2 GeV, supermultiplets, comments 4-48500
 $K^+ p \rightarrow \Lambda X$, scaling approach, Regge and quark model anal. 4-18310
 $\mu^- + p \rightarrow \Sigma^+ + \mu^-$, production process calcs. (*Russian*) 4-54001
 $p N$, 12 GeV, Λ , hyperons inclusive prod., polarisation meas. 4-18292
 $p N$, 400 GeV/c, Ξ^- and Λ hyperons prod., polarisation meas. 4-18295
 $p N \rightarrow (\Lambda, \bar{\Lambda}) X$, charm prod. in fixed target beam dump expts. 4-18311
 $pp \rightarrow \Lambda X$, peripheral description, cross section determ. 4-497
 $pp \rightarrow \Lambda \Lambda X$, $S^{1/2} = 3.6-8.8$ GeV, charged strange particle cross sections 4-13924
 $\pi p \rightarrow \Lambda X$, peripheral description, cross section determ. 4-497
 $\pi^+ p \rightarrow K^+ \Sigma^+$, 1.282-2.473 GeV/c, differential cross sections and Σ^+ polarisation 4-4695
 $^{40}\text{Ca}^{16}\text{O}(X)$, 9-13 GeV/N, target fragmentation modes, π^\pm , K^0 , Λ , $\bar{\Lambda}$ and p prod. 4-43525
 $^{206}\text{Pb}^{16}\text{O}(X)$, 9-13 GeV/N, target fragmentation modes, π^\pm , K^0 , Λ , $\bar{\Lambda}$ and p prod. 4-43525
 $\pi^+ p \rightarrow K^+ \Sigma^+$, energy depend. partial wave anal. between threshold and 2.35 GeV 4-32743
 $\text{Ta}(C, X)$, 4.2 GeV/c per nucleon, γ -rays, Λ hyperons and K_s^0 mesons prod. 4-27885
 $\text{Ta}(d, X)$, 4.2 GeV/c per nucleon, γ -rays, Λ hyperons and K_s^0 mesons prod. 4-27885
- hyperon resonances**
 dihyperon state in quark cluster model, double hypernuclei appl. 4-9083
 dilambda decays 4-4676
 Y^* production, problems of producing K^- beams 4-37414
 $K^- p \rightarrow K^+ X^-$, Ξ resonances above 2 GeV, supermultiplets, comments 4-48500
 $\Lambda(1502)$ in ^{12}C , resonance energy, lifetime, branching ratios 4-43363
 Σ^+ -p, hypercharge mass splitting, ω - ϕ mechanism 4-4722
- hyperon scattering** see hyperon-nucleon scattering; hyperon-nucleus scattering; kaon-hyperon scattering; lepton-hadron scattering; photon-hadron scattering; pion-hyperon scattering
- hyperon spin and parity**
 No entries
- hyperons**
 see also hyperon resonances
 beams, production props. over last 10 years 4-37967
 Λ , polarisation in pp interactions, strangeness fragmentation and production, Lund string model 4-27761
 $\Lambda^0 \rightarrow p e^- \bar{\nu}$, coupling const., strangeness changing hadronic weak current 4-32690
 Ω^- decays, branching ratios, lifetimes 4-32689
- hypersonic flow**
 boundary layer meas. in hypersonic high enthalpy test facilities, mass spectrometer appl. 4-24508
 boundary layers for slender axisymmetric bodies with large injection or mag. field 4-44639
 chemical equilibrium laminar or turbulent three-dimensional viscous shock-layer flows 4-34126
 conical axisymmetric flow, waverider configurations optimisation 4-34127
 diatomic rarefied hypersonic flow, collision models, Monte Carlo calcs. 4-14998
 dusty gas flow past a body with erosion 4-29126
 heat transfer calc. for hypersonic flow over blunt noses using unsteady implicit scheme 4-34099
 nonisothermal gas with variable elemental composition, radiant heat transfer 4-44566
- hypersonic flow continued**
 simulation in wind tunnels 4-5913
 star-shaped body in flow field parametric study 4-29125
 swirling, minimal wave drag bodies 4-5912
 vortex generation over vertical cones at hypersonic speeds 4-1752
- hypersorption** see sorption
- hyperthermia** see biothermics
- hypertritons** see hypernuclei; tritons
- hypervirial theorem** see quantum theory
- hypochromism** see light absorption
- hypothetical particles**
 see also charm particles; heavy leptons; intermediate bosons; magnetic monopoles; quarks; tachyons
 axial photon role in attenuating the solar neutrino flux 4-22363
 glueballs and hybrid baryons, quark models 4-37329
 gluino decays and experimental signatures 4-37301
 grand unified theory, locally supersymm. with two-loop stable mass hierarchy, gluino mass 4-13839
 gravitino mass, constraints from big bang theory 4-8607
 heavy fermions and leptoquarks in Glashow-Weinberg-Salam model 4-48384
 mirror heavy electron neutrino evidence in ^3H β -decay 4-43436
 $N=1$ supergravity, radiative $SU(2) \times U(1)$ breaking, weak scale, low energy particle spectrum 4-47979
 neutral gauge fermion search in $e^+ e^-$ annihilation 4-18129
 photino mass, constraints from big bang theory 4-8607
 preon and mag. monopole partial confinement by radiation damping 4-13858
 pseudo-Goldstone fermions in broken supersymm., current algebra formula for mass 4-22949
 pulsions decay in (ϕ^4_-) ; field theory 4-22935
 Skyrmin decay in $SU(2)$ nonlinear σ model 4-32430
 steady-state cosmology particle decay and microwave background origin 4-22484
 $e^+ e^-$, search for supersymmetric electrons 4-23003
 $e^+ e^-$, singly produced supersymmetric electrons search 4-23004
 $e^+ e^-$ annihilation, polarised and unpolarised, photino mass, selectron prod. 4-9093
 $e^+ e^-$ annihilation, scalar lepton prod., photino mass effects 4-32651
 $p N \rightarrow \mu^- \mu^+ X$ a weakly interacting pseudoscalar particle Bethe-Heitler process 4-13921
- hysteresis**
 see also coercive force; dielectric hysteresis; elastic hysteresis; magnetic hysteresis; remanence
 bicyclic compounds, phase transitions 4-39466
 bistable optical devices, hysteresis and stochastic phenomena 4-5637
 capacitive humidity sensor characts. and expt. results 4-27535
 contact angle hysteresis in liq. bridges between rough plates 4-45451
 dynamometer characts.: interpolation deviation, hysteresis influence obs. (*Rumanian*) 4-8894
 Josephson junctions, zero field steps 4-45941
 multifilament superconductor hysteresis losses in superimposed DC and AC mag. fields, scaling law 4-45951
 phase conjugation by degenerate six-photon mixing, optical hysteresis and bistability 4-49460
 plasma excitation, reson., hysteresis singularities (*Russian*) 4-6074
 shape memory effect meas. device 4-35802
 TGS:AC(AB), ferroelectric, dielec. hysteresis loops and domain struct. 4-35395
 TGS:Cr $^{3+}$, deuterated, ferroelec. phase transition 4-35387
 Al-Cu-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
 Al-Zn-Mg, anomalous mech. to hysteresis loops rel. heat treatment 4-12165
 CsCrCl $_3$, heat capacity, thermodynamic functions, structural phase transitions 4-25048
 Cu-Nb-Al/Nb-Ti alloy superconducting cables, props. (*Italian*) 4-35197
 He-Ne laser output enhancement and striation quenching 4-33696
 Mg(NH $_3$) $_2$ (NO $_3$) $_2$, calorimetry, PMR and quasielastic neutron scatt. 4-20879
 (NH $_4$) $_2$ BeF $_4$, ferroelectric, incommensurate phase, phase transitions 4-35385
 NaNO $_2$, electrical conductivity meas. during heating and cooling, thermal hysteresis 4-34979
 NaNO $_2$:Mn $^{2+}$, electrical conductivity meas. during heating and cooling, thermal hysteresis 4-34979
 Nb $_3$ Sn multifilament superconductors, AC loss depend. on struct. props. 4-45952
 RbCrCl $_3$, heat capacity, thermodynamic functions, structural phase transitions 4-25048
 TaS $_3$, orthorhombic, bolometric spectrum and thermal hysteresis in resist. meas. 4-29956
- I-centres** see colour centres
- I-II-VI $_2$ semiconductors** see ternary semiconductors
- I-III-VI $_2$ semiconductors** see ternary semiconductors
- IC** see integrated circuits
- IC engines** see internal combustion engines
- ice**
 see also glaciology; sea ice; snow
 4 GHz rain and ice depolarization meas. in Sitka, Alaska 4-36440
 accretions grown on power lines, microstructure, atm. water content/temp./vel. effects 4-12945
 adhesion to flexible polyurethane elastomer substrate, failure energy, thickness effect 4-26170
 aircraft icing, wind tunnel expts. on cylinders 4-58228
 aircraft icing described by simulation model 4-58227
 aircraft icing in clouds, cloud microstruct. study 4-22039
 amorphous, adsorp. and mobility of H atoms on surface 4-29775
 amorphous solid water, OH stretching spectra, theoretical anal. 4-29546
 E Antarctic ice cores, microparticle props., implications for palaeoclimate (30000 yr record) models 4-31626
 Antarctic polycrystalline, grain growth rate, hydrostatic press. effect 4-31538
 artificial snow production on Space Shuttle, expt. system 4-12322
 in atmosphere, depolarisation effects on dual-polarised communication link 4-22040
 atmosphere crystals at ground level during halo displays, collection and characts. 4-26752

ice continued

atmosphere refraction haloes, polarisation and intensity distrib., ice crystal effects 4-26799
 atmospheric ice particles 4-31572
 bacterial ice nuclei for contact and immersion freezing of freely suspended droplets 4-47368
 brittle-ductile transition and cracks 4-55998
 buildings in Antarctica with foundations on snow, settlement and deformation study 4-22008
 charge partitioning between Bjerrum and ionic defects, ab initio MO calcs. 4-29466
 clathrates, thermal cond. investig. 4-29714
 cloud, ice-nucleus sources, propag. by diffusion 4-26779
 clouds, ice conc. (*Chinese*) 4-47333
 cometary, vaporisation and fractionation 4-31795
 cometary ice in nuclei, interaction in interplanetary medium 4-31796
 compressed, transition to symm. H bonds 4-29527
 compressive strength, effects on grain and sample size 4-22015
 compressive strength of model (urea) ice 4-21969
 core acidity and charge buildup 4-31539
 creep of columnar-grained ice at low stress 4-22010
 crystal, hexagonal, H^+ mobility in bulk and surface, PMR investig. 4-30291
 crystal, hexagonal, optical spectra and electronic struct. 4-29880
 crystal growth, solid-liq. interface props., light scatt. study 4-11259
 crystal growth at $-8\pm 2^\circ\text{C}$, struct. 4-24747
 crystal growth from vapour, growth rates and habits 4-29369
 crystalline and amorphous, positronium formation and diffusion studied with variable-energy positrons 4-16265
 crystallite melting, mol. dynamics computer simulation 4-29579
 crystals, deformed, dislocations at large-angle grain boundaries, generation and absorpt. 4-29439
 crystals, internal friction and dielec. relax., X-ray irradiat. effects 4-29476
 crystals pure and doped with NaCl, KCl and NaOH, internal friction meas. 4-29445
 cubic, homogeneous nucleation from conc. solns. of $\text{LiCl}\cdot\text{D}_2\text{O}$ 4-29570
 cubic, pot. energy function and cohesive energy calcs., water mol. cluster model 4-28584
 cubic, thermal cond. investig. 4-29714
 DC conductivity meas., ageing effects, climatological appls. 4-29967
 deformation and fracture under temp. gradient, elec. charge separation 4-31614
 dielectric properties in presence of space charge 4-40344
 dislocation velocity for ice on (0001) and (1010) planes 4-29440
 dispersed microcrystals, dielectric study by depolarisation thermocurrent technique 4-30383
 elastic moduli determ. by Brillouin spectroscopy 4-29511
 electric currents associated with dislocation motion 4-29443
 electron irradiation induced amorphous state, anomalous devitrification 4-39344
 electron solvation, subnanosec. time-resolved optical absorpt. 4-30491
 energetic charged particle erosion of ices in Solar System 4-31771
 extraterrestrial ice, phys. and chem. props., review 4-31770
 flexural properties measurement by cantilever beam method 4-22109
 friction and adhesion calcs. 4-45260
 frost, grain growth rates on planetary surfaces, spectral data interpretation implications 4-27021
 frozen waterfalls, colour and radiative transfer 4-26800
 glacier erosion and sedimentation processes, symposium, Geilo, Norway (1980 August 25 to 30) 4-31957
 Great Lakes of N America, ice cover statistics 4-22004
 Greenland deep-ice core, air inclusions, vol. relax., optical microscopic obs. 4-31541
 Greenland ice, acidity signals rel. to volcanic eruptions (1500 BC to AD 1500) 4-17128
 growth, decay and motion (book) 4-8666
 growth from solns., homogeneous nucleation, time-temp. transformation curve, stable glass criterion 4-11023
 growth steps in growth from vapour 4-57085
 hail detection dual-wavelength radar system, attenuation correction 4-47363
 hail growth, effect of storm flow struct. 4-17229
 hail patterns in Grossversuch IV expt., statistical anal. 4-12944
 hailcloud formation from merging of clouds (*Chinese*) 4-42030
 hailstorm of Central High Plains, National Hail Research Expt. 4-31986
 hailstorms of Central High Plains, National Hail Research Expt., case studies 4-31987
 hexagonal cryst., optical charact., attenuation matrix 4-46230
 hexagonal crystals in cirrus clouds, single-scattering phase function determ. 4-42157
 hexagonal crystals, heat cond coeffs., ageing effects 4-29713
 hydrometeors reorientation aircraft accel. flow 4-47367
 on Hyperion, obs. of $1.5\ \mu\text{m}$ absorpt. feature 4-53087
 I, Bjerrum L defect migration, activated complex model 4-28584
 Ic, mol. dynamics computer simulation 4-29297
 Ic, occurrence in nature 4-31617
 ice: $\text{HF}(\text{NH}_3)(\text{NH}_4\text{F})$, electron as probe for defects 4-29983
 ice:(NaCl), surface cond., freq. depend. 4-30045
 ice X, symmetric H bonds, Raman meas. under press. 4-56936
 ice-rich moons, rel. to phys. props. of ice 4-31777
 ice-water interface, enhanced light scatt. during freezing 4-30480
 Ih, bulk model, struct., central force pot. model calcs. 4-29405
 Ih, defects studied by very low freq. internal friction meas. 4-29444
 Ih, dielectric props., time-induced changes 4-30384
 Ih, doped, pulsed NMR T_1 meas., annealing, temp. and impurity conc. depend. 4-30307
 Ih, OH stretching spectra, theoretical anal. 4-29546
 Ih, struct., neutron diff. investig. 4-29406
 Ih crystallite, press. melting, simulation 4-29577
 Ih polycrystalline, dielectric study by depolarisation thermocurrent method 4-30382
 insoluble microparticle size distribns. in Greenland ice 4-31542
 interstellar, spectrosc. investig. 4-31887
 interstellar ice grains in interstellar space, rel. to astron. spectra 4-31888
 interstellar nonspherical grains, light scatt. and phase retardation 4-4073
 Kesselwandferner glacier, Otztal Alps, Austria, firn viscosity study 4-22003
 Kirkwood-Frohlich dielectric eqn. appl. 4-30379
 melting of ice, treatment as Stefan-Signorini problem 4-49658
 meteorology, ice build-up on cylinders in clouds 4-22037
 microplasticity, very low freq. internal friction meas. 4-50434

ice continued

nucleation kinetics in pure water emulsions and emulsions inseminated with AgI particles 4-29367
 Oklahoma multicell storm, hail growth, trajectories and form. 4-8292
 optical properties of snow cover and bubbly ice 4-31530
 permafrost area, gravity obs. influenced by massive ground ice 4-22110
 permafrost rocks of King George Island, South Shetland Islands (*Russian*) 4-47311
 phonon cond., normal and umklapp phonon-phonon interactions 4-25101
 physical properties, data collection (book) 4-42613
 physics and chemistry of ice, conference, Rolla, MO, USA (1982) 4-27232
 planetary ice satellites, evolution, effects of rock-ice mixtures viscosity 4-13218
 polar, anisotropic power-law viscosity (*French*) 4-44400
 polar ice caps boundary latit., estimation of probability of spontaneous climatic transition (*Russian*) 4-42148
 polar ice sheets, linkage between regional insolation and global climate 4-17177
 polycrystalline, creep, rate-controlling processes, plasticity 4-29514
 polycrystalline, creep as function of hydrostatic press. 4-29513
 polycrystalline, rimed, contact pot., rel. to thunderstorm electrification 4-31615
 polycrystalline, TSEE in vacuum, 190-205K, electron bombardment effect 4-3035
 polymorphs, high press. phase transitions and H-bonded symm. 4-39192
 polymorphs, thermal cond. investig. 4-29714
 pressure sintering, snow densification at polar glaciers and ice sheets 4-31540
 proton mobility and trapping 4-29982
 pulse irradiat., H_2O_2 effect on mixed cond. 4-31001
 radiative transfer effect on ice crystals falling in atm., mass/heat budgets 4-8289
 radiowave propagation, influence of hydrometeors 4-3786
 radiowave scattering by ice coatings 4-41976
 recrystallisation growth rate 4-29368
 river in Alaska, frazil ice formation rel. to water temp. 4-22020
 river with frazil ice forming, ice rise velocities in flowing river 4-22011
 Rothamsted, England, monthly extreme air temp. and air frost probability 4-42143
 SHF depolarization along satellite-Earth paths 4-3811
 Sierra Nevada winter storms, cloud ice crystals and supercooled liquid water distrib. 4-47362
 solar system ice, amorphous or crystalline struct. 4-17416
 solid clusters struct. formed in free jet expansion 4-29403
 solute redistribution during freezing 4-41389
 St. Moritz lake, Switzerland, snow and slush on floating ice 4-22021
 stacking faults, form. and annihilation 4-29451
 storms, graupel and hail devel., simulation 4-13049
 stratified clouds, ice pellets and graupel, microphysical obs. (*Chinese*) 4-47328
 strength rel. to grain size at high temp. 4-15583
 surface, supercooled water layer, reply to comments 4-25128
 surface, supercooled water layer, structure model 4-25127
 surface structure, modification during ageing 4-29739
 thermostimulated exoemission from water vapour cryodeposits under vacuum conditions 4-7323
 thickness 4-47461
 thin films, elec. meas. near cubic-hexagonal phase transform. 4-50503
 tritiated, volatility ratio rel. to storage of T waste (*Japanese*) 4-23150
 on Uranian satellites, obs. of $1.5\ \mu\text{m}$ absorpt. feature 4-53087
 water droplets, frozen on ice surface, cryst. struct. and orientation 4-29578
 water-ethylene glycol mixtures, vitreous phase stability, internal friction method meas. 4-29328
 weather modification expt. aerosols, ice nucleating props., chem. kinetic theory appl. 4-12979
 D_2O ice, amorphous, neutron diff. studies, CRN model 4-29321
 F^- doped, layered capacitor method for dielec. bridge meas. 4-11839
 H_2O and D_2O ice, cond. band electrons, mobility and trapping 4-29966
 He solubility 4-29631

iconoscopes see television camera tubes

identification

see also correlation methods; frequency response; modelling; parameter estimation; simulation; state estimation
 environmental systems identification: problems for the development of recursive estimation algorithms 4-58208
 respiratory control during exercise, model identification 4-31266
 seismic signal analysis via modeling approach 4-41783

IETS see tunnelling spectra; tunnelling spectroscopy

IEXE see ion microprobe analysis; X-ray chemical analysis

i.g.f.e.t. see insulated gate field effect transistors

ignition

see also electric ignition
 combustible solid, ignition by convection heating 4-35907
 flame spread through fuel droplets under zero gravity condition 4-35905
 natural convection influence on fuel mixture ignition concentrational limits 4-44760
 particle suspensions, ignition by radiant emission from bounding walls 4-21475
 periodic vortex formation in wake behind flame stabilisers 4-44764
 powder/air mixture ignition by discharges of static electricity 4-55674
 thermal explosion and times-to-ignition in systems with distributed temps., influence of reactant consumption 4-41218
 NH_4ClO_4 , thermal ignition behaviour in presence of fuel-rich compounds 4-30990

II-III₂-VI₄ semiconductors see ternary semiconductors

II-IV-V₂ semiconductors see ternary semiconductors

II-VI semiconductors

book 4-53379
 CdTe photon counter and spectrometer appls. 4-996
 CdTe thin films, size quantisation, fine struct. due to exciton transitions in transmission spectra 4-30540
 charged dislocation motion 4-20205
 cohesive energy and bulk modulus 4-2137
 deformation luminescence and mobile dislocations 4-16172
 epitaxial cryst. growth by sputter deposition, review 4-56163
 impurity oscill. freq. estimation (*Russian*) 4-50763

II-VI semiconductors continued

- insulator/semiconductor struct., acoustic wave reflection, acoustoelectronic interactions 4-20454
 interface with metals, chem. struct. and Schottky barrier form. 4-6891
 LEED, desorption and ARUPS studies 4-45517
 light amplification, radiative processes in electron-hole drops 4-40530
 local Heine-Abarenkov model pot. 4-6315
 mixed, anharmonic reson. of one-phonon and two-phonon states 4-11887
 narrow gap semiconductors, book 4-22532
 optoacoustic phenomena (*Russian*) 4-6443
 ternary alloys, phonon spectra, embedded cluster calc. 4-6456
 ternary systems, containing III-V and II-VI compounds, enthalpy of mixing 4-25025
 X-ray form factors, Compton profiles and structure amplitudes, ionisation effects 4-6348
 ZnO/Si p-n and n-n heterojunctions, conductivity 4-45864
 ZnS/R, R=rare earth, DC electrolysis, devices 4-51355
 Cd chalcogenide/ferri-ferrocyanide photoelectrochemical cells, effect of surface morphology and added salt 4-26296
 CdHgTe photodetectors advances for CO₂ laser beam detection 4-43054
 p-CdHgTe photodetectors for CO₂ laser radiation detection 4-43055
 CdHgTe photodetector operating at 77K, cryogenically cooled, optical immersion 4-43056
 CdHgTe, SPRITE detectors, optimisation of spatial resolution 4-38628
 Cd_{0.8}Hg_{0.2}Te, homogeneity investigation by magneto-optic methods 4-20951
 Cd_{0.7}Hg_{0.3}Te, ohmic contact techniques 4-25441
 Cd_{1-x}Hg_xTe, surface oxidation and Hall coeff. 4-56368
 Cd_{1-x}Hg_xTe, cross magnetoresistance meas. and calcs. (*Russian*) 4-50846
 Cd_{1-x}Hg_xTe crystals, Bridgman growth, rapid quenching, boundary layer thickness 4-3056
 Cd_{1-x}Hg_xTe film, wavefront reversal study (*Russian*) 4-5665
 Cd_{1-x}Hg_xTe graded gap structures, photoelectromagnetic effect 4-39955
 Cd_{1-x}Hg_xTe, γ -irrad. effect on elec. props. (*Russian*) 4-56372
 Cd_{1-x}Hg_xTe, low freq. phonons, far IR absorpt. spectra 4-20974
 Cd_{1-x}Hg_xTe, mag. field induced metal-insulator Mott transition, hopping cond. 4-2514
 Cd_{1-x}Hg_xTe, magnetoabsorption and photoluminescence 4-11872
 Cd_{1-x}Hg_xTe, nonresonant interband Faraday rotation study 4-46238
 Cd_{1-x}Hg_xTe, polycrystalline ingot, thermal modelling of casting 4-3055
 Cd_{1-x}Hg_xTe, refractive index calc. rel. to freq. and mole fraction 4-40385
 Cd_{1-x}Hg_xTe, segregation during Bridgman growth 4-40636
 Cd_{1-x}Hg_xTe sputtered epilayers, 32X32 planar IR photovoltaic mosaic arrays 4-55220
 Cd_{1-x}Hg_xTe:Cu, Bridgman grown crystals, Au segregation, elec. props. 4-46432
 p-Cd_{1-x}M_xTe/electrolyte junctions (M=Zn, Hg, Mn), flat band pot. 4-2649
 Cd(S,Se):Cu/Michler's ketone double layer system, optoelectronic props., Xerographic appls. 4-4488
 CdS (Se)(Te), TEM obs. of dislocation motion 4-55837
 CdS, acoustoelectronic electrification effect 4-15921
 CdS, acoustoluminesc. and photoluminesc., influence of r centres charge state 4-16261
 n-CdS based photoelectrochemical cells, stabilisation, role of surface reactions 4-57570
 CdS bicrystal interface, localised charge density depend. on Fermi level position 4-6861
 CdS, biexciton luminescence and P bands 4-11940
 CdS, bound exciton excited states 4-2521
 CdS, crystal growth by sublimation, crystallographic polarity anal. (*Japanese*) 4-16303
 CdS crystals and polycrystalline films temp. response obs., high-resolution thermoprobe development 4-21061
 CdS, dielec. const. determ. by ellipsometry, interferometry and surface plasmon optical excitation 4-46345
 CdS, electron-hole plasma expansion, optical gain and refl. spectroscopy 4-30002
 CdS electrophoretically deposited layers for CdS-Cu_xS solar cells, phase conversion 4-29853
 CdS, epilayer growth by MBE on III-V semicond. substrate, solar conversion efficiency 4-7360
 CdS, excitation spectroscopy of donor-acceptor pair luminesc. 4-35485
 CdS, excited exciton states, Fano antiresonance appearance, absorption bands 4-25232
 CdS, exciton ground state fine struct., photoluminesc. studies 4-29897
 CdS, exciton transport by nonequib. phonons and recombination radiation 4-34883
 CdS, film growth by anodic sulphidisation on Hg_{1-x}Cd_xTe 4-51550
 CdS film in slab-type optical waveguide, temp. depend. dispersion 4-24163
 CdS films, minority carrier diffusion length, solar cell appl. 4-20747
 CdS, intrinsic absorptive optical bistability 4-28752
 CdS intrinsic photoelectrode for photoelectrochem. cell 4-12486
 CdS, lasing in the streamer channel direction 4-24055
 CdS, low power optical saturation of bound excitons with giant oscillator strength 4-1448
 CdS, low power transverse optical bistability near bound excitons 4-49428
 CdS, low-voltage photoconducting materials, information recording and display 4-14649
 CdS, luminescence study of exciton polaritons 4-21038
 CdS, luminescence-band structure study using thermal modulation 4-40527
 CdS metallised piezoelec. resonator, acoustoinjection-luminesc. spectra 4-30536
 CdS, nonlinear susceptibility anisotropy and hologram recording (*Russian*) 4-49441
 CdS, optical rectification 4-55119
 CdS, orange luminesc. obs. 4-21007
 CdS, photoacoustic spectroscopy, transducer method 4-17950
 CdS, photocond. meas., control of carrier conc. by stimulated emission 4-56387
 CdS, photosensitivity, annealing effects 4-39987
 CdS, piezoelec. semicond., Bleustein-Gulyaev wave amplification, carrier diffusion effects 4-29756
 CdS piezoelectric thin film, deposited by hot wall technique, characterisation 4-34835
 CdS, plastically deformed cryst., optical props. 4-16234

II-VI semiconductors continued

- CdS, polariton wave-packet, group vel. and dispersion relation 4-11454
 CdS, polycrystalline, in CdS/NaOH and CdS/cysteine interfaces, capacitance meas. 4-11586
 CdS polycrystalline films, bath deposited, photosensitivity and optical props. (*Korean*) 4-16262
 CdS, powder layers, transformed into heterojunction solar cells using transient heating techniques, SEM studies 4-26294
 CdS, pure, enhanced two-photon absorption, anti-Stokes luminesc. obs. 4-11935
 CdS, Raman light scatt. and electrooptic effect 4-20946
 CdS, reflectivity of nonlocal dielec. with excitonic surface pot. 4-46211
 CdS, refractive index at exciton resonance, transmission spectra studies 4-56880
 CdS Schottky barrier height rel. to interface chem. reactivity 4-45881
 CdS, semiconductor-insulator struct., TSC meas. (*Russian*) 4-50941
 CdS single cryst., photocond. and dark cond. at high temps. 4-45828
 CdS single cryst., polaron scatt. processes, exciton absorption studies 4-34889
 CdS single crystal growth by closed-tube H₂ chem. transport 4-7340
 CdS single crystals, light self-diffr. and wave front reversal in four-wave interaction 4-28776
 CdS solar cells, non-stoichiometric Cu₂S formation by ion exchange process 4-41350
 CdS, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 CdS, stimulated light scatt. controlled by Franz-Keldysh effect 4-24091
 CdS, strain induced effects of dislocations, excitonic shift, photovoltaic effect 4-15911
 CdS, surface, laser induced desorption of atoms and mols. study 4-20463
 CdS, surface streamer discharges, emission 4-39034
 CdS thin film, photosensitivity in near UV 4-56455
 CdS thin film, vacuum evaporation and film struct. 4-25889
 CdS, thin film absorpt. spectra, annealing technique investig. 4-20989
 CdS thin film anisotropic refr. indices on a slab-type optical waveguide 4-46346
 CdS thin film photoelectrodes formed by tarnishing reaction, possibilities for photoelectrochemical cells 4-36018
 CdS thin films, electrodeposition from aq. diethylene glycol solns. 4-21172
 CdS thin films grown by flash-evaporation at low substrate, resist. and transparency 4-51501
 CdS thin transparent films on Ag, optical anisotropy, interferometric investigation using polarised light 4-7258
 CdS transparent films, refractive index and thickness determination, interference method 4-25822
 CdS, two-photon absorpt. study 4-16218
 CdS, undoped, laser oscillations in bound excitonic region 4-33663
 CdS, valence band splitting effect on biexciton binding energy 4-6710
 CdS, zinc-blende and wurtzite phases, electronic band struct., local density approx. 4-6703
 CdS:Ag, light illum., impurity migration, photostimulated gettering 4-2228
 CdS:Al film based photoelectrochemical cells, stability studies 4-52170
 CdS:Al film photoelectrochemical cell, doping effects 4-16790
 CdS:Cl, press. quenched, mag. props. 4-11665
 CdS:Cu, Cl thin films, photocond. props. ageing process influence 4-35027
 CdS:Ga, excitonic luminesc. spectra doping effects 4-16240
 CdS:In, thin films grown by flash-evaporation at low substrate, resist. and transparency 4-51501
 CdS:In film, photoanode for electrochemical photovoltaic cells 4-46867
 CdS:In(Cl), impurity cond., two band approach 4-25343
 CdS/Al(Ni) compounds, ohmic character monitoring by one-probe technique 4-32272
 CdS/CdTe electroplated thin film solar cells, high efficiency 4-46873
 CdS/CdTe solar cells, screen printed, stability 4-36005
 CdS/CdTe solar cells, screen printed, low resistance contact electrodes preparation 4-36006
 CdS/CdTe solar cells, screen printed, CdS sintered films, resistivity effects 4-36007
 CdS/CdTe/liquid cryst. noncoherent-coherent image converter, fabrication and performance (*Chinese*) 4-49558
 CdS/Cu₂S Schottky solar cells, parameters determining efficiency 4-57721
 CdS/Cu₂S solar cell, degradation in hot moist air and recovery in H₂ and air 4-16781
 CdS/Cu₂S solar cells fabricated on single-crystal CdS substrates, scanning light spot and electron beam-induced current scans 4-21557
 n-CdS/P-Si heterojunction solar cell, characts. and performance 4-12479
 CdS/CdTe heterojunction, electrochem. deposited, current transport mechanisms 4-35051
 CdS/CdTe thin film heterojunctions, current passage mechanism (*Russian*) 4-40030
 CdS-Cu₂S photovoltaic cells formed by dry barrier process, interface effects 4-25396
 CdS-Cu₂S solar cell, piezoelectrically coupled stress effect on junction characts. 4-31095
 CdS-Cu₂S sprayed solar cells, Cu₂S form. by ion exchange 4-21551
 CdS-Cu₂S thin film solar cells, stability study 4-26287
 CdS-Cu₂S all-electroplated solar cell technology, structure and performance 4-21550
 CdS-CuInSe₂ heterojunction, growth, structural characts., photovoltaic props. 4-30055
 CdS-CuInSe₂ thin film solar cells, interface activity 4-36013
 CdS-InP heterojunctions, MBE growth, J-V characts., solar cells appl. 4-20716
 CdS-InP heterostructure photoconverter 4-41349
 n-CdS/P-Si heterojunction solar cells, performance anal. 4-12482
 CdS-polyacetylene thin film photovoltaic devices 4-7874
 CdS_{0.53}Se_{0.47}, luminescence study of excitons 4-21037
 CdS_{1-x}Se_x, luminescence study of exciton mobility edge 4-16233
 CdS_{1-x}Se_x solid soln. dispersion of localised exciton lifetimes 4-25233
 CdS_{1-x}Se_x films, struct., elec. and optical props. 4-30094
 CdS_{1-x}Se_x lasing in the streamer channel direction 4-24055
 CdS_{1-x}Se_x thin film noise, autocorrelation meas. 4-35033
 CdSe, cryst., refl. spectra, phase spectral peculiarities (*Russian*) 4-40479
 CdSe crystals, reson. magneto-spatial dispersion 4-56895
 CdSe, deform. of band gap absorpt. edge by laser radiation (*Russian*) 4-7215
 CdSe, electron-hole plasma emission in temp. range 100-300K 4-40528

II-VI semiconductors continued

- CdSe, excitonic reson., fs reflectivity spectra 4-39787
 CdSe, heterophase photoconductors, magnetoresist. spectral depend. 4-25378
 CdSe liquid junction solar cells, elec. field modulated photoluminesc. 4-16789
 CdSe, mag. field reversal at polaritons 4-2524
 CdSe single crystal films, slow recombination centres, photoelec. props. studies 4-11482
 CdSe sprayed films, photoconductivity, non-equilibrium carrier relaxation 4-6913
 CdSe sprayed layers, physical props. 4-21060
 CdSe, surface, laser induced desorption of atoms and mols. study 4-20463
 CdSe thin film photoelectrodes formed by tarnishing reaction, possibilities for photoelectrochemical cells 4-36018
 CdSe thin films, elec., photocond. and optical props. 4-15971
 CdSe thin films regeneration after O chemisorption 4-39690
 CdSe, UPE layers, cond., electron mobility, cryst. struct. and morphology 4-57102
 CdSe:Ag, Ar(Cl) film, photoelec. props., electron density and mobility 4-25402
 CdSe:Ni, donor and acceptor levels 4-56267
 n-CdSe/SnO₂/n-Si tandem electrochemical solar cells 4-26286
 CdSe:AsSb₃ and -As₂Se₃Ge_{0.5} heterostructure, EBIC study 4-50918
 CdSe-electrolyte interface characterisation by modulated photoluminesc. 4-45878
 CdSe-HgSe, phase diagram 4-51642
 CdSe-TiO₂ interface, struct., comp., adhesion, TEM, electron diff. obs. 4-56156
 Cd_{0.9}Se_{0.1} mixed cryst., absorption bleaching and band edge shift 4-55144
 CdSe_{1-x}Te_x films, impurity luminesc., photocond. meas., comp. depend., band struct. 4-35506
 CdSe, Te_{1-x} solid soln. films, elec. cond. characts. 4-30091
 CdTe (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
 CdTe, amorphised, hopping and band transport 4-25338
 CdTe antireflection coatings for enhanced transmission in IR region 4-28810
 CdTe, atom probe spectra study 4-20062
 CdTe, defect imaging using X-ray and scanning cathodoluminescence 4-15482
 CdTe, defect study by SEM/EBIC 4-15480
 CdTe, defects study by scanning acoustic microscopy 4-6361
 CdTe, dense exciton gas, self-heating, luminesc. study 4-6709
 CdTe, electrochemical deposition of photosensitive films 4-40686
 CdTe electronic materials, IR microscopy, appls. (*French*) 4-17934
 CdTe epilayer-Cs, AES and work function study of deposition 4-25837
 CdTe epitaxial layer on GaAs and sapphire, lattice match and heteroepitaxy appls. 4-39694
 CdTe film closed tube CVD on CdTe crystal, morphology and struct. 4-7367
 CdTe film growth on (001) GaAs:Cr by MBE, RHEED, photoluminesc. 4-45539
 CdTe films, (100), MBE growth on GaAs (100) 4-40653
 CdTe films on CdTe (110) substrates, at. layer epitaxy growth and electronic struct. 4-2467
 CdTe IR low loss prism absorptivity meas. and optical metrology 4-10404
 CdTe, intrinsic point defects 4-24813
 CdTe, laser irradi., orientation depend. surface damage 4-25131
 CdTe, long-time photoconductivity relax. (*French*) 4-15913
 CdTe, MBE growth on Ge, photoluminescence spectra, X-ray diff. studies 4-20522
 CdTe nuclear radiation detectors, characts. for proton, α -particle and γ -ray detection (*Russian*) 4-38008
 CdTe, nuclear radiation detector appl., review 4-43757
 p-CdTe, ohmic contact techniques 4-25441
 CdTe, photoluminescence meas., stimulated emission spectra, light amplification under two-photon pumping 4-40481
 CdTe, plastic deform., thermopower and elec. props. 4-39943
 CdTe, plasticity, Hall effect, thermoelec. power meas., chemomechanical effect 4-15892
 CdTe, pure, photolum. effects of excitation intensity 4-56991
 CdTe, resonant Brillouin scatt. 4-11901
 CdTe, small-angle grain boundaries, screw dislocations, refl. X-ray topography, scanning cathodoluminescence imaging 4-2213
 CdTe, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 CdTe substrate large single crystal growth by Bridgman method, material eval. 4-21120
 CdTe surface, photoetching effect, cathodoluminescence imaging 4-16255
 CdTe, surface at. motion, TEM study 4-50618
 n-CdTe thin film MIS solar cells, collection efficiency calc. 4-31098
 CdTe thin films, elec. props. study 4-25461
 CdTe thin films, electrodeposited, hole traps, SCL current meas. 4-56462
 CdTe thin-film polycryst. solar cells, film prep. techniques 4-21543
 CdTe:Ag, photon absorption-induced surface segregation 4-45335
 CdTe:Cl(In)(Al) crystals, EPR studies 4-46103
 CdTe:In(Al) epitaxial layers, LPE growth and doping characts. 4-34820
 CdTe:Li-Au low resistance contacts 4-30049
 CdTe:Mn, impurity states calcs. (*Russian*) 4-50766
 CdTe:N(P)(As), photoluminescence studies 4-16244
 CdTe:P, doping by laser annealing, photoluminesc. and SIMS studies (*French*) 4-15527
 CdTe:Pb(Ge), deep level form., EPR study 4-40224
 CdTe/Au, ohmic and rectifying contacts, elec. and struct. props. 4-2656
 CdTe/Cu_{1.8}S heterojunctions, reverse currents 4-30066
 CdTe/electrolyte interface, photocurrent meas. 4-45875
 CdTe/sapphire films, MBE growth and photoluminesc. 4-16232
 CdTe-Au Schottky diode, defect study by SEM/EBIC 4-15480
 CdTe-CdS polycrystalline thin-film solar cell fabrication (*French*) 4-3469
 CdTe-InSb heterojunction, prep. by condensation in quasi-closed volume 4-57109
 CdTe-metal junctions, surface prep. effect on props. 4-2653
 CdTe-metal junctions and heterojunctions, surface effects 4-25442
 CdTe-ZnTe heterojunction, photovoltaic effect 4-15944
 CdTe(Cl), detector geometric characteristics for clinical meas. 4-54558
 Cd_{1-x}Zn_xS sprayed film photoelectrochem. cells, performance rel. to substrate temp. 4-7889

II-VI semiconductors continued

- Cd_{1-x}Zn_xS/CuInSe₂ solar cells, voltage-dependent light-generated current 4-41336
 Cd_{0.9}Zn_{0.1}-x-S-Cu_{1-x}S ultra-thin polycrystalline solar cells 4-26288
 Cd_{1-x}Zn_xS(In), epilayer growth by MBE on III-V semicond. substrate, solar conversion efficiency 4-7360
 Cd_{1-x}Zn_xSn/CuInSe₂ solar cells, current voltage transients 4-12470
 p-Cd_{1-x}Zn_xTe/electrolyte junction, photoelectrochem. studies 4-45872
 Cd_{0.9}Zn_{0.1}-xTe, bound excitons and resonant Raman scatt. 4-30470
 Cd_{0.9}Zn_{0.1}-xTe, refractive index anal. 4-25705
 Cu₂S-CdS solar cells, thin film, front grid contact fabrication laboratory method 4-36011
 Cu₂S-Zn_{1-x}Cd_x-S thin film heterojunctions, base In conc. effects on electrical and photoelectrical props. 4-20709
 Cu₂S, vacuum evaporated thin films, phase transitions, electron diff. 4-25176
 GaAs substrate temp. effect on MBE grown ZnSe:Ga photoluminescence and elec. props. 4-21062
 GaAs-CdSe, phase equilibria, mol. interaction 4-57194
 GaSe:Mn single cryst. film, photoluminescence studies, orientation depend. 4-56989
 (Hg, Cd)Te, gettering mech. obs. 4-56087
 HgCdTe 0.1 photoconductive detectors, antireflection coating effect on performance 4-37176
 HgCdTe CCD sensors, technology developments and performance (*Czech*) 4-48205
 HgCdTe, epitaxial film on CdTe, reflectance and transmittance study 4-30553
 HgCdTe frontside- or backside-illum. detectors, new struct. for IR CCD focal plane arrays 4-48201
 HgCdTe short wavelength IR focal plane arrays 4-48202
 HgCdTe/CdTe bicrystals, misfit dislocation introduction and interdiffusion 4-29829
 p-Hg_{0.68}Cd_{0.32}Te, excess photogenerated carrier lifetime, optical modulation spectroscopy 4-20666
 Hg_{0.7}Cd_{0.3}Te, complex dielectric function and optical props. 4-30376
 Hg_{0.8}Cd_{0.2}Te, anodic film, HgTeO₃ composition 4-50660
 Hg_{0.8}Cd_{0.2}Te, Ar⁺ ion implantation, radiation defects form. 4-15506
 Hg_{0.8}Cd_{0.2}Te, electron localisation, magnetoresist., Hall effect meas. 4-35016
 Hg_{0.8}Cd_{0.2}Te, ion implantation, radiation defect form. 4-15507
 Hg_{0.8}Cd_{0.2}Te, PIXE analysis of compound materials 4-45067
 Hg_{0.8}Cd_{0.2}Te substrates with anodic oxide films, comp., ion-induced reduction and sputtering studies 4-40594
 Hg_{0.8}Cd_{0.2}Te thin films, sputtered, annealed, elec. props., struct., comp. 4-40086
 Hg_{0.8}Cd_{0.2}Te:Al⁺, ion implanted, defect distrib. profile 4-24845
 p-Hg_{0.9}Cd_{0.09}Te, semimetal-semicond. transition under press. 4-34879
 n-Hg_{0.96}Cd_{0.04}Te, Shubnikov-de Haas effect under pressure 4-29871
 Hg_{1-x}Cd_xTe crystals, low temp. synthesis 4-7354
 Hg_{1-x}Cd_xTe, MBE growth and characterisation 4-40654
 Hg_{1-x}Cd_xTe thin films, cryst. struct. study 4-15784
 Hg_{1-x}Cd_xTe abrupt heterojunctions, misfit dislocations and dangling bond densities 4-50907
 Hg_{1-x}Cd_xTe, anodic oxide, comp., reaction with substrate 4-41015
 Hg_{1-x}Cd_xTe, characterisation of oxide layers and depth profiling 4-50695
 Hg_{1-x}Cd_xTe, deep levels in near-surface region, C-V characts. of MOS struct. 4-50762
 Hg_{1-x}Cd_xTe, energy band gap 4-11436
 Hg_{1-x}Cd_xTe, energy gap, comp. and temp. dependence from optical absorpt. data 4-20555
 Hg_{1-x}Cd_xTe, energy gap bowing calcs. 4-11437
 Hg_{1-x}Cd_xTe epitaxial layers, blocking of threading dislocations 4-39701
 Hg_{1-x}Cd_xTe films, isothermal growth, elec. props. 4-40655
 Hg_{1-x}Cd_xTe heterojunctions, misfit dislocations, dangling bond densities, epitaxial growth theory 4-39706
 Hg_{1-x}Cd_xTe, interfaces, defects, oxidation, band structure, bond strength 4-39770
 Hg_{1-x}Cd_xTe, isothermal vapour phase epitaxy, surface morphology, Hall data 4-50652
 Hg_{1-x}Cd_xTe, LPE growth from Hg-rich solns., phase diagram determ. 4-34818
 Hg_{1-x}Cd_xTe, LPE growth using slider boat, annealing effect on epilayer props. 4-34819
 Hg_{1-x}Cd_xTe, linear and nonlinear intensity depend. refractive index 4-7147
 Hg_{1-x}Cd_xTe n-inversion layers, magnetoconduction study 4-15965
 Hg_{1-x}Cd_xTe, narrow gap, band mixing calcs. 4-50717
 Hg_{1-x}Cd_xTe, quenched, dendrite config. and distrib. 4-34659
 Hg_{1-x}Cd_xTe, Te precipitation during recryst. annealing 4-29633
 Hg_{1-x}Cd_xTe, three-band Kane model, many particle effects 4-34858
 Hg_{1-x}Cd_xTe, two-mode optical vibr., two-site model (*Chinese*) 4-6460
 HgS-(S,Se):Cu mixed system optoelectronic props. for electrophotographic appls. 4-53790
 HgS(Se)(Te), thermoelec. power at very high press. 4-15906
 HgSe, photon-ionised impurity plasmon processes, evidence of free carrier absorption 4-7219
 n-HgTe, cyclotron resonance, magnetoabsorption 4-34862
 HgTe, hole mobility and Hall effect 4-45802
 HgTe-metal chem. reactions, thermodynamic props. 4-57539
 HgTe-MgTe, phase diagram 4-51642
 HgTe-type semiconductors, conductivity tensor components 4-2616
 Hg_{1-x}Zn_xTe, refractive index anal. 4-25705
 InP substrate surface, thermally cleaned under As mol. beams for InAs MBE growth, ESCA study 4-21351
 PbTe, IR pushbroom arrays for remote sensing, satellite-borne 4-43060
 SnO₂-ZnS-Cu₂S-ZnS:Mn-Al thin film structures, electrolum., short pulse excitation 4-30551
 Te-HgTe-CdTe system, epitaxial crystallisation, liquidus isotherms 4-51557
 Zn-ZnO-Au struct., nonohmic characts., trap clusters 4-56449
 Zn_{1-x}Cd_xS, 2H-6H transform., polymorphism, stacking faults, X-ray diff. study 4-11036
 Zn_{1-x}Cd_xS films, flash evaporation, low resistivity and high transparency props. 4-7363
 Zn_{1-x}Cd_xS optically pumped platelet laser, external cavity controlled lasing 4-19463
 Zn_{1-x}Cd_xS powders, photoluminescence and SA emission 4-35483
 n-Zn_{1-x}Cd_x-p-Si heterojunction solar cells, performance anal. 4-12482

II-VI semiconductors continued

- Zn_{0.16}Hg_{0.84}Te, epitaxial layers, reflectance and thermoreflectance spectra, permittivity 4-40556
 ZnO, annealed in Zn atm., elec. cond., Hall coeff. meas. 4-2605
 ZnO, CO coord. on (1010) surface, high resolution electron energy loss vibr. investig. 4-15560
 ZnO, deep level struct. of O vacancies, semi-empirical calc. 4-34906
 ZnO, elec. cond. and thermoelec. power, temp. and O₂ partial press. effects (*French*) 4-15870
 ZnO electrical conductivity obs., methane CO and H₂O effects, sensor appl. 4-34967
 ZnO film, high rate magnetron sputtering prep., optical and elec. props. 4-30632
 ZnO film deposition by reactive RF sputtering, struct. and elec. props. 4-7356
 ZnO film on Si substrate, elec. field effect on SAW excitation 4-39657
 ZnO film US transducers, saturated acoustic power level 4-24326
 ZnO films, highly oriented, laser evaporation growth 4-16315
 ZnO films, Pd salt impregnated, H₂ sensitivity rel. to heat treatment 4-42945
 ZnO films, reactive RF sputtering on metal substrate 4-51495
 ZnO films reactively RF sputtered using Zn target, resist. and cryst. quality 4-35568
 ZnO gas sensors, additives effects obs. 4-31042
 ZnO, laser-induced sputtering near threshold laser fluence 4-7286
 ZnO, Mandel'shtam-Brillouin spectra 4-20982
 ZnO, microcryst., optical props., effects of defect prod. by interaction with CO 4-30466
 ZnO, mosaic struct., internal stresses, γ -ray diffr., conoscopic methods 4-50530
 ZnO oriented films, MOCVD deposition process 4-30643
 ZnO, phonon halfwidths, and phonon-plasmon coupling, Raman study 4-2282
 ZnO, polycryst., nonuniform desorption of atomic O 4-20461
 ZnO, RF sputtered thin film, elec. and optical props. 4-50960
 ZnO sensor for CO detection and meas. 4-32249
 ZnO, single cryst. and thin layers, surface polaritons, attenuated total reflection spectra 4-56234
 ZnO single crystals, nonlinear light absorption, two-photon and impurity absorpt. 4-25787
 ZnO sputtered thin films, UV photolum., excitonic recomb. 4-30528
 ZnO sputtered thin films, post-deposition annealing using furnace and laser beam 4-55865
 ZnO surface, 2-D plasmons, angle resolved electron energy loss spectroscopy studies 4-50745
 ZnO, surface electronic props. and surface geometry 4-6856
 ZnO, surface photoreactions, catalytic activity 4-35936
 ZnO, TEM obs. of dislocation motion 4-55837
 ZnO thin films fabricated by RF magnetron sputtering, resistivities study 4-40095
 ZnO varistor ceramic, grain growth and elec. props. rel. to sintering temp. and additives 4-25914
 ZnO weak accumulation layers, electron transport phenomena 4-45854
 ZnO, X-ray struct. amplitudes, electron density distrib., ionisation effect 4-39263
 ZnO:In film, prep. by spray pyrolysis, elec., struct. and optical props. 4-30095
 ZnO-A^{III}B^{IV}C^V n-p heterostructures, photosensitivity 4-2647
 ZnS, acoustoluminescence excitation (*Russian*) 4-7254
 ZnS, colloidal dispersion, photoluminesc. and photoinduced O₂ adsorpt. 4-31031
 ZnS crystal, CVD, low resistivity rel. to heat treatment in Zn 4-16301
 ZnS, crystal growth by sublimation, crystallographic polarity anal. (*Japanese*) 4-16303
 ZnS DC electroluminescent film, Cu electromigration rel. to emission degradation 4-51351
 ZnS electrolumino-phors, aging in presence of moisture 4-21042
 ZnS epilayers, MOCVD growth 4-21151
 ZnS evaporated epitaxial layers on Si substrate, struct., microtwins obs. (*Japanese*) 4-39718
 ZnS film grown by at. layer epitaxy and electron beam evaporation, electrolum. spectra 4-51391
 ZnS film in Al-ZnS-Al sandwich, electrolum. spectra 4-51390
 ZnS films, activation for blue emission by embedding techniques (*Japanese*) 4-35053
 ZnS, Hall effect for bulk photovoltaic current 4-39979
 ZnS, ion implanted, radiation defect related photoluminescence band 4-7237
 ZnS, MOCVD growth rel. to luminesc. props. 4-51352
 ZnS, piezoelec., bulk photovoltaic effect, mag. field influence 4-45823
 ZnS, polymorphic transformation, mechanochem. and thermal processes 4-39196
 ZnS polytypes of 18L family, X-ray 10.1 oscillation photograph study 4-11058
 ZnS, polytypism, review 4-39244
 ZnS Schottky barrier height rel. to interface chem. reactivity 4-45881
 ZnS surface, merocyanine dye molecules, binding and decomposition 4-45531
 ZnS, surface coverage of Ag⁺, Pb²⁺ and Cu²⁺, photothermal deflection spectroscopy studies 4-39667
 ZnS, X-ray struct. amplitudes, electron density distrib., ionisation effect 4-39263
 ZnS:Al, Al_{2n}-V_{2n} pairs, IR absorption studies 4-55825
 ZnS:Al film, amorphous, low resist., optical and elec. props. 4-40514
 ZnS:Cu, Br(Al), AC powder electrolum. deterioration, ESR and X-ray diffr. study 4-25813
 ZnS:Cu, middle IR absorpt. and EPR of Cu associates 4-2944
 ZnS:Fe(Mn)(Co)(Ni), central force constant of impurity paramag. ion complex 4-24927
 ZnS:I, excitonic and time-resolved edge emissions 4-39786
 ZnS:Mn, EPR study of single crystals, powders, and thin films 4-51129
 ZnS:Mn, heavily doped, electroluminescence study 4-46334
 ZnS:Mn films, electroluminescent, microstructure rel. to deposition method, TEM obs. 4-2468
 ZnS:Mn MISIM thin film electroluminescent display devices, electron impact excited luminesc. 4-16252
 ZnS:Mn thin film structures, electrolum. decay kinetics, conc. and field depends. 4-51354
 ZnS:Mn thin films, with chalcogenide glass control layers, DC electrolum. 4-25814
 ZnS:Mn thin films, with high Mn conc., photoluminesc. study 4-51332

II-VI semiconductors continued

- ZnS:Mn(Cl), excitonic excitation spectra under press. 4-21016
 ZnS:Ni, impurity charge state changes, luminesc., absorpt., excitation and EPR spectra studies 4-16228
 ZnS:Tb bulk cryst., photoluminescence studies 4-56994
 ZnS:Te,Al; Te doping and implantation, cathodoluminescence study 4-45162
 ZnS:Tm phosphor, surface luminesc. 4-40516
 ZnS:TM²⁺ luminesc. centres, photoexcitation mechanisms 4-11915
 ZnS-CuGaS₂ heterostruct., form. and CuGaS₂ photolum. 4-30498
 ZnS_{1-x}Se_x, nonrandomness effect on long wavelength optical phonons 4-29553
 ZnSe antireflection coatings for enhanced transmission in IR region 4-28810
 ZnSe, Brillouin resonance scatt. of light by thermal acoustic phonons 4-25775
 ZnSe, chemical shift effect on donor polarisabilities 4-11477
 ZnSe, cryst., cathodolum. spectra and images in SEM 4-35500
 ZnSe, cryst., refl. spectra, phase spectral peculiarities (*Russian*) 4-40479
 ZnSe crystal, electronic struct. of ideal vacancies 4-29922
 ZnSe crystal, self-activated luminesc., excitation spectra, under press. 4-51337
 ZnSe crystals grown from melt under pressure, crystal structure 4-20163
 ZnSe, ESR and ODMR of Zn-vacancy-associated defects 4-56821
 ZnSe epitaxial film on GaAs substrate, luminesc. and stimulated emission study 4-40482
 ZnSe, epitaxial growth, interface with GaAs substrate, TEM. obs. 4-51510
 n-ZnSe epitaxial layers on n-GaAs, photocurrent versus electrode potential 4-25395
 ZnSe film on Al, impedance, in presence of spatial dispersion, and boundary conditions 4-40555
 ZnSe grown on (100)GaAs by MBE, surface struct. and props. 4-45541
 ZnSe, hetero-epitaxial growth on GaP by MBE 4-16336
 ZnSe heteroepitaxial film grown from organoelemental cpds. as electron beam pumped laser 4-14698
 ZnSe, impurity centres, IR quenching of photocurrent study 4-25281
 ZnSe, laser window material, refr. index 4-40388
 ZnSe, lasing in the streamer channel direction 4-24055
 ZnSe MBE growth on GaAs(GaP), vacuum thermal treatment and substrate cleaning effects 4-12029
 ZnSe, MOCVD, donor spatial distrib., cathodolum. study 4-34521
 ZnSe, MOCVD growth rel. to luminesc. props. 4-51352
 ZnSe, optical props. of I^{deep} bound excitons 4-25748
 ZnSe, plastic deform., defect struct., photoplastic effect, TEM 4-15483
 ZnSe, reflectivity of nonlocal dielec. with excitonic surface pot. 4-46211
 ZnSe, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 ZnSe, surface streamer discharges, emission 4-39034
 ZnSe, thin film, photoinduced discharge characteristics (*Korean*) 4-40093
 ZnSe thin films, refr. index in IR region 4-51232
 ZnSe, transparent, optical inhomogeneity, rel. to Zn/Se ratio 4-51219
 ZnSe, X-ray struct. amplitudes, electron density distrib., ionisation effect 4-39263
 ZnSe:Al, MOS struct., bistable conduction state 4-40069
 ZnSe:Cu, diffused Cu impurities, EXAFS studies 4-11342
 ZnSe:Ga, defect levels, photocapacitance study 4-29920
 ZnSe:Ga, MBE growth on GaAs substrate temp. effect on photoluminescence and elec. props. 4-21062
 ZnSe:I,In, impurity states and carrier mobility 4-25283
 ZnSe:In, Li, dielectric constant evaluation and pair spectra 4-40523
 ZnSe:In, TEM study of precipitates 4-25026
 ZnSe:Mn, EPR study of single crystals, powders, and thin films 4-51129
 ZnSe:Mn, ODMR spectra, transfer effects 4-51158
 ZnSe:Mn AC electrolum. thin film devices, electron-impact-excited luminesc. 4-51357
 ZnSe:Mn luminescent thin films, scanning CW laser beam annealing 4-50350
 ZnSe:N⁺, void formation on annealing TEM study 4-45210
 ZnSe:Ni, impurity charge state changes, luminesc., absorpt., excitation and EPR spectra studies 4-16228
 ZnSe:Ni, luminescence and electroabsorption studies 4-35496
 n-ZnSe/n⁺-GaAs, rectifier photoelectric effect in heterogeneous transitions on X-ray excitation 4-34559
 n-ZnSe/p-ZnSnAs, heterodiodes, elec. and photoelec. props. 4-25426
 ZnSe-HgSe, phase diagram 4-51642
 (ZnSe)_{1-x}(CdTe)_x single cryst., band gap energy, reflectance spectra and photocond. studies 4-2893
 (ZnSe)_{1-x}(CdTe)_x single crystals, vapour phase growth, surface topography, elec. cond. rel. to comp. 4-16302
 (ZnSe)_{1-x}(Ga₂Se₃)_{2/3} mixed crystal, VPE, close-spaced technique, morphology, photoluminesc. 4-16320
 ZnTe (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
 ZnTe, acousto and photoluminescence, impurity-defect mechanism 4-35504
 ZnTe amorphous film, apparatus for isothermal annealing and crystallisation obs. 4-2078
 ZnTe, electrochemical deposition of photosensitive films 4-40686
 ZnTe, energy deposition and heating kinetic anal. under pulsed electron bombardment (*French*) 4-55879
 ZnTe epilayers, vapour growth characts. 4-25884
 ZnTe epitaxial layers, vapour growth and elec. props. 4-25885
 ZnTe, filiform crystals, effects of pulsed laser radiation on electrophysical props. 4-55867
 ZnTe films on GaAs(100) substrates, growth by VPE and solid phase epitaxy 4-21163
 ZnTe, lattice dynamics, phenomenological parameter model anal. 4-55941
 ZnTe, light amplification, radiative processes in electron-hole drops 4-40530
 ZnTe, luminescence study of neutral donor bound excitons 4-21017
 ZnTe, opt. functions and parameters of long-wavelength exciton 4-11903
 ZnTe, plastic deform., defect struct., photoplastic effect, TEM 4-15483
 ZnTe, single crystal growth, characterisation (*Korean*) 4-40640
 ZnTe, stacking faults and dislocations, high resolution electron microscopy study 4-20201
 ZnTe thin films, prep. by vacuum deposition, optimisation of growth conditions, max. elec. resist. 4-16314
 ZnTe:P,Na, pure and doped, defect struct., TEM and photoluminesc. study 4-51321

II-VI semiconductors continued

- ZnTe-CdTe heterojunction, photovoltaic effect 4-15944
 ZnTe- $\text{S}_{0.2}\text{Se}_{0.8}$ solid solns., photoluminesc. and phonon spectra meas. 4-30524
 p-ZnTe(Se), interface processes induced by dissolved oxidising species 4-26214

III-V semiconductors

- 2D electron gas, heterojunctions and technical appls. 4-25439
 AlGaAs heterojunction concentrating solar cell arrays for high conversion efficiency 4-31087
 analysis of reflection high-energy electron diffr. data from reconstructed surfaces 4-39063
 capacitively meas. scanning DLTS system 4-15844
 charge packets at semiconductor interfaces, power law broadening 4-45860
 cohesive energy and bulk modulus 4-2137
 defect annealing by supercurrent proton irradi. 4-2233
 dislocation energy states, exptl. studies review 4-15843
 dopant conc., SIMS anal. 4-45173
 effective masses of carriers, temp. depend. 4-25204
 electro-optic polarisation modulator, two-dimens., for integrated optics 4-55180
 electrochemical selective etching and photoelectrochem. behaviour in H_2O_2 redox system 4-40040
 electronic spectra and solid solns., model pseudopot. calc. 4-20562
 epitaxial cryst. growth by sputter deposition, review 4-56163
 etched-wall bent-guide struct. for integrated optics in III-V semiconds. 4-55224
 excited states, ESR and Hall effect studies 4-11480
 $\text{Ga}_{0.4}\text{In}_{0.6}\text{As}/\text{InP}$ multiquantum well heterostructure lasers grown by molecular beam epitaxy operating at $1.53\ \mu\text{m}$ 4-38471
 $\text{Ga}_{1-x}\text{Al}_x\text{As}$, elec. resist. var., deep levels, band struct. 4-34974
 GaAs (001)-Al interface, growth processes 4-20417
 GaAs crystal growth technology for wider communication use 4-16307
 GaAs-AlGaAs multi-quantum-well heterostructure waveguides, optical absorpt., luminesc. characts. 4-19562
 n-GaAs-Au/Te/Ni low resist. ohmic contact fabrication 4-2652
 growth or dissolution reversal by LPE 4-50670
 heterostructure layers, interface defect struct., etch pits obs. on chem. bevel (French) 4-15772
 impact ionisation by holes in materials with a complex valence band struct. 4-15884
 InGaAsP/InP mushroom stripe lasers with low CW threshold and high output power 4-14687
 n-InP epitaxial, far IR photocond. from shallow donors 4-39954
 interface with metals, chem. struct. and Schottky barrier form. 4-6891
 interfaces, lattice matched, far from equilib. VPE growth 4-6680
 interferometer sensors, laser noise props. 4-5716
 laser diodes, threshold carrier density meas. 4-10297
 LEC and horizontal Bridgman growth, anion inclusions, scanning AES study 4-20216
 local Heine-Abarenkov model pot. 4-6315
 mixed compound semiconductors, alloy fluctuations at defects, DLTS studies 4-39811
 optical and electronic properties (French) 4-45768
 optical waveguides, metal clad, ion implanted, characts. 4-44249
 optoelectronic devices design (French) 4-45844
 phonon spectra calc. for long wavelength optical phonons (Russian) 4-6449
 polycrystalline thin films for solar cells, growth technology 4-7366
 pseudoquaternary alloy systems, LPE growth, lattice consts., comp. deviation effects 4-15776
 quantum well structure semiconductor lasers, MBE and VPE growth 4-49400
 quantum-well heterostructures, strained-layer, stimulated emission 4-14690
 rib waveguide structures, optical guiding 4-24233
 semi-conductor super-lattices cut computer switching delays (German) 4-30056
 semiconductor compositional superlattices, review (Polish) 4-45867
 semiconductor-electrolyte interface, potentiodynamic meas. 4-2650
 solid solutions, amphoteric impurity distrib. between sublattices 4-20232
 surface space charge layer, band degeneracy and nonparabolicity effects, C-V characts. 4-15933
 surfaces and interfaces, review 4-30043
 ternary alloys, phonon spectra, embedded cluster calc. 4-6456
 ternary mixed crystals, thermoelec. power 4-25384
 ternary systems, containing III-V and II-VI compounds, enthalpy of mixing 4-25025
 tight binding view of electronic scatt. rate 4-39893
 variable gap, photocurrent spectral dependence 4-56391
 Al/Al_{0.5}Ga_{0.5}As/GaAs MIS capacitor, current-voltage and capacitance-voltage characts. 4-45882
 Al-Al_{0.3}Ga_{0.7}As MOS diodes, capacitance-voltage characts. (Japanese) 4-56436
 Al-Si₃N₄-GaAs MIS struct., characterisation using capacitance method (French) 4-35073
 Al-SiO₂-InP MOS diodes, capacitance-voltage characts. (Japanese) 4-56436
 AlAs/GaAs double heterojunctions, inelastic tunnelling characts. 4-50906
 AlAs-GaAs superlattices, photoluminesc. spectra, well size fluctuations effects 4-25793
 AlAs-GaAs:Zn disordered superlattices, diffusion and interdiffusion processes 4-34716
 AlGaAs coupled-cavity laser, single longit. mode operation, 0.2-1.0 GHz FM characts. meas. 4-33695
 AlGaAs current-confined constricted-double-heterojunction large-optical-cavity diode laser, high power 4-1409
 (AlGa)As DH laser, gain mechanism 4-23985
 AlGaAs diode laser, carrier-induced index change 4-23983
 AlGaAs grating loaded lasers, tunable single mode picosecond pulse generation 4-24038
 AlGaAs index-guided diode lasers, high power phase-locked arrays 4-28713
 AlGaAs injection lasers, mode switching induced by temp. variations and optical feedback 4-19447
 AlGaAs laser, freq. stability, theory 4-38475
 AlGaAs laser, high-speed freq. stabilization using servo-system 4-24034
 AlGaAs laser, quantum noise limited freq. stability 4-19488

III-V semiconductors continued

- (AlGa)As, laser diode, nonlinear modulation response and relax. oscills. 4-23986
 (AlGa)As laser diodes for long-life space appls., reliability 4-1415
 AlGaAs laser simultaneous freq. and power stabilisation using optogalvanic effect of Kr 4-23981
 AlGaAs lasers, intensity noise statistics 4-33659
 AlGaAs lasers, near threshold struct. depend. wavelength shifts, wavelength-stable source appls. 4-28694
 AlGaAs multi-longitudinal-mode TJS laser diodes, noise characts. 4-33661
 AlGaAs multiple quantum well heterostruct. visible laser, MOCVD growth 4-19448
 AlGaAs multiquantum well lasers, gain and carrier lifetime meas. 4-28690
 AlGaAs, open tube diffusion of Zn, rel. to ohmic contact form. 4-6559
 AlGaAs operating in dispersive external cavity, transient optical response 4-24026
 AlGaAs phase-coupled quantum well lasers, Schottky barrier restricted arrays 4-49389
 AlGaAs quantum well lasers, phonon assisted gain coeff. 4-1391
 AlGaAs ridged substrate internally diffused stripe laser, visible emission 4-10294
 AlGaAs semiconductor laser with grating feedback, tunable single mode pico-second pulse generation 4-1389
 AlGaAs shallow-homojunction solar cells with high efficiency, MOCVD grown 4-52138
 AlGaAs single mode injection lasers for optical signal processing 4-38474
 (AlGa)As stripe-geometry injection lasers generalised Epstein model 4-23946
 (AlGa)As TJS laser mode partition study, statistical meas. 4-55034
 AlGaAs:Cu(Fe), deep acceptor levels, comp. dependence and random alloy effects 4-25280
 AlGaAs:Si selectively doped short period superlattice, MBE grown, persistent photocond. 4-25428
 AlGaAs/GaAs DH lasers, twisted-terraced substrate, design and mode locking 4-33684
 AlGaAs/GaAs double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
 AlGaAs/GaAs fibre coupled 2-D monolithic LED array with highly uniform radiance 4-24239
 n-AlGaAs/GaAs heterojunction interface, electron transport props. 4-15954
 AlGaAs/GaAs multiquantum-well laser monolithically integrated with MESFET driver 4-19470
 AlGaAs/GaAs multiquantum well laser and GaAs MESFET, monolithic integration, MBE growth 4-44103
 AlGaAs/GaAs quantum well heterostructs., organometallic VPE and photoluminesc. 4-25890
 AlGaAs/GaAs selective-meltbacked substrate inner stripe laser, room temp. CW operation 4-24019
 AlGaAs/GaAs single mode CSP lasers with optical feedback, phase noise characts. 4-33650
 AlGaAs-DH laser coupled to external resonator, bistability, self-sustained oscills. and irregular operation 4-1432
 (AlGa)As-GaAs 2-D electron gas devices, deep-level anal. by low-freq. noise measurement 4-50909
 AlGaAs-GaAs curved waveguides and channelled-substrate DH lasers, monolithic integration by wet chem. etching 4-24245
 (AlGa)As-GaAs double heterostructures, MBE grown, optical props., effect of As species 4-16251
 AlGaAs-GaAs single quantum wells, MBE growth, photoluminesc. props. 4-30640
 AlGaAs-GaAs solar cells for concentrator photoelectric batteries 4-7876
 AlGaAs-GaAs stripe geometry quantum-well heterostruct. lasers defined by Zn induced layer disordering 4-55029
 AlGaAs-GaAs two-dimensional electro-optic polarization modulator for integrated optics 4-55180
 Al_{0.3}Ga_{0.7}As/GaAs interface, selectively doped, illumination stimulated persistent channel depletion 4-45861
 Al_{0.4}Ga_{0.6}As/GaAs quantum well struct., MBE growth, photoluminescence props. 4-51344
 Al_{1-x}Ga_xAs active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
 Al_{1-x}Ga_xAs bulk lasers with superlattice interfaces 4-33648
 Al_{1-x}Ga_xAs continuous quantum well heterostructure laser diodes, wavelength modification 4-28693
 Al_{1-x}Ga_xAs DH lasers, picosecond pulse generation 4-10298
 n-Al_{1-x}Ga_xAs graded-gap layers, longit. piezoresistive effect 4-56360
 Al_{1-x}Ga_xAs LED materials, organometallic VPE, growth temp. depend. 4-51522
 Al_{1-x}Ga_{1-x}As, LPE growth rate, diffusion limited growth model 4-35585
 Al_{1-x}Ga_{1-x}As layered semiconductor, quantitative anal., SIMS method, matrix calibration 4-16702
 Al_{1-x}Ga_{1-x}As MOCVD layers on semi-insulating GaAs, bulk and transfer doping 4-50958
 Al_{1-x}Ga_{1-x}As quantum well heterostructure, lasers with external grating, broadband tuning 4-1393
 Al_{1-x}Ga_{1-x}As quantum well heterostructure laser, wavelength modification by layer interdiffusion 4-1395
 Al_{1-x}Ga_{1-x}As variable gap film press. gauges, composition gradient depend. 4-50967
 Al_{1-x}Ga_{1-x}As:Si, MBE growth and characterisations, H₂ gas effects 4-16330
 Al_{1-x}Ga_{1-x}As:Si epitaxial film, dopant conc., SIMS anal. 4-45173
 n-Al_{1-x}Ga_{1-x}As:Si MBE layers capacitance and Hall effect meas. 4-50962
 Al_{1-x}Ga_{1-x}As:Si(Sn) MBE films, doping and elec. props. 4-15509
 Al_{1-x}Ga_{1-x}As:Sn(Ge)(Te)(Cu) epitaxial films, impurity photolumin. 4-16263
 Al_{1-x}Ga_{1-x}As/GaAs heterostructures, photoluminescence, Al isovalent impurity effects (Russian) 4-40533
 n-Al_{1-x}Ga_{1-x}As/GaAs heterostruct., electron gas for FET 4-50821
 Al_{1-x}Ga_{1-x}As/GaAs layers, modulation doped, 2-D electron gas, low field mobility calc. 4-20710
 Al_{1-x}Ga_{1-x}As/GaAs quantum well heterostruct., photoluminescence 4-25791
 Al_{1-x}Ga_{1-x}As/GaAs quantum well heterostructs., MBE grown, photoluminesc. 4-35472
 Al_{1-x}Ga_{1-x}As/GaAs quantum well struct., electron-transport, quantum size effect 4-45865

III-V semiconductors continued

- n-Al_{1-x}Ga_xAs/GaAs selectively doped heterostructs. for high electron mobility transistors 4-35048
 Al_{1-x}Ga_xAs-GaAs, single crystal stacked layers, cascade solar cell portions, growth and photoluminesc. 4-3089
 Al_{1-x}Ga_xAs-GaAs DH gain-induced laser with nonhomogeneous pumping, longit. mode selection 4-38483
 Al_{1-x}Ga_xAs-GaAs heterostructure injection lasers, dynamic characts. 4-28698
 Al_{1-x}Ga_xAs-GaAs interface, appl. of spectral limits theorem 4-6696
 Al_{1-x}Ga_xAs-GaAs quantum well heterostructure, impurity induced disordering 4-50905
 Al_{1-x}Ga_xAs-GaAs superlattices grown by MOCVD, monolayer heterointerfaces 4-51463
 Al_{1-x}Ga_xAs, solid soln., phase state change with pulsed annealing 4-55875
 Al_{1-x}Ga_{1-y}As-Al_{1-y}Ga_{1-x}As quantum well laser operation in strong mag. fields 4-5589
 n-AlGaAs/GaAs MBE selectively doped heterostruct., long-lifetime photocond. 4-15955
 AlGaAsSb multijunction cascade solar cells, band gap span influence on efficiency 4-12480
 AlGaInAs epitaxial layers LPE, on GaAs (100), growth lines rel. to melt surface tension 4-3090
 Al_{1-x-y}Ga_xIn_yAs, band struct. calcs. 4-20559
 Al_{1-x-y}Ga_xIn_yAs, multinary alloys, energy gaps, CPA calc. 4-25214
 AlGaInP/GaInP/AlGaInP DH visible lasers, MOCVD growth and room temp. pulsed operation 4-19443
 Al_{1-x-y}Ga_xIn_yP, band struct., virtual cryst. approx. 4-56215
 Al_{1-x}Ga_{1-x}N, reactive MBE growth and optical characterisation 4-16328
 Al_{1-x}Ga_{1-x}P, high excitation photo- and electroluminesc. 4-21008
 AlInAs, MESFET optimum semiconductors for HF and low-noise appl. 4-29965
 Al_{0.48}In_{0.52}As LPE layers, undoped and Si-doped, elec. props. 4-20745
 Al_{0.48}In_{0.52}As layers, MBE, lattice matched to InP substrate, mobilities 4-40658
 Al_{0.48}In_{0.52}As/Ga_{0.47}In_{0.53}As interdigitated photoconductive detectors 4-37170
 Al_{1-x}In_xAs epitaxial layer, lattice matched to InP, direct energy gap, cathodoluminesc. study 4-45616
 AlN, CVD and props. (*Japanese*) 4-11417
 AlN, phonon freqs., vol. depend. and effective charges 4-6463
 AlN, pyrolytic layers, doping with Cl₂ and O₂, effects on elec. cond. 4-56456
 AlN, wide gap semicond., surface ionisation appl., work functions 4-50899
 AlP(As)(Sb), interatomic force const. and lattice vibr. calcs. 4-11243
 AlSb polytype heterostructures 4-15949
 Au/anodic oxide/GaAs struct., proton irradiation effects 4-35084
 BN, CVD and props. (*Japanese*) 4-11417
 BN(P), phonon freqs., vol. depend. and effective charges 4-6463
 BP, diffuse refl. spectra and electron struct. 4-25221
 BP freestanding films 4-25895
 BP, stoichiometry deviations, elec. cond. study, vacancies and anti-site defects obs. 4-39902
 CdS-InP heterostructure photoconverter 4-41349
 p-CdTe-CdS thin film solar cell, electrochemically deposited, hole trap 4-50911
 Cu/InAs/Cu, InAs surface inversion layer conductance, Cooper pair penetration 4-30085
 GaAs, laser induced local etching in CCl₄ gas atmosphere 4-39334
 GaS/AlGaAs quantum well lasers, spontaneous emission in strong mag. field 4-38477
 (Ga,In)As-(Al,In)As junctions, magnetophonon reson. (*French*) 4-25246
 (Ga,In)As-InP junctions, magnetophonon reson. (*French*) 4-25246
 GaAP, polycryst. thin films for solar cells, growth technology 4-7366
 GaAlAs 800 nm wavelength lasers, lifetime investig. 4-10307
 GaAlAs BH lasers grown by two-step MOCVD process 4-1406
 GaAlAs Bragg heterojunction injection laser with stable output wavelength 4-49402
 GaAlAs broad band super radiant diode fibre optic sensor and communication appls. 4-33683
 GaAlAs current pulsed laser with dispersive external feedback, single mode operation 4-33649
 GaAlAs DH laser, static and dynamic characts., temp. effects (*Chinese*) 4-55036
 GaAlAs DH lasers with lateral optical confinement, perturbation theory anal. 4-28691
 GaAlAs diode laser, freq. and amplitude modulated, for optical heterodyne spectroscopy 4-8965
 GaAlAs diode laser, linewidth reduction with high reflectivity coating 4-38470
 GaAlAs fibre coupled edge emitting LEDs 4-5708
 GaAlAs high power twin-ridge-substrate laser (*Japanese*) 4-55039
 GaAlAs, high-power dual-wavelength laser array, monolithic integration, LPE growth 4-19442
 GaAlAs index-guided diode lasers, FM-noise spectrum 4-49360
 GaAlAs injection laser, microwave props. 4-23995
 GaAlAs interferometric coupled-waveguide laser 4-10295
 GaAlAs laser diode, providing 6-GHz AM modulation bandwidth 4-24035
 GaAlAs laser diodes, design, operation and characts., communication appl. 4-14712
 GaAlAs laser diodes, broad-area, single-heterostruct., inelastic reflection of photons 4-23988
 GaAlAs laser diodes, spectral props. (*German*) 4-55043
 (GaAl)As lasers, separately pumped, longit. mode behaviour and tunability 4-33651
 GaAlAs lasers in single longit. mode, HF phase noise 4-33658
 GaAlAs p-n junction waveguide modulators using Pockels effect 4-55179
 GaAlAs semiconductor lasers for optical communication (*Hungarian*) 4-38631
 GaAlAs single mode laser spectrum meas. using stabilised optical fibre Fabry-Perot interferometer 4-33662
 GaAlAs single-mode laser freq. fluctuation stabilisation using fibre interferometer, noise props. 4-24045
 GaAlAs stabilised laser low freq. noise props. 4-33653
 GaAlAs stripe geometry heterostruct. lasers, numerical anal. 4-19445
 GaAlAs stripe geometry DH lasers, life testing, low temp. cathodoluminesc. spectra 4-38479

III-V semiconductors continued

- (GaAl)As stripe-geometry DH lasers, self-sustained oscillations, expt. study 4-38512
 GaAlAs tunable mode-locked lasers incorporating Brewster-angled diodes 4-33657
 GaAlAs twin stripe lasers, closely coupled, optical bistability 4-24073
 (GaAl)As two-component heterojunction laser with spatially inhomogeneous injection 4-28697
 GaAlAs visible lasers, failure mechanism rel. to formation of dark defects 4-10308
 GaAlAs visible laser, transverse mode stabilized, separated multilayer stripe built-in waveguide 4-19471
 GaAlAs:Si and GaAs:Si, heavy doping during MBE 4-16319
 GaAlAs:Sn(Ge), liquidus-solidus curves, appl. to visible laser 4-46455
 n-GaAlAs/GaAs heterojunction, 2-D electron gas, tangential magnetoresist. 4-15953
 GaAlAs-GaAs DH laser, IR transmission/emission method (*Chinese*) 4-55035
 GaAlAs-GaAs DH stripe laser, life-tested, low temp. SEM cathodolum. 4-35498
 (GaAl)As-GaAs high peak power asymmetric DH injection laser 4-1405
 (GaAl)As-GaAs isolated stripe CW laser degradation by proton bombardment (*Chinese*) 4-49414
 GaAlAs-GaAs/GaAs heterostructures, spectroscopic electroreflectance and ellipsometry (*French*) 4-11866
 Ga_{0.7}Al_{0.3}As, PIXE analysis of compound materials 4-45067
 p-Ga_{1-x}Al_xAs, alloy scatt. potential calc. 4-6773
 Ga_{1-x}Al_xAs alloys, deep energy levels, photocond., cond. band struct. effects 4-30015
 Ga_{1-x}Al_xAs, disorder-activated phonons, resonant Raman study 4-25736
 Ga_{1-x}Al_xAs, disordered, IR dielectric props. and vibr. states 4-40457
 Ga_{1-x}Al_xAs, electron-hole plasma, k-selection rule, photoluminesc. study 4-45818
 Ga_{1-x}Al_xAs, Hall mobility, electron conc. and resistivity meas. at 300K 4-11544
 Ga_{1-x}Al_xAs, MOCVD epitaxial growth, solid comp. and growth rate 4-21150
 Ga_{1-x}Al_xAs semiconductor alloy variable-gap cells with several junction energy gaps for a high efficiency solar energy system 4-21558
 Ga_{1-x}Al_xAs/GaAs, internal strain and photoelastic effects 4-16178
 Ga_{1-x}Al_xAs-GaAs-Ga_{1-y}Al_yAs superlattice, impurity level binding energy 4-30063
 Ga_{1-x}Al_xAs_{1-y}Sb_y quaternary alloy heterojunction band discontinuities 4-45868
 GaInInAs, lattice matched to InP, composition depend. of spin-orbit splitting 4-2563
 Ga_{1-x}Al_xSb on GaSb, LPE grown, Zn diffusion and appl. to IR detection (*French*) 4-56086
 Ga_{1-x}Al_xSb_{1-y}As_y p-n struct., avalanche multiplication coeff., photosensitivity spectra 4-6884
 Ga_{1-x}Al_xSb(x~0.17) 1.3-1.6 μm photoconductors (*French*) 4-22838
 (Ga,As, Sb) active layer lasers, photoluminescence changes and facet coating procedures 4-56972
 GaAs (001) layer growth on SrF₂ (001) by MBE 4-39704
 GaAs (001) surface reconstruction, photoemission study 4-45472
 GaAs (100), disorder dechannelling anal. 4-45142
 GaAs (100), electronic surface states distrib. calcs. 4-56404
 GaAs (100), secondary electron yield, surface resonances obs. 4-21082
 GaAs (100), surface electron states, UPS studies (*Chinese*) 4-50884
 GaAs (100) substrate, vapour phase in-situ etch 4-7365
 GaAs (100) surface band struct., surface photovoltaic study 4-56403
 GaAs (110) 4-46425
 GaAs (110) with adsorbed Al, Ga and In, chemical bonding, adatom-adatom interaction 4-29784
 GaAs (110) with chemisorbed H, reflection electron energy loss study 4-30576
 GaAs (110)/Ge interface form., MBE growth, effect of substrate temp. 4-6671
 GaAs (110)-Cs interface, electronic props. at monolayer coverage 4-50924
 GaAs (110)-metal interfaces, Fermi level pinning, role of chemisorption-induced defects 4-6889
 GaAs, accelerator based mass spectrometry of semiconductor materials 4-46834
 GaAs active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
 GaAs, amorphised, hopping and band transport 4-25338
 GaAs, amorphous, appl. of spectral limits theorem 4-6696
 n-GaAs Anderson localisation effect on magnetocond. 4-50843
 GaAs anodic film rapid growth, retardation modulation ellipsometer for fast surface transient obs. 4-43020
 GaAs, anodic oxide growth in situ study using ellipsometry (*French*) 4-46347
 GaAs, Auger processes, overlap integrals 4-51416
 GaAs, band struct., Auger recombination 4-39772
 GaAs based semiconductor materials, fabrication of modulators and switches 4-24253
 GaAs, beam annealing, techniques and appls. 4-55868
 GaAs bicrystals, impact ionisation near grain boundaries, electroluminesc. study 4-20661
 GaAs bulk single crystals, hydrogenation of electron traps 4-25366
 GaAs, buried channel acoustic charge transport 4-39991
 GaAs, CVD mechanisms, (100) surface props. 4-7364
 GaAs, carrier density and mobility, Hall meas. 4-39930
 GaAs, Cerenkov radiation from a propagating nonlinear polarization wave 4-19353
 GaAs, charge density and energy gap calcs. 4-39774
 GaAs, charge-state-controlled struct. relax. of EL2 centre 4-2633
 GaAs clad optical waveguide modulators 4-55181
 GaAs cleaved surface, O₂ and temp. induced modification (*French*) 4-56126
 GaAs coated with Al₂O₃ photoluminescence changes and facet coating procedures 4-56972
 GaAs, conduction band, dispersion, nonparabolicity and warping 4-45626
 GaAs crystal, electronic struct. of ideal vacancies 4-29922
 GaAs, crystal defects obs. by X-ray topography and SEM transmission cathodolum. 4-6360
 GaAs, crystallographic etching with Br₂ and Cl₂ plasmas 4-3268
 GaAs crystals, cleavage, surfactants effect on mech. strength, heterojunction laser resonators appl. 4-29504

III-V semiconductors continued

- GaAs, current fluctuation phenomena, irreversible thermodynamics 4-50823
- GaAs, current-carrying plasma injection, with quasiballistic carrier motion 4-35020
- GaAs, deep levels, electric field enhanced emission, DLTS 4-45665
- GaAs, defect profile and annealing behaviour, impurity complexes form. 4-24841
- n-GaAs, degenerate, electronic specific heat calcs. 4-56037
- GaAs, dielectric props., first-principles calc. 4-25671
- GaAs diffused junction p⁺-n solar cells, fabrication and cell performance 4-41345
- GaAs diffused p⁺-n junction solar cells, photovoltaic characts. and modelling 4-41346
- GaAs, diffusion length meas. by filtered cathodoluminescence 4-50841
- GaAs, diffusion of Cr, masking props. of SiO₂ films 4-50583
- GaAs directional coupler switches, strain-induced refractive index changes 4-14784
- GaAs, doped with group VI elements, lattice parameters, pseudopot. approach 4-2179
- GaAs, doping superlattices, MBE growth and electronic props. 4-15945
- GaAs doping superlattices, time-resolved luminescence study 4-21034
- GaAs doping superlattices, photoluminescence study 4-30506
- GaAs, EPR and magnetic circular dichroism study of defects 4-51134
- GaAs, effects of dry etching, determ. by Schottky diode evaluation 4-41017
- GaAs, elastic constants, third-order, Keating's theory 4-2248
- GaAs electroabsorptive CCD spatial light modulator, Fourier transform. appls. 4-24155
- n-GaAs electrodes, photoanodic dissolution, surface charging effects 4-35063
- GaAs electrodes, photoluminescent props. appl. to dead layer model of photoelectrochem. cells 4-7225
- GaAs, electroliquid epitaxy, mass transport and growth rate 4-6307
- GaAs electroluminescent diode, colour multiplexing for optical information transmission, technological developments (*Czech*) 4-1509
- GaAs, electrolyte elec. field modulated ellipsometric spectrum (*Chinese*) 4-40414
- p-GaAs, electron diffusion length, conc. dependence 4-50832
- GaAs, electron indicated, deep donor levels excitation and annealing (*Russian*) 4-56265
- GaAs, electron irradiated, mech. of dislocation climb, electron microscopy study 4-20198
- GaAs, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
- GaAs, electron momentum relax. time meas., third harmonic generation in crossed MM elec. and static mag. fields 4-6821
- GaAs, electron-hole liq. plasma expansion, photoluminescence study 4-11553
- GaAs, epitaxial, electronic props. of native deep level defects 4-39815
- GaAs, epitaxial, photoluminescence and close space vapour transport growth 4-46331
- GaAs, epitaxial growth by close space vapour transport 4-15779
- GaAs epitaxial growth by MO-CVD, optical and elec. props. (*Japanese*) 4-34832
- GaAs, epitaxial growth from coordination compounds, characterisation by RHEED and SEM (*French*) 4-21160
- n-GaAs epitaxial layer, diffusion of impurities forming donor mols. 4-34721
- GaAs epitaxial layer, picosecond absorption saturation, wavelength depend. 4-28783
- n-GaAs epitaxial layer, static photocond., surface photopot. study 4-25401
- GaAs epitaxial layer growth in proximity of singular faces 4-39727
- GaAs epitaxial layers, photoelectric emission study 4-21105
- GaAs epitaxial layers, plastically bent, dislocation levels, DLTS study 4-25279
- n-GaAs epitaxial layers, cyclotron resonance line, plasma shift (*Russian*) 4-35005
- GaAs epitaxial layers, MOCVD grown, elec. and optical props., operating press. effects 4-40662
- n-GaAs, epitaxial layers, cyclotron resonance plasma shift 4-46112
- GaAs epitaxial multilayer, appl. of computer controlled SEM cathodolum. mode system 4-34380
- GaAs, epitaxial n-type, residual cond. and nonequilib. carrier slow relax. 4-25463
- n-GaAs, erosion laser plasma irradi., compensation study 4-45180
- GaAs, etching characts. of HCl-H₂O₂-H₂O etching soln. (*Chinese*) 4-41014
- GaAs, etching in H₂-HCl gas mixtures, dopant and orientation depend. 4-12203
- GaAs, etching in RF discharge through mixtures of trichlorofluoromethane and O₂ 4-16521
- GaAs FET preamplifier and photodiode, planar monolithic integration 4-10465
- GaAs Fabry-Perot resonator, instability of ultrashort light pulse amplitude and polarisation 4-28757
- GaAs, far IR dielectric response in phonon combination bands 4-56916
- GaAs, grating formation by one-step laser-photochem. etching 4-28892
- GaAs, growth and doping using MBE, thermodynamic and kinetic aspects 4-6681
- GaAs, γ -ray irradi., E5 centres, annealing and accumulation, elec. field effects 4-25293
- GaAs Hall element, 1/f fluctuation, temp. depend. (*Japanese*) 4-30033
- GaAs, heavily doped, electron irradi., annealed, internal quantum efficiency of deep-centre luminesc. 4-7246
- GaAs heavily doped MBE layer, defects study 4-34497
- GaAs, heavy ion backscattering anal. by time of flight spectrometry 4-43109
- GaAs heterostructures, dissipation and dynamic nonlinear behaviour in quantum Hall regime 4-2644
- GaAs, high dose ion implanted, halogen lamp annealing, Raman scatt. study 4-15520
- GaAs high power phase-locked laser arrays, mode-locked picosec. pulse generation 4-49406
- GaAs, implanted impurity redistribution, stress effect 4-24843
- GaAs, impurity conc. and chem. nature, submillimeter BWT spectroscopy 4-35966
- n-GaAs ingots, electrical props. (*French*) 4-25337
- GaAs injection laser, light pulsations frequency and attenuation props. (*Czech*) 4-10300

III-V semiconductors continued

- GaAs, interface form., Schottky barrier form. 4-6669
- GaAs, ion beam amorphisation and recrystn., TEM study 4-39349
- GaAs, ion bombarded, displacement cascade struct., TEM study 4-34552
- GaAs, ion implantation, lateral extension of radiation damage obs. 4-29452
- GaAs, ion implantation induced displacement of Ga and As 4-39315
- GaAs, ion implanted, IR annealing (*Japanese*) 4-29457
- GaAs, ion implanted, picosecond laser annealing 4-15526
- GaAs, ion implanted, spectroscopic ellipsometry anal. 4-39327
- GaAs, ion implanted with As⁺, Raman spectrum, spatial correlation effects 4-40423
- GaAs ion-implantation, electrophysical props., waveguide form. appls., review (*Russian*) 4-24246
- GaAs, ion-implanted, study following electron-beam annealing 4-20230
- GaAs JFET fabrication using maskless ion implantation with 100 keV focused ion beam system 4-32380
- GaAs, LEC crystal growth with low and homogeneous dislocation densities 4-40626
- GaAs, LEC grown, midgap electron traps, DLTS studies 4-15835
- GaAs, LEC grown, undoped semi-insulating, EL2 electron trap distrib., DLTS study 4-20591
- GaAs, LEC grown, undoped, semi-insulating, 0.8 eV deep level photoluminescence 4-20592
- GaAs, LEC grown semi-insulating, cryst. homogeneity improvement by annealing 4-51470
- GaAs, LEC growth, deep traps at implanted layer interface 4-25291
- GaAs, LEC growth of undoped crystals, ambient gas effects 4-21123
- GaAs LEC single crystal growth, mag. field applied pulling apparatus 4-21126
- GaAs, LEC-grown semi-insulating wafers, lattice bending, X-ray study 4-24746
- n-GaAs LPE layers, traps at interfaces with different substrates 4-6737
- GaAs, Landau level reson. polaron coupling and impurity transitions 4-11459
- GaAs, large diameter crystals, IR absorption nonuniformities, photoinduced quenching 4-51304
- GaAs laser, longitudinal mode spectrum under high-speed modulation 4-49361
- α -GaAs, laser annealing dynamics 4-15522
- GaAs laser chemical etching method for drilling vias 4-12205
- GaAs laser diode based optical meas. techniques 4-14741
- GaAs, laser-induced surface damage, channelling study 4-40576
- GaAs lasers, threshold current characteristics under short pulse excitation 4-28689
- GaAs, lattice temp. during laser annealing and reflectivity 4-15523
- p⁺-GaAs layers, Zn-implanted, contact resistance of nonalloyed ohmic contacts 4-2651
- GaAs, light scatt. intensity from plasmaritons 4-30484
- GaAs low attenuation waveguides fabricated by localised epitaxy 4-33768
- GaAs, MBE, RHEED patterns during film growth, temporal intensity variations 4-29851
- GaAs, MBE, selective area growth with patterning by SiO₂ masking 4-12027
- GaAs, MBE, surface and interface electronic struct., photoemission, LEED studies 4-20524
- GaAs, MBE grown, shallow donors, far IR magneto-optical spectroscopy 4-35422
- GaAs, MBE grown surface, preservation and regeneration, RHEED, AES, UPS, ESCA studies 4-21146
- GaAs MBE growth, (001) reconstructed surface, As₂/As₄ species effects 4-6682
- GaAs, MBE growth, elec. and luminescence props. 4-30637
- GaAs, MBE growth, surface processes and film props. 4-15789
- GaAs, MBE growth conditions rel. to deep levels generation 4-50661
- GaAs, MBE growth on GaAs:Be implanted layers 4-20514
- GaAs MBE layers for infrared optical waveguiding 4-14787
- GaAs MBE layers grown using cracked AsH₃, photoluminesc. characterisation 4-46294
- GaAs MESFET, cryogenically cooled, noise characts. obs. at 4 MHz 4-42990
- GaAs, MESFET optimum semiconductors for HF and low-noise appl. 4-29965
- GaAs MO-VPE epitaxial layers, residual impurities 4-34830
- GaAs MOS anti-reflection layer solar cell fabrication on polycrystalline and single-crystal substrates 4-3468
- GaAs, magnetoresist. meas., electron scatt. mechanisms 4-2625
- n-GaAs, magnetoresistance hysteresis, current instabilities, in strong mag. fields 4-15895
- GaAs, modulation doped, p-polarised light diffraction polaritons 4-44053
- GaAs multilayered p-n junction high speed IR modulator 4-5693
- GaAs n⁺-n⁺ ballistic diode, high-freq. negative conductance, computer simulation 4-40028
- GaAs n-i-p doping superlattices, electrooptical device aspects 4-15946
- GaAs n-i-p doping superlattices, Raman scatt. from elementary excitations 4-56910
- GaAs n-p superlattice, electron and hole subband energies, self-consistent calcs. 4-6870
- GaAs, native oxides behaviour during pulsed laser irradi. 4-15525
- GaAs, negatively charged donor states, spectroscopic transitions to neutral states, magneto-optic expts., cyclotron reson. obs. 4-2825
- GaAs, neutron induced defects EPR (*French*) 4-7065
- GaAs, nonlocal exchange, correlation and band struct. calcs. 4-20560
- GaAs, nuclear radiation detector appl., review 4-43757
- GaAs, octanole-2 liquid spreading anisotropy (*Russian*) 4-25124
- GaAs, open tube diffusion of Zn, rel. to ohmic contact form. 4-6559
- GaAs optical gratings, submicrometer, maskless laser-enhanced chem. etching 4-28817
- GaAs, optical props. determ. by multiple angle of incidence ellipsometry 4-46221
- GaAs, optical refr. index dispersion, doping depend. 4-35404
- GaAs optical waveguides, low loss, localised VPE growth 4-19559
- GaAs oxide film, plasma grown, Auger anal. 4-34827
- GaAs p-n junction, nonuniform doping profile, avalanche breakdown voltage, orientation depend. 4-35053
- GaAs, PIXE analysis of compound materials 4-45067
- GaAs, passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380
- GaAs, phase transition, NaCl-type lattice under press. 4-39471
- n-GaAs photoanodes, BP stabilised 4-12485

III-V semiconductors continued

- n-GaAs photoanodes, protection by photoelectrochem. grafting of polymer films 4-46880
 GaAs, photochemical microetching in aqueous solns. 4-12206
 GaAs, photoconductor, hole sweep-out, time resolved luminesc. measurements 4-40489
 n-GaAs, photoelectrochemical oxidation 4-26077
 GaAs, photoemission yield and its photoelectric thresholds (*Polish*) 4-35544
 GaAs, photoenhanced oxidation, and O₂ chemisorption, AES study 4-16523
 n-GaAs, photoetching and selective etching in aq. CrO₃-HF solns., hillock morphology rel. to gas bubbles 4-15472
 GaAs, photoexcited, effective carrier temp. 4-15918
 GaAs, photoionisation of deep h centres 4-34914
 GaAs, photoluminescence spectrum, excited state donor to acceptor transitions 4-46325
 GaAs, photoluminescence excitation of 0.77 eV emission 4-46327
 GaAs, picosecond degenerate four-wave mixing through orientation and concentration gratings 4-55111
 GaAs, piezoelectric, leaky SAW propagation loss meas. 4-20450
 GaAs planar doped barriers and their device applications 4-15947
 GaAs, plastically deformed, creation of As_{Ga} defects, dislocation-related electron states 4-15849
 GaAs, polarons, cyclotron resonance study under hot electron conditions 4-6717
 GaAs, polycryst. thin films for solar cells, growth technology 4-7366
 GaAs, positron annihilation under high current proton irradiation 4-40564
 GaAs, precipitation, in chloride and chloride-hydride processes, partial pressure diagrams 4-57083
 GaAs, proton and electron irradiation, proton annihilation and damage profiles 4-40562
 GaAs, proton bombarded, nature of dislocation sources 4-11148
 GaAs proton implanted optical waveguide, characterisation and optimisation 4-49511
 GaAs, proton irradiated, accumulation and annealing of deep centres, role of charge state 4-25292
 GaAs, proton irradiation effect on minority carrier diffusion length, solar cell appl. 4-21546
 GaAs, pulsed laser excitation, electronic power transfer 4-30569
 GaAs, quantum wells, localisation induced excitonic electron-hole recombination, cathodoluminesc. study 4-39923
 GaAs quantum wells, MBE, impurity trapping, interface struct., luminesc. 4-45666
 GaAs, radiation defect energy levels, light absorption and Hall effect studies 4-20602
 GaAs, radiation-stimulated gettering at interfaces (*Russian*) 4-39341
 GaAs, recomb. electron beam irradiation, enhanced dislocation mobility 4-15540
 GaAs SAW interdigital transducers, low reflectivity, fabrication and metallisation 4-19690
 GaAs, secondary ion yields, O₂⁺ bombard. incidence angle effects 4-46389
 GaAs, selective Si²⁺ and Be²⁺ implantation using 100 kV mass-separating ion beam system with Au-Si-Be ion source 4-34503
 GaAs, self-dissolution mechanism in oxidising electrolyte solns. 4-57576
 GaAs, semi-insulating, deep centre EL2, direct IR imaging obs. 4-34905
 GaAs, semi-insulating, elec. transport parameters, three band model anal. 4-39899
 GaAs, semi-insulating, field-assisted photoelectromagnetic effect 4-39961
 GaAs, semi-insulating, growth, recent developments (*Japanese*) 4-30623
 GaAs, semi-insulating, LEC grown, trap level at 78 meV 4-15885
 GaAs, semi-insulating, photocond. and PEM effect under different surface recomb. regimes 4-39985
 GaAs, semi-insulating, undoped, deep donor EL2, IR absorption study 4-35471
 GaAs, semi-insulating, undoped, 0.68 eV emission, persistent photoluminesc. quenching 4-46295
 GaAs, semi-insulating crystals, undoped, inhomogeneities, photocurrent distribution profiles 4-11554
 GaAs semi-insulating growth technology, electron trap deep level conc. 4-7343
 GaAs semi-insulating LEC single crystals, dislocations, transmission cathodolum. obs. 4-20195
 GaAs semi-insulating substrate wafers uniformity characterisation, optical and elec. methods 4-21012
 GaAs semiconductor crystal, H⁺ beam effects, damage and pulsed proton annealing 4-50379
 GaAs semiconductor/metal diodes, deep levels and I-V characts. 4-20723
 GaAs, semiinsulating, electron mobility associated with impurity compensation 4-34983
 GaAs shallow junction LEDs, gamma ray irradiated, surface emission and wavelength tuning via surface states 4-50353
 GaAs, single cryst. growth for optoelectronic appls. 4-40641
 GaAs single crystal. layers, LPE, numerical modelling 4-57114
 GaAs, single crystal growth using liquid encapsulated Czochralski method and improved pulling technique 4-40628
 GaAs single quantum well struct. growth by MBE 4-15790
 GaAs, single-crystal, polycrystalline and amorphous, picosecond range process investigation 4-20939
 GaAs, slow electron emission, ang. depend. 4-21080
 GaAs, solar cell, photon responses and energy conversion coeff. (*Dutch*) 4-36010
 GaAs solar cells with high AM1 conversion efficiency, MO-CVD growth 4-21559
 GaAs, sputtered As and Ga atom ionisation probabilities as primary ion energy function 4-46393
 GaAs submicron n⁺n⁺ struts., quasiballistic transport, injection depend., Monte Carlo simulation 4-6881
 GaAs substrate for AlN film, 1.0 GHz bulk acoustic wave resonator 4-1566
 GaAs substrate for CdTe epitaxial layer, lattice match and heteroepitaxy appls. 4-39694
 n-GaAs substrate for n-ZnSe epilayers, photocurrent versus electrode potential 4-25395
 GaAs substrates with metal strips, SAW reflection canceling using bimetal geometry 4-24318
 GaAs superlattice struts., optical and electronic props. 4-15948
 GaAs surface, anodic oxide growth, coupled ellipsometric and capacitance meas. 4-56440

III-V semiconductors continued

- GaAs surface, MBE grown, geometric and electronic struct., photoemission spectra (*Dutch*) 4-16294
 GaAs surface, oxidation, chem. state depth profiling by ang. dependent XPS 4-39636
 GaAs surface composition, dielec. layer deposition conditions influence, XPS obs. (*Ukrainian*) 4-25130
 GaAs, surface electronic props. and surface geometry 4-6856
 GaAs surface electronic props. of (100) face, thermally cleaned in UHV and O covered 4-56409
 GaAs surface laser annealing, second harmonic generation 4-19512
 GaAs, surface morphology induced by Cl₂ gas reactive ion beam etching 4-39635
 GaAs, surface prep. methods, chem. treatment 4-51832
 p-GaAs surface recombination rate meas., using cathodoluminescence 4-8922
 GaAs, surface states study by photoemission yield spectroscopy (*Polish*) 4-35548
 GaAs, surface topographical changes induced by low energy ion beam sputtering 4-16286
 GaAs, T₂ symm. deep level wavefunction predictions 4-11478
 GaAs thin film planar waveguides, preparation, parameters optimisation (*Czech*) 4-10419
 n-GaAs thin inhomogeneous films, elec. props., nonreciprocal effects 4-11607
 GaAs, Ti-Pt bilayer ohmic contacts for metallisation, stresses anal. 4-20499
 GaAs, time-resolved cathodoluminescence, delayed coincidence meas. 4-46335
 GaAs tricolorial, injection currents 4-25349
 GaAs ultrathin film, electronic heat capacity, size quantisation effects 4-15661
 GaAs, vacancies and anti-site defects, electronic struct., tight-binding calc. 4-2540
 GaAs vicinal epitaxial surface, local misorientation, RHEED anal. 4-50654
 GaAs waveguide modulators and directional couplers with low losses for high speed operation at 1.3 μm 4-33761
 GaAs whiskers, struct., mechanical props., impurity effect 4-56182
 GaAs, white noise, 1/f noise, elec. cond. spectral features, mag. field effects, hot electrons (*Dutch*) 4-15925
 GaAs, zinc blende struct. cryst., internal strain parameter (bond bending parameter) 4-55780
 GaAs:B (111), optical consts. temp. depend., 20 to 400°C 4-56876
 GaAs:Be, shallow implantation, spectroscopic ellipsometry and Raman scatt. anal. 4-50327
 GaAs:Be layers, implanted, substrate for MBE grown GaAs photoluminescence intensity meas. 4-20514
 GaAs:C, defect states, thermodynamic calcs. 4-39819
 GaAs:C, localised vibr. mode of C, cluster Bethe lattice treatment 4-2294
 GaAs:C, semi-insulating, LEC-grown, C shallow acceptors study 4-40624
 GaAs:Cr, deep level trapping dynamics, freq.-domain study 4-11472
 GaAs:Cr, impurity IR absorption spectra, shape and temp. depend. (*Russian*) 4-40487
 GaAs:Cr, impurity state, photoacoustic study 4-20994
 GaAs:Cr, interstitial Cr diffusion coeff. and Cr complexes 4-6560
 GaAs:Cr, S, Cr redistrib. under annealed S implants 4-29697
 GaAs:Cr, semi-insulating, Cr lattice location by ion channelling and X-ray emission 4-39328
 GaAs:Cr, semiinsulating, dislocation grain boundaries, photoEMF, photoconductivity spectra 4-15919
 GaAs:Cr, semiinsulating, impurity charge, EPR, IR spectra, photocond. studies 4-35469
 GaAs:Cr, Si, ion implanted, annealing of amorphous layers 4-39325
 GaAs:Cr, single crystal growth by gradient freeze method 4-46431
 GaAs:Cr, strong phonon scatt., applied stress effects 4-50446
 GaAs:Cr, thermally converted, defect profiles, photoluminescence spectra 4-2965
 GaAs:Cr,Mn, semi-insulating, dopant redistribution during annealing 4-39330
 GaAs:Cr (100), surface morphology following O₂⁺ and Cs⁺ bombardment, SEM study 4-45477
 GaAs:Cr₂³⁺, electronic and Jahn-Teller parameters, APR spectrum 4-16089
 GaAs:Cr(O), extrinsic photoconductivity, thermal quenching behaviour 4-50869
 GaAs:Er, 1.54 μm photolum. obs. 4-21001
 GaAs:Er³⁺(Yb³⁺), rare earth activated luminesc. 4-35480
 GaAs:Ge, neutron transmutation doping elec. and optical characterisation 4-34507
 GaAs:Ge(Sn), LPE growth rate 4-34831
 a-GaAs:H, amorphous and microcryst., electronic struct., photoemission spectra 4-39767
 GaAs:H (110) Ga-H defect sites, photon stimulated desorption studies 4-45851
 GaAs:H sputtered thin film, RBS anal. 4-45546
 GaAs:H(D), implanted, damage ranges meas. 4-45157
 GaAs:In, photoluminescence study (*Russian*) 4-7249
 GaAs:Mg, ion implantation, cathodoluminesc. study and computer simulation 4-21047
 GaAs:Mn, ion implanted, Mn accumulation, Fermi energy and annealing studies 4-34648
 GaAs:Mn, mag. susceptibility, Hall effect meas., Jahn-Teller strain energy 4-15854
 GaAs:Mn, structural defects, ESR studies 4-25631
 GaAs:Ni, double acceptor state, piezoabsorption and Zeeman studies 4-50757
 GaAs:O, O midgap level, DLTS study 4-45667
 GaAs:S(Si), ion implantation, use of RBS and PIXE for site determ. 4-45147
 GaAs:Sb epitaxial films, edge photoluminescence spectra 4-2967
 n-GaAs:Sb epitaxial films, photoconductivity study 4-56390
 GaAs:Se, donor-level deepening under hydrostatic press., photoluminesc. study 4-21011
 GaAs:Se, grown by MBE, growth conditions influence on Se incorporation 4-50323
 GaAs:Se, implanted, deep levels, TSC and photolum. studies 4-2542
 GaAs:Se, implanted, electron-beam annealed, electron microscopy study 4-20229

III-V semiconductors continued

- GaAs:Se, ion implanted, annealing, amorphisation and recrystn., high resolution TEM study 4-50319
 GaAs:Si, annealing effect on elec. and optical props. 4-25339
 n-GaAs:Si, Be-implanted, p-v-n junction form. by swept line electron beam annealing 4-50359
 GaAs:Si, focused Si ion implantation 4-20224
 GaAs:Si, ion implanted, laser annealing, photoacoustic spectra study 4-20242
 GaAs:Si, ion implanted, SiO_2N_x capped annealing, elec. activation 4-50829
 GaAs:Si, LEC grown, dislocations study 4-34499
 GaAs:Si, MBE growth, Si doping, As_2Ga flux ratio dependence 4-21143
 GaAs:Si, MBE growth, Si doping, compensation effects 4-40651
 n-GaAs:Si, selective etching and photoetching of {100} surface in aq. $\text{CrO}_3\text{-HF}$ solns. 4-15471
 GaAs:Si as-grown single crystals, microdefects and their behaviour (Chinese) 4-20220
 GaAs:Si dislocation-free single crystals grown by LEC procedure 4-21125
 GaAs:Si encapsulated in Si_3N_4 , free carrier conc. and Hall mobility 4-50693
 GaAs:Si LEC crystals, Si doping effect on elec. props. 4-6810
 GaAs:Si MBE films, Si doping, photoluminescence studies 4-11160
 GaAs:Si(Se)(S), shallow ion implantation, elec. and structural props. 4-45166
 GaAs:Sn, diffusional doping from spin-on film sources, review 4-50586
 GaAs:Sn, low pressure metalorganic VPE growth 4-25892
 GaAs:Sn, MBE growth, Sn doping, surface segregation, kinetic limitations 4-35570
 GaAs:Ta, luminesc. of Ta centres 4-25806
 GaAs:Te, (111) face capture, diffusion limited impurity transport in GaAs- $\text{AsCl}_3\text{-H}_2$ system 4-39932
 GaAs:Te, heavily doped, plasma-assisted epitaxy, nonalloyed ohmic contact appl. 4-21165
 GaAs:Te, heavily doped, photoluminescence study 4-40502
 GaAs:Te, IR optical susceptibilities of (001) face surface electrons under weak modulation fields 4-2931
 GaAs:Te, impurity distrib. around dislocations 4-11175
 n-GaAs:Te,Ge epitaxial layer, edge photoluminescence, compensation effects 4-11938
 GaAs:Te/Ag, inelastic electron scatt., semicond. surface vibr. spectrum, effect of cond. overlayer 4-57051
 GaAs:W, luminesc. spectra, cryst. field theory, Tanabe-Sugano diagrams 4-35486
 GaAs:Zn, elec. props. rel. to implantation conditions 4-34980
 GaAs:Zn, implanted p^+ layers, electron beam annealing, profile broadening control 4-50355
 GaAs:Zn, ion implantation, diffusion and segregation 4-34506
 GaAs:Zn, ion implanted, heavy doping, enhanced activation 4-39316
 GaAs:Zn, ion implanted with minimised annealing redistribution 4-15498
 GaAs:Zn, leaky tube diffusion, SiO_2 sputtered coating for surface protection 4-15497
 p-GaAs:Zn injection laser, emission spectrum, relaxation time broadening 4-10296
 n-GaAs($\text{Se}^{2-}/\text{Se}_2^{2-}$) liq. junction solar cell, redox stabilised, anal. 4-36009
 GaAs/a-Si-Ge-B Schottky contact with large barrier height, MESFET appl. 4-15934
 GaAs/Al interface reaction, XPS studies (Chinese) 4-50647
 GaAs/ $\text{Al}_x\text{Ga}_{1-x}$ As heterostructure, 2D electron gas, negative magnetoresist. and inelastic scatt. time 4-50912
 GaAs/AlAs superlattices, characterisation by laser-Raman spectroscopy 4-34807
 GaAs/AlGaAs injection laser-Cu heat sink system, internal stresses 4-5617
 GaAs/AlGaAs lasers, blistering of Ti/Pt ohmic contacts 4-26107
 GaAs/Au/Ni/Au-Ge ohmic contacts, contact resist. and interface struct. 4-29827
 GaAs/Au-Ge ohmic contacts, redistributed component mapping after laser annealing 4-34806
 n-GaAs/Cr, Schottky barrier diode, deep levels 4-6862
 GaAs/ $\text{Ga}_{0.7}\text{Al}_{0.3}$ As selectively doped heterostruct., transport. props. 4-35054
 GaAs/ $\text{Ga}_{1-x}\text{Al}_x$ As quantum well struct., Wannier excitons, energy levels 4-50733
 GaAs/ $\text{Ga}_{1-x}\text{Al}_x$ As quantum-well struct., hydrogenic donor energy levels, nonparabolicity effects 4-50916
 GaAs/GaAlAs DH lasers, LPE growth method 4-35587
 GaAs/GaAlAs gain and index guided lasers, linewidth broadening due to competition noise 4-38484
 GaAs/GaAlAs graded-index separate-confinement heterostruct. quantum well laser structure 4-49353
 GaAs/GaAlAs heterojunctions, electron dynamics in two-dimensional electron gas, study by Monte Carlo method (French) 4-11584
 GaAs/GaAlAs injection laser with separated mirrors 4-49362
 GaAs/GaAlAs large period superlattices, folded acoustical phonon dispersion 4-2290
 GaAs/GaAlAs low threshold current GRIN-SCH stripe lasers grown by organometallic VPE 4-24012
 GaAs/GaAlAs quantum well high-speed optical modulator in p-i-n diode struct. 4-35047
 GaAs/GaAlAs semiconductor laser, beam-scannable light source, superluminescent mode, grating coupler design 4-19469
 GaAs/Ge MBE-grown heterostructures and superlattices, interface studies 4-15774
 GaAs/InAs MBE-grown heterostructures and superlattices, interface studies 4-15774
 GaAs/metal struct., interface states, Schottky capacitance spectra studies 4-15929
 GaAs/N-AlGaAs, selectively doped MBE heterostructs., high electron mobility 4-25427
 GaAs/n-AlGaAs heterojunction, MBE growth, FET appls. 4-16327
 n⁺-GaAs/n-ZnSe, rectifier photoelectric effect in heterogeneous transitions on X-ray excitation 4-54559
 GaAs/Pd interface, Fermi level pinning and chem. reactivity, XPS study 4-40043
 GaAs/ $\text{Si}_x\text{Ge}_{1-x}$ heterojunction systems, radiation-stimulated gettering of struct. defects 4-30067

III-V semiconductors continued

- GaAs/W contacts, ohmic character monitoring by one-probe technique 4-32272
 GaAs-(AlGa)As junctions, magnetophonon reson. (French) 4-25246
 GaAs-(AlGa)As broad-contact single heterostruct. laser diode, thermal props. 4-55041
 GaAs-(AlGa)As DH broad-contact laser diodes, static thermal props. 4-10304
 GaAs-(AlGa)As heterostructure, modulation doped, electron mobilities 4-6877
 GaAs-(AlGa)As stripe-geometry DH laser diodes, thermal props. 4-55042
 GaAs-(AlGa)As twin mesa laser integrated with a passive waveguide 4-10299
 GaAs-(GaAl)As semiconductor laser, wavelength-stabilized design 4-1410
 GaAs-Ag Schottky diodes, O_2 and temp. induced modification (French) 4-56126
 GaAs-Ag(Au)(Al), correl. between prep. method, barrier height and interface states (French) 4-6888
 GaAs-Al interface, reson. excitation of IR surface second harmonic 4-10373
 GaAs-Al Schottky diode, effect of interfacial layer doped with opposite type impurities (Chinese) 4-40016
 GaAs- $\text{Al}_{0.3}\text{Ga}_{0.7}$ As DH lasers with two sections in common cavity, steady state characts. (Chinese) 4-5585
 GaAs- $\text{Al}_{0.6}\text{Ga}_{0.4}$ As multiple quantum well structs., MOCVD grown, stimulated emission 4-40480
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As, low temp. fractional quantum Hall effect 4-20675
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As, Si doped quantum well struct., photolum., anomalous polarisation 4-2962
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As DH rib waveguide electro-optic directional coupler switch 4-24254
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As heterostructure, electron gas, a.c. conductivity study 4-11581
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As heterostructure, 2D electron gas, parabolic negative magnetoresist. 4-25432
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As heterostructure, localisation of two-dimensional electrons 4-40005
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As MBE grown DH and multiple quantum well lasers 4-14696
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As multiple quantum well heterostructs., spontaneous and stimulated photoluminesc. 4-16250
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As modulation doped quantum well heterostructs., carrier density distrib. 4-20712
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As multiple quantum well struct., free excitons in room temp. photolum. 4-30518
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As micromechanical elements, fabrication and vibration monitoring appl. 4-53667
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As quantum well structures, recomb. enhancement due to carrier localisation 4-7234
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As quantum well heterostruct., p-doped, photolum. effects of longitudinal elec. field 4-21002
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As quantum wells, acceptor binding energies 4-30039
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As system, parabolic quantum wells, photolum. meas. 4-56995
 GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As waveguide ion beam etching for integrated optical appl. 4-44261
 n⁻-GaAs- $\text{Al}_x\text{Ga}_{1-x}$ As-n⁺-GaAs SIS capacitors, resonant Fowler-Nordheim tunneling 4-40017
 GaAs-AlAs MIS structures, elec. characts. 4-6906
 GaAs-AlAs multiple-quantum-well structs., laser heating, luminesc. study 4-46301
 GaAs-AlAs superlattice, MBE grown, refr. index meas. 4-16175
 GaAs-AlAs/Si, for high efficiency cryst. solar tandem cells 4-21542
 GaAs-AlGaAs etalon, room-temp. low-power optical bistability obs. using diode laser 4-49426
 GaAs-AlGaAs heterostructures, dimensional resonance study 4-11582
 GaAs-AlGaAs heterostructures, Hall effect studies 4-11583
 GaAs-AlGaAs heterostructure, MBE grown, recent developments and device appls. 4-15952
 GaAs-AlGaAs heterostructure layers with high optical quality, MBE growth 4-16325
 GaAs-AlGaAs heterostructures, modulation-doped, hot electrons 4-40027
 GaAs-AlGaAs heterostructures, hot electron transport, expt. anal. 4-40038
 GaAs-AlGaAs heterostructs., quantized Hall effect device, resistance std. 4-45871
 GaAs-AlGaAs integrated laser phased arrays, longit.-mode control by phase vel. matching 4-38466
 GaAs-AlGaAs leaky optical waveguide with four layers, Maxwell eqns. anal. (Chinese) 4-38576
 GaAs-AlGaAs modulation doped heterojunctions, two-dimens. hole system, mobility 4-40026
 GaAs-AlGaAs multiple quantum wells and bulk GaAs, photoexcited, hot carrier relaxation 4-56361
 GaAs-AlGaAs ridge-waveguide DH lasers, MBE growth 4-14724
 GaAs-AlGaAs single and multi-quantum well structs., MOCVD growth 4-51507
 GaAs-AlGaAs single quantum well, improvements using thin superlattice buffers 4-51310
 GaAs-AlGaAs stripe-geometry lasers with self-existent waveguiding, stripe-contact lasers and lasers with high-resist. lateral layers (Polish) 4-33688
 GaAs-AlGaAs surface emitting laser diode with multilayered heterostructure reflectors 4-14723
 GaAs-Al(As)(Fe), MBE, growth mechanisms, electron diff., AES, EELS studies 4-20525
 GaAs-Au interfacial reactions study by TEM 4-39699
 n-GaAs-Au(Ag) MIS Schottky barriers, interfacial changes in oxide layer investig. 4-20733
 GaAs-CdSe, phase equilibria, mol. interaction 4-57194
 GaAs-dielectric interfaces, surface Fermi level 4-6904
 GaAs- $\text{Ga}_{1-x}\text{Al}_x$ As heterojunction, doping considerations, low temp. mobility 4-20708
 GaAs- $\text{Ga}_{1-x}\text{Al}_x$ As multiple-quantum-well structures, hydrogenic impurity ground state 4-6872
 GaAs- $\text{Ga}_{1-x}\text{Al}_x$ As superlattices, MOCVD growth and struct. study 4-20498
 GaAs-GaAlAs DH lasers with ion beam etched facet 4-24020

III-V semiconductors continued

- GaAs-GaAlAs DH laser, static field model with cavity longit. effects 4-28687
- GaAs-GaAlAs double quantum wells, bound and virtual bound states 4-46330
- GaAs-GaAlAs heterojunction, electrolum. and spectroscopic ellipsometry 4-51389
- GaAs-GaAlAs heterostructures, LPE growth, Al conc. in subsurface region 4-7375
- GaAs-GaAlAs laser diodes, stress compensation 4-1392
- GaAs-GaAlAs optical waveguides, MOCVD grown, low losses, attenuation meas. 4-24179
- GaAs-GaAlAs staircase heterostruct., transient electronic transport, Monte Carlo simulation 4-30059
- GaAs-GaInAs heterojunction, Fermi level pinning by misfit dislocations 4-6871
- GaAs-GaP/Si, for high efficiency cryst. solar tandem cells 4-21542
- GaAs-Ge abrupt heterojunctions, valence band discontinuities, effect of crystallographic orientation 4-6876
- GaAs-Ge heterostructures, band bending during formation, in situ study 4-30062
- n-GaAs-metal, GaAs epitaxial film thickness determ. by metal-semiconductor characs. meas. 4-42918
- GaAs-metal, Schottky-barrier structures, low temp. behaviour of volt-ampere characs., effect of mech. stresses 4-20724
- GaAs-Ni(Pd) Schottky-barrier contact, evaluation of surface state spectrum 4-20725
- GaAs-oxide interface, AES depth profiles anal., electron escape depth (Chinese) 4-6894
- GaAs-Pd Schottky barrier diodes, capacitance-voltage characs., effect of H₂ adsorption 4-20722
- GaAs-Pt buried Schottky barrier, interface states, DLTS study 4-40015
- GaAs-Pt interface anal. by Rutherford backscatt. and AES (Chinese) 4-39692
- GaAs-Si₃N₄, ion implantation through dielectric layers, recoil profile 4-50329
- GaAs-SiO₂, strain effects in SiO₂ evaporated layers, piezobirefringence study 4-6676
- GaAs-SiO₂ interface, AES depth profiles anal., electron escape depth (Chinese) 4-6894
- GaAsAl, passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380
- GaAsP, form. by ion implantation and annealing, Schottky contact study 4-50317
- GaAsP passivation and selective etching under pot. and pH control in H₂O₂ media 4-57380
- GaAsP strained-layer superlattices, independently variable band gaps and lattice consts. 4-2465
- GaAsP:Cr, deep level photoluminesc. 4-40497
- GaAs_{0.99}P_{0.01}N, recomb. mechanism, cathodoluminesc. study 4-57001
- GaAs_{1-x}P_x (110) surface, electronic and atomic struct. calcs. 4-6851
- GaAs_{1-x}P_x, dielec. function and derivative spectra by ellipsometry, Fourier analysis 4-46222
- GaAs_{1-x}P_x, energy band struct. calcs. 4-29884
- GaAs_{1-x}P_x, γ-ray induced defects, recombination-enhanced annealing 4-20252
- GaAs_{1-x}P_x, MOVPE grown, luminesc. props. and deep electron traps 4-25794
- GaAs_{1-x}P_x photoelements as UV detectors, physical props. 4-20692
- GaAs_{1-x}P_xN, Te VPE layers, minority carrier lifetime, photoluminesc. meas. 4-51333
- GaAs_{1-x}P_xN₂, spectral props., impurity effects 4-20995
- GaAs_{1-x}P_y-GaAs strained layer superlattices, two-dimens. electron gas obs. 4-15938
- GaAs_{1-x}P_y, solid soln., phase state change with pulsed annealing 4-55875
- GaAs_{1-x}P_y-GaP, MOCVD grown, strained-layer superlattice structures, planar channelling studies 4-45223
- p-GaAs(Sb), spin relax. of cond. electrons and exchange interactions 4-25311
- GaAs_{0.9}Sb_{0.1}, organometallic VPE growth 4-57104
- GaAs_{1-x}Sb_x, electroplated epitaxy 4-40693
- GaAs_{1-x}Sb_x, low-temp. edge photoluminesc., shallow impurity position correl. 4-30527
- GaAs_{1-x}Sb_x, OMVPE growth solid comp. 4-39713
- GaAs_{1-x}Sb_x, organometallic VPE growth 4-30646
- GaAs_{1-x}Sb_x, p-n junctions, reverse current, influence of dislocations 4-25435
- GaAs_{1-x}Sb_x active layer in injection lasers microhardness, effect of n- and p-type doping 4-34839
- GaAs(Sb)(P):I, impurity bond lengths, Mossbauer study 4-20140
- GaAs_{1-x}Sb_xP_y, photocurrent spectral dependence 4-56391
- GaAs(100) substrate for insulating CaF₂ and Ca_xSr_{1-x}F₂ films, MBE growth and props. 4-51506
- GaAs(110)-Al interface, reson. photoemission 4-30599
- GaInAs, MESFET optimum semiconductors for HF and low-noise appl. 4-29965
- GaInAs, OMVPE growth, morphology, solid comp., optical and elec. props. 4-46441
- GaInAs, organometallic VPE growth, photoluminescence characterization 4-51509
- GaInAs photocathodes, Cs-O activating coating props., XPS study 4-21103
- GaInAs quantum-well laser, linewidth enhancement factor 4-28685
- GaInAs/AlInAs single quantum wells, photoluminesc. props. 4-2949
- GaInAs/InP heterojunctions, electron dynamics in two-dimensional electron gas, study by Monte Carlo method (French) 4-11584
- Ga_{0.47}In_{0.53}As layers, MBE, lattice matched to InP substrate, mobilities 4-40658
- Ga_{0.47}In_{0.53}As, MBE growth on InP substrate, elec. props. 4-16326
- Ga_{0.47}In_{0.53}As, proton bombardment in n- and p-type material, resist. increase 4-2222
- Ga_{0.47}In_{0.53}As:Mn, pure and doped epitaxial layers, photoluminescence study 4-51339
- Ga_{1-x}In_xAs, EXAFS study 4-30563
- Ga_{1-x}In_xAs epitaxial layers, grown with transition layer, elec. props. 4-50959
- Ga_{1-x}In_xAs, graded epitaxial layers, characterisation, SEM developments 4-24698
- Ga_{1-x}In_xAs heteroepitaxial layers, grading meas. 4-34838
- Ga_{1-x}In_xAs-dielectric interfaces, surface Fermi level 4-6904

III-V semiconductors continued

- GaInAsP 1.3 μm monomode laser modules for 565Mb/s and higher rate optical transmission 4-33691
- GaInAsP BH heterostructure optical waveguide branches and bends, low-loss, LPE growth 4-38574
- GaInAsP, LPE growth on GaAs (100) by two-phase soln. technique 4-40679
- GaInAsP laser heterostructures, automated LPE apparatus for preparation 4-30652
- GaInAsP/InP high quality 1.3 μm BH-DFB lasers with first-order gratings 4-5615
- GaInAsP-InP DH lasers, carrier leakage effects obs. in strong mag. fields 4-38487
- Ga_{1-x}In_xAs_{1-y}P_y, disordered, band calc., variational multiple scatt. method 4-45618
- Ga_{1-x}In_xAs_{1-y}P_y lattice matched to InP grown by MOCVD, alloy composition and flow rates 4-21155
- Ga_{1-x}In_xAs_{1-y}P_y/Ga_{1-x}In_xAs_{1-y}P_y DH visible injection laser, room temp. pulsed operation 4-55032
- Ga_{1-x}In_xAs_{1-y}Sb_{1-y}, liquid phase epitaxy 4-51555
- GaInP, surface prep. methods, chem. treatment 4-51832
- Ga_{1-x}In_{1-x}P_{1-y}, two-modes behaviour, reson. Raman scatt. of disorder induced modes (French) 4-35446
- Ga_{1-x}In_{1-x}P_{1-y}, energy band struct. calcs. 4-29884
- Ga_{1-x}In_{1-x}P_{1-y} solid solns., refr. index spectra, dispersion values 4-51221
- GaInPAs epitaxial layers, substrate-induced stabilisation on GaAs and InP, theory 4-39709
- Ga_{1-x}In_{1-x}P_{1-y}As_{1-y} solid solns., intrinsic defects conc. calc., deviation from stoichiometry 4-24812
- GaN, CVD and props. (Japanese) 4-11417
- GaN, deep centre emission anisotropy 4-35492
- GaN, VPE, annealing effects 4-35573
- GaP (110), intrinsic unoccupied surface states, universe photoemission 4-2640
- GaP (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
- GaP, absorpt. spectrum, many-body effects 4-11905
- GaP, amorphised, hopping and band transport 4-25338
- GaP, bound exciton series, absorpt., isoelectronic trap luminesc. studies 4-39818
- n-GaP, bulk photovoltaic effect, band struct. study 4-2634
- GaP bulk single crystals, hydrogenation of electron traps 4-25366
- n-GaP, charge carrier conc. and mobility determ. by Raman spectroscopy 4-7193
- GaP, chemical shift effect on donor polarisabilities 4-11477
- GaP, decay of red Cu-S pair luminesc. 4-51336
- GaP, doped, low freq. dielectric behaviour under illumination 4-46173
- GaP, elec. and photoelectrical props. 4-35015
- GaP, electro-optical studies 4-11867
- GaP, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
- GaP electronic materials, IR microscopy, appls. (French) 4-17934
- GaP, far IR lattice absorpt. 4-7201
- GaP ion bombarded, displacement cascade struct., TEM study 4-34552
- GaP, ion implantation, lateral extension of radiation damage obs. 4-29452
- GaP, laser-induced sputtering near threshold laser fluence 4-7286
- GaP, lightly doped, impurity levels, size effect 4-39829
- GaP, longitudinal optical phonon lifetimes, temp. depend., Raman studies 4-45286
- n-GaP, luminescence and deep level studies of dislocations 4-16257
- GaP, P LVV Auger and electron energy loss spectra 4-21076
- nGaP photoelectrode, RuO₂ incorporation in polypyrrole films and H₂O photooxidation 4-12487
- GaP, pulsed laser-induced surface damage, Rutherford backscatt. channeling study 4-20239
- GaP, radiation-stimulated gettering at interfaces (Russian) 4-39341
- GaP red-emitting LED, 0.75 eV killer centre, dark transient capacitance study 4-11471
- GaP, resonant photoemission from surface states 4-11569
- GaP reverse biased diodes, electroluminescence spectra (Russian) 4-40537
- GaP Schottky barrier height rel. to interface chem. reactivity 4-45881
- GaP single cryst., heat-treated, electrophys. props. and photolum. 4-25808
- GaP, single dislocations, recomb. efficiency 4-55831
- GaP, Sn-vacancy defects created by ion implantation of radioactive In and Sb, Mossbauer study 4-34529
- GaP, surface prep. methods, chem. treatment 4-51832
- GaP, surface states study by photoemission yield spectroscopy (Polish) 4-35548
- GaP, TO (Γ) phonon mode, anharmonicity and Fano effect 4-29565
- GaP, thermal expansion in range 20 to 300K 4-34675
- n-GaP, uniaxially stressed, IR spectral absorpt. anisotropy 4-40430
- GaP, vacancy induced deep levels, density of states change 4-39747
- GaP, vacancy spin polarisation energy 4-39821
- GaP, zone edge phonons, IR absorption and Raman scatt. studies 4-11238
- GaP:B(N), hyperfine interactions of polarised β-emitting impurities, NMR 4-34933
- GaP:Cr(Co), impurity states, ENDOR and optical absorption studies 4-20601
- GaP:Cu, Zero field optically detected mag. reson. study 4-56820
- GaP:Er, 1.54 μm photolum. obs. 4-21001
- GaP:Er³⁺(Yb³⁺), rare earth activated luminesc. 4-35480
- GaP:Fe, ESR line with g=2.133 4-20855
- GaP:Fe, optical and thermal props. of Fe 4-2547
- GaP:Fe²⁺, excited states, ESR and Hall effect studies 4-11480
- GaP:N, distant-pair recombination, tunnelling nonradiative transitions 4-46322
- GaP:N, effect of heat treatment on N conc. change, cathodolum. study 4-23842
- GaP:N epitaxial layers, deep level induced by plastic deform., TSC meas. 4-2538
- GaP:N LED, degradation and cathodoluminescence profile 4-35494
- GaP:O, electronic struct. calcs. 4-20596
- GaP:O, electronic struct. theory 4-20597
- GaP:O, localised and resonant O vibr. modes, Green's function calc. 4-45291
- GaP:O, vibr. modes of O incl. nearest-neighbour interactions 4-20311
- GaP:S local dielec. modes, spectral fine struct. in Raman scatt. 4-56931

III-V semiconductors continued

- GaP:Ta, luminesc. of Ta centres 4-25806
 GaP:V, Raman light scatt. and electrooptic effect 4-20946
 GaP/HClO₄ semicond./electrolyte junction, photoresponse, space charge region width effects 4-45879
 n-GaP/Langmuir-Blodgett film/Au electroluminescent structures 4-21043
 GaP-Au contacts, struct. effects on heating 4-39696
 GaP-LiInSe₂ p-n heterojunctions, fabrication by LiInSe₂ vacuum evaporation 4-25886
 GaP-SiO₂ strain effects in SiO₂ evaporated layers, piezobirefringence study 4-6676
 GaSb, Auger processes, overlap integrals 4-51416
 n-GaSb, conduction band parameters, Hall effect and magnetoresist. 4-56370
 GaSb crystals, growth by horizontal travelling heater method, forced convection on centrifuge 4-3042
 GaSb films, plasma-assisted epitaxy in H plasma 4-51527
 GaSb ingots, Bridgman growth, texture, cryst. orientation, grain boundaries, SEM, chem. etching, electron channelling 4-29364
 GaSb polytype heterostructures 4-15949
 GaSb, self-diffusion of Ga and Sb 4-45392
 GaSb single crystals, melt pulled, sawtooth line patterns at facet boundary 4-3060
 GaSb, surface states study by photoemission yield spectroscopy (Polish) 4-35548
 GaSb:Se, impurity donor states, galvanomag. and oscillatory effect meas. 4-11481
 GaSb:Se, press. spectroscopy of impurity states 4-45679
 GaSb:Te pulled crystals, sub- μ m steps on facet planes 4-11019
 GaSb/Al_{0.6}Ga_{0.4}Sb optically pumped multiquantum well lasers 4-55038
 GaSb/AlSb multiquantum well structs., MBE growth and narrow-well photoluminesc. 4-21003
 GaSb/InAs MBE-grown heterostructures and superlattices, interface studies 4-15774
 GaSb-AlSb superlattice interface and lattice strain measurement by ion channelling 4-2420
 GaSb-InAs quantum well structure, 2-D cond. holes, weak localisation 4-56423
 GaSb_{1-x}As_x, lattice vibrs., CPA calc. 4-55944
 Ge/GaAs heterojunction, Ge MBE growth, photoemission study 4-35039
 Hg_{1-x}Cd_xTe, anodic sulphide film growth 4-51550
 III-V semiconductor:Sb, ion implanted, Mossbauer isomer shift studies 4-46152
 (In,Ga)P homogeneous alloy, temp. difference LPE growth (Japanese) 4-30651
 In Sb:Te crystals, solidification in zero gravity, morphology, struct., solute distrib. 4-57090
 In/InAs/In, InAs surface inversion layer conductance, Cooper pair penetration 4-30085
 In_{1-x}Al_xAs epilayers on InP substrates, deposition and props. 4-30638
 In_{1-x}Al_xP_{1-y}Sb_y, quaternary alloy heterojunction band discontinuities 4-45868
 n-InAs, degenerate, electron temperature, Shubnikov-de Haas oscillations in mag. field 4-29995
 InAs, dissolution in In-As melt, kinetics, 823-973K 4-56014
 InAs, energy band struct., oscillatory magnetoabsorption spectra study 4-7167
 p-InAs, Hall coeff., low temp. sign inversion 4-20679
 InAs, iodine synthesis of bulk crystals and epitaxial layers, elec. parameters 4-11415
 InAs ion-implanted, laser annealing, defect and elec. props. study 4-11182
 InAs, MBE growth on InP, thermally cleaned under As mol. beams, ESCA study 4-21351
 InAs MISFET, magnetoconductance study of inversion layers 4-20727
 InAs, optical bistability obs. at band gap 4-49427
 InAs, phonon dispersion curves, temp. depend., 80 to 750K, X-ray thermal diffuse scatt. study 4-6454
 InAs polytype heterostructures 4-15949
 InAs sputtered In and As atom ionisation probabilities on primary ion energy function 4-46393
 InAs, surface states study by photoemission yield spectroscopy (Polish) 4-35548
 InAs:Sc, Czochralski grown, impurity distrib., Hall meas., at. absorpt. anal. 4-11170
 InAs:Te(Sn)(S), Hall coeff., elec. cond., hydrostatic press. effect 4-6813
 p-InAs/metal struct., elec., photoelec. and luminesc. props. 4-30072
 InAs/oxide interfaces, element V material obs. 4-56157
 InAs-GaAs high-electron mobility monolayer superlattice 4-15936
 InAs-GaSb quantum well structure, 2-D cond. holes, weak localisation 4-56423
 In_{1-x}Ga_xAl_{1-y}As_yMn_z, MBE growth, doping and elec. characts. 4-30636
 InGaIP visible laser diodes, MBE growth and lasing characts. 4-28692
 InGaAs avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 InGaAs films, LPE, carrier conc., Hall mobility, Al addition gettering effect 4-46456
 InGaAs, MOCVD growth using new AsH₃ cracking method 4-21153
 InGaAs photodiodes, colour multiplexing for optical information transmission, technological developments (Czech) 4-1509
 InGaAs:Zn, diffusional doping from spin-on film sources, review 4-50586
 InGaAs/GaAs strained layer superlattices, ion channelling studies 4-20271
 InGaAs/GaAs strained layer superlattices, strain meas. by channelling angular scans 4-20272
 InGaAs/InP 1.65 μ m GH lasers, molecular beam and liquid phase epitaxy growth, aging 4-33654
 InGaAs/InP lasers, facet oxidation 4-28742
 InGaAs/InP n-n heterojunction, deep levels, capacitance and DLTS studies 4-25425
 InGaAs/InP photodetectors for fibre optic appls. 4-4464
 InGaAs/InP VPE layers, background carrier conc. and X-ray linewidth 4-50957
 InGaAs/InP waveguided optical switch using free-carrier plasma dispersion 4-49575
 In_{0.3}Ga_{0.8}As-GaAs strained-layer superlattices, electron mobilities 4-11576
 In_{0.53}Ga_{0.47}As growth by molecular beam epitaxy on InP (French) 4-25888

III-V semiconductors continued

- In_{0.53}Ga_{0.47}As LPE on (100)-InP substrates at low growth temps., Hall meas. 4-21171
 In_{0.53}Ga_{0.47}As, of Cd, exam. rel. to device fabrication 4-34713
 n-In_{0.53}Ga_{0.47}As:Be, implantation doping 4-50315
 In_{0.53}Ga_{0.47}As/InP multiple quantum-well laser, optically pumped, chloride VPE grown, lasing characts. study 4-28688
 In_{0.53}Ga_{0.47}As/InP photoexcited lasers, quantum-well heterostruct., threshold pumping power temp. depend. study 4-28739
 In_{0.53}Ga_{0.47}As/InP quantum well heterostruct. lasers, VPE in multiple chamber reactor 4-21147
 In_{0.53}Ga_{0.47}As/plasma oxide MOS structs., inversion layers, low field electron mobility 4-45884
 In_{0.53}Ga_{0.57}As:Fe, LPE, dopant compensation 4-40688
 In_{1-x}Ga_xAs, electronic struct., chem. and struct. disorder effects 4-25216
 In_{1-x}Ga_xAs, LPE growth using source current control of composition 4-40678
 In_{1-x}Ga_xAs, VPE growth by trichloride method, thermodynamic model 4-40660
 In_xGa_{1-x}As strained-layer quantum-well injection lasers 4-55028
 In_xGa_{1-x}As:Si(Sn) MBE layer, elec. and optical props. 4-46300
 In_xGa_{1-x}As-GaAs, strained-layer superlattices, axial channelling and He ion backscattering studies 4-45220
 In_xGa_{1-x}As-GaAs superlattice, Zn diffusion induced disorder 4-20407
 InGaAsP 1.3 μ m and 1.5 μ m BH lasers improved perform., depend. on technological parameters 4-23991
 InGaAsP 1.3 μ m diode laser, carrier-induced index change 4-23983
 InGaAsP, absorpt. coeff., band struct., IR spectra 4-35403
 InGaAsP BH injection laser coupled to GRINROD external cavity, single longit. mode operation 4-1422
 InGaAsP BH laser, 1.55 μ m, solitary spectral linewidth reduction with external grating feedback 4-19451
 InGaAsP buried crescent lasers, orientational dependent growth kinetics influence on performance 4-38467
 InGaAsP, CD(Zn) diffusion for p-n junction formation 4-20405
 InGaAsP DFB, double channel, planar buried heterostruct. laser diode, modulation characts. 4-55031
 InGaAsP DFB lasers, ageing characts. 4-23993
 InGaAsP DH laser, heat treatment effects 4-44104
 InGaAsP DH lasers, 1.3- μ m, subnanosecond optically excited, threshold temp. dependence 4-49358
 InGaAsP, defects study by scanning acoustic microscopy 4-6361
 InGaAsP diode laser, real-time meas. of picosecond optical pulses 4-1426
 InGaAsP double heterostructures, optical study for injection laser applications 4-30507
 InGaAsP epilayers, optically induced catastrophic degradation lines 4-39703
 InGaAsP epitaxial layers, photoelectric emission study 4-21105
 InGaAsP external cavity laser, intensity fluctuations meas. 4-49354
 InGaAsP injection lasers, amplitude fluctuations and photon statistics 4-23977
 InGaAsP injection lasers, 11.2 GHz ps optical pulse generation by HF direct modulation 4-49408
 InGaAsP laser material evaluation by optical pumping with 1.06 μ m Nd:YAG laser radiation 4-23976
 InGaAsP laser structures, optically induced catastrophic degradation 4-34478
 InGaAsP laser under 130 ps. elec. pulse pumping, threshold current temp. depend. 4-49349
 InGaAsP lasers, 1.3 μ m, screening at high temp. and current by EL mode ageing 4-14717
 InGaAsP lasers, 1.3 μ m, AM quantum noise 4-28686
 InGaAsP lasers, Auger recomb. temp. depend., expt. study 4-33697
 InGaAsP lasers, cleaved-coupled-cavity, 1.5 μ m, single mode operation 4-1390
 InGaAsP lasers, gain guided, threshold characts. rel. to Auger recomb. 4-14689
 InGaAsP lasers, threshold current temp. sensitivity, dependence, on P-cladding layer doping level 4-19450
 InGaAsP lattice matched to InP, composition depend. of spin-orbit splitting 4-2563
 InGaAsP lightly doped lasers, radiative and nonradiative recomb. anal. 4-19452
 InGaAsP lightly-doped lasers, radiative and nonradiative recombination law anal., comment and reply 4-1394
 InGaAsP photocathodes, Cs-O activating coating props., XPS study 4-21103
 InGaAsP three-channel buried crescent laser, 1.51 μ m wavelength, LPE 4-49394
 InGaAsP/InP, double-channel planar BH laser diode, 1.3 μ m single-longit. mode operation 4-1407
 InGaAsP/InP 1.3 μ m double-channel planar buried heterostruct. laser with reflective coated mirror, ageing test 4-19455
 InGaAsP/InP 1.3 μ m BH lasers, V-grooved, catastrophic degradation by large pulsed currents 4-33655
 InGaAsP/InP BH lasers, 1.3 μ m high-power operation and characts. (Japanese) 4-5607
 InGaAsP/InP buried crescent lasers with separate optical confinement 4-14706
 InGaAsP/InP buried crescent lasers, stable CW operation at high temp. 4-23992
 InGaAsP/InP channelled substrate BH laser using Fe⁺ implant for current confinement, LPE growth 4-38472
 InGaAsP/InP DH, 1.3 micron emission, elec. characts. study using line diagram method 4-56424
 InGaAsP/InP DH lasers, 1.3 and 1.5 μ m, excitations in split-off valence band 4-19449
 InGaAsP/InP double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
 InGaAsP/InP double heterostruct., edge luminescence band profile 4-51340
 InGaAsP/InP heterostructures, spectroscopic electroreflectance and ellipsometry (French) 4-11866
 InGaAsP/InP heterojunctions, field and hot carrier enhanced electron leakage, model calc. 4-25430
 InGaAsP/InP heterostructure, lattice mismatch causes 4-30523
 InGaAsP/InP heterolaser strips, hybrid technology fabrication 4-49401
 InGaAsP/InP LEDs, field and hot carrier enhanced electron leakage, model calc. 4-25430
 InGaAsP/InP lasers, field and hot carrier enhanced electron leakage, model calc. 4-25430

III-V semiconductors continued

- InGaAsP/InP lasers, 1.5 μm , NH_3 and H_2O spectral measurements for pollutant gas monitoring 4-26346
 InGaAsP/InP lasers, facet oxidation 4-28742
 InGaAsP/InP lasers, 1.5 μm , wavelengths and material consts. meas. 4-38476
 InGaAsP/InP multilayers grown by MBE, hillock defects 4-50675
 InGaAsP-InGaP-GaAs DH laser, lasing threshold, temp. depend. 4-14693
 InGaAsP-InP, refr. index in transparent region, Brewster angle meas. 4-24252
 InGaAsP-InP channelled substrate BH lasers, improved linearity and kink criteria 4-49355
 InGaAsP-InP DFB ridge-waveguide lasers, 1.5 μm , CW operation 4-49395
 InGaAsP-InP DFB double-channel planar BH laser diodes, antireflection-coated, CW single longit. mode operation 4-49396
 InGaAsP-InP DH rib waveguides, electrooptical modulation 4-24255
 InGaAsP-InP DH wafers, optical props., effect of proton bombard., rel. to lasing characts. (*Chinese*) 4-38473
 InGaAsP-InP double heterostructure, electron-hole plasma, luminescence and Auger studies 4-56426
 InGaAsP-InP heterostructures, nonequilibrium carrier redistribution, photoluminescence study 4-6882
 InGaAsP-InP LPE double heterostructure, cathodolum. anal. 4-35497
 InGaAsP-InP laser integration with FET 4-55068
 InGaAsP-InP microlensed edge emitting LEDs for long haul optical fibre systems 4-5707
 InGaAsP-InP Q-switched cleaved-coupled-cavity laser with integrated intracavity modulator 4-28716
 InGaAsP-InP ridge waveguide laser, 1.55 μm , low threshold current 4-1408
 InGaAsP-InP:Cr semiconductor buried-crescent type laser (*Japanese*) 4-55040
 In_{0.72}Ga_{0.28}As_{0.6}P_{0.4}, band-to-band Auger recomb., effect of anisotropic band parameters 4-45810
 In_{0.75}Ga_{0.25}As_{0.58}P_{0.42}, LPE grown, electron traps, MOS-DLTS method (*Chinese*) 4-50752
 In_{1-x}Ga_xAs_{1-y}P_{1-y} DH lasers, 1.3- μm , carrier leakage, spatially resolved obs. 4-49357
 In_{1-x}Ga_xAs_{1-y}P_{1-y} epitaxial layers, four-mode behaviour, Raman scatt. 4-30545
 In_{1-x}Ga_xAs_{1-y}P_{1-y}/InP, internal strain and photoelastic effects 4-16178
 In_{1-x}Ga_xAs_{1-y}P_{1-y}/InP heterojunction interface, LPE grown, compositional transition layer study using AES 4-25165
 In_{1-x}Ga_xAs_{1-y}P_{1-y}/InP LPE layers, growth temp. effect on lattice mismatch 4-7374
 In_{1-x}Ga_{1-x}As_{1-y}P_{1-y}, LPE growth and surface morphology on GaAs (100) 4-40677
 In_{1-x}Ga_{1-x}As_{1-y}P_{1-y} layers, high temp. LPE, electron Hall mobility, scatt. mechanism 4-40087
 In_{1-x}Ga_{1-x}As_{1-y}Sb_{1-y} quaternary alloy heterojunction band discontinuities 4-45868
 InGaP and InGaAlP, MBE grown, doping studies, elec. and optical meas. 4-15510
 InGaP-InGaAs-InGaP heterostruc. diode, fabrication, room temp. lasing 4-49364
 In_{1-x}Ga_xP, electroepitaxial Peltier induced LPE on GaAs (100) 4-30653
 In_{1-x}Ga_xP, lattice vibrs., CPA calc. 4-55944
 In_{1-x}Ga_xP layers, two-mode behaviour, Raman scatt. 4-30545
 In_{1-x}Ga_xP solid soln., donor-acceptor recombination, band struct. effects 4-25809
 InGaPAs:N solid soln. epitaxial struct., luminesc. and photoelec. props. 4-21029
 In_{1-x}Ga_xP_{1-y}As_ySb_{1-y} quaternary alloy heterojunction band discontinuities 4-45868
 In_{1-x}Ga_xP_{1-y}As_y/InP waveguide struct., DH laser active layer thickness 4-38580
 In_{1-x}Ga_xSb amorphous films, laser induced explosive crystn. for optical information storage 4-14763
 In_{1-x}Ga_xSb, lattice vibrs., CPA calc. 4-55944
 In_{1-x}Ga_{1-x}Sb, LPE growth, In conc. control using pulse current (*Japanese*) 4-30650
 InP (001)/SrF₂(CaF₂)(Ba₂Sr_{1-x}F₂) epitaxial films, MBE growth 4-12028
 InP (100) plane, anisotropic undercutting rate 4-26074
 InP (110), ion bombarded and annealed, AES, SAM and RHEED study 4-29745
 InP (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
 InP, amorphised, hopping and band transport 4-25338
 InP avalanche photodiodes, LPE, hole diffusion length, impact ionisation coeffs. 4-40687
 InP, band struct., Auger recombination 4-39772
 InP, CD(Zn) diffusion for p-n junction formation 4-20405
 InP, deep levels, influence of growing conditions and impurities (*Korean*) 4-39820
 InP, defects study by scanning acoustic microscopy 4-6361
 InP diffraction grating profiles for DFB lasers and integrated optics, bilevel processing technique 4-24243
 InP, diffusion length meas. by filtered cathodoluminescence 4-50841
 InP, diffusion of Ag from vapour phase, surface equilibria 4-29703
 InP, diffusion of Cd, exam. rel. to device fabrication 4-34713
 InP, disorder production and annealing during He RBS/channelling anal. 4-11197
 InP, doped and undoped VPE, optical characterisation of acceptors 4-35477
 InP, electron irradi. defects, elec. and optical investigations 4-34902
 InP, electron irradi. induced defects, minority carrier injection annealing 4-50828
 InP epitaxial layers, organometallic vapour deposition (*French*) 4-3081
 InP, etching in RF discharge through mixtures of trichlorofluoromethane and O₂ 4-16521
 InP films, amorphous, electronic props. and struct., electron diff., optical and elec. cond. meas. 4-39143
 InP films, amorphous, flash evaporated, electronic distrib., disorder effect, soft X-ray spectra, XPS meas. 4-40599
 InP, fine struct. of (A⁺X) complex 4-25804
 InP, growth by molecular beam epitaxy on InP (*French*) 4-25888
 InP, heat treated, photoluminescence and photocond. spectrum 4-51326

III-V semiconductors continued

- InP, high purity, synthesis from melt, donor conc., Hall meas., photoluminesc. 4-40629
 InP, high purity, undoped, residual acceptors, photoluminesc. study 4-39806
 InP, high-purity hydride VPE, defect centre obs. 4-35478
 InP homojunction solar cells with high γ -ray radiation resistance 4-52137
 InP, impact ionisation of excitons and shallow donors, photoluminesc. study 4-7241
 InP ingots, LEC, Ge doping conc. local variations, SEM cathodolum. spectra 4-34520
 p-InP, intervalence band absorption, variation with hole conc. 4-40422
 InP, ion implanted, rapid lamp annealing, band-to-band luminesc. 4-51312
 InP, ion milling with I⁺ beams 4-39348
 InP, LEC grown, annealing effect on struct. defects 4-34495
 InP, LEC grown crystals, Si contamination sources 4-40633
 InP, LEC growth, elec. props., impurity conc. 4-40632
 InP, LEC growth, temp. gradients 4-40634
 InP, LEC single crystals, microstruct. of grappe defects 4-34494
 InP, LPCVD of Al₂O₃ (AlP₂O₃) dielectric films, elec. props. 4-56439
 InP, laser alloying of NiAuGe contacts 4-25443
 InP, lattice dynamics, phenomenological parameter model anal. 4-55941
 InP, lattice matched to InGaAsP and GaAlInAs, composition depend. of spin-orbit splitting 4-2563
 InP, localised deep level electron trap MOE2, DLTS studies 4-39809
 InP, low temp. electron irradi., defects, DLTS studies 4-50758
 InP, luminescence-band structure study using thermal modulation 4-40527
 InP, MESFET optimum semiconductors for HF and low-noise appl. 4-29965
 InP MIS diodes, capacitance changes caused by piezoelec. effects 4-35074
 InP MIS struct., role of plasma oxide CVD 4-40067
 InP MIS technology, state of the art 4-50943
 InP, MOCVD epitaxy, C-V, Hall and photoluminesc. characts. 4-40664
 InP, MOCVD epitaxy, impurity control, dopant incorporation 4-40665
 InP, MOCVD layers on semi-insulating InP, deep level electron traps, DLTS study 4-39810
 InP, materials science, conf., Lancaster, England (March 1983) 4-36779
 InP, metastable M centre, defect charge state controlled struct. relax. 4-20595
 InP, n-type, proton irradiated defects study (*French*) 4-55891
 InP, nonequilibrium electron system, cond. electrons and donors, far IR magnetoabsorpt. study 4-16099
 InP, optical props. determ. by multiple angle of incidence ellipsometry 4-46221
 InP, optical refr. index dispersion, doping depend. 4-35404
 InP, organometallic VPE, morphology, photoluminesc., electron mobility 4-3080
 InP, p ion irradiated, photoluminesc., thermal processing effect 4-16248
 InP, p- and n-type, luminesc. polarisation and deformation pot. consts. 4-30523
 InP, passivation of surface by O₂ RF plasma. and HNO₃ gas (*French*) 4-26081
 n-InP, photoelectrochemical oxidation 4-26077
 InP, photoluminescence spectrum, excited state donor to acceptor transitions 4-46325
 InP, plasma anodic oxidation 4-26073
 InP, polycryst. thin films for solar cells, growth technology 4-7366
 InP, polycrystalline ingots, horizontal directional freezing, trace impurity conc. 4-40630
 InP, polycrystalline ingots, synthesis by direct reaction, microstruct. and carrier mobility 4-40722
 InP, proton-bombarded, IR photodetection 4-37171
 InP, recomb. electron beam irradi. enhanced dislocation mobility 4-15540
 InP Schottky barrier height rel. to interface chem. reactivity 4-45881
 InP, selected area growth by low press. MOCVD on ion implanted InP substrates 4-3077
 n-InP semiconductor-liquid junction with dil. HNO₃ injection electroluminesc. 4-30510
 InP single cryst., intrinsic point defects, melt composition effects 4-34484
 InP solid solns., refr. index spectra, dispersion values 4-51221
 n-InP, study of electron diffusion const. 4-25365
 InP substrate, deform. of etched V-grooves by heat treatment 4-46636
 InP substrate for In_{1-x}Al_xAs epilayers 4-30638
 InP surface, cleaved, adsorption of Ga and Sb 4-29815
 InP, surface prep. methods, chem. treatment 4-51832
 InP, synthesis, crystal growth, Hall effect, photoluminesc., SIMS 4-40631
 InP, T₂ symm. deep level wavefunction predictions 4-11478
 InP, transient electronic transport under condition of high-energy injection 4-50822
 InP, unintentionally doped LEC crystals, annealing effects 4-34901
 InP, VPE, chloride process, microwave device appl. 4-40657
 InP, VPE, purity control, Hall mobilities 4-40656
 InP, vacancy induced deep levels, density of states change 4-39747
 InP, vapour grown, donor identification, exciton band-gap luminescence 4-50755
 InP:Ag, out-diffusion of radioactive Ag, comparison with Fick's law 4-39599
 InP:Cd LPE layers, impurity concentration meas. by ionized impurity scatt. anal. 4-20231
 InP:Cd p⁺-n junctions, EBIC linescans, computer simulation 4-35060
 InP:Co, deep levels, space charge spectra, photoluminescence and EPR studies 4-39814
 InP:Co, LEC single crystals, precip. identification 4-35563
 InP:Co(Fe), Hall effect, elec. resist. and DLTS studies 4-25374
 InP:Er, 1.54 μm photolum. obs. 4-21001
 InP:Er³⁺(Yb³⁺), rare earth activated luminesc. 4-35480
 InP:Fe, impulse photoconductance decay 4-45863
 InP:Fe, impurity centres, temp. depend. photoluminesc. study 4-46324
 InP:Fe, pure and doped, deep centres, optical studies 4-11479
 InP:Fe, recombination centre parameters, photoelec. studies 4-6828
 InP:Fe, semi-insulating, Si⁺ implantation, capless annealing of damage (*Chinese*) 4-20265
 InP:Fe (100), surface morphology following O₂⁺ and Cs⁺ bombardment, SEM study 4-45477
 InP:Fe photoconductors, ³He⁺ bombardment, picosec. photoresponse 4-45820

III-V semiconductors continued

- InP:Gd, ESR and spin-lattice relax. times, spin Hamiltonian parameters 4-16092
- InP:Ge, LEC single crystals, mech. strength, use as substrate for VPE InP layers 4-11215
- InP:Ge LEC ingots, dopant inhomogeneity, segregation nature and minimisation 4-35562
- InP:H⁺(B⁺)(O⁺)(Ne⁺)(Ar⁺)(Fe⁺), high resistive layers obtained by ion implantation (*French*) 4-55853
- InP:I, impurity bond lengths, Mossbauer study 4-20140
- InP:Mn, elec. resist., Hall effect and impurity ionisation energy 4-25352
- InP:Mn, electron and nuclear mag. relax. 4-11789
- InP:Mn, optical absorpt. tail and minority carrier diffusion length from surface photovoltaic measurements 4-30420
- InP:Mn, X-ray irradi., negative conductance study 4-50827
- InP:S, ion implanted, laser beam annealing, Hall effect and ellipsometry studies 4-50346
- InP:S, single crystals, plastic deform., effect of temp. and S doping 4-6429
- InP:S(Si), compensating aspects of implantation damage 4-34510
- InP:Se, implanted, transient annealing using graphite strip heater and electron beam methods 4-34509
- InP:Se, ion implanted, rapid thermal and electron beam annealing 4-15537
- InP:Si, elec. and photolum. obs. of Si implantation and damage, residual impurities 4-34511
- InP:Si, ion implanted, photoluminescence excitons and polaritons 4-40498
- InP:Si, n-type doping in MBE growth, elec. and optical props. 4-2219
- InP:Si, VPE layers, optical evidence of amphoteric behaviour of Si 4-35479
- InP:Sn(S)(Zn) crystal, liq. encapsulation Czochralski grown, defect struct., synchrotron X-ray topography 4-45137
- InP:Yb³⁺, EPR and spin lattice relax. 4-25635
- InP:Zn, diffusional doping from spin-on film sources, review 4-50586
- InP/electrolyte interface, hot carrier injection of photogenerated carriers 4-15956
- InP/InGaAsP aged LEDs, dark spot defects 4-56999
- InP/Pd surface-barrier Schottky diodes, H adsorption effects 4-35069
- InP/Si₃N₄-based MIS struct., C-V characts. and flat band pot. 4-50934
- InP-Al₂O₃-Al structure, drift phenomena and barrier height from photoemission (*French*) 4-25450
- InP-Al₂O₃-metal, etching procedures of InP, effects on electrical props. (*French*) 4-25451
- InP-Al(Au)(Ag) interface and Schottky diodes formation (*French*) 4-56430
- InP-BaF₂, epitaxial interfaces, misfit dislocations, electron microscopy anal. 4-11410
- InP-Cu₂S heterojunctions, elec. and photoelec. props. (*Russian*) 4-40029
- InP-dielectric interfaces, surface Fermi level 4-6904
- InP-InGaAsP emitters, sources of defects 4-25189
- InP-oxide-metal struct., plasma and chemical oxides, optical and elec. props. 4-12210
- InP-Pd/Ti Schottky diode, H adsorption effect on elec. characts. 4-35068
- InP-SiO₂ MIS capacitors, interface states 4-50944
- InP-SiO₂ MIS struct., interface props. 4-50945
- InP-SiO₂ MISFET, slow current drift model 4-50926
- InP(100), atomic conc. ratio, determ. (*Chinese*) 4-3016
- InP(110), soft X-ray photoelectron yield spectrum 4-21107
- InP:Te, ion implanted, photoluminescence study 4-35481
- InSb, anodic oxide form. 4-21344
- InSb anodization in MOS structures, characts., surface state density distrib. 4-35086
- InSb, Auger processes, overlap integrals 4-51416
- InSb bistable device, external switching and optical logic operations 4-28758
- InSb, conductivity transients under intense laser excitation 4-15875
- n-InSb, Corbino disc, multitransit generation of acoustic fluctuations 4-25377
- InSb, crystallisation, influence of elec. current 4-51481
- InSb, current oscillation freq., degree of compensation effects 4-25410
- InSb, Czochralski growth, cryst. diameter programming by cooling plot 4-40639
- InSb, deformation mechanism map 4-55911
- n-InSb, degenerate, electron heating in quantising mag. field 4-20684
- n-InSb, degenerate, electron temperature, Shubnikov-de Haas oscillations in mag. field 4-29995
- InSb, dislocation induced deep levels, optical absorption studies 4-16224
- InSb, dislocation mobility, plasticity, X-ray Lang topography study 4-15484
- InSb, doped, NMR relax. in localised regime 4-2837
- InSb, elastic constants, third-order, Keating's theory 4-2248
- InSb, electron-hole plasma instability due to impact ionisation delay 4-35021
- InSb, electron-phonon system, cyclotron resonance lineshape 4-56776
- InSb evaporated film, crystal growth study 4-50672
- InSb film, low temp. transitions, superconductivities 4-40106
- p-InSb film, polycryst., elec. props., effect of laser irradi. 4-2663
- InSb, free carrier Faraday rotation investig. using tunable CW CO₂ laser (*Chinese*) 4-20948
- n-InSb, high purity cryst. growth for IR detectors 4-3051
- InSb, hot electron bolometers, nonequilibrium Johnson noise 4-27592
- InSb, hysteretic cyclotron resonance excitation 4-40234
- p-InSb, IR detector, material parameters and surface props. effects 4-43053
- n-InSb, impact ionisation by millimeter radiation in external mag. field 4-34998
- InSb, impurity conc. and chem. nature, submillimeter BWT spectroscopy 4-35966
- InSb inversion layers, screening of collective cyclotron reson. 4-40236
- InSb, ion milling with I⁺ beams 4-39348
- InSb, ion-implanted, laser annealing, defect and elec. props. study 4-11182
- InSb, lattice relaxation controlled free carrier conc., transport props. study (*French*) 4-56357
- n-InSb, longitudinally magnetised, Raman instability calcs. 4-30493
- InSb, luminesc. spectra and optical heating of electrons 4-25807
- InSb, luminescence of bound diamagnetic excitons 4-30513
- InSb, MIS detector, dark current phenomena 4-37174
- InSb MIS struct., annealing effect on charge storage 4-56433

III-V semiconductors continued

- InSb MIS struct., built-in charge and surface state density, C-V charact. meas. 4-30064
- n-InSb MOS struct., 0.63 μ m illumination, photoelectric EMF, I-V characteristic shape 4-39988
- InSb MOS structure with thin anodic oxide, elec. props. 4-40057
- InSb MOS structures, space-charge layer capacitance and photo-EMF build-up process study 4-2657
- n-InSb MOS structures, impedance meas. for semiconductor surface states var. 4-25452
- InSb MOS structures, film and interface anal. 4-56154
- InSb, mag. field stabilised electron-hole liq. 4-56223
- InSb, magnetoresistance oscill. in weak mag. fields 4-20674
- n-InSb, metal-insulator transition under high hydrostatic press. 4-56219
- n-InSb, metallic, Anderson localisation, phys. parameter determ. 4-45683
- InSb, multipass synchronous acoustic wave generation using AC Hall drift current 4-30027
- n-InSb, negative differential photoconductivity in magnetoconcentration effect 4-45833
- InSb, nonequilibrium plasma, recomb. and diffusion at high excitation rates 4-25389
- InSb, nonlinear elec. cond. meas. 4-25356
- InSb, nonreciprocal propag. of surface helicons 4-56377
- InSb, optical bistability 4-14747
- InSb p-n struct., photomagnetic current meas. (*Russian*) 4-50920
- n-InSb, parametric conversion of electron plasma wave into EM wave 4-2629
- InSb, phase transition, NaCl-type lattice under press. 4-39471
- InSb photovoltaic detector characts. at 77K and below 4-4463
- n-InSb, plastic deform. effect on elec. transport props. 4-56348
- InSb, plastically deformed, galvanomagnetic props. 4-15891
- InSb quantum wells, energy level scheme and transport props. 4-40036
- InSb, radiation damage by α -particle bombardment 4-45201
- InSb, recovery processes during high-temp. deform. 4-15574
- InSb, shaped single crystals, form. of growth layers at faces and twinning 4-29360
- n-InSb short-wave helicon isolator, operating power increase 4-56378
- InSb, Shubnikov-de Haas meas. 4-15889
- InSb, single cryst., 2 Mev electron irradi. between room temp. and 200°C, dislocation loops, electron microscopy study 4-11188
- InSb solid-state plasma, MM propag., elec. and mag. field effects 4-11552
- n-InSb, stimulated Brillouin scatt., Brillouin instability 4-56948
- InSb, surface magnetoplasma waves at microwave frequencies, expt. study 4-56376
- InSb, surface states study by photoemission yield spectroscopy (*Polish*) 4-35548
- n-InSb, thermal-electric instability in static mag. and elec. fields 4-34997
- InSb, thin films, elec. props. and crystallisation behaviour 4-56461
- InSb thin films, growth kinetics by Sb₂ and In, mol. beams on Si (100) surface 4-20523
- n-InSb thin inhomogeneous films, elec. props., nonreciprocal effects 4-11607
- InSb thin slab nonlinear media, optical bistability 4-19499
- InSb transphaser, high gain signal amplification at 77K 4-10353
- n-InSb, US attenuation in mag. freeze-out and carrier hopping regions 4-20693
- n-InSb, ultrasonic effects in hopping cond. regime 4-39406
- InSb:Cr, compensated, electron energy phenomenological relax. time 4-15943
- InSb:Ge, impurity distrib. and p-n conversion under heat treatment 4-6390
- InSb:S, crystals, doping with S at high press. 4-2221
- n-InSb:Te, negative magnetoresistance study 4-6812
- InSb:Te(Sb)(S) 4-40098
- InSb/anodic oxide/metal struct., carrier generation times and capture cross sections 4-50935
- InSb/oxide interfaces, element V material obs. 4-56157
- InSb-based MBE grown systems, struct. and elec. props. 4-15791
- InSb-insulator interface, surface helicon propag. in solid state plasma 4-2630
- InSb-SiO₂-InSb, double sandwich, SAW propag., acoustoelectric interaction 4-35030
- InSe-graphite contact, electrical and photovoltaic props. 4-40044
- InSe_{1-x}S_x single cryst., optical absorption, electroabsorption and photoluminesc. studies 4-2959
- p-nSb, Hall effect and magnetoresistance with two-type current carriers 4-6809
- Pd-InP (110) interface, Auger study of Pd:P formation 4-3000
- ¹¹⁹Sn implanted, electronic struct., Mossbauer isomer shifts 4-35272
- ¹²⁵Te and ¹²⁹I implanted, electronic struct., impurity-host bond, lengths, Mossbauer nucl. quadrupole interaction data 4-34931

III-VI semiconductors

- layer compounds, polytypism, review 4-39245
- CdTe, single crystals, growth from melt, elec. and optical props. 4-35564
- Ga chalcogenide layer compounds, growth and characterisation 4-7344
- GaS, ⁶⁹71Ga NQR spectra, hyperfine struct. 4-30319
- Ga intrinsic photoelectrode for photoelectrochem. cell 4-12486
- GaS, phonon density of states, heat capacity calc. 4-2288
- GaS, refractive index dispersion, 80, 300K, temp. depend., single oscillator model anal. 4-25709
- GaS under uniaxial press., indirect absorpt. edge 4-20990
- GaS(Se), elastic consts., press. depend., lattice dynamic model 4-34560
- Ga(Se) lamellar cpd., elastic consts., press. depend. 4-2254
- Ga_{1-x}Se_x layer mixed cryst., optical phonons, IR and Raman spectra studies 4-11236
- Ga₂Se₃ solid solns., elec. props. study, rel. to struct. and optical props. 4-29987
- GaSe, ⁶⁹71Ga NQR spectra, hyperfine struct. 4-30319
- GaSe, decomposition during vacuum deposition, electron diffr. studies (*Russian*) 4-35572
- GaSe, electrooptical prop. dispersion 4-35417
- GaSe, exciton-exciton collisions, spontaneous and optically amplified luminesc. 4-7239
- GaSe, γ -irrad., elec. props. 4-50808
- GaSe, interexciton interaction and exciton-biexciton transitions 4-56232
- GaSe, layer cryst., irradiated, EPR study (*Russian*) 4-7059
- GaSe layer cryst., photocond. anisotropy meas. by contactless microwave method 4-25399
- GaSe, optical bistability and exciton resonance excitation 4-49439

III-VI semiconductors continued

- β -GaSe, optical constants of layer structures from ellipsometric data 4-46220
 GaSe, phonon density of states, heat capacity calc. 4-2288
 GaSe:Cu, doped and undoped, radiative recomb. kinetics, spontaneous photoluminesc. spectra 4-7242
 GaSe:Eu (Nd)(Gd), photoluminescence and ESR spectra 4-51342
 GaSe:Ni single cryst., local levels, TSC studies 4-25368
 GaSe:Sn, single crystals., X-radiation effect 4-55871
 GaSe-metal interfaces, chemical reactivity, soft X-ray photoemission spectroscopy 4-30602
 GaSe(S), isothermal currents and TSC 4-39912
 GaSe_{1-x}S_x solid solns., localised excitons, photoluminesc. study 4-46311
 GaTe, Kramers-Kronig analysis reflectivity extrapolation, linear eqns. algorithm 4-40389
 In chalcogenide layer compounds, growth and characterisation 4-7344
 InSb:Se, relationship between electron density and solubility 4-56031
 InSe deposition struct. and scratch microhardness 4-34841
 InSe, elastic const., press. depend., lattice dynamic model 4-34560
 InSe, exciton absorpt. line, influence of indirect phototransitions (*Russian*) 4-50736
 InSe high quality single crystals, growth and characterisation 4-7345
 InSe, ionicity and polymorphism, IR study 4-51255
 InSe, isothermal currents and TSC 4-39912
 InSe lamellar cpd., elastic const., press. depend. 4-2254
 γ -InSe, lattice const., dynamics and thermal expansion (*Russian*) 4-50274
 InSe layer cryst., photocond. anisotropy meas. by contactless microwave method 4-25399
 InSe, photoluminescence meas., stimulated emission spectra, light amplification under two-photon pumping 4-40481
 InSe single crystals, trapping centres, elec. and photoelectronic meas. 4-6799
 InSe, single crystals., X-radiation effect 4-55871
 InSe, structural changes, TDPAC study 4-2325
 InSe:Cd, doped and intercalated, photoluminescence spectra 4-16245
 InSe:Gd with macroscopic inclusions, polariton effects, photoluminesc. studies 4-29903
 InSe:Zn, photoluminescence spectra 4-16245
 InSe/Au Schottky barriers, photovoltaic effect and solar energy conversion 4-6863
 InSe-anthracene films, photocurrent wavelength depend. in O₂ and Ar atmospheres (*Japanese*) 4-56382
 InSe_{1-x}S_x single cryst., residual cond. and lasting relaxations 4-56355
 TlS thin films, chemical method for prep., characterisation 4-35588
 TlSe, optical absorption edge characts. 4-16219
 TlSe, reflectance and thermoreflectance spectra 4-7169

IR filters see digital filters

illumination see lighting

image amplifiers see image intensifiers

image converters

- see also *fluorescent screens*; *image intensifiers*
 annihilation photons angular distrib. analyser, using image converter 4-28299
 nanosecond frame X-ray image converter with microchannel plate, plasma diagnostics appl. 4-10887
 optoelectronic, contrast-frequency characteristics of optoelectronic systems with inductive conversion (*Russian*) 4-19599
 photorefractive incoherent-to-coherent optical converter using holographic recording and phase conjugation 4-19399
 polydiacetylene-toluene sulphate, quasi-one-dimens. polymer as optical line pattern detector 4-24116
 remote sensing photographic system FEAG digital photowrite and photoscan system 4-42225
 spatiotemporal transfer function, electro-optical system analysis 4-23906
 CdS/CdTe/liquid cryst. noncoherent-coherent image converter, fabrication and performance (*Chinese*) 4-49558
 Si liquid crystal light valves, status and issues 4-24159

image iconoscopes see television camera tubes

image intensifiers

- microchannel plates, polarisation sensitivity variations with photon incidence angle and wavelength in VUV 4-48196
 microchannel spatial light modulator, operating modes 4-24161
 nanosecond frame X-ray image converter with microchannel plate, plasma diagnostics appl. 4-10887
 photon counting system linearity 4-17945
 projection systems, brightness enhancing, design using Cu and Mn laser media 4-28668
 TV-coupled image intensifiers, astronomy and artificial satellites optical tracking appls. 4-53048
 X-ray, electron optics influence on imaging props. (*Czech*) 4-319
 X-ray image intensifier for surgery 4-21789
 X-ray image intensifier props., electron optics effect 4-19600
 X-ray intensifying screens, mech. energy effect during phosphor dispersion 4-8995

image orthicons see television camera tubes

image processing see picture processing

image sensors

- see also *television camera tubes*
 artificial satellites electro-optical surveillance in daylight, reflected sunlight detection 4-22324
 blood/lymph vessels, area/dia.meas., image sensor and signal processing equipment (*Japanese*) 4-8170
 CCD, electronic still camera [with CCD imager] appl. 4-4491
 CCD instruments, astronomical, ghost images prod. by multiple refl. 4-47540
 CCD TV camera, moire topography appl. 4-42913
 cryogenically cooled sensors and Fourier transform spectrometers, conf., San Diego, CA, USA (Aug. 1982) 4-4142
 electronic scanner for a phased-array ultrasound transducer 4-33890
 Fourier transform spectrometer sensor system off-axis detector lineshape and wavenumber var. modelling 4-5548
 Fourier transform spectrometer sensor system developments, performance models as design aids 4-5549
 framing camera tube for subnanosecond imaging applications 4-24236
 frequency multiplexing imager signal-to-noise ratio 4-49559
 gyro-stabilised mirrors appl., optical configurations, Ferranti development 4-43061
 IR astronomical focal plane array low-background meas. 4-13201

image sensors continued

- IR detectors and systems, conf., London, England (Oct. 1983) 4-42593
 IR imager calibration, using functional IR emitter 4-32311
 IR linescan technique, 1960s to 1980s development review 4-253
 photographic diode and transistor heterojunction imaging 4-13692
 picosecond image tube camera, ultrashort laser pulses for study (*Chinese*) 4-55213
 pupilometer with selfscanning photodiode array 4-26492
 raster display systems, spatial-freq.-based criteria limitations 4-38407
 Schottky barrier IR focal plane detector evolution 4-48198
 sensor for two-dimens. optical meas. of ocean wave slope 4-17266
 simultaneous detection of spatially separated signals, spectroscopy appl. 4-13677
 space sensor low background IR calibration facility 4-13200
 spectral imaging devices, classification (*French*) 4-37193
 surface roughness meas. using CCD image sensor 4-32228
 Cd₃Hg_{1-x}Te sputtered epilayers, 32X32 planar IR photovoltaic mosaic arrays 4-55220
 CdTe substrate large single crystal growth by Bridgman method, material eval. 4-21120
 HgCdTe CCD sensors technology developments and performance (*Czech*) 4-48205
 HgCdTe frontside- or backside-illum. detectors. new struct. for IR CCD focal plane arrays 4-48201
 HgCdTe short wavelength IR focal plane arrays 4-48202
 PbS-Si MOSFET focal plane development 4-48199
 Si isolated deep U-groove photodiode linear array, crosstalk meas. 4-4467

image storage tubes

No entries

imagers see image sensors

images, optical see optical images

imaging, acoustic see acoustic imaging

imaging, infrared see infrared imaging

imaging, NMR see magnetic resonance spectroscopy; nuclear magnetic resonance

IMMA see ion microprobe analysis

immiscibility see solubility

imittance, electric see electric imittance

impact (mechanical)

- see also *ballistics*; *impact strength*
 ball-collision expt., energy and momentum conservation laws 4-36871
 beam, viscoelastic, impacted by steel sphere, acoustic radiation 4-33859
 beams, free-free, of circular cross section, bending as result of transverse projectile impacts 4-19744
 beams, unilateral contract, dynamic anal. by time-stepping quadratic programming procedure 4-38766
 beams and bars, notched, elastic impact loading 4-3325
 bons, impact response meas. for in vivo condition assessment in humans 4-12613
 brittle materials, mechanical impacts, fracture particulates form., statistical description 4-30789
 Late Cambrian meteorite impact, search for Ir abundance anomalies at biomere boundaries 4-47263
 cometary impacts, frequency and relation to mass extinctions 4-53097
 concrete, reinforced, Meppen slab tests interpretation, aircraft impact load treatment 4-790
 conference on multiring basins at Houston, Texas, USA (November 1980) 4-27230
 Cretaceous-Tertiary boundary impact, ¹⁸⁷Os/¹⁸⁶Os ratio in Ir-rich layer 4-31457
 dynamic contact problems, numerically efficient procedures 4-34013
 ferroelectric ceramics, piezoelec. charge generation by impact, expt. study (*German*) 4-46186
 fibre reinforced composites, impact-damaged, residual strength 4-46593
 filament, flexible, motion under transverse impact 4-19717
 flat punch embedded in brittle body, shear crack problem 4-55379
 flat-plated structures, low energy impacts by rigid body, strip model simulation, ship collision appls. 4-5809
 graphite fibre reinforced epoxy laminate, transient wave propag. produced by steel ball impact 4-14916
 half-space, elastoplastic, quasi-static normal indentation by a rigid sphere 4-34010
 head-neck lumped parameter model, 3D response due to impact and impulsive loading 4-57926
 hypervelocity impact expts. with railgun accelerator for amorphous alloys 4-46475
 liquid mass impact on perfectly plastic solid 4-14908
 metals, dynamic stress/strain diagrams measuring equipment 4-46686
 meteorite bombardment of icy solar system surfaces, rel. to amorphous or crystalline struct. 4-17416
 microbombardment damage to camera deflecting mirror on P/Comet Halley probe GIOTTO 4-55159
 multiple collision criterion in simple mech. system with viscous damping and dry friction 4-24345
 nonlinear oscillator with impact energy absorber, stochastic auto-oscills. 4-22576
 oblique-impact shock study of solids, using keyed-powder gun 4-42956
 oscillations of systems with large elastic forces of threshold type, vibr. impact approx. 4-53469
 Phobos, impact fracture patterns on ellipsoidal models 4-53077
 plates, anisotropic laminated low vel. impact response 4-10610
 plates, graphite fibre reinforced epoxy laminates, low vel. impact behaviour 4-51779
 plates, plane impact, wave propag., modified characts. method 4-49753
 rod-wall elastoincipient stress anal., two-dimens., dynamic substructuring method 4-10612
 rods, elastoincipient contact, virtual work principle, finite element anal. 4-44499
 shell, cylindrical, elastoplastic buckling under axial impact 4-44433
 solid penetration by high speed oblique jets 4-19777
 steel, alloy, diffusion layer failure formation after chemothermal treatments 4-3235
 steel, impact bend testing, var. thickness samples with a crack 4-3321
 steel, mass transfer of H under repeated variable impact load 4-51900
 steel, structural, heat treatment to reduce temper brittleness 4-40839
 steel, type 4340, dynamic fracture in impact test specimen 4-3255
 structural crashworthiness, conf., Liverpool, England (Sept. 1983) 4-4147

impact (mechanical) continued

- target penetration described by Mohr-Coulomb, failure criterion with tension cutoff 4-86
- tubes, metal, braced with tension members, collapse and energy dissipation characts. 4-5819
- tubes, rectangular and square section, bending collapse 4-5808
- virtual work principles for two elastoincipient contact bodies 4-29029
- Al alloy cylindrical shell impact against a rigid barrier 4-55381
- Al alloy cylindrical tubes, axial collapse classification under quasistatic loading 4-5820
- Al tubes, splitting, long stroke energy dissipation 4-5818
- Fe, white cast 4-41000
- LiNbO₃, impact loaded, anomalous piezoelec. current pulses 4-40347
- MgF₂, static loading and impact indentations, elastic recovery 4-24387

impact avalanche transient-time diodes *see IMPATT diodes***impact ionisation**

- alkali-halide crystals in high electric fields 4-20665
- chalcogenide amorphous semicond. film, bias-induced switching 4-50878
- hole-initiated photoavalanche processes, noise 4-6847
- hot electrons in solids, theory 4-25363
- III-V semiconductors, impact ionisation by holes in materials with a complex valence band struct. 4-15884
- liquids and solids, low-mobility insulating, electric discharge and breakdown 4-40340
- polyethylene, electric discharge and treeing props. rel. to hydrostatic press. 4-16152
- semiconductors, generation-recombination induced dissipative struct. stability 4-6793
- semiconductors, impact ionisation by microwave field in static mag. field 4-25360
- solid dielectric breakdown, role of space charge 4-35350
- Bi_{1-x}Sb_x semiconducting alloys, combined breakdown 4-34999
- Ga_{1-x}Al_xSb_{1-y}As_y p-n struct., avalanche multiplication coeff., photosensitivity spectra 4-6884
- GaAs bicrystals, impact ionisation near grain boundaries, electroluminesc. study 4-20661
- n-GaAs epitaxial layers, cyclotron resonance line, plasma shift (*Russian*) 4-35005
- GaAs p-n junction, nonuniform doping profile, avalanche breakdown voltage, orientation depend. 4-35053
- InP, impact ionisation of excitons and shallow donors, photoluminesc. study 4-7241
- InP, nonequilibrium electron system, cond. electrons and donors, far IR magnetoabsorpt. study 4-16099
- InSb, electron-hole plasma instability due to impact ionisation delay 4-35021
- n-InSb, impact ionisation by millimeter radiation in external mag. field 4-34998
- InSb quantum wells, energy level scheme and transport props. 4-40036
- Si, field assisted emission from shallow levels, transient-current study 4-45799
- Si n⁺-n-n⁺ struct., S-type I-V characts. and current filamentation 4-35057
- Si p⁺-n structures, microplasma breakdown, neutron irradi. effects 4-30065
- Si p-n junctions, avalanche breakdown, pulsed mag. field effects (*Russian*) 4-56420
- Si, p-n junctions, second breakdown, localized electrophys. characts. 4-35059
- Si/SiO₂/Al capacitors, H migration under electron avalanche injection 4-29711
- SiC (6H), impact ionisation and superlattice 4-25358
- SiC diodes, prebreakdown electroluminescence emission (*Russian*) 4-40536

impact phenomena *see collision processes***impact strength**

- see also fracture toughness; notch strength*
- butt joint, adhesive, impact fatigue behaviour (*Japanese*) 4-3232
- ceramic cutting tool materials, impact resist., fatigue wear rel. to microstructure 4-12199
- Charpy impact and dart drop impact test correlations 4-41109
- coal, fracture toughness under quasi-static and impact loading 4-12283
- concrete, strength inspection-impact amplitude-time method 4-3354
- fatigue in polymers, conf., London, England (June 1983) 4-31965
- fibre reinforced composites, impact-damaged, residual strength 4-46593
- glass, impact damage resist. rel. to surface roughness and multiple acid fortification 4-30835
- graphite fibre reinforced epoxy laminates, low vel. impact behaviour 4-51779
- graphite fibre reinforced epoxy laminates, low vel. impact damage, residual strength assessment 4-51780
- Hadfield steel, cold brittleness study (*Russian*) 4-7542
- high-level nuclear waste form performance evaluation 4-27961
- Inconel 718, age hardening, struct. transform., mech. props. 4-51755
- instrumented impact testing, microcomputer appl. 4-3370
- ophthalmic lenses processed in a US simulated chemtempering bath, strength obs. 4-41649
- phenolic fibre reinforced polypropylene, mech. and phys. props. 4-46576
- polyamide-6, thermal treatment effects on mech. props. (*Polish*) 4-57269
- polyethylene, tough, impact props., novel meas. technique 4-16591
- polyethylene-polypropylene blends, moulded specimens, mech. props. two-fold processing (*Polish*) 4-21227
- polymers, impact fatigue by instrumented impact testing 4-35723
- polymers, rebound test with low blow impact by pendulum 4-41160
- polymers and polymeric composites, probability distrib. for mech. characts. 4-16507
- polystyrene, coated spheres filled, crazing modes under impact, matrix-filler adhesion effect 4-12149
- polytrioxane, thermal treatment effects on mech. props. (*Polish*) 4-57269
- polyurethane elastomers, struct., mech. props. rel. to diamine additive 4-30741
- PVC, rigid, extrusion conditions effect on fusion, struct. and impact props. 4-35602
- radioactive fuel casks, drop-tests, problems of scaling 4-37903
- radioactive fuel flasks, impact damage anal. 4-37900
- radioactive material transport package TRU, impact and puncture evaluation 4-37899
- radioactive packaging, transport impact response 4-37901
- radioactive waste packaging systems, transport impact response 4-37902

impact strength continued

- rings, brittle circular, fracture under concentrated impulsive loading 4-34001
 - shock wave loading by artificial spalling 4-7684
 - steel, A533, rapid loading plane strain fracture toughness, round robin testing 4-3331
 - steel, alloy, high-strength weldable, comp. optimisation 4-40980
 - steel, alloy, intergranular embrittlement, small punch test evaluation 4-41161
 - steel, austenitic, nonmag. and cryogenic, mech. props. (*Chinese*) 4-16467
 - steel, C, impact fatigue crack growth 4-16473
 - steel, Cr, thermite rail welds, mech. props. and microstruct. 4-51752
 - steel, Cr-Mn-(Ni)-(V), high N, struct. and mech. props., heat treatment effect 4-30732
 - steel, Cr-Mn-Ni, low C, martensitic, strength props. 4-30771
 - steel, eutectoid, mech. props., effect of Cr additions up to 1% 4-51773
 - steel, heat treated, erosion behaviour, rel. to mech. props. 4-7607
 - steel, high speed, sintered M2, mech. props., cutting performance 4-7571
 - steel, high-speed, cast, props., C and rare earth metal contents influence 4-40977
 - steel, low alloy, line-pipe, trial production of plate (*Korean*) 4-40830
 - steel, low alloy, nuclear press. vessel, anal. of impact props. by Charpy test 4-12151
 - steel, low alloy, nuclear press. vessel, fracture characts. obtained from impact tests 4-12152
 - steel, low C, cast components, strengthened by elastoplastic deform., failure mechanism 4-35700
 - steel, Mn-Mo-Ni, hot rolled sheet, Charpy testing, fracture toughness evaluation (*German*) 4-7676
 - steel, Mn-Nb, impact fracture at low temps. (*Chinese*) 4-16471
 - steel, Ni, intergranular tempered martensite embrittlement 4-16478
 - steel, Ni-Cr, age hardening, struct. transform., mech. props. 4-51755
 - steel, Ni-Cr-Mo, mech. props., effect of substituting W for Mo (*Korean*) 4-40959
 - steel, Ni-Cr-Mo, retained austenite tempering, impact toughness, Mossbauer spectra, 200-300°C 4-35645
 - steel, reactor pressure vessel, reconstituting irradi. Charpy V specimens 4-12291
 - steel, Si, bainitic transform., composition-prop. approach 4-16497
 - steel, Si, bainitic transform., composition-prop. approach 4-16498
 - steel, stainless, ferritic, Cr-Al, struct. and embrittlement, heat treatment effect 4-21256
 - steel, stainless, impact energy rel. to impurity levels and heat treatment 4-12166
 - steel, structural, fracture toughness, appl. of fracture mechanics concepts (*French*) 4-46623
 - steel, sulphide inclusion morphology and transverse impact props., role of rare earth element additions 4-46586
 - steel, thermomechanically rolled, fracture anomaly in impact testing 4-51923
 - steel, warm-rolled, impact-tested, cleavage delaminations 4-26052
 - steel fibre reinforced Al alloy, effect of surface treatment of fibre (*Korean*) 4-57141
 - supercomposites, thermal cycling crack characts., stress conc. factors 4-3210
 - target penetration described by Mohr-Coulomb, failure criterion with tension cutoff 4-86
 - Ti, hot rolled plates, mech. props., grain size and interstitials effect (*German*) 4-35657
 - Al-Zn-Mg, high strength, shock loading, mech. props. 4-12182
 - C fibre, glass fibre reinforced polyester hybrid composite, flexural and impact properties (*Japanese*) 4-26041
 - C fibre reinforced epoxy laminates, impact and subsequent fatigue damage 4-57316
 - Cr-Mo-V steel macrostructure and props., effects of electrosag founding 4-35703
 - Fe alloys, impact wear testing, failure characts. 4-16608
 - Fe, cast ductile, austempered, SEM study rel. to impact toughness 4-5702
 - Fe-Ni (13 wt.%), strength and low temp. toughness, effect of rolling temp. 4-30820
 - Fe-Ni-Mo (13.3 wt.%), strength and low temp. toughness 4-30821
 - Fe-Ni-Mo-Ti (13, 3, 0.2 wt.%), fracture toughness at 4K 4-30822
 - Ge, brittle, coated with hard C, indentation and liq. impact studies 4-15792
 - Mo fibre reinforced MgO, prop. method and mech. props. 4-57169
 - Ni-Cr-Al-Co-W-Mo-Ti, struct. and phase comp., Y additions effect 4-21221
 - α -SiC, sintered, elevated temp. Charpy impact test 4-51776
 - W fibre reinforced MgO, prop. method and mech. props. 4-57169
- IMPATT diodes**
- Si P⁺-N-N⁺ struct. and microwave power generation negative resistance 4-11578
- impedance, acoustic** *see acoustic impedance*
- impedance, electric** *see electric impedance*
- impedance, electric, measurement** *see electric impedance measurement*
- impedance, measurement, electric** *see electric impedance measurement*
- impedance matching**
- TM₁₀ cavity tuning and matching, atomic emission spectrometry appl. 4-26254
- imperfections, crystal** *see crystal defects*
- impermeability** *see permeability*
- implosions** *see explosions*
- impulse generators** *see pulse generators*
- impulse voltages** *see transients*
- impulse welding** *see resistance welding*
- impurities**
- for impurity vibrations *see "lattice localised modes" or "molecular vibrations in solids"*
 - see also chemical analysis; crystal inclusions; crystal purification; diffusion in solids; impurity-defect interactions; impurity distribution; impurity electron states; interstitials; magnetic impurity interactions; phonon-impurity interactions; segregation; semiconductor doping*
 - alkali halide doped crystal, electroplastic effect, impurity influence 4-24902
 - alkali halides, doped, aggregation pathways and Suzuki phase formation 4-29637
 - alkali metal chlorides, defect energy calcs. using repulsive parameters from charge density overlap 4-39283

impurities continued

alkali metal halides, cathodoluminescence spectra, effect of O impurities 4-30531
 alkali metal halides, doped, defect clustering kinetics, review 4-20180
 alloys, superconducting, with paramagnetic admixture, thermal conductivity at electronic topological transition 4-56490
 anisotropic double Ising chain, effect of impurities on spin polarisation 4-45989
 aqueous media, remote laser probing, fluorescence decay time effects 4-48104
 BCC lattice, substitutional-interstitial complexes, mech. relax. 4-24809
 BCC metals, cold worked, Snoek-Koster relax. 4-40851
 Bose gas, interacting, impurity-induced phase transition, analytical results 4-11360
 Bose gas, interacting, impurity-induced phase transition 4-13573
 bound surface optical polaron study by non-perturbative method 4-25248
 CDW, impurity pinned, dynamic props., diagrammatic anal. 4-34892
 CDW, nonlinear cond. with strong impurity pinning 4-29909
 compensated semiconductor, low temp. mobility, temp. and field depend. 4-11526
 composite insulating materials, ageing characts. of impurities 4-35647
 cresyl violet in polyvinyl alcohol, optical dephasing by nonphotochem. hole burning 4-16212
 degenerate Anderson impurity system, Fermi liq. theory 4-40140
 diamagnetic uniaxial cryst. with paramag. impurities, acoustic self-induced transparency 4-29540
 dynamic susceptibility of mixed valence impurity, inelastic strcuts. 4-34918
 edge dislocation pinning by impurity cloud (*Russian*) 4-6394
 electrical conductivity self-consistent current relax. theory 4-20643
 equilibrium electronic gas, paramag. impurity interactions (*Russian*) 4-56253
 FCC crystals, impurity segregation energy, surface orientation depend. 4-20366
 ferroelectrics, effect of pseudo-Jahn-Teller impurities on phase transitions 4-30412
 ferromagnet, compressible, impurity effects close to four dimensions 4-50311
 ferromagnet, easy plane type, spin wave spectrum in presence of impurities with competing anisotropy 4-25537
 glass, fracton contrib. to optical linewidth 4-46226
 graphite, precipitation of intercalants onto dislocations 4-15654
 p-n-heptyl-p'-cyanobiphenyl, nematic-isotropic transition, effect of quasi-spherical solutes 4-11286
 n-hexane, liq., positive streamer propag., impurity effects 4-35353
 high-defect-content solids, diffusion correlation and isotope effects 4-39602
 ice Ih, doped, pulsed NMR T_1 meas., annealing, temp. and impurity conc. depend. 4-30307
 impact energy rel. to impurity levels and heat treatment 4-12166
 incommensurate CDW pinned by impurities, current oscils. 4-6768
 insulators, impurity containing, longitudinal acoustic wave absorption, temp. depend. 4-34593
 laser-solid interactions and transient thermal processing of materials, conf., Strasbourg, France (May 1983) 4-17628
 linear chain of atoms, energy change due to substitutional impurity, sum rule 4-34904
 local density of states in dislocation and impurity cages 4-45688
 low-conductivity liquid, charging in pipe flow with surface electrochem. reaction 4-5976
 magnetic circular dichroism, lattice vibr. effect on ^{32}S - ^{32}P transition 4-51242
 magnetic impurity in metallic host, tridiagonalisation 4-20814
 material softening by impurities, disloc. motion (*Russian*) 4-34569
 metal-film-electrolyte soln. systems, electron tunnelling, many-channel theory 4-2643
 metals, asymptotic elastic energy calcs. 4-45149
 metals, degenerate Anderson model soln. 4-40130
 metals, strain ageing, dislocation struct., US vel. obs. 4-51701
 metals, transport mech. of light interstitials, review, book contrib. 4-39609
 mixed valence solids, impurity-impurity interaction, mag. susceptibility, periodic Anderson model 4-39841
 mixtures, surface and special transitions 4-45304
 modified Ising model in random field, commensurate-incommensurate transition 4-8834
 MOS structures, mobile ion conc., effect of appeal temp. 4-35079
 MOS structures, mobile Na^+ contamination in thermally annealed oxides 4-45426
 nuclear solutions containing U, Th and fission products, AAS determ. of metallic and rare earth impurities 4-46810
 off-centre impurity ion induced ferroelec. transition, anomalous props. 4-2887
 optical thin films, microscopic impurities, spatially resolved absorption and detection by photothermal detection 4-46694
 oxides, cubic, stoichiometric and nonstoichiometric, diffusion meas. 4-20397
 poly(phenylene sulphide):I, ^{129}I Mossbauer spectra 4-7099
 polyacetylene, implanted, nonmetal-metal transition, soliton model 4-20567
 polymer, light stabilisation of impurity molecules (*Russian*) 4-55860
 quartz, coloration, natural and radiation induced, Al impurity effect 4-30534
 quartz, interstitial ions, charge compensating, thermal and radiation induced mobilities 4-20418
 quartz, synthetic, Brazil twin form on -x plane (*Chinese*) 4-55843
 quasi-1D conductors, CDW ordering and impurity effects 4-15868
 radionuclides, impurity detection and testing, medical appls. 4-16979
 radiopharmaceuticals, radioactive impurities, detection level requirements 4-16981
 radiopharmaceuticals production, impurity effects in nuclear medicine 4-16980
 semiconductor, diffusing impurity localisation 4-50313
 semiconductor, point defects, exptl. studies, book 4-33
 semiconductor, zero gap, impurity absorption of light by free carriers 4-11859
 semiconductor surfaces, photoelectrochemical etching, photoelectrochemical solar cells appl. 4-41030
 semiconductors, ^{125}Te and ^{129}I implanted, electronic struct., impurity-host bond lengths, Mossbauer nucl. quadrupole interaction data 4-34931

impurities continued

semiconductors, amorphous, defects, impurities and doping effects, statistical theory anal. (*Chinese*) 4-55723
 semiconductors, dislocation mobility meas. atomic and electronic dislocation core struct. studies, review 4-15490
 semiconductors, impurity conc. and chem. nature, submillimeter BWT spectroscopy 4-35966
 solid solutions, substitutional impurities, deformation interaction and energy (*Russian*) 4-34502
 SOS structure, review of physico-chemical and electrical props. (*French*) 4-40068
 steel, austenitic, precipitation-hardening, with Pb impurity, thermocyclic treatment effect on props. 4-40845
 steel, Cr-Mo-V, turbine rotor, creep embrittlement 4-35707
 steel, fracture toughness rel. to high temp. thermomechanical treatment, recrystallised austenite grains 4-3233
 steel, high speed, AISI M2, hot deformability, impurity effects, AES studies 4-51731
 steel, maraging, Ni-Co-Mo, H compensation of lattice defects, positron annihilation Doppler broadening obs. 4-12290
 steel, medium strength, fatigue crack growth, low freq., effect of environment and stress ratio 4-57395
 steel, mobile impurities study by AES 4-29461
 steel, Ni-Cr-Mo-V, rotor, caustic SCC, effect of impurity segregation and alloy comp. 4-7635
 steel, reactor pressure vessel, dominant mechanism of irradiation embrittlement 4-12171
 steel, temper embrittlement, effect of alloying elements 4-57327
 superconductors with quenched impurities, fluctuation-induced phase transition 4-25470
 supersonic viscous gas jets, interaction, nonequilibrium physicochem. processes effects 4-10715
 ternary alloys, irradiation, void form. (*Russian*) 4-24853
 tetrachlorobenzene, TD exciton systems, exciton-phonon scatt. and exciton trapping 4-2517
 trapping energy in FCC matrices, eccentricity effect with anisotropic guest mols. 4-34436
 tunnel functions with mag. impurities, critical Josephson currents 4-56506
 water vapour cryodeposits, thermostimulated exoemission under various vacuum conditions 4-7323
 weak-coupling anisotropic superconductors with normal impurities, thermodynamics 4-2686
 Ag, adsorption of water on clean and O-covered surfaces 4-34793
 Ag film on Be, charact. of Be-Ag interfacial region, adhesion strength 4-15773
 Ag halides, doped, defect clustering kinetics, review 4-20180
 Ag, ion implanted, impurity internal oxidation, ^{119}Sn Mossbauer spectra 4-35269
 Ag, Mossbauer study of strong O trapping by Sb impurities 4-35268
 Ag single crystal, In impurity diffusion meas. using ion-beam sputtering 4-56089
 Ag single crystals, impurity diffusion of Cd, isotope effect 4-56077
 Ag, trapping and detrapping of O decorated defects, TDPAC study 4-35267
 Al, anodic oxidation in sodium tartrate electrolyte, incorporation of siliceous impurity 4-16528
 Al-Cu-Mg-Si forgings, struct. and props., Mg and Fe contents influence 4-57331
 Al-Si thin film diffusion couples, effects of different solute element addition on Si diffusion 4-56088
 n-AlGaAs/GaAs heterojunction interface, electron transport props. 4-15954
 Al_2O_3 layer characterisation for Al sheet adhesive joints (*German*) 4-16542
 Ar:O₂ alloy, single cryst., elastic constants, rotation-translation coupling effect on intermolecular forces 4-50398
 As₂Se₃ synthetic cryst., photoluminescence, optical transmission and elec. cond. 4-7236
 B:Ni(Te)(Re), number of spins, free carrier conc., EPR spectra 4-51123
 BaF₂:Ni, EPR study of Ni^{2+} centres 4-20854
 BaF₂:RF₃, R=Y, Lu, Yb, Er, Tb, Gd, Eu, La, impurity and defect aggregation 4-50528
 BaFCl, cryst. growth by flux technique, etching, impurity effect 4-2107
 BaO-V₂O₅-Fe₂O₃ semicond. glasses, Fe and V ion interactions 4-6281
 Be clusters, with and without H impurity, spin polarised HF calcs. 4-34898
 BeO single cryst., radiation-optical props., cryst. growth depend. 4-56975
 Bi₂Te₃-Bi₂Se₃ thermocouples, contact resist., effect of impurity addition to solder 4-50900
 Bi₂Te₃-Sb₂Te₃ thermocouples, contact resist., effect of impurity addition to solder 4-50900
 CO₂ gas, bulk discharge ignition volt., impurity effects 4-6220
 CaF₂:RF₃, R=Y, Lu, Yb, Er, Tb, Gd, Eu, La, impurity and defect aggregation 4-50528
 CdS single cryst., polaron scatt. processes, exciton absorption studies 4-34889
 CdSe single crystal films, slow recombination centres, photoelec. props. studies 4-11482
 CdTe:Ag, photon absorption-induced surface segregation 4-45335
 (CdTe)_x(GaAs)_{1-x} solid soln., X-ray cond. 4-56383
 Co-Cu₂O diffusion couple, displacement reaction, kinetics and morphology, impurity effects 4-41099
 CsNO₃, electron and X-ray irradiation, struct. changes, X-ray diff. study 4-50354
 CsPbCl₃, impurity doping, ionic conc. meas. 4-29691
 Cu, cold worked, softening temp. and elec. resist., effect of additions of In, Pb, Sb or Sn 4-40815
 Cu, dynamic recrystallisation, effect of trace elements (*Japanese*) 4-21236
 Cu, pure, cold worked, elec. resist., softening temp. rel. to alloying additions (*Japanese*) 4-46524
 Cu-Sb, creep cavity surfaces and grain boundaries, chem. comp. study 4-24829
 Cu₂O type film, exciton energy calcs. (*Russian*) 4-56233
 Fe, amorphous, spin polarised electronic density of states and mag. moments 4-25198
 Fe, cold rolled, internal friction rel. to interstitial contents 4-51716
 Fe, ductile, mechanism of Mg, Sb and Ce interaction, SEM microanalysis 4-35629

impurities continued

- Fe, ductile, microstruct., mech. props., subversive effect of Pb or Bi, Ce neutralisation 4-35653
 Fe foils, N₂ solubility rel. to surface finishing 4-41084
 Fe, intergranular subcritical crack growth, S in grain boundaries 4-40989
 Fe, nuclear spin-lattice relax. of impurities 4-40260
 Fe-B(P), grain boundary segregation, atomic struct. and stress distrib. 4-20356
 Fe-B(P), grain boundary segregation, electronic struct. and intergranular embrittlement 4-20357
 Fe-B(P), grain boundary segregation, vibr. states of atoms at grain boundaries 4-20358
 Fe-Mn alloy G29, ductile-brittle transition temp., purity influence 4-21318
 Fe-Ni, FCC lattice, internal friction peak rel. to H interstitial pairs 4-46554
 Fe-Ni-Cr-Al, oxidation kinetics, influence of impurities 4-41044
 Fe_{1-x}S, pyrrhotite, impurity band conduction and Hall coeff. 4-45769
 Ga point contacts, electron-phonon interactions (*Russian*) 4-6931
 GaAs, doped with group VI elements, lattice parameters, pseudopot. approach 4-2179
 GaAs, MBE grown, shallow donors, far IR magneto-optical spectroscopy 4-35422
 GaAs quantum wells, MBE, impurity trapping, interface struct., luminesc. 4-45666
 GaAs, seminsulating, electron mobility associated with impurity compensation 4-34983
 GaAs whiskers, struct., mechanical props., impurity effect 4-56182
 GaAs:Cr, semi-insulating, Cr lattice location by ion channelling and X-ray emission 4-39328
 GaAs:Te/Ag, inelastic electron scatt., semicond. surface vibr. spectrum, effect of cond. overlayer 4-57051
 GaAs_{1-x}Sb_x low-temp. edge photoluminesc., shallow impurity position correl. 4-30527
 GaP:B(N), hyperfine interactions of polarised β -emitting impurities, NMR 4-43933
 GaP:N, effect of heat treatment on N conc. change, cathodolum. study 4-24842
 GaP:O, vibr. modes of O incl. nearest-neighbour interactions 4-20311
 (Gd, La)MgB₂O₇:Tb, energy transfer, luminesc. 4-46313
 GdMgB₂O₇:Mn(Bi)(Ce), energy transfer, luminesc. 4-46313
 Ge radiation detector fabrication, overview 4-1000
 Ge:B(N), hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
 Ge:Sb, negative magnetoresist., impurity conc. depend. 4-20678
 Ge₂Se_{1-x} layer cryst., photocond., polarisation studies 4-25400
 Ge₂Se_{1-x} glass, $y=0.05-0.38$, doped and undoped, optical absorpt., photoluminescence, photocond. meas. 4-25782
 H diffusion in high purity Fe 4-39606
 He gas, bulk discharge ignition volt., impurity effects 4-6220
³He-⁴He film, dil., density fluctuations induced by impurities 4-15738
 (Hg, Cd)Te, gettering mech. obs. 4-56087
 HgI₂, cryst. growth from vapour in presence of organic additives 4-45040
 InAs:Te(Sn)(S), Hall coeff., elec. cond., hydrostatic press. effect 4-6813
 In_{1-x}Ga_xAs low-temp. edge photoluminesc., shallow impurity position correl. 4-30527
 In_{1-x}Ga_xP solid soln., donor-acceptor recombination, band struct. effects 4-25809
 InP, high purity, synthesis from melt, donor conc., Hall meas., photoluminesc. 4-40629
 InP, LEC grown crystals, Si contamination sources 4-40633
 InP, LEC growth, elec. props., impurity conc. 4-40632
 InP, MOCVD epitaxy, impurity control, dopant incorporation 4-40665
 InP, materials science, conf., Lancaster, England (March 1983) 4-36779
 InP, polycrystalline ingots, horizontal directional freezing, trace impurity conc. 4-40630
 InP, polycrystalline ingots, synthesis by direct reaction, microstruct. and carrier mobility 4-40722
 InSb, luminescence of bound diamagnetic excitons 4-30513
 KCaF₃, ionic cond. and NMR relax. studies 4-45398
 KCl prep. and O-containing impurity purification, optical studies 4-57092
 KCl:CaCl₂, dislocation charge meas. 4-55834
 KCl:Li, IR absorption study 4-20999
 KCl(Br), laser irradi., impurities and absorpt. spectra 4-39331
 KH₂PO₄:KH₂AsO₄(NH₄H₂PO₄), dielec. behaviour, effect of impurities 4-2885
 KMgF₃, ionic cond. and NMR relax. studies 4-45398
 La_{1-x}B_{1-x/3}F_{3+3x/2}, F mobility, NMR relax. time study 4-45397
 LaH_{2.75}Gd_{0.25}, impurity effects in NMR 4-20881
 La₂Hf₂O₇:Eu³⁺(Tb³⁺)(Ti⁴⁺), lattice const., luminesc. props. 4-45082
 Li clusters, with and without H impurity, spin polarised HF calcs. 4-34898
 LiF, implanted, nonmetal-metal transition, soliton model 4-20567
 Li₃N, ionic cond. and NMR relax. study, effect of O impurity 4-6550
 Li(NH₄)SO₄, thermally stimulated depolarisation current studies 4-6802
 LiNbO₃, defect chemistry and elec. props. 4-34479
 LiNbO₃, doped and undoped, stoichiometry, point defects, absorpt. edges 4-2195
 LiNbO₃:Cr(Mn)(Fe)(Co)(Ni)(Cu), refr. index dispersion, impurity ionic radius depend. 4-2890
 Li₂O, high purity, prep., analysis, melting point 4-3108
 MgO (001), vacancy form. energy, computer simulation calc. 4-50280
 MgO, single cryst., electrolytic coloration and elec. breakdown 4-40343
 MgO:Ni, impurity precipitates, characterisation by STEM, neutron scatt. 4-45342
 Mn, electrodeposition from electrolyte with impurities, effect of (NH₄)₂SeO₄ addition (*Russian*) 4-57116
 Mn impurity in metal, n-channel Kondo problem 4-51023
 Mn_{0.48}Zn_{0.32}F₂ single cryst., mag. elastic diffuse neutron scatt. study 4-51028
 Mo, stress relaxation and thermally activated deformation, 292-550K 4-51723
 MoO₃-BiPO₄ biphasic catalyst, low energy ion scatt. study 4-46828
 N₂ gas, bulk discharge ignition volt., impurity effects 4-6220
 (NH₄)₂H(SO₄)₂, thermally stimulated depolarisation current studies 4-6802
 (N₂H₅)₂SO₄, thermally stimulated depolarisation current studies 4-6802
 NaBr, point defect energy parameters, ionic cond. study 4-24811
 NaCl, divalent cation impurities, influence of weak pulsed mag. field 4-11173

impurities continued

- NaCl, laser irradi., impurities and absorpt. spectra 4-39331
 NaCl:Ca(Pb), yield stress, hardness, dislocation motion meas. 4-50403
 NaCl:Sm²⁺, X-irrad., Z₁-centre contrib. to radiation hardening, hardness meas. 4-50351
 NaMgF₃, ionic cond. and NMR relax. studies 4-45398
 NaNO₂, electron and X-ray irradi., struct. changes, X-ray diffr. study 4-50354
 NaYF₄ pellets, ionic cond. meas. 4-50569
 Nb, deformed, H impurity removal, intrinsic dislocation damping peaks 4-50301
 Nb, H trapping by metallic substitutional impurities 4-20359
 NbH, electronic charge distrib. of absorbed H 4-2180
 NbH_{0.84}:Fe, interstitial diffusion effect on ⁵⁷Fe Mossbauer spectra 4-35311
 NbN supercond. films, prep. and transition temp. 4-15778
 Ni, corrosion in S- and Cl-containing environments, grain boundary penetration and embrittlement 4-21380
 Ni, dislocation loop, voids, radiation creep, influence of nonstationary diffusion (*Russian*) 4-50296
 Ni, electron irradi. induced creep 4-46575
 Ni, impurity diffusion of Cu, 1080-1613K, atomic absorpt. analysis (*Japanese*) 4-34714
 Ni, intergranular H embrittlement, O penetration of grain boundaries (*Japanese*) 4-26095
 Ni, intergranular subcritical crack growth, S in grain boundaries 4-40989
 Ni surface, desorption kinetics of CsCl rel. to Fe impurity conc. 4-11397
 Ni surface, locations of H activity, Ag decoration technique, TEM obs. 4-16590
 Ni-base superalloy, corrosion in S- and Cl-containing environments, grain boundary penetration and embrittlement 4-21380
 Ni-Cu₂O, diffusion couple, displacement reaction, kinetics and morphology, impurity effects 4-41099
 NiO-Cr₂O₃, pure and doped, single crystals, heterodiffusion of Co, Mg and Ca impurities, 800-1700°C (*French*) 4-20409
 OH contamination in SiO₂-GeO₂ optical fibres prepared by plasma CVD process 4-24270
 OH contamination of optical fibre preforms during collapse process 4-24227
 OH⁻ in alkali halide matrices, rot. barrier height and off centre of mass displacement 4-19036
 Pb-Sn (5 wt.%), cellular precipitation, impurity effects (*Russian*) 4-50515
 Pb(Mn_{0.9}Nb_{0.1}Ti_{0.1}Zr_{0.9})O₃ piezoelec. comps., X-ray diffr., SEM, and thermal anal. studies 4-29402
 Pd-Ag, Young's modulus variation induced by H or D 4-39363
 Pd₃Po₃H₁₈, positions of dissolved H-atoms, neutron powder diffr. studies 4-11110
 Pd₃PH₃₃₉, positions of dissolved H-atoms, neutron powder diffr. studies 4-11110
 RbBr, luminescence excitation spectra between 40 and 130 eV 4-25800
 RbCl:Ag⁺, off-centre to on-centre transition under hydrostatic press., paraelec. reson. study 4-11851
 RbCl:H, anion site H ENDOR study 4-11799
 RbI, luminescence excitation spectra between 40 and 130 eV 4-25800
 Rb₂ZnCl₄, incommensurate-commensurate phase transition, defect and thermal fluctuation effects 4-40372
 Sb-Sn, Peltier coeff. meas. at solid-liq. phase boundary, impurity effect 4-56321
 SbNbO₄, electron and X-ray irradi., struct. changes, X-ray diffr. study 4-50354
 Se-Na (Ti)(Cl), liq., cond. and thermopower, charged additives effects 4-50811
 a-Si alloys, optical absorpt. props., effects of topological and quantitative disorder 4-46217
 Si crystals, Czochralski growth, control of C contamination 4-3059
 Si, Czochralski growth, C contamination study (*Chinese*) 4-39181
 n-Si, E-centre form. rate, donor impurity depend. 4-50284
 Si, grown-in impurities investig. by DLTS 4-11476
 Si, impurity nuclei at interstitial sites, hyperfine interactions 4-34899
 Si, impurity trapping, influence of fast solidification 4-15647
 Si inversion layers, cyclotron resonance linewidth, impurity and thickness effects 4-56777
 Si, metallurgical grade, metallic particulate defects, scanning AES study 4-45148
 Si, polycrystalline, solar cells, grain boundary and intragrain Al diffusion for impurity gettering 4-46875
 Si, ultra high purity cryst. growth by floating zone method for radiation detectors 4-3066
 Si wafers, long-time processed, Cu precip., cryst. defects, TEM, DLTS studies 4-2192
 Si:(H,C,N,O) background secondary ion emission under Cs⁺ bombardment 4-46392
 Si:B(N), hyperfine interactions of polarised β -emitting impurities, NMR 4-34933
 a-Si:D(H), vibr. props., IR absorpt. spectra 4-40440
 a-Si:H, glow discharge deposited, impurity diffusion study 4-39598
 a-Si:H, optical energy gap, H content depend. 4-40392
 a-Si:H films, plasma deposition, optical and elec. props. 4-39716
 a-Si:H Schottky solar cells, effect of dopant contamination in undoped layer 4-7879
 Si:Ni wafers nucleation and growth morphology of Ni impurity precipitates, TEM study 4-25040
 Si:P, implanted, impurity drag on climbing misfit dislocations 4-34498
 Si:Te, epitaxial regrowth, Te location, Mossbauer study 4-50655
 Si/SiO₂ interface, Rh-doping effect on interface props. (*Chinese*) 4-20728
 SiC, dense sintered, joining by hot-pressing, bending strength (*Japanese*) 4-7409
 SiN_x:H films, amorphous, prep. by RF glow discharge deposition, IR absorpt. 4-40552
 Si₃N₄, reaction bonded, densification kinetics rel. to impurities 4-16359
 SiO₂, vitreous, devitrification rates, trace impurities effect 4-15387
 SmS, defect-induced valence instabilities, group theory anal. 4-2557
 SnMo₆S₈O, Chevrel phase, supercond. transition temp., lattice const., impurity effect 4-30104
 Sn₂P₂(Se, Si_{1-x})₆ ferroelec. solid soln., lattice dynamics, Raman spectra studies 4-24932
 SnTe, crystal growth by iodide method, impurities and elec. props. (*Russian*) 4-6796

impurities continued

- SrCl₂:RCl₃, R=Gd, La, Pr, defect aggregation study 4-50528
 SrF₂:Ni, EPR study of Ni²⁺ centres 4-20854
 SrF₂:RF₃, R=Y, Lu, Yb, Er, Tb, Gd, Eu, La, impurity and defect aggregation 4-50528
 Ta, deformed, H impurity removal, intrinsic dislocation damping peaks 4-50301
 Ta, H trapping by metallic substitutional impurities 4-20359
 Ta-O-H(D), quadrupole interaction, PAC study 4-35270
 Ta-D, static and dynamic displacements close to D, energy dispersive X-ray diff. meas. 4-45297
 TaS₂:Hf(W) (IT), commensurate CDWs, effects of doping, elec. resist. meas. 4-56328
 Ti, grain boundary segregation of impurities, X-ray microanal. study (*Russian*) 4-51665
 Ti, positron annihilation rel. to H content 4-46359
 α-Ti single crystal, diffusion coeff. of ⁶⁰Co 4-6564
 Ti-Al-Mo-Cr, CORONA 5, fatigue crack growth rate, microstruct., O content 4-40969
 Ti-Al-Sn (5.25 wt.%) powder compacts, porosity rel. to NaCl content 4-40706
 TiB₂ powders, removal of oxide contamination 4-25932
 TiO₂:Ru, oxidation state of Ru, Mossbauer spectra 4-46161
 TiO₂:Ta,Ru, oxidation state of Ru, Mossbauer spectra 4-46161
 UBe₁₃, heavy fermion supercond., effect of impurities on supercond. and normal state props. 4-56475
 V, H trapping by metallic substitutional impurities 4-20359
 VDo₇₈:Fe, interstitial diffusion effect on ⁵⁷Fe Mossbauer spectra 4-35311
 V₂O₃:Cd, hyperfine interactions, TDPAC spectra 4-46154
 W, vacancy clustering at Ag and In impurities, PAC and He desorption study 4-34480
 WO_{2.72}:V(Ni)(Nb), pure and doped, XPS studies, comp. depend. 4-7310
 WO_{2.96}:V(Ni)(Nb), pure and doped, XPS studies, comp. depend. 4-7310
 YAG activated crystal, uncontrolled impurity detection using intracavity spectroscopy 4-11176
 YH₂:Gd³⁺, impurity effects in NMR 4-20881
 ZnO:Cr, compacted powder, plasma deposition of C, A ion bombardment, annealing, AES 4-6392
 ZnSe:Cu, diffused Cu impurities, EXAFS studies 4-11342
 ZnTe, acoustic and photoluminescence, impurity-defect mechanism 4-35504
 Zr-Nb (20wt.%), age hardening rel. to H content (*Japanese*) 4-35637
 ZrF₄-BaF₂-GdF₃-AlF₃ glass optical fibre, impurity level reduction using sublimation purification technique 4-19607
 ZrO₂:SiO₂-Al₂O₃-TiO₂ system, thermal props. rel. to impurities 4-25946
 ZrO₂:SiO₂-Al₂O₃-TiO₂ system, initial melting temp., thermal dissociation, impurities effect 4-25947

impurity and defect absorption spectra of inorganic solids

- alkali halides:Pb²⁺, optical spectra, influence of precipitation processes 4-25786
 alkali halides, F and F_A centres, unrestricted Hartree-Fock cluster anal. 4-20998
 alkali halides, H₂O⁻ defect prod. and optical props. 4-11145
 alkali halides, NaCl-type, F_H-centres, absorption F-band study 4-2200
 alkali metal halide crystals, lattice constants, localised centre absorption band spectral location 4-56970
 alkaline earth oxides, Li⁺ or Na⁺ ion implanted, point defects, ESR, optical absorpt., luminesc. spectra 4-20269
 amethyst, hydrothermal cryst. growth in NaCl and KCl solns. 4-51469
 calcium fluorophosphate, natural, annealing of absorbing defects, UV absorption spectroscopy 4-20997
 citrine, hydrothermal cryst. growth in NaCl and KCl solns. 4-51469
 diamond, colour centres, persistent spectral hole burning 4-56967
 diamond, H3 vibronic centre excited states, absorpt. and luminesc. meas. 4-16223
 F-centres, visible spectra Schrodinger eqn. appl. (*Italian*) 4-45131
 germanate glass:Gd³⁺, EPR and optical absorpt. spectra (*Russian*) 4-56770
 glass:Cr III, absorpt., excitation and emission spectra, ligand field 4-40493
 glass:Yb³⁺, stimulated emission cross section depend. on host glass comp., absorpt. and fluoresc. spectra 4-25783
 III-V compounds, dislocation energy states, exptl. studies review 4-15843
 light amplification, radiative processes in electron-hole drops 4-40530
 multicomponent glass fibres, drawing induced absorption losses 4-7218
 nitrates, cryst., NO₂⁻ impurity centre, multiplicity of spectra and local symm. 4-25802
 quartz, synthetic, high purity, radiation effects, ESR, IR absorpt. studies 4-20236
 quartz glass, O-vacancy defects, electronic struct. and optical studies 4-2966
 rare earth ions in crystals, two-photon resons. studied by four-wave mixing 4-10356
 Al₂O₃:Mn, valency changes induced by heat treatment or γ-irrad. 4-11912
 Ar:K, Jahn-Teller effect and absorpt. spectra 4-2559
 BeAl₂O₄:Cr³⁺, cryst. field energy level diagram 4-6747
 Bi₂Se₃:Ga, point defects, elec. cond., Hall effect and reflectivity studies 4-2196
 CaCO₃, calcite, blue colour rel. to radiation damage 4-11143
 CaF₂, γ-ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
 CaF₂:Ce³⁺, lowest 4f→5d near UV transition, two-photon excitation 4-2939
 CaF₂:Eu²⁺, 4f⁷ levels, two-photon absorpt. spectra study 4-11908
 CaF₂:YF₃:NaF, optical absorpt., spectra 4-56969
 CaO, site-selective dephasing of photo-excited triplet spins 4-46291
 Cr III in glass ceramics, ligand field strengths, fluoresc. and absorpt. spectra obs. 4-56965
 Cs₂Cd(SO₄)₂·6H₂O, VO²⁺ doped, optical absorpt. spectrum, mol. orbital coeffs. 4-40486
 Cu complexes, polymeric alkaline o-phthalatocuprates(II), negative photoconductivity effect 4-25394
 Cu-Zn(Al)(Ge), Hume-Rothery alloys, composition depend. of optical gaps 4-20936
 GaAs, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
 GaAs, large diameter crystals, IR absorption nonuniformities, photoinduced quenching 4-51304
 GaAs, semi-insulating, deep centre EL2, direct IR imaging obs. 4-34905

impurity and defect absorption spectra of inorganic solids continued

- GaAs, semi-insulating, undoped, deep donor EL2, IR absorption study 4-35471
 GaAs:Cr, impurity IR absorption spectra, shape and temp. depend. (*Russian*) 4-40487
 GaAs:Cr, impurity state, photoacoustic study 4-20994
 GaAs:Cr, seminsulating, impurity charge, EPR, IR spectra, photocond. studies 4-35469
 a-GaAs:H, amorphous and microcryst., electronic struct., photoemission spectra 4-39767
 GaAs:Si, annealing effect on elec. and optical props. 4-25339
 GaAs-AlGaAs single quantum well, improvements using thin superlattice buffers 4-51310
 GaAs_{1-x}P_xN₂, spectral props., impurity effects 4-20995
 GaP, bound exciton series, absorpt., isoelectronic trap luminesc. studies 4-39818
 GaP, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
 GaP:Cr(Co), impurity states, ENDOR and optical absorption studies 4-20601
 GaS under uniaxial press., indirect absorpt. edge 4-20990
 GdAlO₃:Cr³⁺, mag. Franck-Condon effect, absorpt. and emission spectra 4-11910
 GdAlO₃:Eu³⁺, electronic transitions, IR transmission spectra 4-29926
 Ge, compensation induced optical transitions within ground state of shallow donors 4-51308
 Ge, disordered by strong plastic deform., optical absorption 4-16220
 Ge, local modes and IR absorpt. of substitutional group IV impurities (*Chinese*) 4-39423
 Ge, shallow centre spectra calcs. 4-56274
 Ge:H, amorphous and microcryst., Ge-H bond stretching modes, IR absorpt. spectra study 4-40435
 a-Ge:H, doped and undoped, defect correl. energy, IR absorpt. 4-40483
 Ge:H film, reactively sputtered, IR absorpt. spectrum 4-20513
 Ge:Zn, singly charged impurity excited states spectra, optical absorpt., photoconductivity, Hall coeff. meas. 4-7220
 Ge₂Se_{7-y} glass, y=0.05-0.38, doped and undoped, optical absorpt., photoluminescence, photocond. meas. 4-25782
 HfS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
 HgSe, photon-ionised impurity plasmon processes, evidence of free carrier absorption 4-7219
 InP:Fe, pure and doped, deep centres, optical studies 4-11479
 InSb, dislocation induced deep levels, optical absorption studies 4-16224
 KBO₃:Sn glass, luminescence and absorpt. (*Russian*) 4-51345
 KBr, electron irradi., nanosecond absorption spectra studies 4-25790
 KBr, F_H-centre energy struct. 4-39822
 KBr, radiation-induced vol. charge, dynamical studies 4-2199
 KBr, X-ray irradi. under high AC fields, F-band absorpt. and thermoluminesc. 4-25788
 KBr:Ca, radiation-coloured, Z₁ centre form. under optical bleaching, thermal prehistory effect 4-39291
 KBr:Ca²⁺, X-irrad., F- and Z₁-centres, thermolum., optical absorpt. spectra 4-11946
 KBr:CrO₄²⁻, Ca²⁺, paramagnetic centres, form. and stability 4-56765
 KBr:I, laser excitation, F-H pair creation from localised exciton 4-50283
 KBr(I):Ag⁺, CrO₄²⁻, degenerate local impurity vibrations, anharmonic interactions, Raman and IR studies 4-29561
 KCl, coloured, optical absorption and thermally stimulated depolarisation spectra studies (*Russian*) 4-40488
 KCl, F_H-centre energy struct. 4-39822
 KCl microcrystalline powders, colour centre stability, effect of dislocation thermal unpinning 4-2201
 KCl single cryst., F-band absorption and thermolum., influence of X-ray irradiation 4-2972
 KCl:Ba²⁺, gamma-ray irradi., Z₁-centres, optical absorpt. spectra, thermolum. studies 4-11945
 KCl:Ca, radiation-coloured, Z₁ centre form. under optical bleaching, thermal prehistory effect 4-39291
 KCl:I, absorpt. spectra, annihilation of F-H pairs 4-35470
 KCl:I, pure and doped, triplet exciton absorption, radiation jarring and relax. kinetics 4-51309
 KCl:Li, F_A-centre absorpt. and emission 4-46292
 KCl:Li, IR absorption study 4-20999
 KCl:S²⁻, TSC meas. and optical spectra 4-16141
 KCl:Sr²⁺, Z-centre conversions, thermal decay kinetics, optical meas. 4-34488
 KCl:Ti³⁺, optical props. and cryst. field model 4-11909
 KCl(Br), laser irradi., impurities and absorpt. spectra 4-39331
 KCl(Br)(I):Ti³⁺, A-band effective dynamical coupling constants 4-2947
 KH₂PO₄-type ferroelectrics, growth and characts. of coloured monodomain crystals. 4-30417
 KI, far IR studies of OCN⁻, SCN⁻, and SeCN⁻ centre gap modes 4-35467
 KI:Se²⁻, photochemical reaction studies, optical absorpt. meas. 4-35468
 KI(Br)(Cl):Ti, geometrical struct. of (Ti³⁺)₂ luminescent centre, optical studies 4-40522
 K₂O-B₂O₃ glass, PbBr₂ activated, luminesc. and excitation spectra of impurity centres 4-56987
 K₂O-Li₂O-B₂O₃ glasses, elec. cond. mixed alkali effect and opt. absorpt. of Ni (II) 4-11907
 LiF F₂ crystals, laser active, nonstationary active spectroscopy 4-5590
 LiF, γ-ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
 LiF:Mg, Ti, impurity defect interactions, optical absorpt., ESR, and ionic cond. meas. 4-15517
 LiF:Mg and LiF:Mg, Ti, Z-centre hypothesis, optical absorpt. study 4-34489
 LiF:O²⁻, F₂⁻ centre stability, decay mech., rate constants, activation energy 4-39290
 LiF:OH⁻ F₂ crystals laser active, nonstationary active spectroscopy 4-5590
 LiF:OH⁻, stabilisation of H, effect of combined mech. load and γ-irrad. 4-6395
 LiKSO₄:Cu²⁺, ESR and optical absorption spectra 4-56763
 LiNbO₃, doped and undoped, stoichiometry, point defects, absorpt. edges 4-2195
 LiNbO₃:Eu(Cu)(Mn)(Ni), X-ray irradi. and thermal reduction-induced defects 4-39286
 LiYF₄:E³⁺, polarised absorpt. spectra and quantum states (*Chinese*) 4-51305

impurity and defect absorption spectra of inorganic solids continued

- LiYF₄:Er(Ho)(Yb)(Tm), γ -irrad., colouring study 4-29477
 MgAl₂O₄, neutron-electron irradiation, crystal defect study (Russian) 4-51379
 MgO amorphous thin films, visible and UV anomalous absorption 4-46340
 MgO:Mg, photochromic reactions 4-20929
 Mn₂:Ni, giant-spin clusters, mag. and optical props. 4-20811
 NH₄H₂PO₄-type antiferroelectrics, growth and characts. of coloured monodomain crystals 4-30417
 (NH₄)₂Mg(SO₄)₂·6H₂O:Ni²⁺, optical absorpt. spectra band splitting, spin-orbit interaction 4-2948
 NaBr single crystals, X-irradiated, optical absorption study 4-2943
 NaCl, gamma irrad., absorption spectra of colour centres 4-2945
 NaCl, laser irrad., impurities and absorpt. spectra 4-39331
 NaCl:Ag⁺, optical absorpt. and electronic struct., multiple scatt. X α study 4-25287
 NaCl:Ca, Pb²⁺, precipitation processes, optical spectra study 4-11306
 NaCl:Mn²⁺, Suzuki phase, optical and Raman spectra studies 4-15652
 NaCl:MnCl₂, photochromic characts. (Russian) 4-16227
 NaCl:OH⁻ crystal, IR absorption 4-46244
 NaCl:Pb, nucleation processes, ionic cond. and optical spectra 4-15651
 NaCl:S²⁻, TSC meas. and optical spectra 4-16141
 NaCl:S²⁻, X-irrad., Z₁-centre form., thermoluminesc. and optical absorpt. study 4-2198
 NaCl:Tb, Z₂ centres, thermolum., optical absorpt. studies 4-2969
 NaCl:Ti⁴⁺, A-band effective dynamical coupling constants 4-2947
 NaF:Mg, colour centres, optical studies 4-56990
 NaF:O²⁻, TSC meas. and optical spectra 4-16141
 NaF:U(VI) crystal luminescence 4-7232
 Na₂O-SiO₂ glass, optical absorpt. of transition metal ions, effect of thermal stabilisation 4-51306
 Na₂Zn(SO₄)₂·4H₂O:Co²⁺, optical absorpt. spectra band splitting, spin-orbit interaction 4-2948
 PbF₂:Eu³⁺, ⁵D₁-⁷F₀ transition, homogeneous linewidth, anomalous temp. depend. 4-11930
 PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
 RbI:Ag⁺, elasto- and elasto-optical dipole props. of off-centre defects 4-11911
 RbI:Na crystals, and pure crystals, excitations of F, F_A and F_B centres 4-2942
 Si, compensation induced optical transitions within ground state of shallow donors 4-51308
 Si, Czochralski grown, thermal donors, IR spectra study at 450°C 4-16222
 Si, local modes and IR absorpt. of substitutional group IV impurities (Chinese) 4-39423
 Si, neutron irrad., single phonon absorption band 4-2918
 Si, shallow centre spectra calcs. 4-56274
 n-Si:As, ion implanted, laser annealed, Brillouin study of phonon softening 4-40466
 a-Si:C(N), local struct., NMR, EPR, Raman scatt., and IR absorpt. studies 4-39131
 a-Si:Cl, H films, photocond. and absorption study 4-39972
 Si:H, amorphous, RF sputtered, light-induced optical absorption changes (Chinese) 4-21056
 Si:H, amorphous and microcryst., Si-H bond stretching modes, IR absorpt. spectra study 4-40435
 a-Si:H, Cl film, photoluminescence spectra 4-40507
 a-Si:H, Cl films, IR spectra study 4-40550
 a-Si:H, effect of light irrad. on TSC 4-39927
 a-Si:H, hydrogenated and pure, phonon density of states 4-39426
 a-Si:H, light-induced optical absorpt. changes 4-40485
 a-Si:H, P, mechanism of P-doping IR spectra study (Chinese) 4-39130
 a-Si:H, photoconductivity absorpt. edge study 4-30021
 a-Si:H, RF sputtered, props., effects of RF power and total gas press. 4-2981
 a-Si:H, recombination kinetics depend. on photoexcitation density 4-39925
 a-Si:H film, short lived photoinduced midgap absorpt. 4-40551
 a-Si:H films, prep. by ion beam deposition, photoacoustic spectroscopy, charge transport 4-40484
 a-Si:H ultrathin layers, quantum size effect, optical props. 4-21057
 a-Si:H/a-Si_{0.2}C_{0.8}:H quantum well structs., optical props. 4-51387
 Si:N, 1.1223 eV A,B,C photoluminescence line 4-51311
 Si:O, annealing behaviour of recombination centres 4-39823
 Si:O, impurity content, IR absorpt. difference method 4-16189
 Si:O, interstitial O IR spectrum and stress-induced dichroism 4-51248
 Si:P(As) superheavily doped SOS films, absorption edge studies 4-2982
 Si:S, spectroscopy of neutral S-related centres 4-56966
 Si:S(Se), donor centres, IR absorpt. and photocond. spectra 4-45677
 SiC, neutron irrad., D₁ centres, vibr. struct., absorpt. and luminesc. spectra 4-30494
 SiO₂, thermally grown layers, halogen impurities, IR absorpt. spectra (Russian) 4-56935
 SiO₂:H₂ fibres, IR loss spectrum obs. 4-24189
 SiO₂:V⁴⁺, photoacoustic absorpt. spectra 4-51307
 SrF₂:Eu²⁺, 4f⁷ levels, two-photon absorpt. spectra study 4-11908
 SrO:Ni²⁺, magneto-optical studies 4-16183
 TeO₂:Fe³⁺, spectroscopic behaviour 4-20996
 ThBr₄:U⁴⁺, site-selective excitation in visible region 4-11760
 ThBr₄:U⁴⁺, site-selective excitation in visible region 4-11929
 YAG activated crystal, uncontrolled impurity detection using intracavity spectroscopy 4-11176
 ZnO single crystals, nonlinear light absorption, two-photon and impurity absorpt. 4-25787
 ZnS:Al, Al_{2n}-V_{2n} pairs, IR absorption studies 4-55825
 ZnS:Cu, middle IR absorpt. and EPR of Cu associates 4-2944
 ZnS:Ni, impurity charge state changes, luminesc., absorpt., excitation and EPR spectra studies 4-16228
 ZnSe:Ni, impurity charge state changes, luminesc., absorpt., excitation and EPR spectra studies 4-16228
 ZnTe, light amplification, radiative processes in electron-hole drops 4-40530
 ZrS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804

impurity and defect absorption spectra of solids

- see also impurity and defect absorption spectra of inorganic solids*
 calcium tartrate tetrahydrate:Fe³⁺, electronic absorption spectrum 4-46293
 cholesteryl benzoate, electronic absorpt. spectra in cryst. and cholesteric phase, effect of impurity conc. 4-11906
 coproporphyrin III molecule in solid matrices, optical relax. and inhomogeneous distrib. function by laser spectroscopy 4-16225
 crystals, composition anal., spatial averaging effects in absorption spectroscopy 4-46290
 degenerate impurity centres, spectral distrib., random deformation field effects (Russian) 4-25282
 disordered systems, impurity particle light absorpt. theory 4-35466
 free and impurity ion spectra, wave function and excitation energy changes on free ion entering cryst. 4-11495
 molecular crystals, spectroscopy, 1981 bibliography 4-42647
 phonon-exciton interaction, absorption lineshape, impurity effects 4-50730
 cispolycetylene: MoCl₅, far IR optical props. 4-35448
 polyacetylene films, defect states, photoacoustic and diffuse refl. obs. 4-20544
 semiconductor, anisotropic, optical absorpt. by exciton-ionized donor complex 4-2946
 semiconductor, multiphoton edge optical absorption 4-16226
 semiconductor, point defects, exptl. studies, book 4-33
 semiconductor thin films, light absorption by deep impurity centres, characts. 4-25789
impurity clustering *see segregation*
impurity-defect interactions
see also impurity-dislocation interactions; impurity-vacancy interactions
 impurity diffusion, encounter model, rel. to correl. effects in NMR 4-34718
 internal friction, impurity grain boundary maximum theory (Russian) 4-6438
 metals, FCC, defect trapping by ¹⁰⁰Pd, PAC meas. 4-34526
 solid solution decomposition, under irradiation, kinetic approach (Russian) 4-50367
 steel, H trapping and repelling defect classification 4-7567
 steel, mild, low C, neutron irradiated, beneficial effect on mech. props. in blue-brittle range 4-45197
 Ag, Mossbauer study of strong O trapping by Sb impurities 4-35268
 CaF₂:Er(La), impurity-defect clusters, EXAFS study 4-16275
 CaF₂:La(Er), defect struct., neutron diffr. study 4-15463
 Cu, defect induced elec. field gradients, geometrical significance of orientation 4-34930
 Fe, H trapping at TiC inclusions 4-20360
 GaAs, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
 GaP, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
 LiF:O²⁻, F₂⁻ centre stability, decay mech., rate constants, activation energy 4-39290
 MgO, point defect form. energy in free surfaces and grain boundaries 4-15464
 Mo, implanted He, interaction with H self-interstitial atoms 4-11177
 Mo-Co, proton irrad., defect-impurity complexes, channelling obs. 4-29490
 NaF:Al³⁺(Ca²⁺), point defects, ²³Na double NMR study 4-11800
 Pt, quadrupole coupling freq. of lattice defect trapped to ¹¹¹In, PAC study 4-34524
 Si, Czochralski grown, donor-related microdefects at surface of denuded zone 4-2226
 Si, neutron doped and γ -irrad., nature of defects 4-55885
 Si, precipitation of O and C for high impurity conc., secondary defect form. (Chinese) 4-39510
 Si:Mn, γ -irrad., elec. and photoelec. props. 4-29975
 TlCl:Sr²⁺(SO₄²⁻), defect migration and struct. studies 4-15708
 W, channelling studies of D, defect interactions 4-50387
 W, proton irradiated, obs. of <100> mixed dumbbell at ¹⁸¹Hf, TDPAC meas. 4-34528
impurity-dislocation interactions
see also dislocation locking; dislocation pinning
 edge dislocation pinning by impurity cloud (Russian) 4-6394
 solute drag by dislocations, differential eqn., asymptotic solns. 4-34491
 steel, maraging, Ni-Co-Mo, H compensation of lattice defects, positron annihilation Doppler broadening obs. 4-12290
 Cu, thermally charged, H-dislocation studies by positrons 4-21290
 Fe, H-charged single crystals, small angle X-ray scatt. 4-3242
 Fe, pure single crystals, H transport by screw dislocations 4-15709
 Fe₈₀B₂₀, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
 Fe₄₀Ni₄₀P₁₄B₆, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
 KCl microcrystalline powders, colour centre stability, effect of dislocation thermal unpinning 4-2201
 KCl:Ca²⁺, dislocation charges, effects of impurities 4-55835
 NaCl:Ca²⁺, dislocation dynamics, pulsed NMR study 4-24827
 Ni-H, plastically deformed, dislocation. relax. peaks involving H drag 4-29464
 Si, orientation of straight edge dislocation, impurity atmosphere form. effect 4-2203
 Si, precipitation and formation of SiO₂ along dislocation core (French) 4-15648
 Si, proton and gamma irrad., dislocation effects on impurity-defect agglomeration interaction processes 4-6404
 Si:As, supersaturated solid soln., decomposition, sessile Frank loop, impurity atmosphere effects 4-29442
 Si:H, dopant effect on dislocation photoluminescence 4-16237
 Si:O₂, impurity-dislocation interactions 4-15515
 Zr, impurity interstitial-dislocation interactions, internal friction 4-50341
impurity distribution
see also doping profiles; segregation
 alkali halides, defect formation efficiency, effects of homologous cation impurity (Russian) 4-34546
 ceramics, elastic moduli, rel. to melting point, effects of impurities on sintering 4-51708
 channelling experiments for foreign atom location, modified continuum model 4-45224
 concentration profile determ. by AES, improved accuracy 4-41294
 crystal, melt growth 4-29356

impurity distribution continued

- crystal lattice, spatial distrib. of channelled ions, semi-empirical calc. 4-11208
 diamond-Co, heated and implanted, lattice damage reduction, impurity distrib., Mossbauer study 4-34504
 durenne-paradibromobenzene solid soln., short-range order, statistical theory 4-34518
 excited states, ESR and Hall effect studies 4-11480
 grain boundary heterodiffusion of Ni, segregation effect 4-39604
 graphite, powder, spectral method of determ. micro-impurities (*Russian*) 4-46838
 III-V semiconductor multicomponent solns., amphoteric impurity distrib. between sublattices 4-20232
 laser annealing, in depth O contamination, IR, AES and ESCA studies (*Chinese*) 4-55856
 melt column low-freq. deform., influence on cryst. form., radial inhomogeneity 4-24744
 nematic liq. crystals, magnetically doped, macroscopic collective behaviour, new texture obs. 4-24718
 neutron depth profiling at National Bureau of Standards 4-46815
 potassium acid phthalate, cryst. growth from aq. soln., impurity incorporation and distrib. 4-2112
 quartz, synthetic, high purity, radiation effects, ESR, IR absorpt. studies 4-20236
 Rutherford backscattering, Bragg-profiling technique, metal and optical surface layers 4-46395
 semiconductor impurity profile determ., electrochemical C-V method 4-40039
 semiconductors, impurity atom distrib. formed by radiation-stimulated diffusion 4-50335
 semiconductors, ion implanted, impurity diffusion and activation, defect effects 4-50587
 semiconductors, nanometre structures formed by low energy ion implantation 4-45165
 silicates, Na and H depth profiles after Pb⁺ implantation and leaching 4-45171
 solid solution decomposition, under irradiation, kinetic approach (*Russian*) 4-50367
 sputter depth profiling, beam induced broadening effects, review 4-46416
 steel, austenitic stainless, martensitic transitions, H charging effect 4-40777
 steel, low alloy, nitride dissolution and formation, hot extraction analysis (*German*) 4-26148
 steel, Ni-Cr, P-doped, intergranular fracture surfaces, rel. between impurity-induced embrittlement and residual strains 4-30806
 steel, stainless type 304 and 15-5 PH, N⁺ ion implantation effects on wear and friction 4-7599
 Ag implanted low energy N₂⁺, depth profiles 4-11172
 Al-Fe(cu), impurity mobility of Fe and Cu, RBS study 4-45381
 Al-He, lateral variation of He implantation using proton backscattering 4-45172
 AlN, pyrolytic layers, doping with Cl₂ and O₂, effects on elec. cond. 4-56456
 Al₂O₃, translucent ceramic, Mg distrib. and microstruct. 4-25045
 C black, minority elements spatial distrib., X-ray photoemission study 4-56131
 Cd,Hg_{1-x}Te:As, Bridgman grown crystals, Au segregation, elec. props. 4-46432
 CdS:Ga, excitonic luminesc. spectra doping effects 4-16240
 CdTe surface, photoetching effect, cathodoluminescence imaging 4-16255
 CdWO₄, electron transfer, effect of point defects 4-50807
 Co,Zn_{1-x}In₂S₄, Co distrib., X-ray diffr., EPR, diffuse reflectance spectra 4-11763
 CsCdCl₃, doped, Co²⁺ and Mn²⁺ ion location, EPR study 4-29458
 Cu diffusion of implanted ⁵⁷Fe, depth-selection conversion electron Mossbauer spectroscopy study 4-35262
 Cu implanted low energy N₂⁺, depth profiles 4-11172
 Fe:B, BCC, impurity β -emitter hyperfine interactions, NMR and asymmetric β -decay obs. 4-34934
 α -Fe:He, impurity migration, vicinity of developing atom-atom collision chain (*Russian*) 4-45416
 Fe:N, ion implanted, impurity distrib. as function of fluence 4-16287
 Fe-Cr, inhomogeneous distrib. of C atoms (*Russian*) 4-6389
 Fe₉₀Ni₁₀P₁₀B₆, Metglas 2826, H mobility, induced mag. anisotropy 4-39605
 n-GaAlAs/GaAs heterojunction, 2-D electron gas, tangential magnetoresist. 4-15953
 GaAs, defect profile and annealing behaviour, impurity complexes form. 4-24841
 GaAs, implanted impurity redistribution, stress effect 4-24843
 GaAs MO-VPE epitaxial layers, residual impurities 4-34830
 GaAs:C, semi-insulating, LEC-grown, C shallow acceptors study 4-40624
 GaAs:Cr, S, Cr redistrib. under annealed S implants 4-29697
 GaAs:S(Si), ion implantation, use of RBS and PIXE for site determ. 4-45147
 GaAs:Si(Se)(S), shallow ion implantation, elec. and structural props. 4-45166
 GaAs:Te, (111) face capture, diffusion limited impurity transport in GaAs:AsCl₃-H₂ system 4-39932
 GaAs:Te, impurity distrib. around dislocations 4-11175
 GaAs:Zn, ion implantation, diffusion and segregation 4-34506
 GaAs:Zn, ion implanted with minimised annealing redistribution 4-15498
 GaAs-Si₃N₄, ion implantation through dielectric layers, recoil profile 4-50329
 GaP:Fe³⁺, excited states, ESR and Hall effect studies 4-11480
 Ge, characterisation for nuclear radiation detectors 4-2550
 Ge, impurity clouds, IR scatt. study 4-24848
 Ge, location of implanted ¹²⁵I, Mossbauer study 4-11171
 Ge:Ga, diffusion of Ga along small angle grain boundaries 4-6563
 Ge:Ga, sources of impurity clouds, IR laser small angle scatt. study 4-11348
 Ge:Ni n⁺p diodes, mobility of Ni-related centres 4-2225
 GeTe:Bi, effects of impurity defects on mechanical props. 4-55902
 HfO₂:Y₂O₃, Raman spectra, X-ray powder diffr. studies, dopant conc. effect 4-2915
 Hg_{0.8}Cd_{0.2}Te:Al⁺, ion implanted, defect distrib. profile 4-24845
 InAs:Sc, Czochralski grown, impurity distrib., Hall meas., at. absorpt. anal. 4-11170
 InP, deep levels, influence of growing conditions and impurities (*Korean*) 4-39820
 InP, n-type, proton irradiated defects study (*French*) 4-55891

impurity distribution continued

- InSb, Shubnikov-de Haas meas. 4-15889
 KCl:Ca, dislocation charge, impurity conc. and temp. depend. 4-24826
 Li-La-Sm phosphate glass, luminescence study of impurity distrib. 4-25811
 Li₂CO₃:K, single crystals, chemical etch pits, trapped impurities, SEM obs. 4-29438
 LiNbO₃:Cr, Cr distrib. coeff., growth parameters and elec. fields influence 4-20131
 LiNbO₃:Ni(Cr)(Sm)(Gd), pyroelectric props. (*Korean*) 4-40364
 LiYF₄:Er(Ho)(Yb)(Tm), γ -irrad., colouring study 4-29477
 Mg, implanted heavy ions, lattice location studies by Rutherford backscatt. channeling 4-55849
 MgO:C, arc-fused, dielectric behaviour 4-35346
 MgO:C, arc-fused, diffusion of C, ¹²C(^{d,p})¹³C reaction studies 4-34711
 MgSiO₃:Fe²⁺, local environment of Fe²⁺, EPR study 4-56760
 Mo, and alloys, impurity concentration determination, spectral method (*Russian*) 4-52066
 Mo, polycrystalline, vacuum annealing, O desorption from grain boundaries, ductility recovery (*Japanese*) 4-35639
 Mo-Ir, zone melt grown, impurity distrib., dislocation struct., conc. depend. 4-24846
 Mo-Ir, zone melt growth with rot., impurity distrib., dislocation struct., conc. depend. 4-24847
 NaCl:Ca²⁺, dislocation dynamics, pulsed NMR study 4-24827
 NaCl:Ca²⁺, impurity dispersion role in microhardness and thermolum. 4-11949
 NaCl:Sm, impurity dispersion rel. to hardness anisotropy 4-50417
 Na₂O-GeO₂, glass, elec. cond., alkali conc. depend. 4-34975
 Nb alloy interaction with Li, nonmetal interstitial impurity distrib., alloying effect (*Ukrainian*) 4-39329
 Ni, polycrystalline, grain boundary segregated S, chemical state, AES and XPS obs. 4-35633
 Pb₃₀Sn₇₀:Te:In, In diffusion, X-ray microanal. studies 4-25096
 PbTe:In, impurity chemical states, thermodynamic anal., Auger electron anal. 4-50321
 PdH, H profile, ¹⁵N nuclear resonance reaction studies (*Chinese*) 4-55857
 Si 4-12021
 Si, annealed, interstitial O conc. depth profiles 4-50334
 Si, characterisation for nuclear radiation detectors 4-2550
 Si, commercial, microstruct., impurity and inclusion distrib. 4-57187
 Si, Czochralski grown, donor-related microdefects at surface of denuded zone 4-2226
 Si epitaxial layers, cryst. perf. perfection, etching, deposition temp., substrate props. effects 4-29834
 Si, from doped SiO₂, Al diffusion, distrib. conc. 4-55859
 Si, implanted, interstitial atom conc. profile, depth distrib. meas., fast H⁺ and He⁺ backscattered energy spectra (*Russian*) 4-24881
 Si, impurity clouds, IR scatt. study 4-24848
 Si, impurity identification, transmission and reflection optical microscopy metallographic techniques 4-30886
 Si, impurity profiles, meas. and calcs. 4-15513
 Si, ion implantation, Boltzmann transport equation based 2D model for impurity distrib. determ. 4-29454
 Si, ion implanted, heat pulse annealing, struct. charact. by TEM 4-24838
 Si, location of implanted ¹²⁵I, Mossbauer study 4-11171
 Si, metallurgical grade, hydrometallurgical purification 4-7351
 Si, metallurgical grade, purification by slagging and impurity redistrib. 4-7349
 Si, metallurgical grade, purification by thermomigration of impurity clusters 4-7350
 Si, proton and neutron irradiat., defect cluster parameters determ. 4-6412
 Si solar cells, metallurgical grade, impurity gettering effect on efficiency 4-7877
 Si:Al(Ga), effect of O₂ from vapour phase on doping 4-56082
 Si:As, ion implanted As behaviour under transient heating by incoherent light 4-24836
 Si:As, Rutherford backscattering with continuous sample rotation, ion beam dosimetry 4-46385
 Si:As⁺, channelled ion implantation at 300°C, distrib. and lattice location 4-11167
 Si:As⁺ ion implanted wafers, IR transient annealing (*Chinese*) 4-20222
 Si:As(Br)(P), high conc. diffusion, profile estimation using unified analytic approx. 4-50333
 Si:B, B diffusion profile from BN source by H₂ injection 4-15703
 Si:B, ion implanted, diffusion behaviour, flash-lamp annealing effects 4-45421
 Si:B (BF₃), cryst. and amorphous, carrier and implant profiles 4-29459
 Si:F, porous, distrib. determ. using nuclear reactions, XPS and Auger anal. 4-45170
 a-Si:F films, prep. by glow-discharge decomp., impurity content, IR transmission spectra, bond stretching vibrs. 4-2983
 Si:Fe, single crystals, rel. to thermal defects, radioactive tracer and ESR investig. 4-25090
 Si:H, amorphous CVD film, post-hydrogenated, electronic props. 4-35578
 a-Si:H, band edges, Fermi level position, surface H conc. 4-39763
 a-Si:H, film deposition by glow discharge, bias effects on props. 4-51497
 a-Si:H, RF glow discharge deposited, optoelectronic and photovoltaic props. meas. 4-50864
 a-Si:H films, P doped and undoped, optical gap, Urbach tail parameters, temp. and doping effects 4-40391
 a-Si:H films, prep. by ion beam deposition, photoacoustic spectroscopy, charge transport 4-40484
 Si:Hg, ion implanted, annealed and unannealed depth distrib. 4-34515
 Si:O, impurity content, IR absorpt. difference method 4-16189
 Si:P, diffusion models, vacancy and interstitial mechanisms 4-29698
 a-Si:P sputtered coating, P diffusion, Auger spectra study 4-45422
 Si:P(AS)(O)(Cl), CVD polycryst. film, impurity effect on grain growth 4-6674
 Si-SiO₂ interface region, Ag distrib. profiles, DLTS 4-45177
 Si-SiO₂, structure formed by 200 keV O ion implantation, O depth distrib. 4-45167
 n-SiC, impurity conc. determ. from local breakdown of metal-semicond. contact 4-24844
 SiC, polycryst. self-bonded, impurities distrib. 4-45176
 a-SiC:H, diffusion of In and Sn from transparent electrode, XPS study 4-41344
 SiO₂, amorphous, ion mixing of marker atoms 4-34514
 SiO₂ films, thermal nitridation, H content meas. 4-39702

impurity distribution continued

- SiO₂, kersil, radiation-optical props. 4-55873
 SiO₂ thermally grown layers, halogen impurities, SIMS study (*Russian*) 4-56169
 SiO₂-Si interface, Cl incorporation and third phase development during Si oxidation 4-45538
 Sn, zone-refined bars, impurity mapping using X-ray macroanalyser 4-41124
 SnTe:In, influence of In on SnTe props., rel. to stoichiometry 4-55858
 SrTiO₃, grown by Czochralski method, optical props. 4-57091
 T, depth profiling in solids using ³H(d,n)⁴He nucl. reaction 4-14197
 Ta:B, BCC, impurity β -emitter hyperfine interactions, NMR and asymmetric β -decay obs. 4-34934
 TaH_{0.8}, lattice location of H by channelling method using nucl. reaction anal. 4-6391
 TaS₂-2H, electrochem. intercalation of K⁺, TDPAC studies 4-11821
 TeO₂:Fe³⁺, spectroscopic behaviour 4-20996
 Ti-Al-Cr-Mo-V, impurity distrib. study 4-11174
 Ti₂O₃:Zr(V)(Sc), phase transition, effect of doping 4-55989
 V:B, BCC, impurity β -emitter hyperfine interactions, NMR and asymmetric β -decay obs. 4-34934
 W single cryst., B atom implanted, channelled ion spatial distrib. 4-11208
 YAG:Nd³⁺, gas bubble assoc. mass transport of Bridgman-Stockbarger melt growth system 4-2108
 ZnWO₄, electron transfer, effect of point defects 4-50807

impurity electron states

- see also A-centres; Anderson model; charge compensation; deep levels; electronic traps; heavily doped semiconductors; impurity scattering; OH⁻centres; U-centres; Z-centres
 alkali halides, ligand relax. and g-shift of s¹ ions 4-20614
 alkali metal halide crystals, lattice const., localised centre absorption band spectral location 4-56970
 alkali metals: Zn, Zn impurity excitations decay 4-34907
 alloys, Auger line shape 4-57047
 amorphous semiconductors, nucl. spin relax. phenomena 4-40270
 anthracene: 2,3-dimethylnaphthalene, charge carrier transport, photoconductivity meas. 4-11557
 antiferromagnets with paramagnetic impurities, spin-wave relax. 4-11690
 crystal with isotropic impurity, local biphonons 4-24933
 cubic cryst., donor excited states and donor-acceptor interactions 4-50759
 degenerate impurity centres, spectral distrib., random deformation field effects (*Russian*) 4-25282
 degenerate semiconductor, long-range interaction of mag. impurity states (*Russian*) 4-56275
 diamond-⁵⁷Co, ion implanted, amorphisation, ⁵⁷Fe Mossbauer study 4-15548
 diamond, impurity potential calcs. 4-6731
 dichroic bistability caused by reson. optical orientation of impurity centres 4-44138
 disordered metal, Coulomb interaction, density of states 4-11489
 disordered quasi-one dimens. system, Anderson transition 4-56279
 doped cryst., exciplex form., host electronic excitation energy trapping 4-25792
 electron capture by shallow neutral impurities 4-25295
 excited electronic state, configurational coordinate, relaxation of density matrix 4-39422
 excited states, ESR and Hall effect studies 4-11480
 ferrimagnetic semiconductors (*Russian*) 4-39831
 germanate glass:Gd³⁺, EPR and optical absorpt. spectra (*Russian*) 4-56770
 glassy semiconductors, modified, extrinsic conduction and band gap 4-29976
 graphite intercalation compound with impurities, electronic struct. calc. 4-45680
 heavily doped semiconductor, impurity-band tails, simplified approach 4-11474
 II-VII semiconductors, impurity oscill. freq. estimation (*Russian*) 4-50763
 injection semicond. lasers, multireq. emission, impurity effects 4-28696
 insulator, transition metal impurities, effective interaction between 3d-electrons 4-34900
 interface, impurity states, effective mass approx. 4-56405
 intermediate state of condensed media, quantum particle transfer between impurities (*Ukrainian*) 4-39812
 ionic crystal, electron jump between impurity centres (*Russian*) 4-50765
 ionic crystals, negative U-centres, charge state stability 4-20598
 isovalent-impurity clusters in Koster-Slater approximation 4-2543
 laser matrices, impurity centres, crystal-matrix phase transition 4-49372
 light amplification, radiative processes in electron-hole drops 4-40530
 linear chain of atoms, energy change due to substitutional impurity, sum rule 4-34904
 localised magnetisation arising from spin-dependent impurity pots. in Wolff model 4-25516
 magnetic impurity in metallic host, tridiagonalisation 4-20814
 many-valley semiconductor, spherically averaged effective mass 4-45586
 metal hydrides, optical phonon-induced H diffusion, quantum theory 4-29686
 metallic thin film, Thomas-Fermi impurity potential 4-25273
 metals, Raman side-bands in reflectivity due to surface impurities 4-51268
 mixed-valence problem, new approach 4-56292
 multiphonon structure of optical transitions to impurity reson. states, anharmonicity effect 4-24937
 naphthalene-d₈, randomly doped crystals, energy migration, percolation model 4-2539
 nitrates, cryst., NO₂⁻ impurity centre, multiplicity of spectra and local symm. 4-25802
 nondegenerate surface accumulation layer, pot. distributions, approx. model 4-45846
 n-phenylenediamine, photoconductor, carrier trapping by deep impurity levels 4-6833
 polar semiconductors, donor polarisability in weak mag. field 4-34908
 poly-N-epoxypropylcarbazole, photoconductor, carrier trapping by deep impurity levels 4-6833
 poly-N-epoxypropylcarbazole, UV photosensitivity, low-molecular impurities effects 4-6834
 polyethylene terephthalate, X-ray photoconductivity, doping effects, deep traps obs. 4-30004
 quartz:H, hyperfine splitting evaluation 4-11501

impurity electron states continued

- α -quartz:H, quadrupole interactions, theory 4-29938
 quartz, artificial and natural crystals, nature of UV luminesc. 4-51330
 randomly doped crystals, energy migration, percolation model 4-2539
 semiconductor, anisotropic, optical absorpt. by exciton-ionized donor complex 4-2946
 semiconductor, deep impurity line spectrum, one-band model 4-50761
 semiconductor, doped, impurity density of states, cluster model 4-29921
 semiconductor, hole tunnelling from acceptor levels in applied field 4-34911
 semiconductor, impurity levels, size effect 4-39829
 semiconductor, impurity-ion potential, mobility of scattered electrons 4-39892
 semiconductor, multiphoton edge optical absorption 4-16226
 semiconductor, photoionisation of impurity atoms in presence of applied elec. field 4-20599
 semiconductor, stochastic recombination instability, electric circuit modelling 4-29985
 semiconductor junctions, trapped charge emission rates from nonexponential capacitance transients 4-45866
 semiconductor lasers, strong field generation theory 4-10306
 semiconductor narrow superlattice, shallow impurity states 4-30038
 semiconductor superlattices, band structure, impurity and exciton binding energies, Stark effect (*French*) 4-25423
 semiconductor thin films, light absorption by deep impurity centres, characts. 4-25789
 semiconductor with impurity systems, correl. two-electron tunnel transitions 4-29927
 semiconductor-insulator interface, inversion layer, two-dimens. density of states for electrons bound to impurities 4-30082
 semiconductors, ¹¹⁹Sn implanted, electronic struct., Mossbauer isomer shifts 4-35272
 semiconductors, ¹²⁵Te and ¹²⁹I implanted, electronic struct., impurity-host bond lengths, Mossbauer nucl. quadrupole interaction data 4-34931
 semiconductors, acceptor impurity potential calcs. (*Russian*) 4-56276
 semiconductors, bielectron-impurity and bielectron-heavy hole complexes 4-25294
 semiconductors, compensated, capacitance and relax. times at carrier exclusion 4-45807
 semiconductors, deep level determination using capacitance-volt. charact. meas. 4-29928
 semiconductors, doped, band tailing, impurity band form. and localisation 4-6744
 semiconductors, heavily doped, impurity excited states effects 4-39817
 semiconductors, polar, bound polarons in strong mag. field, ground state energies 4-50743
 semiconductors, shallow and deep impurities, high mag. field effects 4-2546
 semiconductors, surface photovoltage under sub-bandgap illumination, bulk trap effects 4-45836
 semiconductors, temperature wave method for semicond. parameter meas. 4-11550
 semiconductors, zero gap, anomalous Hall effect 4-11548
 two dimensional impurity bands, longitudinal conductivity oscills. 4-56263
 two-dimensional electron in random pot. under strong mag. field, Borel-Pade anal. 4-56305
 two-dimensional electron-impurity system under strong mag. fields, Anderson localisation 4-15855
 zincblende alloys, splitting of acceptor ground state 4-2548
 AgBr:Cu⁺, Cu⁺ localised level self-consistent calc. 4-25284
 AgCl:Cu⁺, Cu⁺ localised level self-consistent calc. 4-25284
 Al, muffin-tin Green's function theory of H defects 4-45675
 Al thin film, Thomas-Fermi impurity potential 4-25273
 Al-Cu(Ni)(Co) dil. alloys, extension of muffin-tin Green's function theory to defects 4-45674
 AlGaAs:Cu(Fe), deep acceptor levels, comp. dependence and random alloy effects 4-25280
 n-Al,Ga_{1-x}As:Si MBE layers capacitance and Hall effect meas. 4-50962
 Al,Ga_{1-x}As:Sn(Ge)(Te)(Cu) epitaxial films, impurity photolumin. 4-16263
 Al,Ga_{1-x}As-GaAs quantum well heterostructure, impurity induced disordering 4-50905
 α -Al₂O₃:Mn, Mn valence states stability conditions 4-56264
 Ar:Xe, N₂(NO)(N₂O₂), Wannier impurity states, energy transfer, photoluminescence 4-56977
 BaF₂:Ti(Gd) crystals, X-ray and γ -ray induced luminesc. 4-21004
 BaS:Cu,Bi phosphors, gamma-ray induced thermally stimulated luminesc. study 4-16259
 BiI₃:Gd³⁺, low symm. effect in intense EPR lines, depend. on microwave field freq. 4-30281
 (Cd,Mn)Se, bound mag. polaron form., ps. laser spectroscopy study 4-6716
 Cd-Mg(Hg), press. effect on band struct. (*Russian*) 4-6697
 CdGa₂S₄:I single cryst., donor and acceptor levels, photocond. and light transmission studies 4-34909
 Cd,Hg_{1-x}Te, mag. field induced metal-insulator Mott transition, hopping cond. 4-2514
 CdIn₂S₄, single cryst., photocond. and photosensitivity 4-30008
 Cd_{1-x}Mn_xSe, exciton emission and emission by exciton-impurity complexes 4-30512
 CdS:In(Cl), impurity cond., two band approach 4-25343
 CdSe thin films, elec., photocond. and optical props. 4-15971
 CdSe:Ni, donor and acceptor levels 4-56267
 n-CdS:As, film, photoelectric and luminescence props. (*Russian*) 4-50874
 CdTe, MBE growth on Ge, photoluminescence spectra, X-ray diffr. studies 4-20522
 CdTe:Mn, impurity states calcs. (*Russian*) 4-50766
 CdTe:N(P)(As), photoluminescence studies 4-16244
 Ce compounds, electron spectroscopies in impurity model 4-7278
 Ce(Pd_{1-x}Ag_x)₃:Gd³⁺, intermediate valence cpds., impurity ESR spectra 4-16091
 Ce(Pd_{1-x}Rh_x)₃:Gd³⁺, intermediate valence cpds., impurity ESR spectra 4-16091
 Ce_{1-x}Y_xPd₃:Gd³⁺, intermediate valence cpds., impurity ESR spectra 4-16091
 CrH₃, nonstoichiometric, electron struct. and K emission spectra (*Russian*) 4-25215
 Cs₂Cd(SO₄)₂·6H₂O, VO²⁺ doped, optical absorpt. spectrum, mol. orbital coeffs. 4-40486

impurity electron states continued

- Cu, 3d, 4d and sp impurities, electronic struct., self consistent cluster calc. 4-34910
 CuI single crystals, low-temp. violet luminesc. 4-7229
 CuInSe₂ crystal growth from melt, Cu-In-Se phase relations, Hall meas. 4-50842
 CuInSe₂, impurity states, photoluminesc. study 4-16231
 Fe, hyperfine fields and electronic struct. of non-magnetic impurities 4-39842
 α -Fe₂O₃ sintered electrodes, photoelectrochem. behaviour 4-15959
 α -Fe₂O₃/TiO₂ sintered electrodes, photoelectrochem. behaviour 4-15959
 Ga_{1-x}Al_xAs-GaAs-Ga_{1-y}Al_yAs superlattice, impurity level binding energy 4-30063
 GaAs, electron indicated, deep donor levels excitation and annealing (*Russian*) 4-56265
 n-GaAs epitaxial layer, diffusion of impurities forming donor mols. 4-34721
 GaAs, γ -ray irradi., E5 centres, annealing and accumulation, elec. field effects 4-52593
 GaAs, heavily doped, electron irradi., annealed, internal quantum efficiency of deep-centre luminesc. 4-7246
 GaAs, Landau level reson. polaron coupling and impurity transitions 4-11459
 GaAs MBE layers grown using cracked AsH₃, photoluminesc. characterisation 4-46294
 GaAs, negatively charged donor states, spectroscopic transitions to neutral states, magneto-optic expts., cyclotron reson. obs. 4-2825
 GaAs, photoluminescence spectrum, excited state donor to acceptor transitions 4-46325
 GaAs:Be layers, implanted, substrate for MBE grown GaAs photoluminescence intensity meas. 4-20514
 GaAs:C, defect states, thermodynamic calcs. 4-39819
 GaAs:C, semi-insulating, LEC-grown, C shallow acceptors study 4-40624
 GaAs:Cr, deep level trapping dynamics, freq.-domain study 4-11472
 GaAs:Cr, impurity state, photoacoustic study 4-20994
 GaAs:Cr, semiinsulating, impurity charge, EPR, IR spectra, photocond. studies 4-35469
 GaAs:Cr, thermally converted, defect profiles, photoluminescence spectra 4-2965
 GaAs:Cr²⁺, electronic and Jahn-Teller parameters, APR spectrum 4-16089
 GaAs:H (110) Ga-H defect sites, photon stimulated desorption studies 4-45851
 GaAs:Mn, mag. susceptibility, Hall effect meas., Jahn-Teller strain energy 4-15854
 GaAs:Mn, structural defects, ESR studies 4-25631
 GaAs:Ni, double acceptor state, piezoabsorption and Zeeman studies 4-50757
 GaAs:O, O midgap level, DLTS study 4-45667
 GaAs:Sb epitaxial films, edge photoluminescence spectra 4-2967
 GaAs:Se, donor-level deepening under hydrostatic press., photoluminesc. study 4-21011
 GaAs:Si LEC crystals, Si doping effect on elec. props. 4-6810
 GaAs:Si MBE films, Si doping, photoluminescence studies 4-11160
 GaAs:Te, (111) face capture, diffusion limited impurity transport in GaAs-AsCl₃-H₂ system 4-39932
 GaAs:W, luminesc. spectra, cryst. field theory, Tanabe-Sugano diagrams 4-35486
 GaAs/Ga_{1-x}Al_xAs quantum-well struct., hydrogenic donor energy levels, nonparabolicity effects 4-50916
 GaAs-Al_{0.1}Ga_{0.9}As quantum wells, acceptor binding energies 4-30039
 GaAs-Ga_{1-x}Al_xAs heterojunction, doping considerations, low temp. mobility 4-20708
 GaAs-Ga_{1-x}Al_xAs multiple-quantum-well structures, hydrogenic impurity ground state 4-6872
 GaAs_{0.99}P_{0.01}N: recomb. mechanism, cathodoluminesc. study 4-57001
 GaAs(Sb)(P)I, impurity bond lengths, Mossbauer study 4-20140
 Ga_{0.47}In_{0.53}As:Mn, pure and doped epitaxial layers, photoluminescence study 4-51339
 GaP, bound exciton series, absorpt., isoelectronic trap luminesc. studies 4-39818
 GaP, chemical shift effect on donor polarisabilities 4-11477
 GaP, lightly doped, impurity levels, size effect 4-39829
 GaP:Cr(Co), impurity states, ENDOR and optical absorption studies 4-20601
 GaP:Fe, optical and thermal props. of Fe 4-2547
 GaP:Fe³⁺, excited states, ESR and Hall effect studies 4-11480
 GaP:O, electronic struct. calcs. 4-20596
 GaP:O, electronic struct. theory 4-20597
 GaP:Si local dielec. modes, spectral fine struct. in Raman scatt. 4-56931
 GaSb:Se, impurity donor states, galvanomag. and oscillatory effect meas. 4-11481
 GaSb:Se, press. spectroscopy of impurity states 4-45679
 GaSe:Cu, doped and undoped, radiative recomb. kinetics, spontaneous photoluminesc. spectra 4-7242
 GaSe:Ni single cryst., local levels, TSC studies 4-25368
 GdAlO₃:Eu³⁺, electronic transitions, IR transmission spectra 4-29926
 Ge, effective masses for impurity states 4-45670
 Ge, shallow and deep impurity state calcs. 4-2549
 Ge, shallow centre spectra calcs. 4-56274
 Ge:Be(Mg), impurity states and excitation spectra 4-25288
 Ge:Cu single cryst., negative photocond. and hole mobility (*Russian*) 4-35023
 Ge:Ga, deform. potential constns., intensity parameters, optically induced transitions 4-25285
 Ge:Ga, O and Ge:Sb, O, thermal donors, charge state and energy level spectrum 4-20600
 Ge:H, C(Si)(O), crystalline, electronic struct. of impurity complexes 4-25290
 Ge:Sb, acoustic attenuation anomalous behaviour 4-20294
 Ge:Zn, bound double exciton complexes, photoluminescence 4-45644
 Ge:Zn, electrophysical props. near semicond.-metal transition, Lifshitz impurity band model 4-6844
 Ge:Zn, singly charged impurity excited states spectra, optical absorpt., photoconductivity, Hall coeff. meas. 4-7220
 GeSe:Fe amorphous semicond., conduction mechanism, Mossbauer studies 4-25353
 Ge,Se_{1-y} glass, y=0.05-0.38, doped and undoped, optical absorpt., photoluminescence, photocond. meas. 4-25782
 HfS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804

impurity electron states continued

- n-Hg_{0.96}Cd_{0.04}Te, Shubnikov-de Haas effect under pressure 4-29871
 HgI₂In(Ga)(S), thermoluminescence and photoconductivity studies (*Russian*) 4-21054
 III-V semiconductor:Sb, ion implanted, Mossbauer isomer shift studies 4-46152
 InAs:Sc, Czochralski grown, impurity distrib., Hall meas., at. absorpt. anal. 4-11170
 In_{0.53}Ga_{0.47}As growth by molecular beam epitaxy on InP (*French*) 4-25888
 InP, deep levels, influence of growing conditions and impurities (*Korean*) 4-39820
 InP, fine struct. of (A⁺X) complex 4-25804
 InP, high purity, undoped, residual acceptors, photoluminesc. study 4-39806
 InP, high-purity hydride VPE, defect centre obs. 4-35478
 InP, impact ionisation of excitons and shallow donors, photoluminesc. study 4-7241
 InP, nonequilibrium electron system, cond. electrons and donors, far IR magnetoabsorpt. study 4-16099
 InP, photoluminescence spectrum, excited state donor to acceptor transitions 4-46325
 InP, unintentionally doped LEC crystals, annealing effects 4-34901
 InP, vapour grown, donor identification, exciton band-gap luminescence 4-50755
 InP:Co, deep levels, space charge spectra, photoluminescence and EPR studies 4-39814
 InP:Fe, impurity centres, time depend. photoluminesc. study 4-46324
 InP:Fe, pure and doped, deep centres, optical studies 4-11479
 InP:I, impurity bond lengths, Mossbauer study 4-20140
 InP:Mn, elec. resist., Hall effect and impurity ionisation energy 4-25352
 InP:Si, VPE layers, optical evidence of amphoteric behaviour of Si 4-35479
 InSb, doped, NMR relax. in localised regime 4-2837
 n-InSb, plastic deform. effect on elec. transport props. 4-56348
 n-InSb, thermal-electric instability in static mag. and elec. fields 4-34997
 InSe:Cd, doped and intercalated, photoluminescence spectra 4-16245
 InSe:Zn, photoluminescence spectra 4-16245
 In₂Te₃:Cd, electric field gradient, PAC study 4-35307
 KBr:Ca²⁺, X-irrad., F- and Z₁-centres, thermolum., optical absorpt. spectra 4-11946
 KCl:Ba²⁺, gamma-ray irradi., Z₁-centres, optical absorpt. spectra, thermolum. studies 4-11945
 KCl:Br_{1-x}Ca²⁺, doped and undoped, thermolum., microhardness meas., quenching temp. depend., impurity dispersion state effect 4-11947
 K₂O-B₂O₃ glass, PbBr₂ activated, luminesc. and excitation spectra of impurity centres 4-56987
 KY₃F₁₀:Eu³⁺(Tb³⁺), energy migration, decay times, luminesc. 4-11917
 LaF₃:P³⁺(Nd³⁺), phonon-induced transverse relaxation, photon echo study 4-19521
 γ -La₂S₃:Nd³⁺, luminescence quantum efficiency study 4-35489
 γ -La₂S₃:Nd³⁺ semiconductor crystals 4-30526
 La₂S₃2Ga₂O₃:Nd³⁺ glasses, upper active level filling process characts. 4-30526
 La₂S₃2Ga₂O₃:Nd³⁺ glass, luminescence quantum efficiency study 4-35489
 LiF phosphors, mechanically induced thermolum. 4-57004
 LiF:Ti (TLD-100), photoluminescence and thermoluminescence, thermal treatment effects 4-40539
 α -LiIO₃:Co²⁺, paramagnetic centre struct., RFDS method study 4-2811
 α -LiIO₃:Mn, role of impurity states in photoinduced effects 4-34915
 LiNbO₃:Fe, polariton Raman spectra, impurity conc. effect 4-29904
 LiY₃-Er₂F₄ crystals, excitation-energy transport rates 4-51331
 LiYF₄:Er³⁺ polarised absorpt. spectra and quantum states (*Chinese*) 4-51305
 LiY₃-Ho₂F₄ crystals, excitation-energy transport rates 4-51331
 MgO:Fe, cathodoluminescence obs. in SEM 4-25816
 Mg₂Zn_{1-x}Te:Li, photoluminesc. and optical props. 4-56992
 α -MnSe:I, elec. resist., Hall effect and thermoelec. power 4-39908
 MoTe₂ single crystals, semiconducting props. and band struct. 4-50851
 Na⁺ induced surface states in Si-SiO₂ interface, transient capacitance spectroscopy 4-50885
 NaCl:Ag⁺, optical absorpt. and electronic struct., multiple scatt. X α study 4-25287
 NaCl:Sn, thermoluminescence emission and decay kinetics 4-57007
 NaCl:Sr²⁺, X-ray irradi., glow curves, impurity aggregation state effect 4-2970
 NaCl:Tb, Z₂ centres, thermolum., optical absorpt. studies 4-2969
 NaMgF₃, flux-grown, X-irrad., glow curves, optical absorpt. spectra studies 4-11948
 Nb-H systems, ordered structs., ground states anal. 4-29465
 Pb_{1-x}Sn_xSe, struct. phase transition, elec. cond. and Hall effect studies 4-11272
 Pb_{1-x}Sn_xTe:In, liquid phase epitaxy, elec. cond., deep levels in forbidden zone 4-51556
 Pb_{1-x}Sn_xTe:In, photoconductivity, electron exchange between band and impurity states 4-30023
 PbTe:In, impurity chemical states, thermodynamic anal., Auger electron anal. 4-50321
 PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
 PbTe:Ti,Na, influence of resonant states on Hall effect 4-56371
 Pd:Yb³⁺, Mossbauer emission spectra and electronic props. 4-51163
 PtSi:Si, thermal diffusion of Pt in Si, deep electron traps obs. 4-45428
 RbBr:Ag⁺, impurity dipoles, optical relax. time, temp. depend., reaction rate approach 4-56997
 Si, chalcogen doped, deep centers and their importance for semiconductor devices 4-39830
 Si, chemical shift effect on donor polarisabilities 4-11477
 Si, Czochralski grown, thermal donors, IR spectra study at 450°C 4-16222
 Si, effective masses for impurity states 4-45670
 Si, electron irradiated, group III acceptors deactivation, MOS capacitor study 4-20726
 Si epitaxial planar p-n junction, thermally stimulated current studies (*Russian*) 4-45862
 Si extrinsic photoconductive detectors, operating temp. 4-37177
 Si, field assisted emission from shallow levels, transient-current study 4-45799
 p-Si, heat treatment-induced deep levels, DLTS study 4-56269

impurity electron states continued

- Si, heavily doped, ion implanted, laser annealed, electronic struct. study 4-15838
 Si, intervalley effective mass eqn. and deep chalcogen donors 4-39824
 Si, local density theory of impurity states 4-2544
 Si, optical transitions at four Li atom complex, mag. and uniaxial stress perturbations, Zeeman meas. 4-46236
 Si, shallow and deep impurity state calcs. 4-2549
 Si, shallow centre spectra calcs. 4-56274
 Si, shallow impurity influence on self-diff. of light 4-56273
 Si, shallow short-range electron traps in mag. field 4-6730
 Si, solitons, dislocation elec. and mobility props. 4-6372
 Si:Al film on sapphire, recrystallised, electrically active impurity neutralisation 4-50964
 Si:Au, low symmetry EPR centres 4-2815
 Si:Au-Fe, deep levels in band gap. EPR and DLTS study 4-50754
 Si:B, fine struct. of energy levels of excitons bound to impurity 4-29892
 Si:B,H, neutralisation of shallow acceptor levels by atomic H, resist. increase 4-25286
 p-Si:B MOS capacitors with Al gate, donor-like traps, atomic models 4-6897
 Si:B(As), ion implanted, ESR study 4-16096
 p-Si:B(Ga), bulk acceptor compensation by H₂O plasma treatment 4-50751
 Si:Be, bound exciton states, far IR absorption spectra study 4-25234
 Si:C, acceptor ground state problems 4-15852
 Si:Fe in p⁺-n⁻ diodes, nature of deep levels (*Russian*) 4-50764
 Si:Fe(Cr), multiple charge state of interstitials 4-6732
 a-Si:H, charge fluctuations electronic density of states calc. 4-45568
 a-Si:H, compensated, localised states, drift mobility, charge collection meas. 4-45692
 Si:H, deep Au-related donor and acceptor levels hydrogenation by electrolytic doping 4-45668
 Si:H, dislocated, hydrogenation, DLTS study 4-15504
 a-Si:H, dopant states, tight-binding model calc. 4-6741
 a-Si:H, effect of localised-state distrib. on photoconductive props. 4-39964
 a-Si:H, F, dopant states, tight-binding calc. 4-6742
 a-Si:H, nonsubstitutional dopant states and carrier density statistics 4-56271
 a-Si:H, P films, transient-photocurrent studies 4-40094
 a-Si:H, recomb. mechanisms, radiative and nonradiative processes, subnanosecond photoluminescence meas. 4-40503
 a-Si:H, recombination kinetics depend. on photoexcitation density 4-39925
 a-Si:H, Staebler-Wronski effect meas., appl. of Meyer-Neldel rule 4-15910
 a-Si:H, trapped electron-trapped hole recomb., dangling bonds, photocond., EPR studies 4-39934
 Si:H (alkali metal) impurity vacancy complexes, electronic struct. 4-45676
 Si:In, long-wavelength photocond., impurity band anal. 4-30024
 Si:In(Tl)(Bi), photoluminescence lifetimes of bound excitons 4-56231
 Si:Mn²⁺, Jahn-Teller centres, ESR and spin lattice relax. studies 4-25632
 Si:N(O), off-centre impurities theory 4-56270
 Si:noble gas atoms, deep impurity levels, luminescence studies 4-45672
 Si:O, annealing behaviour of recombination centres 4-39823
 Si:O, Czochralski grown, thermal donors, deep level luminesc. study 4-21009
 n-Si:O, donors, ESR studies 4-16093
 Si:O, thermal donors and O agglomeration 4-56262
 Si:Os, electronic states and thermal dissociation 4-56272
 Si:P, field ionisation of P atoms, MIS struct. study 4-40611
 Si:P(As), donor clusters, ESR study 4-46102
 Si:S, spectroscopy of neutral S-related centres 4-56966
 Si:S(Se), donor centres, IR absorpt. and photocond. spectra 4-45677
 Si:Te, trap level obs. by deep level transient spectroscopy 4-25276
 Si:Ti, ion implanted, deep impurity levels, DLTS studies 4-20593
 β -SiC, two impurity levels, activation energy calc. (*Russian*) 4-56266
 SiN₂-H, amorphous, valence and core level photoemission data 4-40598
 SiO₂, impurity states, chemical trends in deep energy levels 4-45678
 SiO₂:B³⁺(P³⁺)(As³⁺) ion implanted layers in MOS struct. (*Chinese*) 4-20221
 Sn₁₃Gd³⁺, low symm. effect in intense EPR lines, depend. on microwave field freq. 4-30281
 SnTe, crystal growth by iodide method, impurities and elec. props. (*Russian*) 4-6796
 SrF₂:U³⁺, Na⁺(K⁺), tetragonal EPR spectra 4-20861
 SrNb₂O₆(Sr₂Nb₂O₇)-NdNb₂O₆, cross-sections in SrO-Nd₂O₃-Nb₂O₅ system 4-51639
 SrTiO₃:Fe, photochromic centres, Mossbauer spectroscopy studies 4-40314
 Te, free and bound impurity states, press. depend., photocond. studies 4-39816
 Y₃Al₅O₁₂:Fe³⁺, luminescence and level structure of optical centres (*Russian*) 4-51319
 YIG:Ho³⁺, FMR, laser irr. effect 4-2827
 ZnO, annealed in Zn atm., elec. cond., Hall coeff. meas. 4-2605
 ZnO, elec. cond. and thermoelec. power, temp. and O₂ partial press. effects (*French*) 4-15870
 ZnO weak accumulation layers, electron transport phenomena 4-45854
 ZnS:I, excitonic and time-resolved edge emissions 4-39786
 ZnS:Mn, EPR study of single crystals, powders, and thin films 4-51129
 ZnS:Ni, impurity charge state changes, luminesc., absorpt., excitation and EPR spectra studies 4-16228
 ZnS(Se), MOCVD growth rel. to luminesc. props. 4-51352
 ZnSe, chemical shift effect on donor polarisabilities 4-11477
 ZnSe, impurity centres, IR quenching of photocurrent study 4-25281
 ZnSe:Ga, defect levels, photocapacitance study 4-29920
 ZnSe:I,In, impurity states and carrier mobility 4-25283
 ZnSe:Mn, EPR study of single crystals, powders, and thin films 4-51129
 ZnSe:Mn, ODMR spectra, transfer effects 4-51158
 ZnSe:Ni, impurity charge state changes, luminesc., absorpt., excitation and EPR spectra studies 4-16228
 ZnSe:Ni, luminescence and electroabsorption studies 4-35496
 ZnTe, light amplification, radiative processes in electron-hole drops 4-40530
 ZnTe, single crystal growth, characterisation (*Korean*) 4-40640
 ZrS₂ intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804

impurity scattering

- used for carrier scattering by impurities*
see also Kondo effect
 2D electron gas, heterojunctions and technical appls. 4-25439
 antiferromagnetic superconductor, effect of nonmagnetic impurities 4-20761
 cyclotron reson. lineshape theories, validity of perturbative expansions 4-40233
 electron-impurity-centre interactions, velocity correlation funct. calc. 4-29940
 metal, linear magnetoresistance at high magnetic field 4-20630
 metallic very thin films, exchange interaction between ferromagnetic domain wall and elec. current 4-56736
 metals, pure and with given distrib. of impurities, vacancies, and dislocations, elec. resist. theory 4-39875
 quantum transport in high elec. fields for electron-reson. impurity systems 4-45800
 quantum well heterojunction, impurity scatt. limited mobility 4-30061
 semiconductor, dilute reson. scatterers in parabolic band, density of states as function of scatt. strength 4-6774
 semiconductor, doped nondegenerate, carrier mobility and scatt. mechanisms 4-11524
 semiconductor, impurity-ion potential, mobility of scattered electrons 4-39892
 superconducting alloys, quasiparticle density of states calcs. 4-35118
 superconductors, impurity scatt. effect on critical temp. 4-20755
 two dimensional electronic transport in strong mag. fields, CPA calc. 4-29992
 two-dimensional degenerate electron gas, elec. cond. during charged impurity scatt. (*Russian*) 4-50784
 Al_{0.9}Ga_{0.1}As/GaAs quantum well structs., electron-transport, quantum size effect 4-45865
 AuNi dilute alloys, elec. resist., free electron scatt. by localised pot. 4-29957
 Cd_{0.9}Hg_{0.1}Te, cross magnetoresistance meas. and calcs. (*Russian*) 4-50846
 Cu, magnetoresistivity, Boltzmann eqn. calc. 4-20631
 Cu-Ni, dilute, electron impurity scatt. rates, surface state reson. study 4-6771
 GaAs, magnetoresist. meas., electron scatt. mechanisms 4-2625
 GaAs/Ga_{0.7}Al_{0.3}As selectively doped heterostruct., transport. props. 4-35054
 GaAs:(AlGa)As heterostructure, modulation doped, electron mobilities 4-6877
 Ge, electron distribution in presence of phonon drag 4-39420
 In_{0.9}Ga_{0.1}As/P_{0.1} layers, high temp. LPE, electron Hall mobility, scatt. mechanism 4-40087
 n-InP, study of electron diffusion const. 4-25365
 InP, VPE, purity control, Hall mobilities 4-40656
 InP:Cd LPE layers, impurity concentration meas. by ionized impurity scatt. anal. 4-20231
 MoTe₂ single crystals, semiconducting props. and band struct. 4-50851
 n-PbTe, dynamic elec. cond. 4-20654
 PbTe, Peierls instability in strong mag. field 4-39778
 ZnSe:I,In, impurity states and carrier mobility 4-25283

impurity-vacancy interactions

- Hubbard model, delocalised vacancy scatt. by spin fluctuations 4-11663
 mixed oxides, doped, vacancy binding energy, electrostatic screening contrib., linear response theory 4-29468
 positron annihilation studies of vacancy-type defects, review 4-40560
 structural materials, irradi., cavity formation and He migration 4-56079
 Ag single crystals, impurity diffusion of Cd, isotope effect 4-56077
 AgCl(Br):Os³⁺, lattice defect-deep impurity interactions, EPR study 4-11766
 Al, H diffusion 4-11347
 Al-Ag, dil., positron annihilation Doppler-broadened lineshapes, thermal equilib. meas 4-57027
 Al-Ge, dil., positron annihilation Doppler-broadened lineshapes, thermal equilib. meas 4-57027
 Al-Si, dil., positron annihilation Doppler-broadened lineshapes, thermal equilib. meas 4-57027
 Al-Zn, dil., solute diffusion and interaction with vacancies 4-34715
 Au-Ag, dilute alloy, impurity migration, vicinity of developing atom-atom collision chain (*Russian*) 4-45416
 Au-In, dil., damage rate expts., PAC study 4-34525
 CsCdF₃:Cr³⁺, Li⁺, EPR study 4-46094
 CsI:CrO₂²⁻, ionic thermocurrents study 4-2372
 Cu foil, He ions implantation effects 4-45168
 Cu, impurity-vacancy complex formation, Mossbauer study 4-35261
 Cu, quenched-in resist., effects of O impurity 4-20626
 Cu-In, dil., vacancy clustering detection, PAC and lattice location meas. 4-34522
 Cu₂O:Ag, diffusion and point defects 4-50585
 Fe, impurity-vacancy interactions, muon spin rotation expts. 4-34527
 α -Fe:He, impurity migration, vicinity of developing atom-atom collision chain (*Russian*) 4-45416
 GaAs:Se, implanted, deep levels, TSC and photolum. studies 4-2542
 GAP, Sn-vacancy defects created by ion implantation of radioactive In and Sb, Mossbauer study 4-34529
 Ge:H, H⁺ implanted or electron irr., H-divacancy complexes, DLTS study 4-15833
 KBr(Cl)(I):Ge²⁺(Sn²⁺)(Pb²⁺), impurity-cation vacancy interactions, luminesc. study 4-11934
 KCdF₃:Cr³⁺, Li⁺, EPR study 4-46094
 KCl, quenching effect on impurity-vacancy dipoles 4-11335
 KCl:Cu, UV irr. induced aggregation and thermoluminescence spectra 4-11950
 KI:Se²⁻, photochemical reaction studies, optical absorpt. meas. 4-35468
 KZnF₃:Cr³⁺, Li⁺, EPR study 4-46094
 LiF:Mg, Ti, impurity defect interactions, optical absorpt., ESR, and ionic cond. meas. 4-15517
 LiF:OH, stabilisation of H, effect of combined mech. load and γ -irr. 4-6395
 LiNbO₃:³⁷Co, Mossbauer emission studies 4-20892
 NaCl:Mn, ionic thermocurrent meas., evidence of MnCl₂ precipitates 4-39563
 NaCl:Pb, nucleation processes, ionic cond. and optical spectra 4-15651
 NaCl:Pb²⁺, aggregation and precipitation, UV absorption studies 4-50529

impurity-vacancy interactions continued

- NaCl:Sr²⁺, X-irrad., Z₁-centre form., thermoluminesc. and optical absorpt. study 4-2198
 Ni foil, He ions implantation effects 4-45168
 Ni₁₁ trivacancy recovery and cubic symmetry defect trap formation on In impurities, PAC study 4-34523
 Ni-Ge, dil., solute diffusion and interaction with vacancies 4-34715
 Pb(NO₃)₂:K⁺(Na⁺), ionic cond. and dielec. loss meas., 100 to 400°C 4-6552
 RbCdF₃:Cr³⁺, Li⁺, EPR study 4-46094
 Si, divacancy-O₂ defect complexes, electronic struct., Si-P2 centre simulation 4-39828
 Si, proton and gamma irrad., dislocation effects on impurity-defect agglomeration interaction processes 4-6404
 Si:Co, impurity-electron irrad. induced defect reactions, Mossbauer study 4-45178
 (U, Ce)O_{2-x}, O potential and lattice parameter studies, lattice defects 4-15446
 W, vacancy clustering at Ag and In impurities, PAC and He desorption study 4-34480

incandescent lamps see filament lamps**inclusions in crystalline material see crystal inclusions****inclusive reactions, elementary particle see elementary particle inclusive interactions****Incoloy see chromium alloys; iron alloys; nickel alloys****incommensurate-commensurate transformations see commensurate-incommensurate transformations****Inconel see chromium alloys; nickel alloys****incremental computers see digital differential analysers****independent particle model see nuclear optical model; nuclear shell model****indeterminacy**

- formalism and conceptual problems (*Rumanian*) 4-13543
 ground state energy, estimation by method similar to uncertainty principle (*Russian*) 4-17751
 intense laser beam scatt., vacuum thermalisation and uncertainty principle 4-33703
 partially coherent light, lower bound on uncertainty principle 4-1343
 proton decay and time-energy uncertainty relation 4-13900
 quantum mech., Wigner representation 4-32090
 stochastic mechanics, uncertainty relations 4-53519
 time operator in quantum mechanics 4-4244

indexing

No entries

indicating devices see indicators**indicating instruments see indicators****indicators**

- see also alarm systems
 level indicator for heat transfer agents (*Russian*) 4-27485
 optical temp. indicators, using RF electrodeless tubes 4-42966
 weather vane. Remote electronic indication with LEDs (*German*) 4-53817

indium

- see also nuclei with
 adsorbed on GaAs (110), chemical bonding, adatom-adatom interaction 4-29784
 adsorption and growth on Si (111), LEED, AES and photoemission spectra studies 4-45520
 atom, relaxation energy shift in L X-ray emission spectra 4-1083
 atomic vapour, electron impact excitation, autoionising state, nsnp(n+l)p configs. 4-10114
 atoms, optical-optical double reson. expts. with optogalvanic detect. 4-18963
 Auger spectra, N₂₃, anomaly 4-57045
 average L-shell fluorescence yield meas. 4-18980
 bulk metal/thin metal film interface, room temp. compound form. 4-25166
 core level binding energies in atom in jellium model, appl. of Slater's transition state theory 4-34846
 diffusion into a-SiC:H from transparent electrode, XPS study 4-41344
 double hole binding energy shifts, rel. to AES results 4-3002
 electric field gradient at ¹⁷¹Lu nucl. site in single cryst. In 4-25313
 L-shell photoelectric cross sections at 6 keV 4-51451
 leucocyte labelling with colloidal ¹¹¹In in whole blood 4-31337
 liquid, activity coeff. of O 4-15665
 liquid, struct. and viscosity, mag. field influence 4-29664
 liquid, viscosity and elec. resist. meas. (*German*) 4-6541
 liquid metal ion source, high resolution mass spectrometry 4-33232
 liquid surface, instability under intense IR radiation 4-20249
 melting point, oscillating interface model, photoacoustic amplitude and phase angle 4-34587
 microbridges, one-dimens., phase-slip centre development, time domain obs. 4-11646
 microbridges, resistive state and charge imbalance waves 4-45936
 molten, interaction with Fe-Si, dislocation formation (*Russian*) 4-6375
 reflective properties, application in solar energy concentrators 4-38542
 relaxation problem in continuum elasticity theory 4-19721
 sputtered from InAs, ionisation probability as primary ion energy function 4-46393
 superconducting microbridges, volt. response to light pulses, time delays 4-15992
 superconducting network, two-dimens., crit. temp. oscills. 4-2669
 superconducting transition temp., detection techniques, fixed point appl. 4-35109
 surface elec. field gradient, temp. depend., PAC study 4-39859
 thin films, critical mag. field meas. (*Russian*) 4-6922
 thin films, electromigration meas. method (*French*) 4-2384
 US wave field transport by conduction electrons 4-39992
 Ag single crystal, In impurity diffusion meas. using ion-beam sputtering 4-56089
 AgBr:Ir³⁺, radiative recomb., photoluminesc. spectra 4-11932
 Al-Al₂O₃-In struct., influence of electrode metal on negative differential resistance (*French*) 4-35088
 n-CdCr₂Se₄, switching effect based on N-shaped negative differential resist. 4-34993
 CdS film In doping for n-CdS/P-Si heterojunction solar cell 4-12479
 CdS:In, impurity cond., two band approach 4-25343
 CdS:In, thin films grown by flash-evaporation at low substrate, resist. and transparency 4-51501
 CdS:In film, photoanode for electrochemical photovoltaic cells 4-46867

indium continued

- CdTe:In crystal, EPR study 4-46103
 CdTe:In epitaxial layers, LPE growth and doping characts. 4-34820
 Cd_{1-x}Zn_xSe:In, epilayer growth by MBE on III-V semicond. substrate, solar conversion efficiency 4-7360
 CsBr:In⁺, optical absorpt. and mag. circular dichroism spectra, moments anal. 4-40468
 GaAs:In, photoluminescence study (*Russian*) 4-7249
 GaAs(SB)(P):I, impurity bond lengths, Mossbauer study 4-20140
 Ge:In, kinetics of decomposition, with separation, retrograde scheme 4-57231
 HgI₂:In, thermoluminescence and photoconductivity studies (*Russian*) 4-21054
 In I, autoionising levels investig. 4-1100
 In²⁰⁺ spectra and energy levels of ions in Cu isoelectronic sequence 4-23647
 In³⁺ ion in spinel struct., energy of preference of octahedral positions 4-52040
 In/InAs/In, InAs surface inversion layer conductance, Cooper pair penetration 4-30085
 In/Si contacts, ohmic character monitoring by one-probe technique 4-32272
 In-H films, elec. and supercond. characts. near metal-insulator transition 4-45912
 In-H quench-condensed films, supercond. enhancement and metastable state formation 4-40104
 In-In₂O₃ thin film composites, supercond. phase transitions 4-11617
 In-phthalocyanine Schottky barrier cells, photovoltaic action spectra 4-11556
 In-Si solutions, partial molar enthalpies at infinite dilution 4-6526
 In+H⁺, L-subshell ionisation cross section and L-X-ray production 4-9926
 In⁺+Ar, charge transfer cross section meas. 4-49157
 In⁺+H₂, electron capture cross-sections meas., 10-150 keV 4-10037
 InSe, ionicity and polymorphism, IR study 4-51255
¹¹¹In impurity in Ni, trivacancy recovery and cubic symmetry defect trap formation, PAC study 4-34523
¹¹¹In impurity in Pt, quadrupole coupling freq. of trapped lattice defect, PAC study 4-34524
¹¹¹In, PAC study of defect recovery in proton irradiated, deformed and ion implanted Ni 4-35263
¹¹¹In, PAC study of elec. field gradients in dil. Al alloys 4-34929
¹¹¹In, radiolabelled blood cells, dosimetry 4-16993
¹¹⁵In 7p²P_{1/2,3/2} level, hyperfine structure 4-49175
¹¹⁵In, multipgroup const. calc. from evaluated data libraries for reactor calc. 4-37707
 KBr:In⁺, two-photon excited luminesc. 4-11931
 KI:In, crystals, decay kinetics and polarisation of A_T emission, mag. field effect 4-25803
 KI:In, polarised A_T luminescence, kinetic, spectral and polarisation props. 4-11928
 Ni:In, vacancy-solute complex creation and annihilation during irrad. 4-45124
 Pb-I-Pb-I-Pb superconducting junction, quasiparticle number variations (*Chinese*) 4-2694
 Pb-In-Au thin-film tunnel junction fabrication (*Chinese*) 4-2696
 Pb₈Sn₂Te:In, In diffusion, X-ray microanal. studies 4-25096
 Pb_{1-x}Sn_xTe:In, liquid phase epitaxy, elec. cond., deep levels in forbidden zone 4-51556
 Pb_{1-x}Sn_xTe:In, photoconductivity, electron exchange between band and impurity states 4-30023
 Pb_{1-x}Sn_xTe:In epitaxial layers, negative photoconductivity study 4-20748
 Pb_{1-x}Sn_xTe:In films, far IR reflectivity 4-57017
 PbTe:In, impurity chemical states, thermodynamic anal., Auger electron anal. 4-50321
 PbTe:In, photoelectric effects study 4-56392
 a-Si:H,Sb(In)(Ti), doping by controlled evaporation into RF plasma discharge 4-40674
 Si:In, epitaxial layer doping with organoindium cpds., annealing effect 4-55850
 Si:In, ion implanted, high temp. diffusion in oxidising atmosphere 4-25097
 Si:In, laser-induced diffusion, TEM studies (*French*) 4-15698
 Si:In, long-wavelength photocond., impurity band anal. 4-30024
 Si:In(Tl)(Bi), photoluminescence lifetimes of bound excitons 4-56231
 Sn-Ge interphase boundaries, isolated, In diffusion at high press. 4-29702
 SnTe:In, influence of In on SnTe props., rel. to stoichiometry 4-55858
 ZnO:In film, prep. by spray pyrolysis, elec. struct. and optical props. 4-30095
 ZnSe:In, impurity states and carrier mobility 4-25283
 ZnSe:In, dielectric constant evaluation and pair spectra 4-40523
 ZnSe:In, TEM study of precipitates 4-25026

indium alloys

see also indium compounds

- Heusler L₂ alloys X₂MnZ₂ (X=Ni, Cu, Rh, Pd and Z=Ga, Ge, In, Sn Pb), hyperfine mag. field 4-35279
 rare earth alloys, RInAg₂; Heusler alloys, elec. and mag. props. 4-45732
 rare earth-In-Si systems, supercond. and mag. props. 4-11621
 α-Ag-Cd-In alloys, microstruct., X-ray diff. study 4-21235
 α-Cu-In (35, 5 wt.%), hot extrusion, structural superplasticity, strain rate and temp. depend. 4-3186
 AgIn dilute alloys, internal oxidation, kinetic studies and oxide charact., TDPAC studies 4-20891
 AgIn₂, temp. depend. of elec. field gradient, TDPAC study 4-39846
 Al-In (17.5 wt.%), unidirectional solidification struct. rel. to growth rate and temp. gradients (*Japanese*) 4-35619
 Al-In (17.5 wt.%), unidirectional solidification, monotectic struct. (*Japanese*) 4-35620
 Au-In, dil., damage rate expts., PAC study 4-34525
 AuIn₂ thin films, elec. resist. and grain size at 4.2K 4-40079
 Be-In dilute alloys, electric field gradient for ¹¹¹In and temp. depend., TDPAC meas. 4-35258
¹¹¹CdIn dilute alloys, temp. elec. field gradient, temp. depend., perturbed angular correlation study 4-35259
 Ce(In_{1-x}Sn_x)₃, thermoelec. power meas. 4-29950
 Ce_{1-x}Y_xIn₂, mag. ordering, Kondo lattice, mixed valence, Neel temps., susceptibility, resist. meas. 4-56289
 Cu-In, diffusion induced grain boundary migration and discontinuous precip. 4-40803

indium alloys continued

Cu-In, dil., vacancy clustering detection, PAC and lattice location meas. 4-34522
Cu-In, melts, thermodynamic activity of O, meas. by coulometric titration method 4-25061
Cu-In dilute, lattice defect probing by radioactive atoms 4-45155
Cu-In-He, nucleation of He clusters at ¹¹¹In sites, PAC obs. 4-35271
Ga-In-Sn, liq., viscosity and elec. resist., temp. depend. 4-29665
Gd-In, phase equilibria and cryst. struct., DTA, X-ray diffr. and metallography study 4-7430
Hg-In liquid alloys, thermoelec. power minimum 4-45749
In-Cr, dil., thermodynamics, effect of localised states in energy gap 4-25478
In-Ge, percolating superconductor, pair breaking crit. current 4-51006
In-Hg Liq. alloys, association and quadrupolar nuclear spin relax. rate 4-46137
In-Mn, dil., thermodynamics, effect of localised states in energy gap 4-25478
In-Ni alloys, liq., NMR Knight shift and linewidth meas. 4-46119
In-Pb-Sn, pseudobinary alloys, martensitic transform. 4-16391
In-R (R=rare earth), dilute alloys, liquid, electrical resistivities meas. 4-45722
In-Sb, contact melting diagrams construction 4-24978
In-Sb, electric quadrupole interaction, temp. and conc. depend. 4-30364
In-Sb, liq., activity coeff. of O 4-15665
In-Sb, liq., lifetime of associates 4-45293
In-Sn eutectic difference in cryogenic tensile props. of constituent phases 4-46581
In₂Bi, Fermi surface, de Haas-van Alphen study 4-45584
In_{1-x}Mg_x binary supercond. alloys, electronic props. near FCT-FCC transition 4-25490
In_{0.83}Te_{0.17}, liq., with segregation tendency, nucl. spin relax., TDPAD study 4-40287
LiAl-In, doping effect on elec. transport props. 4-45742
Mg-Ag-In system, phase equilib. diagram 4-51630
Mn_{0.5}In_{0.5}, mag. ordering, neutron diffr. study 4-56552
Nb-NbO₃-Pb/In window Josephson junctions in planar interferometer 4-11638
Pb-In, Abrikosov vortex density effect on dislocation hysteresis losses (*Russian*) 4-6376
Pb-In, with dislocations, mag. field penetration (*Russian*) 4-56486
Pb-In-Au films, fine grained, vacuum deposition for Josephson base electrodes appl. 4-16317
Pb-In-Au Josephson electrodes, thermal stability 4-7362
PdIn B2 electron cpd., self-diffusion and Arrhenius plots 4-6544
RhIn alloys, band struct. and mixed states, photoemission spectra studies 4-25208
Sb_{1-x}In_x, electric quadrupole interaction, TDPAC meas. 4-35306
Sn-Ge-In system, In diffusion along grain boundaries, compensation effects (*Russian*) 4-25079
Th-In phase diagram, DTA and X-ray studies 4-46492
ThIn, cryst. struct. determ. 4-50241
V₂GaIn multifilamentary superconductors, crit. current enhancement by In addition 4-45979
W-In, dil., vacancy clustering at In impurities, PAC and thermal desorption study 4-34480

indium antimonide

anodic oxide form. 4-21344
anodization in MOS structures, characts., surface state density distrib. 4-35086
Auger processes, overlap integrals 4-51416
conductivity transients under intense laser excitation 4-15875
crystallisation, influence of elec. current 4-51481
current oscillation freq., degree of compensation effects 4-25410
Czochralski growth, cryst. diameter programming by cooling plot 4-40639
deformation mechanism map 4-55911
degenerate n-type, electron heating in quantising mag. field 4-20684
dislocation induced deep levels, optical absorption studies 4-16224
dislocation mobility, plasticity, X-ray Lang topography study 4-15844
doped, NMR relax. in localised regime 4-2837
elastic constants, third-order, Keating's theory 4-2248
electron density fluctuations, parametric excitation 4-11551
electron-hole plasma instability due to impact ionisation delay 4-35021
electron-phonon system, cyclotron resonance lineshape 4-56776
evaporated film, crystal growth study 4-50672
film, low temp. transitions, superconductivities 4-40106
film, polycryst., elec. props., effect of laser irradi. 4-2663
films, condensed at low temp., conductance transitions, supercond. (*Chinese*) 4-50969
free carrier Faraday rotation study (*Chinese*) 4-20948
hot electron bolometers, nonequilibrium Johnson noise 4-27592
hysteretic cyclotron resonance excitation 4-40234
impurity conc. and chem. nature, submillimeter BWT spectroscopy 4-35966
insulator-InSb interface, surface helicon propag. in solid state plasma 4-2630
inversion layers, screening of collective cyclotron reson. 4-40236
ion milling with I⁺ beams 4-39348
ion-implanted, laser annealing, defect and elec. props. study 4-11182
luminescence of bound diamagnetic excitons 4-30513
magnetoresistance oscill. in weak mag. fields 4-20674
MIS detector, dark current phenomena 4-37174
MIS struct., annealing effect on charge storage 4-56433
MIS struct., built-in charge and surface state density, C-V charact. meas. 4-30064
MOS structure with thin anodic oxide, elec. props. 4-40057
MOS structures, film and interface anal. 4-56154
MOS structures, space-charge layer capacitance and photo-EMF build-up process study 4-2657
multipass synchronous acoustic wave generation using AC Hall drift current 4-30027
n-type, Corbino disc, multitransit generation of acoustic fluctuations 4-25377
n-type, degenerate, electron temperature, Shubnikov-de Haas oscillations in mag. field 4-29995
n-type, impact ionisation by millimeter radiation in external mag. field 4-34998
n-type, longitudinally magnetised, Raman instability calcs. 4-30493
n-type, metal-insulator transition under high hydrostatic press. 4-56219

indium antimonide continued

n-type, metallic, Anderson localisation, phys. parameter determ. 4-45683
n-type, MOS structures, impedance meas. for semiconductor surface states var. 4-25452
n-type, plastic deform. effect on elec. transport props. 4-56348
n-type, stimulated Brillouin scatt., Brillouin instability 4-56948
n-type, thermal-electric instability in static mag. and elec. fields 4-34997
n-type, ultrasonic effects in hopping cond. regime 4-39406
n-type, US attenuation in mag. freeze-out and carrier hopping regions 4-20693
n-type parametric conversion of electron plasma wave into EM wave 4-2629
n-type short-wave helicon isolator, operating power increase 4-56378
negative differential photoconductivity in magnetoconcentration effect 4-45833
nonequilibrium plasma, recomb. and diffusion at high excitation rates 4-25389
nonlinear elec. cond. meas. 4-25356
optical bistability 4-14747
optical bistable device, external switching and optical logic operations 4-28758
optical transphaser, high gain signal amplification at 77K 4-10353
p-n struct., photomagnetic current meas. (*Russian*) 4-50920
p-type, Hall effect and magnetoresistance with two-type current carriers 4-6809
phase transition, NaCl-type lattice under press. 4-39471
photoluminescence spectra and optical heating of electrons 4-25807
plastically deformed, galvanomagnetic props. 4-15891
quantum wells, energy level scheme and transport props. 4-40036
radiation damage by α -particle bombardment 4-45201
recovery processes during high-temp. deform. 4-15574
shaped single crystals, form. of growth layers at faces and twinning 4-29360
Shubnikov-de Haas meas. 4-15889
stimulated photoluminesc. from mag. field stabilised electron-hole liq. 4-56223
surface, helicon nonreciprocal propag. 4-56377
surface magnetoplasma waves at microwave frequencies, expt. study 4-56376
surface states study by photoemission yield spectroscopy (*Polish*) 4-35548
thin films, elec. props. and crystallisation behaviour 4-56461
thin films, growth kinetics by Sb₄ and In₃ mol. beams on Si (100) surface 4-20523
thin inhomogeneous films, elec. props., nonreciprocal effects 4-11607
thin slab nonlinear media, optical bistability 4-19499
CdTe-InSb heterojunction, prep. by condensation in quasi-closed volume 4-57109
Ga_{1-x}As_xSb_{1-y}, liquid phase epitaxy 4-51555
In-SbTe crystals, solidification in zero gravity, morphology, struct., solute distrib. 4-57090
In_{1-x}Al_xP_{1-y}Sb_y, quaternary alloy heterojunction band discontinuities 4-45868
InAs_{1-x}Sb_x, ternary mixed crystals, thermoelec. power 4-25384
In_{1-x}Ga_xAs_{1-y}Sb_y, quaternary alloy heterojunction band discontinuities 4-45868
In_{1-x}Ga_xSb amorphous films, laser induced explosive crystn. for optical information storage 4-14763
In_{1-x}Ga_xSb, lattice vibrs., CPA calc. 4-55944
In₂Ga_{1-x}Sb, LPE growth, In conc. control using pulse current (*Japanese*) 4-30650
n-InSb, high purity cryst. growth for IR detectors 4-3051
InSb, lattice relaxation controlled free carrier conc., transport props. study (*French*) 4-56357
n-InSb MOS struct., 0.63 μ m illumination, photoelectric EMF, I-V characteristic shape 4-39988
InSb photovoltaic detector characts. at 77K and below 4-4463
InSb solid-state plasma, MM propag., elec. and mag. field effects 4-11552
InSb:Cr, compensated, electron energy phenomenological relax. time 4-15943
InSb:S, crystals, doping with S at high press. 4-2221
InSb:Se, relationship between electron density and solubility 4-56031
n-InSb:Te, negative magnetoresistance study 4-6812
InSb:Te(Se)(S) 4-40098
InSb/anodic oxide/metal struct., carrier generation times and capture cross sections 4-50935
InSb/oxide interfaces, element V material obs. 4-56157
InSb-based MBE grown systems, struct. and elec. props. 4-15791
InSb-SiO₂-InSb, double sandwich, SAW propag., acoustoelectric interaction 4-35030
p-type, IR detector, material parameters and surface props. effects 4-43053

indium compounds

see also indium alloys; indium antimonide
Ga_{0.47}In_{0.53}As/InP multiquantum well heterostructure lasers grown by molecular beam epitaxy operating at 1.53 μ m 4-38471
InGaAsP/InP mushroom stripe lasers with low CW threshold and high output power 4-14687
n-InP epitaxial, far IR photocond. from shallow donors 4-39954
lattice matched to InGaAsP and GaAlInAs, composition depend. of spin-orbit splitting 4-2563
low-temp. edge photoluminesc., shallow impurity position correl. 4-30527
single crystals., X-radiation effect 4-55871
n-AgInS₂, orthorhombic, photocond. anisotropy 4-50866
AgInSe₃, cryst. struct., X-ray diffr. study (*French*) 4-2177
Al-SiO₂-InP MOS diodes, capacitance-voltage characts. (*Japanese*) 4-56436
AlGaInAs epitaxial layers LPE, on GaAs (100), growth lines rel. to melt surface tension 4-3090
Al_{1-x-y}Ga_xIn_yAs, multinary alloys, energy gaps, CPA calc. 4-25214
AlGaInP/GaInP/AlGaInP DH visible lasers, MOCVD growth and room temp. pulsed operation 4-19443
Al_{1-x-y}Ga_xIn_yP, band struct., virtual cryst. approx. 4-56215
AlInAs, MESFET optimum semiconductors for HF and low-noise appl. 4-29965
Al_{0.48}In_{0.52}As LPE layers, undoped and Si-doped, elec. props. 4-20745
Al_{0.48}In_{0.52}As layers, MBE, lattice matched to InP substrate, mobilities 4-40658
Al_{0.48}In_{0.52}As/Ga_{0.47}In_{0.53}As interdigitated photoconductive detectors 4-37170

indium compounds continued

- Al_{1-x}In_xAs epitaxial layer, lattice matched to InP, direct energy gap, cathodoluminesc. study 4-45616
 CdIn_{2-2x}Cr_{2x}S₄ solid soln., mag. props., EPR study, 4.2 to 300K 4-11765
 CdInGaS₄, layered cpd., photolum. meas. 4-30500
 CdInGaS₄, ordered phase struct. and domain struct., electron microscopy and electron diff. study 4-39529
 CdInS₄, electronic props., self-consistent pseudopot. study 4-29879
 CdInS₄, single cryst., magnetoresist., cond. band minimum 4-29990
 CdInS₄, single cryst., photocond. and photosensitivity 4-30008
 CdInS₄, single cryst., luminesc. decay 4-30497
 CdInS₄ thin films, switching phenomena 4-30028
 β -CdIn₂Se₄, energy spectrum, photocond., light absorption and pleochroism spectra 4-25398
 CdS-InP heterostructure photoconverter 4-41349
 Cu/InAs/Cu, InAs surface inversion layer conductance, Cooper pair penetration 4-30085
 (Cu_{1-x}Ag_x)(Ga_{1-x}In_x)(Se_{1-x}Te_x)₂, lattice parameter and optical-energy gap values 4-29392
 CuInS₂, direct phonon-assisted transitions near fundamental absorption edge 4-30454
 CuInS₂, mag. susceptibility, temp. depend. 4-30141
 CuInS₂, modulated refl. spectra, energy gap determ. 4-25780
 CuInS₂, optical props. study 4-30488
 n-CuInS₂, photoelectrode for wet solar cell 4-31092
 p-CuInS₂, RF sputtered thin films, elec. props. study 4-30089
 CuInS₂, single cryst. growth by travelling-heater method, design 4-29366
 CuInS₂ thin film solar cells, review 4-31091
 CuInS₂, single cryst., elec. and optical props. 4-29989
 CuInSe₂, chalcopyrite, prep. by spray pyrolysis, effect of pH 4-11412
 CuInSe₂, impurity states, photoluminesc. study 4-16231
 CuInSe₂, low-temp. thermal expansion 4-39546
 CuInSe₂, mag. susceptibility, temp. depend. 4-30141
 CuInSe₂, optical props. study 4-30488
 n-CuInSe₂, photoelectrode for wet solar cell 4-31092
 CuInSe₂, refl. and absorpt. spectra near band gap 4-20972
 CuInSe₂ thin film solar cells, review 4-31091
 n-CuInSe₂/Li⁺-Cu⁺-HI/C, efficient stable solar cell prod. by interfacial film form. 4-3463
 CuInSe₂-CdS heterojunction, growth, structural characts., photovoltaic props. 4-30055
 CuInSe₂-CdS thin film solar cells, interface activity 4-36013
 CuInSe₂(Te₂), X-ray spectra and chemical shift 4-46361
 CuInTe₂ 4-31091
 CuInTe₂, optical props. study 4-30488
 (Ga_{1-x}In_xAs)-(Al_{1-x}In_x)As junctions, magnetophonon reson. (French) 4-25246
 (Ga_{1-x}In_xAs)-InP junctions, magnetophonon reson. (French) 4-25246
 GaAlAs-GaAs/GaAs heterostructures, spectroscopic electroreflectance and ellipsometry (French) 4-11866
 GaAlInAs, lattice matched to InP, composition depend. of spin-orbit splitting 4-2563
 GaAs-GaInAs heterojunction, Fermi level pinning by misfit dislocations 4-6871
 GaAs_{1-x}P_x, photoelements as UV detectors, physical props. 4-20692
 GaInAs, MESFET optimum semiconductors for HF and low-noise appl. 4-29965
 GaInAs, OMVPE growth, morphology, solid comp., optical and elec. props. 4-46441
 GaInAs, organometallic VPE growth, photoluminescence characterization 4-51509
 GaInAs photocathodes, Cs-O activating coating props., XPS study 4-21103
 GaInAs quantum-well laser, linewidth enhancement factor 4-28685
 GaInAs/AlInAs single quantum wells, photoluminesc. props. 4-2949
 GaInAs/InP heterojunctions, electron dynamics in two-dimensional electron gas, study by Monte Carlo method (French) 4-11584
 Ga_{0.47}In_{0.53}As layers, MBE, lattice matched to InP substrate, mobilities 4-40658
 Ga_{0.47}In_{0.53}As, MBE growth on InP substrate, elec. props. 4-16326
 Ga_{0.47}In_{0.53}As, proton bombardment in n- and p-type material, resist. increase 4-2222
 Ga_{0.47}In_{0.53}As:Mn, pure and doped epitaxial layers, photoluminescence study 4-51339
 Ga_{1-x}In_xAs, EXAFS study 4-30563
 Ga_{1-x}In_xAs epitaxial layers, grown with transition layer, elec. props. 4-50959
 Ga_{1-x}In_{1-x}As, graded epitaxial layers, characterisation, SEM developments 4-24698
 Ga_{1-x}In_{1-x}As heteroepitaxial layers, grading meas. 4-34838
 Ga_{1-x}In_{1-x}As, ternary mixed crystals, thermoelec. power 4-25384
 Ga_{1-x}In_{1-x}As-dielectric interfaces, surface Fermi level 4-6904
 GaInAsP 1.3 μ m monomode laser modules for 565Mb/s and higher rate optical transmission 4-33691
 GaInAsP BH heterostructure optical waveguide branches and bends, low-loss, LPE growth 4-38574
 GaInAsP, LPE growth on GaAs (100) by two-phase soln. technique 4-40679
 GaInAsP laser heterostructures, automated LPE apparatus for preparation 4-30652
 GaInAsP/InP high quality 1.3 μ m BH-DFB lasers with first-order gratings 4-5615
 GaInAsP-InP DH lasers, carrier leakage effects obs. in strong mag. fields 4-38487
 Ga_{1-x}In_{1-x}As_{1-y}P_y, disordered, band calc., variational multiple scatt. method 4-45618
 Ga_{1-x}In_{1-x}As_{1-y}P_y lattice matched to InP grown by MOCVD, alloy composition and flow rates 4-21155
 Ga_{1-x}In_{1-x}As_{1-y}P_y/Ga_{1-x}In_{1-x}As_{1-y}P_y DH. visible injection laser, room temp. pulsed operation 4-55032
 GaInP, surface prep. methods, chem. treatment 4-51832
 Ga_{1-x}In_{1-x}P, two-modes-behaviour, reson. Raman scatt. of disorder induced modes (French) 4-35446
 Ga_{1-x}In_{1-x}P, energy band struct. calcs. 4-29884
 Ga_{1-x}In_{1-x}P solid solns., refr. index spectra, dispersion values 4-51221
 GaInPAs epitaxial layers, substrate-induced stabilisation on GaAs and InP, theory 4-39709
 Ga_{1-x}In_{1-x}P_{1-y}As_{1-y} solid solns., intrinsic defects conc. calc., deviation from stoichiometry 4-24812
 GaSb-AlSb superlattice interface and lattice strain measurement by ion channeling 4-2420

indium compounds continued

- III-V semiconductor alloys for optoelectronic devices (French) 4-45844
 (In_{1-x}Ga_x)P homogeneous alloy, temp. difference LPE growth (Japanese) 4-30651
 In/InAs/In, InAs surface inversion layer conductance; Cooper pair penetration 4-30085
 In_{1-x}O₂ thin film composites, supercond. phase transitions 4-11617
 In-Te amorphous thin films, struct. transforms. induced by elec. nanosecond switching 4-50688
 In_{1-x}Al_xAs epilayers on InP substrates, deposition and props. 4-30638
 In_{1-x}Al_{1-x}P_{1-y}Sb_y, quaternary alloy heterojunction band discontinuities 4-45868
 n-InAs, degenerate, electron temperature, Shubnikov-de Haas oscillations in mag. field 4-29995
 InAs, dissolution in In-As melt, kinetics, 823-973K 4-56014
 InAs, energy band struct., oscillatory magnetoabsorption spectra study 4-7167
 p-InAs, Hall coeff., low temp. sign inversion 4-20679
 InAs, iodide synthesis of bulk crystals and epitaxial layers, elec. parameters 4-11415
 InAs ion-implanted, laser annealing, defect and elec. props. study 4-11182
 InAs, MBE growth on InP, thermally cleaned under As mol. beams, ESCA study 4-21351
 InAs MISFET, magnetoelectronic study of inversion layers 4-20727
 InAs, optical bistability obs. at band gap 4-49427
 InAs, phonon dispersion curves, temp. depend., 80 to 750K, X-ray thermal diffuse scatt. study 4-6454
 InAs polypoly heterostructures 4-15949
 InAs sputtered In and As atom ionisation probabilities on primary ion energy function 4-46393
 InAs, surface states study by photoemission yield spectroscopy (Polish) 4-35548
 InAs:Sc, Czochralski grown, impurity distrib., Hall meas., at. absorpt. anal. 4-11170
 InAs:Te(Sn)(S), Hall coeff., elec. cond., hydrostatic press. effect 4-6813
 InAs/GaAs MBE-grown heterostructures and superlattices, interface studies 4-15774
 InAs/GaSb MBE-grown heterostructures and superlattices, interface studies 4-15774
 p-InAs/metal struct., elec., photoelec. and luminesc. props. 4-30072
 InAs/oxide interfaces, element V material obs. 4-56157
 InAs-GaAs high-electron mobility monolayer superlattice 4-15936
 InAs-GaSb quantum well structure, 2-D cond. holes, weak localisation 4-56423
 InAsSb_{1-x}, ternary mixed crystals, thermoelec. power 4-25384
 InBO₃ large single cryst. growth by slow cooling and top seeded soln. growth methods 4-40618
 In₂Bi₃, Fermi surface, de Haas-van Alphen meas. 4-11431
 InBr, exciton transitions, refl., absorption and emission spectra 4-46279
 InBr_{1-x}I_x, exciton transitions, refl., absorption and emission spectra 4-46279
 α -InCl, elec. field gradient at Cd, TDPAC meas. 4-39858
 InCl quadrupole interactions, TDPAC obs. 4-50777
 InCl_{1-x}, InCl_{1-x} and InCl₂, mixed-valency states, quadrupole interactions 4-56813
 InCl₂, elec. field gradient at Cd, TDPAC meas. 4-39858
 InCl₂ quadrupole interactions, TDPAC obs. 4-50777
 InCl₃, elec. field gradient at Cd, TDPAC meas. 4-39858
 InCl₃ intercalated with graphite, struct., low temp. anal. (French) 4-45103
 InCl₃ intercalation in graphite, TDPAC study 4-40303
 InCl₃ quadrupole interactions, TDPAC obs. 4-50777
 InF₃-YF₃-BaF₂, vitreous transition and recrystallisation temp. determ., optical transmission meas. (French) 4-39505
 In_{1-x}Ga_xAl_{1-x}Mn, MBE growth, doping and elec. characts. 4-30636
 InGaAlP visible laser diodes, MBE growth and lasing characts. 4-28692
 InGaAs avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 InGaAs films, LPE, carrier conc., Hall mobility, Al addition gettering effect 4-46456
 InGaAs, MOCVD growth using new AsH₃ cracking method 4-21153
 InGaAs photodiodes, colour multiplexing for optical information transmission, technological developments (Czech) 4-1509
 InGaAs:Zn, diffusional doping from spin-on film sources, review 4-50586
 InGaAs/GaAs strained layer superlattices, ion channelling studies 4-20271
 InGaAs/GaAs strained layer superlattices, strain meas. by channeling angular scans 4-20272
 InGaAs/InP 1.65 μ m GH lasers, molecular beam and liquid phase epitaxy growth, aging 4-33654
 InGaAs/InP lasers, facet oxidation 4-28742
 InGaAs/InP n-n heterojunction, deep levels, capacitance and DLTS studies 4-25425
 InGaAs/InP photodetectors for fibre optic appls. 4-4464
 InGaAs/InP VPE layers, background carrier conc. and X-ray linewidth 4-50957
 InGaAs/InP waveguided optical switch using free-carrier plasma dispersion 4-49575
 In_{0.2}Ga_{0.8}As-GaAs strained-layer superlattices, electron mobilities 4-11576
 In_{0.53}Ga_{0.47}As growth by molecular beam epitaxy on InP (French) 4-25888
 In_{0.53}Ga_{0.47}As LPE on (100)-InP substrates at low growth temps., Hall meas. 4-21171
 In_{0.53}Ga_{0.47}As, of Cd, exam. rel. to device fabrication 4-34713
 n-In_{0.53}Ga_{0.47}As:Be, implantation doping 4-50315
 In_{0.53}Ga_{0.47}As/InP multiple quantum-well laser, optically pumped, chloride VPE grown, lasing characts. study 4-28688
 In_{0.53}Ga_{0.47}As/InP photoexcited lasers, quantum-well heterostruct., threshold pumping power temp. depend. study 4-28739
 In_{0.53}Ga_{0.47}As/InP quantum well heterostruct. lasers, VPE in multiple chamber reactor 4-21147
 In_{0.53}Ga_{0.47}As/plasma oxide MOS structs., inversion layers, low field electron mobility 4-45884
 In_{0.53}Ga_{0.57}As:Fe, LPE, dopant compensation 4-40688
 In_{1-x}Ga_xAs, electronic struct., chem. and struct. disorder effects 4-25216
 In_{1-x}Ga_xAs, LPE growth using source current control of composition 4-40678
 In_{1-x}Ga_xAs, VPE growth by trichloride method, thermodynamic model 4-40660

indium compounds continued

- $\text{In}_{0.9}\text{Ga}_{0.1}\text{As}$ strained-layer quantum-well injection lasers 4-55028
 $\text{In}_{0.9}\text{Ga}_{0.1}\text{As}:\text{Si}(\text{Sn})$ MBE layer, elec. and optical props. 4-46300
 $\text{In}_{0.9}\text{Ga}_{0.1}\text{As-GaAs}$ strained-layer superlattices, axial channelling and He ion backscattering studies 4-45220
 $\text{In}_{0.9}\text{Ga}_{0.1}\text{As-GaAs}$ superlattice, Zn diffusion induced disorder 4-20407
 InGaAsP 1.3 μm and 1.5 μm BH lasers improved perform., depend. on technological parameters 4-23991
 InGaAsP 1.3 μm diode laser, carrier-induced index change 4-23983
 InGaAsP , absorpt. coeff., band struct., IR spectra 4-35403
 InGaAsP BH injection laser coupled to GRINROD external cavity, single longit. mode operation 4-1422
 InGaAsP BH laser, 1.55 μm , solitary spectral linewidth reduction with external grating feedback 4-19451
 InGaAsP buried crescent lasers, orientational dependent growth kinetics influence on performance 4-38467
 InGaAsP , CD(Zn) diffusion for p-n junction formation 4-20405
 InGaAsP DFB, double channel, planar buried heterostruct. laser diode, modulation characts. 4-55031
 InGaAsP DFB lasers, ageing characts. 4-23993
 InGaAsP DH laser, heat treatment effects 4-44104
 InGaAsP DH lasers, 1.3- μm , subnanosecond optically excited, threshold temp. dependence 4-49358
 InGaAsP , defects study by scanning acoustic microscopy 4-6361
 InGaAsP diode laser, real-time meas. of picosecond optical pulses 4-1426
 InGaAsP double heterostructures, optical study for injection laser applications 4-30507
 InGaAsP epilayers, optically induced catastrophic degradation lines 4-39703
 InGaAsP epitaxial layers, photoelectric emission study 4-21105
 InGaAsP external cavity laser, intensity fluctuations meas. 4-49354
 InGaAsP film lasers, chirped picosec. pulses, time-depend. wavelength evaluation 4-24041
 InGaAsP injection lasers, amplitude fluctuations and photon statistics 4-23977
 InGaAsP injection lasers, 11.2 GHz ps optical pulse generation by HF direct modulation 4-49408
 InGaAsP laser material evaluation by optical pumping with 1.06 μm Nd:YAG laser radiation 4-23976
 InGaAsP laser structures, optically induced catastrophic degradation 4-34478
 InGaAsP laser under 130 ps. elec. pulse pumping, threshold current temp. depend. 4-49349
 InGaAsP lasers, 1.3 μm , screening at high temp. and current by EL mode ageing 4-14717
 InGaAsP lasers, 1.3 μm , AM quantum noise 4-28686
 InGaAsP lasers, Auger recomb. temp. depend., expt. study 4-33697
 InGaAsP lasers, cleaved-coupled-cavity, 1.5 μm , single mode operation 4-1390
 InGaAsP lasers, gain guided, threshold characts. rel. to Auger recomb. 4-14689
 InGaAsP lasers, threshold current temp. sensitivity, dependence, on P-cladding layer doping level 4-19450
 InGaAsP lattice matched to InP, composition depend. of spin-orbit splitting 4-2563
 InGaAsP lightly doped lasers, radiative and nonradiative recomb. anal. 4-19452
 InGaAsP lightly-doped lasers, radiative and nonradiative recombination law anal., comment and reply 4-1394
 InGaAsP photocathodes, Cs-O activating coating props., XPS study 4-21103
 InGaAsP three-channel buried crescent laser, 1.51 μm wavelength, LPE 4-49394
 InGaAsP/InP , double-channel planar BH laser diode, 1.3 μm single-longit. mode operation 4-1407
 InGaAsP/InP 1.3 μm double-channel planar buried heterostruct. laser with reflective coated mirror, ageing test 4-19455
 InGaAsP/InP 1.3 μm BH lasers, V-grooved, catastrophic degradation by large pulsed currents 4-33655
 InGaAsP/InP BH lasers, 1.3 μm high-power operation and characts. (Japanese) 4-5607
 InGaAsP/InP buried crescent lasers with separate optical confinement 4-14706
 InGaAsP/InP buried crescent lasers, stable CW operation at high temp. 4-23992
 InGaAsP/InP channeled substrate BH laser using Fe^+ implant for current confinement, LPE growth 4-38472
 InGaAsP/InP DH, 1.3 micron emission, elec. characts. study using line diagram method 4-56424
 InGaAsP/InP DH lasers, 1.3 and 1.5 μm , excitations in split-off valence band 4-19449
 InGaAsP/InP double heterostruct. lasers, bonding-solder deterioration and whisker growth 4-38481
 InGaAsP/InP double heterostruct., edge luminescence band profile 4-51340
 InGaAsP/InP heterostructures, spectroscopic electroreflectance and ellipsometry (French) 4-11866
 InGaAsP/InP heterojunctions, field and hot carrier enhanced electron leakage, model calc. 4-25430
 InGaAsP/InP heterostructure, lattice mismatch causes 4-30523
 InGaAsP/InP heterolaser strips, hybrid technology fabrication 4-49401
 InGaAsP/InP LEDs, field and hot carrier enhanced electron leakage, model calc. 4-25430
 InGaAsP/InP lasers, field and hot carrier enhanced electron leakage, model calc. 4-25430
 InGaAsP/InP lasers, 1.5 μm , NH_3 and H_2O spectral measurements for pollutant gas monitoring 4-26346
 InGaAsP/InP lasers, facet oxidation 4-28742
 InGaAsP/InP lasers, 1.5 μm , wavelengths and material const. meas. 4-38476
 InGaAsP/InP multilayers grown by MBE, hillock defects 4-50675
 $\text{InGaAsP-InGaP-GaAs}$ DH laser, lasing threshold, temp. depend. 4-14693
 InGaAsP-InP , refr. index in transparent region, Brewster angle meas. 4-24252
 InGaAsP-InP channeled substrate BH lasers, improved linearity and kink criteria 4-49355
 InGaAsP-InP DFB ridge-waveguide lasers, 1.5 μm , CW operation 4-49395
 InGaAsP-InP DFB double-channel planar BH laser diodes, antireflection-coated, CW single longit. mode operation 4-49396

indium compounds continued

- InGaAsP-InP DH rib waveguides, electrooptical modulation 4-24255
 InGaAsP-InP DH wafers, optical props., effect of proton bombard., rel. to lasing characts. (Chinese) 4-38473
 InGaAsP-InP double heterostructure, electron-hole plasma, luminescence and Auger studies 4-56426
 InGaAsP-InP heterostructures, nonequilibrium carrier redistribution, photoluminescence study 4-6882
 InGaAsP-InP LPE double heterostructure, cathodolum. anal. 4-35497
 InGaAsP-InP laser integration with FET 4-55068
 InGaAsP-InP microlensed edge emitting LEDs for long haul optical fibre systems 4-5707
 InGaAsP-InP Q-switched cleaved-coupled-cavity laser with integrated intracavity modulator 4-28716
 InGaAsP-InP ridge waveguide laser, 1.55 μm , low threshold current 4-1408
 InGaAsP-InP:Cr semiconductor buried-crescent type laser (Japanese) 4-55040
 $\text{In}_{0.72}\text{Ga}_{0.28}\text{As}_{0.6}\text{P}_{0.4}$, band-to-band, Auger recomb., effect of anisotropic band parameters 4-45810
 $\text{In}_{0.75}\text{Ga}_{0.25}\text{As}_{0.58}\text{P}_{0.42}$, LPE grown, electron traps, MOS-DLTS method (Chinese) 4-50752
 $\text{In}_{1-x}\text{Ga}_x\text{As}_{1-y}\text{P}_y$ DH lasers, 1.3- μm , carrier leakage, spatially resolved obs. 4-49357
 $\text{In}_{1-x}\text{Ga}_x\text{As}_{1-y}\text{P}_y$ epitaxial layers, four-mode behaviour, Raman scatt. 4-30545
 $\text{In}_{1-x}\text{Ga}_x\text{As}_{1-y}\text{P}_y/\text{InP}$, internal strain and photoelastic effects 4-16178
 $\text{In}_{1-x}\text{Ga}_x\text{As}_{1-y}\text{P}_y/\text{InP}$ heterojunction interface, LPE grown, compositional transition layer study using AES 4-25165
 $\text{In}_{1-x}\text{Ga}_x\text{As}_{1-y}\text{P}_y/\text{InP}$ LPE layers, growth temp. effect on lattice mismatch 4-7374
 $\text{In}_{0.9}\text{Ga}_{0.1}\text{As}_{1-y}\text{P}_y$, LPE growth and surface morphology on GaAs (100) 4-40677
 $\text{In}_{0.9}\text{Ga}_{0.1}\text{As}_{1-y}\text{P}_y$ layers, high temp. LPE, electron Hall mobility, scatt. mechanism 4-40087
 $\text{In}_{1-x}\text{Ga}_x\text{As}_{1-y}\text{Sb}_y$ quaternary alloy heterojunction band discontinuities 4-45868
 InGaP and InGaAlP , MBE grown, doping studies, elec. and optical meas. 4-15510
 $\text{InGaP-InGaAs-InGaP}$ heterostruct. diode, fabrication, room temp. lasing 4-49364
 $\text{In}_{1-x}\text{Ga}_x\text{P}$, electroepitaxial Peltier induced LPE on GaAs (100) 4-30653
 $\text{In}_{1-x}\text{Ga}_x\text{P}$, lattice vibr., CPA calc. 4-55944
 $\text{In}_{1-x}\text{Ga}_x\text{P}$ layers, two-mode behaviour, Raman scatt. 4-30545
 $\text{In}_{1-x}\text{Ga}_x\text{P}$ solid soln., donor-acceptor recombination, band struct. effects 4-25809
 InGaPAs:N solid soln. epitaxial struct., luminesc. and photoelec. props. 4-21029
 $\text{In}_{1-x}\text{Ga}_x\text{P}_{1-y}\text{As}_y$ quaternary alloy heterojunction band discontinuities 4-45868
 $\text{In}_{1-x}\text{Ga}_x\text{P}_{1-y}\text{As}_y/\text{InP}$ waveguide struct., DH laser active layer thickness 4-38580
 $\text{InGaTe}_2\text{-TiInTe}_2$, electrophysical props. 4-56367
 InH , ab initio CI relativistic calcs. with spin-orbit coupling 4-18914
 InI , exciton transitions, refl. absorption and emission spectra 4-46279
 InI^+ inert gas atoms, dissoc. excitation, rate const., emission obs. 4-41178
 InMo_6Se_8 , superconducting and mag. props. 4-30102
 $\text{In}_2\text{Mo}_6\text{Se}_8$, pseudo-one-dimensional cpd., thermoelectricity 4-30000
 In_2O , mol. struct., vibr. characts., electron diff. obs. 4-10079
 In_2O_3 , 3-dimens. films, conduction electrons, inelastic scatt. 4-45900
 In_2O_3 films, prod. by ion plating, cond. and transparency (French) 4-35583
 In_2O_3 films, prod. by PYROSOL process, transparency, cond., IR refl. props., appls. (French) 4-34836
 In_2O_3 films, thermally evaporated, elec. conductive and IR transparent 4-21055
 In_2O_3 , polycryst., ^{111}In hyperfine interaction, TDPAC study 4-35266
 In_2O_3 , semicond., TDPAC study, electron capture aftereffects 4-40316
 In_2O_3 , semiconducting transparent thin films, props. and appls. 4-25881
 $\text{In}_2\text{O}_3/\text{SiO}_2/\text{Si}$ inversion layer solar cells based on X-ray induced surface inversion 4-52136
 $\text{In}_2\text{O}_3\text{-ASeO}_3\text{Te}_{10}$ interface props. 4-50927
 InP (001)/ $\text{SrF}_2(\text{CaF}_2)(\text{Ba},\text{Sr}_{1-x}\text{F}_2)$ epitaxial films, MBE growth 4-12028
 InP , (100) plane, anisotropic undercutting rate 4-26074
 InP (110), ion bombarded and annealed, AES, SAM and RHEED study 4-29745
 InP (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
 InP , amorphised, hopping and band transport 4-25338
 InP avalanche photodiodes, LPE, hole diffusion length, impact ionisation coeffs. 4-40687
 InP , band struct., Auger recombination 4-39772
 InP , CD(Zn) diffusion for p-n junction formation 4-20405
 InP , cohesive energy and bulk modulus 4-2137
 InP , deep levels, influence of growing conditions and impurities (Korean) 4-39820
 InP , defects study by scanning acoustic microscopy 4-6361
 InP diffraction grating profiles for DFB lasers and integrated optics, bilevel processing technique 4-24243
 InP , diffusion length meas. by filtered cathodoluminescence 4-50841
 InP , diffusion of Ag from vapour phase, surface equilibria 4-29703
 InP , diffusion of Cd, exam. rel. to device fabrication 4-34713
 InP , disorder production and annealing during He RBS/channelling anal. 4-11197
 InP , doped and undoped VPE, optical characterisation of acceptors 4-35477
 InP , electron irradi. defects, elec. and optical investigations 4-34902
 InP , electron irradi. induced defects, minority carrier injection annealing 4-50828
 InP epitaxial layers, organometallic vapour deposition (French) 4-3081
 InP , etching in RF discharge through mixtures of trichlorofluoromethane and O_2 , 4-16521
 InP films, amorphous, electronic props. and struct., electron diff., optical and elec. cond. meas. 4-39143
 InP films, amorphous, flash evaporated, electronic distrib., disorder effect, soft X-ray spectra, XPS meas. 4-40599
 InP , fine struct. of (A^{X}) complex 4-25804
 InP , growth by molecular beam epitaxy on InP (French) 4-25888
 InP , heat treated, photoluminescence and photocond. spectrum 4-51326

indium compounds continued

- InP, high purity, synthesis from melt, donor conc., Hall meas., photoluminesc. 4-40629
 InP, high purity, undoped, residual acceptors, photoluminesc. study 4-39806
 InP, high-purity hydride VPE, defect centre obs. 4-35478
 InP homojunction solar cells with high γ -ray radiation resistance 4-52137
 InP, impact ionisation of excitons and shallow donors, photoluminesc. study 4-7241
 InP ingots, LEC, Ge doping conc. local variations, SEM cathodolum. spectra 4-34520
 p-InP, intervalence band absorption, variation with hole conc. 4-40422
 InP, ion implanted, rapid lamp annealing, band-to-band luminesc. 4-51312
 InP, ion milling with I^+ beams 4-39348
 InP, LEC grown, annealing effect on struct. defects 4-34495
 InP, LEC grown crystals, Si contamination sources 4-40633
 InP, LEC growth, control of dislocation structures 4-39297
 InP, LEC growth, elec. props., impurity conc. 4-40632
 InP, LEC growth, temp. gradients 4-40634
 InP, LEC single crystals, microstruct. of grappe defects 4-34494
 InP, LPCVD of Al_2O_3 (AlP_2O_5) dielectric films, elec. props. 4-56439
 InP, laser alloying of NiAuGe contacts 4-25443
 InP, lattice dynamics, phenomenological parameter model anal. 4-55941
 InP, localised deep level electron trap MOET, DLTS studies 4-39809
 InP, low temp. electron irradi., defects, DLTS studies 4-50758
 InP, luminescence-band structure study using thermal modulation 4-40527
 InP, MESFET optimum semiconductors for HF and low-noise appl. 4-29965
 InP MIS diodes, capacitance changes caused by piezoelec. effects 4-35074
 InP MIS struct., role of plasma oxide CVD 4-40067
 InP MIS technology, state of the art 4-50943
 InP, MOCVD epitaxy, C-V, Hall and photoluminesc. characts. 4-40664
 InP, MOCVD epitaxy, impurity control, dopant incorporation 4-40665
 InP, MOCVD layers on semi-insulating InP, deep level electron traps, DLTS study 4-39810
 InP, materials science, conf., Lancaster, England (March 1983) 4-36779
 InP, metastable M centre, defect charge state controlled struct. relax. 4-20595
 InP, n-type, proton irradiated defects study (French) 4-55891
 InP, nonequilibrium electron system, cond. electrons and donors, far IR magnetoabsorpt. study 4-16099
 InP, optical props. determ. by multiple angle of incidence ellipsometry 4-46221
 InP, optical refr. index dispersion, doping depend. 4-35404
 InP, organometallic VPE, morphology, photoluminesc., electron mobility 4-3080
 InP, P ion irradiated, photoluminesc., thermal processing effect 4-16248
 InP, p- and n-type, luminesc. polarisation and deformation pot. consts. 4-30523
 InP, passivation of surface by O_2 RF plasma. and HNO_3 gas (French) 4-26081
 n-InP, photoelectrochemical oxidation 4-26077
 InP, photoluminescence spectrum, excited state donor to acceptor transitions 4-46325
 InP, plasma anodic oxidation 4-26073
 InP, polycryst. thin films for solar cells, growth technology 4-7366
 InP, polycrystalline ingots, horizontal directional freezing, trace impurity conc. 4-40630
 InP, polycrystalline ingots, synthesis by direct reaction, microstruct. and carrier mobility 4-40722
 InP, proton-bombarded, IR photodetection 4-37171
 InP, recomb. electron beam irradi. enhanced dislocation mobility 4-15540
 InP Schottky barrier height rel. to interface chem. reactivity 4-45881
 InP, selected area growth by low press. MOCVD on ion implanted InP substrates 4-3077
 n-InP semiconductor-liquid junction with dil. HNO_3 injection electro-luminesc. 4-30510
 InP single cryst., intrinsic point defects, melt composition effects 4-34484
 InP solid solns., refr. index spectra, dispersion values 4-51221
 n-InP, study of electron diffusion const. 4-25365
 InP substrate, deform. of etched V-grooves by heat treatment 4-46636
 InP substrate for $In_{1-x}Al_xAs$ epilayers 4-30638
 InP substrate surface, thermally cleaned under As mol. beams for InAs MBE growth, ESCA study 4-21351
 InP surface, cleaved, adsorption of Ga and Sb 4-29815
 InP surface, thermal decomposition, morphological study, prior to VPE growth 4-34760
 InP, surface prep. methods, chem. treatment 4-51832
 InP, synthesis, crystal growth, Hall effect, photoluminesc., SIMS 4-40631
 InP, T_2 symm. deep level wavefunction predictions 4-11478
 InP, transient electronic transport under condition of high-energy injection 4-50822
 InP, undoped and doped, DLTS obs. of electron irradi. defects 4-34903
 InP, unintentionally doped LEC crystals, annealing effects 4-34901
 InP, VPE, chloride process, microwave device appl. 4-40657
 InP, VPE, purity control, Hall mobilities 4-40656
 InP, vacancy induced deep levels, density of states change 4-39747
 InP, vapour grown, donor identification, exciton band-gap luminescence 4-50755
 InP:Ag, out-diffusion of radioactive Ag, comparison with Fick's law 4-39599
 InP:As, ESCA and electron diff. studies (Japanese) 4-20441
 InP:Cd LPE layers, impurity concentration meas. by ionized impurity scatt. anal. 4-20231
 InP:Cd p^+ - n junctions, EBIC linescans, computer simulation 4-35060
 InP:Co, deep levels, space charge spectra, photoluminescence and EPR studies 4-39814
 InP:Co, LEC single crystals, precip. identification 4-35563
 InP:Co(Fe), Hall effect, elec. resist. and DLTS studies 4-25374
 InP:Er, 1.54 μm photolum. obs. 4-21001
 InP:Er $^{3+}$ (Yb $^{3+}$), rare earth activated luminesc. 4-35480
 InP:Fe, Czochralski grown crystals, electron and Fe conc., SIMS, Hall meas. 4-34971
 InP:Fe, impulse photoconductance decay 4-50863
 InP:Fe, impurity centres, time depend. photoluminesc. study 4-46324
 InP:Fe, pure and doped, deep centres, optical studies 4-11479

indium compounds continued

- InP:Fe, recombination centre parameters, photoelec. studies 4-6828
 InP:Fe, semi-insulating, Si^+ implantation, capless annealing of damage (Chinese) 4-20265
 InP:Fe (100), surface morphology following O_2^+ and Cs^+ bombardment, SEM study 4-45477
 InP:Fe photoconductors, $^3He^+$ bombardment, picosec. photoresponse 4-45820
 InP:Ga, ESR and spin-lattice relax. times, spin Hamiltonian parameters 4-16092
 InP:Ge, LEC single crystals, mech. strength, use as substrate for VPE InP layers 4-11215
 InP:Ge LEC ingots, dopant inhomogeneity, segregation nature and minimisation 4-35562
 InP:H $^+$ (B $^{3+}$)(O $^{2-}$)(Ne $^+$)(Ar $^+$)(Fe $^+$), high resistive layers obtained by ion implantation (French) 4-55853
 InP:I, impurity bond lengths, Mossbauer study 4-20140
 InP:Mn, elec. resist., Hall effect and impurity ionisation energy 4-25352
 InP:Mn, electron and nuclear mag. relax. 4-11789
 InP:Mn, optical absorpt. tail and minority carrier diffusion length from surface photovoltage measurements 4-30420
 InP:Mn, X-ray irradi., negative conductance study 4-50827
 InP:Si, ion implanted, laser beam annealing, Hall effect and ellipsometry studies 4-50346
 InP:Si, single crystals, plastic deform., effect of temp. and S doping 4-6429
 InP:Si(Si), compensating aspects of implantation damage 4-34510
 InP:Se, implanted, transient annealing using graphite strip heater and electron beam methods 4-34509
 InP:Se, ion implanted, rapid thermal and electron beam annealing 4-15537
 InP:Si, elec. and photolum. obs. of Si implantation and damage, residual impurities 4-34511
 InP:Si, ion implanted, photoluminescence excitons and polaritons 4-40498
 InP:Si, n-type doping in MBE growth, elec. and optical props. 4-2219
 InP:Si, VPE layers, optical evidence of amphoteric behaviour of Si 4-35479
 InP:Sn(S)(Zn) crystal, liq. encapsulation Czochralski grown, defect struct., synchrotron X-ray topography 4-45137
 InP:Yb $^{3+}$, EPR and spin lattice relax. 4-25635
 InP:Zn, diffusional doping from spin-on film sources, review 4-50586
 InP/electrolyte interface, hot carrier injection of photogenerated carriers 4-15956
 InP/InGaAsP aged LEDs, dark spot defects 4-56999
 InP/Pd surface-barrier Schottky diodes, H adsorption effects 4-35069
 InP/Si $_3$ N $_4$ -based MIS struct., C-V characts. and flat band pot. 4-50934
 InP- Al_2O_3 -Al structure, drift phenomena and barrier height from photoemission (French) 4-25450
 InP- Al_2O_3 -metal, etching procedures of InP, effects on electrical props. (French) 4-25451
 InP-Al(Au)(Ag) interface and Schottky diodes formation (French) 4-56430
 InP-BaF $_2$ epitaxial interfaces, misfit dislocations, electron microscopy anal. 4-11410
 InP-CdS heterojunctions, MBE growth, J-V characts., solar cells appl. 4-20716
 InP-Cu $_x$ S heterojunctions, elec. and photoelec. props. (Russian) 4-40029
 InP-dielectric interfaces, surface Fermi level 4-6904
 InP-InGaAsP emitters, sources of defects 4-25189
 InP-oxide-metal struct., plasma and chemical oxides, optical and elec. props. 4-12210
 InP-Pd/Ti Schottky diode, H adsorption effect on elec. characts. 4-35068
 InP-SiO $_2$ MIS capacitors, interface states 4-50944
 InP-SiO $_2$ MIS struct., interface props. 4-50945
 InP-SiO $_2$ MISFET, slow current drift model 4-50926
 InP $_x$ As $_{1-x}$, ternary mixed crystals, thermoelec. power 4-25384
 InP $_x$ As, Raman spectra, hydrostatic press. effect 4-30476
 InP(100), atomic conc. ratio, determ. (Chinese) 4-3016
 InP(110), soft X-ray photoelectron yield spectrum 4-21107
 InP:Te, ion implanted, photoluminescence study 4-35481
 InPb, single cryst., 2 MeV electron irradi. between room temp. and 200°C, dislocation loops, electron microscopy study 4-11188
 InSb:Ge, impurity distrib. and p-n conversion under heat treatment 4-6390
 InSe deposition struct. and scratch microhardness 4-34841
 InSe, elastic consts., press. depend., lattice dynamic model 4-34560
 InSe, exciton absorpt. line, influence of indirect phototransitions (Russian) 4-50736
 InSe, growth and characterisation 4-7344
 InSe high quality single crystals, growth and characterisation 4-7345
 InSe, isothermal currents and TSC 4-39912
 InSe lamellar cpd., elastic consts., press. depend. 4-2254
 γ -InSe, lattice const., dynamics and thermal expansion (Russian) 4-50274
 InSe, layer compounds, polytypism, review 4-39245
 InSe layer cryst., photocond. anisotropy meas. by contactless microwave method 4-25399
 InSe, photoluminescence meas., stimulated emission spectra, light amplification under two-photon pumping 4-40481
 InSe single crystals, trapping centres, elec. and photoelectronic meas. 4-6799
 InSe, structural changes, TDPAC study 4-2325
 InSe:Cd, doped and intercalated, photoluminescence spectra 4-16245
 InSe:Gd with macroscopic inclusions, polariton effects, photoluminesc. studies 4-29903
 InSe:Zn, photoluminescence spectra 4-16245
 InSe/Au Schottky barriers, photovoltaic effect and solar energy conversion 4-6863
 InSe-anthracene films, photocurrent wavelength depend. in O_2 and Ar atmospheres (Japanese) 4-56382
 InSe-graphite contact, electrical and photovoltaic props. 4-40044
 InSe $_{1-x}$ amorphous films, carrier mobility and lifetime meas. 4-45789
 InSe $_{1-x}$ S $_x$ single cryst., optical absorption, electroabsorption and photoluminesc. studies 4-2959
 InSe $_{1-x}$ S $_x$ single cryst., residual cond. and lasting relaxations 4-56355
 In $_{2-x}$ Sn $_x$ O $_3$ /SiO $_2$ /Si minority carrier transparent solar cells 4-12471
 In $_{2-x}$ Sn $_x$ O $_3$ - γ films, plasma deposition, cond. and transparency props. (French) 4-35584
 In $_{2-x}$ Sn $_x$ O $_3$ - γ films, prod. by vacuum evaporation and sputtering for coating of second surface mirrors (French) 4-33735

indium compounds continued

- $\text{In}_2\text{-Sn}_2\text{O}_3\text{-y}$ films, reactive DC magnetron sputtering, automatic control system 4-12025
 $\text{In}_2\text{-Sn}_2\text{O}_3\text{-y}$ films, transparent and cond., appl. for antireflection coating of aeroplane windows (*French*) 4-33736
 $\text{In}_2\text{-Sn}_2\text{O}_3\text{-y}$ single crystals, elec. props. 4-39897
 $\text{In}_2\text{-Sn}_2\text{O}_3\text{-y}$, sol-gel derived transparent IR-reflecting semiconductor coatings 4-55151
 $\text{In}_2\text{-Sn}_2\text{O}_3\text{-y}$ thin film coatings, optical const. determ. based on inverse synthesis 4-2975
 $\text{In}_2\text{-Sn}_2\text{O}_3\text{-y}$ thin film passive solar windows produced by reactive evaporation, surface anal. and optical props. 4-30549
 $\text{In}_2\text{-Sn}_2\text{O}_3\text{-y}$ thin films, prep. by hydrolysis method, elec. resist., optical transmission props. 4-56463
 $\text{In}_2\text{-Sn}_2\text{O}_3\text{-y}$, weak localisation and correlation effects of 2D electrons 4-11606
 $\text{In}_2\text{-Sn}_2\text{O}_3\text{-y}/\text{Zn}_3\text{P}_2$ solar cells, RF sputter deposition using polycryst. Zn_3P_2 4-26283
 $\text{In}_2\text{-Sn}_2\text{O}_3\text{-y-SnO}_2\text{-Sb}$ mixed thin films, prep. by hydrolysis method, elec. resist., optical transmission props. 4-56463
 In_2Te_3 , electric quadrupole interaction, TDPAC meas. 4-35306
 In_2Te_3 -anthracene films, photocurrent wavelength depend. in O_2 and Ar atmospheres (*Japanese*) 4-56382
 $\text{In}_2\text{Te}_3\text{-HgTe}$, phase diagram and struct., IR and X-ray studies 4-7436
 $\text{In}_2\text{Te}_3\text{-Cd}$, electric field gradient, PAC study 4-35307
 $\text{In}_2\text{-x Sn}_x \text{O}_3\text{-y}$, sputtered films, optical props. 4-30554
 IrF_6 , electron affinities and electron struct., χ_a calc. 4-5515
 MgIn_2S_4 , electronic props., self-consistent pseudopot. study 4-29879
 MnIn_2S_4 , partially inverse spinel cpd., struct. parameters and optical props. 4-30487
 $\text{Pb}_{1-x}\text{In}_x\text{Bi}_2\text{S}_9$, cryst. struct. study 4-2167
 Pd-InP (110) interface, Auger study of Pd₃P formation 4-3000
 $\text{TlGaSe}_2\text{-TlInS}_2$, phase equilibria, microhardness, density, dark cond. 4-51641
 TlInS_2 , absorpt. study of excitonic transition oscillator strengths (*Russian*) 4-7216
 $\text{TlInSe}_2\text{-InGaSe}_2$, X-ray diffraction anal., solubility, formation of quaternary compounds 4-55795
 $\text{TlInTe}_2\text{-InGaTe}_2$, X-ray diffraction anal., solubility, formation of quaternary compounds 4-55795
 YGdCaVInIG , NMR hyperfine field temp. depend. 4-16122
 $\text{Zn}_x\text{Cd}_{1-x}\text{In}_2\text{S}_4$, photoelectronic props. 4-30010
 $\text{Zn}_x\text{Cd}_{1-x}\text{In}_2\text{S}_4$, prep. and Raman spectroscopy, struct. and dynamical anal. 4-30456
 ZnIn_2S_4 , peculiarities of photolum. 4-30496

INDO calculations

- acetaldehyde, gaseous and soln. phase, solvent effect on NMR spin-spin coupling 4-28457
acetamide, spin-spin coupling const., Fermi contact term, medium effects 4-49049
aromatic radical anions, fragmentation rates and $\pi^*-\sigma^*$ orbital crossing point 4-41181
7-azaindole, soln., H bonded, excited state reaction, luminesc. 4-49085
p-benzosemiquinone radical anion hyperfine coupling, solvation effect, INDO calcs. 4-14340
1,1-difluoroethylene radical anion, ^{19}F hyperfine interaction, INDO calcs. 4-48939
electronic struct. of mols., complexes, clusters, programme for calc. in INDO approx. 4-14331
ethylene radical cations, substituted, struct., conform. and ESR spectra calcs. 4-1057
fluoroacetamide, stability and struct. of radical anions, EPR study 4-1184
fluorobenzenes, polar, CNDO/2 and INDO SCF calcs. 4-1062
fluorobenzenes radical anions, geometric and electronic struct., INDO calcs. 4-23608
hydrocarbons, conjugated, excited state pot. curves, UV spectra, INDO-type calcs. 4-23607
lactate dehydrogenase, pyruvate substrate behaviour in active centre, semiempirical MO study 4-14329
1,5-naphthyridine, excited singlet state, INDO calcs., visible-UV obs. 4-5240
nitrobenzimidazoles, 2-substituted, electron and spin density distrib., dipole moments, MINDO/3 and INDO calcs. 4-38072
nitrofurans series, electrochemically generated EPR spectra 4-5261
organolithium cpds., Li-C bond, transition operator-based MO electronegativity approach 4-38071
pentatomic heterocyclic-system benzoderivatives, MO and ionisation pots. calc., photoelectron spectra assignment 4-23606
peroxide radicals, electronic struct., mag. reson. parameters calcs. 4-28374
polyferrocenylene, one dimens. system band struct., semiempirical crystal orbital INDO calcs. 4-56193
pyridine, Duschinsky effect in $S_1(n\pi^*)$ state, vibronic activity, INDO calc., fluoresc., Raman spectra 4-23731
selenophene, Se-C coupling, transmission mechanisms according to PROMO-SCPT-INDO method 4-18929
spin-spin coupling const., through-space transmission, polarisation propagator anal. 4-48940
tellurophene, Te-C coupling, transmission mechanisms according to PROMO-SCPT-INDO method 4-18929
s-tetrazine, Duschinsky effect in $S_1(n\pi^*)$ state, vibronic activity, INDO calc., fluoresc., Raman spectra 4-23731
triatomic mols., geometry and props., semiempirical SINDO calcs. 4-18930
trifluoroacetamide, stability and struct. of radical anions, EPR study 4-1184
 Cu^{2+} complexes with dopamine in aq. soln., NMR, EPR and INDO studies 4-5253
 ArF_3 , $^2\Sigma\text{-}^2\Sigma$ transition, CNDO, INDO calcs. 4-33321
 BF_4 radical, ESR spectra and struct., formed in KBF_4 cryst. by γ -rays 4-23727
 BrO_2 , elec. field gradient, CNDO/2 and INDO calcs. 4-28372
 ClO_2 , elec. field gradient, CNDO/2 and INDO calcs. 4-28372
Cu II complexes, copper(II)bis-acetylacetonate, g-tensor, struct. distortions, adduct form., INDO calcs. 4-33322
Cu II dimers with aromatic N-oxides, exchange interaction, INDO calc., bridge angle effect 4-23605
 Fe^{3+} complexes with dopamine, NMR, EPR and INDO studies 4-5253
 H_2IO_6 , Zeeman effects, NQR, INDO and CNDO calcs. 4-30342

INDO calculations continued

- HeCl , $^2\Sigma\text{-}^2\Sigma$ transition, CNDO, INDO calcs. 4-33321
 HeF , $^2\Sigma\text{-}^2\Sigma$ transition, CNDO, INDO calcs. 4-33321
 IO_2 , elec. field gradient, CNDO/2 and INDO calcs. 4-28372
 $\text{LiF}(\text{Cl})$, MC-INDO calcs. of electronic struct. 4-15816
 Mn^{2+} complexes with dopamine, NMR, EPR and INDO studies 4-5253
 $\text{NaF}(\text{Cl})$, MC-INDO calcs. of electronic struct. 4-15816
 NeCl , $^2\Sigma\text{-}^2\Sigma$ transition, CNDO, INDO calcs. 4-33321
 NeF , $^2\Sigma\text{-}^2\Sigma$ transition, CNDO, INDO calcs. 4-33321
Ni (II) maleic acid complex, NMR and INDO investig. 4-1177
Ni (II) succinic acid complex, NMR and INDO investig. 4-1177
Ni complex, tetrathiosquaratonickel(II), band struct. calc. 4-20533
Ni complex, tetrathiosquarato nickel (II) polymer, electronic struct., symm. breaking due to interchain interactions 4-34854

INDOR

see also nuclear Overhauser effect

No entries

induced anisotropy (magnetic)

- Cu-Ni-Fe (20, 19.8 wt.%), mag. props., influence of elastic stress 4-57229
 $\text{Fe}_{81}\text{B}_{13}\text{Si}_{3.5}\text{C}_2$, amorphous alloy, C migration studied by mag. anisotropy meas. 4-46021
 $\text{Fe}_{67}\text{Co}_{18}\text{B}_{14}\text{Si}$ metallic glass, mag. props., tensile stress effect (*French*) 4-35202
 $\text{Fe}_{3.9}\text{Co}_{7.21}\text{B}_{1.5}\text{Si}_2\text{Mo}_2$, amorphous, field induced anisotropy 4-25546
 $\text{Fe}_{32}\text{Ni}_{36}\text{Cr}_{14}\text{P}_{12}\text{B}_6$ amorphous, annealing kinetics for Curie temp. changes 4-25553
 $\text{Fe}_{40}\text{Ni}_{40}\text{P}_{14}\text{B}_6$, amorphous, field induced anisotropy and Curie temp. 4-25547
 $\text{Fe}_{40}\text{Ni}_{40}\text{P}_{14}\text{B}_6$, Metglas 2826, H mobility, induced mag. anisotropy 4-39605
 $(\text{Fe}_{1-x}\text{Ni}_x)_{77}\text{Si}_{10}\text{B}_{13}$, amorphous, mag. props. study 4-25544

inductance

- inductance inequalities for ideal conductors 4-28589
solenoid, mathematical model for energy and force calcs. 4-49230

inductance measurement

- primary standards, Maxwell-Wien bridge system (*Korean*) 4-17899
transformer bridge with automatic balancing for elec. variables meas., design and error analysis (*Czech*) 4-42991

induction, electromagnetic see electromagnetic induction**induction heating**

see also electric furnaces; ovens

- hardmetals, short-time induction sintering process 4-30664
melting ovens, induction type, MHD research 4-37106
steel, Cr-Mo-V, cold-rolling work rolls bearing necks, hardening 4-40844
Fe-Steel (3wt.%) crystals, float zone melt grown, induction heating, electrodynamic force driven convection 4-3064
 MgO , fused, electrical-grade, heat treatment in induction plasma 4-51702

inductor microphones see microphones**inductors**

see also coils; transformers

- inertial-inductive energy storage, current interruption techniques and components 4-37854
JET ohmic heating sub-system, saturable inductors 4-48734
planar induction pumps, flow rates, primary longit. effect 4-38883

industrial atmospheres see air pollution**industrial computer control**

see also computerised materials handling; manufacturing computer control

- fuel alcohol production from sugar beet at pilot plant 4-35975

industrial economics see economics**industrial plants**

- Bayesian analysis of seismic risk 4-41775
complex industrial wastewater treatment by reverse osmosis 4-36043
estimation of strong ground motions from analogous seismic regions using combined teleseismic and near field data sets 4-41769
heavy industrial facilities, earthquake hazard component in postquake performance assessments 4-41771
seismic risk and heavy industrial facilities, conference, San Francisco, California, USA (1983) 4-36788
state of the art of aseismicity of sub-surface grounds for industrial areas 4-41773
Sydney University solar desalination pilot plant design 4-12453
thermal wheels or rotary regenerators for industrial process waste heat recovery 4-57753

industrial research management see research and development management**industrial robots**

- crack detection, fluorescent penetrant, process automation using industrial robots 4-46698

industrial standards see standards**industries**

this heading is restricted to those industries which are not covered by other specific headings

- see also automobile industry; chemical industry; electricity supply industry; food processing industry; glass industry; manufacturing industries; metallurgical industries; mineral processing industry; paper industry; petroleum industry; printing industry; textile industry
composite material applications in industry 4-41169
Indian medical electronics industry, economic forecast, demand trends and growth 4-8132
solar thermal applications—an overview 4-52113
status review and prospects for solar industrial process heat (SIPH) 4-46858

inelastic electron tunnelling spectra see tunnelling spectra**inelastic electron tunnelling spectroscopy** see tunnelling spectroscopy**inert anodes** see anodes**inert gas compounds**

see also argon compounds; helium compounds; krypton compounds; neon compounds; radon compounds; xenon compounds
halides, spectra, vibr. population distrib., inversion technique calcs. 4-19043

inert gases

see also argon; helium; krypton; neon; radon; xenon

- abundances in diamond, implications for early Earth history 4-36322
abundances in planetary atmospheres, rel. to origin and evolution of Venus atmosphere 4-36626

inert gases continued

- adsorbed layers on transition metals, electronically excited state, nature nonradiative decay 4-21014
- adsorbed on metals, excited states and decay mechanisms 4-56142
- alkali metal-rare gas films, metal-insulator-transition, model 4-45637
- atom, electron impact inner-shell and subshell ionisation, VUV emission 4-5390
- atom+(CS)₂ cluster, collisional ionis. 4-10206
- atom+alkali ion, interaction pots. calcs. 4-49125
- atom+As³⁺, cross-sections, attenuation coeffs. and Larmor freqs. 4-33495
- atom+Cl⁻, electron detachment cross section 4-1251
- atom+H⁻(D⁻), detached electron prod., energy spectra 4-9959
- atom+H⁻(D⁻), detachment collision, electrostatic vs. dynamical coupling 4-10027
- atom+He, diabatic pot. interaction 4-5341
- atom+high-Rydberg atom quasi elastic state changing collisions 4-19148
- atom+ion charge transfer cross-sections 4-54857
- atom+methane, ν_2 deactivation, photoacoustic obs. 4-38300
- atom+Mg⁺(Mg) collisions, 3p state excitation calcs. 4-23784
- atom+Rydberg atom collisions, elec. field effects, hydrogenic wave functions, parabolic coordinates 4-19149
- atom+Xe⁺, charge transfer and fine struct. transitions, 2 to 20 keV 4-10033
- atom-Rydberg atom collisions at thermal energies 4-33491
- atom-Xe monolayer three-body interactions 4-29807
- atomic and molecular fluids, rattling motions 4-6240
- atomic microclusters, morphology statistical statics 4-49201
- atoms, electron and positron electron scatt., polarised orbital method 4-19259
- atoms, electron impact excitation of metastable levels 4-19283
- atoms, interaction energies from trial density function in Thomas-Fermi-Amaldi-Dirac formulation 4-38068
- atoms, ionisation energies, valence orbital momentum distrib., electron spectra 4-23817
- atoms, metastable level excitation in crossed electron and gas dynamical at. beams 4-43827
- atoms, total energies and electron affinities, local spin-density approx. exact exchange extension 4-28571
- atoms+Ca, reson. line, absolute absorpt. coeff. 4-18968
- atoms+H⁺(He⁺), multiple ionisation cross sections meas. 4-23803
- atoms+H, excitation examined by obs. Balmer-alpha and Balmer-beta emissions 4-9939
- atoms+K(4²P), coherence obs. 4-9888
- atoms+metal halides, dissociation, excitation, rate consts., emission obs. 4-41178
- atoms+U, velocity changing collisions in saturated absorpt. 4-19179
- binary gas mixture, free jet expansion, theoretical studies of translational nonequilibrium and velocity slip 4-55451
- binary inert gas mixtures, Monte Carlo simulations of electron drift velocities 4-38929
- condensed, exciton kinetics, Penning type ionisation, rate consts. 4-34881
- crystals, band struct. props. at high press. (Russian) 4-2506
- density functional theory of nonlinear optical response appl. 4-33712
- dipole moments and interaction potentials in collision-induced absorption 4-14523
- dipole moments and polarizabilities of rare gas atom pairs 4-43793
- discharge lamps, emission spectra for Raman spectrometer calibration 4-6215
- electron impact excitation, grandparent and nonvalence reson. 4-5151
- ethylene oxide + inert gases, collision induced vibr. energy relax. studied by means of laser induced fluoresce. 4-49131
- excited atom alignment by electron collision in plasma of positive column 4-5993
- excitons, absorpt., reflectivity, intrinsic luminesc. spectra 4-25242
- hollow cathode discharge, Stark shift and broadening, optogalvanic spectra 4-23654
- inert gas atom-hexafluorobenzene cation clusters, red shifts, linewidths, laser induced fluoresce. 4-49079
- Isna meteorite, unusual Cs(O) carbonaceous chondrite, elemental and isotropic comps. of inert gases 4-8430
- liquid, correlation effect nuclear quadrupole relax. (Russian) 4-56805
- liquid, vacancy form. energy, direct correl. function at melting temp. 4-50171
- liquids, small angle scatt., review 4-40566
- metastable state detection in swarm expt. by energy transfer to N₂ 4-33363
- mixtures, thermal diffusivity factor data generalisation, relative states theory (Russian) 4-15053
- optogalvanic effects, spatial and temporal investigation 4-19927
- physisorbed on metal surface, vibrational broadening in Auger and photoelectron spectroscopy 4-57072
- thermal accommodation coeffs. on nucl. materials 4-1576
- transfer ionization and Coulomb ionization in collisions of multiply charged ions with atoms 4-19245
- Venus atmosphere, isotopic anal. implications for solar nebula 4-47548
- in Venus atmosphere, isotopic and elemental ratios 4-36627
- F⁺+inert gas collisions, double electron detachment 4-54849
- N₂-inert gas system, thermal diffusion factors, temp. depend. 4-15055
- N₂-noble gas mixture, diffusion, mag. field effect 4-49917
- Si-noble gas atoms, deep impurity levels, luminescence studies 4-45672
- Si-inert gas spectra, polarisation of redistributed light, spectral satellites and interatomic pots. 4-14358

inertial navigation

- equation of inertial navigation, limiting capabilities for const.-height information 4-55315

inertial systems

- direct neutron-pumped gas laser driver for inertial confinement fusion reactor 4-34309

infinite impulse response filters *see digital filters***infinite series** *see series (mathematics)***inflammability** *see combustion***information analysis**

- see also cataloguing; classification; indexing*
- journals for highly cited physics papers and their citation histories 4-47825
- physics papers citation 4-47823
- successive citation of 1000 physics papers 4-47826
- variable histories of physics papers by successive citation 4-47824

information retrieval

- see also information storage*
- astronomical literature, searching and reviewing, guide for research students 4-31769
- geotechnical/geological database, GEOSHARE system development 4-22091
- star catalogue computer data-base facilities of ESA for astronomical satellite operation 4-53056
- surface treatment, AES information bank appl. 4-57372

information retrieval languages *see high level languages***information retrieval systems**

- atomic and molecular physics database (Belfast/Daresbury) 4-17649
- RS Canum Venaticorum binary star systems, catalogue and database 4-36594
- computerised nucl. material inventory, audit trail 4-33020
- EMIS, online database system for numeric data of electronic materials 4-36881
- equipment qualification programme development and maintenance, computer aided approach 4-23408
- NEA Data Bank 4-38022
- NIES-MSLS system for identification of multicomponents in mixed mass spectra by library search system 4-52067
- star catalogue computer data-base facilities of ESA for astronomical satellite operation 4-53056
- Strasbourg Stellar Data Center data base, SIMBAD, description 4-4055

information science

- see also publishing*
- computer technology 4-28634

information services

- EMIS, online database system for numeric data of electronic materials 4-36881

information storage

- see also information retrieval*
- cloud coverage data, minimal storage strategy, optimization 4-36496
- geotechnical/geological database, GEOSHARE system development 4-22091

information storage systems *see information retrieval systems***information theory**

- see also channel capacity; correlation theory; decision theory and analysis; estimation theory; filtering and prediction theory; modulation; signal detection; signal processing; speech intelligibility*
- chaotic dynamics, nonuniform, information processing appl. 4-13582
- colour signal processing, information theoretic aspects 4-46997
- data analysis, rel. to scatter, unified variational techniques 4-4383
- geometrical identification of quantum mechanics and information theory 4-22619
- geophysical signal analysis 4-41779
- limits of binary digital transmission with graded-index fibers (German) 4-38615
- neural spike trains anal., appl. of Markov dependency based on Shannon's entropy 4-46974

infrared astronomical observations

- 94 micron bright sources obs. by Far-Infrared Sky Survey Experiment 4-13449
- 250 1156+295, flaring in 1981, multifrequency obs. and model 4-8593
- 0452+44, newly-discovered IR source, identification with extremely red star 4-36749
- 0735+178, BL Lac object, variability, multifrequency obs. and calcs. 4-53261
- A 0538-66, recurrent X-ray transient, IR continuum photometry during outburst 4-58475
- A-type stars, 20-m magnitudes and comparison with α Lyrae 4-53051
- southern AFGI sources, ground-based IR survey and JHK photometry 4-42560
- Ap and Bp stars, IR excesses and correl. with stellar parameters 4-42456
- V1343 Aquilae (SS 433), short timescale IR vars. 4-4007
- asteroids, detect. of silicate emission features in 8 to 13 μ m spectra of main belt objects 4-53080
- α Aurigae, giant spectroscopic binary, chromosphere He emission anal. 4-27074
- B335, Bok globule, far-IR detect. of low-luminosity star form. 4-8452
- B 335, globule, model from IR/THF/SHF obs., dust emission protostellar origin 4-8548
- Becklin-Neugebauer object, 2-5 μ m spectroscopy 4-17572
- bipolar and cometary nebulae, photographic and photometric obs. 4-53061
- bipolar nebula in Bok globule, photometric and spectroscopic obs. 4-22458
- 3C 273, IR spectra and dust characs. 4-47702
- 3C 273, obs. of O I 844.6 nm and Na I 589.3 nm emission lines 4-22479
- carbon stars with gas-dust rings (Russian) 4-8494
- AG Carinae, 1980/81 shell event in P Cygni star 4-8498
- Ceres, 10 μ m polarimetry rel. to thermal inertia and rot. pole orientation 4-53079
- Chamaeleon T-association, obs. of IR nebula 4-17573
- 37 Comae Berenices, CO 2.3 μ m obs. of weak G-band star 4-58447
- P/Comet Grigg-Skjellerup (1982 IV), search for 10-micron silicate feature 4-53099
- P/Comet Schwassmann-Wachmann 1, IR photometry rel. to diameter and albedo of nucleus 4-53101
- cometary dust, IR photometry study 4-36638
- comets, IR photometry of dust 4-53098
- compact protostellar sources, 4.6 μ m absorption feature identification 4-53238
- cool giant stars, IR emission obs. 4-53160
- cosmic microwave background spectrum, review 4-31934
- Crab Nebula, near-IR spectrophotometry of bright filament 4-8547
- BI Crucis, symbiotic star with Mira variable, IR emission feature and circumstellar CO 4-17524
- 1E 2259+586, IR flux pulsations rel. to binary nature 4-8516
- 45 Eugenia, 85 microns far infrared flux obs. 4-58401
- 15 Eunomia, 85 microns far infrared flux obs. 4-58401
- exciting stars of H II regions S128 and G134.2+0.8 (GL 333), IR photometry 4-58492
- extreme C stars, obs. of SiC emission features in IR spectra 4-22402
- flat spectrum radio sources, identification and nature 4-8590
- formyl ion (HCO⁺), first obs. of J=4-3 transition 4-27159
- G134.2+0.8 (GL 333), active star forming H II region, IR obs. 4-58492

infrared astronomical observations continued

- galactic centre, far IR O I and III spectra 4-53268
galactic plane ($l=18^\circ$ to 20°), far-IR sources detect. 4-36728
galaxies with giant H II region nuclei, extinction, dust emission and IR spectra 4-47701
giant stars in Magellanic Clouds, distrib. of C stars and M-type giants 4-3983
GX 1+4, X-ray symbiotic star, H α obs. and JHKL photometry 4-13368
He 1-1138 and He 3-1359, P Cyg stars, circumstellar CO emission 4-17524
HZ Herculis, IR and optical pulsations in flux 4-8516
HR 5490, M3 giant, CCD spectroscopy in red and near IR 4-17407
HR 6766, CO 2.3 μ m obs. of weak G-band star 4-58447
Hyperion, near-IR spectrophotometry and compositional implication 4-53087
Io, far infrared spectra and SO₂ frost on surface 4-58403
IR sources, 3-4 μ m spectra and identification of interstellar organic features 4-47674
IRAS 0453-44P03, 20 micron position, IR photometry, and spectrum 4-36748
IRC sources, near-IR photometric obs. 4-4110
7 Iris, 85 microns far infrared flux obs. 4-58401
Jupiter, evidence for disequilibrium of ortho and para H₂ from Voyager IRIS meas. 4-22345
Jupiter, Voyager FIR spectra, unidentified features 4-13239
BL Lacertae objects (polarised QSOs), 0.35 to 3.5 micron photometry 4-22474
late-type galaxies, central far-IR emission and mol. clouds anal. 4-27192
late-type stars, ground-based IR spectrophotometry 4-13450
very low mass red dwarfs, IR photometry and H-R diagram 4-22376
low surface brightness spiral galaxies, optical surface photometry, IR photometry 4-4094
 α Lyrae, IR flux absolute calibration (1.24-4.6 microns) 4-17508
 α Lyrae, re-evaluation of 20- μ m magnitude 4-53051
 α Lyrae (Vega), far-IR emission region, source size, KAO obs. 4-36684
M17 SW, emission nebula, ionisation stratification models and obs. 4-13393
M31, disc near-IR brightness profiles 4-31927
M-type giants in LMC, IR colour-magnitude diagram rel. to two discrete epochs of star form. 4-13433
Mars, heterodyne spectroscopic meas. at 10 microns 4-3933
Mars, physical props. and global distrib. of aeolian intracrater deposits 4-53076
molecular cloud IR sources, absorpt. of dust grain origin 4-17581
molecular clouds showing NH₃ emission, CO J=2-1 line obs. 4-27160
Neptune atmosphere, brightness temp. and characts. 4-13247
new IR source near IRAS 0453+444P03, discovery and JHK photometry 4-27202
NGC 253, IR obs. of star form. in nucleus 4-58505
NGC 4051, type I Seyfert galaxy, far-IR obs. 4-13415
NGC 5128, nucleus IR var. and overall spectrum 4-42541
NGC 6822, distance from H-band IR photometry 4-4083
NGC 7027, planetary nebula, detect. of Ni II and additional dust features from 5.2 to 7.5 μ m obs. 4-13389
NGC 7662, planetary nebula, electron temp. determ. from O IV lines 4-13386
Nova Normae 1983, JHKL photometry (1983 September 21) 4-13332
olivine-rich asteroids, spectrophotometry rel. to meteorite-asteroid connection 4-47565
 ρ Ophiuchi dark cloud, new IR sources discovery rel. to form. of bound star cluster 4-13392
Orion molecular cloud, mid-IR maps of cloud core 4-13402
Orion Molecular Cloud I ridge, sources IR obs. and nature 4-22456
inner Orion Nebula, 2 μ m radiation distrib. and nature 4-36726
Orion Nebula, far IR large scale maps 4-27153
Orion Nebula, IR images 4-58500
Orion Nebulae, CO (J=6-5) emission, IRTF obs. 4-27158
Orion-A, balloon-borne 750 mm Cassegrain telescope obs. 4-36583
 α Orionis, dust shell struct. at 10 microns 4-47608
2 Pallas, 85 microns far infrared flux obs. 4-58401
Pallas, IR spectrum rel. to comp. and relation to primitive meteorites 4-53081
Parsamian 13, cometary nebula with T Tau star, grain nature, IR/visible obs. 4-4060
 β Persei (Algol), anal. of IR photometry 4-53212
PKS 0400-181, nearby spiral galaxy obs. 4-8591
planetary atmospheres, high-resolution IR spectroscopy 4-22335
planetary nebulae, H₂ detection at 2 μ m for six objects 4-42513
southern planetary nebulae, H₂ distrib. and spectra 4-36727
protoplanetary nebulae, ground-based IR spectrophotometry 4-13450
PSR 1937+214, millisecond pulsar, search for pulsed IR and near-IR emission 4-8509
quasars of low redshift with absorpt. systems, UV/visible obs. 4-17608
red giant stars in metal-rich globular clusters, IR photometry and metal abundances 4-31870
red star assoc. with new IR source 0452+44, VI photometry 4-36749
S128, active star forming H II region, IR obs. 4-58492
S201, star formation region, far-IR obs. rel. to energetics and mass struct. 4-58495
S22 (HD 34664), LMC emission line star, UV to IR energy distrib. 4-4006
S235 molecular cloud, large-scale far-IR mapping 4-53246
Saturn, Voyager FIR spectra, unidentified features 4-13239
 α Scorpii, dust shell struct. at 10 microns 4-47608
Seyfert galaxies, meas. of nonthermal near-IR continuum emission 4-31904
Seyfert galaxies, nuclei IR spectra and dust characts. 4-47702
SN 1980k in NGC 6946, IR emission evolution and dust form. model 4-8502
speckle interferometry, appl. to astronomical seeing meas. at Mauna Kea 4-22089
normal spiral galaxies, JHKL photometry of nuclei 4-58512
spiral galaxies, nonbarred, blue and near-IR surface photometry of spiral struct. 4-53283
stars with very low mass, IR search, luminosity function 4-8457
Sun, obs. of FeH absorpt. lines in sunspot spectrum 4-17496
sunspot intensities, broad band pinhole photometer obs. 4-53127
supernova in NGC 1365, JHK and BVRI photometry (1983 November 27) 4-22409
T Tauri stars, optical and IR photometry rel. to causes of light variability 4-53159

infrared astronomical observations continued

- Titan, CO₂ content of atmos., from Voyager IR obs. 4-17432
Uranian satellites, near-IR spectrophotometry and compositional implication 4-53087
Uranus atmosphere, brightness temp. and characts. 4-13247
V 0332+53, pulsating X-ray transient, optical and IR photometry of optical counterpart 4-27131
V 0332+53, Tenma X-ray transient, JHKL' photometry of IR candidate 4-17554
Venus, cloud structure from Venera 13 and 14 nephelometer meas. 4-36609
Venus, haze layer in atmos. causing far IR polarisation 4-58398
Venus, heterodyne spectroscopic meas. at 10 microns 4-3933
Venus, near-IR obs. of cloud struct. on dark side 4-42331
Venus atmosphere, H₂O absorption band spectra, Venera 13 and 14 lander obs. 4-36560
W3, molecular cloud complex, core struct. 4-4069
W51, far IR obs., sequential star formation in H II regions 4-8552
H II regions in solar neighbourhood, Ne abundances from Ne II 12.8 μ m line 4-13400
OH maser sources, IR obs. rel. to physical parameters of circumstellar shell and OH excitation 4-58526
- infrared astronomy**
see also infrared sources (astronomical)
10 μ m polarimetry, appl. to determ. of thermal inertia and pole orientation of asteroids 4-53079
20- μ m magnitude system, re-evaluation 4-53051
airborne far-IR and sub-mm obs. and instrument 4-26996
asteroids stellar occultations, appl. of near-IR obs. to two predicted occultations by Vesta 4-13236
astronomical telescopes in space, sunlight interference due to scatt. from rocket exhausts 4-3903
comets, IR molecular emission detection possibilities 4-53096
cross-shaped apertures array as band-pass filters for submillimetre wave astronomy 4-24147
diffuse far-IR background, search for extragalactic contribs. 4-27210
Diffuse IR Background Experiment design for NASA's Cosmic Background Explorer, stray light suppression principle and conceptual appl. 4-58384
fine-structure emission lines observation, anal. of atmospheric emission in 20- μ m window 4-58284
FIR wavelength range, development in 1980s 4-27011
focal plane array low-background meas. at 10 microns 4-13201
German infrared laboratory, European Space Lab 1987, instrumentation (German) 4-58354
GIRL, infrared astronomical telescope design 4-31755
heterodyne spectrometer for astronomical meas. at 10 microns 4-3933
Infrablack IR absorbing surface produced by Martin Black process, performance data 4-24115
interstellar grains heated by supernovae, IR emission 4-22455
interstellar NH₃, review 4-22464
interstellar polarisation law, IR data fitting 4-42522
intrinsic colours and absolute calibration of near-IR photometry 4-22332
IRAS infrared telescope design 4-31756
IRAS mission overview 4-58394
large deployable reflector concept for orbiting submm.-IR telescopes in 1990s 4-26995
LDR, an orbiting, submm.-IR telescope for the 1990s 4-3931
Oort cloud, far-IR flux, constraints on Solar System/comet origin 4-8412
optical filter for 2 to 500 micron solar studies, woven scrim polypropylene laminate 4-40387
 α Orionis, dust shell struct. at 10 microns 4-47608
photometry of comets, photometric system and appl. to obs. of dust 4-53098
planetary atmospheres, high-resolution IR spectroscopy 4-22335
planetary surface mineral absorption in near-IR, RELAB results 4-42328
Saturn rings, theoretical IR brightness temp. based on inhomogeneous multilayer assumption 4-53090
 α Scorpii, dust shell struct. at 10 microns 4-47608
shuttle IR telescope facility fused SiO₂ mirror evaluation 4-8391
space sensor low background IR calibration facility 4-13200
spaceborne IR telescopes and detectors 4-22321
speckle interferometry, appl. to astronomical seeing meas. at Mauna Kea 4-22089
spectroscopy, debundling of lines from atmospheric H₂O 4-58243
stars within 25 pc of Sun, predicted IR brightnesses 4-27064
stratosphere of Earth, obs. of fluctuations in 800 to 2000 μ m region emissions 4-42169
submillimetre ground-based astronomy, resonant grids use for submillimetre filters 4-8399
submillimetre telescope design using nonstandard representations of aspheric surfaces 4-49475
submillimetre wave astronomy, conf., London, England (Sept. 1981) 4-22521
submillimetre-wave astronomy, implications for problem of star form. 4-47598
supernovae in Galaxy, use of IR obs. for early detection (Russian) 4-53193
telescope, balloon-borne 75 cm Cassegrain far-infrared instrument 4-36583
Voyager FIR spectra, unidentified features of Jupiter and Saturn 4-13239
ZIP telescope no.2, out of field of view rejection meas. 4-58385
NH₃ ice, optical props. from far IR to near UV, Jupiter atm. appls. 4-51215
- infrared communication** *see optical communication*
- infrared detectors**
see also bolometers; photodetectors
0 to 2000°C, highly-accurate, low cost design (German) 4-22780
absolutely calibrated isothermal detector 4-37175
advanced IR detectors and systems, conf., London, England (Oct. 1983) 4-42593
array geometry analysis 4-37178
astronomical focal plane array low-background meas. 4-13201
avalanche photodiodes, single-photon counting and timing 4-17940
bench cooler for spot-cooling IR detectors of the Thematic Mapper instrum. 4-4411
bolometric laser radiation detector 4-17937
collimator test source system calibration 4-8951

infrared detectors continued

- conference, Arlington, VA, USA (Apr. 1983) 4-36773
 conference, photon detectors, Berlin, Germany (Sept. 1982) 4-17633
 cooling, using miniature glass cryostats (*German*) 4-27585
 development, types, materials and appl. (*Czech*) 4-37180
 digital sensor using quartz crystal 4-53752
 EM field magnitudes at surface of irradiated dielectrics, IR detection 4-17901
 eye-safe laser rangefinders, IR detector types, materials and performance 4-10405
 integrating infrared detector with electronically modulated response 4-22837
 IR radiometer instrument error estimation 4-27560
 Lockheed long-wave IR sensor test facility optical characterisation 4-10467
 low temperature IR source calibration and traceability of Arnold engineering development centre 4-8950
 measurement of IR radiation (*French*) 4-32310
 medical thermography developments 4-47098
 metal silicide Schottky barrier IR focal plane detector evolution 4-48198
 multi-point contact MIM diode (*Chinese*) 4-50951
 noise limits 4-53755
 on-line detection of gases using IR laser 4-43062
 optical metrology, conf., Arlington, VA, USA (Apr. 1983) 4-8635
 photometer for HF meas. during U enrichment in separation nozzle plants (*German*) 4-54283
 photon detectors and appls. 4-17939
 physical detectors of optical radiation, book 4-53383
 pressure change detection appl. 4-27591
 pyroelectric, optimum cuts in monoclinic m crystals, 4-40362
 pyroelectric detector based sensor development, for liquefied natural gas spills meas. 4-7785
 pyroelectric detector sensitivity enhancement using thin film absorber coatings 4-17935
 quantum well structs. and superlattices, appls. pot. 4-45869
 radiative cryogenic cooler for Thematic Mapper IR detectors designed to operate in polar sun-synchronous low-Earth orbit 4-4410
 remote sensing detectors and techniques, performance and physical basis 4-31665
 rocket-borne photometer for 1.27 μ m airglow meas. 4-8331
 satellite-borne pushbroom arrays for remote sensing 4-43060
 sensitivity (*Dutch*) 4-48197
 sky irradiance meas. polythene shielded radiometer design 4-22128
 space sensor low background IR calibration facility 4-13200
 spaceborne IR telescopes and detectors 4-22321
 spectroradiometric calibration of an infrared sensor evaluation facility 4-8934
 split-Stirling cryogenic refrigerators for detector cooling 4-4412
 SPRITE detectors, spatial resolution optimisation 4-43059
 SPRITE IR detectors potential for 3-5 μ m imaging 4-43057
 TED (SPRITE) detector MTF 4-43058
 TGS, aqueous photolithographic etching, pyroelec. detector appls. 4-39512
 TGS, pyroelec., dielec. and ferroelec. props., IR detector appl. 4-40360
 thermal IR radiometer development and appl. (*Japanese*) 4-53756
 thermal radiation detector using optical heterodyne detect. of absorbed energy 4-4465
 thermal viewing device with multielement receiver, noise bandwidth calc. 4-27593
 thin conducting films, interaction with EM waves, study for radiowave imaging appl. 4-53759
 thin-film resistance bolometer IR detectors, prep. and performance 4-37179
 CO combustion analysers, extractive and in situ using non-dispersive techniques 4-26253
 CdHgTe, SPRITE detectors, optimisation of spatial resolution 4-38628
 Cd_{1-x}Hg_xTe graded gap structures, photoelectromagnetic effect 4-39955
 Ga_{1-x}Al_xSb on GaSb, LPE grown, Zn diffusion and appl. to IR detection (*French*) 4-56086
 Ge avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 Ge photoelement qualification for radiometric meas. 4-17941
 Ge:Ga heterodyne detector for far-IR plasma diagnostics 4-39002
 HgCdTe 0.1 photoconductive detectors, antireflection coating effect on performance 4-37176
 HgCdTe CCD sensors technology developments and performance (*Czech*) 4-48205
 HgCdTe frontside- or backside-illum. detectors. new struct. for IR CCD focal plane arrays 4-48201
 Hg_{1-x}Cd_xTe, characterisation of oxide layers and depth profiling 4-50695
 Hg_{1-x}Mn_xTe, IR detector material, band structure, elec. props., mag. props. 4-39937
 InGaAs avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 InGaAs/InP photodetectors for fibre optic appls. 4-4464
 InP, proton-bombarded, IR photodetection 4-37171
 n-InSb, high purity cryst. growth for IR detectors 4-3051
 InSb, MIS detector, dark current phenomena 4-37174
 p-InSb, material parameters and surface props., effects 4-43053
 InSb photovoltaic detector characts. at 77K and below 4-4463
 IrSi Schottky barrier IR focal plane detector evolution 4-48198
 LiNbO₃ IR pyroelectric sensor, based on ion beam etching technology (*German*) 4-27584
 Pb salt, IR detectors, processing, configs., performance and appls. 4-27583
 Pb salt multispectral response photovoltaic IR detectors 4-48200
 Pb_{1-x}Mn_xS IR photon detectors, photoelec. props. near the absorpt. edge 4-27594
 PbS-Si MOSFET focal plane development 4-48199
 PbS-Si monolithic focal plane development 4-48199
 Pb_{1-x}Sn_xTe IR photon detectors, photoelec. props. near the absorpt. edge 4-27594
 PtSi Schottky barrier IR focal plane detector evolution 4-48198
 Si avalanche photodiode detectors for fibre optic communication, noise and linearity characts. 4-27596
 Si extrinsic photoconductive detectors, operating temp. 4-37177
 Si, IR detectors, spectral response, detectivity, operational temp. 4-37173
 Si MOS capacitor photosensor quantum efficiency improvement, near IR wavelengths, by edge illum. 4-294

infrared detectors continued

- Si photodetectors quantum efficiency improvement, near IR wavelengths, by edge illum. 4-294
 Si photodiodes, linearity range 4-17943
 Si photodiodes, linearity behaviour 4-17944
- infrared imaging**
 advanced IR detectors and systems, conf., London, England (Oct. 1983) 4-42593
 aerodynamic research, IR thermal images processing appl. 4-29213
 astronomical IR telescope design for IRAS satellite, using Be mirror and construction 4-31756
 astronomical spectroscopy in red and near IR, CCD appl. 4-17407
 biomedical diagnostic system, image processing and analysis 4-47059
 calibration of IR imager, using functional IR emitter 4-32311
 catadioptric afocal telescopes for scanning IR systems 4-48172
 commercial thermal sensing instruments, characts. and appls. 4-53754
 composites, vibrothermographic nondestructive evaluation 4-35799
 conference, Arlington, VA, USA (Apr. 1983) 4-36773
 defect detection by transient thermography, computer code prediction 4-26120
 development, detector types, materials and appl. (*Czech*) 4-37180
 frequency multiplexing imager signal-to-noise ratio 4-49559
 gyro-stabilised mirrors appl., optical configurations, Ferranti development 4-43061
 halftone recording density change with time on EkbB-4 electrochem. paper 4-53793
 INFRA-EYE 160/560 thermography system (*Japanese*) 4-53680
 lens defects and their effect on thermal imager performance 4-49478
 lenses for thermal imaging, common production error identification 4-10390
 linescan technique, 1960s to 1980s development review 4-253
 Lockheed long-wave IR sensor test facility optical characterisation 4-10467
 medical thermography developments 4-47098
 metal matrix composites, nondestructive inspection and evaluation techniques, review 4-30902
 metals, thermal wave imaging of cracks 4-46697
 microscopy for semiconductor materials (*French*) 4-17933
 microwave thermography, used for tumour diagnosis (*German*) 4-12674
 MTF measurement of thermal imaging system from edge response function 4-24235
 NDT of composite materials 4-3367
 oil-field exploration by satellite IR imagery 4-22175
 optical metrology, conf., Arlington, VA, USA (Apr. 1983) 4-8635
 optical systems engineering, conf., Los Angeles, CA, USA (Jan. 1983) 4-31955
 optical thin films, microscopic impurities, spatially resolved absorption and detection by photothermal detection 4-46694
 panoramic IR photography, imaging block for full 360° image recording 4-8971
 photothermal imaging using mirage effect, tomographic approach 4-46692
 plasma sprayed coatings, testing, pot. use of photothermal imaging 4-46693
 polymers, thermal wave non-contacting evaluation 4-46691
 pupilometer with selfscanning photodiode array 4-26492
 reflective photothermal imaging, for microstruct. charact. of solids 4-46696
 remote sensing of terrain, water resources, Arctic sea ice and agriculture 4-22182
 spectroradiometric calibration of an infrared sensor evaluation facility 4-8934
 SPRITE IR detectors potential for 3-5 μ m imaging 4-43057
 stratified media, thermal waves for NDT, numerical anal. 4-46695
 surface temp. meas. using Vidicon TV cameras, gas turbine blade appl. 4-53687
 telescope, automatic MTF testing equipment 4-43006
 thermal imaging demonstration, Count Rumford's expt. 4-47821
 thermal imaging method of studying thermal fields in film projection equipment (*Russian*) 4-43104
 thermal imaging now and in the future 4-37096
 thermal IR imaging, interpretation using multi-spectral and multi-temporal information 4-21953
 thermal viewers and scanning optomech. devices, Performance comparison 4-44250
 thermal wave imaging, ray theory 4-42960
 thermal wave nondestructive depth profiling with stereoscopic photothermal detection 4-46690
 thermography equipment 4-8897
 thermography use in heat losses determ. 4-37097
 thin conducting films, interaction with EM waves, study for radiowave imaging appl. 4-53759
 thin film thickness meas. with thermal waves 4-42922
 C fibre reinforced plastics, delamination and defects, NDT using video-compatible thermography 4-26121
 CdHgTe, SPRITE detectors, optimisation of spatial resolution 4-38628
 Cd_{1-x}Hg_xTe sputtered epilayers, 32x32 planar IR photovoltaic mosaic arrays 4-55220
 CdTe substrate large single crystal growth by Bridgman method, material eval. 4-21120
 GaAs, semi-insulating, deep centre EL2, direct IR imaging obs. 4-34905
- infrared-infrared double resonance see optical double resonance**
- infrared radiometers see radiometers**
- infrared sources**
 electro-optic shock waves, subpicosecond, far IR source 4-2899
 extreme C stars, obs. of SiC emission features in IR spectra 4-22402
 functional IR emitter, IR imager calibration appl. 4-32311
 operator-safe infrared light source 4-5677
 radiators, radiation and optical effects of combined irradiation and convection (*German*) 4-44343
 tunable picosecond IR pulse generation by difference freq. generation of mode-locked CW lasers 4-24086
 Bi plasma produced by laser interaction, thermal radiation flux 4-49952
- infrared sources (astronomical)**
 3-4 μ m spectra and identification of interstellar organic features 4-47674
 94 micron bright sources obs. by Far-Infrared Sky Survey Experiment 4-13449
 0452+44, newly-discovered IR source, identification with extremely red star 4-36749

infrared sources (astronomical) continued

- A 0538-66, recurrent X-ray transient, IR continuum photometry during outburst 4-58475
 AFGL sky survey and galactic stellar component 4-27181
 southern AFGL sources, ground-based IR survey and JHKL photometry 4-42560
 Ap and Bp stars, IR excesses and correl. with stellar parameters 4-42456
 B335, Bok globule, far-IR detect. of low-luminosity star form. 4-8452
 B 335, globule, model from IR/THF/SHF obs., dust emission protostellar origin 4-8548
 Becklin-Neugebauer object, 2-5 μ m spectroscopy 4-17572
 Becklin-Neugebauer type sources, 10 and 20 μ m emission nature 4-47596
 bipolar and cometary nebulae, photographic and photometric obs. 4-53061
 3C 273, IR spectra and dust characts. 4-47702
 carbon stars with gas-dust rings (*Russian*) 4-8494
 central sources in high velocity flows, energetics anal. 4-27163
 Chamaeleon T-association, obs. of IR nebula 4-17573
 circumstellar dust shells, IR silicate features as measure of grain size 4-27063
 circumstellar shell 10 and 20 μ m features, nature and radiative transfer calcs. 4-47596
 compact protostellar sources, 4.6 μ m absorption feature identification 4-53238
 cool giant stars, IR emission obs. 4-53160
 R Coronae Borealis stars, spectral energy distrib. (*Russian*) 4-42463
 BI Crucis, symbiotic star with Mira variable, IR emission feature and circumstellar CO 4-17524
 V1016 Cygni, Fe II fluoresc. lines excited by C IV in Bowen mechanism 4-17525
 V1057 Cygni, FU Ori star, H α line anal. and mass ejection (*Russian*) 4-17510
 NML Cygni, OH-IR star, MERLIN obs. of asymmetrical OH envelope 4-58430
 Egg Nebula (AFGL 2688), supergiant extended circumstellar shell, C I obs. 4-3982
 EIC-1 sources, identification with stars in BD and HD catalogues 4-36747
 EIC-1 unidentified sources, JHK photometry 4-36750
 extragalactic IR sources, limits on contrib. to diffuse far-IR background 4-27210
 G134.2+0.8 (GL 333), active star forming H II region, IR obs. 4-58492
 galactic large scale structure, γ -ray emission rel. to IR spectra 4-4098
 galactic plane ($l=18^\circ$ to 20°), far-IR sources detect. 4-36728
 galaxies, thermal IR emission from dust 4-22476
 galaxies with giant H II region nuclei, extinction, dust emission and IR spectra 4-47701
 HBV 475 (V1329 Cyg) symbiotic star or protoplanetary nebulae, IR photometry 4-13334
 AC Herculis, RV Tau star, spectral var. rel. to light var. 4-27081
 hot-centred galactic clouds, theoretical models 4-27155
 interstellar clouds, star form. and IRAS mission 4-42524
 interstellar molecular clouds, dust and gas temps. 4-42509
 IRAS 0453-44P03, 20 micron position, IR photometry, and spectrum 4-36748
 IRAS results for comets, asteroids, solar system, stars and galactic dust 4-42523
 IRC+10216, shell composition and mass 4-30468
 IRC+10216, shell spectra, line identifications and abundances 4-42555
 IRC sources, near-IR photometric obs. 4-4110
 Kleinmann Low Nebula, spectra and abundances 4-42555
 Kleinmann-Low Nebula, 3 mm region, unidentified lines identification possibilities 4-27142
 Kleinmann-Low Nebula, OH maser sources, distrib. rel. to IRc2, VHF obs. 4-47678
 BL Lacertae objects (polarised QSOs), 0.35 to 3.5 micron photometry 4-22474
 late-type galaxies, central far-IR emission and mol. clouds anal. 4-27192
 late-type stars, ground-based IR spectrophotometry 4-13450
 LMC Bar West field, search for IR luminous stars, JHKL obs. 4-13422
 α Lyrae, IR flux absolute calibration (1.24-4.6 microns) 4-17508
 M17 SW, emission nebula, ionisation stratification models and obs. 4-13393
 molecular cloud IR sources, absorpt. of dust grain origin, IR obs. 4-17581
 new IR source near IRAS 0453+444P03, discovery and JHK photometry 4-27202
 NGC 1275, gamma-ray obs. rel. to origin of IR, X-ray and gamma-ray emission 4-13413
 NGC 253, star form. in galactic nucleus 4-58505
 NGC 4051, type I Seyfert galaxy, far-IR obs. 4-13415
 NGC 7026, bipolar planetary nebula, high resolution spectra 4-42516
 NGC 7027, planetary nebula, detect. of Ni II and additional dust features from 5.2 to 7.5 μ m obs. 4-13389
 Nova Vulpeculae 1976, IR devel., circumstellar dust shell models anal. 4-17523
 in ρ Ophiuchi dark cloud, new embedded sources discovery rel. to star cluster form. 4-13392
 Orion molecular cloud, IR polarisation and fluxes rel. to large dust grains 4-58491
 Orion molecular cloud, mid-IR maps of cloud core 4-13402
 Orion Molecular Cloud I ridge, sources IR obs. and nature 4-22456
 inner Orion Nebula, 2 μ m radiation distrib. and nature 4-36726
 Orion Nebula, far IR large scale maps 4-27153
 Parsamian 13, cometary nebula with T Tau star, grain nature, IR/visible obs. 4-4060
 protoplanetary nebulae, ground-based IR spectrophotometry 4-13450
 protostars, centrifugally driven MHD winds from contracting mol. discs 4-13391
 PSR 1937+214, millisecond pulsar, optical candidate, identification as red giant from IR photometry 4-8509
 S128, active star forming H II region, IR obs. 4-58492
 S201, star formation region, far-IR obs. rel. to energetics and mass struct. 4-58495
 S235 molecular cloud, large-scale far-IR mapping 4-53246
 Seyfert galaxies, meas. of nonthermal near-IR continuum emission 4-31904
 Seyfert galaxies, nuclei IR spectra and dust characts. 4-47702
 SSV-13, exciting source of HH 7-11, optical detect. and precise position 4-13404

infrared sources (astronomical) continued

- supernovae in Galaxy, use of IR obs. for early detection (*Russian*) 4-53193
 symbiotic stars, dust envelopes characts. and IR excesses, KLN obs. (*Russian*) 4-17531
 type II OH-IR stars, data base and IR obs. 4-3992
 type II OH-IR stars, nature, evolution and pulsations 4-3993
 V 0332+53, Tenma X-ray transient, JHKL photometry of IR candidate 4-17554
 VY 2-2, compact nebula, VLA continuum and OH line emission obs. 4-13388
 W3, molecular cloud complex, core struct. 4-4069
 H II regions, effect of heavy element opacity on struct. 4-13390
 H II regions in solar neighbourhood, Ne abundances from Ne II 12.8 μ m line 4-13400
 H₂O masers assoc. with IR sources, search 4-27201
 OH maser sources, IR obs. rel. to physical parameters of circumstellar shell and OH excitation 4-58526
 OH/IR stars, late evolutionary stages of intermediate-mass stars 4-8459
 OH/IR stars, OH 1612 MHz maser emission obs. of circumstellar shells 4-27108
 OH/IR stars, SiO maser emission obs. 4-42436
 OH-IR stars, maser strength rel. to evolution of mass loss and creation of superwind 4-8477
 OH-IR stars, results of IRAS mission 4-42524
 OH-IR stars, shell diameters and mapping, UHF obs. 4-47631
 OH-IR stars within 1 degree of galactic centre, motion and distrib., OH obs. 4-22385

infrared spectra *see infrared spectra of diatomic inorganic molecules; infrared spectra of inorganic solids; infrared spectra of organic molecules and substances; infrared spectra of polyatomic inorganic molecules; spectra of inorganic liquids and solutions*

infrared spectra of diatomic inorganic molecules

- ions, high-resolution IR spectra 4-9772
 linear molecules and spherical tops, universal functions for estimating vibr.-rot. band absorbance 4-23675
 molecular ions, spectroscopy, structure and chemistry, book 4-8662
 symmetric tops, universal functions for estimating vibr.-rot. band absorbance 4-23676
 Van der Waals soln., dil., IR and Raman spectra, rot.-vibr. correls., intermol. forces effect 4-43883
 vibrational excited state, quantum theory of IR absorption 4-1225
 AsI, spectroscopic consts., chemiluminescence, near-IR spectra 4-49020
 BiS₂, laser-excited fluoresc. and absorpt. spectra, hyperfine struct., parity level 4-54784
 CO (J=6-5) emission at 691 GHz from Orion Nebulae, IRTF obs. 4-27158
 CO, absorpt. on matrix isolated Ag clusters, IR investig. 4-28436
 CO adsorbed on Cu/ZnO, IR transmission spectroscopic study 4-56143
 CO, adsorbed on metals, stretching band vibr. shift, IR obs. 4-54670
 CO, adsorption on oxidised Cu (111) and (110) surfaces, IR spectra, LEED, and surface pot. meas. 4-29794
 CO, chemisorbed on surface vicinal to Cu (110), IR spectrum, effect of defect sites 4-56945
 CO, chemisorption on Pd clusters, stoichiometric species interconversion, IR spectra study 4-34791
 CO, fundamental band, integrated intensity, IR obs. 4-5219
 CO IR lines perturbed by H₂ and He, pressure broadening 4-33397
 CO J=2-1 lines obs. of interstellar molecular clouds showing NH₃ emission 4-27160
¹²C¹⁶O, reson. multiphoton absorpt. in intense IR laser fields, nonadiabatic calcs. 4-14388
 CuCl, IR spectra, rot. struct. anal. 4-23689
 FED, rot. consts., IR obs. 4-19058
 FeH absorption lines in sunspot spectrum, near-IR obs. 4-17496
 H+CO(NO), translation to vibr. energy transfer, CO vibr. state distrib. 4-14513
 para-H₂ and HD, solid, IR spectra obtained using high sensitivity spectrometers, rot. region 4-56914
 H₂, quadrupole-allowed and collision-induced absorpt. spectrum, intercollisional interference dips asymmetry 4-49026
 H₂+He, collision induced IR absorpt. spectra 4-43878
 HCl, IR spectrum anal. for Maxwell distrib. law demonstration 4-36868
 HCl sensitive detection by derivative spectroscopy with diode laser 4-52247
 HD, collision-induced spectrum, fundamental band 4-49019
 HF subliming from NH₄F, rot. and translation distrib. 4-14406
 HeH⁺ (HeD⁺), IR bound-quasibound vibr.-rot. spectrum, isotope effects 4-19051
 HgBr, vibr. data for B to X and D to X transitions, dissociation energy 4-14405
 I₂, gerade states near dissociation limit, Fourier transform laser induced fluorescence 4-5269
 K dense vapour jet IR spectroscopy 4-18965
 MgH, vibr.-rot. bands, equivalent widths for identification in sunspots 4-14403
 N₂, IR induced rot. spectra, translational motion, density effects 4-19050
 NH metastable radical, spectrum and lifetime in inert gas matrices 4-1152
 NH₃ subliming from NH₄F, rot. and translation distrib. 4-14406
 NO, adsorpt. on matrix isolated Ag clusters, IR investig. 4-28436
 NO-N₂O₄ liquid mixture, absorption spectra in near IR region (*Russian*) 4-14428
 N₂O, IR line shape and short time dipole autocorrel. function, vibr.-rot. line 4-54691
 Na¹²O, photoacoustic Zeeman spectroscopy with HF chem. laser 4-38217
 NdO, electronic spectrum, absorpt. and emission spectra studies 4-1170
 O₂, optically pumped, far-IR laser mag. reson. 4-5260
 OH groups, determ. in coal by FT IR and ¹³C NMR 4-35952
 OH radical, vibr.-rot. line strength, IR spectra 4-5287
 PH, X² Σ^+ state, fundamental vibr.-rot. band, IR diode laser spectroscopy 4-43862
 PI, b⁰ to X₁⁰, chemiluminesc., vibr. band assignment 4-21481
 Sbl, spectroscopic consts., chemiluminescence, near-IR spectra 4-49020
 SiH, vibr.-rot. bands, equivalent widths for identification in sunspots 4-14403
⁸⁴Y¹²⁷I mol., IR $\tilde{\nu}_1$ - $\tilde{\nu}_2$ band anal. 4-38164

infrared spectra of inorganic solids

- adsorbent surface, hydroxyl groups, diffuse-reflectance spectroscopy, near IR region (*Russian*) 4-35426
alkali halide: ReO_4^- matrix isolated system, persistent antiholes in vibr. spectra 4-34597
chloroaluminate, IR emission, transmission and reflectance techniques 4-54702
dental enamel, heated, cyanate and cyanamide form., loss and location, IR spectra study 4-7933
diamond, defect-induced one-phonon IR absorpt. spectra 4-46249
diamond, sharp IR absorption lines 4-35447
diamond crystallisation under shock compression, optical props. 4-21118
diamond microstrength characterisation by IR absorpt. 4-41162
dilute alloys, differential reflectograms, line shape anal. 4-46285
fibre-glass heat-insulating fabric, absorpt. and scatt. characts. in IR spectrum 4-20977
fluorocarbon films, flow discharge polymerised, struct. changes with age and annealing (*German*) 4-50687
GaAs-AlGaAs multi-quantum-well heterostructure waveguides, optical absorpt., luminesc. characts. 4-19562
glass: Yb^{3+} , stimulated emission cross section depend. on host glass comp., absorpt. and fluoresc. spectra 4-25783
glass fibre composite interfaces, nondestructive FT IR sampling technique investigation 4-57491
glasses, high silica, prep. from colloidal gels, IR spectrophotometric studies 4-16367
graphite, mass. absorpt. coeffs. (25-250 μm), appl. to IRC+10216 dust shell anal. 4-30468
graphite surface, D_2^+ implantation, Raman spectra 4-56902
graphite- H_2SO_4 intercalation cpd., optical reflectivity and band struct. model 4-40404
hexachalcogenophosphates, far IR spectra and vibr. modes 4-40445
Kaolin, sintering and struct. with surface-active additives 4-40719
kaolin, water interaction, dehydration, IR spectroscopy study 4-56924
kaolin- BaCO_3 reactions, mineralisers influence 4-40729
layered crystals, vibr. spectra 4-35421
liquid or solid samples, infrared and Raman spectroscopy at high pressures 4-56913
malachite, synthetic, microstructure and IR spectra 4-45347
metal clusters, anomalous optical absorption band and IR spectra 4-30473
metal crystals with Zincblende structure, interorbital theory 4-15607
metal surfaces, IR refl.-absorption spectroscopy of adsorbed mol., review 4-16188
metal-hexahalo species, IR and laser Raman solid state spectra, vibr., rot. and Coriolis const. 4-56907
metals, bare and dielec. coated, IR surface plasmon spectroscopy 4-46259
metals, small particles, non-local effects in FIR absorpt. 4-40451
mixed-valence complexes, metal-halide chain, reflectance, visible, near-IR spectra and Raman spectra 4-56870
mullite, IR-transparent, prep. 4-40725
(NH_4) $_{1-x}\text{K}_x\text{SO}_4$ mixed crystals, laser Raman spectra 4-2919
oxide glasses, tetrahedral, spectroscopic and morphological struct., book contrib. 4-20122
oxyfluoride glasses, Li ion conduction and IR spectra, IR spectra 4-45402
[$\text{PdCl}_2(\text{EtCl}_2)_2$] (E=Se, S), coordination cpds., cryst. struct. and props. 4-39261
phosphates, amorphous and crystalline, infrared spectra of trivalent cations B and Fe 4-30448
polar crystals, polarons bound to defects, optical absorpt. weak coupling theory, appl. to SrTiO_3 4-11897
poly(dimethylsilylene-co-methylphenylsilylene) films, Si-C inorganic films synthesis by ion irradiation 4-20264
polyacetylene films, optical absorption spectrum, effect of anisotropy 4-7262
quartz, cryst., transmittance and refl. 2 μm to 1 mm 4-24108
quartz, phase transition study by far IR Fourier spectroscopy 4-25743
quartz, synthetic, high purity, radiation effects, ESR, IR absorpt. studies 4-20236
quartz fibres, adsorbed H_2O , IR spectroscopic study 4-33722
rapidly quenched glass 4-25939
rare earth $\text{A}_2\text{B}_3\text{O}_7$ oxides, force field comparison, IR and Raman study 4-30463
rare earth metaniobates, IR transmission spectra, tetrad effect 4-35452
rare earth oxides, IR transmission spectra, tetrad effect 4-35452
rare earth sesquisulphides, R_2S_3 (R=La, Ce, Nd, Gd, Dy), Schottky levels and thermodynamic contribs., calorimetric and optical studies 4-6518
rare earth tungstates, IR transmission spectra, tetrad effect 4-35452
rutile/vapour interfaces, adsorpt. of triethylamine, IR obs. 4-51258
sillenite struct. cpds., $\text{Bi}_{24}\text{B}^{3+}\text{PVO}_{60}$ and $\text{Bi}_6\text{E}^{2+}\text{P}_2\text{V}_{20}\text{O}_{60}$, prep., melting, densities, struct., IR spectra 4-50224
small particles, surface plasmons and phonons, optical absorption studies 4-25269
SOI struct. form. by O_2^+ ion implantation, buried SiO_2 layer characts. 4-34512
structural phase transitions; light scatt. studies, seminar, Bentenjima, Japan (June 1983) 4-22509
transition metal complexes with dimercaptodithiolene, optical absorpt., reflectance and reson. Raman spectra 4-56871
transition metal dichalcogenides, Raman scatt. and IR spectra in CDW state, microscopic theory 4-46263
Tutton salts, hydrated double sulphates, vibr., IR spectra 4-46258
vibrational mode in mol. crystal, indirect dephasing 4-2279
zeolite NaX , Zn^{2+} , Cd^{2+} and Hg^{2+} ion exchange effects, cryst. struct., thermal props. 4-30928
zeolites, X-type, FIR studies 4-56922
[$\text{PtCl}_2(\text{EtCl}_2)_2$] (E=Se, S) and [$\text{PtCl}_4(\text{EtCl}_2)_2$] (E=Se, Te), coordination cpds., cryst. struct. and props. 4-39261
Ag complexes, bis(N,N'-dimethyl)dithioformamidinium-Ag(I), IR spectroscopy 4-23696
Ag complexes, bis(ethylene)dithioformamidinium dihalides-Ag(I), preparation and IR spectra 4-51283
Ag halide complexes with dithioformamidinium halides, struct., IR spectra, conductivity meas. 4-7204
AgF $_3$, synthesis and cryst. struct. (*French*) 4-2148
Ag $_3(\text{HN}_2\text{SO}_3)\cdot\text{NH}_3\cdot\text{H}_2\text{O}$ and Ag $_3(\text{DN}_2\text{SO}_2)\cdot\text{ND}_3\cdot\text{D}_2\text{O}$, IR, Raman and diffuse reflectance spectra, vibr. assignments 4-56930

infrared spectra of inorganic solids continued

- Ag(I) complexes of S-containing pyridines, struct., IR spectrophotometric study 4-7203
AgNO $_3$ -mica intercalation cpd., photoinduced optical props. obs. 4-11855
AgNbO $_3$, perovskite struct., IR and Raman spectra, vibr. anal. (*French*) 4-46271
AgX-Ag $_2\text{O}$ -B $_2\text{O}_3$ glass, (X=I, Br or Cl), struct., ionic cond. and IR spectra 4-39159
Al $_2\text{O}_3$, barrier anodic coatings, electrolyte byproducts incorporation, IR anal. 4-41105
 β -1Al $_2\text{O}_3$ -(Na $_2\text{O}$ Li $_2\text{O}$) $_2\text{O}$, local elec. fields, IR absorpt. intensities 4-40434
 β -1Al $_2\text{O}_3$ -Li $_2\text{O}$, local elec. fields, IR absorpt. intensities 4-40434
 β' -Al $_2\text{O}_3$ -Na $_2\text{O}$ -X $_2\text{O}$ -H $_2\text{O}$, hydrogen, IR study 4-39573
Al $_2\text{O}_3$ -P $_2\text{O}_5$ -B $_2\text{O}_3$ -V $_2\text{O}_5$ glasses, EPR and optical spectra of V 4-7055
Al $_2\text{O}_3$ -P $_2\text{O}_5$ -SiO $_2$ -V $_2\text{O}_5$ glasses, EPR and optical spectra of V 4-7055
Al $_2\text{O}_3$ -SO $_3$ -H $_2\text{O}$, glass formation and condensation (*Bulgarian*) 4-44967
An complexes, bis(ethylene)dithioformamidinium dihalides-Au(I), preparation and IR spectra 4-51283
Ar:Kr cryst., IR absorpt., mol. dynamics calcs. 4-20957
As-chalcogenide system, Raman and IR vibr. spectra studies 4-46254
As-Se-I, glass, long-wave IR reflection spectra 4-51253
As $_4$ vapour deposited yellow films, struct. and optical props., condensation condition effects 4-39722
(As $_2\text{S}_3$) $_x$ (Sb $_2\text{S}_3$) $_y$ glasses, far IR and Raman spectra 4-20960
As $_{40}\text{Se}_{60}$ /Ge $_{25}\text{Se}_{75}$ multilayered amorphous film struct., long-range interactions, IR absorpt. study 4-20959
As $_{40}\text{Se}_{60}$ -Ge $_{25}\text{Se}_{75}$ multilayered amorphous struct., long-range interaction 4-15951
Au complexes, bis(N,N'-dimethyl)dithioformamidinium-Au(I), IR spectroscopy 4-23696
Au halide complexes with dithioformamidinium halides, struct., IR spectra, conductivity meas. 4-7204
B-oxide glass, vapour-phase synthesis, grafted polymerisation 4-51613
BCl $_3$, OR absorpt. spectra, vibr. energy transfer dynamics (*Chinese*) 4-2909
Ba halide monohydrates, librational modes of H $_2\text{O}$ mols., IR and Raman spectra 4-7182
BaLaGa $_3\text{O}_7$, IR spectra, light polarisation, refractive indices and birefringence meas., vibrs. 4-51277
Ba $_2\text{NaNbO}_{13}$, optical props. in fundamental absorpt. band, cond. and valence band 4-51224
Ba $_2\text{Sr}_{1-x}\text{Nb}_x\text{O}_6$, optical props. in fundamental absorpt. band, cond. and valence band 4-51224
BaTiO $_3$ crystals, polarisation spectra, two-particle states and Fermi reson. (*Russian*) 4-25754
BeF $_2$ glass, density of state, IR, Raman and neutron vibr. spectra simulation 4-11882
BeF $_2$, vitreous material, IR vibrs. 4-46250
Bi $_2\text{Se}_3$ -Ga, point defects, elec. cond., Hall effect and reflectivity studies 4-2196
Bi $^{3+}$ aquo ions, band struct., absorpt. and fluoresc. spectra 4-56976
C, amorphous, 3.4 micron absorpt. band, implications for interstellar dust 4-8555
C, amorphous, mass absorpt. coeffs. 4-30468
C films, ion beam deposition, structural, elec. and optical props. 4-29841
a-C:H film, complex dielec. const., rel. to struct. 4-29845
C:H hard amorphous RF plasma deposited coating, optical and protective props. 4-24111
CH $_3$ films, amorphous, prep., struct., phys. and optical props. 4-7261
CaO-Al $_2\text{O}_3$ -SiO $_2$ system, gel form. from metal alkoxides, struct. evolution obs. 4-57120
CaO-Al $_2\text{O}_3$ -8H $_2\text{O}$ powders, precip. from soln., precipitate phases, precip. mechanisms 4-2336
Ca $_{10}(\text{PO}_4)_6\text{CN}_2$, heated, cyanate and cyanamide form., loss and location, IR spectra study 4-7933
Ca $_{10-x}\text{Pb}_x(\text{PO}_4)_6(\text{OH})_2$ apatites, struct., X-ray diffr. and IR absorpt. spectra 4-24788
CaSO $_4\cdot 2\text{H}_2\text{O}$, gypsum, gel grown, dendritic structs. 4-2491
CaSO $_4\cdot 2\text{H}_2\text{O}$, gypsum, monoclinic anisotropic crystals, optical consts. in IR spectral region 4-25703
Cd complex, Cd(N $_2\text{H}_4$) $_2(\text{NCS})_2$, preparation, characterisation, and thermal props. 4-16654
Cd $_2\text{B}_3\text{O}_{10}$ -PbO system, synthesis, X-ray diffr. and IR spectra studies 4-55802
CdCN $_2$, transmission and reflection spectra, optical vibr. 4-56906
CdCr $_2\text{Se}_4$, ferromag. semicond., reflectance magnetocircular-dichroism spectra and electronic struct. 4-30445
CdGa $_2\text{S}_4$, lattice vibr., Raman and IR study 4-20306
Cd $_2\text{Hg}_{1-x}\text{Te}$ film, wavefront reversal study (*Russian*) 4-5665
Cd $_2\text{Hg}_{1-x}\text{Te}$, low freq. phonons, far IR absorpt. spectra 4-20974
CdO-ZnO-P $_2\text{O}_5$ glasses, IR transmission spectra, absorpt. band gap determ. 4-11876
CdO-ZnO-P $_2\text{O}_5$ glasses, IR absorpt. spectra 4-25750
CeAl $_3$, valence fluctuation cpd., far IR absorption 4-35445
CeCu $_2\text{Si}$, valence fluctuation cpd., far IR absorption 4-35445
CePd $_3$, valence fluctuation cpd., far IR absorption 4-35445
Co (II) complexes, mag. moments, crystal field splitting, IR spectra 4-46242
Co complexes, Co(II) (dipyridine)ascorbate, IR, solid state reflectance spectra and mag. moments studies 4-16194
Co(ClO $_4$) $_2\cdot 6\text{H}_2\text{O}$, vibr., phase transform., IR and Raman study 4-2324
CoII complex, trans-bis(trichloroacetato) bis(N,N'-dimethylethylenediamine) Co(II), cryst. struct., polarised spectra 4-11056
Co $_2$ -Ni $_2\text{P}_6$ mixed cryst., IR spectra characterisation (*German*) 4-2911
CoRH $_2\text{O}_4$, polycrystalline spinel, unit cell parameters, IR absorpt. obs. 4-50250
Co $_2\text{RhO}_4$, polycrystalline spinel, unit cell parameters, IR absorpt. obs. 4-50250
Co $_2\text{Zn}_{1-x}\text{In}_x\text{S}_4$, Co distrib., X-ray diffr., EPR, diffuse reflectance spectra 4-11763
Cr(III) complexes of 2-amino-benzothiazole, IR spectra 4-46269
Cs $_2\text{Cd}(\text{SO}_4)_2\cdot 6\text{H}_2\text{O}$, VO $^{2+}$ doped, optical absorpt. spectrum, mol. orbital coeffs. 4-40486
Cs $_x(\text{CsCl})_{1-x}$, molten alloys, optical reflectance and metal-nonmetal transition 4-46218
CsDy(MoO $_4$) $_3$, phase transition and electron spectrum of Dy $^{3+}$ ion (*Russian*) 4-29594
Cs $_2\text{NaLa}_{1-x}\text{Nd}_x\text{Cl}_6$, cryst., fluoresc. conc. quenching, IR and Raman study 4-40496

infrared spectra of inorganic solids continued

CsTi₂NbO₇, ionic cond., cryst. struct., IR spectra, TGA studies 4-56073
Cs₂V₆O₁₆, IR spectra and bond lengths 4-51257
Cu complex, Co(N₂H₄)₂(NCS)₂, preparation, characterisation, and thermal props. 4-16654
Cu complexes, bis(N,N'-dimethyl)dithioformamidine dihalides-Cu(I), IR spectroscopy 4-23696
Cu complexes, bis(ethylene)dithioformamidine dihalides-Cu(I), preparation and IR spectra 4-51283
Cu complexes, N,N'-ethylenebis(salicylideneiminato)copper(II), IR vibr. assignments and reson. Raman spectra 4-51282
Cu complexes, Schiff bases with ONO donor tridentate dibasic ligands (I), IR spectra, mag. meas. 4-46014
Cu halide complexes with dithioformamidine halides, struct., IR spectra, conductivity meas. 4-7204
Cu halide-acetonitrile complexes, electronic absorpt. and IR spectra, struct. 4-46267
Cu₃(Fe(CN)₆)₂ electrode-supported films, FT external refl. and photoacoustic spectrosc. 4-57008
Cu₃(HN₂SO₂).NH₃.H₂O, IR, Raman and diffuse reflectance spectra, vibr. assignments 4-56930
Cu(II) complexes with 4-chloro, 3,5-dimethylisoxazole, IR, electronic and EPR spectra, molar cond. meas. 4-2921
Cu(II) complexes with vanadate, tungstate and molybdate anions, EPR, IR and optical reson. studies 4-7056
Cu(II) complexes with thiocarboxylates, bonding, IR, XPS and UV-visible spectra 4-7202
CuInS₂, direct phonon-assisted transitions near fundamental absorption edge 4-30454
CuInS₂, lattice vibr., IR study 4-30449
CuInS₂, single cryst., elec. and optical props. 4-29989
CuInS₂, refl. and absorpt. spectra near band gap 4-20972
D₂, solid, containing tritium, IR absorpt. spectra 4-11893
DF, IR spectra of polycrystalline samples at 80K 4-7170
Dy, polycryst. film, piezoreflectance spectra 4-20942
Dy₂O₃:B, thin films amorphisation, forbidden gap 4-55725
electrochemical adsorption of H₃PO₄, in situ Fourier transform IR spectroscopic study 4-34784
Er, polycryst. film, piezoreflectance spectra 4-20942
EuSe, one-phonon and multiphonon absorpt. 4-7192
Eu_{1-x}Sr_xS, one-phonon and multiphonon absorpt. 4-7192
Fe complex, Fe(N₂H₄)₂(NCS)₂, preparation, characterisation, and thermal props. 4-16654
FeCO₃ antiferromagnet, two-centre transitions, IR absorption studies 4-20971
(Fe³⁺)₄(Co²⁺Fe_{1-x}²⁺Fe_{1+x}³⁺)₈O₂⁻, magnetite, IR study 4-25751
Fe₂(Fe(CN)₆)₃ electrode-supported films, FT external refl. and photoacoustic spectrosc. 4-57008
γ-Fe₂O₃:Co(Ni)(Gd)(Tb), DC cond., Seebeck voltage, X-ray diffr., IR spectra 4-6782
Fe₂O₃, magnetite, optical props., evidence for 3dⁿ→3dⁿ⁻¹4s transitions 4-7163
Ga_{1-x}Al_xAs, disordered, IR dielectric props. and vibr. states 4-40457
GaAs, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
GaAs, far IR dielectric response in phonon combination bands 4-56916
GaAs, large diameter crystals, IR absorption nonuniformities, photoinduced quenching 4-51304
GaAs, MBE grown, shallow donors, far IR magneto-optical spectroscopy 4-35422
GaAs MBE layers for infrared optical waveguiding 4-14787
GaAs, semi-insulating, deep centre EL2, direct IR imaging obs. 4-34905
GaAs, semi-insulating, undoped, deep donor EL2, IR absorption study 4-35471
GaAs:Cr, impurity IR absorption spectra, shape and temp. depend. (Russian) 4-40487
GaAs:Cr, semiinsulating, impurity charge, EPR, IR spectra, photocond. studies 4-35469
GaAs:Ge, neutron transmutation doping elec. and optical characterisation 4-34507
GaAs:Te, IR optical susceptibilities of (001) face surface electrons under weak modulation fields 4-2931
GaAsP, form. by ion implantation and annealing, Schottky contact study 4-50317
Ga_{1-x}In_xP solid solns., refr. index spectra, dispersion values 4-51221
Ga₂O₃:P₂O₅, glass, crystallisation products, region of glass formation 4-20118
GaP, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
GaP, far IR lattice absorpt. 4-7201
n-GaP, uniaxially stressed, IR spectral absorpt. anisotropy 4-40430
GaP, zone edge phonons, IR absorption and Raman scatt. studies 4-11238
GaP:Cr(Co), impurity states, ENDOR and optical absorption studies 4-20601
GaS_{1-x}Se_x layer mixed cryst., optical phonons, IR and Raman spectra studies 4-11236
GaSb_{1-x}As_x, lattice vibr., CPA calc. 4-55944
Gd, polycryst. film, piezoreflectance spectra 4-20942
GdAlO₃:Eu³⁺, electronic transitions, IR transmission spectra 4-29926
GdP₂O₇, prep., cryst. struct., X-ray powder diffr., IR spectra anal. 4-2172
GdScO₃:Nd³⁺, synthesis and optical props. 4-20966
GdTb(MoO₄)₃ single cryst., Raman and IR spectra in 250 to 1000 cm⁻¹ region 4-25762
GdTb(MoO₄)₃, Tb³⁺ ⁷F₃ absorpt., multiphonon modes of MoO₄²⁻ ions 4-7175
p-Ge, interaction of tunable probe beam with high-intensity pulsed CO₂ laser beam 4-46261
Ge, local modes and IR absorpt. of substitutional group IV impurities (Chinese) 4-39423
Ge single crystals, optical properties and apps. 4-24110
Ge:Ga, sources of impurity clouds, IR laser small angle scatt. study 4-11348
Ge:H, amorphous and microcryst., Ge-H bond stretching modes, IR absorpt. spectra study 4-40435
a-Ge:H, doped and undoped, defect correl. energy, IR absorpt. 4-40483
Ge:H film, reactively sputtered, IR absorpt. spectrum 4-20513
GeO₂, vitreous material, IR vibr. 4-46250
GeO₄ anions in orthosilicates and orthogermanates, force consts. and chem. bonds 4-55939

infrared spectra of inorganic solids continued

GeS₂, glassy, optical gap, temp. depend. 4-2894
(GeSe₃)_{100-x}Bi_x chalcogenide glasses, struct. charges by Bi doping 4-55743
H₂, solid, containing tritium, IR absorpt. spectra 4-11893
H₂, solid, FIR absorption spectrum in freq. region of S(0) line 4-11382
HF, IR spectra of polycrystalline samples at 80K 4-7170
H₂O, O-H-O bending fundamental in solids and liqs. 4-24926
HTi₂NbO₇.2H₂O, ionic cond., cryst. struct., IR spectra, TGA studies 4-56073
HfS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
HfS₂, lattice vibr. anisotropy and IR two-phonon absorption spectra 4-15598
Hg_{0.8}Cd_{0.2}Te:Al⁺, ion implanted, defect distrib. profile 4-24845
Hg_{1-x}Cd_xTe, energy gap, comp. and temp. dependence from optical absorpt. data 4-20555
Hg₂(Cl₂Br_{1-x})₂, long-wavelength optical vibr. study 4-11898
HgCr₂Se₄, circularly polarised and unpolarised light absorpt. spectra near absorpt. edge 4-30477
n-HgCr₂Se₄, reflectivity and dynamical cond. 4-30453
HgCr₂Se₄ thin film, ferromag. semicond., optical-absorption spectra 4-30538
HgSe, photon-ionised impurity plasmon processes, evidence of free carrier absorption 4-7219
InGaAsP, absorpt. coeff., band struct., IR spectra 4-35403
In_{1-x}Ga_xP, lattice vibr., CPA calc. 4-55944
In_{1-x}Ga_xSb, lattice vibr., CPA calc. 4-55944
In₂O₃ films, thermally evaporated, elec. conductive and IR transparent 4-21055
p-InP, intervalence band absorption, variation with hole conc. 4-40422
InP solid solns., refr. index spectra, dispersion values 4-51221
InP:Mn, optical absorpt. tail and minority carrier diffusion length from surface photovoltage measurements 4-30420
InSe, ionicity and polymorphism, IR study 4-51255
In₂Te₃-HgTe, phase diagram and struct., IR and X-ray studies 4-7436
In_{2-x}Sn_xO_{3-y}, sputtered films, optical props. 4-30554
KBr(I):Ag⁺, CrO₄²⁻, degenerate local impurity vibrations, anharmonic interactions, Raman and IR studies 4-29561
KCN, far IR spectrum and dielec. function in disordered cubic phase 4-20973
KCl:Li, IR absorption study 4-20999
KCl:OH, γ-irrad., formation of H bonds 4-45047
K₄Fe(CN)₆×3D₂O, solid, isotope dilution investig., near IR spectrosc. 4-56918
KI, far IR studies of OCN⁻, SCN⁻, and SeCN⁻ centre gap modes 4-35467
KI:ReO₄⁻, spectral hole dynamics for IR vibr. mode 4-29548
KLn(WO₄)₂, where Ln=Y, Ce to Lu, Raman and IR spectra, mol. and cryst. struct. 4-56927
KNO₃, liq. and solid, ionic interactions and IR self-absorption 4-51279
KNO₃, phase II, vibr. spectral intensities, IR and Raman study 4-11880
KNO₃, ferroelec. phase transitions, IR spectra studies 4-40371
Knd(PO₃)₄, flux growth, absorpt. spectra, fluoresc. branching coeffs. 4-51293
Knd_{0.9}R_{0.1}P₂O₇, laser crystals, (R=La, Ce, Pr, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu or Y) effects of a rare-earth elements, spectral study (Chinese) 4-55045
K₂O.V₂O₅.2TeO₂.2TeO₂.V₂O₅ quasi-binary system, phase equil. and new comp. characteris. 4-2309
K₂O:Br₂:Os⁴⁺ crystals, intraconfigurational absorpt. spectroscopy 4-30459
K₂O:Cl₂:Os⁴⁺ crystals, intraconfigurational absorpt. spectroscopy 4-30459
KPO₃-LaP₂O₇ system, compound formation, DTA, X-ray and IR absorpt. obs. (French) 4-50249
KReO₄ film, nonlinear IR spectra and LO phonons 4-11955
K₂SbF₃(NO₃)₂.KNO₃, cryst. struct., IR and Raman spectra (French) 4-20169
K₂SnCl₆:Os⁴⁺ crystals, intraconfigurational absorpt. spectroscopy 4-30459
KTA_{0.982}Nb_{0.018}O₃, IR soft mode study 4-20925
LaCl₃:Pr³⁺, laser excited fluoresc. IR absorpt. study 4-20963
(La_{1-x}Nd_x)₂Ga₂SiO₄, spectral laser and electromech. props. 4-30516
Li ferrite, optical props., evidence for 3dⁿ→3dⁿ⁻¹4s transitions 4-7163
LiF:Mg, Ti, impurity defect interactions, optical absorpt., ESR, and ionic cond. meas. 4-15517
LiF:OH, γ-irrad., formation of H bonds 4-45047
LiF:OH: stabilisation of H, effect of combined mech. load and γ-irrad. 4-6395
Li₂FePS₃, intercalates, IR and struct. studies 4-25767
LiGaO₂, nonlinear-optical props. and Raman tensor signs 4-46265
Li₂GeO₄, crystals, phase transition study by far IR Fourier spectroscopy 4-25743
LiIO₃, effective charges, press. depend. 4-55943
LiNH₄SO₃, polycryst., Raman and IR spectra 4-40442
Li₂NiPS₃, intercalates, IR and struct. studies 4-25767
Li₂O, IR spectroscopic anal. of OH⁻ and OD⁻ as function of chem. treatment 4-30462
Li₂O-Al₂O₃-Nb₂O₅ glasses, rapidly quenched, struct. and props. 4-46538
Li₂O-B₂O₃ thin films, ionic cond. and struct. 4-2375
LiTaO₃ single cryst., reduction, electron irradi. and ESR spectra 4-45188
LiV₂O₆, IR spectra and bond lengths 4-51257
LinNaSO₄, internal modes, IR transmittance spectra 4-20961
Mg complex, Mg(N₂H₄)₂(NCS)₂, preparation, characterisation, and thermal props. 4-16654
Mg ferrite, optical props., evidence for 3dⁿ→3dⁿ⁻¹4s transitions 4-7163
Mg-Zn amorphous vacuum deposited films, elec. and optical props. 4-45725
Mg₂Al₂Si₂O₁₀, sintered cordierite, residual glass content, IR spectra 4-39149
Mg(ClO₄)₂.6H₂O, Raman spectra, polarisation behaviour under different crystal orientations 4-35436
Mg(ClO₄)₂.6H₂O, vibr., phase transitions, IR and Raman study 4-11881
MgO-CoO solid solns., electronic and vibr. spectra 4-30490
Mn (II) complexes, mag. moments, cryst. field splitting, IR spectra 4-46242
Mn complex, Mn(N₂H₄)₂(NCS)₂, preparation, characterisation, and thermal props. 4-16654
Mn complexes, Mn(II) (dipyridine)ascorbate, IR, solid state reflectance spectra and mag. moments studies 4-16194
Mn_{1-x}Ag_xPS₃, structural vibr. and cond. study 4-50273
Mn(ClO₄)₂.6H₂O, vibr., phase transform., IR and Raman study 4-2324
Mn_{1-x}Cu_xPS₃, structural vibr. and cond. study 4-50273

infrared spectra of inorganic solids continued

- MnIn₂S₄, partially inverse spinel cpd., struct. parameters and optical props. 4-30487
- MoO₃:H, optical absorption and elec. cond., band model anal. 4-50816
- α -MoO₃·H₂O, vibrational spectra 4-16205
- (NH₄)₂Cd₂(SO₄)₃, optical activity, absorpt. spectra 4-35407
- NH₄Cl crystals, polariton spectra, two-particle states and Fermi reson. (Russian) 4-25754
- Na complexes, Na₂(M(CO)₄)₂·7H₂O, M=Ce, Th, IR spectra and thermal decomp. curves 4-7188
- NaBrO₃, X-ray irradi., hardness, optical absorption and dislocation density meas. 4-29520
- NaCN, far IR spectrum and dielec. function in disordered cubic phase 4-20973
- NaCl:OH⁻, γ -irrad., formation of H bonds 4-45047
- NaCl:OH⁻ crystal, IR absorption 4-46244
- NaNbO₃, perovskite struct., IR and Raman spectra, vibr. anal. (French) 4-46271
- Na₂O-Al₂O₃-CuO-SiO₂ glass, struct., EPR and optical props. 4-10996
- Na₂O-SiO₂-TiO₂ glass, state of Ti³⁺ ion and Ti³⁺-Ti⁴⁺ redox reaction 4-6283
- NaV₃O₈, IR spectra and bond lengths 4-51257
- (NbSe₄)₂I, evidence of phase transition, DC elec. resist. and far IR reflectance spectra 4-34639
- Ni (100) with adsorbed CO, molecule-substrate vibr., IR study 4-39674
- Ni complex, Ni(N₂H₄)₂(NCS)₂, preparation, characterisation, and thermal props. 4-16654
- Ni complexes, Ni(II) (dipyridine)ascorbate, IR, solid state reflectance spectra and mag. moments studies 4-16194
- Ni, electronic props., refractive index and absorption coeff. studies (Russian) 4-40405
- Ni halide-acetonitrile complexes, electronic absorpt. and IR spectra, struct. 4-46267
- Ni, piezoreflectance and differential absorption spectra 4-46231
- Ni silicides, electronic struct. and visible and IR reflectivity 4-20557
- Ni-P amorphous electrodeposits, Hall effect and IR reflectivity studies 4-45740
- NiO-Al₂O₃ system, struct., diffuse refl. spectrosc. obs. 4-25781
- Ni(OH)_{2-x}(CO₃)_x·nH₂O, visible, IR and Raman spectra 4-56929
- Ni₂P_{6-x}Se_x mixed cryst., IR spectra characterisation (German) 4-2911
- OSi₂, crystal growth, thermopower, elec. cond., IR reflectivity 4-3041
- P, black, far IR cyclotron reson. absorpt. meas. 4-7067
- PbCo₂(PO₄)₂, Pb₂Co(PO₄)₂, synthesis, Bridgman-Stockbarger crystn. and characterisation 4-40635
- Pb(Mg_{1/3}Nb_{2/3})O₃, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
- PbSe:Cd, heavily doped, elec. and optical props. 4-15920
- Pb_{1-x}Sn_xTe, indirect optical transitions (Russian) 4-56946
- Pb_{1-x}Sn_xTe:In films, far IR reflectivity 4-57017
- p-PbTe, IR free carrier refl. meas., two valence band model 4-7173
- PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
- p-PbTe:Ti epitaxial films, refl. and transmittance meas. 1 to 15 μ m 4-40547
- Pb(Zn_{1/3}Nb_{2/3})O₃, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
- Pd complex, PdPyCl₂, spectral and struct. props. 4-20173
- PrPS₄ cryst. struct. and vibr. spectrum (German) 4-46241
- Pt (100), CO, NO and CO/NO adsorption, IR reflection-absorption study 4-45522
- Pt, piezoreflectance and differential absorption spectra 4-46231
- RbAgI₃, IR vibr. spectra 4-40444
- Rb₂Cd₂(SO₄)₃, optical activity, absorpt. spectra 4-35407
- RbCoCl₃, props. of mag. excitations, far IR spectra study 4-7180
- RbI:ReO₄⁻, spectral hole dynamics for IR vibr. mode 4-29548
- RbLiF₆, electronic struct., crystal field splitting model (German) 4-25305
- Rb₂UO₆·Br₂·xH₂O, IR, Raman, polarised luminesc. and electronic absorpt. spectra 4-11889
- Rb₂V₆O₁₆, IR spectra and bond lengths 4-51257
- ROS, frost far infrared spectra and surface of Io planetary satellite 4-58403
- Sb-chalcogenide system, Raman and IR vibr. spectra studies 4-46254
- Si (111) electron subbands, IR spectroscopy 4-35449
- Si (111)-(7 \times 7) and -(1 \times 1), H₂ chemisorption, IR study 4-6658
- Si (111)2 \times 1, electronic surface states at steps, optical refl. meas. 4-6859
- Si (111)2 \times 1, surface state absorption by photothermal displacement spectroscopy, polarisation depend. 4-56878
- Si, Czochralski grown, thermal donors, IR spectra study at 450°C 4-16222
- a-Si evaporated films, dangling bond density reduction by hydrogenation under NH₃ 4-2545
- Si inversion layers, valley degeneracy, far IR freq. domain intersubband spectra 4-56408
- Si, laser annealing, in depth O contamination, IR, AES and ESCA studies (Chinese) 4-55856
- Si, local modes and IR absorpt. of substitutional group IV impurities (Chinese) 4-39423
- Si, neutron irradi., single phonon absorption band 4-2918
- Si single cryst., neutron irradi.-induced defects, γ -ray diff. and IR studies 4-11192
- Si, sputter etching leading to film deposition, microgravimetric, spectroscopic, electron microscopic obs. 4-57373
- a-Si:(D,O) films, IR study of bonding 4-46354
- Si:Be, bound exciton states, far IR absorption spectra study 4-25234
- Si:C, ion implantation at low temp., SiC formation, IR and EBIC studies 4-15508
- a-Si:C(N), local struct., NMR, EPR, Raman scatt., and IR absorpt. studies 4-39131
- a-Si:D(H), vibr. props., IR absorpt. spectra 4-40440
- Si:Er, γ -ray irradi. defects, Hall effect, elec. cond. and photocond. studies 4-34543
- a-Si:F films, deposition, elec. and optical props. 4-51541
- a-Si:F films, prep. by glow-discharge decomp., impurity content, IR transmission spectra, bond stretching vibrs. 4-2983
- Si:H, amorphous, photoinduced IR absorpt., dispersive relaxations 4-35443
- Si:H, amorphous, RF sputtered, light-induced optical absorption changes (Chinese) 4-21056
- Si:H, amorphous and microcryst., Si-H bond stretching modes, IR absorpt. spectra study 4-40435
- a-Si:H, Cl film, photoluminescence spectra 4-40507

infrared spectra of inorganic solids continued

- a-Si:H, Cl films, IR spectra study 4-40550
- a-Si:H, hydrogenated and pure, phonon density of states 4-39426
- a-Si:H, IR study of stretch freq. 4-11895
- a-Si:H, light-induced optical absorpt. changes 4-40485
- Si:H, microcrystalline, reactive sputtering onto low temp. substrate, IR absorption 4-21138
- a-Si:H, N glow discharge films, optical band gap, H content effects 4-57011
- a-Si:H, P, mechanism of P-doping IR spectra study (Chinese) 4-39130
- a-Si:H, phonon density of states meas. 4-45295
- a-Si:H, phys. props. and imaging appl. (French) 4-39984
- a-Si:H, RF sputtered, light induced Si-H bond (Chinese) 4-11413
- a-Si:H, RF sputtered, props., effects of RF power and total gas press. 4-2981
- Si:H,B amorphous films, glow discharge deposition, BF₃ doping, elec. and optical props. 4-29456
- Si:H(B,P) microcryst. film, preferential dopant segregation 4-45340
- Si:H amorphous films, glow discharge deposited, Schottky barriers, photo-voltaic props. 4-30047
- Si:H amorphous layer, broadband spectroscopy by optical guided wave techniques 4-43067
- a-Si:H evaporated film, IR vibr. spectroscopy studies 4-21059
- a-Si:H film, ion bombardment effect on growth 4-51539
- Si:H film, microcrystalline, NMR and optical spectra 4-51142
- Si:H film, optical band gap, IR absorpt. spectrum meas. 4-2984
- a-Si:H film, plasma deposited, mech. stress 4-29855
- a-Si:H film, sputtered, transform. from microcrystalline state 4-51491
- a-Si:H films, CVD and plasma deposition, defect chemistry 4-29839
- a-Si:H films, hydrogenated and pure, intermediate range order 4-39135
- a-Si:H films, photochem. CVD prep., struct., optical, and electronic props. 4-3078
- a-Si:H films, prep. by ion beam deposition, photoacoustic spectroscopy, charge transport 4-40484
- a-Si:H films, RF glow discharge deposition and solar cell appls. 4-45825
- a-Si:H RF sputtered coatings, microcryst. struct. 4-45550
- a-Si:H sputtered films, optical props. 4-30544
- Si:O, annealing behaviour of recombination centres 4-39823
- Si:O, impurity content, IR absorpt. difference method 4-16189
- Si:O, interstitial O IR spectrum and stress-induced dichroism 4-51248
- Si:O semi-insulating film, characterisation by XPS, IR spectra, Auger and thermal analyses 4-45564
- Si:P, proton irradi., fast electron annealing of IR absorption bands 4-34547
- Si:S, spectroscopy of neutral S-related centres 4-56966
- Si:(Se), donor centres, IR absorpt. and photocond. spectra 4-45677
- Si_{100-x}Al_x amorphous films, reactive co-sputtering, high p-type conductivity and optical props. 4-40647
- SiC films, prep. by plasma CVD, morphology, struct., comp., TEM, SEM, Rutherford backscattering, IR spectra studies (Japanese) 4-2472
- SiC, mass absorpt. coeffs. (25-250 μ m), appl. to IRC-10216 dust shell anal. 4-30468
- SiC submicron particles, absorpt. props. between 2.5 and 40 μ m, cosmic source simulations 4-40431
- SiC:H, amorphous films for solar cell window layer, compositional study 4-39730
- a-SiC:H, prep. by GD-CVD, phys. props. 4-40668
- a-SiC:H film, phys. props. 4-40438
- SiC-10H superlattices, electron energy spectrum, secondary modulation 4-35058
- Si₃C_{1-x}H_x amorphous films, plasma deposition, ion beam effects 4-25900
- (SiF₂)_n polymer films, IR transmission spectra, bond stretching vibrs. 4-2983
- Si₃Ge_{1-x}H_x amorphous films, reactively sputtered, compositional gradients obs. 4-51487
- Si₂H₂(OH)₂, siloxene, cryst. to amorphous struct. change on thermal annealing 4-39144
- SiN:H, amorphous film, annealing behaviour, EPR study 4-7049
- SiN:H amorphous film, plasma deposited, mech. stress 4-29855
- SiN₂H amorphous films, RF glow discharge deposition from SiH₄-N₂-H₂ silicon compounds, IR study 4-40671
- SiN₂H films, amorphous, prep. by RF glow discharge deposition, IR absorpt. 4-40552
- Si₃N₄ film, photo-CVD by direct pyrolysis, elec. and optical props. 4-40661
- Si₃N₄ layers, plasma deposition, charact. 4-34815
- Si₃N₄ plasma enhanced deposition, encapsulation for GaAs:Si 4-50693
- SiO₂, fused silica, high and low water content, transmittance and refl. 2 μ m to 1 mm 4-24108
- SiO₂, quartz, point defects, thermoluminesc., IR and EPR study 4-21053
- SiO₂, sputter etching leading to film deposition, microgravimetric, spectroscopic, electron microscopic obs. 4-57373
- SiO₂ thermally grown layers, halogen impurities, IR absorpt. spectra (Russian) 4-56935
- SiO₂, vitreous, IR and neutron vibr. spectra, cluster models 4-7199
- SiO₂, vitreous material, IR vibrs. 4-46250
- SiO₂:H₂ fibres, IR loss spectrum obs. 4-24189
- SiO₂-B₂O₃-F₂O₃ systems, monolithic aerogel prep., glass conversion 4-57177
- SiO₄ anions in orthosilicates and orthogermanates, force consts. and chem. bonds 4-55939
- SiO₄ amorphous films, vacuum evaporated, optical and dielec. props., comp. dependence 4-30552
- SiO₄, amorphous thin film, optical phonons, IR transmission 4-56938
- SiO₄, chem. deposited film, IR absorpt., XPS 4-57065
- a-Si_{1-x}Sn_x:H, sputter assisted plasma CVD films, props. 4-40439
- SmB₆, far IR reflectivity and hybridisation model 4-40456
- Sn complexes, Sn(II) (dipyridine)ascorbate, IR, solid state reflectance spectra and mag. moments studies 4-16194
- Sn(IV) complexes, with Ni(II) thiocarbonylhydrazones, spectral and mag. props. 4-51250
- SnO₂:F(Sb) heat reflecting layer formation on glass, optical props. (Czech) 4-50685
- SnO₂-Cr₂O₃ system, phase equilib. 4-39525
- Sr halide monohydrates, librational modes of H₂O mols., IR and Raman spectra 4-7182
- Sr(NO₂)₂·X₂O, where X=H,D, struct., IR and laser Raman spectra, vibr. anal. 4-7184
- SrTiO₃, IR absorpt. by mixed polarons 4-39792
- SrTiO₃:Ir⁴⁺, paramag. resonance and near IR optical absorption 4-51131
- Ta₂S₇:I⁺, far IR studies for commensurate CDW 4-40455

infrared spectra of inorganic solids continued

- Tb_{1.8}Eu_{0.2}(MoO₄)₃ 4-51280
 Tb_{1.8}Eu_{0.2}(MoO₄)₃, Tb³⁺, Eu³⁺ ⁷F₁ absorpt., multiphonon modes of MoO₄²⁻ ions 4-7175
 TbPO₄, antiferromag. ordering, struct. transition obs. via induced IR activity 4-25007
 TeO₂-PbO-CuO-ZnF₂ glasses, optical absorpt. and site symmetry of Cu(II) 4-30485
 TiC sputtered coating, optical reflectivity 4-11956
 Ti_{1-x}Hf_xSe₂, electronic and lattice dynamical props., IR reflectivity spectral meas. 4-29889
 TiN, sputtered coating, optical reflectivity 4-11956
 TiN₂C₃ sputtered coating, optical reflectivity 4-11956
 TiO₂ powders, adsorption of HCl and water vapours, charact. of adsorbents 4-2435
 Ti₂Cd₂(SO₄)₃, optical activity, absorpt. spectra 4-35407
 TiPO₃-Ce(PO₃)₃, phase equilibrium relations and cryst. struct. 4-20335
 TiSe, optical absorption edge characts. 4-16219
 U⁴⁺ sulphate complexes, electronic absorpt. spectra rel. to complex struct. 4-51297
 UCl₆²⁻ complexes, elec.-dipole intensity parameterisation in vibronic spectra 4-51272
 V-Mo-P heteropoly compounds, struct. information from vibrational spectra 4-11066
 VO₂ films, undoped and doped, spectral and resist. switching 4-35031
 V₂O₃-TiO₂ surface, oxidation of alcohols, IR and X-ray diff. obs. 4-52049
 V₂O₅, amorphous and hydrated, reactivity and phys. props. (French) 4-44965
 V₂O₅-B₂O₃ glasses, IR absorpt. spectra, oxide ordering investig. 4-11875
 V₂O₅·xH₂O xerogel, adsorbed water, H bonds, IR spectroscopy study (French) 4-2916
 W film prepared by CVD, hemispherical and diffuse refl. (French) 4-46342
 WO₃ polycrystalline electrochromic films, near-IR reflectivity modulation 4-30439
 WO₃·xH₂O, electrochem. props., influences of water adsorption and hydroxylation 4-25720
 YIG, double-phonon absorpt. spectra (Russian) 4-51287
 YbCuAl valence fluctuation cpd., far IR absorption 4-35445
 YbCu₂Si₂ valence fluctuation cpd., far IR absorption 4-35445
 Zn complex, Zn(N₂H₄)₂(NCS)₂, preparation, characterisation, and thermal props. 4-16654
 Zn complexes, Zn(II) (dipyridine)ascorbate, IR, solid state reflectance spectra and mag. moments studies 4-16194
 Zn halide-acetonitrile complexes, electronic absorpt. and IR spectra, struct. 4-46267
 ZnBr₂, calorimetric, spectroscopic and struct. studies 4-39534
 Zn(ClO₄)₂·6H₂O, Raman spectra, polarisation behaviour under different crystal orientations 4-35436
 Zn_{0.16}Hg_{0.84}Te, epitaxial layers, reflectance and thermoreflectance spectra, permittivity 4-40556
 ZnO, microcryst., optical props., effects of defect prod. by interaction with CO 4-30466
 ZnO, single cryst. and thin layers, surface polaritons, attenuated total reflection spectra 4-56234
 ZnO-B₂O₃ glasses, IR absorpt. spectra, oxide ordering investig. 4-11875
 ZnP₂, free-exciton states, refl. and transmission spectra studies 4-6713
 ZnS:Al, Al_{Zn}-V_{Zn} pairs, IR absorption studies 4-55825
 ZnS:Cu, middle IR absorpt. and EPR of Cu associates 4-2944
 ZnS:Ni, impurity charge state changes, luminesc., absorpt., excitation and EPR spectra studies 4-16228
 ZnSe:Ni, impurity charge state changes, luminesc., absorpt., excitation and EPR spectra studies 4-16228
 (ZnSe)_{1-x}(CdTe)_x single cryst., band gap energy, reflectance spectra and photocond. studies 4-2893
 Zr-containing systems, B³⁺ ion struct. state, spectroscopy and electron microscopy obs. 4-40447
 ZrCl₂, synthesis, nonstoichiometry and IR spectra 4-51563
 ZrCl₃, synthesis, nonstoichiometry and IR spectra 4-51563
 ZrF₂, synthesis, nonstoichiometry and IR spectra 4-51563
 ZrN₂ sputtered coating, optical reflectivity 4-11956
 ZrO₂-P₂O₅-M₂O-SiO₂, M=Li, Na, K, Ag, struct., ionic cond., and optical spectra (French) 4-24796
 ZrO₂-TiO₂-SiO₂ glasses, low temp. synthesis by sol-gel method, struct. obs. 4-57176
 β-Zr₃(PO₄)₂SO₄, cryst. struct. determ. and IR spectra meas. 4-50269
 ZrS₂ intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
 ZrS₃-Se_x, lattice vibr., IR transmission spectra 4-46264

infrared spectra of organic molecules and substances

see also molecular rotation

- acetic acid, IR spectra, reson. interactions effect on vibr. 4-7183
 acetic acid, numerical reprodu. of H-bond IR spectra 4-7186
 acetone oxime(-d₆), out-of-plane vibr., Raman and IR study 4-56921
 acetone-magnesium adducts, IR spectra 4-1159
 acetone-methanol-chloroform mixtures in PE, sorptional equilib. (Russian) 4-29639
 acetonitrile, band maxima, molar IR absorptivities 4-56923
 acetonitrile, liq., mol. motion, IR, Raman and NMR meas., spin-lattice relax., correl. times 4-46260
 acetophenone, supercritical fluid chromatography/Fourier transform IR spectroscopy 4-12398
 acetophenones, ring-substituted, ν_{CO} bands, LFER approach, IR obs. 4-54710
 acetylcholine perchlorate polycrystalline electrolyte, radiation damage induced spectral and elec. props. 4-11186
 acetylene, atom anisotropies and effective charges in vibrational intensity analysis 4-38169
 acetylene, IR absorpt. of N₂-broadened lines 4-19054
 acetylene-d₀(-d₂), fundamentals and combination bands, absolute IR intensities calcs. 4-38176
 N-acetyloxypyridinium cation and its deuterioanalogues, IR spectra, force field, electrooptic parameters 4-54712
 acid electrolyte solns. in ethylenediamine, struct., IR absorpt. spectra 4-39082
 alcohols, conversion mechanism over H-ZSM-5 zeolite 4-57599
 aliphatic esters-HCl(H₂O) complexes, matrix isolation IR spectra 4-54706
 alkenes, IR spectra, isolated CH stretching freq., bond lengths and dissociation energies 4-43884
 alkyl chlorides, multiple-phonon IR absorpt., photoacoustic meas. 4-49022
 α-alkyl substituted enamines, configuration and conformation, IR and ¹H NMR 4-5224
 trans-4-alkyl-(4-cyanophenyl) cyclohexanes, nematogenic homologous series, IR and far-IR spectra 4-40448
 N-(4-p-alkyloxyallylidene)-4-p-alkylaniline soln., optical parameters 4-20965
 allene-d₄, vibr. l type reson., Coriolis interactions, IR spectra 4-33399
 ammonium tartrates, IR and Raman spectra and vibr. assignment 4-25763
 anisole, supercritical fluid chromatography/Fourier transform IR spectroscopy 4-12398
 anisoles, di-substituted, electronic and vibr. spectra 4-5235
 anthracene, liq. soln., electronic ground state, vibr. energy redistrib. 4-9746
 anthracene, vapour fluoresc. and absorpt. spectra, conc. depend. 4-38242
 antibiotics, aq. solns., FT IR spectrosc. using liq. analyser accessory 4-54681
 arylaliphatic nitrocompounds carbanions, IR spectra (German) 4-43875
 aspirin tablet, IR photothermal beam deflection spectra of solids, coupling gas nature effects 4-7174
 (BEDT-TTF)₂ClO₄(C₂H₃Cl₃)_{0.5}, organic conductor, polarised reflectance spectrum 4-51284
 benzene, band maxima, molar IR absorptivities 4-56923
 benzene, FT IR spectrum in supersonic expansion 4-28437
 benzene-d₀(-d₁)(-d₂)(-d₃)(-d₄), two-photon spectra in supersonic beam, kinematic effects 4-14410
 benzene-hexafluorobenzene complex, IR and Raman spectra 4-1160
 benzenes, para-disubstituted, integrated intensities of aromatic skeletal bands 4-54711
 benzoic acid, IR spectra, thermodynamic functions calc. 4-57595
 benzosenelophene, IR and Raman vibr. anal. (French) 4-25761
 benzotellurophene, IR and Raman vibr. anal. (French) 4-25761
 3-benzoylamino propionic acid esters, H-bond formation, steric effects, IR study 4-54708
 2-benzoylpyrroles, and S analogues 4-43881
 bicyclo[2.2.1]hepta-2,5-dien-7-ol-d₀(-d₁) microwave and IR spectra, intramol. OH-π H bond 4-14400
 bivalent metal-DL-threonine complexes, physical props., IR spectra and normal coord. anal. 4-51281
 bromobenzene cations, vibr. spectroscopy and photodissoc. props. by two-laser photodissoc. techniques 4-7737
 2-bromoethanol, matrix isolated, low temp., isomerisation, IR and Raman obs. 4-43880
 bromoform-do(di), solid phases, IR and Raman studies 4-11878
 bromotrifluoromethane, hot bands, Fermi reson., IR multiphoton absorpt. spectra 4-1153
 N-butylbenzamide, aromatic donor system, IR study 4-56919
 calcium tartrates, IR and Raman spectra and vibr. assignment 4-25763
 Capron heat-insulating fabric, absorpt. and scatt. characts. in IR spectrum 4-20977
 carbonyl compounds, C=O stretching freq., substituent interaction effects 4-20303
 carboxylic acid dimers, H-bonded systems, polarised IR spectra by stretched-polymer method 4-14413
 β-carotene in lipid bilayers, UV/VIS/NIR spectrum, FE-MO calc. and comparison with expt. 4-57842
 β-carotene isomers, normal coord. anal., assignments of Raman and IR bands 4-9753
 cellulose, low-temp. IR spectra 4-54896
 chiral, nonchiral mols. and molecular crystals, Raman and IR activity meas. of normal vibr. 4-54723
 chlorin-d₀(-d₂)(-d₄), vibr. spectra and IR and reson. Raman obs. 4-38178
 chlorinated benzenes, ring CH stretching overtone spectra, local mode anal. 4-23756
 5-chloro-2, 4-dimethoxyaniline, electronic vibr., near UV and IR spectra 4-33395
 chlorobenzene, liq., dipole correl. functions and Kirkwood g⁽¹⁾ factor 4-14411
 chlorobenzene(-d₃), optical consts., in IR region, ATR spectroscopy 4-51225
 chlorocyclohexane solid films, annealing kinetics and rot. isomerism, IR absorpt. spectra 4-51264
 2-chloroethanol, matrix isolated, low temp., isomerisation, IR and Raman obs. 4-43880
 chloroform, Raman and far IR spectra, crystal field splittings 4-40426
 chloroform(-d), integrated IR intensity 4-38168
 chloromethyldichlorophosphine oxide solid films, annealing kinetics and rot. isomerism, IR absorpt. spectra 4-51264
 chloropentafluoroethane, hot bands, Fermi reson., IR multiphoton absorpt. spectra 4-1153
 chlorotrifluoromethane, IR spectra, rovibr. anal., hot bands 4-5232
 cholesterol + esters (amides), H-bond equilib., IR spectra 4-7706
 cis-polyacetylene, lattice dynamics study 4-50447
 cobalt acetate tetrahydrate, phase transitions from temp. depend. vibr. spectra 4-34628
 conformational isomerism, matrix isolation vibr. spectroscopy 4-54700
 cryogenic matrix reaction, selective vibronic excitation, IR study 4-3413
 cyano substituted nematogenic liq. crystals, negative dielec. anisotropy and spectroscopic props. 4-6260
 4-cyano-4'-heptyloxybiphenyl, solid cryst. polymorphism study 4-40449
 cyanoacetylene, CN stretching band, IR diode laser spectroscopy 4-28438
 cyanogen, dipole moment functions, anharmonic vibr. wavefunctions, IR intensities 4-5212
 cyanogen, mol. cryst., IR and Raman spectra 4-51263
 1-cyclohexyluracil-acetylglutamine N-methylamine, H bond complex formation 4-49179
 cyclopentene, fast internal motion, IR and Raman spectra 4-54701
 cyclopropane-d₂(-d₄), IR and Raman spectra, vibr. assignment 4-23701
 Cys-Asp model cpds., IR and Raman spectra (French) 4-38174
 n-decylammonium chloride, structural phase transitions, IR spectra 4-40462
 di-(z-pyrrolyl)ketones and S analogues, elec. dipole moments, conformations, IR obs. 4-43881
 N,N-dialkyl-β-bromoacrylamides, conformational anal., ¹³C NMR, IR and UV spectra 4-5225

infrared spectra of organic molecules and substances continued

- 2,6-diaminotoluene, vibr. fundamental modes, IR and laser Raman spectra 4-43874
- diazomethane, ν_2 band, IR Fourier transform and diode laser spectrum 4-33393
- diazomethane, rovibr. anal. of ν_3 band 4-1142
- 1,2,7,8-dibenzazepine, H-bond association equilib. with OH donors, comparative IR and UV-VIS spectroscopic study 4-26200
- dibenzotriazole adsorbed on montmorillonites, conformation, temp. effect, IR, X-ray and visible spectra 4-14425
- p-dibromobenzene single cryst., polarised Raman and IR spectra 4-46251
- 2,3-dibromothiophene, IR and Raman spectra, vibr. spectra and assignments, depolarisation values 4-5234
- dichloro-p-benzoquinone derivatives-hydroxy aromatic Schiff's bases complexes, prep. and characterisation 4-49027
- 2,5-dichloroaniline, vibr., far-IR, IR and laser Raman spectra 4-43873
- cis-1,2-dichlorocyclopropane, vibr. spectra and struct. 4-14418
- dichlorodifluoromethane, IR multiphoton dissociation, threshold processes 4-54824
- dichlorodifluoromethane, local mode treatment, appl. to overtone spectra 4-33384
- 1,2-dichloroethane, IR and Raman spectra, exchange broadening, picosecond kinetics 4-7178
- 1,2-dichloroethane solid films, annealing kinetics and rot. isomerism, IR absorpt. spectra 4-51264
- dichlorofluoromethane, vibr. anal. of gas phase IR spectrum 4-49014
- 4,6-dichloropyrimidine, polarised IR spectra, Raman spectra, struct. 4-7187
- 1,2-difluoroethane, thermal mol. IR matrix spectra, vibr. anal., barriers to interconversion 4-54698
- 1,2-difluoromethane in inert-gas matrices, IR hole burning and conformer interconversion 4-49023
- 1,2-diiodotetrafluorobenzene, Raman and IR spectra, normal coord. anal. 4-9779
- dimethyl 1,4-butyne-dioate, IR and Raman spectra, conformations, vibr. assignments 4-1161
- dimethyl ether-HCl(HF)(DCI)(DF), H-bonded heterodimers, IR obs., vibr. band assignment 4-5208
- dimethyl ether-HF complex, hydrogen bonded, vibr. predissoc. 4-5300
- dimethyl sulphoxide in CCl_4 , polar liq., simultaneous vibr. transitions in IR spectrum 4-9771
- 4,7-dimethyl-5,6-benzo-2-oxo-1,3,2-dioxathiepin, stereoisomers, mol. conformations and dynamic props. 4-9804
- dimethylhexanes, IR and Raman spectra, vibr. anal. 4-5227
- dimethylmercury, HO radical initiated oxidation mechanism, kinetics, long-path FT IR obs. 4-30966
- dimethylmercury+Cl, kinetics and mechanism, Fourier transform IR study 4-7708
- dimethylpentanes, vibr. anal., FT IR spectra 4-54688
- 2,5-dimethylpyrazine, normal vibr., polarised Raman and IR investigation 4-23692
- α -dimyristoylphosphatidylcholine, adsorption on hydrated KBr powder, mol. interactions of phospholipid-water interface 4-31158
- 3,5-dinitropyridine charge transfer sandwich complexes investig., pot. energy surfaces of form. 4-11494
- diphenylphosphorus halides, IR and Raman spectra, vibr. assignments 4-46270
- divinylfluoroborane, conform. stability, vibr., IR and Raman obs. 4-43879
- dye molecules in soln., picosecond time-resolved photoacoustic meas. of excited-state props. 4-23751
- epoxy oligomers, struct. and props. changes under vibr. treatment (*Russian*) 4-39162
- epoxy resin coating on imidazole treated Cu surface, Fourier transform IR spectra 4-51879
- erythrocyte ghosts, human, RF irradiation, 330 MHz, heat capacity study 4-21733
- ethane, ν_3 band, diode laser and Fourier transform spectra 4-5216
- ethane, metastable solid phase, IR and Raman spectra 4-2913
- ethane- d_6 and solid II ethane, mid-IR and Raman spectra, vibr. spectra 4-2912
- ethene-HF(HCl)(NO), H bonded clusters, IR photodissociation spectra 4-1310
- ethers, IR spectra calcs., electro-optic field modelling 4-38179
- ethylbenzoates, ring-substituted, ν_{CO} bands, LFER approach, IR obs. 4-54710
- ethyldichlorophosphine oxide solid films, annealing kinetics and rot. isomerism, IR absorpt. spectra 4-51264
- ethylene oxide, 3s Rydberg, dipole moment and polarisability for 171 nm absorpt. band 4-28439
- ethylene-chlorine complex in liq. ethane, IR spectra 4-5222
- ethylene-vinyl acetate copolymer blends with PCV and chlorinated polyethylene, FTIR obs. of phase behaviour 4-11894
- ethylenediamine, electrolytes effect, IR spectra 4-7185
- ethylmalonic acid and its potassium salts, IR and Raman spectra 4-35438
- trans-1-fluoro-2-butene, far IR, Taman and microwave spectra, internal rot. 4-54713
- 3-fluoro-2-methyl propene, far IR, Taman and microwave spectra, internal rot. 4-54713
- fluorobenzalchlorides, o-, m- and p-, IR and Raman spectra, vibr. anal. 4-5238
- fluorobenzene-(d_3), optical consts. in IR range 4-51226
- o-fluorobenzyl alcohol, config., vibr., IR and Raman spectra 4-33394
- m-fluorobenzyl alcohol, IR and Raman spectra 4-23686
- fluoromethane- d_3 , ν_3 and ν_6 vibr., α reson., IR obs. 4-1154
- fluorophosphoethyne, Fermi reson., harmonic force field, vibr.-rot. IR obs. 4-5218
- 3-fluoropropene, far IR, Taman and microwave spectra, internal rot. 4-54713
- formamide, assoc., matrix isolation IR investigation 4-14420
- formamide, monomeric, matrix IR study, torsional bands, ab initio 4-31G calcs. 4-5223
- formic acid, adsorption and decomp. on Cu (110), IR reflection-absorption spectroscopy study 4-20494
- formic acid vapour multiple adsorbates on Cu surfaces, IR spectra study 4-2430
- formic acid-butanol complexes, interaction studied by ^1H NMR and IR spectroscopy 4-16626
- formyl fluoride, polar tensor calc. of IR absorption intensities 4-23699
- formyl ion (HCO^+), first obs. of $\text{I} = 4-3$ transition 4-27159
- glass fibre reinforced plastic, AG-4V, thermal curing, IR studies 4-21193

infrared spectra of organic molecules and substances continued

- glass fibre reinforced polyester composite, flexural strength rel. to interfacial struct., Fourier IR obs. 4-16444
- glucosylase-ion exchange resin, enzymatic complex, IR spectroscopy investig., catalytic and physicochem. props. 4-12385
- α -D-glucose, conform. and vibr. spectrum calc. in cryst. state 4-11126
- glycosides, cardiac, quantitative determ. in aglycone-sugar mixture by IR spectroscopy 4-52537
- guanidinium, $(\text{M}(\text{CO}_3)_2 \cdot 6\text{H}_2\text{O})$, $\text{M} = \text{Ce, Th}$, IR spectra and thermal decomp. curves 4-7188
- guanine, IR and Raman spectra, vibr. anal., isotopic shifts and conformational props. 4-57844
- haloalkanes, IR spectra, isolated CH stretching freq., bond lengths and dissociation energies 4-43884
- halobenzenes, CH-stretching overtone spectra, local mode investig. of substituent effects 4-1157
- n-heneicosane, phase I-phase II transition, IR study 4-2910
- n-heptane, band maxima, molar IR absorptivities 4-56923
- hexadecanes, multiple-photon IR absorpt., photoacoustic meas. 4-49022
- 2,4-hexadiyne (dimethyldiacetylene), IR and Raman spectra, vibr. anal. 4-7205
- 2,4-hexadiyne-1,1,1- d_3 , IR and Raman spectra, vibr. anal. 4-7205
- 2,4-hexadiyne- d_6 , IR and Raman spectra, vibr. anal. 4-7205
- hexafluoroacetone, solid solns. matrix isolation, decomposition by photon and atom bombardment 4-35915
- hexamethyldisilazane, vibr., struct., IR, Raman and PMR study 4-19068
- hexamethyldisiloxane, vibr., struct., IR, Raman and PMR study 4-19068
- hexamethylenetetramine, crystal, dielec. and IR absorpt. line widths (*French*) 4-51191
- hexamethylenetetramine-metal complexes bonding charact., IR spectral evidence for mono-, bi and tetra-dentate behaviour 4-14427
- (+)-4-n-hexyloxyphenyl 4-(2'-methylbutyl) biphenyl 4-carboxylate liq. cryst., selective reflection 4-7190
- hydrazine carbothioamide, ^{15}N - and D-labelled species, Raman and IR vibr. spectra 4-23698
- hydroxy steroids, OH orientation, IR absorpt. spectra 4-2922
- imidazoline-2-one, laser Raman and IR vibr. spectra 4-54687
- imidazoline-2-thione, laser Raman and IR vibr. spectra 4-54687
- imidolipolites, N-(2,4,6-trichlorophenyl) substituted, rotational isomerism, vibr. anal. 4-5230
- 1-indolyl, 2-indolyl and 3-indolyl acetic acids and their methyl esters, IR, NMR and mass spectra (*French*) 4-1162
- intermodulated photoacoustic spectroscopy, appl. to IR Doppler-free spectroscopy of simple mols. 4-37208
- iodobenzene-(d_3), optical consts. in IR range 4-51226
- iodobenzene cations, vibr. spectroscopy and photodissoc. props. by two-laser photodissoc. techniques 4-7737
- 2-iodoethanol, matrix isolated, low temp., isomerisation, IR and Raman obs. 4-43880
- m-iodotoluene cations, vibr. spectroscopy and photodissoc. props. by two-laser photodissoc. techniques 4-7737
- ions, high-resolution IR spectra 4-9772
- linear molecules and spherical tops, universal functions for estimating vibr.-rot. band absorbance 4-23675
- lipid membranes, thermal response investigated by Fourier transform IR spectroscopy 4-57840
- liquid or solid samples, infrared and Raman spectroscopy at high pressures 4-56913
- lithium formate monohydrate, solid and aq. solns., low freq. vibr. spectra 4-11877
- lysozyme gels, Raman, IR and CD spectroscopy 4-38361
- magnesium phthalocyanine, sublimed films, solvent induced dimorphic transformations and photoactivity 4-6498
- malonaldehyde, gaseous, IR vibr. spectra 4-23700
- metal β -diketonates, Raman spectra, internal and torsional vibr. anal. 4-46266
- metal oxalate hydrate, mixed, ferrite precursor, IR and Mossbauer spectra 4-35595
- metallophthalocyanines, cofacially joined, collective props., dopant and architectural effects 4-29968
- metalloporphyrin anions, reduction by alkali metals, struct., IR and reson. Raman spectra 4-54718
- methane, 3.39 μm system, line shapes of intracavity saturated absorpt. peak diffracted light spectroscopy 4-23687
- methane, $\nu_2 + 2\nu_3$ band absorpt. meas. at 1.33 μm using InGaAsP LED 4-19048
- methane, symm. depend. broadening param. 4-38255
- methane+ N_2 , thermal IR line broadening at low temps. 4-19052
- methane adsorbed in NaA zeolite, orientation, IR study 4-56932
- methane disulphonyl fluoride, vibr. spectra and H bonding 4-5210
- methane- ^{13}C , ν_4 -fundamental intensity meas., planetary atmospheric temps. 4-19053
- methane-d, 8.65 μm fundamental, spectral transmittance meas., rel. to Titan's atm. 4-19057
- methanethiol, and isotopomers, normal coord. anal. 4-38173
- methanol, mol. dynamics, far IR spectrosc., interferometric and computer simulation investig. 4-20968
- methanol-HCl(HF)(DCI)(DF), H-bonded heterodimers, IR obs., vibr. band assignment 4-5208
- methoxy dichlorophosphin oxide, IR spectra, conformational doublets, rigid rotor asymmetric top profiles 4-54714
- methoxy dichlorophosphin oxide-(d_3), solns., IR, far IR and Raman spectra, vibr. anal. 4-5226
- methoxy dichlorophosphin oxide- d_0 -(d_3), conform., gas phase spectra and profile simulation 4-14419
- methyl chloride, far IR spectrum, rot. and distortion consts. 4-5220
- methyl chloride, vibr. states, absorpt. bands, IR obs. 4-54682
- methyl iodide, rot. struct., mol. consts., IR obs. 4-14416
- methyl propionate, IR and Raman spectra, conformations, vibr. assignments 4-1161
- 3-methyl thietan, far IR spectra, ring puckering vibr. 4-5228
- N-methylimidazoline-2-thione, laser Raman and IR vibr. spectra 4-54687
- N-methylacetamide in low temp. N_2 matrices, rot. isomers, IR spectra, vibr. anal. 4-54699
- methylated benzenes, ring CH stretching overtone spectra, local mode anal. 4-23756
- methylene, rot. transition freq. and line strengths (8-4384 microns) 4-43871
- methylene chloride, high press. FT IR meas., second-order phase transition 4-56905

infrared spectra of organic molecules and substances continued

- N-methylformamide in low temp. N_2 matrices, rot. isomers, IR spectra, vibr. anal. 4-54699
- methylmercury complexes, IR and Raman spectra (*French*) 4-38174
- methylproline peptides, cryst. struct., mol. conform., IR and ^{13}C , NMR spectra 4-35239
- 3-methylpyridazine, electronic and IR absorpt. spectra 4-1156
- methylvinylether, thermal mol. IR matrix spectra, vibr. anal., barriers to interconversion 4-54698
- molecular ions, spectroscopy, structure and chemistry, book 4-8662
- molecular spectroscopy, conference, Sofia, Bulgaria (Sept. 1983) 4-53345
- N-mono-alkyl- β -bromocrylamides, conformational anal., ^{13}C NMR, IR and UV spectra 4-5225
- naphthalene, liq. soln., electronic ground state, vibr. energy redistrib. 4-9746
- naphthalene chloroderivatives, vibr. and luminescence spectra (*Russian*) 4-23702
- natural rubber vulcanizates, gamma ray induced deterioration, IR spectra, tensile tests 4-34542
- nitrobenzene, supercritical fluid chromatography/Fourier transform IR spectroscopy 4-12398
- nitrobenzene- d_6 -(d_3)-(d₂)-(d₁), CH IR stretching overtone spectra, ortho-CH assignment 4-14412
- nitrobenzene-d(d_3), in perdeuterated polyethylene films, polarised IR spectra 4-5221
- nitrobenzenes, CH-stretching overtone spectra, local mode investig. of substituent effects 4-1157
- 4-nitrobenzylidene-4'-n-heptyloxylaniline, binary liq. crystal systems, phase diagrams 4-50189
- nitromethane, fast internal motion, IR and Raman spectra 4-54701
- n-nonadecane, phase I-phase II transition, IR study 4-2910
- norbornane, opt. spectra and neutron inelastic scatt., vibr. freq. 4-14516
- nylon 66, impact-modified, charact. by TEM, IR spectroscopy and DSC 4-20125
- olefins, conversion mechanism over H-ZSM-5 zeolite 4-57599
- organic acid monolayer at gas-water interface, phase controlled surface reactivity, FTIR spectra 4-7376
- organophosphorus mols., IR and Raman spectra, struct. and conformations 4-54697
- organoselenium compounds, IR spectra and struct., vibr. anal. 4-54716
- organosilanes, SiH valence vibr., IR band shape and intermol. interactions study 4-54705
- organosilicon plasma deposited films, IR spectra, ESCA and contact angle characterisation 4-7264
- orthohydroxybenzonitrile, π - π^* electronic transition 4-38184
- oxalyl chloride, isomer energy differences, IR spectra 4-14426
- oxalyl fluoride, isomer energy differences, IR spectra 4-14426
- oxirane cryst., clathrate hydrate and deuterate formation from low temp. annealing, IR spectra 4-35428
- N-oxypyridinium in chloroform solns., vibr. spectra and ion bond characts. 4-54707
- palmitic acid, deuterated, ordered and disordered phases, conformational mapping, IR spectra 4-33396
- penicillamines, IR and Raman vibr. spectra isotope effects (*French*) 4-54686
- pentachlorocyclopropane, vibr., Raman and IR spectra 4-49024
- PET film, IR spectra, temp. effect 4-11006
- PET films, IR emission and spectral emittance 4-40546
- PET treated by corona discharge struct. and dielec. props., IR spectroscopy 4-11017
- PET-cellulose blend films, IR spectra, DSC, X-ray diffr. obs. 4-29343
- phenol derivatives, H-bonded complexes, IR spectra, thermodynamic const. and freq. shifts 4-46760
- phenols, para- and ortho-substituted, bandwidths of OH-stretching vibr. 4-5233
- phenoxazine-iodine (2:3) and phenothiazine-iodine (2:3), one-dimensional conductivity and IR spectra 4-50799
- (phenyl)₃-P_xCr(CO)₅, n=0-3 X=Cl, Br, I, H, back bonding, XPS, NMR and IR study 4-43903
- phenyl selenocyanates, vibr. anal., IR obs. 4-19059
- 2-phenylheptamethyltrisilane, transient absorpt., laser photolysis 4-52027
- phenylthallium bis(trifluoroacetate) mol. adducts, IR spectral study 4-14409
- phosphine 3R type acridine dyes, struct. in alkaline soln., spectrosc. obs. 4-38210
- phospholipid-water interface, mol. interactions 4-31158
- picric acid-naphthalene (anthracene) mixtures, organic eutectics and mol. complexes obs. 4-50474
- PMMA films, conformational struct. at phase boundary, wetting angle, IR spectra (*Russian*) 4-56122
- polyethylene, chain scission, mech. failure, Fourier transform IR spectra 4-3222
- poly p-toluenesulfonyl L-ornithine, cast films, molecular conformation, IR obs. 4-29344
- poly-4-methyl-1-pentene, isotactic, vibr. spectra analysis and interpret. 4-10195
- poly-N-epoxypropyl carbazole, photo-oxidation influence on spectral and electrophotographic parameters (*Russian*) 4-17988
- cispolyacetylene: MoCl₅, far IR optical props. 4-35448
- trans-polyacetylene: HSO₃F, DC cond. and optical absorption spectra 4-7213
- polyacetylene: I₂, heavily doped, IR transmission 4-2914
- polyacetylene: I₂(HSO₃F) heavily doped, elec. and optical props. 4-50802
- polyacetylene: IR: Cl₄ 6H₂O, characterisations, stability determ. 4-29969
- polyacetylene, doped, cond., mag. susceptibility, optical absorpt., spinless charged soliton transport 4-45758
- polyacetylene, dynamic charges for photoexcited defects 4-39840
- cis-polyacetylene, photoexcited, struct. changes, IR spectra studies 4-29345
- trans-polyacetylene, struct., morphology and electronic props. 4-20127
- polyacetylene-(d₃), reson. Raman scatt. from amplitude modes 4-25756
- polyacetylene films, defect states, photoacoustic and diffuse refl. obs. 4-20544
- polyacetylene powders and films, undoped, IR photoacoustic spectroscopy 4-35427
- polyacetylenes, highly oriented cis-rich, IR anisotropy 4-51286
- polyacrylonitrile films, vacuum deposition, elec. and optical props. 4-57103
- polyamides, aliphatic, physico-chem. props., accessibility, H-D isotope exchange investig. (*Russian*) 4-15405
- polyarylates, thermal stability in air 4-35747

infrared spectra of organic molecules and substances continued

- polydiene-styrene triblock copolymers, adhesive layers, fracture, IR attenuated total internal reflection (*Russian*) 4-30446
- polyene, prep. by dehydrochlorination of PVC, elec. and phys. props. 4-20658
- polyester and ester interactions with chlorinated solvents, IR and NMR obs. 4-25030
- polyethylene, chlorinated, vibr. spectra and struct. 4-20124
- polyethylene, low density, IR absorption rel. to current injection in high elec. field 4-16208
- polyethylene, mixed single crystals, chain mobility, HNO₃ etching effects, IR obs. 4-35431
- polyethylene, struct. and dielec. prop. changes 4-35333
- polyethylene crystals, chlorination mechanism 4-46638
- polyethylene film, interatomic band fracture accumulation kinetics, frustrated internal reflection spectra (*Russian*) 4-46587
- polyheteroarylene fibre reinforced epoxy composite, IR spectra and struct. 4-12054
- polymer film, internal reflection spectroscopy, IR penetration and interaction 4-25752
- polymer films, porous, filled with nitrobenzene, optical props. 4-41254
- polymer interfaces, IR methods appl., book contrib. 4-7208
- polymers, crystalline, struct. and props., review 4-55759
- polymers, reversible chemical and physical changes studied using Stroboscopic FT-IR 4-57557
- polymers amorphous, powder, polarised IR attenuated total refl. spectra 4-56899
- polyparaphenylene, and derivatives, IR photoacoustic spectrosc. obs. 4-56898
- polypropylene, isotactic, crystallisation from melt, struct., IR obs. (*Russian*) 4-55754
- polypropylene, melt crystallisation, struct. form. 4-45032
- polypropylene films, uniaxially stretched, orientation, IR obs. 4-11007
- polypyrrole perchlorate, optical transmittance and conductivity spectra 4-16196
- polystyrene films, conformational struct. at phase boundary, wetting angle, IR spectra (*Russian*) 4-56122
- polystyrene films, mol. struct., glass transition temp., IR spectra (*Russian*) 4-55757
- polystyrene sulphonic acid ionomer films, ionic interaction, far IR spectra 4-30464
- polystyrene-polyvinyl methyl ether blends, compatibility, Fourier transform IR 4-30465
- polystyrene-polyvinyl methyl ether blends, deform., vibrational spectroscopy 4-40923
- polysulphide polymers, liq., IR spectra, composition and struct. 4-54894
- polyurethane-urea elastomers, segmented, IR dichroism and orientation 4-51234
- potassium tartrates, IR and Raman spectra and vibr. assignment 4-25763
- propane IR absorpt. band intensities and band model param., astron. appl. 4-43877
- propionyl fluoride, far IR spectra, conform. pot. function and methyl rot. barrier 4-23688
- proteins and constituent amino acids, dielec. props. and far IR spectra 4-36098
- PVC, nonequilibrium glassy state, freq. shifting, Fourier transform IR spectroscopic detection 4-2100
- PVC film, plasticised, conformation, FTIR obs. 4-24736
- pyrazine, ion derivatives, aq. solns., electronic and IR spectra, pH depend. 4-54709
- pyridazine, ion derivatives, aq. solns., electronic and IR spectra, pH depend. 4-54709
- pyridine-(d₅), optical const. in IR range 4-51226
- pyridine perchlorate+pyridine, interactions in acetonitrile, IR and PMR obs. 4-1155
- pyridinium salts soln., association with bases, IR spectra 4-23695
- salicylic acid mol., vibr. spectrum and normal coord. calcs. 4-9778
- salicylic acid, IR spectra, thermodynamic functions calc. 4-57595
- sodium potassium tartrates, IR and Raman spectra and vibr. assignment 4-25763
- sodium tartrates, IR and Raman spectra and vibr. assignment 4-25763
- sodium uranyl-tris-acetate, fluoresc. spectra, temp. depend., IR, FIR and Raman spectra, vibronic struct. 4-54792
- spermidine and its hydrochlorides and phosphates, Raman and IR spectra 4-33410
- spermine and its hydrochlorides and phosphates, Raman and IR spectra 4-33410
- stearic acids, deuterated, ordered and disordered phases, conformational mapping, IR spectra 4-33396
- stereoisomers, mol. conforms. and dynamic props. 4-9804
- symmetric tops, universal functions for estimating vibr.-rot. band absorbance 4-23676
- TCNQ-(d₄)-(F₄), near IR and visible electronic transitions, vibronic struct. 4-5214
- TCNQ salt, MPh(TCNQ)₂, highly conducting salt, spectroscopic props. 4-20978
- TCNQ salt, N-methyl, 2,4-dimethylpyridinium (TCNQ)₂, low temp. cryst. struct. and phys. props. 4-11128
- TCNQ-9,9'-bifluorenylidene π complex, IR, UV-visible and resonance Raman spectra 4-35434
- 1,1,2,2-tetracyanoethane, IR and Raman spectra, normal coordinate anal. 4-25765
- tetramethylgermanium, liq. and vapour, overtone spectra and spectral bandwidths 4-38170
- tetramethylsilicon, liq. and vapour, overtone spectra and spectral bandwidths 4-38170
- tetramethyltin, liq. and vapour, overtone spectra and spectral bandwidths 4-38170
- thiurea, and isomeric structures, ab initio MO studies 4-38074
- thiourea powder, IR spectra, comparison with spectra recorded on KBr pellet and as Nujol mulls 4-25764
- (TMTSF)₂X, IR study of band struct. and cond. 4-25760
- (TMTTF)₂X, IR study of band struct. and cond. 4-25760
- toluene, absorpt. coeffs. at CO₂ laser wavelengths, detect. limits 4-38163
- toluene, band maxima, molar IR absorptivities 4-56923
- toluene, fast internal motion, IR and Raman spectra 4-54701
- transition metal organometallic compounds, unstable fragment generation by photochemical ext., IR spectra 4-57584
- tribromomethane, ultrafast overtone excitation for the study of vibrational population decay in liquids 4-14408

infrared spectra of organic molecules and substances continued

- 2,3,5-tribromothiophene, IR and Raman spectra, vibr. spectra and assignments, depolarisation values 4-5234
 cis-1,2,3-trichlorocyclopropane, vibr. spectra and struct. 4-14417
 trans-1,2,3-trichlorocyclopropane, vibr. spectra and struct. 4-14418
 trichloromethane(-d₁), IR intensity analysis without sign ambiguity 4-33401
 triethylamine, adsorpt. at rutile/vapour and rutile/heptane interfaces, IR obs. 4-51258
 trifluoroamine in liq. Ar, IR vibr. absorpt. bands, freqs., halfwidths and integral intensities 4-23693
 trifluorochloromethane, IR vibr. spectra and force consts. of symm. tops 4-23697
 trifluoriodomethane, hot bands, Fermi reson., IR multiphoton absorpt. spectra 4-1153
 trifluoriodomethane, in liq. Xe, ν_6 band IR spectrosc. obs. 4-14423
 trifluoriodomethane molecules cooled in pulsed jet, multiphoton IR absorpt. 4-28524
 trifluoromethyl short-lived species investigation using stroboscopic gas-electron diffraction method 4-5356
 trimethylalkanes, liq. and solid states, IR spectra, vibr. anal. 4-14422
 TTF-TCNQ, far-IR spectra and elec. cond. 4-25759
 uracil monomers, matrix isolated, IR spectra 4-9770
 Van der Waals soln., dil., IR and Raman spectra, rot.-vibr. correls., intermol. forces effect 4-43883
 9-vinylcarbazole oligomers, electro-photographic props., heat treatment effect (Russian) 4-4486
 vinylidene fluoride-trifluoroethylene copolymers, struct., ferroelec. transition 4-56861
 viscose fibre, thermal decomp., small additives effect, IR spectroscopic obs. 4-51990
 xylene, absorpt. coeffs. at CO₂ laser wavelengths, detect. limits 4-38163
 Be(II) complexes, N-aralkylsalcylaldimine Schiff bases, struct. investig. 4-14424
 CH⁺, A¹Π-X¹Σ⁺ system, photodissociation cross section 4-52029
 Fe surface, corrosion inhibitors, IR and Raman spectra 4-12250
 H-bonded dimers in gas phase systems, IR and microwave spectra 4-54703
 H-complexes, molecular and ionic, isotopic substitution effect on IR bands 4-23694
 H₃⁺ ion, IR spectra, ion-mol. reactions 4-9671
 Mn complexes, photolysis prod., spectroscopic studies 4-57588
 Ni silica-supported, benzene adsorption, Fourier transform IR spectroscopy (Russian) 4-34780
 O₃, $\nu_1 + \nu_2 + \nu_3$ band, line positions and intensities, IR obs. 4-5289
 Re complexes, photolysis prod., spectroscopic studies 4-57588
 Te(IV) halogeno complexes, for IR and laser Raman spectrosc. abs. 4-43885
 ZnP₂, tetragonal, IR lattice vibr. spectra 4-2926
 ZnS surface, merocyanine dye molecules, binding and decomposition 4-45531

infrared spectra of polyatomic inorganic molecules

- 3d-metal complexes, salicylaldehyde ethoxythiocarbonyl hydrazone, mag., ESR, NMR, electronic and IR investig. 4-49064
 intermodulated photoacoustic spectroscopy, appl. to IR Doppler-free spectroscopy of simple mols. 4-37208
 ions, high-resolution IR spectra 4-9772
 linear molecules and spherical tops, universal functions for estimating vibr.-rot. band absorbance 4-23675
 liquid or solid samples, infrared and Raman spectroscopy at high pressures 4-56913
 molecular ions, spectroscopy, structure and chemistry, book 4-8662
 molecular spectroscopy, conference, Sofia, Bulgaria (Sept. 1983) 4-53345
 radiationless transitions and IR multiphoton excitation 4-1208
 symmetric tops, universal functions for estimating vibr.-rot. band absorbance 4-23676
 Van der Waals soln., dil., IR and Raman spectra, rot.-vibr. correls., intermol. forces effect 4-43883
 water vapour, high temp. spectrum in 3000 to 4000 cm⁻¹ region 4-4163
 water vapour, supersaturated, IR laser photoacoustic spectroscopy 4-42120
 Ag complexes, bis(N,N'-dimethyl)dithioformamidinium-Ag(I), IR spectroscopy 4-23696
 Ag(I) complexes, triphenylphosphine-aniline mixed ligands, anal. and IR spectra 4-16714
 AlCl₃, vapour phase, high temp. IR and Raman spectra 4-38177
 Al₂Cl₆, vapour phase, high temp. IR and Raman spectra 4-38177
 AlCl₃(AlBr₃)(AlI₃), IR emission, transmission and reflectance techniques 4-54702
 Ar-HD, IR spectroscopy, photodissoc. cross sections and lineshapes calc., predissoc. 4-49021
 AsOCl₃, matrix isolation IR spectra (German) 4-14421
 Au complexes, bis(N,N'-dimethyl)dithioformamidinium-Au(I), IR spectroscopy 4-23696
 BCl₃ molecules, vibrational energy transfer dynamics due to IR laser light excitation 4-38142
 B₂H₆ (D₆), ground state rot., distortion consts., Fourier transform IR obs. 4-5217
 C₂N₂, integrated IR intensities 4-38167
 CO+Ar(N₂), IR lines, broadening coeffs., temp. dependence 4-23690
 CO₂, determ. of vibr. distrib. in nonequilibrium rarefied flows from 15 μ m band spectrum 4-9767
 CO₂ form by CO oxidation on Pt and Pd, time resolved IR emission spectra 4-14407
 CO₂, IR absorpt. in wing of ν_3 vibr.-rot. band 4-38183
 CO₂, supercritical fluid chromatography/Fourier transform IR spectroscopy 4-12398
 CO₂, vibr. nonequilib., radiation characts., 12-19 μ m 4-9769
 CO₂+H₂S, vibr. energy exchange, IR fluoresc. meas. 4-5332
 (CO₂)₂, rot. fine struct., high resol. IR predissociation spectra 4-54685
¹²C¹⁸O₂ (11'0₀), 00'0 band absolute intensity meas. at 5.2 μ m 4-19049
 Cu (II) complex, resacetophenone phenylhydrazone, struct. investig. 4-1148
 Cu complexes, bis(N,N'-dimethyl)dithioformamidinium dihalides-Cu(I), IR spectroscopy 4-23696
 DN₃, IR multiphoton excitation 4-54696
 FC(O)SCl, normal coord. anal., IR and Raman spectra 4-5209
 FON, reaction product from F+methyl nitrite, stabilisation in Ar matrix, IR spectrosc. obs. 4-30963

infrared spectra of polyatomic inorganic molecules continued

- Fe(CO)₅ photofragmentation, IR and Mossbauer evidence for Fe(CO)₄ formation in polymer matrices 4-35918
 α -Fe₂O₃, water adsorption, FTIR spectra, heat flow microcalorimetry 4-40428
 GaCl₃, IR emission, transmission and reflectance techniques 4-54702
⁷⁴GeH₄F, IR spectra, ν_3/ν_6 and ν_2/ν_5 Coriolis-coupled band pairs 4-43882
⁷⁴GeH₄ ν_2 band transition freqs., Coriolis coupling influence study using tunable-injection-laser spectrometer 4-38182
 H₃⁺ ion, IR spectra, ion-mol. reactions 4-9671
 HCN, atom anisotropies and effective charges in vibrational intensity analysis 4-38169
 HCN, dipole moment functions, anharmonic vibr. wavefunctions, IR intensities 4-5212
 HCN relaxation by V-T,R and V-V energy transfer 4-33505
 H₂CN⁺, IR spectra, vibr. freq., SCF and CI calcs. 4-54694
 HCP, dipole moment functions, anharmonic vibr. wavefunctions, IR intensities 4-5212
 H₂F⁺, ν_1 and ν_3 bands, vel. modulation IR laser spectroscopy 4-54693
 H₂F₂ in Ar, N₂, CO and mixed matrices, IR matrix isolation spectra, vibr. freq. 4-54692
 HF...Xe(N₂)(CO)(H₂O), IR spectra, H...F stretching freq. obs. 4-54692
 HGeBr, isotope effects, force consts. vibrs., rot., IR spectra 4-33398
 H₂O, dipole moments, anharmonic vibr. wave functions, IR band intensities 4-5215
 H₂O, H-O-H bending fundamental in solids and liqs. 4-24926
 H₂O mols., interacting, IR spectra anal. using computer programs 4-54704
 H₂O, pollutant gas monitoring by spectral measurements with 1.5 μ m InGaAsP/InP laser 4-26346
 H₂O, rot. and centrifugal distortion parameters, bending vibr. effect 4-23677
 H₂O vapour, effect of laser radiation on IR absorpt. 4-10815
 H₂O₂ (A=16, 17, 18), atlas of line positions and intensities between 0 and 4350 cm⁻¹, book 4-17650
 H₂O-HF, H bonded dimer, pot. energy const., vibr. calcs. 4-43863
 H₂O-HF, in Ar matrix, H bonds, inversion doubling; libration, IR obs. 4-5213
 H₂O+N₂, pure rot. band halfwidth broadening, QFT theory 4-26796
 (H₂O)₂, dipole moments, IR absorpt. intensities, ab initio SCF calcs. 4-23582
 (H₂O)₃ clusters, (n=2, 3 and 4), struct. and vibr. spectra 4-49202
 H₂O⁺, inversion mode band, high resolution IR spectra 4-33405
 H₂O⁺, spectroscopic props., SCEP CEPA wavefunctions calcs. 4-14298
 HO₂(A²A'), excitation mechanisms in various chem. systems 4-9695
 H₂S, line strengths in ν_2 band 4-38172
 H₂S, pure rot. FIR spectrum 4-9768
 H₂S, pure rot. FIR spectrum 4-9768
 H₂S, pure rot. FIR spectrum 4-9768
 HD(II) complexes, IR and Raman spectra (French) 4-38174
 IDI, vibr. stabilised mols., IR and Raman spectroscopic props. and isotope effects 4-33345
 IHI, vibr. stabilised mols., IR and Raman spectroscopic props. and isotope effects 4-33345
 Li₂(OH)₂, geometric struct., force fields and vibr. spectra, ab initio calcs. 4-9664
 MK(Fe(CN)₆)₄.4H₂O, (M=La, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Yb), far and mid IR spectra, normal coord. anal. 4-38175
 NF₂ (X²B₁), ν_1 band anal., IR laser spectroscopy of free radicals and ions 4-49025
 NH₃ adsorbed by Si-OH groups on SiO₂ surface, IR spectrum 4-33400
 NH₃, glow discharge, IR laser optogalvanic spectroscopy 4-23691
 NH₃, IR multiphoton excitation 4-54696
 NH₃, ν_2 spectrum, Fourier transform interferometer meas. 4-38180
 NH₃, pollutant gas monitoring by spectral measurements with 1.5 μ m InGaAsP/InP laser 4-26346
 NH₃, Q-band IR transitions 4-54658
¹⁴NH₃, ν_2 bands, high resolution IR diode laser meas. 4-14414
 NO₂, glow discharge, IR laser optogalvanic spectroscopy 4-23691
 NO₂, IR multiphoton excitation 4-54696
 N₂O, atmospheric band modelling, numerical methods 4-42160
 N₂O, atmospheric IR transmittance band model 4-42159
 N₂O line broadening, temp. depend., Fourier transform meas. 4-38250
 N₂O, IR absorpt. intensity 4-38171
 (N₂O)₂, rot. fine struct., high resol. IR predissociation spectra 4-54685
 N₂O-NO liquid mixture, absorption spectra in near IR region (Russian) 4-14428
 (N₂O)₃ clusters, IR vibr. predissociation spectra 4-33577
 NS₂⁺, electronic struct., force const., IR and Raman freq., CNDO/2 calcs. 4-38069
¹⁴NH₃, ν_2 band, Fourier transform and diode laser spectra 4-14381
¹⁴NH₃, vibr. excitation effect on ν_2 mode vibr.-rot. line contours 4-5229
¹⁵NH₃, ground and ν_2 inversion-rot. levels, microwave and IR obs. 4-14398
 Ni (II) complex, resacetophenone phenylhydrazone, struct. investig. 4-1148
 Ni complexes, Ni(C₆H₅N₃)₂Ni(CN)₄ and Cd(C₆H₇N₃)₂Ni(CN)₄, struct., IR and Raman spectra 4-54715
 O₃, mode-selective IR multiphoton excitation 4-49107
 OCS, IR multiphoton excitation 4-54696
 Os octahedral complexes with imidazolidines-2-thione and 2-selone, far IR spectra 4-5231
 PF₃, cold-jet, ν_3 band, IR obs. 4-54690
 PH₃, vibrational-rotational spectra, accidental resonances 4-9764
 PO radical, vibr.-rot. transition, IR diode laser spectra 4-14415
 Pd (II) complex, resacetophenone phenylhydrazone, struct. investig. 4-1148
 PuF₆, $3\nu_3$ overtone intensities and vibr. anharmonicity consts. 4-38144
 SF₆ dissociation, testing ratios as comparison parameters, IR multiphoton dissociation in threshold processes 4-54821
 SF₆, $3\nu_3$ overtone intensities and vibr. anharmonicity consts. 4-38144
 SF₆, collisionless vibr. energy redistrib. between IR and Raman active modes, time-resolved study 4-54684
 SF₆, diode laser spectroscopy with IR multiphoton excitation 4-14493
 SF₆, IR multiphoton absorpt., fluence and intensity dependences 4-5207
 SF₆, IR multiphoton dissociation, threshold processes 4-54824
 SF₆ in solid Xe matrices, orientational ordering, IR spectra 4-54695
 SF₆ molecules cooled in supersonic jet, IR multiphoton absorpt. spectra 4-9868

infrared spectra of polyatomic inorganic molecules continued

- SF_6 , multiphoton IR absorpt. and dissociation, excitation pulse intensity (duration) depend. 4-28523
 SF_6 , rot. heating, isotopic selectivity linewidth, multiphoton absorpt., IR emission 4-23766
 SF_6 , supersonic free jets, rot. temp., IR diode laser diagnostics 4-9747
 SF_6 , vibr. overtone spectra, IR obs. 4-54689
 SO_2 , IR multiphoton excitation 4-54696
 SO_2 , integrated IR intensities and at. polar tensors 4-38166
 SO_3 , ν_3 band, Fourier transform. IR spectrum, Coriolis interaction, mol. consts. 4-14404
 SbOCl , matrix isolation IR spectra (German) 4-14421
 SiH_4 , vibr.-rot., microwave transitions, Fourier transform spectra (French) 4-54683
 SiH_4 , IR spectra and rovibr. anal., ν_6 region anal. 4-38181
 $^{28}\text{SiH}_4$, ν_3 band transition freqs., Coriolis coupling influence study using tunable-injection-laser spectrometer 4-38182
 UBr_4 , vapour, stretching vibr., IR spectra 4-28440
 UCl_4 , vapour, stretching vibr., IR spectra 4-28440
 $\text{UCl}_4\text{-Cl}_2$, vapour, stretching vibr., IR spectra 4-28440
 UF_4 , vapour, stretching vibr., IR spectra 4-28440
 UF_6 , $3\nu_3$ overtone intensities and vibr. anharmonicity consts. 4-38144
 UO_2^{2+} complexes in aq. solns., mid-, far-IR and Raman spectra, force const., bond distance 4-54717

infrared telescopes *see telescopes***infrared transmitters** *see infrared sources***infrasonic waves** *see acoustic waves***initial value problems**

- bar, high-freq. longit. wave propag., theory 4-44464
 beam with hinges and oscillators, initial-parameter method for bending oscils. 4-14910
 bistable reaction-diffusion eqn., pure initial value problem 4-8852
 chirped pulse generation in optical fibres suitable for an effective pulse compression 4-5650
 linear thermoelectricity, first initial boundary value problem, soln. regularity and uniqueness 4-1604
 muscle contraction, mathematical aspects of cross-bridge mechanism 4-16917
 piecewise continuous discretisation techniques for neutron kinetics and transport 4-37691
 poroelasticity, inertial effects 4-1612
 shell, elastic, interaction with compressible fluid, stability of explicit difference schemes 4-19776
 thermoelectricity, generalised solution with two relax. times 4-49688
 thermomechanics, third boundary-initial value problem for thermal stresses eqn. 4-1596
 thermophysical properties measurement Parker heat pulse method analytical soln. 4-37095
 water wave generation at inertial surface 4-44614

injection lasers *see semiconductor junction lasers***injury by radiation** *see biological effects of radiation***inorganic insulators** *see insulating materials***inorganic molecule configurations***see also isomerism*

- benzene cation radical, Jahn-Teller distortion, ab initio MO calcs. 4-1034
 bimetallic Lewis acid complexes, prep., struct. studies 4-51998
 closo-carboranes, ^{11}B -H spin coupling consts., correl. with struct. features 4-19082
 complex inorganic ions, vibr., thermodynamics, ab initio SCF MO LCAO calcs. 4-28369
 inorganic mols., stability, struct., isomerism 4-35860
 lanthanum p-hydroxybenzoate $\text{SO}_4\cdot 3\text{H}_2\text{O}$, mol. and cryst. struct., thermal behaviour 4-14604
 metal clusters, Huckel method appl. 4-23577
 organosilicon compounds, ground- and excited-state props. calc. using local pseudopot. method 4-14304
 qualitative deductions, theorem on mol. rel. stabilities, distortions and reactions 4-28346
 tetraaquo(bis(pyridine)-tetra(p-nitrobenzoato)dycopper(II), mol. and cryst. struct., X-ray study 4-14605
 van der Waals mols., electrostatic interaction 4-28528
 van der Waals mols., struct., electrostatic interactions 4-28527
 water associates, mol. struct. and props., review 4-10202
 water clathrates, geometrical props., mol. dynamics calcs. 4-29296
 Cu^{2+} complexes with dopamine in aq. soln., NMR, EPR and INDO studies 4-5253
 $\text{Al}^{3+}\text{-H}_2\text{O}$ complexes, struct. and electron density, cation influence 4-48933
 $\text{Ar-F}_2\text{C}^{18}\text{O}$ ($\text{F}_2\text{C}^{18}\text{O}$) rot. spectrum, mol. struct., microwave spectrum 4-14397
 BF_4 radical, ESR spectra and struct., formed in KBF_4 cryst. by γ -rays 4-23727
 B_2H_6 , struct. determ. using ground state spectroscopic rot. consts. and harmonic pot. function 4-38053
 B_3N_3 cation radical, Jahn-Teller distortion, ab initio MO calcs. 4-1034
 BO , pot. energy surface SCF calcs. 4-28365
 B_2O_3 , ground state, force field, pot. surface, SCF approx. 4-28364
 B_2O_3 , molecular struct., vibrational freqs., high temp. electron diff. 4-49162
 Be_2H_2 , struct. and stability, ab initio calcs. 4-9665
 $\text{Be}^{2+}\text{-H}_2\text{O}$ complexes, struct. and electron density, cation influence 4-48933
 Br_2 -clusters in Ar matrices, time resolved visible and UV absorpt. spectra 4-1308
 CO^+ , equilb. struct., microwave spectrosc. obs. and Born-Oppenheimer approx. calcs. 4-14396
 $\text{CO}_2\text{-H}_2\text{O}(\text{HDO})(\text{D}_2\text{O})$ van der Waals complexes, RF and microwave spectra, struct. and internal rot. 4-54678
 ClCP , mol. struct., electron props., ab initio SCF calcs. 4-43788
 Co complex, μ -oxo-di(bis-dimethylglyoximatecobalt (III)), cryst. and mol. structures, X-ray diff. study 4-34461
 Cr complex, $\text{Cr}(\text{CO})_5(1,3,5,7 \text{ tetrathian})$, stereochem. nonrigidity, PMR investig. 4-28455
 Cs_2CrO_4 , mol. struct., gas-phase electron diff. investig. 4-10082
 Cu (II) complex, resacetophenone phenylhydrazones, struct. investig. 4-1148
 Cu complex, CuCl with allyl alcohol, cryst. struct., H bonds, X-ray diff. study 4-34460

inorganic molecule configurations continued

- Cu complexes, 2-diethylaminoethanol- $\text{Cu}(\text{II})$ alkoxo-bridged polynuclear cmpnds., struct. studies 4-15428
 $\text{Cu}(\text{II})$ complex, isatin Manich base thiosemicarbazone, ESR obs. 4-14454
 D_2O mol. struct. stabilisation by tetrabutylammonium ion 4-10950
 FCP , mol. struct., electron props., ab initio SCF calcs. 4-43788
 Fe^{3+} complexes with dopamine, NMR, EPR and INDO studies 4-5253
 $\text{Fe}(\text{III})$ β -diketonates, substituent inductive and steric props. 4-9699
 Ga_2O_3 , mol. struct., vibr. characts., electron diff. obs. 4-10079
 H_2 , struct., channel coupling theory appl., global basis-set expansions 4-23594
 H_2^+ , finite element method soln., pot. energy curves, channel coupling array, Schrodinger eqn. soln. 4-23595
 H_2^+ , struct., channel coupling theory appl., global basis-set expansions 4-23594
 H_2^+ , correl. force calc. (French) 4-33329
 H_2A type mols., electronic charge distrib., geometric, force and electrostatic parameters calcs. 4-23596
 $\text{HCN-CO}(-d_1)$ complex, RF and microwave rot. spectra and struct. anal. 4-38160
 $\text{H}^+(\text{CO})_5$, struct. study 4-18928
 HCP , mol. struct., electron props., ab initio SCF calcs. 4-43788
 HCl , dimer, liq. and ordered solid, struct. calc. using intermol. pot. model 4-38054
 $(\text{HF})_3$ clusters, open chain and cyclic, stability, ab initio calcs. 4-14296
 $\text{H}^+(\text{N}_2)_5$, struct. study 4-18928
 HNCO , barrier to linearity, SCF calcs., basis set depend. 4-1022
 HO_2^+ , geometrical struct. and vibr. freq., SCF and CI calcs. 4-28381
 $(\text{H}_2\text{O})_n$ clusters, ($n=2, 3$ and 4), struct. and vibr. spectra 4-49202
 HOCP , mol. struct., electron props., ab initio SCF calcs. 4-43788
 $\text{H}_2\text{S-HF}$ complex, H bonded, struct., ab initio calcs. 4-28361
 H_2S_2 , basis sets for ab initio MO calcs., energies, struct., force consts. and dipole moments calc. 4-23576
 $\text{H}_2\text{X-HY}$, ($\text{X}=\text{O}, \text{S}, \text{Se}, \text{Y}=\text{F}, \text{Cl}, \text{Br}$), H-bonded complexes, geometry dissoc. energies, ab initio GO-SCF-MO calcs. 4-38064
 HeH^+ , struct., channel coupling theory appl., global basis-set expansions 4-23594
 $^{127}\text{I}_2$, hyperfine-induced ungerade-gerade symm. breaking near dissoc. limit, $^2\text{P}_{3/2}\text{-}^2\text{P}_{1/2}$ limit 4-33415
 In_2O , mol. struct., vibr. characts., electron diff. obs. 4-10079
 Ir complex, Ir tri(di-isopropyl dithiophosphate), cryst. and mol. struct. 4-11067
 Li_6 , props., ab initio calcs., Jahn-Teller effect in optimal geometrical shape 4-28358
 Li_7 , props., ab initio calcs., Jahn-Teller effect in optimal geometrical shape 4-28358
 Li_2CO_3 , geometric struct., stability, ab initio LCAO SCF calcs. 4-28368
 $\text{Li}^+\text{-H}_2\text{O}$ complexes, struct. and electron density, cation influence 4-48933
 LiNC rot. and hyperfine consts., mol. beam elec. reson. study 4-23728
 LiOB pot. energy surface SCF calcs. 4-28365
 Li_2OH^+ , geometric struct., force fields and vibr. spectra, ab initio calcs. 4-9664
 $\text{Li}_2(\text{OH})_2$, geometric struct., force fields and vibr. spectra, ab initio calcs. 4-9664
 MgBeH_4 , struct. and stability, ab initio calcs. 4-9665
 Mg_2H_4 , struct. and stability, ab initio calcs. 4-9665
 $\text{Mg}^{2+}\text{-H}_2\text{O}$ complexes, struct. and electron density, cation influence 4-48933
 Mn^{2+} complexes with dopamine, NMR, EPR and INDO studies 4-5253
 MnF_2 , mol. struct., gas phase electron diff. 4-28563
 MoCl_5 , equilb. geometric config., gas-phase electron diff. investig. 4-10081
 N_6 open-chain mol., FOGO and LCAO-MO calcs., geometries, internal rot. 4-23599
 $(\text{NH}_3)_n$, struct., ab initio MO calcs., H-bond stability 4-38041
 NH_2 , bond distances and angles, ab initio calc. 4-38052
 NH_3 , low lying states, electronic struct. and spectra, ab initio calcs., Jahn-Teller distortion 4-1046
 N_2H_2 mol. struct., energies, MNDO calcs. 4-14332
 $\text{NH}_4^+(\text{NH}_3)_n$, struct., ab initio MO calcs., H-bond stability 4-38041
 NH_4SH , product from discharge reaction, mol. moments, microwave spectra 4-5202
 $\text{NH}_3\text{-HX}(\text{HX})_2$, H-bonded complexes, Gaussian orbital SCF-MO calcs., dissoc. energies, geometries 4-23598
 N_2O_3 , isomeric forms, rel. stability, electronic and geometric struct., ab initio calcs. 4-48935
 Ni (II) complex, resacetophenone phenylhydrazones, struct. investig. 4-1148
 Ni complexes, $\text{Ni}(\text{C}_6\text{H}_7\text{N}_2)\text{Ni}(\text{CN})_4$ and $\text{Cd}(\text{C}_6\text{H}_7\text{N}_2)\text{Ni}(\text{CN})_4$, struct., IR and Raman spectra 4-54715
 $\text{Ni}(\text{II})$ chelates of thiosemicarbazones, base adducts 4-14601
 O_3 , 1,3-dipoles, diradical 4-14302
 $\text{O}(\text{BO})_2$, mol. struct. and electronic props., ab initio calcs. 4-1026
 $\text{O}(\text{CN})_2$, mol. struct. and electronic props., ab initio calcs. 4-1026
 OH_2 , bond distances and angles, ab initio calc. 4-38052
 $\text{PH}_3\text{-HCN}$ complex, weakly bound, rot. spectrum and struct. obs. by Fourier transform microwave spectroscopy 4-54676
 $\text{PH}_3\text{-HX}$, H-bonded complexes, Gaussian orbital SCF-MO calcs., dissoc. energies, geometries 4-23598
 PbX_2 ($\text{X}=\text{F}, \text{Br}, \text{I}$), mol. struct., vibr. characts., electron diff. obs. 4-10079
 Pd (II) complex, resacetophenone phenylhydrazones, struct. investig. 4-1148
 SF_6Br , microwave spectra and struct. (French) 4-9762
 SF_6NCO , gas phase electron diff., geometric struct. 4-5361
 $\text{S}_2\text{N}_2^{2-}$, ground state struct., geometry, ab initio SCF calcs. 4-18903
 $\text{S}_2\text{N}_4\text{H}^+\text{BF}_4^-$, prod., cryst. and mol. struct., X-ray obs. 4-12334
 SO_2 , basis sets for ab initio MO calcs., energies, struct., force consts. and dipole moments calc. 4-23576
 SO_2 , temp. depend. struct. mol. pots. electron diff. 4-1268
 SOCl_2 , microwave spectrum, struct., rot. and centrifugal distortion consts. 4-5203
 SeF_5NCO , gas phase electron diff., geometric struct. 4-5361
 Si hydrides, ground- and excited-state props. calc. using local pseudopot. method 4-14304
 Si_2H_2 isomers, singlet and triplet states, ab initio SCF and pseudopotential calcs. 4-48953
 SnX_2 ($\text{X}=\text{Br}, \text{I}$), mol. struct., vibr. characts., electron diff. obs. 4-10079
 TeF_5NCO , gas phase electron diff., geometric struct. 4-5361

inorganic molecule configurations continued

- Tc(IV) halogeno complexes, for IR and laser Raman spectrosc. abs. 4-43885
 TiO₂, mol. struct., vibr. characts., electron diff. obs. 4-10079
 UF₆, mol. struct., gas phase electron diff. investig. 4-10083
 W complex, W(CO)₅(1,3,5,7-tetrathian), stereochem. nonrigidity, PMR investig. 4-28455
 W(CO)₃(PH₃)₂(H₂) complex, bonding, struct., ab initio HF level calcs. 4-33298
 WCl₄, force fields, struct., gas phase electron diff. 4-28562
 WCl₅, mol. struct., electron diff. obs. 4-10084
 Zn(II) complex, (2,2',2''-triaminotriethylamine) chloride, struct., X-ray diff. investig. 4-28575

inorganic molecule electronic structure *see molecular electronic states***input-output media (computers)** *see computer peripheral equipment***insolubility** *see solubility***inspection**

- see also quality control; reliability; testing*
 acoustic emission NDT appls. 4-51909
 acoustic inspection methods of strength of struct. materials, reviews 4-51937
 automated X-ray, local feature method for flaw detection 4-7685
 composite aerospace struct., computerised ultrasonic C-scan system 4-57520
 computerised US scan inspection system, production implementation 4-51919
 crack detection, fluorescent penetrant, process automation using industrial robots 4-46698
 defect signal separation using eddy current inspection unit 4-46711
 double layer plates, lack of bonding defects, holographic and US inspection 4-3350
 eddy current measurement system for flaw detection, anal. and design 4-26160
 eddy current transducer with conical core, localization parameters 4-46708
 EM acoustic transducer arrays for evaluation of weldments 4-26164
 EM flaw detector for inspecting long cylindrical products 4-16597
 FBTR fuel pin end plug welds, radiographic evaluation, defect standard, microdensitometry 4-12285
 feature based US inspection system, reflector classification analysis, pattern recognition 4-51916
 ferromagnetic components, EM nondestructive inspection, oscills. of harmonics of induced EMF 4-16593
 ferromagnetic components, EM nondestructive inspection, oscills. of harmonics of induced EMF 4-16594
 geometrical welded structures, US flaw classification 4-41150
 HF angle beam EM acoustic transducers for weld inspection 4-26163
 Hungarian Nuclear Energy Agency safety systems and safeguards (*Hungarian*) 4-23329
 hybrid optical-digital image processing method for surface inspection 4-42917
 large diameter pipes, acoustic emission test method applications 4-12273
 magnetic particle inspection, prod magnetisation method, mag. field strength 4-7658
 magnifying lens inspection in series production, contrast transfer function appl. (*Czech*) 4-55241
 metal-enamel contact zone, metallographic inspection 4-41156
 NDE, improvement through multiple inspections 4-26154
 NDT, conference, London, England (Jan. 1984) 4-42606
 NDT, electromagnetic transducer for mech. stresses, microcalculator appl. 4-16595
 NDT, standard for visual acuity of inspecting personnel (*German*) 4-7675
 NDT inspection units, checking, calibration and adjustment 4-16602
 noncontact ultrasonic transducers for NDT 4-3312
 nondestructive, EM structuroscopy theory 4-46707
 nuclear power plant inspection, data acquisition and processing system (*Japanese*) 4-14082
 nuclear steam generators, remote digital in-service inspection 4-28128
 optical fibre splices, reliability and quality test methods (*German*) 4-14821
 optical systems engineering, conf., Los Angeles, CA, USA (Jan. 1983) 4-31955
 pipe seam, improvement of US inspection technology 4-26141
 plane surface inspection by Talbot interferometry 4-32300
 probability of detection, computer simulation 4-26157
 profile projector for workpiece shape and dimension inspection 4-38544
 radiographic inspection, defect dimension calc. 4-16598
 radiographic inspection, uses of photographic paper, mathematical model 4-16599
 reactor pressure vessel, flaw detection, acoustic holographic imaging system 4-41164
 remote field eddy current inspection technique 4-51918
 rod, nonuniformly magnetised, space charge distribution of residual magnetic field 4-1318
 scanning laser microscope for inspection of microelectronic devices 4-37168
 SEM, stroboscopic mode resolution limits 4-32391
 SEM systems designed specifically for semicond. anal. 4-18006
 semiconductor wafer inspection, near IR polarising microscope 4-4458
 sintered carbide inserts visual inspection, electro-optical computerised system 4-35787
 steel, alloy, nondestructive inspection method for surface layer 4-7664
 steel, austenitic stainless, pipe welds, discrimination of US indications 4-26140
 steel, austenitic stainless, weld, US inspection, acoustic impedance mismatch 4-21401
 steel, austenitic stainless, weldments, US inspection, false defect indications 4-12287
 steel, BWR riser piping, intergranular SCC, radiographic inspection system 4-41163
 steel, defect detection, trial plate, near surface defects, US inspection 4-41122
 steel, defect detection trials, US inspection 4-41120
 steel, defect detection trials plate, US inspection of clad inlet nozzle 4-41118
 steel, double-layer sheet, ultrasonic inspection of reduced strength zones 4-46678
 steel, rolled stock, nondestructive inspection of mech.-props., reliability analysis 4-3358

inspection continued

- steel, US flaw inspection, defect detection trial plate 4-26118
 steel, US inspection of continuously cast slabs using EM acoustic transducer (*French*) 4-46722
 steel, US inspection of defect detection trial plates 4-7660
 steel rods, eddy current inspection, local mag. props., end effect 4-46713
 steels, rail or wheel, safety inspection vs. pop-in events (*Chinese*) 4-7540
 strength inspection impact amplitude-time method 4-3354
 surface inspection using laser scanning instruments. 4-55108
 TEM, stroboscopic mode resolution limits 4-32391
 thermal-wave microscopy, surface and subsurface features imaging 4-3369
 ultrasonic pipe weld inspection, remotely controlled system for nuclear power plant piping 4-51942
 US NDT, electrical engineering applications 4-46730
 X-ray screening of air travellers' luggage, damage to photographic film 4-13687
 X-ray TV inspection with low radiation doses 4-16601
 Al₂O₃ refractory blocks, nondestructive testing 4-12299
 C fibre reinforced C, US strength inspection 4-7665
 Ni crystals, finite element modeling of ultrasonic inspection of weldments 4-26162
 Ti, eddy current inspection of gas saturated surface layer 4-46709

instability *see stability***installation**

- optical fibre installation in pre-installed cable bores using viscous flow of air 4-38616
 Petaluma solar heated swimming pool, design, installation and start-up 4-52193

instrumentation

- see also aerospace instrumentation; computerised instrumentation; digital instrumentation; digital readout; display instrumentation; nuclear instrumentation; physical instrumentation control; signal generators*
 Defence Waste Processing Facility, process control and instrumentation 4-23251
 development trends 4-4387
 earthing of instrumentation systems (*Dutch*) 4-42978
 engineer degree course development experience 4-47818
 LEED instrumentation developments survey 4-4501
 national calibration services and their international collaboration 4-48069
 nuclear fuel reprocessing plants, use of conventional instrumentation (*French*) 4-33048
 repository, instrument reliability 4-23261
 solar pond design and instrumentation 4-57771
 staff education/training, for instrumentation and measurement field, in developing countries 4-47817
 CO combustion analysers, extractive and in situ using non-dispersive infrared detection 4-26253

instruments

- see also individual types of instruments, e.g. astronomical instruments, bridge instruments, optical instruments*
 electrodeposition equipment current density meas. and control instruments (*Rumanian*) 4-48155
 maintenance and calibration of instruments, conf., Zagreb, Yugoslavia, Sept. (1983) 4-47758
 maintenance/handling/storage policy 4-48117
 measuring instruments dynamic calibration and characts. in time and freq. domains 4-48111
 national calibration services and their international collaboration 4-48069
 selection principles, measurement errors and costs 4-48116

insulated gate field effect transistors

- annealing in MOS devices, rel. to defect annealing in fused SiO₂, rate limiting step 4-45179
 insulator-semiconductor interface states, elec. characterisation (*French*) 4-35038
 ion sensitive FETs, with electrostatic protection 4-37084
 ISFET, chemical sensors, design, construction and characts. (*Italian*) 4-13629
 metal/oxide/Si FET inversion layer, conductance, electron density depend. 4-30078
 MNOS, low-temp. processed, inversion layer props. study for solar cells 4-3466
 MOSFET, chemical sensors, design, construction and characts. (*Italian*) 4-13629
 MOSFET, magnetothermal effect in strong mag. field 4-20680
 MOSFET, n-channel enhancement mode, fabrication using electron-beam recrystallised SOI films 4-34823
 MOSFET, p-Si inversion layer, atomic roughness and Hall mobility 4-15963
 MOSFET IC exposed in ⁶⁰Co facilities, dose enhancement effects 4-48801
 MOSFET sensor for tracking HV surface fields 4-42988
 multi-microelectrode and interface ccts. integration, neural systems organisation and function obs. 4-36261
 InAs MISFET, magnetoconductance study of inversion layers 4-20727
 In_{0.53}Ga_{0.57}As:Fe, LPE, dopant compensation, MISFET appl. 4-40688
 InP-Al₂O₃-metal, etching procedures of InP, effects on electrical props. (*French*) 4-25451
 InP-SiO₂ MISFET, slow current drift model 4-50926
 PbS-Si MOSFET focal plane development 4-48199
 Si MIS field effect struct., de Haas-van Alphen effect in inversion layers 4-25449
 Si MOSFET, electron temp., determ. from broadband far IR emission 4-35080
 Si submicrometer inversion layer in MOSFET, discrete resist. switching and interface traps 4-30079
 Si:B, ion implantation for shallow p⁺/n junction formation and p-channel MOSFETs fabrication 4-20225
 a-Si:H MOSFET, photocond., Fermi level effects 4-6830
 Si-SiO₂ boundary in MOSFET, intrinsic oxide breakdown at near zero elec. fields 4-56853
 Si₃N₄ thin gate insulators, thermal nitridation of Si and SiO₂ 4-6920

insulating coatings

- see also varnish; waxes*
 ferromagnetic tapes, metallic, amorphous, magnetic props., effects of electrically insulating coating (*Czech*) 4-40188
 Fe-Si, grain oriented electrical steel, domain struct., core loss, permeability, surface coating stress effect (*Japanese*) 4-35192
 Fe₈₁B_{13.5}Si_{3.5}C₂ metallic glass toroids, power loss, coating effects 4-30208

insulating materials

- see also *asbestos; ceramics; composite insulating materials; dielectric materials; gaseous insulation; glass; insulating thin films; mica; organic insulating materials; thermal insulating materials*
- breakdown, relaxation and life tests, Weibull statistical analysis 4-16160
- composite insulating materials, ageing characts. of impurities 4-35647
- crosslinked polyethylene (XLPE) electrical strength, influence of crosslinking atmosphere (*German*) 4-30391
- discharge damage, breakdown partial discharge mechanism and failure study 4-16158
- domestic hot water solar heating systems materials review 4-26320
- electric strength, decline with time, general eqn. for combined thermal and elec. stresses 4-51188
- electrical insulation and dielec. phenomena, conf., Buck Hill Falls, USA (Oct. 1983) 4-31963
- glass, solid dielectric, influence of HV polarization on impulse elec. strength, expt. study 4-16143
- insulating expansion filled with dielectric liquid, charge accumulation and filtration 4-35003
- liquids and solids, breakdown processes, similarities and differences 4-16162
- mica reinforced epoxy insulation, interlaminar shear strength 4-26126
- periclase, elec., particle size comp. rel. to elec. insulation props. 4-57360
- periclase, elec. resist. meas. method 4-11525
- polystyrene, breakdown voltage, effect of ambient temp. and air cavities 4-35357
- porcelain electrical insulators, strength and reliability 4-35697
- water, breakdown strength under long term elec. stress 4-35356
- MgO, fused, electrical-grade, heat treatment in induction plasma 4-51702
- polyvinyl chloride, breakdown voltage, effect of ambient temp. and air cavities 4-35357
- Si₃N₄ films, plasma enhanced CVD deposition, etching and insulation degradation 4-51841
- SiO₂-Al₂O₃-K₂O-Na₂O electroceramics, acoustic emission during cyclic loading 4-41129

insulating materials, acoustic see *noise abatement*

insulating materials, thermal see *thermal insulating materials*

insulating oils

- free convection and heat exchange of vertical heated wall of transformers (*Russian*) 4-38818
- petroleum oils, elec. cond. mechanism 4-34962
- silicone oil, current response threshold parameter variation 4-35004
- transformer oil, aged, DC cond. in non-uniform high fields 4-35001
- transformer oil, cond., 1 addition influence (*Russian*) 4-6534
- transformer oil, state electrification during flow through pipes 4-34186
- transformer oil PCBs detection by chlorine anal., field experience 4-57615

insulating thin films

see also *dielectric thin films; electronic conduction in insulating thin films*

- Al₂O₃ film, SEM and surface EXAFS study 4-20521
- alkali metal-rare gas films, metal-insulator-transition, model 4-45637
- alkali metal halides, ionic cryst. films, mol. dynamics simulation 4-6684
- anodic oxide growth on GaAs, coupled ellipsometric and capacitance meas. 4-56440
- benzene frozen films, proton induced polymerisation 4-12365
- benzene thin films, luminesc. emission and excitation spectra under slow electron impact at 77K 4-11923
- betaine 2-N-pyridinium indandione-1,3, evaporated layer, electrooptical effects (*Russian*) 4-30441
- betaine 2-N-pyridinium indandione-1,3, variation of refractive index (*Russian*) 4-30428
- dielectric breakdown, specific field value determ. 4-16167
- gelatin, swelling kinetics, meas. method and equipment (*German*) 4-46804
- metal-thin oxide film, integral hemispherical emittance (*Russian*) 4-29659
- mica, white, struct. and chem. composition, TEM and SEM studies (*Chinese*) 4-56160
- monolayers formation, using Langmuir's trough, transistor appls. (*German*) 4-16308
- organic compound solid films, annealing kinetics and rot. isomerism, IR absorpt. spectra 4-51264
- oxide thin layer growth on silicate cpds. 4-57461
- passivating film stability on Fe alloys, chem. heterogeneity effect within metal phase 4-57464
- passive film on Fe electrode, capacity and photocurrent meas. 4-56431
- passive layer on metal electrodes, photoeffects 4-56396
- 3,4,9,10-perylene-tetracarboxylic dianhydride thin films, ion irradi., elec. resist. 4-40100
- phthalocyanine, metallated complexes, thin solid films, vibr., Raman spectra 4-51261
- poly(amide-imide) films, elec. conductivity, dielec. loss, chip technology appls. 4-15977
- polymeric insulation films, partial discharge, breakdown tests, voltage-endurance-lines parameter evaluation 4-16161
- stearic acid films, elec. and dielectric props. 4-35108
- tetrabenzofulvalene films, drift mobility, anomalous field depend. 4-29974
- Al₂O₃, anodic, photocond. in 3 to 6.2 eV range, localised levels 4-2664
- Al₂O₃, anodic film in borate soln., composition determ. by Rutherford backscatt. 4-56173
- Al₂O₃, anodic film in borate soln., film density and shopping power for α -particles 4-57062
- Al₂O₃, anodic film on InP and In_{0.53}Ga_{0.47}As, prep. and props. 4-25465
- Al₂O₃, barrier anodic coatings, electrolyte byproducts incorporation 4-41105
- Al₂O₃ film, plasma-sputtered, for exoelectronic dosimeters 4-25854
- Al₂O₃ film, TEM extended electron energy loss fine struct. study 4-57050
- Al₂O₃ films, CVD, deposition rate meas. 4-16339
- Al₂O₃ films, plasma enhanced beam deposition at low temps. 4-35582
- Al₂O₃, insulating thin films, ion beam sputter deposition for highly loaded contacts 4-21139
- Al₂O₃ RF sputtered thin films, O₂ partial press. effects on props. 4-56161
- Al₂O₃:As⁺(Xe⁺), amorphous layers, heavy ion implantation, range parameters, empirical formula (*Chinese*) 4-6386

insulating thin films continued

- AlP₂O₃ (Al₂O₃) dielectric films on InP, LPCVD and elec. props. 4-56439
- As₄ vapour deposited yellow films, struct. and optical props., condensation condition effects 4-39722
- BN amorphous films produced by double-plasma reactor for semicond. appls. 4-3085
- BaF₂ dielectric films, heteroepitaxial growth on Si by vacuum evaporation 4-25170
- BaF₂ epitaxial growth on semicond., lattice matching effects 4-6683
- BeO thin film dosimeter, energy depend. of TSEE on monoenergetic electrons 4-48771
- C, amorphous, granular metallic deposits, cond. during nucleation and growth 4-39715
- C amorphous film, granularity of metallic deposits, cond. meas. (*French*) 4-30086
- C amorphous film on Si substrate, struct., radial distrib. functions 4-56166
- C films, diamond-like, obtained by ionised deposition of acetylene (*Japanese*) 4-2471
- C films, ion beam deposition, structural, elec. and optical props. 4-29841
- C thin films, α -particle stopping power meas. 4-50385
- C thin films, sputtering yield on different substrates (*Japanese*) 4-3011
- a-C:H film, ESR study 4-30267
- a-C:H thin films, optical consts. and dielectric props. 4-46339
- CaF₂ dielectric films, heteroepitaxial growth on Si by vacuum evaporation 4-25170
- CaF₂ epitaxial growth on semicond., lattice matching effects 4-6683
- CaF₂ insulating film on GaAs(100), MBE growth and props. 4-51506
- Ca₂Sr_{1-x}F₂ insulating film on GaAs(100), MBE growth and props. 4-51506
- Cu₃(Fe(CN)₆)₂ electrode-supported films, FT external refl. and photoacoustic spectrosc. 4-57008
- Dy₂O₃:B, thin films amorphisation, forbidden gap 4-55725
- DyS, mixed valence, optical reflectivity and X-ray diffr. studies 4-11497
- DyF₃ thin film, dielectric props. meas. 4-35359
- Er₂O₃ films, thermolec. measurements 4-25464
- FeF₃, film, composition and struct. anal. 4-39724
- FeF₃ thin films, inhomogeneous, elec. charge transfer, less resistance path, TSC 4-15978
- Fe₄(Fe(CN)₆)₃ electrode-supported films, FT external refl. and photoacoustic spectrosc. 4-57008
- Fe₂O₄ thin films, quantum size effect study 4-40101
- HfO₂ passive electrodes, Xe⁺(Pd⁺) ion implantation effect on electrochem. behaviour 4-55855
- KReO₄ film, nonlinear IR spectra and LO phonons 4-11955
- MgF₂, ellipsometry of thick transparent films using channelled spectrum 4-43017
- MgO, thermally grown, MIM capacitor, elec. pulse breakdown 4-2878
- NiF₂ film, composition and struct. anal. 4-39724
- NiO thin film growth by sputter oxidation technique, TEM surface examination (*Japanese*) 4-3071
- Si oxides on SiO₂, elec. and growth study 4-30099
- Si-N-O, amorphous layers, photoelectric spectra 4-51449
- SiN_x stress determ. technique 4-38770
- Si₃N₄, amorphous, defect states energy levels, trap states 4-50750
- Si₃N₄, amorphous film, fine struct. of absorpt. spectra 4-11967
- Si₃N₄, amorphous film, luminescence study 4-25818
- Si₃N₄ CVD films, AES anal. electron and ion beam effect 4-51421
- Si₃N₄ film, photo-CVD by direct pyrolysis, elec. and optical props. 4-40661
- Si₃N₄ films, plasma enhanced CVD deposition, etching and insulation degradation 4-51841
- Si₃N₄ films deposited with electron beam created plasma 4-51528
- Si₃N₄ layers, plasma deposition, charact. 4-34815
- Si₃N₄ low-pressure CVD layers, electron and hole conduction 4-11532
- Si₃N₄ plasma deposited films, deposition kinetics and props. 4-12034
- Si₃N₄, plasma etching of low press. CVD deposited films, NH₄F film obs. by IR spectrophotometry 4-35743
- Si₃N₄, thermal nitridation of Si and SiO₂ 4-6920
- Si₃N₄ thin film growth and interface composition 4-51486
- Si₃N₄:As⁺(Xe⁺), amorphous layers, heavy ion implantation, range parameters, empirical formula (*Chinese*) 4-6386
- SiO amorphous film, vacuum deposited, high resolution electron microscopy studies 4-39708
- SiO₂ film, avalanche electron injection system with microprocessor-control (*Japanese*) 4-50968
- SiO₂ film structural evolution during thermal growth in dry O₂ 4-34808
- SiO₂ films, elec. props., electron irradi. and HCl treatment effects 4-56465
- SiO₂ films, electronic conduction study using MOS capacitors 4-45889
- SiO₂ films, plasma enhanced beam deposition at low temps. 4-35582
- SiO₂ films, thermal nitridation, H content meas. 4-39702
- SiO₂ layers, field dependent trap parameters 4-6915
- SiO₂, low power plasma-enhanced CVD, rate and uniformity control, optical monitoring 4-35579
- SiO₂ sol/gel films, prep. and nitridation, effect of H₂O/TEOS ratio 4-57097
- SiO₂ thermal films, thickness films, thickness depend. of dielectric breakdown failure 4-11612
- SiO₂ thermal layers grown in I₂ ambient, struct. anal. (*Russian*) 4-56168
- SiO₂ thermal thin films struct. characts., O₂ transport study 4-56180
- SiO₂ thermally grown layers, halogen impurities, SIMS study (*Russian*) 4-56169
- SiO₂ thermally grown layers, halogen impurities, IR absorpt. spectra (*Russian*) 4-56935
- SiO₂ thickness determ. in Si-SiO₂ MOS struct. 4-50698
- SiO₂ thickness meas. using interference method 4-48081
- SiO₂ thin film growth kinetics by oxidation in controlled ambient 4-51827
- SiO₂ thin film on Si, thickness meas. with thermal waves 4-42922
- SiO₂ thin film on Si (100), thickness meas. by photoacoustic spectroscopy 4-50659
- SiO₂ thin films, electron beam excited, geminate recombination 4-56464
- SiO₂ ultra thin film struct. and growth kinetics on Si (111) surface 4-56179
- SiO₂, very thin film growth, Si oxidation kinetics 4-57375
- SiO₂:As⁺(Xe⁺), amorphous layers, heavy ion implantation, range parameters, empirical formula (*Chinese*) 4-6386
- SiO₂/YX-LiNbO₃, surface and interface acoustic wave propag. 4-39649
- SiO_x, amorphous thin film, optical phonons, IR transmission 4-56938

insulating thin films continued

- SiO₂, chem. deposited film, IR absorpt., XPS 4-57065
 Si₃N₄, amorphous film on Si, struct. modelling, perturbation calc. (*Russian*) 4-39735
 SiO₂N_x, ultrathin nitrided oxide films, deep levels, electron capture and tunnel emission 4-40099
 SiO₂Ny film, growth and chemical composition 4-51525
 SrF₂ dielectric films, heteroepitaxial growth on Si by vacuum evaporation 4-25170
 SrF₂ epitaxial growth on semicond., lattice matching effects 4-6683
 Ta₂O₅ amorphous films, leakage-current increase due to pinhole growth during annealing 4-35106
 Ta₂O₅ films, RF-sputtered, electron trapping levels, photocurrent study 4-15975
 Ta₂O₅, reactive ion etching 4-35746
 TaSi₂ thin films, temp. depend. of elec. and struct. props. 4-30098
 Ti-based spectrally selective surfaces, chemically etched for textured surface, performance 4-36032
 TiN films, reactive sputtering prep., substrate shape effects 4-40650
 TiN, sputtered thin films, elec. props. 4-11611
 TiN thin film, d.c. sputtering, struct. and elec. props. 4-39733
 TiO₂ passive electrodes, Xe⁺(Pd⁺) ion implantation effect on electrochem. behaviour 4-55855
 TiO₂-BaCO₃ multicomponent thin film systems, phase and struct. transforms 4-34834
 TiO₂-BaO multicomponent thin film systems, phase and struct. transforms 4-34834
 TiO₂-PbO multicomponent thin film systems, phase and struct. transforms 4-34834
 TIS thin films, crystallisation kinetics, electron diffraction studies 4-34833
 TmS, formation of oxide phases, electron beam irradiation, ageing in air 4-56165
 W/C multilayered films, anal. by AES (*French*) 4-29848
 WO₃ corrosion layer on W, electronic props. and cryst. structs., anodisation conditions 4-56181
 Yb₂O₃ films, thermoelec. measurements 4-25464
 ZnO₂ thin films, metal organic CVD, dielec. and elec. props. 4-51521
 ZnO₂ thin films, struct. and optical props. 4-57010

insulation

- see also cable insulation; electric breakdown; insulating coatings; insulating materials; insulators; machine insulation; transformer insulation
 accelerators, electrostatic, insulating strength of cadmium 4-5055
 conducting body, optimal insulation distrib. 4-33898
 conductive arc track, nonlinearity factor anal. 4-39026

insulation, thermal see thermal insulation**insulation testing**

- pericase, elec. resist. meas. method 4-11525
 polymeric insulation films, partial discharge, breakdown tests, voltage-endurance-lines parameter evaluation 4-16161
 vacuum gap dielectric strength and predischage phenomena (*Polish*) 4-10913

insulator-metal boundaries see metal-insulator boundaries**insulator-semiconductor boundaries** see semiconductor-insulator boundaries**insulators**

- i.e. insulating devices. For materials see insulating materials
 see also insulation
 loss tangent meter, using K155 microcircuits 4-42983
 non-ceramic insulators for HV transmission lines, AE 4-57517

insurance

- radioactive materials transportation in US, insurance and indemnity coverage 4-37946

integral equations

- see also integro-differential equations
 acoustics, condition no. of integral eqns. from modified fundamental solns. 4-5743
 anharmonic and harmonic oscillators, path integrals without lattices 4-47920
 associated path independent J-integrals for separating mixed modes 4-14919
 beam, rotating, with a tip mass, random transversed vibr., integral eqn. method 4-33991
 body in lubricated contact, low-freq. scatt., second correction 4-33994
 body in lubricated contact, low-freq. scatt. 4-33992
 circular crack problem 4-5835
 classical integral systems of interacting particles, motion, isospectral deform. method 4-4357
 compound foundation, dynamic contact problem 4-5845
 contact problem, axisymm., in presence of wedge 4-44498
 DC flow through sphere with multipoint supply, potential distribution and conductivity determ. (*Polish*) 4-19318
 delta function integrals for recombination problems 4-50700
 dielectric slab waveguides, longit. discontinuity anal. 4-49520
 diffraction, integro-series eqn. class 4-44024
 dynamic contact problem, asymptotic behaviour of kernel of integral eqn. 4-49775
 eddy currents in NDT, determ. using Fredholm integral equation soln. (*German*) 4-3346
 elastic continua nonconservative stability problems, appl. of integral eqn. method for non-self-adjoint eigenvalue problems 4-33967
 elastic half-space containing cavity, steady-state oscils. 4-44437
 elastic-electrostatic analogy, implications on certain path-independ. integrals 4-4229
 elasticity problems, axisymm., three-dimens., integral eqn. soln. 4-47875
 elasticity theory, integral equation soln. of mixed problems 4-4225
 elastodynamical problems, integral eqn. appls. (*Japanese*) 4-53487
 electromagnetics, boundary-element method 4-27311
 electrostatic field of an open spherical shell between two parallel conducting planes 4-1314
 EM field, time domain anal. (*French*) 4-44019
 EM field, time domain anal. (*French*) 4-44020
 EM field and force computation, recent developments 4-54921
 EM scattering from finite bodies of translation, plates, curved surfaces and noncircular cylinders 4-28603
 EM wave scattering, E-polarised, by thin weakly conducting cylindrical shell (*Ukrainian*) 4-23863
 equations of transfer, 1D integral system, division of viscous and nonlinear parts (*Russian*) 4-4364

integral equations continued

- Feynman path integrals, stochastic formulation, classical rep. of Schrodinger eqn. 4-47909
 Fredholm's integral equations, iterative soln. 4-4201
 Fredholm's integral equation of the first kind soln. for elastic half-space and forced-convection problems 4-33943
 generalised Hirota's eqn. with linear inhomogeneities, equiv. forms 4-20778
 geophysical tomography, stable reconstruction technique 4-13110
 half planes, bonded or in contact, containing cracks or holes, stress-field anal. using integral-eqn. soln. 4-5836
 high pass functions, integrals Fourier transforms 4-53453
 holographic diffraction grating refl. props. analysis 4-44204
 inverse heat conduction problems pot. theory (*Polish*) 4-49652
 inverse problems of the Fredholm type, information content, analytic method 4-17705
 K-hollandite, Frenkel-Kontorowa system, static structure factor 4-20162
 Lagrangian field theory, integral eqn. for summing Feynman graph series 4-37277
 linear filter theory with comparison filters 4-8723
 linear porous-elasticity, boundary integral eqn. method, fracture propag. appls. 4-44384
 linear porous-elasticity, boundary integral eqn. method, soil consolidation appls. 4-44383
 loading discontinuities, elasticity, singular integral eqn. validity 4-32043
 magnetostatic field computation, H-gradient method 4-49217
 magnetostatic scalar pot. boundary integral eqn., three-dimens., Galerkin weighted residual method 4-49215
 mechanics of continuous media, spectral relationships for integral operators 4-19775
 micropolar elasticity, boundary integral eqn. method 4-32044
 molecular fluids, ang. pair correl. function, perturbation and integral eqn. theory 4-6230
 optical-waveguide junctions, anal., integral equation method (*Japanese*) 4-33758
 oscillatory integrals computation, generalized Filon method for seismology 4-36301
 partially ionised plasmas, integral eqn. method calcs. 4-44802
 phase conjugate mirror resonator losses, directional behaviour in aberrated multiaperture cavities 4-28773
 plate, circular cracked, Fredholm integral equation 4-5841
 quantum stochastic, reln. between relativistic and nonrelativistic path integrals 4-32079
 round beams of brittle materials, fracture statistics, integral eqn. soln. 4-49754
 scalar potential problems, boundary integral eqn. methods, axisymmetric formulation 4-49219
 shallow shell problem, formulation and soln. using integral eqns. (*Rumanian*) 4-38719
 shell, cylindrical, circumferentially cracked, Sanders' energy-release rate integral evaluation 4-1681
 shell vortex currents, use of vector potential for boundary-value problems 4-23860
 sine-Gordon system, high temp. expansion, K-hollandite, sp. ht., static struct. factor 4-2345
 St.-Venant's torsion problem, integral eqns. (*German*) 4-38723
 static elastic boundary value problems, integral eqn. methods 4-13513
 strip partially coupled to rigid base, mixed problems 4-44495
 viscoelasticity, integral constitutive equation for mixed flows 4-5859
 viscous flows with free surfaces, boundary integral eqn. soln. 4-19784
 Wiener-Hopf integral equation, explicit soln. technique 4-10216
 H₂/O₂ recovery by rapid cooling of low-pressure equilibrium mixtures in solar furnaces 4-35871
⁴He, superfluid, integral eqn. for structure factor 4-56107
- integral transforms** see transforms
- integrated circuit manufacture**
 Used for commercial manufacture only
 see also masks; photolithography
 bipolar, automating plating machine appl. 4-57117
 QC, Raman microprobe appl., organic contaminants identification 4-3368
- integrated circuit technology**
 See also under specific integrated circuit headings
 see also semiconductor technology
 beam annealing, techniques and appls. 4-55868
 conference on low energy ion beams, Loughborough, England (Mar. 1983) 4-42592
 contact lithography at 157 nm with an F₂ excimer laser 4-27610
 CVD, belt transport processing 4-25893
 deep etching procedures in the electronic technology (*German*) 4-51869
 deep UV photolithographic systems and processes 4-43089
 diffusion furnace operations, temperature meas. accuracy increase, using thermocouples and resistance thermometers 4-37104
 dual grating alignment technique for X-ray lithography 4-27630
 etching, plasma-assisted, in microfabrication, book contrib. 4-7623
 hybrid ICs, downhole logging using transversely mounted circuitry 4-31680
 implanted, transient annealing, elec. characts. and microscopic anal. 4-24859
 laser activated flow of phosphosilicate glass for IC fabrication 4-10350
 LSI, profile modification of resist patterns in optical lithography 4-43092
 mask alignment precision checking using interferometric method 4-42910
 metallic films, high temp. type, semicond. substrates, plasma etching process using TiO mask 4-26089
 micromechanical capacitive accelerometer with a two-point inertial-mass suspension 4-22768
 multi-microelectrode and interface ccts. integration, neural systems organisation and function obs. 4-36261
 multilayer resist technique for submicron optical lithography 4-27614
 nitrocellulose as a self-developing resist with submicrometre resolution and processing stability 4-32344
 organic materials, oxidative removal, appl. of EPR spectroscopy 4-35940
 photoresist contrast enhancement process 4-43094
 plasma deposition and etching, electronics industry appls. 4-30648
 plasma enhanced CVD, technique and semicond. processing appl. 4-12030
 plasma oxidation of semiconductor and metal surfaces 4-57378
 polysiloxanes, lithographic appls., thermal stability, plasma etch resist. for VLSI 4-43091
 positive mid-UV resist for projection lithography, design 4-43086

integrated circuit technology continued

- scanning electron acoustic microscopy 4-33882
 - semiconductor interfaces, high resolution TEM imaging 4-50649
 - SOI struct. form. by O_2^+ ion implantation, buried SiO_2 layer characts. 4-34512
 - SOS films, ion implanted, elec. characts. 4-35072
 - submicron VUV contact lithography with F_2 excimer laser 4-32337
 - thin film, vacuum deposition system design for single evacuation cycle fabrication 4-46446
 - ultrafast deep UV lithography using excimer lasers 4-43088
 - VLSI, deflection system for electron and ion beam lithography, large area, with very low aberration 4-38385
 - VLSI, optical parameter optimisation in variable shape electron beam lithography 4-38381
 - VLSI, SiO_2 growth on metal silicides 4-35750
 - VLSI devices fabrication, processing conditions to form Si on insulator substrates 4-45167
 - VLSI using low-energy high flux reactive ion etching by RF magnetron plasma 4-41013
 - VLSI with submicron lithography using electron beam optical system with large field coverage 4-38380
 - Al metallisation, improved lift-off process using chem. etch formulation 4-12257
 - Al/Cu conductors for ICs, electromigration induced extrusion, acoustic emission study 4-50593
 - GaAs-AlGaAs heterostructure, MBE grown, recent developments and device appls. 4-15952
 - $P_2O_5-SiO_2$ (P(B), doping process and CVD on semicond. substrates 4-21156
 - Pt. acid etching inhibition by preexposure to O plasma 4-51844
 - Si substrates, evaluation of dislocation generation by selective oxidation 4-26076
 - Si surface, (111), nitridation process, XPS and LEED study 4-57604
 - Si wafer, minority carrier diffusion length control by O precipitation 4-45811
 - Si:Co(Cr), implanted polycryst., electron-beam annealing 4-24870
 - Si:Sb, polycrystalline, ion implantation doping and annealing, expt. study and VLSI appl. 4-45169
 - Si/(MgO,Al₂O₃/Si₃N₄) struct., VPE growth and bipolar integrated circuit form (Japanese) 4-40021
 - Si₃N₄ thin gate insulators, thermal nitridation of Si and SiO_2 4-6920
 - Ta₂O₅, reactive ion etching 4-35746
 - TiSi₂, bilayers on poly-Si, As ion implantation diffusion and distrib., heat treatment 4-29704
 - TiSi₂ film formation by rapid thermal processing, VLSI appls. 4-15777
- integrated circuit testing**
- MOSFET IC exposed in ^{60}Co facilities, dose enhancement effects 4-48801
 - scanning acoustic microscope imaging 4-33886
 - SEM, stroboscopic mode resolution limits 4-32391
 - TEM, stroboscopic mode resolution limits 4-32391
 - thermal-wave microscopy, surface and subsurface features imaging 4-3369

integrated circuits

- see also *digital integrated circuits; hybrid integrated circuits; large scale integration; linear integrated circuits; masks; microwave integrated circuits; monolithic integrated circuits; substrates; thick film circuits; thin film circuits*
- biochips and biosensors, design (Dutch) 4-36244
- electroanaesthesia equipment for veterinary surgery 4-8139
- satellite-borne microelectronic devices, single event upset rate in natural environment 4-53006
- Si double bridge anemometer 4-55453

integrated logic circuits

- gate arrays, electronics under skin, for diabetic patients (German) 4-52517

integrated memory circuits

- electrically-alterable ROM devices using SiO_2 films 4-6916
- RAM, alpha particle soft-error evaluation and flux measurement 4-11204
- soft upsets in IC memories, charge collection, ion microbeam anal. 4-45200
- spacecraft RAM, proton-induced single event upset rates in orbit 4-53007

integrated optics

- see also *fibre optics; optical films; optical modulation; optical waveguides; semiconductor junction lasers*
- acousto-optical correlator with time integration 4-5739
- acousto-optical elements for integrated optics (Czech) 4-10466
- analogue-to-digital converter 4-28882
- and switches fabrication in semiconductors 4-28889
- asymmetric planar waveguide, scattering problem analysis, TM polarisation 4-28827
- band pass response travelling wave modulator with transit time difference compensation 4-33753
- beam propagation theory for integrated optics appls. 4-24173
- bistability phenomenon, perspectives for logic circuits (Italian) 4-38518
- book, waves and fields in optoelectronics 4-27261
- borosilicate glass planar waveguide formed in molten KNO_3 bath, optical props. 4-55188
- Bragg switch/single sideband modulator with integrated optic single-mode waveguides 4-33750
- bulk material use in integrated optics, SHG in amorphous Si:H layer on quartz 4-24242
- chirp grating lenses on $LiNbO_3$, fabrication, state of the art 4-49572
- components for fibre gyroscopes 4-33803
- conference, Arlington, VA, USA (April 1983) 4-47740
- conference, Florence, Italy (Oct. 1983) 4-22519
- conference, Gaithersburg, USA (June 1983) 4-31956
- conference, guided wave and coherent optics, Cargese, Italy (July 1982) 4-53357
- corrugated focusing gratings for coupling radiation in and out of diffused $LiNbO_3$ waveguides 4-10426
- coupling structures, variable characteristic, mode coupling (Czech) 4-49574
- current trends in integrated optics 4-55223
- curved waveguides and channelled-substrate DH lasers, monolithic integration by wet chem. etching 4-24245
- data link, guided-wave integrated optics element, characts., numerical anal. (Russian) 4-19556

integrated optics continued

- demultiplexer, planar, with chirped grating, for WDM systems, diffraction behaviour 4-28879
- design and development at Ericsson 4-38635
- dielectric waveguide grating filter, analysis and insertion-loss response prediction 4-38634
- diffraction grating pitch control using electron-beam exposure system, integrated optics appls. 4-24266
- diffraction gratings in low Δn waveguides, four-mode anal. 4-5741
- diffused slab channel waveguides in uniaxial crystals, multimode struct. 4-49513
- directional coupler cross-talk problems 4-38573
- directional coupler use in velocity-matched gates, subpicosecond light pulse switching 4-55229
- directional switching in planar waveguides effected by adsorption-desorption processes 4-33763
- electro-optic and photoelastic sensors 4-32242
- electro-optic devices for fibre optic sensors 4-33804
- electro-optic leaky anisotropic waveguides using nematic liq. cryst. overlayer 4-28886
- electro-optic Mach-Zehnder modulator, high-speed operation and 17 GHz bandwidth 4-19554
- electro-optic mode extinction modulator using weakly guided channel waveguide 4-49502
- electro-optic modulation and switching in integrated optics 4-55228
- electro-optic modulators, high speed, integration 4-28825
- electro-optical deflectors, parameters optimisation 4-5740
- electrooptic A/D conversion, performance criteria of components 4-49501
- electrooptic digital-analogue converter 4-19602
- electrooptical materials, appl. to optical communications 4-33806
- EM sensor using integrated optical channel waveguide modulator and polarisation preserving fibres 4-38599
- etched-wall bent-guide struct. for integrated optics in III-V semiconds. 4-55224
- ferroelectric materials appl. review 4-33807
- fibre and integrated optical monomode sensors, a review (German) 4-55191
- fibre directional couplers, monomode polarisation maintaining, fabrication 4-28873
- fibre gyros, integrated optical components 4-44214
- fibre gyroscope with highly birefr. fibre and integrated-optic $LiNbO_3:Ti^+$ phase shifter 4-33799
- fibre gyroscope with phase-modulated single-sideband detect. 4-33777
- fibre optic angular rotation sensor market forecast 4-44219
- fibre optic hydrophone, use of optical waveguide couplers 4-28874
- fibre optics and laser sensors, conf., Arlington, VA, USA (Apr. 1983) 4-31954
- fibre-optics, two dimensional 4X4 array applied to monolithic LED array 4-19586
- Fourier processor using acoustooptic deflector and Fresnel lenses in As_2S_3 waveguide 4-24244
- Fresnel analogue lenses for integrated optics, anal. using beam propag. method 4-24249
- glass thermo-optic waveguide switch array 4-28884
- glass thermooptic waveguide interferometric modulator/switch 4-33749
- glass-metal seal light detection obs., possible optical fibre light detectors 4-48203
- graded refractive index waveguides with Ag cladding 4-5695
- grating coupler, overcoated surface plasmon component use in far IR and sub-MM 4-55176
- grating coupler with varying ripple depth 4-28881
- heterostructure waveguides, light intensity modulation based on guided-to-radiation mode coupling 4-28821
- III-V semiconductor, two-dimensional electro-optic polarization modulator for integrated optics 4-55180
- injection laser arrays, phase-locked, coupled-mode anal. 4-38493
- inorganic hard waveguiding materials, embossing technique for integrated optical component fabrication 4-28893
- ion-exchanged waveguides, integrated optical components by selective diffusion method 4-44248
- junction devices, optical interactions between confined surface EM waves and tunnelling transitions 4-55221
- laser, monolithic coupled-cavity, continuous operation, tunable single-mode selection 4-49388
- low-loss waveguide fabrication in BK-7 by ion exchange 4-49577
- Mach-Zehnder interferometer, integrated optical modulator, tuning with Ta_2O_5 film loading 4-24240
- Mach-Zehnder interferometric modulator, high-speed integrated optics, design and fabrication 4-49503
- microscopic optical strip waveguide, open end diffraction of surface waves 4-10424
- modulation efficiency in integrated optical circuits (French) 4-24162
- modulator, electro-optic, based on diffusion strip waveguides, theory 4-10418
- modulator and switch-type ccts., appls., sensors (French) 4-24248
- monolithic integration of a laser and driving electronic circuits on a semi-insulating GaAs 4-24250
- multilayer dielectric-metal structure, strong absorpt. of light 4-55222
- multimode light channel based high-performance backscatt. set-up 4-10423
- new optical materials, conf., Geneva, Switzerland (Apr. 1983) 4-27228
- nonlinear guided optics, second harmonic generation and Raman amplification (French) 4-24090
- nonlinear prism coupler for thin-film waveguides 4-38572
- numerical computation, integrated optical circuit design, systolic architectures 4-49571
- optical communication conference, Geneva, Switzerland (Oct. 1983) 4-22518
- optical information processing, conf. Cuernavaca City, Mexico (Jan. 1982) 4-53340
- optical single sideband detection applied to fiber-optic sensors 4-33798
- optical waveguide, excitation mode efficiency 4-44210
- opto-electronics emerging technology 4-19603
- periodic planar waveguides, elementary and coupled waves 4-28838
- photodetector, integrated optical, with coupled waveguides, sensitive area size and photocurrent distrib. 4-17938
- photosensitized-glass planar optical waveguides, propag. characts. of modes (Chinese) 4-49518
- photosensitive grating masks fabrication 4-33745
- photosensing devices 4-4462

integrated optics continued

- planar gradient glass waveguides as elements of integrated optics circuits 4-55227
- planar light waveguides for integrated optics made by ion exchange in glass (*Slovenian*) 4-44253
- planar microlens array, appl. to 2-D lightwave components 4-33809
- planar optical waveguide, in-plane scatt., surface roughness effect 4-44208
- polystyrene films, coherent Raman scatt. obs. in thin-film optical waveguides 4-44156
- radiation loss in dielectric waveguide structures by the volume current method 4-24169
- ring resonator and quasi-waveguides as integrated optics devices for physical meas. 4-49573
- Sagnac and Mach Zehnder fibre interferometers, effects of directional coupler asymm. losses 4-44215
- semiconductor diode lasers, Q-switched, with integrated modulators 4-55092
- semiconductor junction arrays, gain-guided integrated, coupling mechanism 4-49352
- semiconductor optoelectronic devices for free-space optical communications 4-19473
- semiconductor rib waveguide structures, III-V type, optical guiding anal. 4-24233
- single mode coupler technology advances 4-24180
- single-mode waveguides and directional couplers with rectangular cross-section, scalar variational anal. 4-24174
- spectrum analyser development, component fabrication techniques 4-49568
- spectrum analyser on Si substrate, key element for many optical integrated devices 4-24256
- spectrum analyser using planar technology on oxidised Si substrate 4-1510
- state of the art and progress (*German*) 4-24247
- steric optical circuit with three-dimens. arrangement of waveguides, fabrication 4-19604
- strip waveguides, transverse intensity distrib. characterisation 4-28839
- submicron optical lithography using simulated projection images 4-27611
- technology and appls. 4-28883
- temperature sensor based on Mach-Zehnder interferometer (*French*) 4-33805
- thin film leaky modes meas. using substrate excitation by prism coupling 4-19566
- thin film optical applications of ion implantation 4-29484
- thin-film waveguides for inertial sensors, rotation sensing using resonant cavity 4-44206
- waveguide mode propag. loss meas. 4-19558
- yen-port graded-index waveguide star coupler fabricated by dry ion diffusion process 4-28885
- AlGaAs index-guided diode lasers, high power phase-locked arrays 4-28713
- AlGaAs phase-coupled quantum well lasers, Schottky barrier restricted arrays 4-49389
- AlGaAs/GaAs multiquantum well laser and GaAs MESFET, monolithic integration, MBE growth 4-44103
- Cd,Hg_{1-x}Te sputtered epilayers, 32x32 planar IR photovoltaic mosaic arrays 4-55220
- GaAlAs, high-power dual-wavelength laser array, monolithic integration, LPE growth 4-19442
- GaAlAs p-n junction waveguide modulators using Pockels effect 4-55179
- (GaAl)As stripe-geometry DH lasers, self-sustained oscillations, expt. study 4-38512
- GaAs based semiconductor materials, fabrication of modulators and switches 4-24253
- GaAs clad optical waveguide modulators 4-55181
- GaAs FET preamplifier and photodiode, planar monolithic integration 4-10465
- GaAs, grating formation by one-step laser-photochem. etching 4-28892
- GaAs low attenuation waveguides fabricated by localised epitaxy 4-33768
- GaAs MBE layers for infrared optical waveguiding 4-14787
- GaAs optical waveguides, low loss, localised VPE growth 4-19559
- GaAs proton implanted optical waveguide, characterisation and optimisation 4-49511
- GaAs thin film planar waveguides, preparation, parameters optimisation (*Czech*) 4-10419
- GaAs waveguide formation using ion-implantation, review (*Russian*) 4-24246
- GaAs/GaAlAs semiconductor laser, beam-scannable light source, superluminescent mode, grating coupler design 4-19469
- GaAs-AlGa_{1-x}As DH rib waveguide electro-optic directional coupler switch 4-24254
- GaAs-AlGa_{1-x}As waveguide ion beam etching for integrated optical appl. 4-44261
- GaAs-AlGaAs heterostructure layers with high optical quality, MBE growth 4-16325
- GaAs-AlGaAs integrated laser phased arrays, longit.-mode control by phase vel. matching 4-38466
- GaAs-AlGaAs stripe-geometry lasers with self-existent waveguiding, stripe-contact lasers and lasers with high-resist. lateral layers (*Polish*) 4-33688
- GaAs-GaAlAs DH lasers with ion beam etched facet 4-24020
- GaAs-GaAlAs optical waveguides, MOCVD grown, low losses, attenuation meas. 4-24179
- GaInAsP BH heterostructure optical waveguide branches and bends, low-loss, LPE growth 4-38574
- GeO₂ thin-film waveguides, photoinduced grating filters 4-24241
- InGaAs/InP waveguided optical switch using free-carrier plasma dispersion 4-49575
- InGaAsP-InP, refr. index in transparent region, Brewster angle meas. 4-24252
- InGaAsP-InP DH rib waveguides, electrooptical modulation 4-24255
- InGaAsP-InP Q-switched cleaved-coupled-cavity laser with integrated intracavity modulator 4-28716
- InP diffraction grating profiles for DFB lasers and integrated optics, bilevel processing technique 4-24243
- LiNbO₃/Ti microwave modulated waveguide interferometer for picosec. pulse prod. from He-Ne laser CW output 4-49576
- LiNbO₃ high speed $\Delta\beta$ -reversal directional coupler modulator with low insertion loss for 1.3 μm 4-33767

integrated optics continued

- LiNbO₃, Fe detect. by laser-induced fluoresc. of sputtered atoms 4-19605
- LiNbO₃, high index overlay films, fabrication techniques 4-49569
- LiNbO₃ optical waveguide fabrication and characts. 4-5697
- LiNbO₃ planar optical waveguide, pyroelectric and photogalvanic effects 4-49526
- LiNbO₃ processing for integrated optics appls. 4-24251
- LiNbO₃, proton exchange, integrated optics appl. 4-33808
- LiNbO₃ proton-exchange slab and stripe waveguides, characterisation and comparisons 4-24178
- LiNbO₃ proton-exchanged waveguides, materials anal. and optical characts. 4-33764
- LiNbO₃/Ti diffused plane waveguide, refr. index profile meas. (*Chinese*) 4-49516
- LiNbO₃/Ti diffused waveguides, struct. and optical meas. 4-24176
- LiNbO₃/Ti diffused waveguide deflector 4-55173
- LiNbO₃ ultrafast all-optical gate 4-28880
- LiNbO₃ waveguide optical planar lenses, theory and expts. 4-1461
- LiNbO₃ waveguides, optical props. and fabrication process characts. 4-49509
- LiNbO₃/Ti Bragg coupler with charact. grating 4-10425
- LiNbO₃/Ti channel waveguide, mode field calcs. 4-24175
- LiNbO₃/Ti channel waveguide parameter optimisation for SHG 4-28834
- LiNbO₃/Ti channel waveguides, directional coupling meas. and calcs. 4-49512
- LiNbO₃/Ti channel waveguides, electro-optical control of photoinduced polarisation conversion 4-49525
- LiNbO₃/Ti directional couplers, photorefr. effect obs. at GaAs wavelengths 4-33803
- LiNbO₃/Ti directional couplers, computer anal. and design, comparison with expt. 4-38638
- LiNbO₃/Ti electrically induced strip-waveguide modulator 4-33748
- LiNbO₃/Ti guided-wave interferometric modulators, development and appl. 4-14782
- LiNbO₃/Ti hemispherical waveguide spatial-integrating acoustooptic correlator 4-33813
- LiNbO₃/Ti high-speed travelling-wave directional coupler switch/modulator for 1.32 μm 4-24168
- LiNbO₃/Ti in-diffusion process in dry and wet atmospheres 4-24272
- LiNbO₃/Ti integrated interferometric optical-waveguide press. sensor 4-33811
- LiNbO₃/Ti linear Mach-Zehnder interferometric modulators for EM field sensing 4-33751
- LiNbO₃/Ti low-loss polarisation-indep. electro-optical switch design for 1.3 μm 4-33812
- LiNbO₃/Ti low-loss polarisation-indep. electrooptical switches at 1.3 μm 4-55225
- LiNbO₃/Ti M-type electrode planar guided-wave beam splitter 4-5682
- LiNbO₃/Ti Mach-Zehnder interferometric high-speed travelling-wave integrated-optics modulator 4-33747
- LiNbO₃/Ti microwave integrated optical modulator 4-49500
- LiNbO₃/Ti multilayer optical waveguide surface plasma waves 4-55190
- LiNbO₃/Ti optical waveguides, nonlinear optical freq. conversion results 4-28771
- LiNbO₃/Ti optical waveguides, freq. conversion 4-55124
- LiNbO₃/Ti SSB modulator 4-33752
- LiNbO₃/Ti single-mode electrooptic X-switch for integrated optic switching networks 4-33810
- LiNbO₃/Ti stepped beta directional coupler having a high extinction ratio 4-33762
- LiNbO₃/Ti total-internal-reflection electrooptic thin-film modulator, characteristics 4-1474
- LiNbO₃/Ti travelling-wave directional coupler, design for 14 Gbit/s optical signal encoding at 1.32 μm 4-38637
- LiNbO₃/Ti waveguide collinear acoustooptic interaction (*Czech*) 4-49514
- LiNbO₃/Ti waveguides, wavelength dispersion, index profile distrib. 4-24177
- LiNbO₃/Ti waveguides, integrated optical polarisers/analysers for single-mode selective transmission 4-38636
- LiNbO₃/Ti guided light interferometric modulators 4-33746
- Nb₂O₅ thin film growth for integrated optics, ref. index and guided-wave attenuation 4-49570
- Nb₂O₅-LiTaO₃ heterostructure waveguides, light intensity modulation based on guided-to-radiation mode coupling 4-28821
- PLZT thin film waveguides for integrated optical device (*Japanese*) 4-55226
- Si₃N₄, plasma-deposited, for low-loss optical waveguides 4-19557
- SiO₂ graded index planar optical waveguides on Si exhibiting low scatt., fabrication 4-49510
- SiO₂-Ta₂O₅ optical waveguide film, refr. index and attenuation characts. 4-1475
- SiO₂-TiO₂ planar waveguiding films, embossing technique for integrated optical component fabrication 4-28893
- Ta₂O₅ corrugated planar waveguide, thick-grating beam-squeezing device 4-28829
- Ta₂O₅ thin film growth for integrated optics, ref. index and guided-wave attenuation 4-49570
- V₂O₅ thin film growth for integrated optics, ref. index and guided-wave attenuation 4-49570
- (YBi)₃(FeGa)₂O₁₂ LPE film waveguides, optical props., growth temp. effects 4-19561
- YIG epitaxial film, CVD, quality and thickness, guided wave optical loss 4-16341
- YIG magnetooptic rib waveguides, normal and inverted rib types, fabrication 4-28826

integrated services digital network see communication networks; digital communication systems

integrating circuits

- analog integrator for tomographs 4-26505
- quadrupole mass analyzer, electronic system, integration with FET op. amps. (*Czech*) 4-18004

integrating spheres see photometry

integration

- boundary layers, low speed, integral relations method appl. 4-5870
- celestial mechanics, Kowalewski's exponents rel. to necessary condition for existence of algebraic first integrals 4-58363
- celestial mechanics, necessary condition for existence of algebraic first integrals 4-58364
- Davey-Stewartson eqns., integrability in 3-D 4-55418

integration continued

- double exponential decay anal. using modulating functions 4-17682
- experimental data, continuous, differentiation and integration, teaching method 4-27271
- Hamiltonian systems, nonlinear time dependent, first integrals 4-53462
- related Hankel transform numerical integration by quadrature and continued fraction expansion in FORTRAN 4-36517
- heat conduction eqn. integration for linearly varying heat conductivity (*Rumanian*) 4-28962
- Hirota-Satsuma eqns., integrability tests, soliton addition, Painleve criterion 4-22596
- Hirota-Satsuma nonlinear partial diff. system, complete integrability, Painleve test 4-53449
- Korteweg-de Vries eqn. perturbed around soln., Lie-Backlund symms., complete integrability 4-4236
- Lie function groups, geometric foundations of integrability prop. 4-4200
- liquid jets, dynamic eqns. 4-5931
- multidimensional automatic integrator 'MDAI', computer routine 4-47839
- numerical anal. in BASIC language, book 4-47805
- optical fibres, multimode refr. index profile determ. and differential mode delay anal. 4-24183
- plate, infinitely extended with articulated hole edge support, Kirchhoff differential eqn. analytical soln. with boundary collocation (*German*) 4-55321
- plates, corrugated circular, continuation method rel. to integration segment length 4-49693
- polynomials, solution, fitting, differentiation, integration using ORT1 code 4-47833
- rod, elastic, forced vibrs., non-selfadjoint diff. eqns., fundamental integrals 4-44444
- scattering theory, Abel eqn., high-accuracy product integration methods 4-4275
- Sturm-Liouville eigenvalue problems, soln. by Lagrangian differentiation and integration 4-4205
- thick plates, plastic deformation, integration of differential eqns. (*Russian*) 4-44413

integro-differential equations

- see also Boltzmann equation; Fokker-Planck equation; Liouville equation; master equation; Vlasov equation
- atom+negative ion collision, electron detachment, dynamical complex potential 4-38308
- atom+negative ion collision, electron detachment, time-depend. theory, propagator model 4-38307
- Berger equation, boundary integral eqn. analysis 4-36908
- combustion characteristics, heat flow relax. effect, integro-differential eqns. (*Ukrainian*) 4-41214
- eddy current calculations in plane and axisymm. multiconductor systems 4-54905
- electron beam propagation in cylindrical waveguide, integrodifferential eqns., numerical realization 4-23881
- half-space containing disc-like inclusion, axisymmetric twisting 4-55319
- harmonic eddy current computation in flat plates, efficient numerical procedure 4-54908
- heat conduction, inhomogeneous half space, finite wave speeds, thermal transients 4-33895
- hypersonic boundary layers for slender axisymmetric bodies with large injection or mag. field 4-44639
- linear eddy current problems in thin plates, integro-differential approach 4-54907
- magnetic field synthesis, in presence of ideal ferromagnetic elements 4-10209
- metals, pure, unidirectional solidification with finite heat transfer coeff. 4-21200
- nonlinear integro-differential evolution eqns., linear operator and conservation laws 4-8777
- nonlinear particle-transport evolution problems, continuity eqn. 4-37057
- olfactory system, spatial filtering 4-52368
- plate with circular plug and rectilinear thin elastic inclusion, elastic state 4-19728
- polymer, stress/strain, moistening effect theory 4-44428
- quasi-stationary field problem soln. by means of mag. scalar pot. 4-54911
- self-induced transparency with chirping and losses, integral-differential eqn. description 4-10379
- self-induced transparency with chirping and losses 4-14760
- single nerve fibre eqns., theorems concerning mixed structure math. systems 4-12556
- spreading phenomena, in chromatographic columns, integrodifferential eqn. calcs. 4-7773
- transient eddy current, three-dimensional problem, integro-differential formulation (*Russian*) 4-33588
- transient processing in plasmo-optical systems, math. modelling (*Russian*) 4-6001
- Volterra eqns., quasilinear parabolic, in polymer rheology, numerical soln. 4-10627

intelligence, artificial see artificial intelligence

intelligibility, speech see speech intelligibility

intensification see amplification

intensity measurement

- see also acoustic intensity measurement
- candela luminous intensity unit realization by electrically calibrated radiometers 4-8941
- ground radiowave intensity, effect on ionospheric absorpt. evaluation 4-36533

interacting binary stars see binary stars; cataclysmic binary stars; eclipsing binary stars; X-ray binary stars

interacting boson model see nuclear collective model

interacting control systems see multivariable control systems

interactive systems

- see also interactive terminals
- Earth remote sensing, interactive digital image processing program system 4-3829
- EMJS, online database system for numeric data of electronic materials 4-36881
- fission reactor operation, potential and role of computer utilisation 4-28091
- heavy ion physics experiments, analysis system 4-18881

interactive systems continued

- high resolution electron microscopy in association with interactive computing 4-37257
- McIDAS III, interactive meteorological data access and anal. system 4-3827
- medical US images, digital processing for diagnostic purposes 4-12665
- meteorological radar and satellite data compositing with computer graphics system 4-3830
- nuclear backscattering spectra, interactive computer anal. 4-42936
- RIP interactive program for colour graphic terminals 4-28337
- satellite images, rain cell classification for rainfall estimation 4-17295

interactive terminals

- see also interactive systems
- multichromatic visual-display terminals, visual accommodation and convergence 4-16867
- video display terminal-induced visual fatigue 4-16866

interatomic potentials see potential energy functions

intercalation compounds

- alkali metal intercalation in transition metal ternary and multinary cpds., struct. characts. 4-29394
- C fibres, intercalated with CuCl_2 , elec. resist. and Shubnikov-de Haas oscillations 4-40003
- carbon-K cpds., KC_8 , sorption of H_2 isotopes at low temps. 4-39688
- chemistry, appl. of neutron scatt., review, book contrib. 4-39056
- exfoliated SbCl_3 intercalated graphite for absorption substrates 4-45470
- graphite-K-Cs cpds., KC_8C_{16} , heterostruct., X-ray diff. studies 4-39264
- graphite, highly oriented pyrolic, and intercalation cpds., ^{13}C high resolution NMR spectra 4-16109
- graphite, intercalated with Br_2 , two-dimensional structure, X-ray diff. study 4-6343
- graphite, intercalation of InCl_3 , TDPAC study 4-40303
- graphite, precipitation of intercalants onto dislocations 4-15654
- graphite, staging transition mechanism 4-39470
- graphite, Z 4-46462
- graphite (0001), X absorption and intercalation, LEED and AES studies 4-29786
- graphite acceptor compounds, stage 3 and 4, c-axis charge distrib. 4-20542
- graphite charged layer, nonlocal force constants due to electron-phonon coupling 4-29560
- graphite cpds. with FeCl_3 , CuCl_2 , MnCl_2 and CoCl_2 , for Li batteries (*French*) 4-46865
- graphite electrodes, electrodes, polymer bound, reversible electrochemical intercalation of anions from aqueous soln. 4-46773
- graphite fibre, intercalated and ion implanted, struct. and elec. cond. 4-24759
- graphite fibre intercalation compound with acceptors, struct., elec. and optical props. 4-45703
- graphite fibre intercalation compound with $\text{ICl}(\text{Br}_2)(\text{CuCl}_2)$, elec. resist. and Shubnikov-de Haas oscillations 4-45706
- graphite fibre-Br intercalation cpd., electrode appl. in thermocell 4-46861
- graphite intercalated with K and furan, tetrahydrofuran or NH_3 , Raman scatt. study 4-46272
- graphite intercalated with K and NH_3 , X-ray diff. studies of struct. 4-45096
- graphite intercalated with K and Rb, $\text{K}_{1-x}\text{Rb}_x\text{C}_8$, elastic distortion fields, lattice parameter changes 4-45095
- graphite intercalation compound with acceptors, fibrous, elec. resist. meas., current aging 4-45705
- graphite intercalation compound with acceptors, fibrous, synthesis kinetics and composite formation 4-46476
- graphite intercalation compound with Br_2 , exfoliation, X-ray diff. study 4-46463
- graphite intercalation compound with impurities, electronic struct. calc. 4-45680
- graphite intercalation compound with K, fibrous, synthesis and elec. props. 4-45704
- graphite intercalation compound with K, KC_8 , ab initio SCF pseudopotential energy band struct. 4-45574
- graphite intercalation compound with $\text{Li}(\text{K})$, CESR studies 4-46111
- graphite intercalation compound with SbCl_3 , stage 4, US studies of phase transitions 4-34592
- graphite intercalation compounds, acceptor and donor, theory of mag. susceptibility 4-56533
- graphite intercalation compounds, appl. to thermal energy storage (*French*) 4-46893
- graphite intercalation compounds, conf., Pont-a-Mousson, France (May 1983) 4-42591
- graphite intercalation compounds, ideal conductivity calc., electron-phonon scatt. 4-45761
- graphite intercalation compounds, intralayer screening, self-consistent effective-mass theory 4-45587
- graphite intercalation compounds, magnetic susceptibility, tight-binding calc. 4-45996
- graphite intercalation compounds, stage-7, Fermi surfaces anal. 4-45585
- graphite intercalation compounds, thermoelectric power calc. 4-45752
- graphite intercalation compounds of HOPG, neutron monochromators appl. 4-44899
- graphite intercalation compounds with AlCl_3 , synthesis and struct. 4-50257
- graphite intercalation cpd. with MnCl_2 , two-dimensional antiferromag., ESR study 4-51125
- graphite intercalation cpds., CESR 4-46110
- graphite intercalation cpds., electronic props., review 4-50703
- graphite intercalation cpds., g-factor, theory 4-50706
- graphite intercalation cpds., stage order, disorder, and phase transitions 4-34636
- graphite intercalation cpds., valence band, from AES 4-51417
- graphite intercalation cpds., X-ray topographic studies 4-44898
- graphite intercalation with Br and ICl , intercalate displacement and exchange study 4-39559
- graphite with FeCl_3 , basal elec. cond. meas. 4-45771
- graphite with K and Hg (or TI), existence of nonisolated ternary phases (*French*) 4-39265
- graphite with Rb and Hg (or TI), existence of nonisolated ternary phases (*French*) 4-39265
- graphite with SbF_5 , basal elec. cond. meas. 4-45771
- graphite- AlBr_3 , prep. of laminar compounds in presence of Br_2 4-55766
- graphite-alkali intercalation cpds., electronic props. (*French*) 4-45575

intercalation compounds continued

- graphite-alkali metal intercalation cpds., correlation between intercalate-substrate orientation and substrate hexagonal site occupation probability (French) 4-45102
- graphite-alkali metal intercalation cpds., first stage, phonon dispersion relations, ang. force model 4-45287
- graphite-AsF₆ C-C bond length, ¹³C NMR 4-51141
- graphite-AsF₅, C_{8n}(AsF₅), NMR and X-ray absorpt. study (French) 4-40254
- graphite-AsF₆⁻, charge transfer and density of states 4-39749
- graphite-Ba, C₆Ba, ⁸ electronic struct., XPS and UPS studies 4-39755
- graphite-Ba, C₆Ba, elec. resist., contactless inductive method anal. 4-39868
- graphite-Ba, C₆Ba, positron annihilation studies 4-40565
- graphite-BF₄⁻, C₂₄BF₄⁻, electrochem. energy storage appls. (French) 4-46902
- graphite-Br₂, linearly polarised X-ray absorption spectra 4-57041
- graphite-Br₂ intercalation cpd., struct. and phase transitions 4-45097
- graphite-Br, C₃Br, phonons and elastic consts., neutron scatt. meas. 4-45280
- graphite-Br, intercalate struct., melting, and commensurate-incommensurate transition 4-20174
- graphite-Br, single cryst. X-ray study 4-45099
- graphite-Br intercalation cpd., two-dimensional struct., effect of intercalate desorption 4-45098
- graphite-CoCl₂, mag. ordering study 4-40147
- graphite-CoCl₂, mag. props. studies 4-40157
- graphite-CoCl₂, mag. transitions, neutron study 4-40174
- graphite-Cs, C₈Cs, positron annihilation studies 4-40565
- graphite-Cs, CsC₈ and CsC₂₄, charge transfer and Auger spectra 4-40583
- graphite-Cs intercalation cpd., valence band, from AES 4-51417
- graphite-CuF₂(MgF₂), elec. cond. and chem. bond 4-6757
- graphite-Eu, C₆Eu, mag. props. study 4-40195
- graphite-Eu, EuC₆, Mossbauer study 4-40317
- graphite-F, EPR study 4-40219
- graphite-F-LiF cpd., elec. cond. and intercalation reaction study 4-41200
- graphite-FeCl₂, Mossbauer, EPR and SEM studies 4-56829
- graphite-FeCl₃, acceptor site for donated electrons, Mossbauer anal. 4-11810
- graphite-FeCl₃, mag. ordering study 4-40147
- graphite-FeCl₃, Mossbauer study 4-40318
- graphite-FeCl₃, struct. and stability 4-41265
- graphite-GaCl₃, elec. resist. studies 4-39869
- graphite-GaCl₃ cpd., chemical and struct. charact. (French) 4-39267
- graphite-H₂SO₄, optical reflectivity and band struct. model 4-40404
- graphite-H₂SO₄ cpds., 1st and 2nd stage cpds., struct. modifications (French) 4-45101
- graphite-heavy alkali metal intercalation cpd., phonons study by inelastic neutron scatt. 4-45279
- graphite-HNO₃ intercalation cpd., struct. determ. by X-ray and electron diffr. (French) 4-45104
- graphite-HSO₃F, prep. of various structs. 4-57127
- graphite-HSO₃F, X-ray photoelectron spectra studies 4-40609
- graphite-ICl, single cryst. X-ray study 4-45099
- graphite-IIIB element trichloride intercalation cpds., struct., low temp. anal. (French) 4-45103
- graphite-K, C₈K, density of unoccupied states, bremsstrahlung studies 4-39748
- graphite-K, C₈K, positron annihilation studies 4-40565
- graphite-K, high resolution ¹³C NMR 4-40252
- graphite-K, KC₇₂, KC₁₄₄, KC₁₆₈, mag. props. EPR study 4-40156
- graphite-K, KC₈, electrochem. energy storage appls. (French) 4-46902
- graphite-K, kinetic neutron diffr. study 4-39442
- graphite-K, NMR and CESR studies (French) 4-39757
- graphite-K cpds., staging transitions 4-40756
- graphite-K cpds., statics and dynamics of staging, in situ X-ray obs. 4-40757
- graphite-K intercalation cpd, KC₈, valence band, XPS study 4-57068
- graphite-K-benzene intercalation cpd., form. and struct. 4-45119
- graphite-K-Rb cpds., RbKC₁₆, heterostruct., X-ray diffr. studies 4-39264
- graphite-KH₂ cpd., struct. study (French) 4-39266
- graphite-KHg, intercalation cpd., struct. and phase transitions 4-45097
- graphite-KHg, C₆KHg, magnetoplasma-helicon wave propag. 4-39950
- graphite-KHg, KHgC₈ and KHgC₈, XPS core levels 4-39805
- graphite-Li, C₆Li, density of unoccupied states, bremsstrahlung studies 4-39748
- graphite-Li, C₆Li, metallic character from CESR mes. 4-40229
- graphite-Li, C₆Li, positron annihilation studies 4-40565
- graphite-Li, LiC₆, Compton X-ray profiles and electron momentum density 4-40567
- graphite-Li, stage-2, (P,T) phase boundary, order-disorder transition 4-39478
- graphite-Li cpds., Li₂C₆, staging transitions 4-40756
- graphite-Li intercalation cpd., LiC₆, phonons study by inelastic neutron scatt. 4-45279
- graphite-Li-tetrahydrofuran cpd., synthesis, X-ray and mag. reson. studies (French) 4-46128
- graphite-metal chlorides, X-ray diffr. and high resolution electron microscopy (French) 4-45100
- graphite-MnCl₂-AlCl₃, kinetics, struct. and mechanism of formation 4-34452
- graphite-NiCl₂, C₇NiCl₂, electrochem. energy storage appls. (French) 4-46902
- graphite-NiCl₂, mag. ordering, neutron diffr. and scatt. studies 4-46004
- graphite-PF₆, AsF₆, SbF₆ and nitromethane, NMR study 4-40253
- graphite-Rb, C₈Rb, magnetoplasma-helicon wave propag. 4-39950
- graphite-Rb, C₈Rb, positron annihilation studies 4-40565
- graphite-Rb, RbC₈, NMR study of order-disorder transform. 4-39483
- graphite-Rb cpd., C₂₄Rb, physisorbed D₂, elastic neutron scatt., dil. conc. regime 4-45523
- graphite-Rb cpds., statics and dynamics of staging, in situ X-ray obs. 4-40757
- graphite-Rb intercalation cpd., C₂₄Rb, in-plane Rb dynamics, neutron quasi-elastic meas. 4-45394
- graphite-Rb intercalation cpd., EXAFS and X-ray absorption threshold study (French) 4-46372
- graphite-SbCl₅, ¹²¹Sb NMR and EPR studies 4-40250
- graphite-SbCl₅, C₃₆SbCl₅ and C₆₀SbCl₅, cyclotron resonance studies 4-39758
- graphite-SbCl₅, high resolution ¹³C NMR 4-40252

intercalation compounds continued

- graphite-SbCl₅, struct. and cond., TEM obs. (Chinese) 4-50248
- graphite-SbCl₅, struct. and stability 4-41265
- graphite-SbCl₅ intercalation cpd., LF longitudinal lattice modes, inelastic neutron scatt. study 4-45275
- graphite-SbCl₅ intercalation cpd., ordering kinetics study 4-39469
- graphite-SbF₅, electronic and struct. props., Mossbauer study 4-39268
- graphite-SbF₅, NMR study 4-40257
- graphite-SO₃F, elec. cond. meas. 4-20651
- graphite-tetrahydrofuran, NMR and CESR studies (French) 4-39757
- graphite-XeOF₄, struct., basal plane cond. 4-50270
- intercalated graphite, thermodynamic model of staging transform. 4-11271
- photo-electrochemical studies on intercalation and semiconducting intercalation compounds 4-35924
- α -picoline intercalate in FeOCl, charge transfer effects, Mossbauer study 4-40313
- pyridine intercalated NbS₂, mol. arrangements, electron diffr. study 4-15458
- transition metal dichalcogenides, intercalated, struct. elec. and mag. interactions 4-11070
- transition metal dichalcogenides, layer type, intercalated, phys. props., review 4-34865
- transition metal ditellurides and dichalcogenides, layered cpds., Raman spectroscopic studies 4-25740
- Ag intercalation cpd. with TiS₂ and NbS₂, solid-state cells 4-52121
- AgNO₃-mica intercalation cpd., photoinduced optical props. obs. 4-11855
- Ag₂TaS₂ (2H), elec. resist. meas., CDW anomaly, temp. depend. 4-6756
- C, glass-like, a C_H intercalation cpd., struct. and annealing behaviour 4-39176
- C₃₆Cs, graphite intercalation cpd., phonon dispersion relations 4-15600
- C₆Eu graphite intercalation cpd., mag. anisotropy due to π -f exchange 4-2750
- C₆Eu, graphite intercalation cpd., four-spin exchange, high field magnetisation meas. 4-16025
- C₆Eu, graphite intercalation cpd., sp. ht. study, rel. to mag. phase transition 4-16044
- C₆Eu, graphite intercalation cpd., ESR studies 4-16086
- C₈NiCl intercalation cpds., N=1-4, supermetallic cond. 4-2577
- C₂₄K, physisorbed H₂(D₂), low temp. sp. ht. meas. 4-15663
- C₈K, intercalation cpd., local density of unoccupied states, photoyield spectroscopy meas. 4-3020
- C₆Li, intercalation cpd., local density of unoccupied states, photoyield spectroscopy meas. 4-3020
- Cd_{0.75}P₃M_{0.5} (M=Na, K, Rb, Cs) lamellar intercalation cpd., Raman spectra 4-46273
- (CoCl₃)_{1-x}(AlCl₃)_xC mag. intercalation cpds., low temp. heat capacity 4-6993
- Cu with TiS₂ and NbS₂, solid-state cells 4-52121
- Cu_{0.75}VS₂, phase transition with temp. hysteresis, long period superstructures, electron diffr., microscopy studies 4-6489
- HfS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
- InSe: Cd, doped and intercalated, photoluminescence spectra 4-16245
- KHgC₈, graphite intercalation compound, intercalant ordering and lattice dynamics 4-34603
- LiC₂ intercalation cpd., valence and core electronic excitations, EELS studies 4-25275
- Li₂FePS₃, intercalates, IR and struct. studies 4-25767
- Li₂MnO₂ intercalation cpd., cryst. struct. 4-39257
- Li₂MnO₂, Li intercalated, struct., X-ray and electron diffr. studies (French) 4-15444
- Li₂NiPS₃, intercalates, IR and struct. studies 4-25767
- Li₂TaS₂-2H, Li order-disorder transitions, electrochemical data 4-2133
- Li₂Ti_{1-x}MyS₂ (M=V, Cr, Fe), prep., chem. and phys. props. 4-20175
- Li₂TiS₂ intercalate, struct. and dislocations 4-20168
- MoCl₅-graphite, high-stage, successive mag. phase transitions 4-30163
- Na₂TiS₂ intercalate, struct. and dislocations 4-20168
- NbS₂ (2H), supercond. layer cpd., pyridine intercalation and press. effects 4-15986
- NbS₂ (2H), intercalated with pyridine or aniline, effects of intercalation in layer stacking 4-15457
- NbS₂ intercalation with first-row transition metals, band struct., reflectivity anal. 4-29863
- NbS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276
- 2H-NbS₂, pure and Cu(pyridine) intercalated, band struct., photoacoustic and reflectivity spectra 4-40475
- NbS₂, single molecular layer suspensions, H₂(H₂O) intercalated, X-ray and electron microscopy studies 4-55808
- NbS₂(2H), intercalated with pyridine (picoline) (ethylene diamine) (aniline), supercond. and electron-phonon coupling 4-15985
- NiCl₂-graphite intercalation cpd., second-stage, ESR studies 4-16085
- NiCl₂-graphite intercalate, magnetisation meas. 4-25510
- PV₂S₁₀, cryst. struct., bonding and Li intercalation 4-45105
- P_{0.2}VS₂, cryst. struct., bonding and Li intercalation 4-45105
- SbCl₅ intercalated with graphite, stage 2 cpd., ¹²¹Sb Mossbauer spectroscopy 4-30370
- SbCl₅-graphite intercalation cpd., second stage, discommensuration struct. 4-15634
- SbCl₅-graphite intercalation compounds, stoichiometric determ. by Rutherford backscatt. spectrometry 4-50531
- 2H-TaS₂ crystals, electrointercalation, in situ dilatometry and supercond. props. 4-25467
- TaS₂, single molecular layer suspensions, H₂(H₂O) intercalated, X-ray and electron microscopy studies 4-55808
- TaS₂-2H, electrochem. intercalation of K⁺, TDPAC studies 4-11821
- TaS₂(2H), electrointercalation with Ag, PAC in-situ studies 4-40302
- TiS₂ intercalated with Ag, intercalation islands and stage conversion 4-2329
- TiS₂ intercalation cpd. with Na, phase boundaries, NMR study 4-45321
- TiS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276
- V₂O₅ gels, intercalation of alkylammonium ions and long chain alkylamines (French) 4-7761
- V₂O₅ gels, intercalation of metallicinium ions (French) 4-7762
- VS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276
- VSe₂, Li intercalated, ESR and mag. investigation 4-56759
- Zr₂CuGe₄, cryst. structure refinement, Cu intercalation model (French) 4-39226

intercalation compounds continued

- ZrS₂, intercalated with Fe, electronic struct., cryst. struct. and optical props. 4-15804
 ZrS₂, intercalation cpd. with Li, electrochemical and X-ray diffr. studies 4-55806
 ZrS₂, layered, first row transition metal intercalates, X-ray absorption spectroscopy 4-16276

interconnected systems see large-scale systems**interdiffusion see diffusion****interface electron states**

- disordered semiconductors and their junctions, appl. of spectral limits theorem 4-6696
 heterostructure devices, band offsets at interfaces 4-6879
 insulator-semiconductor interface states, elec. characterisation (*French*) 4-35038
 N-interface problem, general Dyson eqn. within tight-binding approx. 4-15931
 local density approximation, modified, for pots. with finite step 4-15930
 metal-semiconductor interfaces, dipole layers rel. to deep levels 4-6860
 MIS solar cells, Fermi level position 4-3460
 MIS structures, photoresponse kinetics, initial surface band bending depend. 4-35083
 MIS structures, surface charge discreteness, influence on pot. barrier profile, interface states 4-35082
 MIS structures containing borazone and diamond layers, basic props. 4-35087
 MOS capacitors with very thin gate oxides, γ -irradiation effects 4-25446
 MOS struct., interface state density distrib., lateral charge inhomogeneities effects 4-6899
 MOS structure, local ground state density 4-20736
 MOS structures, bipolar weighting function for current DLTS studies 4-25447
 MOS structures, DLTS automatic meas. of interface-state densities (*Japanese*) 4-40062
 MOS system, interface state electron capture cross-section, DLTS studies 4-35075
 MOS thin gate oxides, charge build-up prior to breakdown 4-56446
 radiation coupling into thin film modes by localised plasma reson. 4-57009
 semiconductor heterojunctions, abrupt, band gap discontinuity rel. to interface struct. 4-6875
 semiconductor heterojunctions, interface electronic props., microscopic approach 4-6874
 semiconductor interfaces, carrier confinement effects on energy levels 4-6880
 semiconductor interfaces, dipole layers rel. to deep levels 4-6860
 semiconductor quaternary alloy heterojunction band discontinuities 4-45868
 semiconductor surfaces and interfaces, review 4-30043
 semiconductor-insulator boundaries, conf., Eindhoven, The Netherlands (April 1983) 4-42605
 semiconductor-insulator interface, propagating magnetoplasmon, damping study 4-11599
 semiconductors, surfaces and interfaces, physics and electronics, conf., Trieste, Italy (Aug.-Sept., 1982) 4-4150
 SOS structure, review of physico-chemical and electrical props. (*French*) 4-40068
 two-dimensional electron liquid, dynamical struct. factor 4-25262
 ZnO/Si p-n and n-n heterojunctions, conductivity 4-45864
 Ag-electrolyte interface, electroreflectance spectroscopic study 4-46232
 Al-Al₂O₃-Mg(Ag) structures, investigation of visible emitted radiation 4-11602
 Al-Al₂O₃-Te capacitors, surface states and capacitance-voltage curves 4-50940
 Al-Si₃N₄-GaAs MIS struct., characterisation using capacitance method (*French*) 4-35073
 Al₂O₃-Si₃N₄-SiO₂ MOS struct., interface states generation by high field injection 4-45896
 Au-electrolyte interface, electroreflectance spectroscopic study 4-46232
 CdS bicrystal interface, localised charge density depend. on Fermi level position 4-6861
 CdS-CuInSe₂, thin film solar cells, interface activity 4-36013
 Cu adsorbed layer on Ni (100), electronic struct. and magnetism, self consistent calc. 4-56407
 Cu-electrolyte interface, electroreflectance spectroscopic study 4-46232
 Cu₂S-CdS photovoltaic cells formed by dry barrier process, interface effects 4-25396
 Fe-P surfaces, valence band photoemission spectra, reson. effects 4-40604
 Fe-Si surfaces, valence band photoemission spectra, reson. effects 4-40604
 GaAs (110)-Cs interface, electronic props. at monolayer coverage 4-50924
 GaAs (110)-metal interfaces, Fermi level pinning, role of chemisorption-induced defects 4-6889
 n-GaAs electrodes, photoanodic dissolution, surface charging effects 4-35063
 n-GaAs LPE layers, traps at interfaces with different substrates 4-6737
 GaAs, MBE, surface and interface electronic struct., photoemission, LEED studies 4-20524
 GaAs n-p superlattice, electron and hole subband energies, self-consistent calcs. 4-6870
 n-GaAs/(Se²⁻/Se₂²⁻) liq. junction solar cell, redox stabilised, anal. 4-36009
 GaAs/metal struct., interface states, Schottky capacitance spectra studies 4-15929
 GaAs-Ag(Au)(Al), correl. between prep. method, barrier height and interface states (*French*) 4-6888
 GaAs-Al interface, reson. excitation of IR surface second harmonic 4-10373
 GaAs-Al,Ga_{1-x}As modulation doped quantum well heterostructs., carrier density distrib. 4-20712
 GaAs-Al,Ga_{1-x}As quantum wells, acceptor binding energies 4-30039
 n-GaAs-Au(Ag) MIS Schottky barriers, interfacial charges in oxide layer investig. 4-20733
 GaAs-GaAlAs double quantum wells, bound and virtual bound states 4-46330
 GaAs-Ge heterostructures, band bending during formation, in situ study 4-30062
 GaAs-Ni(Pd) Schottky-barrier contact, evaluation of surface state spectrum 4-20725

interface electron states continued

- GaAs-Pt buried Schottky barrier, interface states, DLTS study 4-40015
 Ge/GaAs (110) interface form., MBE growth, effect of substrate temp. 4-6671
 Ge-GaAs abrupt heterojunctions, valence band discontinuities, effect of crystallographic orientation 4-6876
 a-Ge-monocrystal Si junction, elec. behaviour 4-20713
³He-⁴He mixture, phase separated, many-electron dimple on interface 4-6606
 InGaAs/InP n-n heterojunction, deep levels, capacitance and DLTS studies 4-25425
 In_{0.53}Ga_{0.47}As/plasma oxide MOS structs., inversion layers, low field electron mobility 4-45884
 InP MIS diodes, capacitance changes caused by piezoelec. effects 4-35074
 InP-Al(Au)(Ag) interface and Schottky diodes formation (*French*) 4-56430
 InP-Pd/Ti Schottky diode, H adsorption effect on elec. characts. 4-35068
 InP-SiO₂ MIS capacitors, interface states 4-50944
 InSb MOS structures, film and interface anal. 4-56154
 Mg-MgO-Au structures, investigation of visible emitted radiation 4-11602
 MnO₂-Nb₂O₅-Nb MIS structure, electronic aspects of degradation phenomena (*Russian*) 4-25455
 Pt (001) surface, with and without adsorbed Au monolayer, electronic struct. study 4-45847
 Si (111)-Pd interface electron states 4-6892
 Si, electronic transport at grain boundaries 4-20670
 Si inversion layers, use of investigating electron states localisation, conductance oscills., quantised Hall resist. 4-45853
 Si MOS struct., ion implanted C-V characts. and dielec. props. 4-45890
 Si MOS structures, evaluation of capacitance quasistatic methods in Fermi stats. 4-6896
 Si, oxidised, MOS struct., paramag. defects and electronic deep levels, EPR 4-46107
 Si submicrometer inversion layer in MOSFET, discrete resist. switching and interface traps 4-30079
 Si, thermionic-field emission from interface states at grain boundaries 4-3543
 Si wafers, oxidized, coated with Langmuir-Blodgett films, interface defects, ESR 4-46106
 p-Si-B MOS capacitors with Al gate, donor-like traps, atomic models 4-6897
 n-Si/Au Schottky diodes, elec. characts. and electron beam annealing 4-15961
 Si/electrolyte interface, surface states induced by metal atoms 4-30068
 Si/Si₃N₄/GeO₂/SiO₂/metal memory multilayer struct., photoelectron charging (*Russian*) 4-40332
 Si/SiO₂ struct., positive charge form. mechanism at surface states 4-2641
 Si/SiO₂ MOS struct., surface pot. fluctuation and trap distrib. 4-6900
 Si/SiO₂/Al capacitors, H migration under electron avalanche injection 4-29711
 Si-Al interfaces, metal adsorption, chem. bonding states, AES with MBE technique studies 4-21078
 Si-AlN₂O₃ MIS struct., growth and electronic props. 4-51496
 Si-sapphire interface, electrophys. props., thermally-stimulated charge release study (*Russian*) 4-40061
 Si-SiN₂O₃ MIS struct., growth and electronic props. 4-51496
 Si-SiO₂, ESR, optically induced, spin-dependent recombination 4-45883
 Si-SiO₂ interface, continuously distributed trap states model 4-45894
 Si-SiO₂ interface, fixed charge density, backend processing effects 4-11598
 Si-SiO₂ interface, transition layer, core level photoemission study 4-40051
 Si-SiO₂ interface defect centres, EPR, effect of As⁺ implantation 4-46108
 Si-SiO₂ interface in MOS capacitor, hole trap props. 4-45887
 Si-SiO₂ interface state meas. 4-6853
 Si-SiO₂ interface states 4-6905
 Si-SiO₂ MIS structures, ion implanted, C-V characts., interface states energy spectra calc. parameters, influence of errors 4-35042
 Si-SiO₂ MOS struct., interface state generation 4-50947
 Si₃N₄ films on Si, CVD grown, interface state density 4-56444
 Si₃N₄-SiO₂ MOS struct., interface states generation by high field injection 4-45896
 SiO₂ layers on Si, charge build-up influence on breakdown 4-20738
 SiO₂ MOS capacitors, field-sensitive interface states, elec. characterisation and modelling 4-45895
 SiO₂ MOS struct., interface states generation by high field injection 4-45896
 TiO₂/electrolyte interface, surface state photoresponse in near IR region 4-20718
 V₂O₅-P₂O₅-metal glass constants, elec. props. in gaseous media 4-40050
 Yb-Al (110) interface, electron spectroscopy study 4-56155

interface phenomena

- see also adsorption; crystal surface and interface vibrations; interface structure; Kapitza resistance; semiconductor-electrolyte boundaries; surface phenomena
 air-water interface, transition phenomena of monolayers 4-29732
 amorphous semiconductors, conf., Tokyo, Japan (August 1983) 4-42584
 bicrystal, anisotropic, elastic fields of dislocations piercing interface 4-6369
 binary systems, contact melting diagrams construction 4-24978
 boundary layers, spherical and planar, density variations calc. 4-34749
 Bridgman growth, solid-liquid interface shape, thermal cond. effect 4-45036
 brittle coatings and layers, mech. behaviour, effects of residual stresses 4-51839
 brittle solid, toughening with fibres, fracture model 4-12169
 bulk metal/thin metal film interface, room temp. compound form. 4-25166
 composite straight fin, transient response 4-33910
 composite supercond., interface flux pinning and critical currents 4-16002
 convective mass transfer at rigid and mobile interfaces in laminar flow (*German*) 4-19837
 crack behaviour in dissimilar anisotropic composites under mixed-mode loading 4-1680
 crack between dissimilar anisotropic composite materials 4-1679

interface phenomena continued

- crystalline solid/electrolyte soln. interface, isotope exchange kinetics 4-33551
 crystallisation, surface ripples as chronological marks 4-51477
 dielectrics, anisotropic, dispersive interfacial electric polarisation calc. (French) 4-2867
 double layer, galvanomag. effects 4-57578
 elastic material interface, tear-shear crack dynamics 4-49694
 elastic solids, bonded dissimilar, diff. of torsion waves, by that annular crack at interface 4-29015
 epoxy resin, glass-particle-filled, crack propag., effect of particle-matrix adhesion 4-35686
 equations of state, thermodynamic equilib. 4-39431
 Fe, grey cast, tensile behaviour, role of matrix-graphite interaction 4-12106
 fibre debonding and pull-out from elastic matrix, effect of embedded fibre length 4-51672
 fibre reinforced composite, controlled interfacial bonding, tensile strength and fracture toughness 4-12147
 fibre reinforced composites, flat inclusion, partially debonded surface, crack initiation 4-34568
 fibre reinforced Ni, effect of TiC and TiN on tensile and fatigue props. 4-40937
 fibre reinforced plastic, mechanochem. reactions at high press. (Japanese) 4-2268
 fibre reinforced polymers, surface treatment for fibres, evaluation 4-41113
 fibre reinforced polymers 4-34544
 fluid mixtures, interface wetting transition and global phase diagram 4-29734
 glass fibre reinforced polyester, mech. strength, temp. depend., effect of fibre-matrix interfacial bond strength (Japanese) 4-57264
 glass fibre reinforced polyester composite, flexural strength rel. to interfacial struct., Fourier IR obs. 4-16444
 glass fibre reinforced polypropylene, mech. props. rel. to fibre length and interfacial shear strength 4-16438
 grain boundary diffusion in film thickening kinetics 4-56061
 graphite fibre reinforced epoxy composites, fibre-matrix adhesion rel. to fibre finish 4-16525
 hard sphere fluid, interface at planar wall, theory and simulations 4-50162
 heat conduction with phase change problems, variational embedding technique 4-33912
 ice, crystal growth, solid-liq. interface props., light scatt. study 4-11259
 ice-water interface, enhanced light scatt. during freezing 4-30480
 inhomogeneous liquid metal-vapour interface, elec. cond. theory 4-20619
 inhomogeneous polymers, Helfand and Tagami theory, all-inclusive soln. 4-56018
 Ising model, 3-D, surface roughening, Monte Carlo studies 4-20439
 laminated composite, interlaminar stresses, failure prediction 4-19773
 leaky Rayleigh waves in presence of loading and stiffening layers 4-30894
 spinel therzolute, high-press. melting and basalt magma genesis 4-21923
 liquid-solid interface, backscattering of US leaky waves 4-30909
 liquid-solid interface, periodically rough, US wave diff. 4-5752
 liquid-solid smooth interface, acoustic backscatt. at Rayleigh angle, theory 4-33836
 MBE and related surface techniques, conf., Tokyo, Japan (Aug. 1982) 4-13483
 metal-electrolyte interface, electroreflectance curve shape near photoemission threshold 4-2902
 metal/alkali halide, single crystal contact, formation of new phases with temp. gradient 4-50648
 metal/electrolyte boundary, electrorefl. spectra features due to interband transitions 4-56892
 metal/molten salt interface, capacitance calc. 4-2654
 microemulsions, struct., role of interfacial flexibility, review 4-52059
 microstructural evolution by interface-controlled coarsening 4-21218
 monotectic microstructure, solidified at high growth rates 4-46502
 multilayered liquid films flow down inclined plate, stability, surface solidification effect 4-11387
 naphthalene, monofunctional derivatives, adsorpt. on interfaces 4-50642
 noble metal electrodes, clean and oxide-covered, soln. interface, photoacoustic spectrosc. obs. 4-33884
 noble metal-alumina solid-state bonding, effect of ambient temp. 4-57526
 nonspecular reflection of bounded beams for layered half-spaces under water 4-28948
 one dimensional heat conduction problem, variational embedding solutions 4-33911
 phase interface, evaporation and condensation, mass exchange and parameter nonuniformity 4-2412
 photothermal and photoacoustic spectroscopy, conf., Paris, France (April 1983) 4-31960
 plane interface between condensed material, sublimation, supercritical struct. form. by laser, heat conduction 4-24991
 polyethylene-ethylene vinyl acetate laminates, elec. cond. interface effects 4-34986
 polymer, charged, at fluid-fluid interface, mol. configuration calc. 4-34755
 polymer blends, bulk and interface thermodynamics, book contrib. 4-6529
 polymer fibre reinforced cement, stress transfer between fibrillated film and matrix 4-51707
 polymer interfaces, IR methods appl., book contrib. 4-7208
 polystyrene, coated spheres filled, crazing modes under impact, matrix-filler adhesion effect 4-12149
 porphyrin/semiconductor or insulator oxide interfaces, electron exchange, photoacoustic spectroscopy, mirage effect detection 4-41224
 powder covering-substrate system, bonding, diffusion-kinetic mechanism 4-6672
 quantum solid interfaces, roughening transition, solid-on-solid model anal. 4-11383
 Rayleigh-Taylor instability, interface between cond. and noncond. fluids in alternating mag. field 4-5968
 rubber, Young's modulus determ. from time cord adhesion test 4-41111
 rutile/vapour interfaces, adsorpt. of triethylamine, IR obs. 4-51258
 semi-infinite systems, interface delocalisation transitions, scaling laws 4-20436
 semiconductor heterostructures, subjected to heating elec. fields, surface EM wave excitation 4-6883

interface phenomena continued

- sheet, rectangular, under anti-plane shear, central crack at interface between different media 4-29012
 silk fibre reinforced nitrile rubber composites, mech. props. rel. to fibre-matrix bonding 4-51747
 slender body motion in quiescent fluid near interface 4-29094
 sodium hexadecylbenzenesulphonates, branched, air-water interfacial meas. (French) 4-15748
 solar cells, bonded, thermal stresses, effect of adhesive layer 4-52161
 solid-dilute solution interface, monolayer adsorpt., XPS investigation (French) 4-7311
 solid-electrolyte interface, giant Raman scatt. and SHG 4-19513
 solid-electrolyte interface phys. phenomena in surface science language 4-30994
 solid-liquid interface, attenuated total refl. spectrosc. investig. 4-27557
 solid-liquid interface, dynamical eqns. derivation 4-6624
 solid-liquid phase boundary, mol. theory, elementary kinetic processes 4-2447
 solid-on-solid model, step free energies 4-11409
 steel, HSLA, ductile fracture, influence of P segregation to particle/matrix interface 4-7538
 steel, Ni-Cr-Mo, AISI 4340, H trapping 4-16499
 steel fibre reinforced Al alloy, effect of surface treatment of fibre (Korean) 4-57141
 stratified medium, permittivity and conductivity determ. with buried dipole, inversion theory (French) 4-56306
 superfluid liquid-solid interface, boundary conditions, phenomenological derivation 4-2394
 superlattice interface and lattice strain measurement by ion channeling 4-2420
 surface science conf., Warwick, England (Apr. 1983) 4-27238
 thermal mass transfer across water-vapour interface taking into account radiation (Russian) 4-10523
 time-dependent phase domains boundary, interface evolution, geometrical models 4-55972
 twisted nematic cells, multiplexing under nonrigid boundary conditions 4-29311
 US backscattering at Rayleigh angle from liquid-solid interface 4-49600
 US evaluation of periodic surfaces 4-29761
 vibration isolation of a Langmuir trough, surface waves at air-water interface meas. 4-35566
 water, heat capacity at solid-water interface 4-15655
 water/air interface, adsorption of octanoic acid, surface tension meas. 4-25148
 water/composite interfaces, acoustic wave reflection 4-33837
 water/hexane interface, adsorpt. of alkylammonium chlorides, temp. and conc. effects 4-25147
 Ag films, underpotential deposited on Au electrodes, dielec. consts., ellipsometry 4-40402
 Ag-Cu (1-28.1 wt.%), rapid solidification vel., effect on microstruct. 4-40766
 Ag-electrolyte interface, electroreflectance spectroscopic study 4-46232
 Ag-glass bonded thick films, sintering and microstruct. development 4-51587
 Ag-H₂SO₄ interface, surface plasmon polariton excitation, IR ATR spectra 4-30478
 Al-Al₃Ti system, directional peritectic solidification, solute distrib. at solid-liq. interface 4-51652
 Al-Cu, unidirectional solidification, solid-liq. interfacial stability, influence centrifugal forces 4-16383
 Al-Cu alloy, directional solidification, effect of melt superheat (Chinese) 4-7442
 Al-CuAl₃, directionally solidified eutectic, effect of fluid flow 4-40767
 Al-Mg/epoxy resin joints, locus of environmental crack growth 4-51878
 Al-Ti system, heterogeneous nucleation, role of lattice coherency 4-24765
 β -Al₂O₃, growth at interface between α -Al₂O₃ and NaAlO₂ 4-6566
 Au electrodes, elec. field penetration depth, ellipsometry 4-40402
 Au-electrolyte interface, electroreflectance spectroscopic study 4-46232
 B fibre reinforced Al, physico-chem. interaction 4-57275
 B fibre reinforced Al-Mg, fatigue props., effect of fibre-matrix interface (Slovak) 4-46602
 B fibre reinforced Ti alloy, SiC-coated fibres, fracture and tensile strength of fibres after high temp. annealing 4-57347
 BaTiO₃, metatitanate, synthesis reaction, solid-solid reaction interfaces 4-21189
 Cd-Cd₃Ag system, directional peritectic solidification, solute distrib. at solid-liq. interface 4-51652
 Cd₂Hg_{1-x}Te crystals, Bridgman growth, rapid quenching, boundary layer thickness 4-3056
 Cs liquid-vapour interface, X-ray refl. obs. 4-20434
 Cu-electrolyte interface, electroreflectance spectroscopic study 4-46232
 Fe, cast, flake graphite, C diffusion in liquid during steady-state solidification 4-57213
 Fe-Ni-Al(Mo), coarsening kinetics of coherent NiAl-type precipitates 4-57232
 GaAs:Si, ion implanted, SiO_xN_y capped annealing, elec. activation 4-50829
 GaAs/AlGaAs injection laser-Cu heat sink system, internal stresses 4-5617
⁴He, phase transformations near superfluid transition under heat flow 4-25106
⁴He-solid interface, roton dispersion eqn., surface phonons 4-2392
 Hg liquid-vapour interface, density profile, X-ray reflectivity 4-34753
 Hg/soln. interface, entropy of form., solvent effect 4-31012
 HgI₂, red, insulator-electrolyte interface, photoelectrochemistry 4-40019
 In-Sb, contact melting diagrams construction 4-24978
 InP-SiO₂ MIS struct., interface props. 4-50945
 LiI-SiO₂ composite, enhanced ionic cond. 4-34703
 γ/γ' -a-Mo, directionally solidified eutectic, off-axis tensile props. (Chinese) 4-16434
 Nb₂Sn diffusion layer, growth kinetics 4-56096
 Ni 4-51881
 Ni-Ni₃Al-Mo, γ/γ' -a eutectic, mutual crystallographic orientation of phases (Slovak) 4-45061
 Ni-TiO₂, reaction mechanisms and kinetics in Ni-Ti-O system 4-25948
 a-Se₉₀Fe₁₀-In₂O₃, interface props. 4-50927
 Si, Czochralski crystal growth, heat transfer model 4-45037
 Si, oxidation kinetics, very thin SiO₂ film growth 4-57375
 Si-(Ba,Sr)TiO₃ film struct., memory effects 4-11574
 SiC fibres, potential for use in metal matrix composites 4-51586
 SiO₂/YX-LiNbO₃, surface and interface acoustic wave propag. 4-39649

interface phenomena continued

- Ti alloys, interface phase form., effect of thin foil prep. technique 4-3348
 W fibre reinforced Cu, helical fibres, fracture toughness 4-40953
 W-liq. ⁶He boundary, US transmission in collisionless region 4-20457
 W-Ni-Fe (7, 3 wt.%), liq. phase sintered, strain and fracture (*Chinese*) 4-16472
 Y₂O₃ sputtered coatings for preventing solid state Si-base ceramic/metal reaction 4-7616
 ZrO₂:Y₂O₂/Pt interface, polar behaviour and charge storage 4-40024

interface structure

- alloys, interface microstructure, diffusion effects 4-29833
 binary alloys, cellular interface morphologies during directional solidification, one-sided model 4-45310
 dielectric multilayer stacks, interface roughness, light scatt. meas. (*German*) 4-34758
 epitaxial interface struct., ion beam studies, review 4-21098
 FCC crystal-vapour systems, struct., densities, pot. energies, 2D radial and ang. distrib. functions 4-15628
 glass fibre composite interfaces, nondestructive FT IR sampling technique investigation 4-57491
 II-VI semiconductor-metal interface, chem. struct. and Schottky barrier form. 4-6891
 III-V semiconductor-metal interface, chem. struct. and Schottky barrier form. 4-6891
 intrinsic structure and long-ranged correlations in interfaces 4-35134
 massive transformation, growth kinetics and mechanism 4-57221
 massive transformation, nucleation kinetics, crystallography and mechanism 4-57220
 massive transformation, thermodynamics 4-57218
 massive transformations, distinguishing features 4-57219
 metal-enamel contact zone, metallographic inspection 4-41156
 nematic-isotropic interface struct., Landau theory 4-11284
 noble metal/elemental semiconductor interface form. 4-6890
 random interface dynamics, temp. depend. 4-20500
 Schottky barrier energetics and props. 4-6865
 semiconductor heterojunctions, abrupt, band gap discontinuity rel. to interface struct. 4-6875
 semiconductor interfaces, high resolution TEM imaging 4-50649
 semiconductor superlattice, strained layer, lattice distortion direct obs. 4-11408
 semiconductor surface structures, review 4-20438
 semiconductor-metal interfaces, beam processed, anal. by MeV ion backscatt. spectrometry 4-24857
 semiconductors, surfaces and interfaces, physics and electronics, conf., Trieste, Italy (Aug.-Sept., 1982) 4-4150
 solidification interface morphological stability under convective conditions 4-39444
 steel, aluminizing, interface struct. 4-41036
 steel, austenitic stainless, metal-oxide interface study using sputter ion plating 4-25167
 steel, double-layer sheet, ultrasonic inspection of reduced strength zones 4-46678
 stepped surfaces and interfaces, atomic correlations and diffracted beam shapes calc. 4-29738
 Ag film on Be, charact. of Be-Ag interfacial region, adhesion strength 4-15773
 Ag-Cu bimetallic composite, interfacial struct., cohesion strength (*Chinese*) 4-56153
 Al oxide layers on W and Mo faces, thermal dissolution, FEM obs. 4-39698
 Al/Ni(Pd)(Pt), bilayers, phase formation by ion beam mixing and thermal annealing 4-11194
 Al/W and Al/Ti thin film reactions, Cu impurity effects, glancing-angle X-ray diffr. and Rutherford backscatt. study 4-20414
 Al-Cu thin films, W marker motion during sequential cpd. form., Rutherford backscattering spectra 4-15714
 Al₃Ni-Al fibre matrix eutectic alloy, interphase boundary struct. 4-6667
 Al₃Ni-Al fibre matrix eutectic alloy, interphase boundary geometrical modelling 4-6668
 Al₂O₃-Al interface, Auger depth profile 4-57048
 Au/Ni/Au-Ge alloyed ohmic contact to GaAs, interface structure and contact noise 4-29827
 Au-Al thin step-shaped couple, growth rates of diffusionally formed Au₂Al, spectral refl. 4-46343
 BaF₂ epitaxial growth on semicond., lattice matching effects 4-6683
 BaF₂-Ge(InP), epitaxial interfaces, misfit dislocations, electron microscopy anal. 4-11410
 CaF₂ epitaxial growth on semicond., lattice matching effects 4-6683
 CdS/Cu₂S solar cells fabricated on single-crystal CdS substrates, scanning light spot and electron beam-induced current scans 4-21557
 CdSe-CuInSe₂ thin film solar cells, interface activity 4-36013
 CdSe-TiO₂ interface, struct., comp., adhesion, TEM, electron diffr. obs. 4-56156
 CdTe epitaxial layer on GaAs and sapphire, lattice match and heteroepitaxy appls. 4-39694
 CdTe/Au, ohmic and rectifying contacts, elec. and struct. props. 4-2656
 Co/Cr compositionally modulated films, struct. and mag. props. 4-29826
 Co-CoSi₂ interface, stability and reactions, Rutherford backscatt. study 4-50589
 Cr/Ni structures, multilayered, RBS anal. for sputtering standards 4-46397
 CrB, cryst. morphology, SEM obs. and theory 4-11022
 Cu, adsorption of Pb-Sn double monolayers, AES, secondary electron emission obs. 4-39697
 Cu/Al and Pt/Cu/Al thin films, interfacial reactions, O₂ effects 4-39611
 Cu/Al thin film bilayers, interdiffusion and sequential cpd. form. 4-29707
 Cu/Al thin film bilayers, W interdiffusion marker during sequential cpd. form. 4-29708
 Fe-Al multilayers, ion beam mixing, elec. resist. study 4-34549
 Fe-Au (0.18 at.%), grain boundary struct., effect of solute segregation 4-45143
 GaAs, interface form., Schottky barrier form. 4-6669
 GaAs/Au-Ge ohmic contacts, redistributed component mapping after laser annealing 4-34806
 GaAs/Ge MBE-grown heterostructures and superlattices, interface studies 4-15774
 GaAs/InAs MBE-grown heterostructures and superlattices, interface studies 4-15774

interface structure continued

- GaAs/Pd interface, Fermi level pinning and chem. reactivity, XPS study 4-40043
 GaAs-Al(Ag)(Fe), MBE, growth mechanisms, electron diffr., AES, EELS studies 4-20525
 GaAs-Ga_{1-x}Al_xAs superlattices, MOCVD growth and struct. study 4-20498
 GaAs-GaAlAs heterojunction, electrolum. and spectroscopic ellipsometry 4-51389
 GaAs-GaInAs heterojunction, Fermi level pinning by misfit dislocations 4-6871
 GaAs-Pt interface anal. by Rutherford backscatt. and AES (*Chinese*) 4-39692
 Ga-Pu contacts, struct. effects on heating 4-39696
 GaSb/InAs MBE-grown heterostructures and superlattices, interface studies 4-15774
 Ge (111)-Pb interface, growth and struct., LEED, AES, and SEM study 4-20502
 Ge ordered overlayer growth on Si (111) under ultrahigh vacuum conditions 4-39734
 Ge, rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
 Ge/GaAs (110) interface form., MBE growth, effect of substrate temp. 4-6671
 Ge/GaAs heterojunction, Ge MBE growth, photoemission study 4-35039
 HfN sputtered coating on stainless steel, adhesion and mech. props. 4-7603
 Hg_{1-x}Cd_xTe, anodic oxide, comp., reaction with substrate 4-41015
 Hg_{1-x}Cd_xTe heterojunctions, misfit dislocations, dangling bond densities, epitaxial growth theory 4-39706
 Hg_{1-x}Cd_xTe, interfaces, defects, oxidation, band structure, bond strength 4-39770
 III-V heterostructure layers, interface defect struct., etch pits obs. on chem. bevel (*French*) 4-15772
 InAs/oxide interfaces, element V material obs. 4-56157
 InGaAs/InP heterostructure, lattice mismatch causes 4-30523
 In_{1-x}Ga_xAs_{1-y}P_{1-y}/InP heterojunction interface, LPE grown, compositional transition layer study using AES 4-25165
 InSb MOS structures, film and interface anal. 4-56154
 InSb/oxide interfaces, element V material obs. 4-56157
 Ni films on Si, SiO₂ or glass ceramic substrates, monitoring of heat treatment by FMR 4-51136
 Ni-NiSi₂ interface, stability and reactions, Rutherford backscatt. study 4-50589
 Ni-NiSi₂(NiSi₂) contacts, thermal and ion-induced silicide dissociation 4-20503
 NiO-Ni scales interface form. by oxidation, defect microstructures, TEM obs. 4-25168
 NiSi₂, epitaxial, form. and struct. on Si (111) 4-25178
 NiSi₂/(001)Si interface, atomic struct., TEM study 4-20506
 NiSi₂/Si (001) 4-39695
 NiSi₂/Si (111) interface struct., X-ray standing wave anal. 4-39693
 PbSe/SnTe epitaxial bicrystals, vacuum deposited, interfacial order, He⁺ channeling study 4-25169
 Pd-SiC interface, form. and oxidation, AES and EELS study 4-15771
 Pd₂Si, form. at interface of (111)Si and Pd sputtered layers, mass spectroscopy study 4-25177
 Pt (111)/Cu system, growth and alloy form., LEED, AES and desorption studies 4-29808
 Pt-Ni-Si bimetallic condensates, monitoring of heat treatment by FMR 4-51136
 SOS films, Si-implanted and electron beam annealed, high resolution electron microscopy 4-20505
 Si (111) with Ni monolayers, NiSi₂ struct. and nucleation mechanism 4-29782
 Si (111)/Ag interface struct., and form., EXAFS studies 4-29830
 p-Si inversion layer in MOSFET, atomic roughness and Hall mobility 4-15963
 Si, polycrystalline/single crystal interface, TEM study 4-45534
 Si, rapid cryst. growth from laser induced melt, interface struct. and solute trapping 4-55765
 Si, thermally nitrided, struct., channelling anal. 4-45464
 Si:H, amorphous, silicide formation with metals for semitransparent photodiode electrodes appl. 4-56094
 a-Si:H-metal contacts, Schottky barrier form. and struct. props. 4-6866
 Si/metal systems, silicide formation by CW scanned laser and electron beams 4-24864
 Si/Mo, RBS anal. of silicide formation by Si⁺ implantation 4-45533
 Si/Ni-Au bilayers, ion induced reactions, glancing angle X-ray diffr. and particle backscattering spectrometry 4-6410
 Si/Ni-Au dilute alloys, ion-induced or thermal reactions, Rutherford backscatt. and glancing angle X-ray diffr. 4-6411
 Si/silicide interfaces, struct. and Schottky barrier characts., review 4-25444
 Si/TaSi₂(WSi₂) polycide structures, interfacial Al electromigration 4-39616
 Si/transition metal interfaces, struct. and Schottky barrier characts., review 4-25444
 Si-Al contacts, interdiffusion reduction by improved surface ordering 4-39610
 Si-NiSi₂ interface, diffusion layers and Schottky-barrier height 4-20501
 Si-Ni(Pd) interface, Schottky barrier height, effect of variations of silicide characts. 4-6864
 Si-Pt interface, silicide formation, internal stresses and reflectivity studies 4-56097
 Si-SiO₂ interface, high resolution electron microscopy studies 4-20504
 Si-SiO₂ interface, thermally oxidised, stacking faults obs. 4-7614
 Si-SiO₂ interface defects, characterisation by ESR, review 4-46105
 Si-silicide interfaces, microscopic chem. rel. to Schottky barrier height determ. 4-6670
 Si-V interface, chemical reaction and Schottky-barrier form. 4-45535
 Si-W interface, WSi₂ form., photoemission, AES, work function meas. 4-45536
 Si-W(Ni)(Pt) interface, silicide formation, atom probe and field ion microscopy study 4-34804
 Si₃N₄ sputtered coating on stainless steel, adhesion and mech. props. 4-7603
 SiO₂/Ni-Au bilayers, ion induced reactions, glancing angle X-ray diffr. and particle backscattering spectrometry 4-6410
 SiO₂-Si interface, Cl incorporation and third phase development during Si oxidation 4-45538

interface structure continued

- SrF₂ epitaxial growth on semicond., lattice matching effects 4-6683
- W/C multilayered films, anal. by AES (*French*) 4-29848
- WC-Co, ion plated with TiN, interfacial structure, transverse rupture strength (*Japanese*) 4-46599
- Yb-Al (110) interface, electron spectroscopy study 4-56155
- ZnSe, epitaxial growth, interface with GaAs substrate, TEM obs. 4-51510

interface tension *see surface tension***interface vibrations** *see crystal surface and interface vibrations***interfaces, computer** *see computer interfaces***interfaces, mechanical** *see mechanical contact***interfacial energy** *see surface energy***interfacial tension** *see surface tension***interfacial waves** *see surface waves (fluid)***interference (signal)**

see also crosstalk; electromagnetic interference

- double-mode optical fibre, light intensity distribution investigation 4-5730
- unknown interference source based on power and phase meas., radiation parameters extracting 4-33603

interference spectrometers

- Fourier transform spectrometer with variable field stop, improved S/N ratio 4-37191
- high-resolution Fourier transform spectrometer design 4-8955
- IR spectrometer absorpt. cell parameter determ. 4-53778
- phase grid-type interferential spectrometer for near-IR 4-17963
- photodiode array, self-scanning, for Fourier transform spectrometer 4-37186
- sequential inductively coupled plasma spectrometer, Atom Scan 2000, design considerations 4-12407

interference spectroscopy

see also Fourier transform spectroscopy

- Airy function, Elsasser-related approx. 4-17947
- equal-noise spectroscopic measurement 4-53765
- Fourier transform spectroscopy, implicit apodization of interferograms 4-32314
- hook method expt. setup improvement and simplification 4-13675
- intracavity spectrointerferometry 4-32334
- quasi-optimal apodization in Fourier spectroscopy 4-4475
- smearing of interferograms in Fourier transform spectroscopy 4-37184

interference suppression

- acoustic noise suppression possibilities (*Italian*) 4-28928
- edge transducer for the excitation of surface acoustic waves 4-44327
- Essex University system, virtual negative time appl. (*Dutch*) 4-19652
- evoked potential processing 4-41500
- geostationary orbit utilisation improvement, auxiliary feeds in existing Earth terminals appl. 4-36563
- nonmodulating EPR spectrometer, noise suppression using VHF cct. 4-8928

interferometers

- see also acoustic wave interferometers; electromagnetic wave interferometers; interferometry*
- neutron interferometer, mathematical model 4-4268
- neutron interferometer in force field 4-32398

interferometry

- see also acoustic wave interferometry; electromagnetic wave interferometry; holographic interferometry; interferometers*
- low intensity interference expt. with particle trajectory determ., single photon expt. 4-32098
- neutron quantum interference meas. in noninertial frames 4-4261
- pion interferometry, new horizons in nuclear physics 4-43490
- wave-particle dualism in matter wave interferometry 4-32096
- SF₆, capillary rise, wetting layers, and critical phenomena in confined geometry 4-34752

intergalactic matter

see also clusters of galaxies; galaxies

- Abell clusters, radioemission at 102.5 MHz and intracluster matter nature 4-13445
- clusters of galaxies, gas content from 10.7 GHz obs. microwave background anisotropy 4-31930
- dust grains, upper limit on visual extinction 4-22476
- elementary particle theory, zitterbewegung in stochastic electrodynamics 4-17356
- first-order cosmological phase transitions MHD effect 4-8613
- intracluster diffuse gas interaction with radiogalaxies and quasars 4-53295
- intracluster gas, accretion by galaxies 4-17590
- intracluster gas, characts. and X-ray emission 4-58522
- intracluster gas, Einstein obs. of X-ray emission rel. to cluster struct. 4-47714
- intracluster gas, X-ray spectra 4-58375
- intracluster hot plasma, dynamics, heating and prod. 4-58521
- M82, obs. of CO J=2-1 emission possibly from intergalactic gas cloud 4-27176
- missing mass problem, heavy neutrino explanation 4-47534
- NGC 3607 and 5846 galaxy groups, hot intergalactic gas, X-ray detect. 4-58523
- NGC 4696 in Centaurus cluster, accreting intracluster gas, UV and visible obs. 4-58524
- optical line emission assoc. with radio galaxy 4C 26.42 in Abell 1795, relation to radio source 4-47691
- Perseus cluster, galaxy-accretion flow collision rel. to filaments of galaxy (NGC 1275) 4-27175
- phantom galaxy clusters, second-generation neutrino-gaseous pancakes (*Russian*) 4-13435
- protogalactic gas clouds, gravit. collapse in linear wave flow approx. 4-3915
- shock waves due to explosions, signatures in more distant quasars spectra 4-36744
- voids, expansion of thin surrounding shell in expanding universe 4-27221
- voids, relativistic theory of form. 4-4125
- voids and filaments, form. and struct. 4-22469
- H₂ absorption lines in spectrum of quasar OQ 172, detect. and redshift (*Russian*) 4-53308
- H₂ towards quasars (*Chinese*) 4-58503
- O abundance in H I Lyman α - β clouds producing absorption in quasars 4-4106

intermediate bosons

- asymptotically free SU(5) theory, τ -leptons, ν mass, leptoquark bosons, cosmology 4-37317
- axion depending on Higgs sector in SU(2)_L × SU(2)_R × U(1) 4-4602
- axion models in supersymm. SU(5) at intermediate mass scale 4-32482
- axion search, Crystal Ball detector physics 4-32714
- charged vector bosons pair prod. by nonstationary elec. field 4-32456
- charged vector particle in external EM field 4-53917
- chiral quarks and non-relativistic quark model 4-48448
- composite models, electroweak interactions for quarks and leptons 4-43300
- compositeness, potential problems for quarks, leptons and vector bosons 4-43299
- conference, electroweak interactions at high energies, Hamburg, Germany (Sept. 1982) 4-42600
- Conference on GUTs and the early Universe, Tsukuba, Japan (Jan. 1983) 4-4158
- early Universe, baryon asymmetry from Higgs boson decay, finite temp. effect 4-53330
- electroweak SU(2)_L × U(1)_R × U(1)_{(B-L)/2} gauge theory, two Z bosons 4-48388
- gauge boson, consequences of supersymmetry, expt. constraints 4-43290
- gauge boson mass hierarchy in maximal GUT from coupling const. renorm. in SU(16) breaking 4-22958
- gauge vector bosons, production and decay widths, QCD anal. 4-48299
- generalized Higgs phys. and technicolour 4-32537
- global family symmetry and CP violation 4-18116
- gravitational fundamental length, interaction strength and superheavy particles 4-156
- gravitons, characts., general discussion 4-430
- GUTs, phase transitions, and the early Universe 4-4131
- heavy neutrino mixing, intermediate boson coupling 4-27265
- hierarchical mass ratio and gauge-boson coupling constants, dynamical implementation 4-48408
- Higgs boson production mechanisms, W⁺W⁺ and Z⁺Z⁺ production 4-43277
- Higgs doublet with SU(2)*U(1) breaking prop., composite structure 4-43209
- Higgs masses and couplings, restrictions from K⁰ and B⁰ systems in gauge theories 4-48334
- Higgs model, abelian, isospin-ang. momentum conversion 4-32508
- Higgs sector, spectrum and mass formula 4-27717
- Higgs-Higgs bound state 4-32502
- high energy physics, recent topics (*Japanese*) 4-18141
- horizontal permutation symmetry, fermion masses, and pseudo-Goldstone bosons in SU(2)_L × U(1) 4-37309
- invisible axion, cosmological implications of light exotics, structs., in Universe 4-8629
- invisible axion, expt. tests 4-3923
- light composite fermions in dynamical subquark model of pre-gauge interactions 4-48454
- light doublet Higgs fields, sliding singlet mechanism, radiative effects of supersymm. breaking 4-32533
- light Higgs scalar in SU(2)*U(1) models, b quark decay, supersymm. models appl. 4-43243
- light scalar particles, mass bounds from nuclear decays 4-37327
- M_W-M_Z relation, electroweak correction, heavy fermions and Higgs scalars role, t-mass 4-32503
- massive charged vector particles, dual invariant theory, renormalisation 4-427
- massive gauge model, Abelian, symm, breakdown 4-13761
- minimal SU(2)*U(1)*U(1) electroweak model with mirror fermions, Higgs sector and neutral currents 4-32531
- narrow neutral resonances as Higgs particles, decay of ν , b-quark, Z⁰ and $\bar{\nu}$ (2.2) 4-32562
- nonlinear R_g gauge, Green's functions props. 4-48387
- nuclear structure study using weak interactions 4-37323
- O(4) ⊗ U(1) gauge model, gauge boson masses and lepton mixing 4-18106
- O(4) sigma model, S-matrix and vacuum energy calc., nonAbelian Goldstone bosons 4-13788
- pp, weak boson transverse momentum distrib., multiple soft gluon emission effect 4-32753
- p-parameter, two-loop large Higgs mass correction 4-22908
- R invariance and axion cosmology 4-4135
- radiative decay, composite model 4-32621
- residual family unification symmetry, neutral current probing, intermediate boson masses 4-32515
- Salam-Weinberg theory, canonical realisation Higgs boson mass determ. 4-48383
- SO(10) unification, sin²θ, ρ and gauge boson masses 4-416
- solar neutrino interaction with relic majorons, standard SU(2)_L × U(1) model 4-32657
- spontaneous supersymmetry breaking and infinite Lie algebras 4-13819
- SU_C(4) × SU_L(2) × U_R(1) leptoquark unification and invisible axion 4-32527
- SU(2)_L × U(1) and SU(2)_L × SU(2)_R × U(1) theories, Z⁰W[±]H[±] vertex study 4-4601
- SU(2)_L × U(1) weak interactions, decays radiative corrections, W[±], Z and Higgs 4-9052
- SU(2) × SU(2) × U(1) unification, sin²θ, ρ and gauge boson masses 4-416
- SU(2)*U(1) breaking by vacuum misalignment in oblique hypercolour mechanism 4-43242
- SU(3) × SU(2) × U(1) model, effective weak non-leptonic Hamiltonian for flavour conserving processes 4-27682
- SU(5) theory, free energy in early Universe, heavy boson effects after symm. breaking 4-31937
- technifermions, family mass hierarchy and composite gauge bosons 4-48455
- unified gauge theories phenomenology 4-32536
- unstable baryons in rishon model, responsible gauge boson, SU(2)_L ⊗ U(1) model 4-9107
- vector, in const. mag. field, radiative shift of levels, gauge theory anal. 4-485
- vector boson mass from left-right symmetric gauge models 4-32702
- vector bosons, history and discovery, W and Z implications, Higgs bosons 4-27697
- W(2) boson mass in SU(2)_L × U(1) theory, O(α²) corrections 4-32525
- W boson discovery at CERN 4-9064
- W mass scale, SU(2)_L × SU(2)_R × U(1) gauge theory, L-R symmetry 4-43269

intermediate bosons continued

- W-dominance, electroweak interactions of composite leptons and quarks 4-32539
 weak decays of leptons, quarks, hadrons in intermediate vector bosons 4-27737
 weak gauge boson mass relation for arbitrary Higgs scalars in $SU_{L,2} \times SU_{R,2} \times U_1$ 4-4540
 weak gauge boson masses, radiative corrections from supersymm. 4-53923
 weakon and Higgs boson masses from composite model 4-27712
 Z boson discovery at CERN 4-9064
 Z boson masses, neutral current anal. in $SU(2)_L \times SU(2)_R \times U(1)_{B-L}$ 4-32541
 e^+e^- annihilation, energy-energy correl., coloured Higgs bosons contrib. 4-32733
 e^+e^- annihilation, energy-energy correlations, Z-boson and heavy quark effects 4-48492
 e^+e^- Bhabha scatt. near 60 GeV, left-right models predictions 4-48465
 $e^+e^- \rightarrow \gamma Z^0$, ff, polarisation and radiative corrections 4-43356
 $e^+e^- \rightarrow \gamma Z^0$, cross section and mechanism 4-18217
 e^+e^- Higgs, radiative corrections in Weinberg model 4-43357
 $e^+e^- \rightarrow \mu^+\mu^-$, charge asymmetry and neutral intermediate boson (*Polish*) 4-32511
 $e^+e^- \rightarrow W^\pm(Z^0)X$, polarisation in pair production, dominant helicities 4-37360
 $e^+e^- \rightarrow ZH$, testing heavy fermions in Higgs prod., Glashow-Weinberg-Salam model 4-18215
 $e\mu \rightarrow e\mu$, higher-order QED contribs., γZ^0 interference 4-23002
 eN , deep inelastic scatt. asymmetry and neutral intermediate boson (*Polish*) 4-32511
 γe^+ , pol. γ , weak boson photoprod. charged weak boson coupling gauge struct. 4-48464
 γW^0 transitional, composite vector bosons and weak mixing angle 4-22973
 $H \rightarrow W^+W^- \gamma$ decay, Higgs boson partial width 4-504
 $pN \rightarrow \mu^+\mu^- X$ a weakly interacting pseudoscalar particle Bethe-Heitler process 4-13921
 pp, 540 GeV, CERN results, total cross sections, scaling, jets, W bosons, Centauro search 4-37405
 pp, 540 GeV, W and Z discovery, implications for GUTs 4-4707
 pp, electron spectra from W boson superpartner decay in $SU(5)$ model 4-32524
 pp, two gauge boson production of Z^0 , W^\pm , γ , γ^* , two-parton contribs. 4-3752
 pp, W^\pm production general relativistic theory anal. 4-27656
 pp at CERN, W^\pm and Z^0 prod. and decay, jet prod., recent results 4-498
 pp-hadron+Higgs+X, QCD-parton anal. 4-48512
 pp(pp), associated prod. of Higgs meson and heavy flavour jets 4-48507
 pp(pp), charge-charge two jet correls., weak vector boson detection at collider energies 4-48508
 pp-tb (tt) X, via W, Z, t-quark identification from muon decay products and jets 4-48445
 pp-WX- $\mu\mu$, X, dist. of muons 4-4711
 pp-W(z)X, weak force quanta, EM-weak force relationship (*German*) 4-13919
 qq-W γ , amplitude zero, QCD corrections 4-53934
 W, supersymmetric decay widths, gaugino, squark and slepton mass limits 4-18315
 W boson decay, charged lepton ang. distrib., parity-nonconserving asymmetries 4-54011
 W boson mass determ. 4-32768
 W decay, evidence from pp collider 4-32772
 W decay to charged and neutral 'inos' in softly broken supersymmetry 4-4720
 W- $e\nu$, scalar lepton production, supersymmetry 4-54019
 W- $e\nu$, $e\nu$ perpendicular mass, transverse props. 4-18317
 W- $e\nu$, from UA2 expt. 4-32773
 W- $e\nu\gamma$ search in pp 4-32748
 W mass, and weak isospin in technicolour dynamics 4-32507
 W- $\mu\nu\gamma$ search in pp 4-32748
 W props. in electroweak interaction models 4-18149
 W-tb($L\nu_L$), signatures for top quark and heavy leptons 4-27753
 W-boson production, polarisation amplitudes in standard model 4-4571
 W^\pm , higher order QCD corrections to masses in standard model 4-43286
 W^\pm , production from e^+e^- , γe and $\gamma\gamma$ colliding beams 4-18214
 W^\pm boson, mag. moment in Weinberg-Salam model (*Chinese*) 4-43370
 W^\pm mag. moment, phenomenological anal. (*Chinese*) 4-48480
 W^\pm mass as standard model test 4-48409
 $W^\pm \rightarrow \mu^+\mu^-(\bar{\nu}_\mu)$, high transverse momentum muon obs. at CERN 540 GeV pp collider 4-32768
 W^\pm production and identification in pp 4-18291
 $W^\pm(Z)$ decays, winos, zinos, photinos and higgsinos prod. 4-23039
 X^0 boson search in $K^+ \rightarrow \pi^+ X^0$ 4-53982
 $\bar{X} \rightarrow K^+ K^-$ in T and B decays, $\xi(2.2)$ interpretation as meson, glueball, or Higgs boson 4-53995
 Z, supersymmetric decay widths, gaugino, squark and slepton mass limits 4-18315
 Z-(se)+(se), signature for supersymmetric electrons 4-18312
 Z decay to charged and neutral 'inos' in softly broken supersymmetry 4-4720
 Z- $\gamma 1^+ 1^-$, pair production as supersymmetry test 4-53974
 z mass as standard model test 4-48409
 z-particles obs. using particle detectors UA1 and UA2 (*Danish*) 4-38002
 $Z^0 \rightarrow e^+e^-$, from UA2 expt. 4-32773
 $Z^0 \rightarrow e^+e^- \gamma$, anal. in composite weak boson framework. 4-53994
 $Z^0 \rightarrow e^+e^- \gamma$, integrated decay rate in standard $SU(2)_L \times U(1)$ model 4-484
 Z^0 mass and width determ. at pp collider radiative corrections 4-54018
 Z^0 obs. as composite object in pp 4-18301
 Z^0 production and identification in pp 4-18291
 Z^0 production from pp, vector nature of gluon spin 4-27759
 Z^0 radiative decays, branching ratio, composite scenario 4-48483
 ^3He decay, search for light scalar boson emission 4-32849
 $Z^0 \rightarrow e^+e^- (\mu^+\mu^-)$, anal. of data from CERN p/p collider 4-32771
 Z^0 , higher order QCD corrections to masses in standard model 4-43286

intermediate state

- ferromagnetic superconductor, cylindrical, non-equilib. behaviour, role of thermal transport 4-15994
 Landau intermediate state struct. 4-40121

intermediate state continued

- (TMTSF) $_2\text{ClO}_4$, organic supercond., resist. in relaxed, quenched and intermediate state 4-35125
 ErRh $_2$ B $_6$, ferromag. thin film supercond., dissipative intermediate state study 4-40123
 Pb superconducting film, interaction of flux tubes, magneto-optical study 4-40122
 Sn films, intermediate-mixed state supercond. transition, MM absorpt. meas. 4-11649
intermediate valence compounds see mixed valence compounds
intermetallic compounds see alloys
intermodulation measurement
 photoacoustic spectroscopy, appl. to IR Doppler-free spectroscopy of simple mols. 4-37208
intermolecular forces
 see also Van der Waals forces
 acetonitrile dimer, intermol. pot., SCF MO LCAO ab initio calc. 4-28525
 air-water interface, transition phenomena of monolayers 4-29732
 p-alkylbenzene mol. cryst., intra- and intermol. interaction study 4-56957
 atom+ molecule scattering, intermolecular potentials 4-19171
 colloid science, interparticle forces, review 4-52062
 dinucleoside monophosphates, perturbation of C-O stretch freqs. by assoc. in aq. soln., Raman study 4-9776
 fluid phase equilibria: experiment, computer simulation, and theory 4-29573
 fluoremethane, vibr. relax., dissipation, photoacoustic reson. study 4-23787
 gas mixtures, fundamental eqns. for combining intermol. consts. 4-29230
 liquid, rotation time correl. function, molecular symmetry constraints 4-10944
 long-range interactions, spherical tensor theory 4-49118
 methane, vibr. relax., dissipation, photoacoustic reson. study 4-23787
 model systems, pair interaction energies partial charges, quantum mechanical calcs. 4-38266
 molecular pairs, short-range interactions, effective and nonlocal polarisability response 4-5316
 organosilanes, SiH valence vibrs., IR band shape and intermol. interactions study 4-54705
 5,6,11,12-tetrachlorotetracene, optical and photoelectric props. (*Russian*) 4-35462
 tetrafluoromethane+Ar gas mixtures, depolarisation ratios 4-10814
 trimolecular model, period-doubling bifurcation sequences (*Chinese*) 4-1229
 Ar:O $_2$ alloy, single cryst., elastic constants, rotation-translation coupling effect on intermolecular forces 4-50398
 B mixed halides, vibr. anal. and potential energy consts. 4-23768
 CO+H $_2$, collisional energy transfer, pot. energy surface 4-33507
 CO $_2$ electrostatic interactions, lattice dynamic calcs. 4-6451
 CS $_2$, intermol. force models and cryst. struct. 4-29391
 Cl $^-$ +Cl $_2$, complex form., dissoci., ion induced dipole pot. 4-12341
 N $_2$ electrostatic interactions, lattice dynamic calcs. 4-6451
 NeHF, long range model of intermol. forces, SCF study 4-23773
intermolecular mechanics
 see also association; intermolecular forces; kinetic theory of gases; liquid structure; liquid theory; Morse potential; potential energy functions
 acetone in CS $_2$ solns., atom-atom radial distrib. functions, intermol. pot. 4-43933
 acetylene, intermol. pots., NMR investig. 4-19083
 acetylene-He(Ar)(N $_2$), intermol. pots., NMR investig. 4-19083
 adenine-uracil base pairs, protein interaction, H bonds, ab initio MO STO calcs. 4-48914
 alcohols, geometries, dipole moments, mol. mech. force field study 4-19122
 4-amino-N-methylphthalimide solution in toluene and butanol, fluoresc. spectra intermol. relax. kinetics 4-5277
 biphenyls, halogen substituted, conformational struct., force consts., mol. mechs. calcs. 4-38268
 bromoalkanes, conformational struct., energy, barrier heights, mol. mech. calcs. 4-19123
 1,3-butadienes, halogen substituted, conformational struct., force consts., mol. mechs. calcs. 4-38268
 butylurea, isomers heats of dilution, mol. interactions excess enthalpies 4-20377
 chloroalkanes, conformational struct., energy, barrier heights, mol. mech. calcs. 4-19123
 cholesteric liq. crystals, biaxiality, phase induced, mol. field theory 4-2071
 Coulomb interactions, exchange integral upper bound 4-33479
 diatomic mols., physisorbed, EELS, shape reson. and overtones 4-10076
 p-dicyanobenzene, gas and cryst. phase, mol. struct., electron and X-ray diffr. study 4-43986
 energy partitioned ab initio SCF intermolecular energies plus dispersion 4-33473
 excited-state lifetime meas., Forster equation linearisation by phase-plane method 4-23632
 formamide, assoc., matrix isolation IR investigation 4-14420
 formic acid-butanol complexes, interaction studied by ^1H NMR and IR spectroscopy 4-16626
 graphite, surface, high-temp. boundary layer, transport processes 4-44765
 Heitler-London component of intermolecular interaction energies 4-23776
 hydrophilic molecules, in aqueous solns., solvation changes rel. to vapour press. 4-31015
 methane, geometric mag. shielding, nonempirical quantum mechanical calcs. 4-5254
 N-methyl-4-cyanopyridinium ion+aniline, charge transfer interaction, electron absorpt. interaction 4-7716
 3-methylcyclohexanone, rot.-translational coupling, computer simulation 4-9752
 molecular crystals, vibr. circular dichroism and rot. dispersion theory, contrib. of fundamental tones 4-40408
 naphthalene mols. in durene host crystal, librational motion, methyl hydrogen effect, intermol. interactions 4-14495
 nitromethane, crystal packing and struct. parameters calc. using ab initio intermol. SCF calc. 4-34450
 nonlocal polarisability densities, moments, short-range interactions effects 4-28529
 nonrigid systems of two polyatomic fragments, quantum dynamics 4-19125

intermolecular mechanics continued

- organic cpds., C_{3v} coordination distortion in R_3C-O moiety, X-ray, conformational and quantum chem. study 4-43811
phospholipid-polyglycine mol. interactions in model membranes, Raman spectra and thermal anal. 4-36072
polar or nonpolar mol., intermol. interactions, use of small basis sets in ab initio calcs. 4-43932
porphyrin, interaction with β -carotene 4-43934
propenes, halogen substituted, conformational struct., force consts., mol. mechs. calcs. 4-38268
pyridine perchlorate+pyridine, interactions in acetonitrile, IR and PMR obs. 4-1155
rhodamine 69, solns., salt props., spectral manifestations 4-38465
rhodamine multicomponent spectrally inhomogeneous dye solns., excitation energy migration special features 4-28391
solvation effects, intermolecular interactions, theoretical methods of calc. 4-18952
spermidine and its hydrochlorides and phosphates, Raman and IR spectra 4-33410
spermine and its hydrochlorides and phosphates, Raman and IR spectra 4-33410
tetramethylammonium with double-stranded oligonucleotides, intermol. interaction energies computations 4-14496
theoretical chemistry, conf., Louvain-la-Neuve, Belgium (June 1983) 4-42577
universal intermolecular interaction pots. and mol. vibr. anharmonicity 4-49012
van der Waals dimers, multipole polarisabilities, dispersion interactions, HF calcs. 4-14311
van der Waals mol., electrostatic interaction 4-28528
van der Waals mol., struct., electrostatic interactions 4-28527
Van der Waals soln., dil., IR and Raman spectra, rot.-vibr. correls., intermol. forces effect 4-43883
water, geometric mag. shielding, nonempirical quantum mechanical calcs. 4-5254
water, model two, three and four-body interactions, dimer energy surfaces 4-20073
n-alkane-branched-chain alkane, isentropic compressibilities, density and ultrasonic rel. meas. 4-55923
 CO_2 , crystal packing and struct. parameters calc. using ab initio intermol. SCF calc. 4-34450
 Cl^-H_2O system, interaction pot., gradient calcs. 4-18953
Cu II dimers with aromatic N-oxides, exchange interaction, INDO calc., bridge angle effect 4-23605
 $FH-H^+(Li^+)$, interaction energies, SCF and Moller-Plesset levels 4-54831
H-bonded systems, dispersion energy calc. as function of intermol. separation 4-43939
HF intermol. pot. calcs. 4-19124
 $H_2O-H^+(Li^+)$, interaction energies, SCF and Moller-Plesset levels 4-54831
(H_2O)- N_2 , pot. energy surface, ab initio MO STO calcs. 4-48955
 H_2O -HF complex, interaction pot., symmetry adapted expansion and stable-conformation minima 4-38272
 $H_2S-(H_2O)_2$, three-body nonadditive interactions, ab initio SCF MO study 4-48930
 N_2 , crystal packing and struct. parameters calc. using ab initio intermol. SCF calc. 4-34450
 N_2 physisorbed on metallic substrate, EELS, shape reson. and overtones 4-10076
 $NH_3-H^+(Li^+)$, interaction energies, SCF and Moller-Plesset levels 4-54831
O+Ne atoms, interaction energies at large internuclear distances (*Russian*) 4-54835
 O_2 physisorbed on metallic substrate, EELS, shape reson. and overtones 4-10076

intermolecular vibrations *see molecular rotational-vibrational energy transfer*
intermolecular vibrations (molecular crystals) *see lattice dynamics of molecular crystals*

internal combustion engines

- air mass flowmeter for test cell instrumentation 4-49909
ceramics, use in engines 4-51605
combustion of methanol and methanol-gasoline blends in spark ignition engines 4-57628
combustive flows in IC engine, velocity meas., laser diagnostic methods 4-38922
comparative performance study of spark ignition engines burning alcohols, gasoline and alcohol-gasoline blends 4-57630
comparison of measured and calculated gas velocities in the inlet channel of a single cylinder reciprocating engine, using laser Doppler anemometer 4-44773
cylinder turbulent air flow meas. by laser Doppler anemometer 4-19899
exhaust gases from diesel engines, smoke density meter (*Russian*) 4-36051
gasdynamic investigations, finite-amplitude solitary-wave generator design and operation (*Russian*) 4-55463
multiphase flow fields, optical meas. of particle size, velocity and concentration 4-49908
noise source identification for three small engines 4-14842
serial combustion motor heat pumps for space heating (*German*) 4-52188
spark ignition engines, NO emission level computation for various operations 4-16825
theoretical and experimental studies on the combustion of synthetic fuels in spark ignition engines 4-57629
use of gobar gas in diesel engines in India—present status and future prospects 4-57739
vibration pattern visualisation by holographic interferometry 4-38428

internal conversion

- see also conversion electron spectra*
anomalous conversion and nuclear transitions with parity nonconservation 4-18376
conversion matrix elements, gauge transformations, IC coeff. 4-572
review of internal conversion-electron spectroscopy, book contrib. 4-18381
 ^{241}Am , penetration parameter, nucl. struct. effect, IC coeffs. 4-23077
 ^{76}As excited states, J^π , γ -transitions IC electrons from $^{76}Ge(p,\gamma)$ 4-533
 ^{205}At , ^{205}Po , decay scheme, X-ray and conversion electron spectra, $e\gamma$, $\gamma\gamma$ coincidences 4-18384
 ^{205}At , ^{205}Po , γ -rays, conversion electron spectra, $e\gamma$ coincidences 4-18383

internal conversion continued

- $^{187}Au^{m+}$, $h\nu_{1/2}$ shell-model intruder-state isomer half-life 4-18378
 ^{82}Br level scheme, J^π , γ -branching ratios, transitions From $^{82}Sr(p,\gamma)$ 4-32787
 ^{143}Ce , conversion electron spectrum 4-37489
 $Cm(U,X)$, quasimolecular collisions, positron spectra, possible internal conversion cause 4-23128
 ^{244}Cm levels, bands, transitions and IC electrons from $^{244}Am^{m+}$ β -decay, ZZ 4-37425
 ^{160}Dy internal L-electron conversion, correlation with L X-rays 4-37491
 ^{161}Dy γ -spectra, IC coeffs., levels and M1 components from ^{161}Tb β -decay 4-567
 ^{152}Er , $A=150-154$, decay, γ -spectra, internal conversion electron spectra 4-18382
 ^{151}Eu , internal conversion spectrum, K-conversion coeffs. 4-54079
 ^{151}Gd , ^{151}Eu , L-series Auger electron spectra study 4-23078
 ^{201}Hg , low lying excited states study using γ and conversion electron spectroscopic method 4-4800
 ^{140}Ho , $A=148-154$, decay, γ -spectra, internal conversion electron spectra 4-18382
 ^{140}Ho , $A=156, 158, 160$, low-lying states props. 4-23073
 $^{191}Ir^m$, X-ray anisotropy and spin depend. of circularly polarised soft X-ray photoabsorption in Fe 4-37488
 ^{148}La levels, J^π , $T_{1/2}$ and transitions from ^{148}Ba β -decay 4-37496
 ^{147}Lu , ^{147}Yb , $A=171, 172$, L-series Auger electron spectra study 4-23078
 ^{171}Lu decay, γ -spectra, IC coeffs. and branching ratios (*Chinese*) 4-27836
 ^{237}Np , penetration parameter, nucl. struct. effect, IC coeffs. 4-23077
 ^{143}Pr , K conversion coeffs. 4-37489
 ^{237}Pu , penetration parameter, nucl. struct. effect, IC coeffs. 4-23077
 $^{84}Rb^m$, internal conversion studies 4-27834
 ^{181}Re level scheme and systematics of odd-A Re isotopes 4-9137
 ^{123}Sb , K-shell internal conversion coeff. determ. for 37.2 keV transition in $^{123}Sb^m$ decay 4-37490
 ^{119}Sn in host matrices, isomer shift calibration from internal conversion meas. 4-40285
Te deposited on solid surfaces, valence states, internal conversion electron meas. 4-16130
 ^{125}Te ($A=121, 123, 125, 127, 129$), internal conversion, exchange effects 4-4807
 ^{163}Tm , ^{163}Er , KX-, γ -ray, conversion electron spectra 4-18386
 ^{167}Tm , ^{167}Er , L-series Auger electron spectra study 4-23078
 $U(U,X)$, quasimolecular collisions, positron spectra, possible internal conversion cause 4-23128
 ^{236}U , octupole excitation, conversion electron decay 4-4808
 ^{140}Yb , $A=170, 172$, internal conversion in M, N and O-subshells for $2^+ \rightarrow 0^+$ transitions, intensity ratio 4-575
 ^{169}Yb , ^{169}Tm , L-series Auger electron spectra study 4-23078

internal conversion in atoms *see Auger effect*

internal conversion in molecules *see nonradiative transitions*

internal fields, crystal *see crystal field interactions*

internal friction

- see also Bordoni effect; damping; Snoek effect; Zener relaxation*
atomic diffusion, rel. to breakdown of Hooke's law 4-65
automatic internal friction meas. system, signal anal. appl. 4-38774
BCC lattice, kinked screw dislocations, struct. and Peierls stress of isolated kinks 4-2206
BCC metals, cold worked, Snoek-Koster relax. 4-40851
 α -brass, internal friction at kHz freq. 4-50424
damping materials, mechanisms and appls. 4-40850
dislocation damping peak associated with pinning-point drag, effect of depinning 4-2208
double-shell system, circular and cylindrical, with internal damping, axi-symm. response 4-33980
fibre reinforced composites, damping mechanisms 4-40849
glass, low freq. internal friction and dynamical modulus meas. at low temp. (*French*) 4-39389
granular material, frictional slip and plasticity 4-25905
granular material in organic matrix, relax. peaks and shear modulus (*French*) 4-40877
ice, microplasticity, very low freq. internal friction meas. 4-50434
ice crystals, internal friction and dielec. relax., X-ray irradi. effects 4-29476
ice crystals pure and doped with NaCl, KCl and NaOH, internal friction meas. 4-29445
ice Ih, defects studied by very low freq. internal friction meas. 4-29444
impurity grain boundary maximum theory (*Russian*) 4-6438
measurement by phase anal., microcomputer-controlled device using sonic reson. techniques 4-19779
measurement using automatic pendulum, temp. and strain amplitude dependence obs. 4-34022
metal disks, natural vibrations excited by laser pulses, mech. props. meas. 4-29003
metallic glasses, internal friction and other rheological functions in glass transition region (*French*) 4-39379
metals, b.c.c., mobile interstitials interactions with dislocations 4-50343
metals, cyclic microplasticity, internal friction and elasticity modulus defect meas. 4-7517
metals, damping phenomena and evidence against Zener's theory 4-39393
metals, low-freq. 1/f current noise theory 4-40002
metals and alloys, internal friction and shear modulus, hydrocarbon surface layer effects 4-40875
oxide glasses, internal friction and other rheological functions in glass transition region (*French*) 4-39379
peaking effect, expt. features, theoretical models (*French*) 4-39380
polycarbonate, glassy, mobile defect density during deform., internal friction meas. 4-40904
rheological model of nonlinear viscoplastic solids 4-14898
steel, austenitic stainless, martensitic transform., internal friction study on H10N7K10M5 4-40779
steel, Cr-Ni-Cu-(Mo), maraging, props. after ageing 4-21255
steel, maraging, martensitic transform., internal friction study on N18K10M5T 4-40779
steel, Ni-Cr-Mo, crack propag. in H embrittlement under repeating stress (*Japanese*) 4-46596
steel, stainless, anelastic phenomena and internal clamping 4-40868
steel, type AISI C 1010, internal friction studies 4-40867
steel strip, dissolved C and N interstitials, Snoek effect, automatic bending oscill. pendulum 4-3304

internal friction continued

strain amplitude depend. dislocation damping due to point defects 4-50342
strain amplitude dependent dislocation damping with uniform point defect dragging 4-45264
torsion pendulum, internal friction meas. using microcomputer (French) 4-37078
US attenuation and internal friction in solids, conf., Villeurbanne, France (July 1983) 4-36782
vitreous solid, internal friction in glass transition 4-11290
water-cryoprotector mixture, vitreous phase stability, internal friction meas. appl. 4-41449
water-ethylene glycol mixtures, vitreous phase stability, internal friction method meas. 4-29328
Al, deformation depend. of Bordoni peak 4-50429
Al, dislocation-point defect interaction mechanisms 4-50339
Al, dynamic modulus and dislocation segment distributions during deformation 4-3161
Al, internal friction, dynamic modulus meas., dislocation segment distrib. effects 4-50304
Al, internal friction, microdeformation meas., dislocation motion (French) 4-50432
Al, internal friction and dislocation interactions (French) 4-50421
Al, internal friction peaks connected with grain boundary sliding 4-50433
Al, internal friction peaks at high temp., inverted flexure pendulum meas. 4-55919
Al, microplasticity, internal friction meas. (French) 4-51915
Al, nonlinear Bordoni relax. and internal stresses (French) 4-50430
Al reinforced with B fibre, internal friction study 4-39395
Al sample with thin oil layer, internal friction, plastic deformation effects 4-40874
Al-based alloys, internal friction assoc. with precip. and recrystallisation 4-40848
Al-Cu, low temp. internal friction peak mechanisms 4-50425
Al-Mg, internal friction peaks rel. to microstruct. changes 4-40863
Al-Mg (2 wt.%), cold-worked, internal friction peaks 4-35648
Al-Mn, internal friction spectrum, plastic deform. effects 4-51719
Al-Mn(Cr), dil., precipitation rel. to recryst. behaviour, internal friction and dynamic elastic moduli meas. 4-40794
(Al₂O₃)_xMgO single and polycryst., high temp. internal friction peak (French) 4-39392
Au-Ni (30 at.%), internal friction rel. to short-range directional order (French) 4-40864
B₂O₃-Na₂O-K₂O glasses, internal friction meas. (French) 4-40856
Be-Co system alloys, struct. and physicomech. props., Co influence 4-57254
Co-Pl, magnetomechanical hysteresis 4-20842
Co-Pt disordered alloys, magnetomech. damping, plastic deformation effects 4-40869
Co₂Si₁₀B₁₃ metallic glass, structural relax., crystn., precip., internal friction, shear modulus meas. 4-39382
Co₂Zn_{1-x}Fe₂O₄, polycryst., temp. and mag. field depend. of internal friction 4-2801
Cu, cold worked, internal friction behaviour during steplike heating 4-40881
Cu, electron irradi., internal friction flux depend. 4-29525
Cu, reduced and oxidised, internal friction and Bordoni peaks, electron irradi. effects 4-40879
Cu-Al, internal friction meas. (French) 4-51718
Cu-based alloys, internal friction assoc. with precip. and recrystallisation 4-40848
Cu-Cd (2 wt.%) thin layers, internal friction and shear modulus studies 4-40872
Cu-Fe, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
Cu-Ni(10 wt.%), internal friction meas. in deformed structure (French) 4-40866
Cu-SiO₂, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
Cu-Zn-Al, acoustic emission during partial martensitic transform. (French) 4-40782
Cu-Zn-Al, internal friction at thermoelastic martensitic transform. (French) 4-40861
Cu-Zn-Al, martensitic, internal friction behaviour 4-40858
Cu-Zn-Al (14.5, 8.5 wt.%), reverse martensitic transform., internal friction study 4-40781
CuAl, deformed solid soln., internal friction 4-50422
Fe, cast, grey, internal friction and graphite precipitates 4-40876
Fe, cold rolled, internal friction rel. to interstitial contents 4-51716
Fe, internal friction, creep, dislocations (French) 4-51715
Fe, sintered compacts, damping capacity rel. to processing conditions 4-12097
Fe-C, dislocation enhanced Snoek relax. peak 4-50427
Fe-C-N, BCC systems, short range and long range migration of heavy interstitials (French) 4-39600
Fe-Co-Cr, damping capacity, mag. props., pitting corrosion resist. (Japanese) 4-46549
Fe-Mn, Young's modulus and internal friction peaks 4-40871
Fe-Ni, FCC lattice, internal friction peak rel. to H interstitial pairs 4-46554
Fe-Ni-C, internal friction, correl. with thermal expansion during isothermal martensitic transforms. (French) 4-40860
Fe-Ni-V, influence of dislocation mobility or martensitic transform. (Russian) 4-7451
Fe-Ti alloy with oil layer, internal friction and shear modulus 4-40873
Fe₈₀B₂₀, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
Fe₈₃B₁₄Si₃C_{1.5} metallic glass, structural evolution rel. to magnetoelastic effect and magnetomechanical damping (French) 4-40213
FeCoNiCrBSi metallic glasses, internal friction, dynamic elastic modulus, microhardness meas. 4-40854
FeH₂, internal friction and microdeformation (French) 4-50426
Fe₈₀Ni₂₀B₂₀, metallic glass, structural relax., Young's modulus, internal friction, mag. energy loss meas. 4-39153
Fe₇₃Ni₁₆Cr₁₄P₁₂B₆, metallic glass, internal friction and Curie temp. 4-25551
Fe₇₃Ni₁₆Cr₁₄P₁₂B₆, metallic glass, internal friction and Curie temp. 4-25552
Fe₇₂Ni₁₆Cr₁₄P₁₂B₆ amorphous, annealing kinetics for Curie temp. changes 4-25553

internal friction continued

Fe₃₂Ni₃₆Cr₁₄P₁₂B₆ glassy metal, reversible struct. relax., shear modulus and internal friction 4-46548
Fe₇₂Ni₁₆Cr₁₄P₁₂B₆ metallic glass, internal friction and reversible struct. relax. 4-57274
Fe₈₀Ni₁₆Mo₄B₁₈, amorphous, quenching, structural relax., internal friction, dynamic elastic modulus, elec. resist. meas. 4-40855
Fe₈₀Ni₁₆P₁₄B₆, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
(Fe_{0.3}Si_{0.4})₈₂Si₈B₁₀, amorphous, structural relax., crystn., internal friction, shear modulus meas. 4-39381
Gd(MoO₄)₃, ferroelec., internal friction near Curie point 4-11226
KH₂PO₄, ferroelec., internal friction near Curie point 4-11226
K₂ZnCl₄ crystal, ferroelec., LF internal friction and elastic props. 4-11227
LiCsSO₄, ferroelastic props., temp. depend. 4-6427
LiF:B, viscous dislocation drag study 4-39308
Mg, electron irradi. and cold worked, internal friction and anelastic phenomena (French) 4-40880
Mg, internal friction, Bordoni relax., effect of recrystallisation conditions (French) 4-51714
Mg, internal friction and modulus meas. at low temp., electron irradi. effect (French) 4-39388
MgAl₂O₄-Al₂O₃ system, internal friction spectra, comp. depend. 4-15585
MgF₂:Li, nature of defects, diffusion and ionic cond. 4-15462
MgO, internal friction calcs. (French) 4-50420
MgO, thermal expansion anomaly and low temp. internal friction 4-34673
γ-Mn-Cu, internal friction during heating (French) 4-40862
Mn-Ni antiferromag. alloys, internal friction and elastic const. anomalies 4-40870
Mo-N, Snoek relaxation, internal friction study 4-51711
Mu-Cu, high damping capacity alloys, internal friction rel. to comp. and annealing 4-40865
Na₂O-B₂O₃ glasses, internal friction meas. (French) 4-40856
Na₂O-P₂O₅-B₂O₃ glasses, internal friction meas. (French) 4-40856
Nb-H alloys, twist effect, assoc. with hydride precip. 4-21265
Nb-O-N, BCC systems, short range and long range migration of heavy interstitials (French) 4-39600
Nb-Ti, NTS0, internal friction, shear modulus meas., temp. depend. (Russian) 4-25987
Ni thin layers, internal friction and shear modulus studies 4-40872
Ni-Cr (33.3 at.%), short-range and long-range ordered, internal friction anomalies 4-30738
Ni-Cr-Fe-Si-B-C metallic glass, internal friction, shear modulus meas. 4-40853
Ni-H, plastically deformed, dislocation. relax. peaks involving H drag 4-29464
Ni-Ti, internal friction during incomplete thermal cycling 4-40859
Ni-Ti, shape memory alloy, phase transform., internal friction, elec. resist. (Chinese) 4-57223
Ni_{80-x}Fe_xP₂₀ glassy alloys, thermal relax., phys. props. meas. 4-45244
Ni₇₅Si₁₈B₇ metallic glass ribbons, plastic deform., slip bands, mech. tests, SEM obs. 4-16455
Ni₂Zn_{1-x}Fe₂O₄ ferrites, internal friction, composite oscill. method anal. 4-55920
Ni₂₄Zr₇₆, amorphous, structural relax. kinetics, elec. resist., shear modulus, internal friction meas. (French) 4-39145
Pb-In, with dislocations, mag. field penetration (Russian) 4-56486
Pd, internal friction spectra, relax. peaks temp. depend. (French) 4-51717
Pd_{77.5}Cu₆Si_{16.5}, amorphous and crystallised, internal friction peaks, H-related 4-21257
Sb, amplitude depend. internal friction anomalies at low temp. 4-50423
Se-based chalcogenide glasses, internal friction background below T_g (French) 4-39383
Si, friction force acting on dislocations, temp. depend. 4-29446
Si whiskers, internal friction, high-temp. max. 4-25191
Sn, pure, struct. relax. by interphase boundary migration, internal friction, elastic modulus and creep 4-12094
Ta-H alloys, twist effect, assoc. with hydride precip. 4-21265
Ta-O, impurity Snoek relaxation, internal friction meas. (French) 4-39390
Ta-O-C-N, BCC systems, short range and long range migration of heavy interstitials (French) 4-39600
TaS₂ (1T), elastic anomalies, nearly commensurate-commensurate CDW phase transition 4-56250
Ti, H penetration study by low freq. internal friction technique (French) 4-39387
β-Ti-Mo, internal friction, impurity relax. spectra (Russian) 4-34578
β-Ti-Nb, internal friction, impurity relax. spectra (Russian) 4-34578
V-H alloys, twist effect, assoc. with hydride precip. 4-21265
V₂O₅-P₂O₅(-CaO)(MgO) glasses, internal friction meas., 120 to 650K 4-39384
W, dislocation damping spectrum 4-50299
Y₈₀Fe₂₀, glassy, internal friction meas. 4-45262
ZnSe(Te), plastic deform., defect struct., photoplastic effect, TEM 4-15483
Zr, impurity interstitial-dislocation interactions, internal friction 4-50341
Zr, plastic deform. effect on internal friction 4-50428
ZrO₂-CaO ceramics, vacancy mobility and isothermal damping spectra (French) 4-39566
Zr₂PdH_x, glassy, internal friction meas. 4-45262

internal friction of liquids see viscosity of liquids
internal mechanics, molecular see molecular vibration
internal mechanics of atoms see atomic structure
internal modes see molecular vibration in solids
internal stresses
acoustoelastic evaluation in nonhomogeneous anisotropic plates by US vel. meas. 4-3363
alloys, residual stresses evaluation, horizontally polarised shear waves appl. 4-35839
aramid fibre reinforced Al alloy laminate, flight simulation behaviour, fatigue crack growth 4-12282
BCC lattice, kinked screw dislocations, struct. and Peierls stress of isolated kinks 4-2206
boundary layers, planar and spherical, stress tensor calc. 4-15745
brittle coatings and layers, mech. behaviour, effects of residual stresses 4-51839
brittle materials, compressive surface strengthening, by residual stress distrib. 4-24381

internal stresses continued

car axles, cold surface rolling, fatigue strength rel. to strain ageing (*Japanese*) 4-21307
 ceramics, electrooptic, cryst. microstruct., piezoelec. and optical props. 4-35414
 characterisation, by elastic wave scattering meas. 4-35838
 composite, thin shell of revolution, method of removed elements applic. to residual stresses investig. 4-44510
 composite with small-scale curvatures in struct., quasiuniform states analysis 4-44392
 consistent-splitting model for experimental residual-stress analysis 4-34019
 creep activation energy determination procedure (*Czech*) 4-6432
 crystal growth from melt, thermoelastic stress distrib. rel. to crystallisation conditions 4-29354
 crystalline materials, crack propag. vel. rel. struct. and internal stress field 4-24905
 crystalline slabs, new size effects and electric field gradients 4-56170
 crystals, stresses and piezo-optical coeff., photoelastic study 4-40413
 cylinder, hollow, with moving isothermal boundary, temp. field and residual stress calc. 4-57258
 deformable polycrystalline samples, plastic rotations of the lattice (*Russian*) 4-50406
 diester-based mag. fluids, thixotropy in mag. field 4-30231
 disks, inhomogeneous, evaluation of residual stresses 4-11213
 dislocation glide, critical resolved shear stress 4-2210
 dislocation motion in two-dimensional periodic fields 4-39294
 elastoplastic material, complex loading and extrusion with saturating work hardening (*Japanese*) 4-2260
 Elinvar, dispersion hardened, submicroscopic struct., X-ray struct. anal. (*Russian*) 4-25041
 epoxide-phenol polymer based composite anticorrosion materials, strength and deform. props. 4-46640
 fatigue induced changes in surface residual stress 4-3241
 FCC monocrystals, fatigued, cyclic hardening curves, two-phase model calc. 4-12080
 ferrite spinel layers, heteroepitaxial CVD growth, dislocation structures, inner stresses, SEM, X-ray studies 4-11414
 fibre reinforced metal layer composites, thermoelasticity, thermal cond. and strength 4-45367
 fracture mechanics, nonlinear, internal stresses 4-1672
 fracture toughness, modified indentation technique 4-24390
 garnet films, ion implanted, mag. distrib., stress relief effects 4-30248
 glass, fatigue limit determ. 4-7570
 glass components of complicated form, residual stresses formed in heat treatment, approx. calc. methods 4-16426
 graphite and Kevlar 49 fibre reinforced epoxy, biaxial stress behaviour, creep and recovery tests 4-46585
 ideal crystals, multiple bifurcations, stress effect 4-50459
 ionic crystals with NaCl struct., Peierls stresses 4-24900
 layered cryst., macroscopic deformation during first-order phase transitions 4-34565
 line crack-screw dislocation interaction, displacement and stress fields 4-29463
 matrix composites, mechanics, multipolar expansion method appl. 4-44389
 measurement, X-ray methods, layer removal and the $\phi\psi\epsilon$ method 4-7662
 metal coatings, residual stress 4-3298
 metal films, sputtered, stress and prop. control without substrate bias 4-15786
 metallic glasses, stability under mechanical load, with and without irradi. 4-34573
 metallic materials, back stress in dislocation creep (*Czech*) 4-7512
 metallic materials, dispersion strengthened, back stress in dislocation creep (*Czech*) 4-7513
 metals, creep recovery and work hardening rate meas. technique, computer simulation 4-30765
 metals, FCC and BCC, radiation-induced creep, Weertman dislocation multiplication, diffusion-dislocation approach 4-6398
 metals and alloys, heat resistant, relax. resist. generalised graph 4-46547
 microcrack formation under conditions of developed plastic strain 4-11224
 mirror, large astronomical, material parameters that determ. surface accuracy 4-19610
 NDE, conf., San Diego CA, USA (Aug. 1982) 4-22525
 nonaxisymmetric discs, stress state 4-33945
 optical fibre fusion splices, internal stress evaluation and reliability 4-33790
 oxidation of curved surfaces, elastic and viscoelastic stresses 4-16522
 plates, thick and thin, half-elliptical surface cracks, welding residual stress intensity factors 4-29017
 polycrystalline aggregates, anisotropic, subjected to external stress field, strain distrib. 4-45248
 polycrystalline alloys, plastic props. temp. depend., solute content effect 4-30762
 polyethylene, high density, internal stresses and two-step stress relax. 4-21260
 polyethylene, void-free thick-section injection-flow mouldings prod., preferred orientation and residual stress meas. 4-35601
 polyethylene polyamine modified by liq. elastomer additions, shrinkage and internal stresses (*German*) 4-51673
 polymer sheets, investigation in two-dimens. stressed state 4-51757
 polymers, glassy, stress and displacement fields at tip of crazes 4-40984
 polypropylene-polyethylene blend, quality changes of internal stresses 4-39167
 residual strain exam. by acoustic signal attenuation 4-30914
 residual stress analysis, review 4-5850
 residual stresses; examination by holography and speckle interferometry 4-12301
 residual stresses, holographic interferometry determ. using one hologram 4-49788
 rubber, probability distrib. function of rupture stresses 4-46603
 sapphire plates, mechanically treated, stress relax. 4-34566
 semiconductor single crystal plates for pressure sensors, residual mech. stresses determ. 4-3322
 semiconductor substrates, stress distrib. anal. at film edges 4-11424
 single and polycryst., strain hardening, yield point and deformation curves 4-46526
 SOS, Si-implanted, strain states and optical phonons, Raman scatt. study 4-16195

internal stresses continued

SOS structure, review of physico-chemical and electrical props. (*French*) 4-40068
 steady state internal stress, estimation from creep strain-time plot 4-39371
 steel, alloy, residual stresses in impulse hardening 4-57402
 steel, austenitic stainless, and A533B (*Japanese*) 4-51792
 steel, austenitic stainless, Cr-Ni-Mo, transient creep, subboundary struct., TEM obs. 4-30761
 steel, austenitic stainless, Cr-Ni-Mo, transient creep kinetics 4-30760
 steel, austenitic stainless, fatigue of annealed and cold-worked samples 4-7563
 steel, austenitic stainless, martensitic transitions, H charging effect 4-40777
 steel, bolting, high temp., reloading stress relax. at specific relaxed stress, temp. depend. (*Japanese*) 4-3165
 steel, bolting, high temp., reloading stress relax. with specific time interval, temp. depend. (*Japanese*) 4-3164
 steel, C, fatigue, changes in residual stress, domain size and microstrain 4-7558
 steel, C, fatigue crack propag. rel. to initial residual stress (*Japanese*) 4-26047
 steel, C, impact fatigue crack propag., welding residual stress field 4-26032
 steel, C, plastic flow and residual stress distrib. caused by rolling contact (*Japanese*) 4-57289
 steel, Co, high-speed, surface hardening 4-21372
 steel, Cr, high-C, hardened rolls, depth of strengthening study by grinding away layers 4-41092
 steel, Cr-Ni, dislocation creep, glide mechanism (*Czech*) 4-7514
 steel, dual phase, initial yielding, austenite to martensite transform. 4-46579
 steel, dual-phase, continuous yielding, role of internal stress 4-3170
 steel, eutectoid, prestressing, H embrittlement, effect of surface residual stress 4-12223
 steel, ferrite-pearlite, microinhomogeneous deformation, hydrogenation effects (*Russian*) 4-51738
 steel, fracture toughness rel. to high temp. thermomechanical treatment, recrystallised austenite grains 4-3233
 steel, HSLA, fracture toughness of blunt-notched CT specimens, X-ray diff. of fracture surfaces (*Japanese*) 4-3230
 steel, low-alloy, applied and residual stresses, eddy current characterisation 4-35836
 steel, low-alloy, cold-rolling rolls, heat treatment and props. 4-40843
 steel, low-C, US shock treatment, struct. changes 4-41091
 steel, mild, critical stress intensity factor rel. to precracked load 4-16513
 steel, pressure vessel, fatigue life rel. to overload test 4-26017
 steel, prestressed sheet, brittle fracture initiation 4-7568
 steel, residual stress in A533B, US vel., temp. depend. 4-30912
 steel, residual stresses of cut surface, X-ray study of cutter speed (*Japanese*) 4-3373
 steel, retarded fracture on welding, H influence 4-51808
 steel, sheet type, plastic deform. influence on struct. and mech. props. 4-51693
 steel, stainless, type 316, plastic and viscoplastic constitutive eqns. 4-3200
 steel, stainless, weldments, residual stresses rel. to α phase 4-3189
 steel, structural, applied and residual stresses, eddy current characterisation 4-35836
 steel, structural, brittle fracture of plates with surface cracks, effect welding residual stress 4-30788
 steel, structural, corrosion fatigue, surface state influence 4-21398
 steel, structural, fatigue strength improvement rel. to cold work induced residual stress (*German*) 4-40938
 steel, W-Mo, high-speed, surface hardening 4-21372
 styrene-butadiene rubber sheets, investigation in two-dimens. stressed state 4-51757
 subsurface residual stress measurement, procedures 4-7679
 surface flaws, failure mechanisms in mixed mode loading 4-55914
 thick film residual stress, blind hole drilling technique and expt. study 4-16526
 thin-walled framed structures, internal stresses real-time determ. (*German*) 4-5849
 thin-walled structures, local strengthening, residual plastic deform. distrib. 4-24359
 US phase delay measurement for residual stress determ., Fourier transform 4-51949
 US time volometer for SAW measurements 4-51944
 viscoplastic and plastic constitutive eqns., internal variable concept rules 4-3199
 wear resistant coatings, brittle, fracture under bending deformation, theory 4-41003
 wear-resistant coatings, brittle, mech. behaviour 4-35780
 welding stresses in plates, heating and cooling conditions selection 4-33961
 zinc blende struct. crystals, internal strain parameter (bond-bending parameter) 4-55780
 Ag thin film, internal stresses, microstruct. model anal. 4-45565
 Al alloy, residual stress intensity factor, aging temp. depend. (*Chinese*) 4-57310
 Al, fatigued, US absorpt. and testing (*French*) 4-51796
 Al, nonlinear Bordoni relax. and internal stresses (*French*) 4-50430
 Al, single cryst., stress relax. 4-40882
 Al thin film, elastic moduli and thermal expansion coeff. 4-50400
 Al-Cu, Mg, 2024, residually stressed, fatigue strength rel. to preload 4-35676
 Al-Cu (3 wt.%), elastic interaction of growth ledges on plate shaped preprecipitates 4-16404
 Al-Cu-Mg, fatigue strength improvement rel. to cold work induced residual stress (*German*) 4-40938
 Al-Mg (5.7 at.%), high temp. deform., internal stress rel. to dislocation density (*Japanese*) 4-35665
 Al-Si-Mg-Fe, 6061, strain induced microstruct., US signal analysis 4-30913
 Al-Zn (11 wt.%), creep at intermediate temp., evolution of internal stresses and substruct. 4-57279
 Al₂O₃-ZrO₂, ground surfaces, residual stresses, stress induced phase transform. 4-3135
 Au thin film, internal stresses, microstruct. model anal. 4-45565
 BN, cubic cryst., thermal shock influence on substruct. and strength 4-57341

internal stresses continued

- C fibre reinforced epoxy laminates, failure, edge stresses effect 4-26037
C thin films, diamond-like, under internal compressive stress, stress relief forms 4-50696
CaCO₃ single crystals, ° TSEE glow curves rel. to heat treatment 4-3028
CdS-Cu₂S solar cell, piezoelectrically coupled stress effect on junction characts. 4-31095
Co-Pt disordered alloys, magnetomech. damping, plastic deformation effects 4-40869
Co₉₃Fe₃Ni₁₀Si₁₁B₁₆, amorphous, mag. props., tensile stress effects 4-35167
Cr thin film, gas adsorption, internal stress meas. 4-39691
Cr thin film, internal stresses, microstruct. model anal. 4-45565
Cr thin film, intrinsic and thermal stresses, deformation method meas. 4-50697
Cr thin films, excess noise rel. to internal and external 1/f noise 4-15927
Cr-Mo-V, low alloy steel, thermo-mechanical cycles, residual stresses, Young's modulus variation (*French*) 4-35640
Cr-V-Mo electrolytic coatings, microhardness, internal stresses, comp. depend. 4-3285
Cu alloys, internally oxidised, shock loading microstresses 4-45261
Cu, polycrystals, indentation damages, work hardening, residual stress, elastic-plastic analysis 4-16450
Cu, single cryst., stress relax. 4-40882
Cu thin film, internal stresses, microstruct. model anal. 4-45565
Cu-Al, sliding wear, stacking fault energy, induced residual stresses 4-21334
Cu-Zn-Al, shape memory effect, degradation, grain size refinement, internal stresses, reflectivity obs. (*Japanese*) 4-46505
Fe, magnetic domain wall motion and magnetomech. damping (*French*) 4-40214
Fe-Ni-Co-Ti (23, 10, 10 wt.%), martensitic transform., γ'-phase precipitate lattice parameters, internal stresses 4-21209
Fe-Ni-Cr, elastic and mag. props. (*Russian*) 4-6419
Fe-Si, transformer steel, mechanical stress meas. using mag. permeability sensor 4-46712
Ga_{1-x}Al_xAs/GaAs, internal strain and photoelastic effects 4-16178
GaAs, implanted impurity redistribution, stress effect 4-24843
GaAs, Ti-Pt bilayer ohmic contacts for metallisation, stresses anal. 4-20499
GaAs:Si, ion implanted, SiO₂N_y capped annealing, elec. activation 4-50829
GaAs/AlGaAs injection laser-Cu heat sink system, internal stresses 4-5617
GaAs-GaAlAs laser diodes, stress compensation 4-1392
GaAs-metal, Schottky-barrier structures, low temp. behaviour of volt-ampere characts., effect of mech. stresses 4-20724
Hf-N films, reactively magnetron sputtered, struct. anal. 4-56158
InGaAs/GaAs strained layer superlattices, strain meas. by channeling angular scans 4-20272
In_{1-x}Ga_xAs_{1-y}P_y/InP, internal strain and photoelastic effects 4-16178
LiF crystal, ° TSEE glow curves rel. to heat treatment 4-3028
LiNbO₃ strip crystal growth by Stepanov method, stress and defect struct. 4-25869
Mn-Zn ferrites, mech. stresses in surface layers 4-45479
Mo condensate, on steel, by vacuum arc discharge, influence of ion energy on microstructure and macrostresses (*Russian*) 4-50662
Nb-H alloys, twist effect, assoc. with hydride precip. 4-21265
Nb₃V_{1-x}H single cryst., NMR and acoustic NMR studies 4-51149
Ni alloy, heat-resistant, hydrostatically extruded bars, failure mechanism 4-21322
(Pb, La)TiO₃ ceramics, mech. props., ageing changes 4-35678
PbO-SiO₂, colour centres form. and photoelasticity effect by laser radiation (*Russian*) 4-41413
PbTiO₃:La ceramic, internal stress anisotropy 4-39373
a-Se films, crystallisation, compressive stress form., vacancy mechanism 4-34828
Si, internal stresses from ion-implanted amorphous regions 4-11161
Si, neutron irradi., single phonon absorption band 4-2918
Si, pulsed electron beam annealing, struct. defects induced by thermoelastic stresses, SEM studies 4-24822
Si single cryst. matrix, electrode pot. meas. rel. to struct. perfection 4-3265
Si single crystal plates for pressure sensors, residual mech. stresses determ. 4-3322
Si, thermal oxidation conditions rel. to electrophys. props of SiO₂ (*Russian*) 4-41018
a-Si thin films, residual strains, X-ray double cryst. topography study 4-39710
Si wafer, process induced bending and mech. stress 4-2466
a-Si:H film, plasma deposited, mech. stress 4-29855
Si-Pt interface, silicide formation, internal stresses and reflectivity studies 4-56097
SiN:H amorphous film, plasma deposited, mech. stress 4-29855
Si₃N₄, hot pressed, damage penetrations at elongated machining grooves 4-57319
SiO evaporated layers on GaAs(P), strain effects, piezobirefringence study 4-6676
Ta-H alloys, twist effect, assoc. with hydride precip. 4-21265
TaSe₂ (2H), CDW state, nucleation processes 4-15830
TiB₂, irradiation and post-irradiation annealing behaviour 4-11193
TiB₂, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
TiC coatings, vac. deposited, internal stresses and Young's modulus 4-15793
TiC, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
TiN, sputtered coating for cutting tools, phys. props. (*German*) 4-7651
V-H alloys, twist effect, assoc. with hydride precip. 4-21265
V₂Si thin films, internal stress and thermal expansion 4-25190
Zn single cryst., creep, current pulse effects (*Russian*) 4-25999
Zn single crystal, low temp. creep, forest dislocation effects (*Russian*) 4-25998
ZnO, mosaic struct. internal stresses, γ-ray diff., conosopic methods 4-50530

internuclear double resonance see INDOR

interplanetary magnetic fields

see also interplanetary matter

- Alfven waves, resonance scatt. in solar wind 4-42277
Alfvenic fluctuations, turbulent generation 4-8365

interplanetary magnetic fields continued

- Earth bow shock, nature of mag. field 'overshoot' in collisionless shock wave 4-58347
Earth polar cap geometry depend. on IMF 4-26952
HELIOS-2 magnetometer obs. during solar minimum, power spectra 4-31723
heliospheric current sheet structure in AD 1978 to 1982 period 4-26963
hourly average parameters rel. to auroral boundary vars. 4-26913
inhomogeneities, effect on cosmic ray protons, Venera 13 and 14 obs. 4-47509
International Solar Polar Mission, mag. field instrumentation and data streams processing 4-31731
magnitude disturbance, Pioneer Venus obs. rel. to Venus encounter with comet 4-3898
N-S component effect on magnetometer network meas. (1975-8) in Antarctica (*Russian*) 4-47133
solar flare disturbances, effects of equatorially-fluctuating heliospheric current sheet 4-53002
solar wind, effect on dayside aurora shift 4-17325
solar wind, fluctuations power spectra, radial var. model (*Chinese*) 4-17369
solar wind, mag. field strength from spacecraft meas. and Earth-based obs. (*Russian*) 4-47520
solar wind, mag. sector struct., correl. with Jupiter MF/LF emission 4-27039
solar wind data anal. for high-speed plasma streams (1975-78) catalogue compilation 4-17412
solar wind field modulation of cosmic rays, correl. with absorpt. in atm. 4-22284
solar wind shock wave, particle and mag. field obs. indicating large mag. loop struct. 4-3897
solar wind structural features, effect on flare charged particles propag. 4-47583
solar wind-magnetosphere coupling, plasma/mag. field fluxes anal. 4-17352
solar wind-magnetosphere interaction, mag. activity 4-22269
tangential discontinuity passage effect on polar cap geometry, arc formation 4-26953
- interplanetary matter**
see also comets; cosmic dust; interplanetary magnetic fields
chondritic micrometeorites, C compounds form. by heterogeneous catalysis 4-47577
collisionless shocks, struct. and energetic particle prod. spacecraft obs., 4-36553
comet nuclei ice-interaction with interplanetary 4-31796
dust grain spatial distrib., modification by Lorentz forces 4-53095
dust particles, e-Fe_{3-x}Ni_xC existence 4-47571
energetic charged particle erosion of ices in Solar System 4-31771
gas-rich meteorites as probes of early solar system, review 4-42645
heliosphere, anomalous He component of cosmic rays during 1965 and 1972 to 1977 solar minima 4-13159
International Solar Polar Mission, dust expt. 4-31740
plasma ahead of heliosphere 4-42514
plasma characteristics (book) 4-53368
radiowave phase fluctuations accompanying circumsolar plasma transillumination 4-58408
solar flare disturbances, effects of equatorially-fluctuating heliospheric current sheet 4-53002
solar wind, plasma characts. from spacecraft meas. and Earth-based obs. (*Russian*) 4-47520
solar wind, spatial struct. during solar activity minimum (*Chinese*) 4-58352
solar wind acceleration regions, MHD turbulence and waves 4-36669
solar wind plasma, impulsive electron flux events, electron source model and coronal processes 4-42425
spherules in marine sediments, of cosmic origin? 4-3957
- interplanetary medium** see interplanetary matter
- interpolation**
see also function approximation
biomolecular electron microscopy, direct 3D reconstruction, interpolation in forward projections computation 4-21869
dispersion relations, partial wave, Loewner interpolation 4-17754
dynamometer characteristics interpolation criteria comparison (*Rumanian*) 4-42955
dynamometer characts. interpolation deviation, hysteresis influence obs. (*Rumanian*) 4-8894
fracture mechanics, boundary interpolation method 4-24382
kriging, technique and applications in remote sensing 4-31657
optical spectra, anal. by Fourier methods, appl. to Si ellipsometric data 4-37217
photographic material sensitivity, charact. curves, num. analysis methods comparison (*German*) 4-37235
random processes, interpolation, rate of convergence (*Ukrainian*) 4-37012
retention-solubility studies in lungs, appls. of Pick-Nevanlinna interpolation theory 4-26469
Schrödinger eqn., eigenvalues calc. using alpha-interpolation method 4-42762
spectroscopic two-dimensional data array processing by computers 4-27497
strain hardening curves, spline interpolation 4-30875
wind field from dual-Doppler radar data, filtering/interpolation by variational method 4-13050
NaI scintillation detector response curves generation by interpolation technique 4-969
- interstellar dust** see cosmic dust
- interstellar magnetic fields**
see also interstellar matter
0735+178, BL Lac object, variability, multifrequency obs. and calcs. 4-53261
ambipolar diffusion time scale and magnetic interstellar gas clouds, star formation location 4-31883
B2 1101+38, 1974-1982 polarisation and photometry, stable mag. field evidence 4-42553
3C 138, quasar, relativistic particle and mag. field energy from high resolution radio obs. 4-53304
Cepheus A, mol. cloud condensation, mag. field control of star form. 4-47671
clouds, collapse and fragmentation, mag. fields effects in star form. 4-53155
Crab Nebula, radio jet polarisation and mag. field 4-53253

interstellar magnetic fields continued

- direction from linear polarisation of radiofrequency absorpt. lines 4-13394
- G93.3+6.9, supernova remnant, morphology and mag. field struct. from radio continuum obs. 4-53245
- Galaxy large scale field mag. field dynamics 4-42305
- massive protostar form. due to quasi-static contraction of mag. clouds via plasma drift 4-13406
- monopole contrib. insufficiency 4-8376
- NGC 253, spiral galaxy, mag. field from 2.8 cm continuum distrib. 4-8565
- planetary nebula shell fossil mag. field (*French*) 4-36724
- radiogalaxies, superluminal motion, nucleus mass ejection and mag. field anal. 4-42530
- radioresources, extragalactic, mag. fields/brightness/polarisation, UHF obs. 4-17604
- spatial distribution from nonthermal radioemission 4-4097
- star formation, magnetic flux problem and ambipolar diffusion, 1-D collapse 4-31819

interstellar matter

- see also cosmic dust; H I regions; H II regions; interstellar magnetic fields; nebulae
- 220.0 nm band, second catalogue of equivalent widths and statistical anal. 4-13207
- absorption feature at 280 nm attributed to proteins, reality disputed 4-47680
- abundance ratio of [D]:[H] from mol. obs. 4-27167
- accretion by supermassive black hole-quasar escaping from galactic nucleus, implications 4-13423
- acetaldehyde, microwave A-state transitions obs. in radio source (Sagittarius B2) 4-13403
- active galactic nuclei, geometry, gas-cloud kinematics, line profiles 4-36739
- active galactic nuclei, O II and S II forbidden lines, form. and gas parameters 4-17596
- active galactic nuclei, X-ray spectra and interstellar interactions 4-58514
- amorphous ice, adsorpt. and mobility of H atoms on surface 4-29775
- astropause boundary layer, stationary plasma-field equilib. states 4-8456
- AE Aurigae, runaway star, line of sight CO, UV obs. 4-53166
- B335, Bok globule, far-IR detect. of low-luminosity star form. 4-8452
- B 335, globule, model from IR/THF/SHF obs., dust emission protostellar origin 4-8548
- barred spiral galaxies, stars and gas kinematics and dynamics 4-47699
- Berkeley 28, open cluster, age, luminosity, radius, reddening and distance (*French*) 4-53235
- bipolar and cometary nebulae, photographic and photometric obs. 4-53061
- bipolar nebula in Bok globule, photometric and spectroscopic obs. 4-22458
- Bok globules in northern hemisphere, survey for H α emission stars, implications 4-13407
- broad absorption-line X-ray quasars, absorpt. line regions obs. 4-53300
- 3C 273, IR spectra and dust charact. 4-47702
- Carina Nebula, giant H II region in absorption, interstellar lines 4-53237
- Cassiopeia field, interstellar absorpt. struct. from main sequence/giant stars anal. 4-27178
- Cepheus A, mol. cloud condensation, H II regions nature, EHF/SHF obs. 4-47671
- Cepheus IV star formation region, morphology and kinematics from formaldehyde obs. 4-31886
- Chamaeleon T-association, obs. of IR nebula 4-17573
- chemistry 4-27164
- chemistry modelling 4-27165
- clouds collapse and fragmentation, star form. 4-53155
- clouds dimensions, mag. field dynamics 4-42305
- cluster galaxies, effects of relaxation and tidal stripping in rich clusters on luminosity distrib. 4-47713
- coliform bacteria, UV absorbance spectrum rel. to interstellar extinction curve 4-4066
- collapsing clouds, ang. momentum transfer 4-47687
- complex hydrocarbons production from ion-molecules reactions 4-4070
- composition and star formation cycle 4-36729
- contracting cloud, local dust clumps development 4-13408
- cool molecular clouds 4-27154
- CORONA, instrument package for obs. of hot interstellar medium 4-53538
- V1331 Cygni, peculiar T Tauri star, interstellar extinction from photoelectric UVB photometry (*Russian*) 4-13316
- Cygnus Loop, struct. and emission spectrum of nonradiative shock wave 4-31880
- Cygnus X-3, distance from anal. of intervening matter spectra 4-4035
- dense interstellar clouds, effects of shocks on molecular comp. 4-53248
- dense molecular clouds, dust and gas temps. 4-42509
- dense molecular clouds, use of methyl acetylene as temp. probe 4-47541
- density dependence of Ca and Na depletions, UV and visible obs. 4-31890
- diffuse clouds, C-bearing diatomic mol., abundances 4-4071
- diffuse interstellar bands, vibronic origin 4-4065
- diffuse interstellar matter, radiation field and dust temp. 4-22457
- in disc galaxies, supernova remnants, interaction with interstellar medium rel. to N-body simulations 4-13417
- disc-halo galaxies, mergers simulation 4-17593
- dispersion relations for two relativistic fluids magnetically coupled, astrophysical appl. 4-55452
- distribution and galactic structure (book) 4-36835
- distribution at (l,b)=(253 $^{\circ}$, -7 $^{\circ}$) 4-31921
- distribution in Galaxy (book) 4-32001
- dust, implications of amorphous C 3.4 micron absorpt. band 4-8555
- dust and gas at high galactic latitude rel. to UV background 4-22485
- dust grains, comp. and struct. 4-4063
- dust in Bok globules 4-27157
- dust in galaxies, reviews 4-22476
- electron density distrib., determ. from pulsar dispersion measures 4-4072
- electron density fluctuations affecting pulsar radiowave timing observations 4-36983
- elliptical galaxies, internally produced gas motion 4-53287
- elliptical galaxies, radio continuum emission and gas accretion onto galactic nuclei 4-8566

interstellar matter continued

- elliptical galaxies winds, de Vaucouleurs and modified King models 4-13421
- elliptical galaxies with shells, catalogue 4-13412
- extinction, distrib. of absorbing matter in Galaxy (*Russian*) 4-42518
- extinction curve, fit using grain mixture without graphite 4-4064
- extinction spectrum, implications of dust grains formation in expanding gas flow around cool luminous stars 4-53147
- extinction towards hot subdwarfs, UV spectra anal. 4-53164
- extinction towards OB associations, early-type stars photometry anal. 4-53233
- extragalactic astronomy (book) 4-53334
- extragalactic jets, surface brightness and morphology 4-53298
- extraterrestrial ice, phys. and chem. props., review 4-31770
- formaldehyde towards compact H II regions, densities and isotope ratios 4-13401
- formation of giant cloud complexes 4-27152
- formyl ion (HCO $^{+}$), first obs. of J=4-3 transition 4-27159
- formyl radical, grand state, hyperfine interactions, mm and sub-mm spectra 4-38159
- galactic absorption lines in spectra of extragalactic sources, IUE obs. of Markarian 509, Arakelian 120 and 3C 273) 4-47669
- galactic centre, gas mass and prod. of γ -ray/IR emission peaks 4-4098
- galactic centre, interpretation of non-circular motion 4-27174
- galactic centre, obs. of HNC mol. emission within central 10 parsecs 4-27147
- galactic disc, distrib. from gamma ray emission anal. 4-36740
- galactic disc, star formation and abundance gradients 4-4099
- galactic globular clusters flattening due to foreground interstellar absorpt. 4-22450
- galactic halo, absorpt. lines towards quasar 3C 273, UV obs. 4-8541
- galactic halo, C $^{+}$ and Si $^{+}$ photoproduction 4-53236
- galactic large scale structure from gamma ray emission, cosmic ray spatial var. 4-4096
- galactic nonthermal radiation density towards IC 405 and 410, HF obs. 4-13456
- galactic nuclei, recurrent explosions, model 4-27170
- galactic plane sin l-v diagram 4-17576
- galactic structure, results of IRAS mission 4-42524
- galactic wind of radiogalaxies, role in galactic evolution 4-42536
- in galaxies, gas stripping rel. to flattening distrib. 4-4085
- galaxies active nuclei, composite models for narrow emission line region 4-8561
- galaxies active nuclei, reddening corrections and intrinsic Balmer decrement of narrow-line regions 4-53273
- galaxies mass outflows 4-58427
- galaxies with giant H II region nuclei, extinction, dust emission and IR spectra 4-47701
- Galaxy, gaseous component near Sun, equilib. noise level 4-36581
- Galaxy, missing mass, possible invisible halo (*French*) 4-8581
- Galaxy centre, gamma ray continuum and 511 keV line mechanism 4-27185
- Galaxy centre, high-resolution radio obs. of ionised gas in central 3 parsecs 4-22470
- Galaxy halo, H I detect. and struct., UHF obs. 4-17575
- gamma-ray diffuse emission, anal. of cosmic rays accel. and transport 4-3886
- gamma-ray point-like source, origin model involving interstellar cloud energetic processes 4-4114
- gas accretion onto galaxy disc, self-consistent hydrodynamic theory 4-27186
- gas and dust charact. (book) 4-36841
- gas and stars in galactic discs, two-fluid gravit. instabilities 4-47693
- gas clouds, collisions rel. to ang. momentum transfer in galactic disc 4-17589
- gas clouds, symmetrical, gravit. collapse in linear wave flow approx. 4-3915
- gas in disturbed galaxies, continuum model eqns. 4-47668
- gas in globular clusters, accretion by stars rel. to black hole form. 4-22447
- gas in globular clusters, rel. to form. of 10 M $_{\odot}$ black holes 4-22421
- gas in triaxial galaxies, preferred orbit planes in galaxy tumbling about principal axis 4-47692
- gas molecules, low energy electron scatt. 4-8556
- gas removal in neighbourhood of giant elliptical galaxies, results from southern galaxy groups 4-13442
- gaseous disc stability in galaxies 4-27187
- giant molecular clouds, cosmic ray interactions 4-26956
- giant molecular clouds, form. in two-fluid model of galactic disc 4-47694
- giant molecular clouds, radiation field and dust temp. 4-22457
- giant molecular clouds, scatt. of stars rel. to vertical struct. of galactic discs 4-13418
- giant molecular clouds in Galaxy, axisymmetric distrib. of H $_2$ 4-47670
- giant molecular clouds radial distrib., effect of viscous torque between clouds 4-13405
- giants in old open clusters, atm. parameters, mass, abundances, reddening, photometric obs. 4-27138
- grains evolutionary cycle 4-27168
- grains heated by supernovae, IR emission 4-22455
- grains sedimentation, effect on stellar evolution 4-53150
- Gum Nebula charact. from line of sight extragalactic radioresources anal. 4-4104
- heliosphere boundary, interaction between plasma and neutral atoms (*Russian*) 4-31724
- Herbig-Haro objects, observational studies and theoretical models 4-22463
- high galactic latitude, dust, gas and UV background radiation 4-58498
- high velocity flows and mol. jets, mm radioastronomy 4-27163
- high-velocity interstellar gas towards stars of cygnus OB1 association, IUE obs. 4-22459
- hot X-ray component anal. 4-58375
- hydrocarbon molecules synthesis in shocked interstellar cloud 4-8554
- IC 4320, dusty elliptical galaxy, reddening and grains nature, visible obs. 4-8579
- IC 5063, radiogalaxy, rot. curve and extended ionised nebulosity spatial struct. 4-13427
- ice, spectrosc. investig. 4-31887
- ice grains in interstellar space, rel. to astron. spectra 4-31888
- International Solar Polar Mission, interstellar neutral-gas expt. 4-31735
- ion-grain collisions as a source for interstellar molecules 4-27166

interstellar matter continued

- ion-molecule reactions in cold dense clouds, rate consts. meas. at 20 to 160K 4-35893
 ionic composition of cooling gas (*Russian*) 4-53255
 ionisation by hot white dwarfs, theory 4-27148
 irregular oxide grains, chem. effects 4-22454
 Kleinmann Low Nebula, spectra and abundances 4-42555
 Kleinmann-Low Nebula, 3 mm region, unidentified lines identification possibilities 4-27142
 laser mag. reson. rot. spectra 4-54764
 late-type galaxies, central far-IR emission and mol. clouds anal. 4-27192
 LDN 183, dark dust cloud, chem. modelling and reactions 4-53251
 line formation in compact X-ray sources, gas flows nature 4-58377
 in LMC, kinematics and struct. of supernova remnant (N49) 4-31878
 in LMC, kinematics and struct. of supernova remnant N63A and assoc. H II regions 4-31877
 LMC giant interstellar shells, H I profiles, UHF obs. 4-42520
 LMC halo, H I detect. and struct., UHF obs. 4-17575
 in LMNC, young stars and interstellar bubbles 4-8562
 local hot bubble surrounding Solar System, charact., X-ray anal. 4-58497
 Loop I (North Polar Spur), major interstellar feature, review 4-4105
 low density ionised gas assoc. with Carina Nebula, H166 α line 4-53243
 M16, H II region-mol. cloud, interaction with HD 168183 wind-driven shock 4-47679
 M17 SW, emission nebula, ionisation stratification models and obs. 4-13393
 M17 SW molecular source HNC J=3-2 rotational emission line obs. 4-27161
 M1-2 (=VV 8), peculiar emission nebula, interstellar extinction determ. from UV obs. 4-31879
 in M31, high resolution 21-cm line survey 4-42546
 M42 Herbig-Haro objects, discovery and high vel. mol. flow obs. 4-53249
 M67, interstellar reddening rel. to supermetallicity studies 4-3980
 in M82, distrib. of CO J=2-1 emission 4-27176
 M87, continuing star form. in central star cluster from infalling gas 4-42550
 magnetic interstellar gas clouds, star formation location, ambipolar diffusion time scale 4-31883
 Markarian 325, clumpy irregular galaxy, shell nature 4-42538
 Markarian 3, Seyfert 2 galaxy nucleus, radio jet struct. and plasma charact. 4-47705
 Markarian 509, Seyfert 1 galaxy, obs. of ionised gas outflow 4-13414
 methanol rotational transitions from OMC-1 at 242 GHz 4-27162
 methyl acetylene as mol. cloud temp. probe 4-42317
 methyl ion chemical association with H₂, laboratory expts. 4-51992
 methylcyanoacetylene in TMC-1, detect., hyperfine struct. and column density 4-47676
 methylidyne, excitation and spectra 4-42302
 methylidyne (CH) in diffuse interstellar clouds, optical obs. 4-42511
 in Milky Way Galaxy, obs. of interstellar medium rel. to galactic struct. and dimensions 4-42545
 missing mass problem, heavy neutrino explanation 4-47534
 molecular astrophysics, ion-molecule reactions 4-21459
 molecular cloud clumps, radiatively induced star formation 4-13292
 molecular cloud dense cores, submillimetre CO rot. lines 4-47675
 molecular cloud evolution, role of high vel. flows 4-27163
 molecular cloud IR sources, absorpt. of dust grain origin, IR obs. 4-17581
 molecular cloud properties, conf. at Cardiff, Wales (August 1977) 4-8654
 molecular clouds, 94 micron bright sources, charact. 4-13449
 molecular clouds, identification as galactic gamma-ray sources 4-22483
 molecular clouds, methyl acetylene as temp. probe 4-42317
 molecular clouds, radial distrib. in galaxies (*Japanese*) 4-27171
 molecular clouds, relevance of mol. obs. to gamma-ray astronomy 4-4076
 molecular clouds H₂O heating, line transfer and thermal balance in warm dusty medium 4-13395
 molecular clouds in galactic centre, survey, OH-UHF obs. 4-27190
 molecular discs, centrifugally driven MHD winds from young stellar objects 4-13391
 molecular gas column densities from gamma ray emission due to cosmic ray interactions 4-3889
 molecular ions, microwave spectra 4-9766
 molecular ions, spectroscopy, structure and chemistry, book 4-8662
 molecules, 2-mm radio searches 4-4067
 molecules, EHF and THF laboratory spectra 4-26993
 molecules in astrophysics, review (*Russian*) 4-8550
 Nagoya University 1.5 m EHF telescope with acousto-optical spectrometers for interstellar CO vel. 4-13194
 neutral gas ahead of expanding H II region ionisation front 4-53254
 new semi-regular variable in Cygnus, spectral type and interstellar reddening from UVB photometry 4-22392
 NGC 1052, elliptical galaxy, spectra anal. and nucleus photoionisation models 4-42543
 in NGC 1068, Seyfert 2 galaxy, decomposition of emission-like profiles in active nucleus 4-31905
 NGC 1068, Seyfert galaxy, radio jets and high vel. gas, struct. and models 4-13419
 NGC 1569, irregular galaxy, CO emission, star form. and centre region charact. 4-53264
 NGC 2024, mol. cloud, radio-recomb. line intensities and electron parameters 4-8553
 NGC 205, dwarf elliptical galaxy, photoelectric UVB photometry of absorpt. regions 4-31909
 NGC 2264, open cluster, UVB photometry, colours, reddening and distance 4-8540
 in NGC 253, spiral galaxy, interstellar extinction and star form. in galactic nucleus 4-85505
 in NGC 2768, early-type galaxy, evidence for dust ring from BVRI photometry 4-31914
 in NGC 2814, irregular galaxy spectrophotometric investigation of condensation 4-17587
 in NGC 2903, vel. field of ionized gas 4-22465
 NGC 3314, NGC 1275, backlit galaxies, dust distrib. in foreground systems 4-17583
 NGC 4051, type 1 Seyfert galaxy, obs. for far-IR emission from warm dust 4-13415
 in NGC 4151, Seyfert galaxy, props. of gas in nucleus 4-17586
 NGC 4449, irregular galaxy, ionised gas motion and comp. 4-42539

interstellar matter continued

- NGC 5128 halo, implications of globular cluster system obs. 4-53267
 NGC 6221, barred spiral galaxy, gas dynamics 4-47700
 NGC 7635 (Bubble Nebula), dusty blister model from spectroscopic obs. 4-13387
 nonspherical grains, light scatt. and phase retardation 4-4073
 North Polar Spur, X-ray anal. and plasma temp. and abundances 4-58499
 ρ Ophiuchi dark cloud, new IR sources discovery rel. to form. of bound star cluster 4-13392
 ρ Ophiuchus dark cloud, pre-main sequence objects X-ray var. 4-58434
 organic features in IR sources 3-4 μ m spectra 4-47674
 organic matter in meteorites, D/H ratios 4-36641
 organic molecules synthesis, role of protonated formic acid (HC(OH)₂⁺) 4-36734
 Orion A, mol. cloud, radio-recomb. line intensities and electron parameters 4-8553
 Orion molecular cloud, evidence for large grains from IR polarisation and flux data 4-58491
 Orion molecular cloud, methyl cyanide and cyanoacetylene detect., EHF obs. 4-8543
 Orion molecular cloud, mid-IR maps of cloud core 4-13402
 Orion Molecular Cloud I ridge, sources IR obs. and nature 4-22456
 Orion molecular clouds, obs. of NH₃ clumping between clouds (OMC-1 and OMC-2) 4-27143
 Orion Nebula, Henry Draper symposium at New York, USA (December 1981) 4-42580
 Orion Nebula region, extinction law for B-type stars with broad H I lines 4-17507
 Perseus OB1 association, UV extinction rel. to Scorpius OB2 assoc. 4-13381
 photoionisation rates 4-31894
 plane-parallel clouds with embedded sources, radiation field 4-17380
 plasma, X-ray and UV emission 4-58376
 plasma ahead of heliosphere 4-42514
 point explosion in exponential atmosphere with nonzero asymptote 4-13189
 polarisation law, effects of complex clouds 4-42521
 polarisation law, IR data fitting 4-42522
 primordial clouds collapse and Population III stars form. 4-8536
 protonated ions with second-row atoms, ab initio SCF and CI calcs. 4-47677
 protostellar clouds, predicted submillimetre-wave spectra 4-47598
 QSOs, broad-band X-ray spectra and column densities 4-53302
 QSOs producing X-ray background, line emitting gas charact. 4-53301
 quasars, broad-line region, emitting gas anal. 4-47723
 quasars, evidence for gas-rich environments from VLA obs. of radio cores 4-53296
 quasars, Fe II emission anal., model for interstellar plasma 4-53306
 quasars, gas cloud kinematics, geometry and line profiles 4-36739
 quasars, high-vel. absorbing cloudlets contrib. to UV continua 4-13453
 quasars, mass flow rate and emission line clouds anal. 4-13447
 quasars as Cherenkov sources 4-17609
 quasistatic contraction of mag. clouds due to plasma drift, massive protostars form. 4-13406
 radio galaxies, evidence for gas-rich environments from VLA obs. of radio cores 4-53296
 radiofrequency absorption lines, linear polarisation and mag. field direction 4-13394
 radiogalaxies, superluminal motion, nucleus mass ejection and mag. field anal. 4-42530
 radiogalaxies at high redshift, bent jets and gas dynamics 4-53280
 reddening estimates for galaxies in Second Reference Catalogue and Uppsala General Catalogue 4-53282
 reddening of C stars in Galaxy (*Chinese*) 4-58438
 relativistic collimated jet accelerated due to adiabatic expansion, radiative props. 4-22466
 rotating gas clouds, equilib. eqns., analytical solns. 4-53029
 rotating polytropic gas discs, adiabatic oscils. 4-58372
 S201, star formation region, far-IR obs. rel. to energetics and mass struct. 4-58495
 S235 molecular cloud, large-scale far-IR mapping 4-53246
 S68/Serpens object molecular cloud, continuum and mol. obs. rel. to low-mass stars form. 4-53244
 Sagittarius B2, 3 mm region, unidentified lines identification possibilities 4-27142
 Scorpius OB2 association, UV extinction rel. to Perseus OB1 assoc. 4-13381
 selective absorption ratios in galaxies and colour excess ratios 4-27188
 Seyfert galaxies, nuclei IR spectra and dust charact. 4-47702
 shock wave from supernova and stellar clustering, nonlinear evolution 4-8538
 SiO masers, multilevel model 4-8374
 SNRs, brightness-diameter relations, effects of interstellar medium cloudiness 4-47673
 solar wind heating of interstellar medium 4-4075
 spherical shocks, gravit./dynamic instabilities, star and galaxy form. appl. 4-8372
 spherical shocks, gravit./dynamic instabilities 4-8372
 star formation, magnetic flux problem and ambipolar diffusion, 1-D collapse 4-31819
 star formation regions, IR spectra 4-17577
 star forming clouds, IRAS mission obs. 4-42524
 star-forming regions, search for Orion-like SiO masers 4-42436
 stimulated Compton scatt. of Alfvén waves, cosmic ray propag. appl. 4-53033
 superluminal motion within non-relativistic jets, quasar appl. 4-42515
 supermassive black holes accretion disks, X-ray emission and dynamo generated mag. field role 4-58379
 supernova shock fronts, interaction with nearby interstellar clouds 4-27146
 Taurus dark cloud complex, new flare star discoveries from photographic monitoring 4-8485
 Taurus-Auriga dark cloud, photometric variability of T Tauri stars 4-53159
 thioformyl ion (HCS⁺), obs. in cold molecular clouds 4-8546
 TMC-1, chemical modelling and reactions 4-53250
 TMC-1, dust cloud, butadiynyl SHF obs. 4-8549
 toroids as focusing agents for bipolar mass outflow in star form. regions 4-8544

interstellar matter continued

- total/selective extinction ratio, rel. to Cepheids distances determ. via Wesenheit function 4-13331
 turbulence, two-stage scheme in revised Kolmogorov self-similar theory frame 4-22453
 turbulence rel. to cosmic ray accel. and transport processes 4-3887
 UV extinction spectrum, IUE obs. rel. to shock processing of dust grains 4-31882
 V0332+53, X-ray transient, interstellar reddening of optical counterpart 4-17556
 W3, mol. cloud, radio-recomb. line intensities and electron parameters 4-8553
 W3, molecular cloud complex, core struct. 4-4069
 W50, stellar-wind bubble in three-phase interstellar medium 4-8551
 soft X-ray emission, spectral obs. and evidence for line emissions 4-42563
 X-ray scattering by interstellar dust, evidence from images of point sources 4-31881
 C₂ towards χ Oph, HD 154368, 147889 and 149404, visible obs. 4-31892
 CH ²H, N=1, J=3/2 A-doubling 700 MHz transition search 4-17571
 CN lines excitation temp. and microwave background determ. at 2.64 and 1.32 mm 4-47726
 CO distribution in face-on galaxies 4-27193
 CO emission and distrib. in NGC 1068, 4321, 5248, anal. 4-27191
 CO, galactic plane survey, correl. with γ -ray emission 4-31893
 CO solid phase and cyano group molecules toward compact IR sources 4-53238
 CS, approximate collisional excitation rates for CS+H₂ (J=0) 4-13179
 CS, multitransition EHF study of dense molecular cloud cores 4-53241
¹²CO, search for radio emission at high galactic latit. 4-31885
 H I absorption in double galaxy UGC 66081, line profile and radial vels. 4-31917
 H I content of dwarf elliptical galaxies NGC 185 and 205, VLA obs. 4-31908
 H I diameters for 238 galaxies, catalogue 4-36591
 H I in dwarf galaxies near NGC 1023 4-47704
 H I in early-type disc galaxies, sensitive 21-cm survey 4-31915
 H I in M31, single vel. contour maps 4-8578
 H I infall in elliptical galaxies NGC 1052 and 4278 nuclei 4-53265
 H I spin temperatures in H I clouds 4-13396
 H I towards compact radiosources at low latitudes, spectra anal. 4-27150
 H I velocity field in M31, UHF obs. 4-8577
 H plasma model, thermochemical instabilities 4-17378
 H₂ distribution, use of γ -ray emission 4-3939
 H₂⁺ ion, IR spectra, ion-mol. reactions 4-9671
 H₂O maser in Orion, new outburst (October 1983) 4-4074
 Li isotopes evolution in Galaxy 4-8564
 N₂⁺+2N₂→N₄⁺+N₂, low temp. ion-molecule association, appl. to interstellar clouds 4-21463
 NH₃ 3_{1,1}-2_{2,0} J=7/2-5/2 rotational transition from OMC-1 at 242 GHz 4-27162
 NH₃ interstellar medium, review 4-22464
 O₂⁺+2O₂→O₄⁺+N₂, low temp. ion-molecule association, appl. to interstellar clouds 4-21463
 OH masers in Kleinmann-Low Nebula, distrib. rel. to IRc2, UHF obs. 4-47678
 OH, rot. excited, emission and absorpt. towards H II regions 4-42517
 SO₂, obs. in cold molecular clouds 4-8546
 SiO maser emission from star-forming regions, search for Orion-like sources 4-42436

interstitials

- see also Cottrell atmospheres; crowdlons; Snoek effect
 alkali silicate glasses, elec. conductivity anal. (Russian) 4-2377
 alkaline earth-rare earth halides, superionic solid soln., Raman spectra studies 4-51278
 alloy, irradi., void growth under vacancy supersaturation conditions, segregation zone form., vacancy diffusion coeff. 4-55861
 anisotropic double Ising chain, effect of impurities on spin polarisation 4-45989
 BCC lattice, substitutional-interstitial complexes, mech. relax. 4-24809
 chemical reactions, atomic hopping motions of interstitial species in time depend. inhomogeneous interactive fields 4-16648
 crystal lattice, spatial distrib. of channelled ions, semi-empirical calc. 4-11208
 crystal surface and bulk, interstitial atom equilib. distrib. and natural freqs. (Russian) 4-39289
 crystals, at. transport via point defects, at. mobilities and dielectric relaxation 4-50558
 crystals, point defect cluster generation-recombination 4-11141
 defect trapping, ion beam anal., review 4-45122
 diamond, impurity potential calcs. 4-6731
 dislocation-interstitial interactions, binding energy calcs. and vibr. entropy (Russian) 4-50336
 dopant diffusion in field of standing US wave, periodic struct. form. 4-34720
 energy barriers to point defect migration in dislocation cores (Russian) 4-6393
 hot rolled plates, mech. props., grain size and interstitials effect (German) 4-35657
 ice, stacking faults, form. and annihilation 4-29451
 impurity atom location, modified continuum model for evaluation of channelled expts. 4-45224
 lanthanide compounds, isolated and condensed metal clusters, struct. and bonding 4-11075
 metal hydrides, optical phonon-induced H diffusion, quantum theory 4-29686
 metal-H alloys, disordered interstitial electronic density of states 4-29860
 metallic glasses, interstitial type, tetradecahedron structural unit 4-34416
 metals, b.c.c., mobile interstitials interactions with dislocations 4-50343
 metals, electrical conductivity tensor, effect of defects prod. by irradiation 4-39872
 metals, FCC, interstitial-twin boundary interaction, computer simulation 4-6396
 metals, FCC and BCC, radiation-induced creep, Weertman dislocation multiplication, diffusion-dislocation approach 4-6398
 metals, irradi., cavity nucleation calcs. 4-29487
 metals, light interstitials transport mech., muon spin rotation studies, book 4-36829

interstitials continued

- metals, transport mech. of light interstitials, review, book contrib. 4-39609
 metals, trapping of interstitials, book contrib. 4-6367
 nematic liquid cryst., interstitial macromolecule interactions (Russian) 4-50201
 one dimensional structure with two types of interstitial positions, equilib. atom distrib. (Russian) 4-6366
 pair interaction model for determ. of energetically favoured interstitial structures (Russian) 4-24806
 point defect absorption by edge dislocation under irradiation 4-34485
 quartz, interstitial ions, charge compensating, thermal and radiation induced mobilities 4-20418
 radiation defects in crystals containing dislocations, mathematical simulation (Russian) 4-24851
 rubidium oxalate monohydrate: Mn²⁺(VO²⁺)(Cu²⁺), X-ray induced centres, EPR 4-46093
 sapphire, α -Al₂O₃, stacking fault energy 4-20215
 semiconductors, radiation defect cluster form. as function of charge carrier density 4-45198
 sink strengths for grain-boundary cavities 4-29449
 steel, mild, low C, neutron irradiated, beneficial effect on mech. props. in blue-brittle range 4-45197
 steel, stainless, anelastic phenomena and internal clamping 4-40868
 steel, stainless, austenitic, interstitial N content influence on low-cycle fatigue behaviour (French) 4-40983
 steel, stainless, ferritic Cr-Mo, thermomechanical transform., stabilisation, formability 4-3154
 steel, structural, nuclear, A203D, dynamic strain ageing 4-30727
 steel, type AISI C 1010, internal friction studies 4-40867
 steel strip, dissolved C and N interstitials, Snoek effect, automatic bending oscill. pendulum 4-3304
 thermotransport in solids, LeClaire-Brinkman theory 4-56062
 transition metal compounds, isolated and condensed metal clusters, struct. and bonding 4-11075
 trapping energy in FCC matrices, eccentricity effect with anisotropic guest mols. 4-34436
 Ag, vacancies and self-interstitials, form. and migration energies 4-20185
 AgF(Cl)(Br), annealing of neutron and gamma irradi. induced point defects 4-11191
 Al, muffin-tin Green's function theory of H defects 4-45675
 Al, point defect clusters at twin boundary 4-24805
 Al-Fe, interstitial trapping following excimer laser annealing 4-45123
 Al-Ge (1.9 wt.%), precipitate dissoln. during 200 keV Al⁺ irradi. 4-29486
 Al₂O₃, electron irradi. damage in cation sublattice, HVEM and optical meas. 4-20255
 β -Al₂O₃-Na₂O, ionic cond., Monte Carlo computer simulation, superdefects 4-39578
 β -Al₂O₃-Na₂O, O interstitial transport and chemical coloration 4-34723
 β -Al₂O₃-Na₂O-Ag₂O, mixed cation effects, cond. anomalies, evidence for co-ionic effect 4-39591
 Au, vacancies and self-interstitials, form. and migration energies 4-20185
 Au-Ag, interstitial impurity caging near collision cascade 4-56092
 BaAl₂Ti₃O₁₄, hollandite, struct., effect of neutron irradi. 4-15542
 BaTiO₃ ceramic, BaZrO₃ modified, elec. resist. and dielec. characts. temp. depend. 4-15871
 Be-based intermetallic cpd. hydrides, stoichiometry and site occupation, geometric rationale 4-15445
 Bi₂Se₃:Ga, point defects, elec. cond., Hall effect and reflectivity studies 4-2196
 Bi₂Se₃(Te₃):Cu, Cu electromigration, carrier conc. and effective ion charge 4-34727
 CaF₂, anion Frenkel defect, heat of formation 4-20187
 CaF₂(Er,La), impurity-defect clusters, EXAFS study 4-16275
 CaF₂:La(Er), defect struct., neutron diff. study 4-15463
 Ca(OH)₂, cryst. form. in exothermal reaction, vacancy prod. 4-29430
 Cd₃SnO₄ thin films, influence of point defects on electrical properties 4-40091
 CdTe, intrinsic point defects 4-24813
 Cr-Fe, cold brittleness temp., plasticity and segregation (Russian) 4-51781
 CrH₂, nonstoichiometric, electron struct. and K emission spectra (Russian) 4-25215
 Cu, defect induced elec. field gradients, geometrical significance of orientation 4-34930
 Cu foil, He ions implantation effects 4-45168
 Cu, vacancies and self-interstitials, form. and migration energies 4-20185
 Cu₂O, self-diffusion and point defects 4-50576
 α -Fe, electron irradi., void growth and vacancy migration energy 4-11338
 Fe foils, N₂ solubility rel. to surface finishing 4-41084
 Fe, grey cast, diffusion process fading during inoculation (Czech) 4-39552
 α -Fe:He, interstitial impurity caging near collision cascade 4-56092
 Fe-Al-C, phase composition and ordered phase formation (Russian) 4-7446
 Fe-C-N, BCC systems, short range and long range migration of heavy interstitials (French) 4-39600
 Fe-Cr, inhomogeneous distrib. of C atoms (Russian) 4-6389
 Fe-Cr-Ni, austenitic, electron irradi., defect props., elec. resist. meas., comp. depend. 4-55877
 Fe-Cr-Ni (18, 14 wt.%), austenites, irradi. in HVEM, interstitial migration, role of C and Ti (French) 4-34545
 Fe-Ni, FCC lattice, internal friction peak rel. to H interstitial pairs 4-46554
 Fe-Ni dilute alloy, electron irradi., annealing behaviour, mag. aftereffect study 4-46073
 Fe₄₀Ni₆₀P₁₄B₆, Metglas 2826, H mobility, induced mag. anisotropy 4-39605
 Ga, EXAFS study of premelting and supercooling phenomena 4-57036
 GaAs, charge density and energy gap calcs. 4-39774
 GaAs, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
 GaAs:Cr, interstitial Cr diffusion coeff. and Cr complexes 4-6560
 GaAs:Zn, ion implantation, diffusion and segregation 4-34506
 GaP, electron irradiated, trapping of mobile group V interstitials by impurities 4-56968
 GaP:Fe, ESR line with g=2.133 4-20855
 Ge, electron irradi., subthreshold, search for intrinsic point defects 4-45189
 Ge, γ -ray irradi., A centres, energy levels and annealing 4-50760

interstitials continued

Ge rod-like defects due to electron irradiation 4-34482
Ge-Si-Cu, solid soln., electron irradiation effect on electrophys. props., radiation defect formation. control by alloying 4-56363
HfO₂-La₂O₃, elec. cond., ion transport number, defect struct. 4-11561
(Hg, Cd)Te, gettering mech. obs. 4-56087
Hg_{0.8}Cd_{0.2}Te, Ar⁺ ion implantation, radiation defects form. 4-15506
Hg_{0.8}Cd_{0.2}Te, ion implantation, radiation defect form. 4-15507
In₂Se₃, ion implanted, photoluminescence study 4-35481
InSb, single cryst., 2 MeV electron irradiation between room temp. and 200°C, dislocation loops, electron microscopy study 4-11188
KBr, radiation-induced vol. charge, dynamical studies 4-2199
KBr:Eu, X-ray irradiation, F-centres and Eu²⁺ cations vacancy dipoles 4-29429
Kl:Eu, X-ray irradiation, F-centres and Eu²⁺ cations vacancy dipoles 4-29429
KMnO₄, water mol. interstitial impurity-induced electronic cond. 4-39906
LiF TLD 100, thermoluminescence, mobile interstitial model 4-40540
LiF:Ti (TLD-100), photoluminescence and thermoluminescence, thermal treatment effects 4-40539
LiI:Cu, fast interstitial diffusion processes 4-15707
Li₂O₂ReO₃, cryst. struct. determ. 4-20171
Li₂WO₃, cryst. struct. determ. 4-20171
MgF₂:Li, nature of defects, diffusion and ionic cond. 4-15462
MgO, thermal expansion anomaly and low temp. internal friction 4-34673
MgO:C, arc-fused, dielectric behaviour 4-35346
Mn-Zn ferrite, quenched from various temp., crystal defect struct., physical props. 4-55817
Mo alloys, low-alloyed cast, interstitial solid soln. decomp., fine struct. 4-51621
Mo, cascade/cluster struct., low-energy damage effects 4-50363
Mo, implanted He, interaction with H self-interstitial atoms 4-11177
Mo, void and bubble lattice formation, two-dimensional self-interstitial diffusion 4-29677
Mo-Co, proton irradiation, defect-impurity complexes, channelling obs. 4-29490
NaYF₄ pellets, ionic cond. meas. 4-50569
Nb alloy interaction with Li, nonmetal interstitial impurity distrib., alloying effect (*Ukrainian*) 4-39329
Nb, strain aging under stress, model appl. 4-3153
Nb-H systems, ordered structs., ground states anal. 4-29465
Nb-O solid solution, interstitial clustering of O, reanalysis 4-21219
Nb-O-N, BCC systems, short range and long range migration of heavy interstitials (*French*) 4-39600
NbD, single crystal, location of interstitial D, X-ray Huang diffuse scattering 4-11134
NbH, electronic charge distrib. of absorbed H 4-2180
NbH_{0.84}:Fe, interstitial diffusion effect on ⁵⁷Fe Mossbauer spectra 4-35311
Nb₂V_{1-x}H single cryst., NMR and acoustic NMR studies 4-51149
Ni crystals, ion bombardment induced damage 4-55889
Ni, dislocation loop, voids, radiation creep, influence of nonstationary diffusion (*Russian*) 4-50296
Ni foil, He ion implantation effects 4-45168
Ni, irradiation, dislocation loop growth and void swelling, quantitative anal. 4-55876
Ni, radiation porosity, decay process (*Russian*) 4-50369
Ni-Cu, radiation-induced segregation, Auger electron spectra studies 4-25037
Ni₃Mo, order-disorder transform. under electron irradiation in HVEM 4-51654
PbF₂, perfect crystal and intrinsic defect props., quasiharmonic calc. 4-45127
PbF₂:La, Ce, dipolar relax. times, anomalous press. depend. 4-11841
Pb_{1-x}Sn_xTe solid soln., diffusion of electrically active intrinsic defects 4-29688
PbTiO₃, elec. cond., optical absorpt., lattice disorder 4-51294
Pd, surface, (100) and (111), H chemisorpt., H-Pd bond and H diffusion investig. by SW Xα calc. (*German*) 4-2429
PdH_{0.64}, stress-induced ordering of H, US study 4-2276
PdH_{0.64}, strain-induced elastic interaction energies between H atoms 4-6363
Pd₃Pd_{0.8}H_{0.18}, positions of dissolved H-atoms, neutron powder diffraction studies 4-11110
Pd₃PH_{0.39}, positions of dissolved H-atoms, neutron powder diffraction studies 4-11110
Pr₁₀O₁₈, elec. cond., O₂ press. and composition meas. 4-20649
Pr₂O₃, meas. of elec. cond., O₂ press. and composition 4-20648
p-Si (100), denuded zone form., heat treatment effects 4-39514
Si, annealed, interstitial O conc. depth profiles 4-50334
Si, crystal defect classification by g-values 4-11139
Si, Czochralski grown, donor-related microdefects at surface of denuded zone 4-2226
Si, Czochralski grown, segregation and precipitation of O, early stages 4-50525
Si, electron irradiation, subthreshold, search for intrinsic point defects 4-45189
Si, grown at high speed, microdefects, selective etching and TEM study 4-55822
Si, interstitial atom position, dynamic simulation (*Russian*) 4-50279
Si, local density theory of impurity states 4-2544
Si, neutron doped and γ-irradiated, nature of defects 4-55885
Si, neutron-damaged, vacancy cluster formation, electron spin resonance study 4-55882
Si, oxidation, stress evolution, point defect generation 4-50584
Si, proton and gamma irradiation, dislocation effects on impurity-defect agglomeration interaction processes 4-6404
Si, rod-like defects due to electron irradiation 4-34482
Si, self-interstitial migration barrier 4-56074
Si:As⁺, channelled ion implantation at 300°C, distrib. and lattice location 4-11167
Si:B, interstitial level energies 4-6729
Si:B, ion implanted, B lattice position annealing studies 4-11158
Si:C, O crystals, O precipitation C and heat treatment effects 4-39515
Si:Fe, single crystals, rel. to thermal defects, radioactive tracer and ESR investig. 4-25090
Si:Fe(Cr), multiple charge state of interstitials 4-6732
Si:Mn²⁺, Jahn-Teller centres, ESR and spin lattice relax. studies 4-25632
Si, annealing behaviour of recombination centres 4-39823
Si:O, Czochralski grown, defects study 4-15461

interstitials continued

SiO, interstitial O IR spectrum and stress-induced dichroism 4-51248
Si:P, diffusion models, vacancy and interstitial mechanisms 4-29698
Si:P, P diffusion, Si self-interstitials supersaturation 4-20403
Si:Sb, solid-phase epitaxially grown, point defect trapping 4-50322
SiO₂, thermal thin films struct. charact., O₂ transport study 4-56180
SrCl₂:Pr(La), defect struct., neutron diffraction study 4-45125
Sr_{1-x}La_xF_{2-x} solid soln., ionic cond. study 4-34695
SrO:Ni²⁺, magneto-optical studies 4-16183
Ta-O-C-N, BCC systems, short range and long range migration of heavy interstitials (*French*) 4-39600
(Ti,Cr)O_{2-x}, solid solubility, temp. depend., electron microscopy obs., linear cationic interstitial small defect models 4-56024
Ti, commercial, defect form. kinetics at low temps. 4-26010
TiO₂-Mo oxide, EPR study of state of d¹ ions in rutile struct. sites 4-11758
TiO₂-Nb₂O₅, anatase to rutile transform., inhibition by Nb₂O₅ additions, solid soln. form. 4-25954
TiO₂-Sb₂O₃, EPR study of state of d¹ ions in rutile struct. sites 4-11758
TiO_{2-x}, nonstoichiometric phase, precipitation phenomena, pairs of crystallographic shear planes in reduced rutiles 4-39517
TiO_{2-x}, nonstoichiometric phase, precipitation phenomena, {100} platelet defects in reduced rutiles 4-39518
TiO_{2-x}, rutile, thermomechanically treated, point, linear and extended defect structures, electron microscopy obs. 4-24835
UO₂, force constant changes around defects in crystals 4-20179
V carbonylhydrides and nitrohydrides, valence band structure, X-ray emission spectra, X-ray photoelectron spectra 4-20556
V-H system, phase diagrams, structs. and isotope effects 4-11256
VD_{0.78}:Fe, interstitial diffusion effect on ⁵⁷Fe Mossbauer spectra 4-35311
W, proton irradiated, obs. of <100> mixed dumbbell at ¹⁸¹Hf, TDPAC meas. 4-34528
W-Fe, cold brittleness temp., plasticity and segregation (*Russian*) 4-51781
W-Sb-He system Sb and He ion implanted, vacancy trapping and He decoration 4-46150
Zn, diffuse X-ray scattering from self-interstitials 4-2197
Zr, impurity interstitial-dislocation interactions, internal friction 4-50341

intersystem crossing see *nonradiative transitions*
intramolecular forces see *atomic forces*
intramolecular mechanics see *atomic forces*
intramolecular potentials see *potential energy functions*
intramolecular vibrations see *molecular vibration; molecular vibration in solids*
intrinsic magnetisation see *spontaneous magnetisation*

Invar
Mossbauer study, mag. moments (*Chinese*) 4-2846
Fe-based Invar alloys, amorphous, Young's modulus meas. 4-45245
Fe-Ni Invar alloy, forced vol. magnetostriction near Curie temp. 4-51115
Fe-Ni-C, Invar effect, C addition influence, Mossbauer studies (*Russian*) 4-51161
FeNi Invar alloys, model for mag. abnormalities 4-25542
FeNi Invar alloys, model for mag. abnormalities, ⁵⁷Fe Mossbauer effect 4-25655
Fe₆₅(Ni_{1-x}Mn_x)₃₅, Invar, hyperfine field distrib. curves, Mossbauer spectra 4-51166
Mn-Ge, antiferromag. Invar type alloy, thermal expansion, mech. props. rel. to Fe, Co or Ni additions 4-20847
Mn-Ge-Fe, antiferromag. Invar type, mech. and thermal props. rel. to comp. 4-20847
Mn-Ge-Ni, antiferromag. Invar type, mech. and thermal props. rel. to comp. 4-20847

invariance
see also *conservation laws*
transonic flow, low-freq. past oscillating thin airfoil 4-5910
(e,e') giant resonance excitation, P asymm., neutral weak current structure 4-605

inversion layers
de Haas-van Alphen effect and Seebeck effect 4-35055
local density approximation, modified, for pots. with finite step, appl. to MIS struct. 4-15930
metal/oxide/Si FET inversion layer, conductance, electron density depend. 4-30078
MIS structure, current multiplication mechanism 4-35076
MIS structures, surface states and elec. cond. theory 4-20737
MOS capacitances, creation of depletion and inversion layers 4-2658
MOS system, ellipticity and Faraday rot., memory function approach 4-7166
nondegenerate surface accumulation layer, pot. distributions, approx. model 4-45846
quantized Hall effect and localization, review 4-50847
quasi-two-dimensional electron systems, plasma dispersion, quantum size effects 4-45848
semiconductor interfaces, carrier confinement effects on energy levels 4-6880
semiconductor-insulator interface, inversion layer, two-dimens. density of states for electrons bound to impurities 4-30082
SIS structures, UV irradiation effects on inverted surface layer 4-40018
solar cell inversion layers properties study using MNOS transistors 4-3466
two-dimensional inversion layers, quantised Hall resistance 4-15888
weakly disordered, thermoelec. effect in quantising mag. field 4-45891
Cu/InAs/Cu, InAs surface inversion layer conductance, Cooper pair penetration 4-30085
Hg_{1-x}Cd_xTe, n-inversion layers, magnetoconduction study 4-15965
In/InAs/In, InAs surface inversion layer conductance, Cooper pair penetration 4-30085
InAs ion-implanted, laser annealing, defect and elec. props. study 4-11182
InAs MISFET, magnetoconductance study of inversion layers 4-20727
p-InAs/metal struct., elec., photoelec. and luminesc. props. 4-30072
In_{0.53}Ga_{0.47}As/plasma oxide MOS structs., inversion layers, low field electron mobility 4-45884
In₂O₃/SiO₂/Si inversion layer solar cells based on X-ray induced surface inversion 4-52136
InP-SiO₂ MIS struct., interface props. 4-50945
InSb inversion layers, screening of collective cyclotron reson. 4-40236
InSb, ion-implanted, laser annealing, defect and elec. props. study 4-11182

inversion layers continued

- Si (100) inversion layer, second subband occupation, substrate bias effects 4-50932
 n-Si inversion layer, higher subband effects on screening 4-40065
 Si inversion layer, MOS 3D conductivity in activated regime, inhomogeneity effects 4-6902
 p-Si inversion layer in MOSFET, atomic roughness and Hall mobility 4-15963
 Si inversion layers, 2-D plasmons, dispersion laws 4-25266
 Si inversion layers, complex capacitance in strong inversion region 4-50931
 Si inversion layers, conductivity, electron-electron interaction effects 4-6903
 Si inversion layers, cyclotron resonance linewidth, impurity and thickness effects 4-56777
 Si inversion layers, electron-phonon interaction 4-35071
 Si inversion layers, many-body correlation effects 4-2639
 Si inversion layers, Shubnikov-de Haas oscils. 4-30080
 Si, inversion layers, two-dimensional cond., absence of scaling 4-30076
 Si inversion layers, use of investigating electron states localisation, conductance oscils., quantised Hall resist. 4-45853
 Si inversion layers, valley degeneracy, far IR freq. domain intersubband spectra 4-56408
 n-Si MAOS structures, transient Poole-Frenkel effect at semiconductor surface 4-20732
 Si MIS field effect struct., de Haas-van Alphen effect in inversion layers 4-25449
 Si MOS inversion layers, in weak and strong mag. fields, review 4-50942
 Si MOS inversion layers, electron transport, semiclassical Monte Carlo model 4-56437
 Si MOS structure, strong inversion layers, freq. response calc. 4-40055
 Si MOSFET, electron temp., determ. from broadband far IR emission 4-35080
 Si, polycrystalline LPCVD thin films for inversion layer solar cells 4-46878
 Si submicrometer inversion layer in MOSFET, discrete resist. switching and interface traps 4-30079
 n-Si, surface inversion channels, elec. cond., field and temp. depend. 4-50894
 Si, two-dimensional electron gas, diffusion effects on plasma oscils. 4-45819
 Si/dielectric/metal struct., electron gas Hall conductivity in inversion channels, ultraquantum limit 4-30077
 Si/SiO₂ bilayer system, surface polaritons and surface phonons 4-56235
 Si-SiO₂ interface, ballistic phonon absorpt. and scatt. by Si electron inversion layer 4-24936
 Si-SiO₂ interface, impurity states, effective mass approx. 4-56405
 Si-SiO₂ interface, RF plasma induced radiation defects, carrier mobility in inversion layers 4-35077
 Si(100) inversion layers, inelastic electron-electron scatt. 4-20731

invertors

- estimated power quality for line commutated photovoltaic residential system 4-12474
 failures anal. in nucl. power plants 4-23343
 MHD generator-invertor system transient characteristics and fault protection 4-26303
 photovoltaic plant connected with AC power system without intermediate storage 4-57680
 regulated invertor for utility interactive photovoltaic systems 4-57679

iodine

- see also nuclei with
 acoustic cavitation, chemical assay by I₂ release 4-24287
 addition to transformer oil, effect on cond. (Russian) 4-6534
 adsorbed on Si and Ge, local struct., surface EXAFS study 4-6661
 adsorption on Fe, core and valence electron binding energies, XPS, UPS and electron impact meas. 4-54884
 adsorption on Ni (100), core level photoemission study 4-35552
 Allende chondrules, I-Xe dating and comp. 4-36640
 atom, 1.3 μ m transition, transition probability and collision broadening 4-9721
 atom, ²P_{1/2}-²P_{3/2} transition, O₂ press. broadening 4-14367
 atom, emission cross section determ. for ²P_{1/2}-²P_{3/2} transition 4-9725
 atomic 1315 nm laser, optically pumped, driven by exploding metal films and wires 4-14714
 atoms, excited radiative lifetimes 4-14370
 atoms, L-shell X-ray production cross sections for alpha particles 4-18975
 atoms, multiphoton laser-induced fluoresc. studies 4-23648
 average L-shell fluorescence yield meas. 4-18980
 fission product, Fe vapour phase chemical transport in CsI, electron beam irradiat., LMFBR fuels appl. (Japanese) 4-23149
 IF vibr. product state distrib. laser induced fluoresc. 4-35886
 L-shell photoelectric cross sections at 6 keV 4-51451
 laser, photodissoc. pulsed flashlamp pumping, internal losses 4-14737
 laser, photodissociation pumped by solar radiation 4-19434
 molecular, photoacoustic detection of intracavity absorption 4-8954
 molecular 342 nm laser, optically pumped, driven by exploding metal films and wires 4-14714
 molecular spectroscopy in 170-203 nm spectral region 4-5245
 molecule, B²(Π ,⁺) state, inelastic colls., rate consts. 4-14501
 molecule, complex form. with substituted pyridines, visible transition, blue shift 4-30969
 molecule, E and X states, mag. hyperfine interaction, separated atom theory 4-43822
 molecule, effective core pot. calc. using frozen orbitals appl. 4-43794
 molecule, elec. field induced predissoc., vibr. and rot. depend. 4-49105
 molecule, gas phase electron diff., vibr. levels population determ. 4-28559
 molecule, ion-pair state, visible and fluoresc. study, three photon absorpt. 4-43929
 molecule, photodissociation and recombination, computer simulation 4-16668
 molecule, resonant third harmonic generation with circularly polarised light 4-19509
 molecule, scattered-wave X α calculation, semi-relativistic variant 4-43804
 molecule, SCF-X α -Dirac-scattered wave MO calcs. 4-39746
 molecule, threshold electron spectrum of valence states 4-10158
 molecule, vibr. probability distrib. function, electron diff., anharmonic anal. 4-38325

iodine continued

- molecule, visible electronic absorpt. spectrum, time-depend. wave packet method calcs. 4-14390
 molecule, vol. electron capture, laser optogalvanic effects 4-23801
 molecules, in dense gaseous medium, three-stage photoionisation, spectral line broadening depend. on N₂ press. 4-19115
 ocean-atmosphere exchange of I₂ and iodine compounds 4-41987
 phenothiazines-I₂ association, dielectric const. meas. 4-16627
 phosphatidylcholine+I₂, mol. interaction, thermodynamic and spectrophoto-metric props. 4-51999
 photodissociation laser amplifier, design (Korean) 4-14682
 poly(phenylene sulphide)-I₂, ¹²⁹I Mossbauer spectra 4-7099
 polyacetylene:¹²⁹I, Mossbauer effects studies 4-7103
 polyacetylene: I, semiconductor-metal transition and homogeneous doping 4-29888
 trans-polyacetylene:I₂, barrier activated doping, ESR obs. 4-11162
 polyacetylene:I₂, heavily doped, IR transmission 4-2914
 polyacetylene:I₂, photoluminescence, doping effects 4-56996
 polyacetylene:I₂, heavily doped, elec. and optical props. 4-50802
 polyacetylene:I, magnetoresist. at low temps. 4-29954
 polyacetylene:I, thin films, growth and morphology 4-56172
 polycarbonate:I films, elec. cond. and carrier mobility 4-25355
 radiodiode monitor capable of operating in high concentrations of radioactive noble gases 4-18809
 release from irradi. UO₂ LWR fuel, temp.-depend. 4-27968
 removal from dissolver off-gas, use of 13X, 5A and Ag exchanged zeolites 4-23438
 scattering from surface, vibr. and rot. excitation, classical trajectory calcs. 4-21088
 semiconductors, ¹²⁵Te and ¹²⁹I implanted, electronic struct., impurity-host bond lengths, Mossbauer nucl. quadrupole interaction data 4-34931
 steel, stainless, FeBr fuel pins, fuel-cladding chemical interaction due to I₂ 4-21383
 surface+H⁺ (He ions) impact, L-shell X-ray prod. cross section 4-12004
 target, external bremsstrahlung from ⁹⁰Sr-⁹⁰Y β particles, Z depend. 4-11957
 vapour, nonlinear coherent Raman spectra 4-54724
 Zircaloy-4 tubing, I₂ induced crack growth between 500 and 700°C, fracture mech. anal. 4-3289
 CdGa₂S₄:I single cryst., donor and acceptor levels, photocond. and light transmission studies 4-34909
 H₂-I active medium, population inversion due to I* spin-orbit transition 4-28669
 He-I₂ van der Waals complex, metastable level, quantal model calcs. (Spanish) 4-38270
 He-I₂ van der Waals mol., vibr. predissoc., close-coupling calcs. 4-9866
 I II, absorpt. spectrum in 1040 to 1600 Å region 4-9709
 I laser pulse fifth and sixth harmonic generation 4-5653
 I VII through Eu XVII, Ag I-like array 4d¹⁰ss-4d⁹ss5p 4-48972
 I⁻, discharge, optogalvanic photodetachment spectroscopy 4-23668
 I⁻, specific adsorption on Au film, electrode resist. in electrochem. cell, size effect anal. 4-34799
 I⁺, electron impact double ionisation, cross section meas. 4-10142
 I+Ag collisions at 63 MeV collision energy, highly promoted mol. orbitals, direct ionisation 4-19196
 I+Au(Br) deep inelastic collisions at 795 and 840 MeV, nuclear reaction time effect on δ -electron emission 4-9997
 I+Au(Pb)(Bi)(U), asymmetric collision, δ -electron spectrosc. obs. of inner quasicontinuous shells 4-9900
 I+H⁺ L-subshell ionisation cross section and L-X-ray production 4-9926
 I+HI, interplay of vibrational and van der Waals type bonding 4-43941
 I+I₂ spin-orbit excitation, relativistic parameterised extended Huckel calcs. 4-33326
 I+MuI(HI)(MuH), pot. energy surface, hyperspherical description, nonadiabatic effects 4-46741
 I+O₂ collisions, I translational and superfine relax. 4-19164
 I⁺+methyl halides, electron detachment, charge transfer, elastic and inelastic scatt. cross sections 4-41187
 I₂ adsorption on Ni (100), core level photoemission study 4-45526
 I₂, gerade states near dissoci. limit, Fourier transform laser induced fluorescence 4-5269
 I₂ isolated in rare gas cage, photochemical and photophysical props. 4-35927
 I₂ lasers, He-Ne laser pumped 4-23964
 I₂ lasers, UV radiation pumped, refraction loss influence on radiation characts 4-14736
 I₂, optogalvanic effects due to positive and negative ionisation 4-33465
 I₂, saturated absorpt., obs., multi-line He-Ne laser characts. (Chinese) 4-10318
 I₂, seeded mol. beams, rot.-vibr. temp., fluoresc. 4-23736
 I₂ UV laser, optically pumped, permissible laser medium heating and specific UV output energy 4-14710
 I₂-He van der Waals mol., vibr. predissoc. calcs. 4-14487
 I₂-O(N)(S), model system for thyroid hormone-protein binding interactions, intermol. contacts 4-41422
 I₂-phenothiazine galvanic formation cells 4-52128
 I₂-polyvinyl alcohol polarisers, transmission improvement 4-1466
 I₂+F, IF vibr. product state distrib. laser induced fluoresc. 4-35886
 I₂+F, I(²P_{1/2}) form., branching fraction and rate consts. 4-30950
 I₂+He (Ar), energy transfer from high vibr. states, scaling behaviour 4-38298
 I₂+He(Xc), vibr. and rot. inelastic collisions, ang. momentum limitation 4-19156
 I₂+sapphire surface, collision induced dissoci. 4-12006
 I₂ isolated in CsI, Raman and reson. Raman spectra 4-54732
 I₂, 3d hole states, ESCA meas. effective core pot. calcs. 4-7772
 I₂, correl. between NQR freq. and bond length, EHT calcs. 4-28467
¹²⁷I, A=125, 131, radionuclides, verification by calibrators in Hungary 4-16955
¹²⁷I A=131, 133, 135 contamination of primary coolant, conc. anal. in PWR (Japanese) 4-43615
¹²³I Na pharmaceutical, production by dry process (Chinese) 4-26521
¹²³I radionuclide prod. via ¹²²Te(d,n)¹²³I process 4-12705
¹²³I, radiopharmaceutical, assay using radionuclide calibrator 4-16982
¹²⁵I, accumulation in thyroid glands of laboratory workers 4-47085
¹²⁵I encapsulated clinical seeds, half-life determ. using a Si(Li) detector 4-26516
¹²⁵I, implanted in Si and Ge, location, Mossbauer study 4-11171
¹²⁵I, incorporated in DNA, decay effects (German) 4-46944

iodine continued

- ¹²⁵I continued in radiopharmaceutical prod. workers, determ. by thyroid radioactivity meas. 4-52480
- ¹²⁵I, radionuclide metrology by liquid scintillation technique 4-16961
- ¹²⁵I seeds of new design, for interstitial implant, phys. dosimetry 4-36241
- ¹²⁵I-DNA, preparation using thallium oxide for biomedical appl. (*Chinese*) 4-26522
- ¹²⁷I₂, hyperfine-induced ungerade-gerade symm. breaking near dissociation limit, $^2P_{1/2}$ - $^2P_{3/2}$ limit 4-33415
- ¹²⁹I in meteorites and lunar rocks, tandem accelerator mass spectrometric meas. 4-3935
- ¹²⁹I radiotoxicity reexamination for radwaste disposal rule 10 CFR 61.4-28032
- ¹³¹I hyperfine field in Fe, NMR-ON meas. 4-39854
- ¹³¹I measurement in BWR exhaust air, radioiodine fallout (*German*) 4-7911
- ¹³¹I monitor, improved calcs. for collecting-measuring instruments (*German*) 4-54429
- ¹³¹I removal from atmospheric air, ¹²⁷I content effects (*German*) 4-7910
- ¹³¹I removal under reactor accident conditions using active charcoal (*German*) 4-7912
- ¹³¹I, thyroid carcinoma treatment, dosimetric model 4-47071
- ¹³¹I, very small activity meas. in air using high volume sampler (*German*) 4-54428
- In-P, impurity bond lengths, Mossbauer study 4-20140
- KBr-I, laser excitation, F-H pair creation from localised exciton 4-50283
- KCl-I, absorpt. spectra, annihilation of F-H pairs 4-35470
- KCl-I, pure and doped, triplet exciton absorption, radiation jarring and relax. kinetics 4-51309
- Li-I, parameter batteries, long term performance 4-36259
- α -MnSe-I, elec. resist., Hall effect and thermoelec. power 4-39908
- Ne-I, van der Waals mol., vibr. predissoc., quasiclassical calcs. 4-9865
- Ni-I-S thermochemical process for H₂ production, use of nuclear process heat 4-41385
- O₂-I CW transverse-flow chem. laser, small-signal gain and saturation parameter 4-28676
- O₂-I laser, atomiser use in chem. generator of singlet O₂ 4-10289
- O₂+I₂→O₂+2I collisions, dissociation mechanism study 4-19164
- Xe-I₂ mixture photoexcitation, Xe(I) excimer form. mechanism 4-9826
- ZnSe-I, excitonic and time-resolved edge emissions 4-39786
- ZnSe-I, impurity states and carrier mobility 4-25283

iodine compounds

- iodide solutions, positron reactions and Ps formation, temp. and solvent effects 4-33565
- ocean-atmosphere exchange of I₂ and iodine compounds 4-41987
- C₈H₈ICl intercalation cpds., N=1-4, supermetallic cond. 4-2577
- I₂-acophenone charge transfer complexes, equilib. consts. 4-26202
- IAG solid electrolyte formed in situ in Ag/IAg₂/2I₂Pi battery (*Spanish*) 4-31083
- IBr, mol. beams, props., supercooled mols. 4-10179
- IBr+F, IF vibr. product state distrib. laser induced fluoresc. 4-35886
- IBr+Xe, reaction, electronically excited XeBr form. 4-7696
- ICN, laser photodissociation, energy disposal, laser induced fluoresc. study 4-35926
- ICN, photodissociation, rot. and vibr. energy disposal in CN(X²Σ⁺), laser induced fluoresc. 4-26219
- ICl, D' a and a' state polarisation spectroscopy 4-23708
- ICl intercalation cpd. with graphite, single cryst. X-ray study 4-45099
- ICl intercalation with graphite and Br, intercalate displacement and exchange study 4-39559
- ICl, ion-pair states, two-photon polarisation spectra 4-5312
- ICl mol. beams, props., supercooled mols. 4-10179
- ICl+F, IF vibr. product state distrib. laser induced fluoresc. 4-35886
- IDL, vibr. stabilised mols., IR and Raman spectroscopic props. and isotope effects 4-33345
- IF₃, elec. field gradients, TDPAD study 4-40299
- IHI, interplay of vibrational and van der Waals type bonding 4-43941
- IHI, vibr. stabilised mols., IR and Raman spectroscopic props. and isotope effects 4-33345
- IO radicals, laser induced fluoresc. and predissoc. 4-14470
- IO+NO reaction, rate const. meas. 4-14470
- IO₃, elec. field gradient, CNDO/2 and INDO calcs. 4-28372
- (NbSe₄)₂I, evidence of phase transition, DC elec. resist. and far IR reflectance spectra 4-34639

ion-atom collisions see atom-ion collisions

ion beam effects

- see also ion-surface impact; ionoluminescence; plasma-beam interactions
- alkaline earth oxides, Li⁺ or Na⁺ ion implanted, point defects, ESR, optical absorpt., luminesc. spectra 4-20269
- alloys, ion irradi., amorphous phase form. criteria 4-15553
- amorphous alloy formation by ion beam mixing 4-11168
- bombardment at oblique incidence, local quasi-stable angular points, analytical and graphical evaluation 4-21093
- borosilicate glasses, highly active fission waste products solidification, thin soluble layers anal. and fracture behaviour (*German*) 4-9298
- charge changing cross section, effective charge 4-5342
- colony-forming units-spleen, response to heavy charged particles 4-8054
- conference on low energy ion beams, Loughborough, England (Mar. 1983) 4-42592
- crystal lattice, spatial distrib. of channelled ions, semi-empirical calc. 4-11208
- damage meas. in ion bombarded cryst. using thermal evolution mass spectrometry 4-43122
- damage track form. in insulators 4-29491
- deterministic models of ion erosion, reflection and redeposition 4-46418
- diamond:Co, heated and implanted, lattice damage reduction, impurity distrib., Mossbauer study 4-34504
- diamond:Co, ion implanted, amorphisation, Mossbauer study 4-34551
- diffusionless thermalisation reaction capture model 4-21485
- electron biprism central electrode prod. using ion beam thinning technique 4-48267
- energetic heavy ions, effective charge and stopping power rel. to gases, solids and plasmas 4-24579
- foot, mouse, residual radiation damage after exposure to Ar ions and X-rays 4-41582
- n-Ge, ion bombardment, recombination centre form. study 4-55854
- glass, plates, unirradiated and He ion bombarded, stress relaxation, dimens. stability 4-50377
- insulating materials, discharge damage and breakdown in gaseous cavities 4-40342

ion beam effects continued

- ionic mixing, ion beam induced, for alloy modification and fabrication 4-51562
- ionization of fast foil-excited ion beams in electromagnetic fields 4-38309
- L subshell ionization cross section for light ion bombardment of high Z targets 4-46407
- low-temperature ion-beam mixing of platinum markers in iron 4-45205
- metal, irradiated by high-energy bombarding particles, subcascade defect cluster effect on hardening 4-2235
- metal backing, local density change from implanted ions, effects on DSAM 4-6409
- metal-Si₃N₄-SiO₂-Si, MNOS structures, ionised and neutral Ar atom beam milling, damage effects study 4-45217
- metallic glasses, ion implanted, pattern form., model 4-20268
- metallic glasses, ion implanted, surface deform., pattern formation study 4-20267
- metallic thin film adhesion improvement by fast heavy ions 4-2486
- metals, He irradiated, pore development during annealing, He tubular diffusion effects 4-15557
- metals, irradi., cavity nucleation calcs. 4-29487
- multicomponent materials, sputtering, balance eqn. numerical soln. 4-51430
- optical component surface shaping by small cross section ion beam 4-10480
- 3,4,9,10-perylenetetracarboxylic dianhydride thin films, ion irradi., electronic resist. 4-30090
- 3,4,9,10-perylenetetracarboxylic dianhydride thin films, ion irradi., elec. resist. 4-40100
- PET sheet, surface damage in RF bias ion plating 4-46452
- plasma coatings, first wall, thermonuclear reactor, radiation resist. to high energy He ions 4-54401
- PMMA resist exposure with light ions, lithographic appls. 4-35537
- poly(dimethylsilylene-co-methylphenylsilylene) films, Si-C inorganic films synthesis by ion irradiation 4-20264
- poly-N-vinylcarbazole, inert gas ions deposition 4-50380
- polymers and organic mol. solids, thin films, ion beam irradi., optical and electrical props. 4-45801
- relocation function in ion beam collisional mixing 4-45203
- semiconductor microelectronic materials, sputter ion depth profiling limitations 4-3015
- semiconductor-insulator boundaries, prep., characterisation, conf., Eindhoven, The Netherlands (April 1983) 4-42605
- semiconductor-metal interfaces, beam processed, anal. by MeV ion backscatt. spectrometry 4-24857
- semiconductors, diamond-like, amorphisability and mech. props. 4-29492
- slow atomic collisions, fast continuum electron emission 4-9901
- soda glass, etch rate, ³⁰Ti ion track study, energy loss study 4-2232
- soda-lime glasses, proton irradi., surface temp. increment 4-15550
- soft updates in IC memories, charge collection, ion microbeam anal. 4-45200
- solids, ion irradi., damage accumulation and overlap 4-45215
- steel, austenitic stainless, LMFBR claddings, cold worked, ion irradi., void swelling, and dose depend. 4-39351
- steel, austenitic stainless, precip. of implanted He after pulse loading 4-55921
- steel, austenitic stainless 4-21208
- steel, structural, charged particle braking power and paths, 0.1 to 90 MeV (*Russian*) 4-39355
- steel, type 316, He⁺ irradiated, dose rate depend. of critical dose on blistering 4-39353
- surface, high purity, ion beam nitriding study 4-51902
- surface damage by ion-beam bombardment 4-45206
- surface modification using MeV ion beams 4-45204
- topography evolution in sputtered media and in spatio-time variable ion flux conditions 4-46419
- (α ,n), energy spectra in thick targets of light elements 4-937
- Ag-Cu, ion beam mixing (*German*) 4-45212
- Al, ion beam irradi., mech. and relax. testings (*Russian*) 4-26128
- Al, ion induced Auger emission and work function 4-46380
- Al, thin metallic markers redistribution under ion bombardment 4-51429
- Al/Ni(Pd)(Pt), bilayers, phase formation/by ion beam mixing and thermal annealing 4-11194
- Al/Si multilayers, atomic mixing influence on SIMS depth profiling 4-45467
- Al-Ge (1.9 wt.%), precipitate dissoln. during 200 keV Al⁺ irradi. 4-29486
- Al₂O₃, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
- Al₂O₃, thin metallic markers redistribution under ion bombardment 4-51429
- Au coating, modification by ion bombardment during deposition 4-15559
- Au target atomisation by fission fragments 4-15558
- Au-Bi amorphous alloys prod. by laser quenching and ion irradi. 4-15382
- Au-In, dil., damage rate expts., PAC study 4-34525
- B₂O₃-SiO₂ nucl. waste glasses, Pb implanted, radiation damage effects 4-18519
- BaMo₆S₈ films, ion irradi., effects on elec. resist. and supercond. transition temp. 4-45216
- Bi films, N₂⁺ ion bombarded, oxidation inhibition, elec. resist. and AES studies 4-41033
- C amorphous film, variation of struct. and electrophysical props. (*Russian*) 4-50664
- CaF₂ γ -ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
- CdGa₂S₄, ion irradi., blue photoluminesc. studies 4-35488
- Cd₂SnO₂ reactively deposited films, ion bombardment effect on composition 4-50694
- Cu, (111) oriented single cryst., Ne, Ar, Kr, Xe, N, Cu ion beams effects on morphological structure 4-45218
- Cu, structural changes in volume (*Russian*) 4-50373
- Cu-Zn (48.2at.%), depth of profile, Ar⁺ bombardment; Auger spectra 4-35535
- CuAl thin film and bulk alloy, heavy ion-induced γ to α transition 4-29603
- Cu₃Au (100), O₂ adsorption, Auger electron spectra studies 4-45506
- Cu₅₀Zr₅₀, amorphous, heavy ion irradi. induced growth 4-45214
- Fe, ion irradi., surface structural radiation damage, X-ray beam scanning method (*Russian*) 4-24878
- Fe-Al multilayers, ion beam mixing, elec. resist. study 4-34549
- Fe-Ni-Cr LMFBR cladding, microstruct. and irradiation swelling, rare earth addition effects 4-20270

ion beam effects continued

- Fe-Ni-Mo-B, Meiglas 2826 MB, He⁺ implantation, bubble growth and blistering 4-15551
 Fe-Ni-Mo-B, Meiglas 2826 MB, He⁺ implantation, free-vol. relax model for bubble growth 4-15552
 Fe₈₀B₂₀, ¹⁰B fission fragment induced defects (*French*) 4-39350
 Fe₇₈Mo₂B₂₀, ¹⁰B fission fragment induced defects (*French*) 4-39350
 Fe₄₀Ni₄₀P₁₀B₁₀, amorphous, ion irradi., crystn., conversion electron Mossbauer spectra 4-34550
 α-Fe₂O₃ electrodes, photodecomposition of water, surface studies (*Chinese*) 4-57589
 Ga, amorphisation by low temp. ion irradiation 4-2234
 GaAs, damage from implanted H isotopes 4-45157
 GaAs, effects of dry etching, determ. by Schottky diode evaluation 4-41017
 GaAs, ion beam amorphisation and recrystn., TEM study 4-39349
 GaAs, ion bombarded, displacement cascade struct., TEM study 4-34552
 GaAs, ion implanted, spectroscopic ellipsometry anal. 4-39327
 GaAs semiconductor crystal, H⁺ beam effects, damage and pulsed proton annealing 4-50379
 GaAs:Cr (100), surface morphology following O₂⁺ and Cs⁺ bombardment, SEM study 4-45477
 GaAs-ZnSiAs₂ solid soln., H ion irradi., elec. props. 4-29977
 GaP ion bombarded, displacement cascade struct., TEM study 4-34552
 GaSb-ALiSb superlattice interface and lattice strain measurement by ion channelling 4-2420
 n-GeSb, He ion irradi., conversion to p-type, radiation-accelerated diffusion effects 4-15556
 He ion, MeV region, Zr oscill. of equilb. mean charge 4-19250
 InP (110), ion bombarded and annealed, AES, SAM and RHEED study 4-29745
 InP, disorder production and annealing during He RBS/channelling anal. 4-11197
 InP, ion milling with I⁺ beams 4-39348
 InP:Fe, semi-insulating, Si⁺ implantation, capless annealing of damage (*Chinese*) 4-20265
 InP:Fe (100), surface morphology following O₂⁺ and Cs⁺ bombardment, SEM study 4-45477
 InP:Fe photoconductors, ³He⁺ bombardment, picosec. photoresponse 4-45820
 InP:H⁺(B⁺)(O⁺)(Ne⁺)(Ar⁺)(Fe⁺), high resistive layers obtained by ion implantation (*French*) 4-55853
 InP:Si(Si), compensating aspects of implantation damage 4-34510
 InP(100), atomic conc. ratio, determ. (*Chinese*) 4-3016
 InSb, ion milling with I⁺ beams 4-39348
 InSb, radiation damage by α-particle bombardment 4-45201
 LiF, γ-ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
 Mg, ion induced Auger emission and work function 4-46380
 Mn with chemisorbed H₂, O₂-induced segregation study 4-6653
 Mo alloy, TsM-6, He⁺ radiation blistering, effects of external stresses (*Russian*) 4-50375
 Mo, high energy N and O radiation damage, annealing, positron lifetime meas. 4-11196
 Mo, structural changes in volume (*Russian*) 4-50373
 (Mo₆₅Ru₃₅)₈₂B₁₈ amorphous films, supercond. props., elec. resist., and irradi. props., effect of annealing 4-2665
 Na, ion induced Auger emission and work function 4-46380
 Nb, mechanical properties, room temp., effects of H plasma irradiation (*Russian*) 4-40934
 Nb, polycrystalline, D ion bombard. effect on struct. 4-11041
 Nb single crystals, ion irradi., O doped, voids, SAXS obs. 4-29489
 Nb, surface morphology, modification under irradiation of He plasma (*Russian*) 4-50374
 Nb-NbO₂-Pb Josephson junctions, reactive ion beam oxidation 4-56498
 Nb-Zr(0.85 wt.%), structural changes in volume (*Russian*) 4-50373
 NbN-Pb Josephson junctions, ion bombardment effects 4-30116
 Nb₂Sn coatings, radiation defect distrib., nucl. gamma reson. methods (*Russian*) 4-24877
 Ni crystals, ion bombardment induced damage 4-55889
 Ni, film, He⁺ bombardment, structural changes (*Russian*) 4-45207
 Ni, He⁺ blistering with temp. gradient in surface layer 4-6414
 Ni, ion beam irradi., mech. and relax. testings (*Russian*) 4-26128
 Ni, ion irradi., surface structural radiation damage, X-ray beam scanning method (*Russian*) 4-24878
 Ni, radiation porosity, decay process (*Russian*) 4-50369
 Ni, surface morphology, modification under irradiation of He plasma (*Russian*) 4-50374
 Ni:Au, vacancy-solute complex creation and annihilation during irradi. 4-45124
 Ni:In, vacancy-solute complex creation and annihilation during irradi. 4-45124
 Ni-Cr, nickel rich alloy, H ion bombard. effect on struct. and composition 4-11200
 Ni-Nb (15 to 40 at.%), rapidly quenched, phase stability under Ni²⁺ ion irradi. 4-55886
 Ni-NiSi(NiSi₂) contacts, thermal and ion-induced silicide dissociation 4-20503
 Ni(110) surface, effect of O₂ exposure after ion bombardment, ellipsometric and AES study 4-57399
 Pd₈₀Si₂₀, amorphous, heavy ion irradi. induced growth 4-45214
 Pd₈₀Si₂₀, glassy, dramatic growth during heavy ion irradiation 4-15388
 Si (100), surface morphology following O₂⁺ and Cs⁺ bombardment, SEM study 4-45477
 Si, Al covered, multiple-energy He⁺ irradi., surface deform. and gas escape process 4-29485
 Si, amorphous, radiation induced interface states in MOS capacitors 4-45208
 Si bent crystal, radiation induced defects, on channelling study 4-45202
 Si, CZ grown, defects induced by annealing or irradiation 4-20182
 Si diffused junction test structures, charge collection meas. 4-50908
 Si, ion bombarded by H₂⁺, solar cell parameters change 4-39354
 Si, ion implantation, surface softening 4-50378
 Si, ion irradiated with 150 MeV Ni⁹⁺(C¹²⁺) ions, X-ray diff. topographic obs. 4-15549
 a-Si, ion mixing of marker atoms 4-34514
 Si, ionised and neutral Ar atom beam milling, damage effects study 4-45217
 Si layer, ion implanted, deep penetration of radiation defects into bulk 4-15555
 a-Si, low-energy heavy ion ranges, shell effects 4-50388

ion beam effects continued

- Si MOS struct., ion implanted C-V characts. and dielec. props. 4-45890
 Si, n-type and p-type, charge collection meas. for heavy ion incidence 4-50376
 Si semiconductor crystal, H⁺ beam effects, damage and pulsed proton annealing 4-50379
 Si, surface damage caused by H containing plasmas 4-24879
 Si, thin metallic markers redistribution under ion bombardment 4-51429
 Si:Ar, high-dose implanted, radiation damage 4-11195
 Si:As⁺, channelled ion implantation at 300°C, distrib. and lattice location 4-11167
 Si:As⁺, extremely shallow n⁺-p junctions, low temp. process for annealing 4-50324
 Si:Ga, ion irradiation effects from liq. metal ion source, SIMS anal. conditions simulation 4-45164
 a-Si:H, solar cell, ion bombardment effect on efficiency 4-45211
 a-Si:H, sputter deposition, energetic H-atom bombardment effects 4-45560
 a-Si:H film, ion bombardment effect on growth 4-51539
 a-Si:H sputtered films, optical props. 4-30544
 Si:P, ion implanted, cryst. ordering disruption, 2p core reflectance spectra 4-40595
 Si:Sb, ion implanted, dopant conc., electron and ion channelling studies 4-50332
 Si/Ni-Au bilayers, ion induced reactions, glancing angle X-ray diff. and particle backscattering spectrometry 4-6410
 Si/Ni-Au dilute alloys, ion-induced or thermal reactions, Rutherford backscatt. and glancing angle X-ray diff. 4-6411
 SiC, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 SiC_{1-x}H_x amorphous films, plasma deposition, ion beam effects 4-25900
 Si₃N₄ amorphous, ion irradi., dark cond. meas., defect states 4-39837
 Si₃N₄ CVD films, AES anal. electron and ion beam effect 4-51421
 SiO₂, amorphous, ion-mixing of marker atoms 4-34514
 SiO₂ film deposition on Si using ionised cluster beam 4-35580
 SiO₂ surface composition changes during ion and electron bombardment, temp. depend. 4-25136
 SiO₂, thin metallic markers redistribution under ion bombardment 4-51429
 SiO₂, vitreous, ion bombardment by He⁺, B⁺ and Xe⁺ annealing waveguide layers 4-19568
 SiO₂/Ni-Au bilayers, ion induced reactions, glancing angle X-ray diff. and particle backscattering spectrometry 4-6410
 Si(SiO₂)(Si₃O₄)(SiC), plasma etching by XeF₂ with ion bombardment, mass spectra study 4-35742
 SnS₂O, ion implanted, radiation damage, Mossbauer study 4-45213
 Ta, radiation induced lattice defects, stage III recovery, PAC study 4-34476
 Ti atoms sputtered from clean and monolayer O₂ covered surface, electronic excitation 4-46404
 Ti, bulk and film, He⁺ irradiated, dose rate depend. of critical dose on blistering 4-39353
 UW₃O₈+2, cryst. struct., electron and ion irradi. effects 4-2160
 V, channelling studies of D, defect interactions 4-50387
 V, mechanical properties, room temp., effects of H plasma irradiation (*Russian*) 4-40934
 V silicide single cryst., sputtering behaviour under Kr⁺ ion bombardment 4-46409
 V, surface morphology, modification under irradiation of He plasma (*Russian*) 4-50374
 V₂O₃, surface electronic struct. and H₂O and O₂ chemisorption, UPS and XPS studies 4-25415
 W, ion bombarded with W₂⁺ (Ag₂⁺), nonlinear depleted zones obs. 4-20266
 W, ion irradiation damage, FIM study 4-39352
 W, single crystal, radiation damage by Ar ions 4-11199
 W, structural changes in volume (*Russian*) 4-50373
 ZnO film, high rate magnetron sputtering prep., optical and elec. props. 4-30632
 ZnO:C, compacted powder, plasma deposition of C, A ion bombardment, annealing, AES 4-6392
 ZnSe:N⁺, void formation on annealing TEM study 4-45210
 Zr, structural changes in volume (*Russian*) 4-50373
 Zr-Nb(20 wt.%), structural changes in volume (*Russian*) 4-50373
- ion beam lithography**
 deflection system, large area, with very low aberration 4-38385
 electrostatic lens improvement for ion beam lithography 4-33614
 PMMA resist exposure with light ions, lithographic appls. 4-35537
 GaAs-GaAlAs DH lasers with ion beam etched facet 4-24020
 SiN_x stencil masks produced by reactive ion etching technique, high resolution ion lithography proximity printing appls. 4-35744
- ion beams**
 see also beam-foil spectra; beam-foil spectroscopy; energy loss of particles; ion beam effects; ion optics; ion-surface impact; mass spectrometers; particle accelerators; sputtering
 2 kJ plasma focus, ion beam formation and accel. obs. 4-34337
 amplifier for mass spectrometer 4-37240
 analysis system for ion scatt., bombardment induced light emission and SIMS studies 4-43121
 Bendix multiplier efficiency determ., for 2-5 keV He ions and neutrals 4-982
 Boersch effect and resolution in optoelectronic systems 4-33609
 bulk anal., calibration 4-52070
 calorimeter-Faraday cup to measure energy content of ion beams 4-43731
 charged particle beam EM instability in dense plasma 4-1931
 collective autoresonant accelerator with cylindrical electron beam, ion dynamics 4-28248
 conference on ion beam anal., Tempe, AZ, USA (May 1983) 4-42579
 conference on low energy ion beams, Loughborough, England (Mar. 1983) 4-42592
 cyclotron resonance bridge detector for frequency sweep 4-13717
 deflection system for electron and ion beam lithography, large area, with very low aberration 4-38385
 deuteron beam generation in turbulent plasma focus 4-34331
 diagnostics of highly charged ion current, using soft X-rays 4-14509
 divergence in pinch reflex diode 4-20008
 fast diatomic ions transmission through thin films, asymptotic theory 4-57055
 fast ion beam laser spectrosc. appl. to N₂O⁺ 4-19302

ion beams continued

- finite charged ion beams for ICF, scaling laws for resistive longitudinal instability 4-18848
 focused beams, appl. 4-43127
 focused ion beams, intensity distribution meas. by secondary electron emission, ion implantation appl. 4-37246
 focusing system for plasma heating, electron-power recuperation 4-33240
 focusing-type time-of-flight atom probe with channeltron as signal detector 4-32383
 GANIL beam complex, pulsed magnets for beam time sharing 4-48848
 GW electron and ion beams generation by plasma focus discharges 4-34329
 heavy ion beams for ICF 4-28200
 heavy-ion accelerator 4-28247
 heavy-ion beam transport, stability of Kapchinskij-Vladimirskij distrib. 4-18839
 high-energy heavy ion facility for ICF 4-33170
 HV-gap geometries for high current heavy ion acceleration and beam transport 4-43727
 ICF, intense ion beam prod. 4-6146
 intense light ion beam generation, focusing and transport 4-33247
 ion detector efficiency calibration 4-13727
 JET neutral injection heating, high power beam system 4-43648
 KEK Proton Synchrotron, possibilities of heavy ion acceleration 4-43712
 light ion beam fusion research in Japan 4-6147
 light ion beam production, high power impulse technique (*German*) 4-18005
 low energy ion beams, ion optics and optical components 4-43725
 magnetic plasma divertors, axisymmetric, beam divergence preservation 4-2016
 magnetically insulated ion diode, ion prod. efficiency 4-6209
 mass spectrograph having dual focusing and laser-plasma ion source, ion-beam space charge effect 4-43120
 mass-separated microbeam system with a liquid-metal-ion source 4-43113
 parameters meas. with electrostatic induction electrodes 4-48859
 Penning discharge ion source, Zr and Mo beams extraction 4-54503
 pinch reflex diode, intense ion beam characts. 4-37979
 plasma focus, ion beam generation, general characteristics 4-15317
 production and diagnostics in Mather-type plasma focus 4-33250
 pulse compression by conversion into soft X-rays 4-37972
 quadrupole probe-forming system beam optics, book 4-31978
 Rayleigh-Taylor instability, stabilisation by shaped ion beam 4-10224
 single ended Van de Graaff accelerator, light heavy ions charge state distrib. 4-54480
 space charge compensation meas. 4-43128
 space charge lens, focusing props. for ion beams (*Chinese*) 4-43716
 spherical expansion plasmas in ion beam impinged pellets 4-19968
 steel, austenitic stainless, T exposed, ion beam profiling of ^3He 4-16589
 submicron focused ion beam system optics, computer simulations 4-33612
 symmetric charge transfer reaction, state-selected investig. 4-28551
 Cs⁺ pulsed beam development for BNL polarised H⁺ source 4-43720
 H⁺ intense ion source, using caesiated porous Mo converter 4-33239
 H⁺ dense low energy beam prod. for DENISE 4-43722
 H-H⁺ equilibrated beam in O₂ Balmer β radiation excitation cross section 4-10006
 H⁺ and H₂⁺ beams with high proton ratio, using magnetic multipole ion source 4-32381
 He⁺-closed-shell ion repulsive interactions, beam and transport meas. 4-28533
 Ne⁺-closed-shell ion repulsive interactions, beam and transport meas. 4-28533
 U+U deep inelastic collisions at 7.5 MeV/amu, X-ray emission probabilities and nuclear time delay 4-9996

ion chambers *see ionisation chambers***ion counters** *see counters***ion cyclotron resonance heating** *see plasma heating***ion cyclotron resonance spectra** *see mass spectra***ion cyclotron resonance spectroscopy** *see mass spectroscopy***ion density***see also plasma density*

- flames, ion density meas. using electrostatic probe techniques 4-21469
 H⁺ ion density measurement in a tandem multicusp discharge 4-55632
 propane flame seeded with NaOH, ion density meas. using electrostatic probe techniques 4-21469
 NF₃ discharges, negative ion and electron densities, microwave interferometry 4-39014

ion emission*see also field ion emission; secondary ion emission; thermionic ion emission*

- alkali-metal halide 4-16284
 binary salt 4-16284
 photon-stimulated ion desorption, isolated surface site features study 4-29780

ion engines*see also aerospace propulsion; rockets*

No entries

ion etching *see sputter etching***ion exchange**

- alkali earth metal ions in hydrocarbon flames, C₃H₃⁺ reduction in relation to soot suppression 4-51975
 alkali earth metal ions in hydrocarbon flames, H⁺ transfer reactions and mass spectra 4-51974
 alkali metal ions in hydrocarbon flames, C₃H₃⁺ reduction in relation to soot suppression 4-51975
 alkali metal ions in hydrocarbon flames, H⁺ transfer reactions and mass spectra 4-51974
 amphoteric ion exchange membranes, characterisation, ion transport 4-26225
 chromatography, for conductivity detection of inorganic anions 4-46844
 4,5-diphenylimidazole, solvent effect and excited state H⁺ transfer studies 4-16640
 glass melts, diffusion processes (*German*) 4-2378
 glasses, diffusion processes (*German*) 4-2378
 glucosylase-ion exchange resin, enzymatic complex, IR spectroscopy investig., catalytic and physicochem. props. 4-12385
 high-temperature electrocatalytic process optimisation 4-26224
 3-hydroxychromone, ground- and excited-state H⁺ transfer, two step laser excitation fluoresc. study 4-30958

ion exchange continued

- 3-hydroxyflavone, ground- and excited-state H⁺ transfer, two step laser excitation fluoresc. study 4-30958
 ion exchange separation and spectrofluorometric determination of lanthanides in nuclear grade material 4-9267
 membranes, anion-exchange, thermosmosis of electrolyte solns. 4-52051
 membranes, transport numbers 4-3427
 membranes, transport of aq. solns. of urea (thiourea) 4-52055
 metal recovery systems using radiation grafted structures 4-46762
 optical low-loss waveguide fabrication in BK-7 by ion exchange 4-49577
 optical waveguides formed by Ag-Na ion exchange, propag. losses 4-24167
 planar light waveguides for integrated optics made by ion exchange in glass (*Slovenian*) 4-44253
 propane ion, structs. and reactions study 4-49176
 resins, effective diffusion coeffs., ⁸⁶Rb radioactive tracer investig. (*German*) 4-2369
 silicate glass surface, ion exchange processed, optically stimulated exoelectron emission 4-7320
 triethylammonium ions in ion-exchange resins, mol. motion and mag. relax. (*Russian*) 4-14451
 water softening by continuous counter-current ion-exchange single-column technique 4-51969
 water treatment and materials recovery, continuous processes appl. (*German*) 4-51977
 zeolite NaX, Zn²⁺, Cd²⁺ and Hg²⁺ ion exchange effects, cryst. struct., thermal props. 4-30928
 β -Al₂O₃-EuO(Eu₂O₃), synthesis, ion transport and fluorescence lifetimes 4-39576
 β -Al₂O₃-M₂O₃ (M=Gd³⁺, Nd³⁺, Eu³⁺), formation by ion exchange and ionic cond. meas. 4-39571
 alkali aluminosilicate, interdiffusion of Ag, rel. to electronic polarisability 4-39613
 B₂O₃-SiO₂ nucl. waste glasses, Pb implanted, radiation damage effects 4-18519
 CO₂ regeneration of weak acid ion exchange resins with added anion exchanger 4-51968
 CdS solar cells, non-stoichiometric Cu₂S formation by ion exchange process 4-41350
 Co, high purity pre. by anion exchange and floating zone refining 4-40644
 Cs_{0.7}(Ti_{1.65}Mg_{0.35})O₄, ion exchange, chem. and struct. anal. 4-7711
 Cu₂S formation by ion exchange for CdS-Cu₂S sprayed solar cells 4-21551
 CuSO₄, ionic mass transfer rate in electrodialysis 4-12330
 (H₂NHS⁺)₂⁺, H⁺ transfer along H-bonds, ab initio MO calc. 4-49146
 (H₂OHS⁺)₂⁺, H⁺ transfer along H-bonds, ab initio MO calc. 4-49146
 K_{0.1}Bi_{0.9}³⁺Bi_{1.7}⁵⁺O_{5.45}(H₂O)_{1.63}, K⁺ ion exchange by proton, struct. effects (*French*) 4-16653
 LiNbO₃ proton exchanged waveguides, X-ray anal. 4-33765
 LiNbO₃ proton-exchanged waveguides, materials anal. and optical characts. 4-33764
 LiNbO₃ waveguide fabrication by proton exchange, temp. and water influence during process 4-33766
 LiNbO₃, z-cut, planar optical waveguides, proton-exchange fabrication 4-14783
 Li₂O-GeO₂ ion exchanged glasses, refractive index, conc. depend. 4-51228
 Li₄Ti₅O₁₂, spinel, ion exchange reactions 4-7710
 NaCrO₂ layered structures, ion exchange reactions 4-7710
 Na₂Mg₂T₂-O_{4-2y}+F_{2y-2x}, cryst. growth, cationic cond. meas. 4-50572
 Na₂O-K₂O-SiO₂ glass, alkali leaching mechanisms 4-25081
 Na₂O-SiO₂, interdiffusion of Ag, rel. to electronic polarisability 4-39613
 Rb₂Ti₆O₁₃ tunnel struct., ion exchange reactions 4-7710
⁹⁰Sr determ. by ion exchange method using silica gel supported hydrated MnO₂ 4-16719
 Zr(MPO)₂+xHCl=ZrM_{2-x}H₂(PO₄)₂+xMCl (M=Li⁺, Na⁺, K⁺), ion exchange selectivity, electrostatic effect 4-30967

ion exchanging *see ion exchange***ion excited X-ray emission** *see ion microprobe analysis***ion implantation***see also semiconductor doping*

- alkali glasses, Ar implanted, antireflective coating prod. by ion implantation 4-24259
 alkaline earth oxides, Li⁺ or Na⁺ ion implanted, point defects, ESR, optical absorpt., luminesc. spectra 4-20269
 amorphous alloy formation by ion beam mixing 4-11168
 biological soft tissue, ion implantation for quantitative ion microscopy 4-12730
 ceramics, ion-implanted, struct. (*Japanese*) 4-11166
 conference on low energy ion beams, Loughborough, England (Mar. 1983) 4-42592
 diamond:⁵⁷Co, ion implanted, amorphisation, ⁵⁷Fe Mossbauer study 4-15548
 diamond:Co, heated and implanted, lattice damage reduction, impurity distrib., Mossbauer study 4-34504
 diamond:Co, ion implanted, amorphisation, Mossbauer study 4-34551
 diamond:Hf, ion implanted, elec. field gradients, TDPAC study 4-35273
 dopant conc., SIMS anal. 4-45173
 facility for material modification 4-50330
 focused ion beams, intensity distribution meas. by secondary electron emission, ion implantation appl. 4-37246
 garnet bubble films, H⁺ implanted, depth selective conversion electron Mossbauer spectroscopy 4-35210
 garnet films, ion implanted, dynamic bubble collapse, horizontal Bloch line nucleation and punch-through 4-40209
 garnet films, ion implanted, mag. distribns., stress relief effects 4-30248
 garnet films, N ion implantation effect on mag. props. 4-25622
 garnets, ion implanted, effects of stress relax. and anisotropic magnetostriiction on charged walls 4-25621
 GeF₄ implanted, quadrupole interactions gamma-ray spectra 4-34932
 graphite:³¹P, ion implanted, Landau level study 4-29908
 graphite, pyrolytic, C⁺(Ne⁺) ion implanted, elec. props. 4-20223
 graphite fibre, intercalated and ion implanted, struct. and elec. cond. 4-24759
 graphite surface, D₂⁺ implantation, Raman spectra 4-56902
 ion mixing, review, book contrib. 4-6388
 LSS and the integral equations of transport theory 4-71
 metal backing, local density change from implanted ions, effects on DSAM 4-6409

ion implantation continued

- metal surface treatment for wear and oxidation protection 4-16556
 metallic glasses, ion implanted, pattern form., model 4-20268
 metallic glasses, ion implanted, surface deform., pattern formation study 4-20267
 metals, ion implantation appls. to wear resistance 4-6387
 metastable system form., supercond. appls. 4-24840
 new optical materials, conf. Geneva, Switzerland (Apr. 1983) 4-27228
 nuclear energy loss, Thomas-Fermi scatt. cross section anal. 4-45232
 optical material production using ion implantation 4-28792
 polyacetylene, implanted, nonmetal-metal transition, soliton model 4-20567
 sample preparation methods and processes characterisation 4-57184
 semiconductor, ion implanted dopant distrib., laser annealing (*German*) 4-15530
 semiconductor, ion-implanted layer, impurity profile determ., electrochemical C-V method 4-40039
 semiconductor electron beam annealing by electron gun, uniformity of implant activation 4-6407
 semiconductors, growth from solid phase, model 4-55852
 semiconductors, ion implanted, impurity diffusion and activation, defect effects 4-50587
 semiconductors, ion-implanted, crystallisation induced by pulsed laser irradi. 4-6400
 semiconductors, nanometre structures formed by low energy ion implantation 4-45165
 shallow high-conductivity junctions, fabrication of n-type regions using heavy ion implants 4-34505
 Si, ion irradi., photomechanical effects 4-55912
 silicates, Na and H depth profiles after Pb^{+} implantation and leaching 4-45171
 SOI struct. form. by O_2^{+} ion implantation, buried SiO_2 layer characts. 4-34512
 SOI structures using high dose O_2^{+} ion implantation to form buried oxide films 4-34825
 solar selective absorbing surfaces produced by ion implantation 4-26310
 SOS, Si-implanted, strain states and optical phonons, Raman scatt. study 4-16195
 SOS films, ion implanted, elec. characts. 4-35072
 steel, austenitic, He ion implanted He bubble nucleation at grain boundaries, TEM studies 4-25034
 steel, austenitic stainless, He ion implantation and bubble growth, TEM studies 4-11307
 steel, austenitic stainless, precip. of implanted He after pulse loading 4-55921
 steel, austenitic stainless 4-21208
 steel, carbon, N^{+} implanted, surface modifications to wear and fatigue resistance, Mossbauer study 4-51873
 steel, fluence and temperature effect on N^{+} implantation and wear (*French*) 4-2236
 steel, ion-implanted, tribological props. 4-12194
 steel, plain C, fatigue behaviour, effects of N-ion implantation 4-30824
 steel, stainless, amorphous, ion implanted, electrochem. corrosion 4-57443
 steel, stainless, type 304, ion implantation, microstruct., friction and wear 4-7598
 steel, stainless type 304, N ion implanted surface layers, fatigue deformation behaviour 4-7587
 steel, stainless type 304 and 15-5 PH, N^{+} ion implantation effects on wear and friction 4-7599
 steel, Ti-implanted, friction and wear props. and vacuum carburization 4-21330
 thin film optical applications of ion implantation 4-29484
 thin hard coatings, ion implantation effects 4-2487
 vacuum chamber, electrodes installation; sealing, dopant source chambers for semiconductor industry 4-13651
 with XeCl excimer lasers 4-33707
 Ag films, growth kinetics on SiO_2 substrate with He^{+} and Ar^{+} ion implantation 4-39728
 Ag implanted low energy N_2^{+} , depth profiles 4-11172
 Ag, ion implanted, impurity internal oxidation, ^{119}Sn Mossbauer spectra 4-35269
 Al surface layer enrichment by Cs implantation (*Chinese*) 4-34757
 Al-Fe(cu), impurity mobility of Fe and Cu, RBS study 4-45381
 Al-He, lateral variation of He implantation using proton backscattering 4-45172
 Al, $Ga_{1-x}As$ epitaxial film, dopant conc., SIMS anal. 4-45173
 AlN, formation by N^{+} ion implantation, precipitation process obs. 4-20228
 Al_2O_3 , ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 $Al_2O_3:As^{+}(Xe^{+})$, amorphous layers, heavy ion implantation, range parameters, empirical formula (*Chinese*) 4-6386
 Al_2O_3 -Pb tunnel junction barriers, effect of H(D) implantation, IEIS and work function meas. 4-11590
 $B_2O_3-SiO_2$ nucl. waste glasses, Pb implanted, radiation damage effects 4-18519
 Be-As dilute alloys, ion implanted, $^{209,210}At$ nuclear orientation 4-34928
 Be-In dilute alloys, electric field gradient for ^{111}In and temp. depend., TDPAC meas. 4-35258
 Be-Si-Au 100 keV focused ion beam system with EXB mass filter for maskless ion implantation 4-32380
 Be-Si-Au ternary alloy liq. metal ion sources, characteristics meas., maskless implantation appl. 4-13720
 (Bi, G, Tm, $Ca_3(Fe, Si)_2O_{12}$, bubble garnets, mag. props. study 4-56743
 C probe surface exposed to low press. plasma impurity ions energies determ. 4-51432
 Cd single crystal, Sb probe atom depend. elec. field gradient 4-34926
 Cd-Ag dilute alloys, hyperfine interactions and recoilfree fractions of ^{197}Au , Mossbauer study 4-35255
 Co-Cr-Al cast alloys, hot corrosion attack, ion implantation effects 4-7650
 Co-Cr-W-C-Ti alloy, Ti ion implantation effects on friction and surface chem. 4-7606
 Cu diffusion of implanted ^{57}Fe , depth-selection conversion electron Mossbauer spectroscopy study 4-35262
 Cu films, Ti implanted, thermal oxidation inhibition, Rutherford backscatt. study 4-30862
 Cu foil, He ions implantation effects 4-45168
 Cu implanted low energy N_2^{+} , depth profiles 4-11172
 Cu-In dilute, lattice defect probing by radioactive atoms 4-45155
 (Dy, Sm, Lu, Bi, $Ca_3(Fe, Ge)_4O_{12}$ bubble garnet disc devices 4-56742

ion implantation continued

- Fe surface, phase composition after B ion implantation, electron microscopy and diff. studies 4-11163
 Fe:N, ion implanted, impurity distrib. as function of fluence 4-16287
 Fe-Al, magnetic hyperfine splitting induced by ion implantation, Mossbauer study (*French*) 4-29937
 Fe-Al vac. deposited multilayers, mixing by laser pulse or ion implantation 4-15722
 Fe-Be, high temp. oxidation inhibition by Bi ion implantation 4-12244
 Fe-Ni-Mo-B, Metglas 2826 MB, He^{+} implantation, bubble growth and blistering 4-15551
 Fe-Ni-Mo-B, Metglas 2826 MB, He^{+} implantation, free-vol. relax model for bubble growth 4-15552
 FeN, ion implanted, cryst. struct. and compound formation 4-39324
 FeN, phase form. by N^{+} ion implantation and heat treatment 4-39326
 $FeSn_2$ formation during Sn^{+} ion implantation of Fe 4-45161
 GaAs (100), disorder dechannelling anal. 4-45142
 GaAs, damage from implanted H isotopes 4-45157
 GaAs, defect profile and annealing behaviour, impurity complexes form. 4-24841
 GaAs FET preamplifier and photodiode, planar monolithic integration, selective ion implantation 4-10465
 GaAs, implanted impurity redistribution, stress effect 4-24843
 GaAs, ion beam amorphisation and recrystn., TEM study 4-39349
 GaAs, ion implantation, lateral extension of radiation damage obs. 4-29452
 GaAs, ion implantation induced displacement of Ga and As 4-39315
 GaAs, ion implanted, IR annealing (*Japanese*) 4-29457
 GaAs, ion implanted, picosecond laser annealing 4-15526
 GaAs, ion implanted, spectroscopic ellipsometry anal. 4-39327
 GaAs, ion implanted with As^{+} , Raman spectrum, spatial correlation effects 4-40423
 GaAs ion-implantation, electrophysical props., waveguide form. appls., review (*Russian*) 4-24246
 GaAs, ion-implanted, study following electron-beam annealing 4-20230
 GaAs JFET fabrication using maskless ion implantation with 100 keV focused ion beam system 4-32380
 GaAs, LEC growth, deep traps at implanted layer interface 4-25291
 p^{+} -GaAs layers, Zn-implanted, contact resistance of nonalloyed ohmic contacts 4-2651
 GaAs proton implanted optical waveguide, characterisation and optimisation 4-49511
 GaAs, selective Si^{2+} and Be^{+} implantation using 100 kV mass-separating ion beam system with Au-Si-Be ion source 4-34503
 GaAs:Be, shallow implantation, spectroscopic ellipsometry and Raman scatt. anal. 4-50327
 GaAs:Be layers, implanted, substrate for MBE grown GaAs photoluminescence intensity meas. 4-20514
 GaAs:Cr, S, Cr redistrib. under annealed S implants 4-29697
 GaAs:Cr, Si, ion implanted, annealing of amorphous layers 4-39325
 GaAs:Mg, ion implantation, cathodoluminesc. study and computer simulation 4-21047
 GaAs:Mn, ion implanted, Mn accumulation, Fermi energy and annealing studies 4-34648
 GaAs:(Si), ion implantation, use of RBS and PIXE for site determ. 4-45147
 GaAs:Se, implanted, electron-beam annealed, electron microscopy study 4-20229
 GaAs:Se, ion implanted, annealing, amorphisation and recrystn., high resolution TEM study 4-50319
 GaAs:Si, annealing effect on elec. and optical props. 4-25339
 n-GaAs:Si, Be-implanted, p-v-n junction form. by swept line electron beam annealing 4-50359
 GaAs:Si, focused Si ion implantation 4-20224
 GaAs:Si, ion implanted, laser annealing, photoacoustic spectra study 4-20242
 GaAs:Si(Se)(S), shallow ion implantation, elec. and structural props. 4-45166
 GaAs:Zn, elec. props. rel. to implantation conditions 4-34980
 GaAs:Zn, implanted, IR rapid annealing 4-20217
 GaAs:Zn, implanted p^{+} layers, electron beam annealing, profile broadening control 4-50355
 GaAs:Zn, ion implantation, diffusion and segregation 4-34506
 GaAs:Zn, ion implanted, heavy doping, enhanced activation 4-39316
 GaAs:Zn, ion implanted with minimised annealing redistribution 4-15498
 GaAs-AlGaAs heterostructure, MBE grown, recent developments and device appls. 4-15952
 GaAs-Si $_3$ N $_4$, ion implantation through dielectric layers, recoil-profile 4-50329
 GaAsP, form. by ion implantation and annealing, Schottky contact study 4-50317
 $Ga_{0.47}In_{0.53}As$, proton bombardment in n-and p-type material, resist. increase 4-2222
 GaP, ion implantation, lateral extension of radiation damage obs. 4-29452
 GaP, Sn-vacancy defects created by ion implantation of radioactive In and Sb, Mossbauer study 4-34529
 Ge, depth profiles of 20-100 keV light ions 4-45225
 Ge, growth model from amorphous phase 4-16299
 Ge:H, H^{+} implanted or electron irradi., H-divacancy complexes, DLTS study 4-15833
 Ge:P, ion implanted, laser annealed, Raman study 4-16204
 Hf passive films, ion implantation or Au deposition, electronic props. 4-56467
 α -Hf:N, ion implanted, N diffusion 4-39596
 HfO $_2$ passive electrodes, $Xe^{+}(Pd^{+})$ ion implantation effect on electrochem. behaviour 4-55855
 $Hg_{0.8}Cd_{0.2}Te$, Ar^{+} ion implantation, radiation defects form. 4-15506
 $Hg_{0.8}Cd_{0.2}Te$, ion implantation, radiation defect form. 4-15507
 $Hg_{0.8}Cd_{0.2}Te:Al^{+}$, ion implanted, defect distrib. profile 4-24845
 III-V semiconductor-Sb, ion implanted, Mossbauer isomer shift studies 4-46152
 InAs ion-implanted, laser annealing, defect and elec. props. study 4-11182
 n-In $_{0.53}Ga_{0.47}As$:Be, implantation doping 4-50315
 InGaAsP/InP channelled substrate BH laser using Fe^{+} implant for current confinement, LPE growth 4-38472
 InP, disorder production and annealing during He RBS/channelling anal. 4-11197
 InP, ion implanted, rapid lamp annealing, band-to-band luminesc. 4-51312

ion implantation continued

- InP, materials science, conf., Lancaster, England (March 1983) 4-36779
 InP, P ion irradiated, photoluminesc., thermal processing effect 4-16248
 InP, selected area growth by low press. MOCVD on ion implanted InP substrates 4-3077
 InP:Fe, semi-insulating, Si⁺ implantation, capless annealing of damage (Chinese) 4-20265
 InP:H⁺(B⁺)(O⁺)(Ne⁺)(Ar⁺)(Fe⁺), high resistive layers obtained by ion implantation (French) 4-55853
 InP:S, ion implanted, laser beam annealing, Hall effect and ellipsometry studies 4-50346
 InP:S(Si), compensating aspects of implantation damage 4-34510
 InP:Se, ion implanted, transient annealing using graphite strip heater and electron beam methods 4-34509
 InP:Se, ion implanted, rapid thermal and electron beam annealing 4-15537
 InP:Si, elec. and photolum. obs. of Si implantation and damage, residual impurities 4-34511
 InP:Si, ion implanted, photoluminescence excitons and polaritons 4-40498
 InP:Si, VPE layers, optical evidence of amphoteric behaviour of Si 4-35479
 InP:Te, ion implanted, photoluminescence study 4-35481
 InSb, ion-implanted, laser annealing, defect and elec. props. study 4-11182
 Kr immobilisation by combined ion implantation and sputtering into metallic matrix 4-32992
 Li₂B₂O₇:Cu, effects of ion implantation on TSEE and TL glow curves 4-48770
 LiF, implanted, nonmetal-metal transition, soliton model 4-20567
 LiF:Fe, ion implanted, thermal annealing effects, conversion electron Mossbauer spectra 4-34646
 LiNbO₃:He⁺ implantation damage depths, proton channelling studies 4-50325
 Mg, implanted heavy ions, lattice location studies by Rutherford backscatt. channelling 4-55849
 Mo, He implanted, electron bombardment-induced loop punching 4-6371
 Mo, implanted He, interaction with H self-interstitial atoms 4-11177
 Mo_{1-x}N_x(C_x) ion implanted alloy films, supercond. props. 4-15981
 Nb₃Al_{1-x}B_x(C_x), A15 phase, ion implanted, cryst. struct. and supercond. transition temp. 4-34444
 Ni, Eu and La ion implanted, pulsed laser treatment, surface alloying, trapping, and damage 4-15531
 Ni foil, He ions implantation effects 4-45168
 Ni:¹⁴N implanted contact on n⁺-Si, thermal stability and elec. resistivity 4-2655
 Ni_{1-x}P_x amorphous film, ion implanted, elec. props. 4-20744
 PLZT:Al, photoferroelectric sensitivity enhancement by thermal diffusion and ion implantation 4-34728
 PbSe:Ga films, ion implantation doping, electrophysical props. 4-11169
 Pd implantation, metal deposition technique, RBS study 4-45153
 SOS films, Si-implanted and electron beam annealed, high resolution electron microscopy 4-20505
 Si amorphous ion implanted layers, seeded crystallisation using laser and electron irradi. 4-55724
 Si buried amorphous layers, ion implanted, thermal cond., laser probe studies 4-56104
 Si, depth profiles of 20-100 keV light ions 4-45225
 Si, dopant parameters characterisation by IR ellipsometry 4-43025
 Si, growth model from amorphous phase 4-16299
 Si, heavily doped, ion implanted, laser annealed, electronic struct. study 4-15838
 Si, heavily doped, pulsed laser annealed, optical and elec. props. 4-20650
 Si, high dose reactive O⁺ implants computer simulation 4-39322
 Si, implanted, interstitial atom conc. profile, depth distrib. meas., fast H⁺ and He⁺ backscattered energy spectra (Russian) 4-24881
 Si, implanted, thermal cond. meas. 4-20422
 Si, implanted, transient annealing, elec. characs. and microscopic anal. 4-24859
 p-Si insulator a-Si:As⁺, laser annealing effects (Korean) 4-40020
 Si, internal stresses from ion-implanted amorphous regions 4-11161
 Si, ion implantation, Boltzmann transport equation based 2D model for impurity distrib. determ. 4-29454
 Si, ion implantation, impurity-matrix cluster ions, SIMS 4-51444
 Si, ion implantation, lateral extension of radiation damage obs. 4-29452
 Si, ion implantation, surface softening 4-50378
 Si, ion implantation damage and amorphisation, electron microscopy studies 4-55887
 Si, ion implantation through SiO₂ film, induced-defects, compensative study (French) 4-15502
 Si, ion implanted, excimer laser annealing 4-45183
 Si, ion implanted, heat pulse annealing, struct. charact. by TEM 4-24838
 Si, ion implanted, picosecond laser annealing 4-15526
 Si, ion implanted, solid phase epitaxy by annealing 4-34810
 Si, ion-implant conditions in device processing, transport in amorphous targets, Monte Carlo simulation 4-29453
 Si, ion-implanted, annealing using dense plasma focus 4-29455
 Si, ion-implanted polycryst., IR radiation annealing using graphite heater 4-24854
 Si layer, ion implanted, deep penetration of radiation defects into bulk 4-15555
 Si, liquid phase transient laser annealing, point defect origins 4-15460
 Si MOS struct., ion implanted C-V characs. and dielec. props. 4-45890
 Si monolithic bolometer for millimetre, submillimetre spectral range 4-35751
 Si p-n junctions, ion implanted, rapid annealing techniques (French) 4-15782
 Si, passivation of dry etching damage, low-energy H ion implantation technique 4-30839
 Si, positive secondary ion emission, O conc. depend. enhancement 4-46390
 Si, preamorphised, BF₃⁺ implanted, rapid thermal annealing 4-15514
 Si solar cell, back-surface-field n⁺-p device, masked ion implantation, design and characs. 4-31094
 Si solar cells, polycryst., ion implanted, pulsed and CW laser treatments 4-16787
 Si surface, ¹⁶O₂⁺ and ¹⁴N₂⁺ bombardment, Raman study 4-56901
 Si surface layer enrichment by Xe implantation (Chinese) 4-34757
 Si thin surface layer oxidation by high dose ¹⁶O₂⁺ ion implantation, volume changes meas. 4-45163

ion implantation continued

- Si:Al, ion implanted, diffusion under semi-continuous laser annealing (French) 4-15700
 Si:Al film on sapphire, recrystallised, electrically active impurity neutralisation 4-50964
 Si:Ar, high-dose implanted, radiation damage 4-11195
 n-Si:Ar⁺, ion implanted, laser excitation, electrophysical props. 4-39989
 Si:As, amorphous ion-implanted layer, thermal annealing, ellipsometric parameters (Chinese) 4-7483
 Si:As, implanted, struct. modification during annealing 4-50328
 Si:As, ion implantation, annealing behaviour, MeV backscattering anal. 4-45154
 Si:As, ion implanted, controlled diffusion by electron beam heating 4-15699
 n-Si:As, ion implanted, laser annealed, Brillouin study of phonon softening 4-40466
 Si:As, ion implanted, transient enhanced diffusion during short time annealing 4-39594
 Si:As, ion implanted As behaviour under transient heating by incoherent light 4-24836
 Si:As, Rutherford backscattering with continuous sample rotation, ion beam dosimetry 4-46385
 Si:As(B), ion implanted, pulsed electron beam annealing 4-15536
 Si:As⁺, channelled ion implantation at 300°C, distrib. and lattice location 4-11167
 Si:As⁺, extremely shallow n⁺-p junctions, low temp. process for annealing 4-50324
 Si:As⁺, high dose ion implanted, annealing behaviour 4-15500
 Si:As⁺, MeV ion implantation, extended defect reduction and planar n-p-n transistor fabrication 4-2220
 Si:As⁺ ion implanted wafers, IR transient annealing (Chinese) 4-20222
 Si:As(B), implanted, rapid thermal annealing 4-20218
 Si:B, flash annealing with pulsed Xe lamp and appl. for solar cells 4-39332
 Si:B, focused ion beam implanted, elec. props. 4-15872
 Si:B, ion implantation for shallow p⁺/n junction formation 4-20225
 Si:B, ion implanted, B lattice position annealing studies 4-11158
 Si:B, ion implanted, diffusion behaviour, flash-lamp annealing effects 4-45421
 Si:B, ion implanted, multiple scan electron beam annealing (French) 4-15538
 Si:B, ion implanted, rapid thermal annealing using ultrahigh power arc lamp 4-50318
 Si:B, laser implanted, AES and SIMS study 4-34519
 Si:B, low energy B ion implantation, planar and axial channelling effects 4-50314
 Si:B, polycryst., ion implanted, time-resolved scanned electron beam annealing 4-50360
 Si:B, preamorphized, implants, rapid thermal annealing, residual defects 4-50316
 Si:B,Ar, ion implanted, epitaxial regrowth 4-50656
 Si:B(BF₃), cryst. and amorphous, carrier and implant profiles 4-29459
 p⁺-Si:B/Al Ohmic contacts on ion implanted shallow Si layers, formation by halogen lamp annealing 4-15960
 Si:B⁺(BF₃)⁺ implanted slices, TEM studies after annealing and oxidation 4-24823
 Si:BF₃, preamorphized, implants, rapid thermal annealing, residual defects 4-50316
 Si:BF₃⁺, implanted, oxidation generated defects, TEM studies 4-24824
 Si:B(As), ion implanted, ESR study 4-16096
 p-Si:B(P), implanted, sheet resist. and junction depth relationships 4-34516
 Si:Bi, ion implanted, characterisation by Rutherford backscattering 4-45152
 Si:C, ion implantation at low temp., SiC formation, IR and EBIC studies 4-15508
 Si:Co(Cr), implanted polycryst., electron-beam annealing 4-24870
 Si:Cs, ion implantation effects on secondary ion emission 4-7295
 Si:Cu(Al), laser implantation of impurities 4-15505
 Si:Ga, ion irradiation effects from liq. metal ion source, SIMS anal. conditions simulation 4-45164
 Si:Ga MBE growth, high Ga implantation doping using liq. metal Ga ion source 4-39320
 Si:H, deep Au-related donor and acceptor levels hydrogenation by electrolytic doping 4-45668
 Si:H, ion implanted, low-symm. EPR center 4-20864
 Si:H₂⁺, ion implantation and diffusion effects on laser induced defects, EPR study 4-15501
 a-Si:H(F) film, ion implanted, elec. cond. study 4-15969
 Si:H(He), microstruct. study by Rutherford backscatt., TEM and SEM 4-24839
 Si:Hg, ion implanted, annealed and unannealed depth distrib. 4-34515
 Si:In, ion implanted, high temp. diffusion in oxidising atmosphere 4-25097
 Si:noble gas atoms, deep impurity levels, luminescence studies 4-45672
 Si:P, ion implanted, cryst. ordering disruption, 2p core reflectance spectra 4-40595
 Si:P, ion implanted, damage-dependent atom and carrier profiles 4-20227
 Si:P, ion implanted, incoherent light annealing, appl. to solar cell prod. 4-16788
 Si:P, ion implanted, laser annealed, precipitation study 4-39520
 Si:P epitaxial layers, ion implanted, cryst. quality, UV reflectivity meas. 4-11165
 Si:P polycrystalline layers, ion implanted, elec. resist., effect of annealing in H₂ and N₂ atmos. (Chinese) 4-40084
 Si:P⁺, ion implanted, extended defect reduction by uniform heating 4-29450
 Si:P(As)(O)(Cl), CVD polycryst. film, impurity effect on grain growth 4-6674
 Si:P(As), ion implanted, rapid isothermal annealing with electron beam system 4-15539
 Si:P(As) superheavily doped SOS films, absorption edge studies 4-2982
 n-Si:P(As)(Sb), effect of free carriers on Raman freq. 4-40461
 Si:Sb, ion implanted, dopant conc., electron and ion channelling studies 4-50332
 Si:Sb, polycrystalline, ion implantation doping and annealing, expt. study and VLSI appl. 4-45169
 Si:Sb, solid-phase epitaxially grown, point defect trapping 4-50322
 Si:Sb ion implanted solid soln., partially coherent Sb precipitate form. 4-29629
 a-Si:Si⁺(As⁺) layers, pulsed laser melting study 4-34535

ion implantation continued

- Si:Te, ion implanted, pulsed laser annealing, supersaturated solid soln. formation 4-24863
 Si:Te, trap level obs. by deep level transient spectroscopy 4-25276
 Si:Ti, ion implanted, deep impurity levels, DLTS studies 4-20593
 Si:Ti, ion implanted, photo- and cathodoluminesc. studies 4-21013
 Si/Mo, RBS anal. of silicide formation by Si^+ implantation 4-45533
 Si/SiO₂ formation by O⁺ implantation, SIMS anal. 4-45545
 Si-Al contacts formed by ion implantation and post annealing 4-30069
 Si-on-insulator, buried oxide, laser recrystallised and graphite strip heater recrystallised systems 4-25887
 Si-on-insulator, O ion implantation, buried oxide layer formation 4-20729
 Si-SiO₂ interface defect centres, EPR, effect of As⁺ implantation 4-46108
 Si-SiO₂ MIS structures, ion implanted, C-V charact., interface states energy spectra calc. parameters, influence of errors 4-35042
 Si-SiO₂ SOI struct., TEM, microdiff. and elec. studies of buried SiO₂, O implantation 4-40072
 Si-SiO₂ structure formed by 200 keV O ion implantation, O depth distrib. 4-45167
 SiC, ion implantation, lattice modification, hardness, fracture toughness, Rutherford backscatt. obs. 4-55851
 Si₃N₄:As⁺(Xe⁺), amorphous layers, heavy ion implantation, range parameters, empirical formula (Chinese) 4-6386
 SiO₂, H⁺ implantation, O vacancy creation through ionisation energy deposition, EPR study 4-20219
 SiO₂:As⁺(Xe⁺), amorphous layers, heavy ion implantation, range parameters, empirical formula (Chinese) 4-6386
 SiO₂:B ion implanted MOS struct., electron traps, thermal energy depth 4-45892
 SiO₂:B⁺(P⁺)(As⁺) ion implanted layers in MOS struct. (Chinese) 4-20221
 SiO₂:Co, amorphous and cryst., implanted, Fe prod., Mossbauer spectra study 4-35274
 SiSiO₂, oxidised SOS structures, ¹¹B dopant implants, SIMS study 4-20226
 (Sm, Dy, Lu, Ca)₂(Fe, Si)₂O₁₂, bubble garnets, mag. props. study 4-56743
 SmTmGdLuAl:YIG epitaxial films, mag. props. study 4-56729
 (SmYGdTm)₂Ga_{0.4}Fe_{4.6}O₁₂ films, ion-implanted, characterisation of microstructure by SEM 4-25173
 SnO₂:As thin film, ion implanted, elec. props. 4-35099
 SnS₂:O, ion implanted, radiation damage, Mossbauer study 4-45213
 Te self-implantation damage, channelling anal. 4-45156
 Ti clusters, ion implanted H atom location, extended HMO calc. 4-45150
 Ti passive films, ion implantation or Au deposition, electronic props. 4-56467
 Ti-Al-V alloy, N implanted, effect on wear performance 4-35737
 TiN films, ion implanted, transparency and cond. props., solar cells fabrication appl. 4-35103
 TiN transparent conducting film, ion implanted, optical characterisation by ellipsometry 4-51392
 TiO₂ passive electrodes, Xe⁺(Pd⁺) ion implantation effect on electrochem. behaviour 4-55855
 TiSi₂, bilayers on poly-Si, As ion implantation diffusion and distrib., heat treatment 4-29704
 V, channelling studies of D, defect interactions 4-50387
 V₂Ga Al₅ crystals, growth from ion-implanted supersaturated Ga-V solid solns. 4-39323
 W single cryst., B atom implanted, channelled ion spatial distrib. 4-11208
 W-Sb-He system Sb and He ion implanted, vacancy trapping and He decoration 4-46150
 YIG films for magnetostatic wave devices, design and technology 4-56727
 YIG:H⁺(Ne⁺), ion implanted, Mossbauer study 4-56831
 YIG:Ne films, implanted, giant Faraday rotation 4-25726
 (YSmCa)₂(FeGe)₂O₁₂ films, ion implantation, acoustic emission 4-2796
 (YSmLuCa)₂(FeGe)₂O₁₂:Xe(As) bubble garnet films, mag. and struct. props. 4-56744
 Zn-Au dilute alloy, hyperfine interactions and recoilfree fractions of ¹⁹⁷Au, Mossbauer study 4-35255
 ZnS, ion implanted, radiation defect related photoluminescence band 4-7237
 ZnS:Te,Al: Te doping and implantation, cathodoluminescence study 4-45162
 ZnSe:N⁺, void formation on annealing TEM study 4-45210
 α-Zr:N, ion implanted, N diffusion 4-39596

ion lasers

- picosecond duration laser pulse generation by simultaneous active-passive mode-locking in Ar⁺ ion and dye lasers 4-10334
 production programme of VEB Carl Zeiss Jena, high freq. modulation 4-24007
 volt-ampere characteristic of discharge (Bulgarian) 4-49327
 Ar ion CW laser, resonator mirror problems at high output power 4-38511
 Ar ion laser, acousto-optically mode-locked, degradation via diffuse refl. feedback 4-19483
 Ar ion laser, power-stabilised, high-current 4-28662
 Ar laser, mode-locked, with intracavity radiation extraction 4-38504
 Ar mode-locked laser, tunable picosecond IR pulse generation by difference freq. generation 4-24086
 Ar⁺ CW mode-locked laser for synchronous pumping, tunable ultrashort light pulse generation 4-19468
 Ar⁺ laser, direct modulation charact. (Chinese) 4-55094
 Ar⁺ laser at 515 nm, ¹²⁷I₂ stabilised, precision wavelength comparisons with He-Ne laser at 633 nm 4-10279
 C IV ions in laser plasma, population inversion 4-14372
 CO supersonic CW electroionisation laser, optimum lasing regimes 4-19429
 Ca⁺ recombination laser, transverse discharge excited, high power operation 4-10281
 Cd vapour, Cd⁺ high-gain inner-shell photoionisation laser pumped by soft X-ray radiation 4-10282
 Cl, intense CW visible and UV emission from Cl II and Cl III ions 4-49337
 Cu⁺ pulsed hollow cathode laser, ignition method influence on output power 4-55022

ion lasers continued

- F, photoionisation from ionisation threshold, ion yield curve 4-43855
 Fe XVII, suprathermal electron direct collisional pumping, X-ray gain enhancement 4-28408
 Ge II hollow cathode discharge lasers 4-14670
 He II transitions, stimulated radiation as a result of proton beam pumping 4-14668
 He-Cd laser, output stabilisation using feedback with axial magnetic field 4-55078
 He-Cd white light laser using negative glow discharge 4-55023
 He-Cd⁺ hollow cathode white light laser, stabilisation by floating metal grid 4-38451
 He-Kr ion laser in a DC hollow cathode discharge 4-55014
 Hg II compact laser excited by transverse electron beam glow discharge, 6149.5 Å transition 4-23958
 Kr⁺ CW mode-locked laser for synchronous pumping, tunable ultrashort light pulse generation 4-19468
 N II 4-5569
 N₂⁺ ion laser, amplification characteristics at 391.4, 427.8 nm 4-38453
 N₂⁺ laser pumped by charge transfer 4-49335
 Ne-like ions, suprathermal electron direct collisional pumping, X-ray gain enhancement 4-28408
 Te II hollow cathode discharge lasers 4-14670
- ion lenses *see lenses*
 ion lithography *see ion beam lithography*
 ion microanalysis
see also ion microprobe analysis
 sputter profiling, high depth-resolution, Ta₂O₅ reference material 4-21506
- ion microprobe analysers *see ion microprobe analysis*
 ion microprobe analysis
see also ion microanalysis
 algae, F⁻ influence on growth, PIXE and PIGME anal. 4-46954
 ancient materials, Li, B, N content, ion beam anal. 4-43157
 archaeological artifact dating, accel. appl. 4-43156
 bio-molecule mass spectrometry by fast heavy ion induced desorption 4-46928
 biological soft tissue, ion implantation for quantitative ion microscopy 4-12730
 biological tissue, light element X-ray anal. using He microbeams 4-47109
 bone elemental analysis by nuclear physics methods 4-12740
 catalyst metal-support interaction, discontinuous films, Rutherford backscatt. spectrometry 4-45543
 compositional and chemical state analysis of surfaces and thin films 4-46830
 conference on ion beam anal., Tempe, AZ, USA (May 1983) 4-42579
 Danish flint artefacts, patination and ²²Rn traces 4-43158
 defect analysis by channelling and X-ray diffraction techniques 4-45120
 defect trapping, ion beam anal., review 4-45122
 energy-loss radiography with scanning MeV-ion microprobe 4-43131
 French AEC nucl. microprobe description and appl. 4-43134
 gallstones, minor and trace elements anal. by induction of charact. ionising radiation 4-47066
 high energy ion microprobe anal., appl. to mineralogy, material science and biology 4-43133
 instrumentation, ion optics anal. 4-314
 ion beam analysis of near surface regions 4-41297
 light elements in high at. mass materials, depth profiling by elastic recoil anal. 4-46819
 light elements quantitative anal. in heavy material by high energy ion recoil spectrometry 4-46816
 low energy ion backscattering ang. distrib. for surface struct. anal. 4-45459
 low energy ion scattering for the determination of the locations of surface atoms 4-45458
 MeV ion bombardment, Auger electron emission 4-46403
 particle induced X-ray emission spectroscopy and its analytical applications 4-31054
 PIXE anal., depend. of X-ray yields for light element matrices in thick targets 4-13728
 PIXE anal., surface effects in thick targets 4-13729
 PIXE and charged particle activation anal., rock chemical analysis appl. 4-47418
 position-dependent trace element concentration meas. using micro-PIXE 4-3440
 pottery shards, preparation for PIXE 4-7770
 role of physics in development, conf., Dhaka, Bangladesh, (Jan. 1982) 4-27244
 Rutherford backscattering study of diffusion in polymers 4-45414
 scanning MeV-ion microprobe for light and heavy ions 4-43130
 silicates, metal hydride peak intensity in secondary positive-ion spectra 4-35959
 simultaneous ion backscattering and ion-induced X-ray emission appl. 4-43138
 soft upsets in IC memories, charge collection, ion microbeam anal. 4-45200
 steel, stainless, austenitic-martensitic phase transformation, PIXE anal. 4-46504
 surface layer first and second structure, low energy ion scatt. time of flight anal. 4-45461
 thick homogeneous samples, PIXE evaluation of major components, matrix effects 4-3431
 thick target PIXE anal., BATTY83 computer program 4-42937
 X-ray fluoresc. anal., intrinsic and effective sensitivities 4-46827
 Al:Fe, interstitial trapping following excimer laser annealing 4-45123
 BN, elastic recoil detection anal. of light particles (¹H-¹⁸O) using 30 MeV S ions 4-46817
 Cu-In dilute, lattice defect probing by radioactive atoms 4-45155
 F determ., PIGME anal., precision determ. 4-46835
 Ga ion microprobe for SIMS 4-43136
 Ga_{0.7}Al_{0.3}As, PIXE analysis of compound materials 4-45067
 GaAs, PIXE analysis of compound materials 4-45067
 GaAs:(Si), ion implantation, use of RBS and PIXE for site determ. 4-45147
 H conc. in stressed metals, He-induced H recoil anal. for metallurgical appl. 4-46818
 H depth profiling in thin films by ion elastic recoil detection 4-45466
 H in solids, quantification by ion beam anal. 4-46832
 Hg_{0.8}Cd_{0.2}Te, PIXE analysis of compound materials 4-45067

ion microprobe analysis continued

- InSb, radiation damage by α -particle bombardment 4-45201
 Mo-Ru-B on sapphire, elastic recoil detection anal. of light particles ($^1\text{H}^{16}\text{O}$) using 30 MeV S ions 4-46817
 $\text{MoO}_3\text{-BiPO}_4$ biphasic catalyst, low energy ion scatt. study 4-46828
 Nb-Sn on sapphire, elastic recoil detection anal. of light particles ($^1\text{H}^{16}\text{O}$) using 30 MeV S ions 4-46817
 Nb_2O_5 on sapphire, elastic recoil detection anal. of light particles ($^1\text{H}^{16}\text{O}$) using 30 MeV S ions 4-46817
 Ni-Au, vacancy-solute complex creation and annihilation during irradiation 4-45124
 Ni-In, vacancy-solute complex creation and annihilation during irradiation 4-45124
 Pd film growth on Si (111) 7×7 surface, struct., low energy ion scatt. study 4-45542
 Pt (997), H adsorption binding energy from low energy ion recoil scatt. 4-45485
 Se-O, impurity detect., ion microprobe anal. 4-41285
 Si (111), clean 7×7 and Te stabilized 1×1 struct., low energy ion scatt. anal. 4-45460
 Te self-implantation damage, channelling anal. 4-45156
 $\text{UO}_2(111)$ surface struct. determ. using MeV ions 4-45463

ion microscopes

- see also *field emission ion microscopes; ion microscopy*
 laser photodesorption microscope, rhodamine crystal imaging 4-27628

ion microscopy

- see also *field emission ion microscopy; ion microscopes*
 metals, irradiation, damage models (Russian) 4-24849
 mineral powders, ion beam anal. techniques 4-44907
 nuclear materials science appls., review 4-23164
 secondary ion imaging in the scanning ion microscope 4-43135

ion mobility

- see also *electrolytic ion mobility; ionic conduction in solids*
 amphoteric ion exchange membranes, characterisation, ion transport 4-26225
 atom-ion collisions, resonant charge transfer cross sections determ. by drift tube techniques 4-38322
 closed-shell ion + He(Ne) repulsive interactions, beam and transport meas. 4-28533
 direct tropospheric ion sampling and mass identification, ion transport appl 4-42245
 drift and diffusion calc., basis set expansion with non-Gaussian weight functions 4-38936
 drift in elect. fields, laser diagnostics of excited states and thermochem. props. at equilib. 4-38940
 geminate cation-electron pair recomb. in liq. hexane, time-resolved meas. 4-38326
 Gerdien ion counter characts. 4-24672
 high-field ion mobility and transverse diffusion coeff. elementary derivation 4-42663
 hydrated ion clusters, pre-nucleation ion mobility spectra and size distrib. correl. 4-10200
 mass-identified ions transverse diffusion in parent gases 4-38934
 stratospheric ion studies using new cluster ion sources/ion drift cell apparatus 4-42246
 AgNO_3 , diffusion of Ag^+ into SIMAX glass 4-20399
 Al-Fe(cu), impurity mobility of Fe and Cu, RBS study 4-45381
 Br^- , zero-field temp. depend. mobility in N_2 and O_2 4-19913
 CO^+ , glow discharge cathode sheath, ion mobility laser induced charge, optogalvanic detection 4-24621
 H_2^+ , heat of dissociation, determ. using ion mobility meas. 4-26221
 ^3He , superfluid A-phase, rotating, vortex textures 4-11370
 K^+ mobility in He and Ar at 294 and 80K, interaction pot. derivation 4-38938
 KNO_3 , diffusion of K^+ into SIMAX glass 4-20399
 Li^+ in Ar, drift and diffusion calc., basis set expansion with non-Gaussian weight functions 4-38936
 Li^+ mobility in He and Ar at 294 and 80K, interaction pot. derivation 4-38938
 Li^+ , transverse diffusion coeff. and mobility in Ar 4-38939
 N^+ drifting in He, energy distrib. study 4-38935
 N_2^+ , glow discharge cathode sheath, ion mobility laser induced charge, optogalvanic detection 4-24621
 $\text{N}_2^+ + \text{N}_2$, ternary association reactions, ion mobility meas. using mass spectrometer ion source 4-13723
 NH_4^+ , zero-field temp. depend. mobility in N_2 and O_2 4-19913
 Na^+ ions, mobilities in $\text{H}_2\text{-D}_2$ mixtures at room temp. 4-10811
 Na^+ ions in Ne, Ar, methane, H_2 and D_2 , mobilities and diffusion coeff. meas. by flight-distance scanning method 4-10812
 Na^+ ions in Ne, Ar and methane at room temp., mobilities and longitudinal diffusion coeff. meas. 4-10810
 $\text{Na}_2\text{O-Al}_2\text{O}_3\text{-SiO}_2$, glass, treated with aqueous solutions, interdiffusion of ions 4-50590
 $\text{TiNb}_2\text{O}_7\text{F}$ pyrochlore, Tl ion mobility, NMR study 4-40269

ion-molecule collisions

- see also *charge exchange; ion-molecule reactions*
 acetylene + $\text{H}^+(\text{He}^+)(\text{H}_2^+)$, selective excitation, energy loss spectra 4-43953
 air + $\text{Ar}^+(\text{Sb}^+)(\text{As}^+)(\text{P}^+)(\text{N}_2^+)(\text{N}^+)(\text{O}^+)(\text{O}_2^+)(\text{Ge}^+)(\text{Cr}^+)(\text{Fe}^+)(\text{Cl}^+)$, charge transfer cross section meas. 4-49157
 amine compounds, stopping powers for He^+ , chemical bonding effects 4-54839
 electronic and atomic collisions, conf., Berlin, Germany, (July-Aug. 1983) 4-15
 fast highly charged ions in gas targets, electron capture 4-14532
 fluorine compounds + Mg(Ar) ions, K X-ray spectra, chemical bonds effect 4-19203
 gas ionisation and electron capture cross-sections from proton impact 4-19185
 heavy ions + H_2 , electron-capture and -loss collisions 4-13489
 high energy atom-molecule scattering at small angles 4-28550
 ion + polar molecule, orbiting collisions, semiclassical perturbed rot. state calcs. 4-49124
 ion kinetic energy spectra from mass spectrometer, ang. depend., conservation laws 4-37243
 optical selection rules in inelastic collisions 4-19131
 propane, protonated, ionization energies of ions formed by ion/molecule reactions 4-35874
 $\text{Ar}^+ + \text{H}_2(\text{N}_2)(\text{O}_2)$, charge transfer reaction, 10 eV region 4-10064

ion-molecule collisions continued

- $\text{Ar}^+ + \text{N}_2$, charge transfer reaction at low and intermediate energies, crossed beam study 4-57542
 $\text{Ar}^+ + \text{N}_2$, charge transfer reaction below 0.1 eV 4-10068
 $\text{Ar}^+ + \text{N}_2$, collision-induced mass-analysed ion kinetic energy spectrum, probability theory anal. 4-33494
 $\text{Ar}^{2+} + \text{N}_2(\text{O}_2)(\text{CO})(\text{CO}_2)(\text{methane})(\text{ethane})$, single and double electron transfer reactions, time of flight meas. 4-3397
 $\text{Ar}^{3+} + \text{He}(\text{Ne})(\text{H}_2)$, Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 $\text{Ar}^{6+} + \text{He}(\text{Ne})(\text{H}_2)$, Auger electron prod., zero-degree Auger spectrosc. obs. 4-9952
 $\text{Ar}^{8+} + \text{H}_2$, Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
 $\text{Br}^+ + \text{O}_2$ reactions at room temp., state depend. reactivity from 0.04 to 5 eV collision energy 4-46759
 $\text{C}^+ + \text{H}_2$, electron capture cross-sections meas., 10-150 keV 4-10037
 $\text{C}^+ + \text{H}_2(\text{N}_2)$, electron capture cross sections 4-14537
 C_2H_6^+ , ionization energies of ions formed by ion/molecule reactions 4-35874
 CH_3O^+ , ionization energies of ions formed by ion/molecule reactions 4-35874
 $\text{CO}^+ + \text{CO}$, vibr. relax., quenching cross sections, fluoresc. 4-23793
 $\text{CO}^+ + \text{N}_2(\text{H}_2)$, dissociation, charge exchange, predissoc. 4-38341
 CO_2^+ , double electron transfer reactions time-of-flight meas. 4-5343
 $\text{D}^+ + \text{H}_2(\text{HD})(\text{D}_2)$ collisions, electron detachment cross sections 4-9961
 $\text{F}^+ + \text{CO}_2(\text{N}_2)$ collisions, electron detachment study by differential time of flight energy loss study 4-9970
 $\text{F}^+ + \text{N}_2(\text{H}_2)(\text{CO}_2)$ collisions, autodetaching states, electron spectra study 4-9972
 $\text{Fe}^{26+} + \text{N}_2$, high velocity asymmetric and near-asymmetric collisions, charge exchange cross sections 4-5348
 $\text{Fe}^{26+} + \text{N}_2$, total charge transfer cross sections 4-33525
 H-H^+ equilibrated beam in O_2 Balmer β radiation excitation cross section 4-10006
 $\text{H}^+ + \text{CO}_2$, shape reson. charge exchange, non-Franck-Condon behaviour 4-49148
 $\text{H}^+ + \text{CO}_2$ collisions, charge exchange to shape resonances 4-9971
 $\text{H}^+ + \text{chloromethane}$, doubly differential electron detachment cross-sections, target depend. 4-38316
 $\text{H}^+ + \text{H}_2(\text{N}_2)(\text{O}_2)(\text{H}_2\text{O})(\text{C})(\text{C cpds.})$, charge transfer cross-sections determ. 4-14527
 $\text{H}^+ + \text{N}_2(\text{CO})(\text{H}_2)(\text{O}_2)$, energy distrib. of detached electrons 4-9963
 $\text{H}^+ + \text{N}_2(\text{O}_2)(\text{SF}_6)$ collisions, electron detachment cross sections in energy range 500 to 2000 eV 4-9968
 $\text{H}^+ + \text{O}_2(\text{NO})$, charge transfer electron detachment to shape reson. 4-28555
 $\text{H}^+ + \text{CF}_4(\text{SF}_6)$ collisions, moderately resolved vibr. excitation, energy depend. 4-19159
 $\text{H}^+ + \text{Cl}_2(\text{Br}_2)$ gas, H^+ -stopping cross sections and excitation energies 4-9929
 $\text{H}^+ + \text{H}_2(\text{D}_2)$, isotope effects, linear- and circular-polarisation meas. 4-23804
 $\text{H}^+ + \text{H}_2(\text{N}_2)(\text{CO})(\text{CO}_2)(\text{CH}_4)(\text{O}_2)$ collisions, ionisation cross sections for 5 to 4000 KeV H^+ in gases 4-9973
 $\text{H}^+ + \text{H}_2(\text{N}_2)(\text{O}_2)(\text{H}_2\text{O})(\text{C})(\text{C cpds.})$, charge transfer cross-sections determ. 4-14527
 $\text{H}^+ + \text{He}(\text{Ne})(\text{Ar})(\text{Kr})(\text{H}_2)(\text{N}_2)(\text{CO})(\text{O}_2)(\text{methane})(\text{CO}_2)$, ionisation and electron capture cross-sections 4-19185
 H^+ + molecule collisions, double differential ionisation cross-sections calcs. 4-9941
 $\text{H}_2 + \text{Ar}^{5+}(\text{Ar}^{6+})$, electron loss peak, charge state depend. 4-9944
 $\text{H}_2 + \text{Ar}^{4+}(\text{Ne}^{4+})$, electron capture cross section for low vel. ions 4-19232
 $\text{H}_2 + \text{C}^{4+}$, charge exchange, multiple scatt. theory appl. 4-14543
 $\text{H}_2 + \text{H}_2^+(\text{H}_3^+)$ collision destruction 4-43971
 $\text{H}_2 + \text{H}^+$, H^+ collisional electron detachment Born cross sections leading to H^0 in 1S, 2S and 2P final states 4-9962
 H_2 + multiply charged ions, electron capture, target ionisation pot. effect 4-19243
 $\text{H}_2 + \text{N}^{6+}(\text{O}^{6+})$, electron capture into different (n,l) states 4-14556
 $\text{H}_2 + \text{N}^{7+}$, two-electron capture, N^{3+} autoionisation, electron spectra 4-49147
 $\text{H}_2 + \text{O}^{8+}(\text{N}^{7+})$, low energy charge exchange, Lyman spectra 4-14555
 $\text{H}_2 + \text{O}^{8+}(\text{Ne}^{10+})$ collisions, soft X-ray diagnostics 4-14509
 $\text{H}_2^+ + \text{H}_2$, symmetric charge transfer reaction, state-selected investig. 4-28551
 $\text{H}_2\text{O} + \text{Na}^+(\text{Cl}^-)$, SCF pot. surfaces calc. 4-43798
 $\text{He} + \text{CO}(\text{NO})$, excitation mechanisms, charge exchange 4-10018
 $\text{He}^+ + \text{CO}(\text{NO})$, excitation mechanisms, charge exchange 4-10018
 $\text{He}^+ + \text{O}_2 \rightarrow \text{He} + \text{O} + \text{O}^+$, dissociation charge transfer, production ang. distrib. and energy spectra 4-10070
 $\text{He}^{4+} + \text{N}_2$ close atomic collisions, He ion charge distrib. anomalous effect 4-54848
 $\text{In}^+ + \text{H}_2$, electron capture cross-sections meas., 10-150 keV 4-10037
 $\text{Li}^+ + \text{H}_2$, vibr. inelastic scatt., adiabatic-diabatic calcs., breathing sphere pot. 4-14511
 $\text{Li}^+ + \text{H}_2(\text{D}_2)(\text{N}_2)$ collisions, differential cross sections and energy transfer distrib. 4-19167
 $\text{Li}^{2+} + \text{N}_2$, electron capture and loss, Li metastable ion form. 4-14538
 $\text{Li}^+ + \text{CH}_4$ collisions, kinematic line broadening reduction in Auger electron spectrum of fast ion beams 4-14508
 $\text{Na}^+ + \text{H}_2$, optical selection rules in inelastic collisions 4-19131
 $\text{Ne}^+ + \text{H}_2$ scattering, energy loss scaling at 3, 10, 15 and 25 keV 4-19172
 $\text{Ne}^{9+} + \text{N}_2$, K X-ray spectra, quenching cross section 4-18977
 $\text{Ne}^{4+} + \text{H}_2$, $q=2,4$, electron capture cross sections 4-19221
 $\text{Ne}_2^+ + \text{N}_2$, thermal energy charge transfer, $\text{N}_2^+(\text{B-X})$ emission 4-49141
 $\text{O}^+ + \text{N}_2(\text{CO})(\text{H}_2)(\text{O}_2)$, energy distrib. of detached electrons 4-9963
 $\text{O}^+ + \text{H}_2$, electron capture cross-sections meas., 10-150 keV 4-10037
 $\text{O}^{8+} + \text{N}_2(\text{H}_2)$, electron capture cross sections 4-14537
 $\text{O}_2^+ + \text{H}_2(\text{D}_2)(\text{N}_2)(\text{CO})(\text{CO}_2)(\text{H}_2\text{O})(\text{methane})(\text{SO}_2)(\text{SF}_6)(\text{O}_2)$, collisional relax. of vibr. excited O_2^+ 4-9916
 O_2^+ + methane, in supersonic jet, reaction rate const. determ. using selected ion flow tube apparatus 4-30956
 $\text{O}_2^+ + \text{NO}$, charge transfer collisions, influence vibrational excitation 4-3871
 $\text{Pb}^{2+} + \text{H}_2$, electron capture cross-sections meas., 10-150 keV 4-10037
 $\text{Pb}^{2+} + \text{H}_2$, electron capture cross-sections meas., 10-150 keV 4-10037
 SO_2 , electron affinity, flowing afterglow study 4-33523
 SO_2 , electron affinity, electron transfer equilib. study 4-33524

ion-molecule collisions continued

- $\text{Sn}^+ + \text{H}_2$, electron capture cross-sections meas., 10-150 keV 4-10037
 $\text{Sn}^{2+} + \text{H}_2$, electron capture cross-sections meas., 10-150 keV 4-10037
 $\text{Xe}^+ + \text{methane}$, charge transfer and fine struct. transitions, 2 to 20 keV 4-10033

ion-molecule reactions

- $\text{c}_2\text{H}_3\text{N}^+$ ions studied by ion/molecule reactions and photodissociation 4-16634
 charge transfer studied by optically detected EPR spectra 4-51965
 collision complexes, gas phase, kinetics 4-41173
 $(\text{durene})^+ + (\text{paraterphenyl-d}_{14})^-$, radical-ion pair recombination, quantum beats induction by hyperfine interactions 4-3386
 electron swarms in gases and liquids, conf., Innsbruck, Austria (Aug. 1983) 4-31970
 interstellar diffuse clouds, gas phase reaction network for methylidyne (CH) prod. 4-42511
 interstellar reactions and complex hydrocarbons prod. 4-4070
 kinetic modelling at high press. 4-35885
 $\text{methane} + \text{Ar}^+(\text{Kr}^+)$, atomic capture cross section meas. 4-21458
 $\text{methane} + \text{B}^+(\text{B}^-)$, C-H insertion reaction, activation barriers, semiempirical calcs. 4-51962
 $\text{methane} + \text{H}^+(\text{D}^+)(\text{N}^+)$, ion association reaction, drift tube meas. 4-41209
 methane clusters, ion reactions initialisation by electron impact 4-21464
 methyl halides + $\text{Cl}^-(\text{Br}^-)(\text{I}^-)$, electron detachment, charge transfer, elastic and inelastic scatt. cross sections 4-41187
 methyl ion + H_2 , radiative association, reaction conditions 4-51992
 methyl radical + methyl ion, entropy bottlenecks in ion-molecule reactions 4-51984
 $\text{N-methyl-4-cyanopyridinium ion} + \text{aniline}$, charge transfer interaction, electron absorpt. interaction 4-7716
 molecular ions + gas targets, H^+ loss meas. 4-21458
 propane, protonated, ionization energies of ions formed by ion/molecule reactions 4-35874
 propane + metal ion, reactivity, spark source mass spectrometric obs. 4-21438
 propene + metal ion, reactivity, spark source mass spectrometric obs. 4-21438
 rate constants at very low temps. (20K to 16K), CRESU technique 4-35893
 $(\text{tetramethylethylene})^+ + (\text{paraterphenyl-d}_{14})^-$, radical-ion pair recombination, quantum beats induction by hyperfine interactions 4-3386
 three body association reaction rate const., temp. var. constraints 4-3387
 variable temperature selected ion flow drift tube apparatus 4-41210
 vibrational state selected reactions at thermal energies 4-21460
 $\text{Ar}^+ + \text{N}_2$, charge transfer reaction at low and intermediate energies, crossed beam study 4-57542
 $\text{Ar}^+ + \text{N}_2(\text{O}_2)(\text{CO})(\text{CO}_2)(\text{methane})(\text{ethane})$, single and double electron transfer reactions, time of flight meas. 4-3397
 $\text{B}^+ + \text{H}_2(\text{X} \Sigma_g^+)$, pot. energy surfaces, diatomics-in-mols. calcs. 4-41179
 $\text{Be}^+ + \text{H}_2 \rightarrow \text{BeH}^+ + \text{H}$ reaction, spin coupled VB description of pot. energy surfaces 4-12347
 $\text{Br}^+ + \text{O}_2$ reactions at room temp., state depend. reactivity from 0.04 to 5 eV collision energy 4-46759
 $\text{C}^+ + \text{H}_2$, endothermic reactions, threshold behaviour 4-57546
 C_2H_3^+ , ionization energies of ions formed by ion/molecule reactions 4-35874
 $\text{C}_2\text{H}^+ + \text{molecule}$ reactions, gas phase, rate const., meas. 4-21437
 CH_3O^+ , ionization energies of ions formed by ion/molecule reactions 4-35874
 $\text{CH}_3\text{OH}_2^+ + \text{methanol}$, assoc. reaction sequences, initiation 4-35875
 CN^+ ion + molecule reactions, kinetics, selected ion flow tube obs. 4-46750
 CO_2^{2+} , double electron transfer reactions time-of-flight meas. 4-5343
 $\text{CO}_2^+ + \text{H}_2(\text{H})$ reactions, quasi-static drift tube study 4-41211
 $\text{Cl}^+ + \text{Cl}_2$, complex form., dissoc., ion induced dipole pot. 4-12341
 $\text{Co}^+ + \text{acetaldehyde(ethanol)(methyl ether)(acetone)}$, reactions in a spark wake 4-35872
 $\text{Fe}(\text{CO})_5 + \text{Fe}(\text{II})$, fragmentation branching ratios 4-14489
 $\text{H}^+ + \text{H}_2$, diabatic rearrangement, self-consistent eikonal treatment 4-57545
 $\text{H}^+ + \text{N}_2(\text{H}_2)$, excited state charge exchange reactions studied by microwave optical double reson. technique 4-51995
 $\text{H}_2 + \text{D}_2^+$, collisional dissoc. and charge exchange cross sections 4-12356
 $\text{H}_2^+ + \text{H}_2$, electron transfer reactions, vibr. state and mol. orientation effects 4-41188
 $\text{H}_2^+ + \text{H}_2(\text{Ar})(\text{Mg})(\text{Na})(\text{Cs})$ dissoc. charge exchange, translational spectrosc. obs. 4-10071
 H_3^+ ion, IR spectra, ion-mol. reactions 4-9671
 $\text{HD}_2^+ + \text{H}_2$, HD_2^+ collisional dissoc., differential positive fragment cross-section, 1.5 to 5 keV 4-10013
 $\text{H}_3^+ + \text{H}_2$ reactions, H/D exchange study 4-41206
 H_2O , decomposition by $^7\text{Li}(^9\text{Be})(^{10}\text{B})(^{12}\text{C})$ ions at very high linear energy transfer 4-30959
 $\text{H}_2\text{O} + \text{Na}^+(\text{Cl}^-)$, SCF pot. surfaces calc. 4-43798
 $\text{H}_2\text{O}^+ + \text{H}_2\text{O}$, gas phase clustering, thermochemical data, ab initio calcs. 4-46758
 $\text{He}_2^+ + \text{CO}_2$, thermal energy charge transfer reaction, CO_2^+ emission 4-26178
 $\text{He}_2^+ + \text{N}_2$, kinetic modelling at high press. 4-35885
 $\text{He}_2^+ + \text{N}_2(\text{CO})$, thermal energy charge-transfer reactions 4-21444
 $\text{K}^+ + \text{H}_2$, slow collision, H atom form. and excitation 4-12360
 $\text{Li}^+ + \text{N}_2$, differential cross section, pot. energy surface 4-54838
 $\text{Li}^+ + \text{N}_2(\text{O}_2)(\text{CO})(\text{CO}_2)$ clustering reactions, energy depend. study 4-41204
 $\text{N}^+ + \text{H}_2(\text{D}_2)$, chemiluminescence, $\text{NH}^+(\text{ND}^+)$ emission 4-21461
 $\text{N}^+ + \text{N}_2(\text{CO}_2)$, ion association reaction, drift tube meas. 4-41209
 N_2^+ in helium, rot. excitation, laser induced fluoresc. 4-26189
 $\text{N}_2^+ + 2\text{N}_2 \rightarrow \text{N}_4^+ + \text{N}_2$, low temp. ion-molecule association, appl. to interstellar clouds 4-21463
 $\text{N}_2^+ + \text{N}_2$, association reaction, rate coeff. determ. 4-57532
 $\text{N}_2^+ + \text{N}_2$, ternary association reactions, ion mobility meas. using mass spectrometer ion source 4-13723
 $\text{N}_2^+ + \text{N}_2 + \text{M} \rightarrow \text{N}_4^+ + \text{M}$, three-body ion-mol. assoc. reaction, temp. depend. 4-41208
 $\text{N}_2^+ + \text{N}_2(\text{CO}_2)$, ion association reaction, drift tube meas. 4-41209
 $\text{N}_2^+ + \text{N}_2 \rightarrow \text{N}_4^+$ association reactions, temp. depend. 4-41205
 $\text{N}_4^+ + \text{H}_2$ reactions, internal energy study with N_2 and He buffer gas 4-41207

ion-molecule reactions continued

- $\text{N}^+(\text{D}) + \text{D}_2 \rightarrow \text{ND}^+(\text{B}^2\Delta) + \text{D}$, chemiluminesc. reactions, spectroscopy and dynamics 4-52016
 $\text{N}^+(\text{D}) + \text{H}_2 \rightarrow \text{NH}^+(\text{B}^2\Delta) + \text{H}$, chemiluminesc. reactions, spectroscopy and dynamics 4-52016
 $\text{NO}^+ + \text{N}_2(\text{CO}_2)$, ion association reaction, drift tube meas. 4-41209
 $\text{O}^+ + \text{methane}$, primary and secondary reactions, energy and mass anal. 4-7701
 $\text{O}_2 + \text{H}^+$, vibr. energy transfers, pot. hypersurfaces 4-21459
 $\text{O}_2^+ + 2\text{O}_2 \rightarrow \text{O}_3^+ + \text{N}_2$, low temp. ion-molecule association, appl. to interstellar clouds 4-21463
 $\text{O}_2^+ + \text{HD}$, state selected reactions, kinetic isotope effects 4-12345
 $\text{O}_2^+ + \text{methane}$, in supersonic jet, reaction rate const. determ. using selected ion flow tube apparatus 4-30956
 $\text{O}_2^+ + \text{methane}$ reaction channels study in flow drift tube 4-35892
 $\text{O}_2^+ + \text{methane}$ reactions, protonated formic acid prod. in interstellar clouds 4-36734
 $\text{O}_2^+ + \text{N}_2(\text{CO}_2)$, ion association reaction, drift tube meas. 4-41209
 $\text{O}_2^+ + \text{O}_2 + \text{M} \rightarrow \text{O}_3^+ + \text{M}$, three-body ion-mol. assoc. reaction, temp. depend. 4-41208
 $\text{O}_2^+ + \text{O}_2 \rightarrow \text{O}_3^+$ association reactions, temp. depend. 4-41205
 $\text{OCS} + \text{Ne}^+(\text{Ar}^+)$ reactions, emission spectra study 4-3381
 U_2F_8 ($8 \leq n \leq 12$), electron affinities, ion-molecule reactions, mass spectra 4-51963

ion optics

- see also ion beams; ion microscopes; mass spectrometers
 aberration corrected systems of planar electrostatic deflection elements 4-44036
 Caledonian Quadruplet, ion lenses, geometric aberration correction 4-939
 Coulomb effects in linear ion accelerator with quadrupole RF focusing 4-43719
 deflection system for electron and ion beam lithography, large area, with very low aberration 4-38385
 diode, self-mag.-field-enhanced 4-54515
 EXB mass separator aberration anal. 4-44042
 electrostatic einzel lenses, optimum electrode shape 4-23887
 first order systems 4-23888
 focused ion beams, space charge effects 4-33615
 ion and electron lens optimisation procedure 4-33606
 ion optics anal. 4-314
 magnetic periodic focusing structure, behaviour of ions with ang. momentum 4-33236
 modified paraxial formalism for two-dimens. ion beam dynamics anal., liq. metal ion source appls. 4-33613
 particle trajectories, fringing field and boundary shape effects, unified theory 4-33616
 quadrupole mass filter second stability region, ion optical props. 4-32376
 quadrupole probe-forming system beam optics, book 4-31978
 Rayleigh-Taylor instability, stabilisation by shaped ion beam 4-10224
 Rehovot 14UD Pelletron accelerator developments 4-54477
 scanning MeV-ion microprobe for light and heavy ions 4-43130
 self-magnetic-field-enhanced ion diodes, EM particle simulations 4-54516
 sources, two-dimensional trajectories, paraxial formalism 4-33608
 submicron focused ion beam system optics, computer simulations 4-33612
 submicron ion probe system 4-33231
 symmetric sector magnet analysers ion-optical props. 4-22870
 Utrecht EN tandem injector 4-54475
 wide aperture ion lens for mass spectroscopy 4-48248

ion plating

- energy and mass distrib. of particle fluxes incident on substrate in ion plating discharge 4-51548
 PET sheet, surface damage in RF bias ion plating 4-46452
 Al, ion vapour deposition 4-51546
 Cu-Al, tribological coatings, ion plating process 4-46454
 In_2O_3 films, prod. by ion plating, cond. and transparency (French) 4-35583
 Si_3N_4 films, hollow cathode discharge in plating, props. 4-16344
 SiO_2 optical thin film ion-assisted deposition, low energy vs. high energy bombard 4-51526
 SnO_2 films, prod. by ion plating, cond. and transparency (French) 4-35583
 TiN, ion plated on WC-Co substrate interfacial structure, transverse rupture strength (Japanese) 4-46599
 TiN, plasma nitriding and ion plating with intensified glow discharge 4-16345
 TiN, tribological coatings, ion plating process 4-46454
 TiO_2 film prep. by reactive ion plating 4-51547
 TiO_2 optical thin film ion-assisted deposition, low energy vs. high energy bombard 4-51526

ion probe analysers see ion microprobe analysis**ion probe microanalysis see ion microprobe analysis****ion pumps**

- sputter ion pump, background ion current elimination method 4-53694

ion recombination

- bound Rydberg states, threshold capture width determ. 4-5496
 complex atomic ions, radiative recomb. coeffs. 4-1267
 dielectronic recombination, complex pot. model 4-43980
 p-dioxane, neat and mixtures, radiation-induced ionisation and excitation 4-28505
 $(\text{durene})^+ + (\text{paraterphenyl-d}_{14})^-$, radical-ion pair recombination, quantum beats induction by hyperfine interactions 4-3386
 electron swarms in gases and liquids, conf., Innsbruck, Austria (Aug. 1983) 4-31970
 electron-ion collisional recomb. in dense neutral and ion gas 4-9909
 geminate cation-electron pair recomb. in liq. hexane, time-resolved meas. 4-38326
 hollow cathode discharge tubes, recombination and diffusion 4-50114
 ion collisional recomb. in dense neutral and ion gas 4-9909
 ionic-covalent collision interactions, pot. energy curves 4-33520
 methane, liq. and solid, electron-ion recombination and electron thermalisation 4-29984
 methyl radical + methyl ion, entropy bottlenecks in ion-molecule reactions 4-51984
 3-methylpentane glass, γ -irrad., isothermal luminesc. 4-30520
 photoexcited autoionising atom, initial state population, collisional broadening, radiative recombination 4-28536
 $(\text{tetramethylethylene})^+ + (\text{paraterphenyl-d}_{14})^-$, radical-ion pair recombination, quantum beats induction by hyperfine interactions 4-3386
 Ar^{14+} KLL dielectronic recomb. reson. obs. 4-5463

ion recombination continued

- A_{r}^{n+} , highly ionised, dielectronic recomb. 4-5470
 B^{2+} , dielectronic recomb. through $1s^2 2s-1s^2 2p$ excitation 4-5466
 C^{3+} , dielectronic recomb. through $1s^2 2s-1s^2 2p$ excitation 4-5466
 CO_2^+ , electron-ion recombination 4-10077
 Ca^+ , dielectronic recomb. collision cross-section, crossed-beam meas. 4-5464
 Fe^{24+} , electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
 H_2 discharge, collisional processes, efficiencies and rate coeffs. 4-55678
 H_2^+ , electron impact dissoc. recomb., reaction product channel anal. 4-10172
 H_3O^+ , dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 He^+ , dielectronic recomb. cross-section 4-19285
 He_2^+ ions, dissociative recomb. 4-30973
 Li sequence, dielectronic recombination cross section at low energies 4-19222
 Mg^+ , dielectronic recomb. cross-section, extrinsic elec. field effect 4-5467
 $^{24}Mg^+$, dielectronic recomb. cross-section meas. 4-5465
 Mo^{46+} , electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
 NH_4^+ , dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 NO^+ , dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 Ne_2^+ molecular ions, vibr. relax. and dissociative recombination in decaying plasma 4-33529
 Ne_3^+ cluster ion-electron recombination, microwave afterglow/mass spectrometer study 4-33530
 O^{2+} , dielectronic recombination cross section at low energies 4-19222
 O_2^+ dissociative recombination in upper atmos. and $O(S)$ spectral line profile 4-26909
 O_2^+ , dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 Se^{32+} , electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468

ion scattering see collision processes; ion mobility; ion-surface impact

ion solvation see solvation

ion sources

see also ion emission

- 2 kJ plasma focus, ion beam formation and accel. obs. 4-34337
 6.5 GHz electron cyclotron resonance source for KEK polarised H^- ion source, characts. (Japanese) 4-9626
 accelerator ion sources, symposium, Tsukuba, Japan (March 1983) 4-42603
 accelerator mass spectrometry with ^{26}Al 4-43114
 ANIS and inverted sputter sources 4-54512
 Argonne inverted sputter source 4-54511
 atomic beam polarised ion source at RCNP (Japanese) 4-43750
 atomic beam polarised proton source, optimisation methods 4-43749
 beam current enhancement by space charge compensation 4-14254
 beam line, negative-ion-based, for surface-conversion negative ion source 4-33228
 beam optics, two-dimensional trajectories, paraxial formalism 4-33608
 broad-beam, materials processing appl., book contrib. 4-7372
 charge exchange and sputter ion sources for RIKEN Tandetron (Japanese) 4-43744
 cold-cathode PIG ion source development at INS SF cyclotron (Japanese) 4-43743
 collective ion acceleration from localised source downstream of relativistic electron beam diode 4-33249
 conference on low energy ion beams, Loughborough, England (Mar. 1983) 4-42592
 CORDIS high current ion source for gases 4-43723
 Coulomb effects in linear ion accelerator with quadrupole RF focusing 4-43719
 CRYEBIS cryogenic electron beam ion source operating regime 4-54502
 cyclotron laser plasma, C^{3+} ion acceleration 4-48858
 deuteron beam generation in turbulent plasma focus 4-34331
 deuteron sources, atomic-beam polarised, source temp. depend. of figure of merit 4-43748
 diode, self-mag.-field-enhanced 4-54515
 diverged electron beam ion diode for ICF appl. 4-14253
 Dubna synchrotron, pure nuclei, beam generation and acceleration 4-14248
 duopigatron source ion beam, energy distrib., intensity modulation and emittance 4-43726
 duoplasmatron sources, beam divergence and emittance, plasma imperfections effect 4-44870
 EHD introduction of liquids into mass spectrometer, working characteristics 4-13714
 electrohydrodynamic advanced ion source with additional mode of surface ionisation 4-33233
 emittance in quadrupole mass spectrometry, determ. using approx. method 4-13722
 ethane ions, charge stripping, vertical ionisation energies determ. 4-16630
 external ion injection into CRYEBIS 4-54504
 extraction system numerical simulation for ion source with transverse homogeneous mag. field (Chinese) 4-54497
 fast-atom molecular secondary-ion mass spectrometry 4-13715
 first order paraxial theory validity in needle or pointed geometry 4-22871
 H^- ion density measurement in a tandem multicusp discharge 4-55632
 heavy ion beams obtained by sputtering source in heavy ion acceleration complex (Rumanian) 4-28274
 heavy ion fusion injector, radial charge distrib., electron probe meas. 4-48861
 HELIOS-12A, ECR source for multiply charged ion 4-48838
 high intensity negative ion source using Cs beam (Chinese) 4-28271
 high pressure temp. variable ion source with coaxial electron beam or ion exit slit 4-13723
 hollow-cathode magnetron ion source 4-32382
 hot cavity ion sources, ionisation efficiency 4-938
 inert gases pumping by electron-impact ionisation sources and associated memory effects 4-48142
 intense light ion beam generation, focusing and transport 4-33247
 Lamb-shift polarised ion source, fast spin flip device (Japanese) 4-43751
 ion sources continued
 laser-plasma ion source, screening action of crater in mass spectrograph analysis 4-31050
 light ion beam production, high power impulse technique (German) 4-18005
 liquid metal ion source, heating effects 4-35553
 liquid metal ion source, Laplace eqn. exact soln. in cuspidal geometry 4-48837
 liquid metal ion source for SIMS 4-43125
 liquid metal ion source particle beam dynamics, modified paraxial formalism 4-33613
 liquid metal ion sources, ion motion computational models 4-43724
 liquid metal ion sources, mass spectra compilation 4-47780
 liquid metal ion sources, mechanism and appl. 4-43126
 liquid metal ion sources, neutral emissions 4-43730
 liquid metal sources for field emission deposition 4-51549
 liquid-metal ion emission in strong elec. field 4-46427
 long pulse, high energy ion source for fusion reactor neutral beam appls. 4-9475
 long pulse ion induction Linac, prototype module 4-5057
 low energy ion beams, ion optics and optical components 4-43725
 low energy ion gun for surface study 4-37261
 magnetically insulated pulsed ion diode, extracted ion beams, anode surface struct. effects 4-18837
 mass spectrometer attachments, ion sources for high-temp. thermodynamic expts. 4-8985
 mass-separated microbeam system with a liquid-metal-ion source 4-43113
 microprobe instruments, ion optics anal. 4-314
 microwave and UHF plasma disk ion source 4-50029
 microwave ion source for high current metal beams 4-43732
 microwave ion source with permanent magnet, axial mag. field extraction type source 4-43746
 microwave plasma disc ion source characts. 4-48250
 MISS-4M sputter source, optics effect on negative yield 4-54513
 multiply charged heavy ion source for IPCR cyclotron (Japanese) 4-43745
 multiply-charged heavy ion source, ion charge distrib. in plasma (Japanese) 4-43747
 negative ion high intensity source 4-54510
 neutral beam injector for JT-60, 100 kV test 4-55559
 Penning discharge ion source, Zr and Mo beams extraction 4-54503
 Penning source of low press. and current (Chinese) 4-33230
 PIG type heavy-ion source for RILAC (Japanese) 4-43742
 pinch reflex diode, intense ion beam characts. 4-37979
 plasma confinement geometries, checkerboard arrangement 4-55590
 polarised heavy ion source at Heidelberg MP tandem 4-54514
 polarised ion source appl. to fusion reactors 4-43753
 positive ion sources for neutral beam injection appl., model 4-14255
 primary gun for mol. SIMS 4-43119
 production and diagnostics in Mather-type plasma focus 4-33250
 pulsed electron and ion source with nanosecond duration, discharge mechanism (Chinese) 4-48836
 pulsed for laser spectroscopy, appl. to Nb II 4-28399
 RCNP cyclotron, heavy ion accel. development 4-43714
 room ion generators for electrostatic discharge 4-22872
 self-magnetic-field-enhanced ion diodes, EM particle simulations 4-54516
 single ended Van de Graaff accelerator, light heavy ions charge state distrib. 4-54480
 single-ring magnetic cusp ion source, diagnostics and appl. 4-13724
 solid ion source using electron beam induced vaporisation and ionisation 4-48254
 space-charge shift theory of ion cyclotron reson. freq. 4-13710
 submicron ion probe system 4-33231
 superconducting hexapole magnet for ECR ion beam source 4-55589
 superconducting solenoids for nucl. phys. appls. 4-53713
 wide aperture ion lens for mass spectroscopy 4-48248
 Ar_2^+ microwave ion source, energy anal. 4-48251
 As ion source with high charge utilisation efficiency 4-43733
 Au liquid metal ion source, high resolution mass spectrometry 4-33232
 Au-Si-Be liquid metal ion source with 100 kV mass-separating focused ion beam system for selective Si and Be implantation in GaAs 4-34503
 Be-Si-Au 100 keV focused ion beam system with EXB mass filter for maskless ion implantation 4-32380
 Be-Si-Au ternary alloy liq. metal ion sources, characteristics meas. 4-13720
 Ca ions prod. in ECR MINIMAFIOS multicharge ion source (French) 4-54499
 Co-Cm magneto sealing for electron capture ion source 4-48252
 Cs^+ liquid metal source for SIMS 4-43729
 Cs^+ pulsed beam development for BNL polarised H^- source 4-43720
 CsI cluster ions prod. by fast atom bombardment mass spectrometry, behaviour 4-16707
 D^+ extraction from sheet plasma 4-43734
 Ga ion microprobe for SIMS 4-43136
 Ga liquid metal ion source, high resolution mass spectrometry 4-33232
 Ga, liquid metal ion source, two-dimensional trajectories, paraxial formalism 4-33608
 Ga liquid metal ion source for Si MBE implantation 4-39320
 Ga^+ liquid metal ion sources, appl. to SIMS 4-43728
 H plasma confined by multicusp mag. field, H^- production 4-34294
 H^- extraction from sheet plasma 4-43734
 H^- intense source, using caesiated porous Mo converter 4-33239
 H^- , optically pumped polarised ion source at KEK, polarisation meas. 4-43752
 H^+ dense low energy beam prod. for DENISE 4-43722
 H^+ and H_2^+ beams with high proton ratio, using magnetic multipole ion source 4-32381
 In liquid metal ion source, high resolution mass spectrometry 4-33232
 Li high-intensity ion source, modified duopigatron design 4-13725
 Ta ions, 0.5 GeV, prod. from CO_2 laser prod. plasma 4-53797

ion-surface impact

see also particle backscattering; sputtering

- alkali metal fluorides, solid, $Ar(Mg)$ ion impact excitation, K X-ray spectra 4-21094
 alkaline earth fluorides, solid, $Ar(Mg)$ ion impact excitation, K X-ray spectra 4-21094
 Auger electron emission, role of recoil atoms 4-57060
 axial channelling, mechanisms of electron loss by ions 4-20278
 beam-target interaction, plasma effects 4-24578

ion-surface impact continued

- bombardment at oblique incidence, local quasi-stable angular points, analytical and graphical evaluation 4-21093
 cathodes, heavy particle bombardment in high-voltage discharge 4-44883
 channelling of charged particles above solid surfaces in external fields, surface collision cascades 4-29501
 characteristic X-ray emission, multiple collision anal. 4-46405
 conference on ion beam anal., Tempe, AZ, USA (May 1983) 4-42579
 deterministic models of ion erosion, reflection and redeposition 4-46418
 differential sputtering yields, ang. distrib., as function of angle of incidence 4-46401
 electron emission from solids, review 4-3013
 epitaxial interface struct., ion beam studies, review 4-21098
 fast diatomic ions transmission through thin films, asymptotic theory 4-57055
 fast heavy ion induced desorption of secondary ions, energy depend. 4-12000
 fast ion interactions, spatial distrib. anisotropy 4-11993
 ferrite-garnet films, implanted impurities, ion-ion emission 4-40586
 heavy ion backscattering anal. by time of flight spectrometry 4-43109
 heavy targets, KeV light ion bombardment, sputtering energy spectra 4-11978
 HF impact on alkali and alkaline earth fluorides, K-plus L-shell ionisation, electron transfer 4-25845
 ice, in Solar System, energetic charged particle erosion 4-31771
 inelastic collisions, conf., Middelfart, Denmark, Sept. 1982 4-8643
 inelastic surface collisions, massive mol. ion desorption 4-11990
 K-vacancy probabilities, impact parameter depend., in gas and solid-target collision systems 4-49139
 kinetic energy distributions of sputtered particles in non-cascade sputtering processes 4-46399
 L subshell ionization cross section for light ion bombardment of high Z targets 4-46407
 L-subshell ionis. 4-9989
 light polarisation, linear and circular appl. to atomic shape in collisions 4-9882
 low-temperature ion-beam mixing of platinum markers in iron 4-45205
 metal surface, dynamic image pot., self-consistent calc. 4-20704
 metal surface, He friction, sticking coeff. and scatt., perturbation approach 4-45515
 metal surface, inelastic ion and atom collisions, charge transfer 4-11981
 metal surface, low energy He⁺ ion scatt., Auger vs. reson. neutralisation 4-30590
 metal surfaces, surface rainbow scattering of alkali ions 4-7300
 MeV ion bombardment, Auger electron emission 4-46403
 MeV ion bombardment, Auger electron emission from solids 4-46402
 multicomponent materials, sputtering, balance eqn. numerical soln. 4-51430
 PMMA films on metal substrates, sputtering study 4-30630
 polymer films, ion beam modification dynamics, molecular species emission spectra 4-46412
 recoil mixing in solids, theory 4-45219
 relocation function in ion beam collisional mixing 4-45203
 secondary ion emission following high energy ion bombardment, review 4-16280
 shadowing/blocking expts., Monte Carlo simulation 4-7299
 solid surfaces, heavy ion induced electron emission 4-11976
 sputtered neutrals detection by multiplication resonance ionisation 4-46387
 steel, amorphous surface form. by H plasma bombardment 4-6638
 surface anal., ion scatt. spectroscopy data acquisition 4-3008
 surface composition, major constituent monitoring using ISS and doubly charged secondary ions 4-45462
 surface damage by ion-beam bombardment 4-45206
 surface modification using MeV ion beams 4-45204
 surface science, use of channelling or ion scattering 4-2240
 target region shape affected by cascade recoils 4-46400
 thermal vibrations, information from keV ion scatt. 4-20460
 thin film surface anal., comparative study of methods 4-52076
 topography evolution in sputtered media and in spatio-time variable ion flux conditions 4-46419
 X-ray plane-crystal compact spectrometer, for ion-atom collision studies 4-32394
 Ag, ion bombard., morphological evolution of cones on surface 4-51435
 Ag, proton small angle scatt. at glancing incidence, MeV range 4-51436
 Al, Auger electron emission excited by low-energy Ar⁺ bombardment (Chinese) 4-7290
 Al, F(Ne) ion bombardment, ionisation cross sections of inner electron shells, ion X-ray emission 4-12002
 Al, heavy ion bombardment, secondary ion emission 4-11991
 Al, Ni ion impact, convoy electron prod. and total electron yield 4-11201
 Al, polycrystalline, Ar⁺ ion bombard., secondary electron ang. distrib. 4-51441
 Al, thin metallic markers redistribution under ion bombardment 4-51429
 Al/Si multilayers, atomic mixing influence on SIMS depth profiling 4-45467
 Al₂O₃, thin metallic markers redistribution under ion bombardment 4-51429
 Ar ions impact on solid targets, K-plus L-shell ionisation, electron transfer 4-25845
 Au film prep. by vacuum evaporation and etching, gauge factor meas. 4-48106
 Au, proton small angle scatt. at glancing incidence, MeV range 4-51436
 Au₃Cu₉, FCC, surface segregation, low energy ion scatt. 4-39648
 C foil, atom (ion)(molecule) impact, excited atom emission, population investig. 4-43831
 C foil fast at. and mol. ion impact, Auger electron emission 4-11202
 C, ion-induced electro-emission 4-7296
 C, Ni ion impact, convoy electron prod. and total electron yield 4-11201
 C probe surface exposed to low press. plasma impurity ions energies determ. 4-51432
 C target, solid and gaseous, charge-changing cross section by hydrogenic ions impact 4-43962
 Cⁿ⁺ (n=1-3), excitation by C foil, metastable function yield 4-12003
 C₁₈+KBr(Ti)(Mn) surface (q=3 to 10), K-shell X-rays and multiple vacancy prod. 4-9986
 Co self-sputtering on single crystals 4-46398
 Cu (110), adsorption of O₂, surface reconstruction, high energy ion scatt. study 4-20490
 Cu, polycrystal, Ar ion double scatt. effect, computer calc. 4-12001

ion-surface impact continued

- Cu, secondary ion mass and energy spectra sputtered by Br⁸⁺ MeV bombard. 4-46388
 Cu-Zn (48.2at.%), depth of profile, Ar⁺ bombardment; Auger spectra 4-35535
 F ions+⁷⁹Au(⁸²Pb)(⁸³Bi)(⁹²), direct ionisation and electron capture in M-shell X-ray prod. 4-11980
 Fⁿ⁺ (n=2,3,4), excitation by C foil, metastable function yield 4-12003
 Fⁿ⁺+metal surface, ionisation and electron transfer for K-, L- and M-shells 4-9988
 Fe-based material, amorphous surface form. by H plasma bombardment 4-6638
 GaAs, secondary ion yields, O₂⁺ bombard. incidence angle effects 4-46389
 Ge, secondary ion yields, O₂⁺ bombard. incidence angle effects 4-46389
 H⁺, electron capture by beam-foil interaction, n=3 states polarisation 4-28557
 H⁺+Cd(Sn)(Te)(I)(Ba) surface impact, L-shell X-ray prod. cross section 4-12004
 H⁺+Cu(Mo)(Ag), K-shell ionisation at large scatt. angles 4-9992
 H⁺+Mo(Pd)(Sn)(Ba)(Ce)(Nd)(Sm) collisions, total K-shell ionisation cross sections 4-9983
 H⁺+surface impact, M-shell, X-ray prod., survey 4-12005
 He ion, MeV region, Zr oscill. of equilib. mean charge 4-19250
 He ion+Cd(Sn)(Te)(I)(Ba) surface impact, L-shell X-ray prod. cross section 4-12004
 He ions+Cu(Ti) foils, total K-shell vacancy prod. cross sections for 200 to 1600 keV/amu ³He 4-9985
 He⁺+surface impact, M-shell, X-ray prod., survey 4-12005
 He⁺+surface impact, M-shell, X-ray prod., survey 4-12005
 Hg₂Cd₂Te, anodic film HgTeO₃ composition 4-50660
 K₂O-SiO₂ glass, atomic behaviour at fracture surface, molecular dynamics simulation 4-56133
 Li ion+surface impact on elements 24≤Z≤60, K-shell ionisation cross sections 4-9984
 Li⁺ fast ion impact on gas targets and C-foils, autoionis. 4-11203
 Mg, F(Ne) ion bombardment, ionisation cross sections of inner electron shells, ion X-ray emission 4-12002
 MoO₃-BiPO₄ biphase catalyst, low energy ion scatt. study 4-46828
 N⁺, enhanced yields of different charge states at 180° backscatter 4-16281
 Na, reflected D₂⁺, negative charge-state fraction, trajectory effects 4-11986
 Nb, secondary ion mass and energy spectra sputtered by Br⁸⁺ MeV bombard. 4-46388
 Ne⁺, collision with Mg, Al and Si target, autoionisation state form. 4-25844
 Ne⁺, Ne⁺⁺ form. and autoionis. at Mg surface 4-9954
 Ni (110), clean and with adsorbed O, surface anal. by AES induced by surface channelled ions 4-30588
 Ni (110), surface relaxation, high energy ion scatt. study 4-25135
 Ni (110) surface, adsorbed O, He⁺ and Li⁺ scatt. and neutralisation 4-11987
 Ni, adsorbed CO, electron- and ion-induced desorption studies 4-29809
 Ni silicides, ion beam induced surface modification, AES study 4-7297
 Ni-Fe polycryst. magnetostriuctive alloy, ion-electron emission under Ar⁺ or He⁺ bombard. 4-46406
 NiFe (110) surface, He⁺ scatt. and interaction, optical radiation study 4-11994
 Oⁿ⁺ (n=1-4), excitation by C foil, metastable function yield 4-12003
 Re surface, X-ray photoelectron spectrosc. investig. using Ar ion bombardment 4-30598
 Rh (001) surface CO desorption by He⁺ and Ne⁺ impact 4-11404
 Sc, heavy ion bombardment, secondary ion emission 4-11991
 Si (100), (2×1) reconstructed, ion beam scatt. study 4-7298
 Si (111), He⁺ impact, short wavelength photon emission 4-49145
 Si (111) He⁺ scatt. energy loss, energy and ang. depend. 4-11996
 Si, Auger electron emission excited by low-energy Ar⁺ bombardment (Chinese) 4-7290
 Si, F(Ne) ion bombardment, ionisation cross sections of inner electron shells, ion X-ray emission 4-12002
 Si, ion-surface backscattering of 1 MeV He ions, computer simulation 4-16285
 Si p-n junction anal. by ion-induced Auger electrons, surface pot. 4-25841
 Si, positive secondary ion emission, O conc. depend. enhancement 4-46390
 Si, reactive sputter Ar⁺ ion etching study 4-25882
 Si, secondary ion yields, O₂⁺ bombard. incidence angle effects 4-46389
 Si, thin metallic markers redistribution under ion bombardment 4-51429
 Siⁿ⁺+metal surface, ionisation and electron transfer for K-, L- and M-shells 4-9988
 Si₃N₄, Auger electron emission excited by low-energy Ar⁺ bombardment (Chinese) 4-7290
 SiO₂, thin metallic markers redistribution under ion bombardment 4-51429
 Ta, heavy ion bombardment, secondary ion emission 4-11991
 Ta, secondary ion mass and energy spectra sputtered by Br⁸⁺ MeV bombard. 4-46388
 Ti atoms sputtered from clean and monolayer O₂ covered surface, electronic excitation 4-46404
 TiB₂, particle and energy reflection coeff. 4-40591
 TiC (110), preferential sputtering under Ar⁺ ion bombard., ion scatt. spectroscopy study 4-30587
 TiC, particle and energy reflection coeff. 4-40591
 TiC single cryst., surface interaction study with H ions by AES and flash desorption spectroscopy 4-51433
 W (100), Cs covered, Li⁺ ion scatt., Li⁰ form. 4-46414
 W (110), K ion and atom scatt., gas-surface pot. determ. from hyperthermal scatt. 4-30592
 W, polycrystalline cesiated surface, H⁺ scattering, H⁻ formation 4-7291
 W surface, (100) and (110), scatt. of fast protons incident at grazing angles 4-51443
 W surface, fast proton beam glancing scatt., computer simulation 4-57057
 WO₃, particle and energy reflection coeff. 4-40591
 Y, heavy ion bombardment, secondary ion emission 4-11991

ion thrusters *see* ion engines

ionic conduction in liquids *see* electrical conductivity of electrolytic liquids; electrical conductivity of liquids

ionic conduction in solids

see also superionic conducting materials

- alkali phosphate glass, with transition metal oxides, nonohmic effects 4-20400
- alkali silicate glasses, elec. conductivity anal. (*Russian*) 4-2377
- alkaline earth fluorides: rare earth, heavily doped, ionic cond. studies 4-45395
- anodic oxide films, kinetics of ionic migration and relaxation 4-12218
- borate glass, struct. and ion motion, NMR studies (*German*) 4-2095
- ceramics, Maxwell calcs. of elec. cond. 4-25088
- charge transport quantisation and ion charge density 4-50561
- cryptand[2.2.2] complexes with alkali metal and alkaline earth halide, ionic cond. 4-45412
- fluoride glasses, anionic cond. study 4-45403
- fluorides, F⁻ ion conductors, props. and appl. 4-6555
- fluorides, ionic cond., NMR and neutron diff. 4-45399
- glasses, ionic cond., theoretical model for mixed alkali effect 4-45406
- glassy and amorphous materials, fast ion motion 4-34688
- high band gap ion conductors, electronic and ionic cond. 4-39998
- hydrocarbons, irradi., DC conductivity and geminate ion recombination, model calcs. 4-29682
- ice, pulse irradi., H₂O₂ effect on mixed cond. 4-31001
- ice crystal, hexagonal, H⁺ mobility in bulk and surface, PMR investig. 4-30291
- inorganic glasses, thermodynamic approach of mixed alkali effect on ionic cond. 4-45405
- ionic crystals, bulk cond., polarisation and defect exchange 4-45408
- melting and ionic cond., correlations 4-39445
- mixed oxides, doped, vacancy binding energy, electrostatic screening contrib., linear response theory 4-29468
- NaCl, dislocation pipe diffusion 4-15691
- Nernst-Einstein equations and cross phenomenological coeffs. interpretation 4-20392
- oxide layers on metals, oxidation rate rel. to electronic and ionic cond. 4-57411
- photographic emulsion layer electrophys. characts. (*Russian*) 4-48237
- poly(ethylene oxide) complex with LiClO₄ and NaClO₄, dielectric relax. study 4-25679
- polyethylene oxide₄LiCF₃SO₃ films, ionic cond., atmospheric water effects 4-45410
- (polyethylene oxide)₁₀NaI, ionic cond., NMR and DSC meas. 4-6556
- (polyethylene oxide)₈LiCF₃SO₃, ionic cond., NMR and DSC meas. 4-6556
- polyethylene oxide-alkali salt complexes, ionic cond. props., appl. as cond. coatings 4-34709
- polypropylene-paper composites, elec. cond. props. 4-34972
- potassium hydrogen maleate crystals, pure and Cu²⁺ doped, transport props. and thermal studies 4-39567
- solid state ionics, conf., Grenoble, France (July 1983) 4-31962
- transition metal dichalcogenides, layer type, intercalated, phys. props., review 4-34865
- AgBr emulsion grains, ionic conductivity, influence of triazindolizine 4-15681
- AgBr, ionic cond., activation volumes in high temp. region 4-45393
- AgBr:K⁺(Rb⁺), diffusion study and ionic cond. 4-15706
- AgCl, ionic cond., activation volumes in high temp. region 4-45393
- AgCl:K⁺(Rb⁺), diffusion study and ionic cond. 4-15706
- Ag₂KI₂, superionic conductor, ionic cond., metastable states and β→γ transitions 4-34696
- Ag₂S-GeS₂-AgI glass system, ionic conductive, solid state battery appl. 4-41328
- Al₂O₃ particle reinforced Na₂O-B₂O₃-SiO₂ glass, density, AC cond., thermal expansion, transform. range 4-39565
- β-Al₂O₃, struct., props. and production, review 4-51596
- α-Al₂O₃:Cr³⁺(Y³⁺), doped and undoped, diffusion and elec. cond. studies 4-15694
- β-Al₂O₃-Na₂O, ceramics, separability of inter- and intragranular resist. 4-50574
- Al₂O₃-SiO₂, mullite, O ion conductivities and defects 4-45407
- Ba²⁺-β"-alumina, ion transport study 4-25082
- BaFBr, flux grown, ionic cond. meas. 4-50568
- Ba_{1-x}U_xF_{2+2x}, ionic cond. and sp. ht. anomaly 4-45396
- Bi_{0.95}Y_{0.05}OF, stabilised high temp. form, struct. and elec. props. 4-6349
- Ca²⁺-β"-alumina, ion transport study 4-25082
- Ca₂F-LaF₃ solid solns., ionic cond. studies 4-56069
- Ca₂F-SrF₂ solid solns., ionic cond. studies 4-56069
- Ca_{1-x}U_xF_{2+2x}, ionic cond. and sp. ht. anomaly 4-45396
- Ca₂V₂O₇, electrophysical props. 4-56400
- Ca₂(VO₄)₂, electrophysical props. 4-56400
- CdF₂, bulk-cond. determ. from TSC meas. 4-15686
- CdO-ZnO-P₂O₅ glasses, high field cond. 4-39919
- Cd_{0.75}PS_{0.25}M_{0.5} (M=Na, K, Rb, Cs) lamellar intercalation cpd., Raman spectra 4-46273
- Co_{1-x}O:Li, doped and undoped, chem. diffusion coeff., elec. cond. meas. 4-15695
- CsPbBr₃, ionic concl. meas. 4-29691
- CsPbCl₃, impurity doping, ionic concl. meas. 4-29691
- Cs_{0.7}(Ti_{0.65}Mg_{0.35})O₄, ion exchange, chem. and struct. anal. 4-7711
- Cs₂TiNbO₇, ionic cond., cryst. struct., IR spectra, TGA studies 4-56073
- CuCl-RbCl, phase diagram, thermal anal., X-ray diff., ion cond. 4-29692
- HTi₂NbO₇·2H₂O, ionic cond., cryst. struct., IR spectra, TGA studies 4-56073
- H(UO₂PO₄)₄H₂O, proton diffusion, NMR study 4-29684
- HfO₂-La₂O₃, elec. cond., ion transport number, defect struct. 4-11561
- KBiF₄, low-temp. cryst. struct. and ionic cond. 4-20167
- KCaF₃, ionic cond. and NMR relax. studies 4-45398
- KCl, quenching effect on impurity-vacancy dipoles 4-11335
- KCl-NaCl mixed crystals, melt grown, ionic cond. meas. 4-29679
- K₂(Ga₂Ge_{1-x})O₂, cryst. chem. and fast ionic cond. 4-34698
- KI:Eu²⁺, X-irrad., luminesc. and cond. meas., impurity cluster effects 4-16241
- KMgF₃, ionic cond. and NMR relax. studies 4-45398
- KMnCl₃, ionic concl. meas. 4-29691
- K₂O-Ga₂O₃-MgO solid solution, single cryst., elec. cond., lattice parameter (*Japanese*) 4-50580
- K₂SO₄ seed electrode mass balance in arc-mode MHD channel 4-26300

ionic conduction in solids continued

- KSr₂F₃, struct., ionic cond. and conduction path 4-45109
- K₂TiO₂(B), bronze, physical props. study (*French*) 4-51146
- KTiOPO₄, dielectric const., ion cond., nonlinear temp. depend. 4-40328
- K₂(Zn_{1-x}Ge_{1-x/2})O₂, cryst. chem. and fast ionic cond. 4-34698
- La_{1-x}Ba_xF_{3-x}, F mobility, NMR relax. time study 4-45397
- La_{1-x}Ba_xF_{3-x}, ionic cond. and ¹⁹F NMR spin-spin relax. 4-45400
- LiAlFe_{1-x}Cl_x, ionic cond., phys. props. 4-34700
- Li₂B₄O₇, amorphous, ionic cond. during pre-crystallisation process (*Chinese*) 4-50566
- LiCF₃SO₃-polyethylene oxide 4-45409
- Li_{3-x}Ca_xCeO₆, ionic cond. and cryst. struct. 4-29685
- LiCl-FeCl₂ system, phase diagram and ionic cond. 4-34707
- LiCl-MCl₂ (M=Mg, V, Mn), solid soln., struct., ion motion and cond. 4-34705
- LiClO₄-polyethylene oxide electrolytes, conductance, radiation induced crosslinking effects 4-45411
- LiF:Mg, Ti, impurity defect interactions, optical absorpt., ESR, and ionic cond. meas. 4-15517
- Li₃Fe₂(PO₄)₃, high ionic cond. and at. struct. 4-56071
- Li₂GeO₄-Li₂SiO₄-Li₂VO₄, ionic cond. meas. (*Chinese*) 4-50565
- LiI-Al₂O₃ composite electrolyte, phys. props. 4-34702
- LiI-Al₂O₃ solid electrolytes, NMR studies 4-35243
- LiI-SiO₂ composite, enhanced ionic cond. 4-34703
- LiI·H₂O and LiI·D₂O, Li⁺ ion diffusion and water mol. reorientations, NMR study 4-34701
- Li₁La_{1/3}Nb_{1-x}Ti_xO₃, ionic cond., effect of two-dimensional vacancy sublattice, NMR obs. 4-56072
- Li_{4-2x}Mg_xSiO₄, solid electrolyte, resist. and struct., influence of Mg addition 4-56068
- Li₃N, Haven ratio and correlation effects in diffusion 4-15689
- Li₂N:Al(Cu)(Mg)(H), ionic cond. and defect migration 4-25085
- Li₂Ni₂, ionic cond., OH⁻ anion effects, NMR and PMR studies 4-45391
- Li₂Ni₂·LiOH solid soln., ionic cond., OH⁻ anion effects, NMR and PMR studies 4-45391
- Li₂Nd_{1/3}Nb_{1-x}Ti_xO₃, ionic cond. 4-56072
- Li₂O, single crystal and sintered pellet, ionic cond., OH⁻ impurity effect, 300-1150°C 4-15678
- Li₂O-Al₂O₃-Nb₂O₅ glasses, rapidly quenched, struct. and props. 4-46538
- Li₂O-B₂O₃ thin films, ionic cond. and struct. 4-2375
- Li₂O-MoO₃-WO₃, roller quenched glasses, transitions, elec. cond. (*Japanese*) 4-40759
- Li₂S-GeS₂ glasses, ionic Li cond., NMR studies 4-6546
- Li₂S-GeS₂-LiI glass system, ionic conductive, solid state battery appl. 4-41328
- Li₂S-Sb₂S₃ solid solutions, cryst. struct. and phys. props. (*French*) 4-34704
- Li₂Sc₂(PO₄)₃, high ionic cond. and at. struct. 4-56071
- Li₂SiO₄-Li₂VO₄, ionic cond. meas. (*Chinese*) 4-50565
- LiTaO₃ (H), Li ordering, electron and neutron diff. study rel. to ionic cond. 4-34465
- Li₄Ti₂O₇, spinel, ion exchange reactions 4-7710
- Li₂TiO₂(B), bronze, physical props. study (*French*) 4-51146
- Li₂VO₄-Li₂SiO₄-Li₂GeO₄ ternary system, phase transitions and ionic cond. (*Chinese*) 4-2322
- Li_{3+x}V_{1-x}Si₂O₄, Li⁺ ion conductors, NMR study 4-34706
- Li_{4-2x}Zn_xSiO₄, solid electrolyte; resist. and struct., influence of Zn addition 4-56068
- MgF₂-Li, nature of defects, diffusion and ionic cond. 4-15462
- MgO:Cr, arc-fused, DC conductivity, hysteresis 4-34693
- Mn_{1-x}Ag_xPS₃, structural vibr. and cond. study 4-50273
- Mn_{1-x}Cu_xPS₃, structural vibr. and cond. study 4-50273
- MoNb₂O₃, Li insertion and cond., secondary cell appl. 4-50579
- MoNb₂O₄, Li insertion and cond., secondary cell appl. 4-50579
- NH₄Zr₂(PO₄)₃, hydrothermal growth, cryst. struct., decomp. 4-45041
- (2NH₃·H₂O), cryst., H⁺ transfer patterns 4-34694
- NaBr, point defect energy parameters, ionic cond. study 4-24811
- NaCl, electron irradi., colloid prod. 4-20256
- NaCl:Ph, nucleation processes, ionic cond. and optical spectra 4-15651
- Na₂Co_{2-x}Y_xelectrolyte-Na cell, elec. props. study 4-52125
- Na₂CrO₂ layered structures, ion exchange reactions 4-7710
- Na₂(Ga₂Ge_{1-x})O₂, cryst. chem. and fast ionic cond. 4-34698
- NaMgF₃, ionic cond. and NMR relax. studies 4-45398
- Na₂Mg₂F_{2-x}O_{4-2y+x}F_{2y-x}, cryst. growth, cationic cond. meas. 4-50572
- NaPO₃, glassy, nature of elec. cond. 4-20401
- Na₂TiO₂(B), bronze, physical props. study (*French*) 4-51146
- NaYF₄ pellets, ionic cond. meas. 4-50569
- Na₂(Zn_{1-x}Ge_{1-x/2})O₂, cryst. chem. and fast ionic cond. 4-34698
- Na_{1+x}Zr₂Si₂P_{2-x}O₁₂, NASICON, comp., cond. mechanism, X-ray diff. study 4-2178
- Na_{1+x}Zr_{2-x}Y_x(AsO₄)₃, ionic cond. and crystal chem. 4-56066
- Pb²⁺-β"-alumina, ion transport study 4-25082
- Pb-PbF₂, cryst. struct., anion disorder and conduction path 4-45106
- Pb-PbF₂, thermal hysteresis of anion disorder and ionic cond. 4-45107
- Pb₂, electron-hole cond., Hebb-Wagner polarisation 4-29690
- Pb(NO₃)₂:K⁺(Na⁺), ionic cond. and dielec. loss meas., 100 to 400°C 4-6552
- Pb_{1-x}U_xF_{2+2x}, ionic cond. and sp. ht. anomaly 4-45396
- RbBiF₄, ionic cond. and NMR meas. 4-15683
- (Rb₂K₁₋₂)I solid solns., self-diffusion and ionic cond. 4-15682
- Rb₂Ti₆O₁₃ tunnel struct., ion exchange reactions 4-7710
- Sc₂O₃-ZrO₂-Al₂O₃, elec. cond., effect of Al₂O₃ and monoclinic ZrO₂ 4-6545
- SiO₂-Na₂O-CaO glass, containing Cu ions, γ-irradiated, elec. cond. study 4-2373
- Sr²⁺-β"-alumina, ion transport study 4-25082
- SrF₂:La, polarisation and depolarisation processes 4-16140
- Sr_{1-x}La_xF_{2+x} solid soln., ionic cond. study 4-34695
- Sr_{1-x}U_xF_{2+2x}, ionic cond. and sp. ht. anomaly 4-45396
- α-Ta₂O₅:Sc₂O₃, defects and ionic transport 4-15693
- TiO₂-V₂O₅-P₂O₅ glasses, elec. cond. 4-15679
- TiNb₂O₇, defect pyrochlore struct., Ti³⁺ ion mobility, NMR study 4-34697
- TiNb₂O₇ pyrochlore, Ti ion mobility, NMR study 4-40269
- WnNb₂O₃, Li insertion and cond., secondary cell appl. 4-50579
- W₂Nb₂O₄, Li insertion and cond., secondary cell appl. 4-50579
- α-Zr(APO₄)₂ (A=Li, Na, K), ionic cond. and dielec. props. 4-6551
- Zr₂H(PO₄)₃, hydrothermal growth, cryst. struct. 4-45041
- ZrO₂, CaO stabilised, low temp. prep., AC cond. 4-25926

ionic conduction in solids continued

- ZrO₂, CaO-(MgO) partially stabilised, aged, elec. cond. and microstruct. relationship 4-50575
- ZrO₂ films, stabilised, grain boundary resistivity 4-6547
- ZrO₂, Y₂O₃ stabilised, grain boundary resistivity rel. to Al₂O₃ and SiO₂ additions 4-56076
- ZrO₂-P₂O₅-M₂O-SiO₂, M=Li, Na, K, Ag, struct., ionic cond., and optical spectra (French) 4-24796
- ZrO₂-Y₂O₃, TZP, high ionic cond. 4-56067
- ZrO₂-SiO₂, reaction of formation, EMF method 4-57594

ionic conductivity in solids see ionic conduction in solids

ionic thermocurrents see thermally stimulated currents

ionisation

- see also associative ionisation; autoionisation; charge exchange; electron attachment; electron capture; field ionisation; ion recombination; ionisation of atoms; ionisation of gases; ionisation of liquids; ionisation of molecules; ionisation of solids; ionisation potential; Penning ionisation; photoionisation; surface ionisation
- flames, trace metal anal., laser-enhanced ionisation spectrometry 4-26248
- flames, trace metal anal. by laser enhanced ionisation microwave detection 4-26250
- flames 4-26249
- insulating materials, discharge damage, breakdown partial discharge mechanism and failure study 4-16158
- Thomas-Fermi-Von Weizsaecker theory, degree of ionisation 4-5997

ionisation chambers

- absorbed dose determination with a water calorimeter in comparison with an ionisation chamber 4-21817
- alpha-particle spectrometry, detector system (Slovak) 4-33254
- anomalous saturation characteristics of a parallel plate ionization chamber (Japanese) 4-28285
- avalanche counter, parallel grid, transmission time studies 4-5097
- barrel shower counter for the Mark III detector at SPEAR 4-54549
- bremstrahlung radiation energy flux density, precision measurement 4-5117
- CELLO, magnetic detector of PETRA, design and performance 4-9629
- CLEO, recent results and performance 4-9630
- Crystal Box detector, status, for rare μ decays 4-28305
- DIOGENES double torus ionisation chamber for light charged particle accompanied fission expts. 4-18875
- dose calibrator ionisation chambers, calibration standard 4-14229
- drift chamber instrumentation for handling high-intensity separated beams at AGS 4-43769
- drift chamber spectrometer, calibration and performance 4-974
- electret, dosimeter for mixed gamma rays and fast neutrons (Czech) 4-23504
- electret ionisation chamber for X- and γ -rays, energy response 4-43654
- EM calorimeters using wire chambers 4-18853
- fission fragment time of flight and energy meas. 4-54529
- gas-discharge detector for obtaining nuclear gamma resonance electron spectra 4-22890
- graphite ionisation chamber, central electrode diameter and material rel. to response to 60 Co γ -rays 4-5105
- instantaneous fission neutron meas., efficiency of fission event recording depend. 4-54562
- large area detectors for intermediate energy heavy ion collisions 4-18876
- longitudinal drift chamber, review 4-9642
- low noise, use in transmission meas. of beams 4-14265
- multineedle counter with cathodic focusing for fast TSEE dosemeter readout 4-980
- multineedle detectors readout 4-23482
- multistep avalanche chamber for β radiochromatography 4-5083
- neutron dosimetry, gamma-ray sensitivity, exposure factor of ionisation chamber (Chinese) 4-28290
- neutron dosimetry with ionisation chambers 4-33182
- one-dimensional curved detector for X-ray crystallography 4-24688
- pancake and thimble type ionisation chambers made in Taiwan, design and props. 4-54538
- parallel plate ¹⁰B neutron detector 4-54556
- parallel plate avalanche chamber as endcap detector for TPC 4-23465
- parallel plate avalanche counter with thin film electrodes 4-23498
- particle identification by ionisation sampling 4-18855
- plastic cathode for MWPC and proportional counter 4-5094
- position sensitive, large area, for heavy-ion nuclear reaction research (Chinese) 4-986
- position sensitive parallel plate avalanche counters study 4-54544
- position sensitive parallel plate avalanche detectors test and performance in heavy-ion coincidence meas. 4-18862
- principles techniques and applications 4-43766
- proton detector, cylindrical proportional wire chambers and scintillators 4-5093
- pulsed ionizing radiation dosimetry based on microwave probing 4-14231
- radionuclide calibrator, National Physical Laboratory, construction and performance 4-14230
- response to sudden change of ambient temp., medical phantom expts. 4-8117
- saturated avalanche and self-quenching streamer discharge modes (Chinese) 4-48884
- single pulse X-rays, effective energy meas. (Japanese) 4-28289
- spatial resolution of the time projection chamber at TRIUMF 4-54548
- TASSO, construction and performance 4-9118
- tissue-equivalent ionisation chambers, over-response at low energies, effect of high-Z surface contamination 4-41633
- TOPAZ collaboration at TRISTAN e⁺e⁻ collider, progress report 4-9643
- wire chamber conf., Vienna, Austria (February 1983) 4-17624
- wire chambers, three new designs, description 4-33264
- Ar liquid ionisation detectors development as spectroscopic instruments 4-964
- Ne(AR), solid, prototype calorimeter performance 4-956
- Xe liquid ionisation detectors development as spectroscopic instruments 4-964

ionisation gauges

- cryopump speed meas. with AVS/ASTM and ISO test domes 4-48145
- modulating ion current gauge for total press. meas. below 10⁻¹⁰ Torr 4-48148
- pressure meas. of T gas, meas. of β^- decay current, fusion reactor appl. 4-267

ionisation of atoms

- see also atomic electron impact ionisation
- alkali halides, mass spectra, static sample temp. obtained with pulsed laser induced ion generation 4-1283
- alkali metal at. vapours 4-1108
- alkali metal atoms, excited d-states, photoionis. cross-sections, Hartree-Fock calcs. 4-1115
- alkali metal atoms, excited state, photoionisation, zeros in dipole matrix elements 4-1114
- alkali metal atoms, excited states, photoionisation threshold cross-sections calcs. 4-19020
- alkali metal atoms, multiphoton ionisation, electron polarisation 4-1107
- alkali metal atoms, photoionisation, relativistic many-body calcs. 4-1123
- alkali metals, mass spectra, static sample temp. obtained with pulsed laser induced ion generation 4-1283
- atom-ion collisions, charge exchange, ionisation, variational continuum distorted waves 4-14533
- atom-ion collisions, inner shell excitation and ionisation, projectile electron screening effect 4-19175
- atomic negative ions, electron photodetachment in near-threshold region 4-1104
- atomic negative ions, electron photodetachment is near threshold region 4-1105
- Auger profiles, classical and quantal, due to inner shell photoionisation 4-43859
- autoionisation, laser-induced strong-field, double-reson. effects 4-48987
- charge transfer and ionisation final state interactions, Faddeev-Merkuriev eqns. calcs. 4-10025
- chemisorbed mols., photoionis. spectra, shape resons. 4-19025
- electron loss to continuum cusps, algebraic calcs. 4-19187
- excited atoms, slow collisions, ionisation processes investigated using plasma electron spectroscopy 4-9936
- fast ion+atom collisions, doubly differential ionis. cross-section calcs. 4-9942
- fast-foil ion beams ionisation in EM fields 4-38309
- focused beams, three-photon resonantly enhanced multiphoton ionisation, third harmonic generation 4-19017
- free diatomic molecules, photoionis. spectra, shape resons. 4-19025
- gas ionisation and electron capture cross-sections from proton impact 4-19185
- heavy ion-atom collisions, δ -electron ejection anisotropy at polar and azimuthal angles 4-28548
- heavy particle collisions 4-19152
- high Rydberg atoms, photoionisation by CO₂ laser radiation study 4-18949
- high-Z atoms, photoionisation, Cooper minima in 6p subshell, relativistic effects 4-1119
- high-Z elements, 5p subshell photoionisation, relativistic effects 4-1121
- highly charged ion+atom collisions, low energy autoionis. electron emission, spectra 4-10026
- inert gas ions, ionising collisions, n^onp⁶ 1S state Auger study 4-33380
- inner shell direct ionization in slow atomic collisions 4-19136
- inner-shell ionisation during nucl. reson. scatt., low energy approx. calcs. 4-19184
- inner-shell ionisation probing of at. struct. and dynamics 4-19028
- inner-shell ionization by relativistic electron impact 4-43991
- inner-shell photoionisation near threshold, energy shift of emitted X-rays 4-1124
- ion+atom collisions, charge changing cross section, effective charge 4-5342
- ions, Z=6 to 30, autoionisation width, relativistic calcs. 4-33349
- isolated atoms, collective effects rel. to photoionis. 4-19022
- K-shell ionisation cross sections, relativistic corrections 4-48997
- L-subshell ionis. 4-9989
- laser-induced chemiionisation theory 4-14373
- lines excitation by photoionisation of C I 4-3919
- metal surface, atom impact, negative ion sputtering 4-11982
- multi-electron transitions in atoms and mols., HF transition theory 4-5126
- multiphoton ionisation, cross sections and photoelectron ang. distribis. 4-19021
- multiphoton ionisation including free-free transitions, basis set approach 4-9735
- multiple ionisation effects due to recoil in atomic collisions 4-14502
- negative ion, photodetachment of electron by strong EM field, threshold singularities 4-1109
- negative ions, electron photodetachment, continuum-continuum transitions, population trapping 4-19010
- nuclear reactions induced by heavy ions, recoil atoms ionisation 4-4896
- Penning electron ang. distrib. meas. 4-8991
- photoelectron spectrum near autoionising level, confluence of coherence 4-43858
- photoionisation, many-body calcs., review 4-19023
- photoionisation, relativistic and retardation effects, cancellation, Z n l depend. 4-1120
- photoionisation, time-depend. local density approx. calcs. 4-19024
- photoionisation cross-sections, one and two electron 4-1111
- post-collision interaction, Auger line shift 4-19026
- radiative transitions, quantum defect theory 4-38259
- recoil-atom ionisation, ionic charge distribution in heavy-ion reactions 4-18472
- resonantly enhanced multiphoton ionisation, UPS 4-38134
- Rydberg atom+molecule collision, excitation and ionisation, classical calcs. 4-19212
- semiclassical many-mode Floquet theory 4-9744
- Thomas-Fermi atom in strong mag. field, weak ionisation limit 4-48938
- Z=82 to 100, 6p subshell photoionisation, relativistic Cooper minima 4-9733
- Al from hexamethyl aluminium dissociation, multiphoton ionisation spectra 4-14488
- Al, inner-shell excitations, density-effect 4-9982
- Ar, 3p²4s excited state, photoionis. 4-1110
- Ar, 3p²4s excited states, photoionisation partial cross sections 4-1103
- Ar, inner shell photoionisation, ang. momentum exchange 4-9741
- Ar K shells, electron impact ionisation, threshold behaviour 4-5407
- Ar+H₂⁺(H₃⁺)(He⁺), electron loss, single differential cross-sections calcs. 4-9943
- Ar+H⁺(He⁺), multiple ionis. by charge transfer and direct ionis. 4-10032
- Ar+Ne* collision, thermal energy ionis. cross-section 4-9908
- Ar³⁺+He(Ne)(H₂), electron loss peak, charge state depend. 4-9944

ionisation of atoms continued

- Ar⁶⁺ + He(Ne)(H₂), electron loss peak, charge state depend. 4-9944
 Ar⁴⁺ + H₂, Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
 Ar⁴⁺ + He(Ne), Auger electron prod. studied by zero-degree Auger spectroscopy 4-5337
 As, sputtered from GaAs, ionisation probabilities as primary ion energy function 4-46393
 Au, photoelectric cross sections around K edge 4-19019
 Au + light ion impact, L-subshell ionisation 4-19178
 Au + N⁺, L-shell ionis., 3.0-18.2 MeV 4-23794
 Ba, aligned 6snd³D₂ Rydberg states, photoionis., 5d7d state effects 4-1133
 Ba, autoionising states, multiplet excitation 4-1099
 Ba, laser excited, photoionis. 4-1130
 Ba, laser pumped vapour, IR forward scatt. meas., resonant ionisation behaviour 4-5158
 Ba, laser-pumped, time resolved excitation and ionisation 4-19016
 Ba, Rydberg state, Penning ionisation, photoionisation, autoionisation, electron spectra 4-1253
 Ba, two-step autoionisation, config. mixing 4-1096
 Ba²⁺, inner 4d shell photoionisation, orbital collapse 4-9732
 Be, photoabsort., electron correl. effect 4-43854
 C I-IV photoionisation cross-section spectra 4-48994
 C, X-ray emission model for laser produced plasma on perspex 4-10828
 Ca, photoionisation, CI calcs. R-matrix method 4-5187
 Cd, photoionisation, Cd⁺ fluoresc. radiation linear polarisation 4-33377
 Cd⁺ (4d⁻¹.²D_{5/2}) state alignment after photoionis. using synchrotron radiation 4-1128
 Cl⁻ discharges optogalvanic photodetachment spectroscopy 4-23668
 Cl¹¹⁺ + He collisions, K X-ray prod. cross section meas. 4-9987
 Cl⁹⁺ + KBr(Ti)(Mn) surface (q=3 to 10), K-shell X-rays and multiple vacancy prod. 4-9986
 Cs, 6d excited state photoionisation 4-54650
 Cs, autoionising continua, Rydberg series, UV spectra 4-9728
 Cs beam, multiphoton ionis., photoelectron energy and ang. distrib. 4-9739
 Cs, excited states, photoionisation threshold cross-sections calcs. 4-19020
 Cs I, quantum defects of nS, nP and nD levels 4-38111
 Cs, relative photoionisation cross-section meas. 4-1126
 Cs, relative photoionisation cross sections 4-9730
 Cs⁺, inner 4d shell photoionisation, orbital collapse 4-9732
 Cu, inner-shell excitations, density-effect 4-9982
 D⁺ + inert gas (H₂), detached electron prod., energy spectra 4-9959
 Dy + He²⁺, ionisation, ang. correl., L X-ray and α particle scatt. 4-28546
 F I-VII photoionisation cross-section spectra 4-48994
 F, photoionisation from ionisation threshold, ion yield curve 4-43855
 F⁺ + Mg(Al)(Si) ionis. cross-section and X-ray emission 4-12002
 F¹⁸⁺ + metal surface, ionisation and electron transfer for K-, L- and M-shells 4-9988
 Fe²⁴⁺, electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
 Ga from trimethyl gallium dissociation, multiphoton ionisation spectra 4-14488
 Ga I, autoionising levels investig. 4-1100
 Ga, sputtered from GaAs, ionisation probabilities as primary ion energy function 4-46393
^{158,160}Gd + He⁺, K-shell ionisation cross section meas. from intensity ratios of K X-rays to 2⁺ → 0⁺ γ -rays 4-54153
 H atoms, electron scatt. above ionisation threshold 4-43989
 H in strong magnetic fields, atom behaviour, variational calcs. 4-18954
 H, multiphoton ionisation, drag current density calc. 4-1108
 H, resonance four-photon ionisation at 365 nm in H₂/D₂/O₂/Ar flame 4-1102
 H⁺, photodetachment cross section, polarised orbital method 4-9731
 H-like atoms, Coulomb excitation by molecular cluster of point charges 4-19191
 H + Ar⁴⁺(Cq⁺)(Oq⁺), electron capture, ionisation, crossed beam coincidence study 4-19177
 H + He, electron loss into continuum, H⁺ form. 4-9903
 H + He⁺ charge transfer and ionisation processes 4-10056
 H⁺ + inert gas (H₂)(N₂)(O₂), detached electron prod., energy spectra 4-9959
 H⁺ + Ag(In)(Sn)(I), L-subshell ionisation cross section and L-X-ray production 4-9926
 H⁺ + Ar(Cu)(Kr)(Ag)(Xe), L-shell ionisation 4-14518
 H⁺ + Au(Bi)(Pb)(U), M-subshell ionisation cross sections X-ray prod. cross sections 4-9927
 H⁺ + Cd(Sn)(Te)(I)(Ba) surface impact, L-shell X-ray prod. cross section 4-12004
 H⁺ + Cu(Mo)(Ag), K-shell ionisation at large scatt. angles 4-9992
 H⁺ + Gd(W), K-shell ionisation cross sections 4-1250
 H⁺ + Mo(Pd)(Sn)(Ba)(Ce)(Nd)(Sm) collisions, total K-shell ionisation cross sections 4-9983
 He 2S metastable atoms, adsorbed on metal, deexcitation processes, effect of surface electronic struct. 4-33381
 He double-electron photoionis. cross-section, CI calcs. 4-1112
 He, highly excited, microwave ionis., anticrossings role 4-9740
 He in strong magnetic fields, atom behaviour, variational calcs. 4-18954
 He ion + Cd(Sn)(Te)(I)(Ba) surface impact, L-shell X-ray prod. cross section 4-12004
 He, ionisation by collision with fast protons 4-1257
 He ions + Cu(Ti) foils, total K-shell vacancy prod. cross sections for 200 to 1600 keV/amu ⁴He 4-9985
 He isoelectronic series above n=2 continuum, autoionis. states positions and widths 4-9949
 He, laser assisted electron impact ionization 4-14585
 He, photoabsort., electron correl. effect 4-43854
 He photoionisation cross-sections, for satellite processes, relaxed Hartree-Fock calcs. 4-5298
 He, resonance photoionisation to He⁺ (N=2), cross-sections calcs. 4-1116
 He⁻ (⁴P₀), photo-double detachment, near threshold meas. 4-1125
 He⁻, near threshold two electron photoionisation absolute cross section 4-19015
 He + H⁺, fast collision, electron loss double peak in forward direction 4-9945
 He + H⁺, elastic scatt., excitation and ionisation 4-9878
 He + H⁺, parity-unfavoured autoionising states, excitation cross-sections calcs. 4-9958

ionisation of atoms continued

- He + H⁺(He⁺)(Li⁺)(Li²⁺), autoionisation spectra 4-9948
 He + Si¹¹⁺, electron capture and loss cross sections 4-14534
 He⁺ + H(He⁺) charge transfer and ionisation processes 4-10056
 He* + Ne(AR), Penning ionis. and collisional destruction investig. 4-10011
 He*(2S) impact on Se surface, deexcitation mechanisms, electron spectra 4-30585
 He(5³P) + He, laser excited, thermal energy collisions, associative ionisation of Hornbeck-Molnar type 4-9931
 Hg photoionisation, strong interchannel coupling study 4-38137
 I⁻, discharge, optogalvanic photodetachment spectroscopy 4-23668
 In from trimethyl indium dissociation, multiphoton ionisation spectra 4-14488
 In I, autoionising levels investig. 4-1100
 In sputtered from InAs, ionisation probabilities as primary ion energy function 4-46393
 K⁺, photodetachment, spin correl. study 4-23669
 K⁺ + Ne(Ar)(Kr)(Xe), ionis. and charge exchange cross-sections, 0.5 to 7.0 keV 4-10038
 Kr, 4s → 4p photoelectron ang. distrib. calcs. 4-23667
 Kr excited state, photoionisation, elec. field induced reson. 4-28411
 Kr ions + Kr(Xe), ionisation and inelastic energy losses, differential meas. 4-49151
 Kr low-level resonant ionisation detect. using tunable VUV light 4-1101
 Kr, shock-heated at electron densities from 1.50 × 10¹⁹ m⁻³, ionisation relax. 4-14503
 La³⁺, inner 4d shell photoionisation, orbital collapse 4-9732
 Li ion + surface impact on elements 24 ≤ Z ≤ 60, K-shell ionisation cross sections 4-9984
 Li, photoabsort., electron correl. effect 4-43854
 Li⁺ excited states, lifetime and hyperfine struct. 4-9723
 Li⁺ fast ion impact on gas targets and C-foils, autoionis. 4-11203
 Li⁺ + Li⁺ collisions, charge transfer and ionis. cross-sections 4-10039
 Li²⁺ + Ar(He)(N₂), electron capture and loss, Li metastable ion form. 4-14538
 Mg, photoionization near threshold 4-38136
 Mn, 3d subshell photoionisation with excitation, reson. struct. 4-5186
 Mo⁴⁰⁺, electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
 N I-V photoionisation cross-section spectra 4-48994
 NF₃ + Ca(Sr)(Ba), integral reactive cross sections for chemiionisation 4-51964
 Na, ground state, photoionisation cross section, close-coupling calcs. 4-19007
 Na, laser excited, photoionis. 4-1130
 Na, laser modified electron scattering from a slowly ionizing atom 4-14586
 Na, multiphoton ionis., dynamic Stark effect influence on electron ang. distrib. 4-9736
 Na, new resonance in three-photon ionisation 4-38135
 Na, vapour, excited by high intensity laser, electron spectra of ionisation 4-14582
 Na + O₂(SF₆) (methylhalides), chemiionisation, laser optogalvanic effects 4-23801
 Na⁺ + Ar, ionis. and charge exchange cross-sections, 0.5 to 7.0 keV 4-10038
 Na*(np) + Na(35), associative ionisation and 2-photon laser induced collisional ionisation 4-9933
 Na(3P) + Na(3P), energy transfer and associative ionisation 4-9919
 Ne, 2p^{1/2} ns, nd⁺ autoionis. reson. 4-1098
 Ne, ionisation relax. behind shock waves in shock tube, non-Maxwell electrons and wall boundary layers effect 4-15001
 Ne, Ne** form. and autoionis. at Mg surface 4-9954
 Ne, Rydberg series, optogalvanic spectrosc. investigation 4-18947
 Ne⁺, Ne** form. and autoionis. at Mg surface 4-9954
 Ne-Ca discharge, quasi-resonant Penning ionisation, optogalvanic spectroscopy 4-5336
 Ne-1,3-butadiene(allylene)(acetylene)(benzene)(CO₂)(cyclohexane)(ethylene), collisional ionisation 4-57537
 Ne + Fe^q (q=6, 8, 9), δ -electron emission, triple differential probabilities meas. 4-19186
 Ne + H⁺, ionisation branching ratios and cross sections, VUV spectra 4-10115
 Ne + H⁺, Ne multiple outer shell ionisation 4-1252
 Ne + He metastable atoms, chemi-ionisation reactions at high energy 4-1249
 Ne²⁺ + Mg(Al)(Si) ionis. cross-section and X-ray emission 4-12002
 Ne²⁺ + Xe, electron capture, transfer ionisation, translational spectra 4-38313
 Ne*(²P₂) impact on Se surface, deexcitation mechanisms, electron spectra 4-30585
 Ne(2p^{1/2}ns,nd⁺), autoionisation resonances, multichannel quantum defect anal. 4-1095
 O I-VI photoionisation cross-section spectra 4-48994
 O, relative photoionisation cross-section meas. 4-1126
 O, X-ray emission model for laser produced plasma on perspex 4-10828
 Pb, photoelectric cross sections around K edge 4-19019
 Pb, reson. states, decay into exit channel, counterbalancing contrib. 4-14351
²⁰⁸Pb, small impact parameter K-shell ionisation probabilities and δ -electron spectra 4-19192
 Ra, photoionisation, multichannel interactions, relativistic RPA calcs. 4-1122
 Rb, excited states, photoionisation threshold cross-sections calcs. 4-19020
 Rb, relative photoionisation cross-section meas. 4-1126
 Rb, relative photoionisation cross sections 4-9730
 RbI, solid, vapour press. meas. using reson. ionisation spectroscopy 4-39452
 Rn, photoionisation, multichannel interactions, relativistic RPA calcs. 4-1122
 SF₆ + Ca(Sr)(Ba), integral reactive cross sections for chemiionisation 4-51964
 Se³²⁺, electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
 Si II, photoionis., quantum defect theory calcs. 4-1113
 Si¹⁰⁺ + metal surface, ionisation and electron transfer for K-, L- and M-shells 4-9988
 Ta, photoelectric cross sections around K edge 4-19019
 Ta photon induced L shell X-ray intensity ratios 4-48975

ionisation of atoms continued

- Tc detection by resonance multiphoton ionisation mass spectrometry 4-22106
 TI I, autoionising levels investig. 4-1100
 U, outer-shell and Rydberg states, photoeffect, dipole and quadrupole matrix elements 4-23672
 U⁹⁰⁺, ionisation cross sections 4-28554
 U⁹¹⁺, electron capture and ionisation cross sections 4-28554
 W, photoelectric cross sections around K edge 4-19019
 W photon induced L shell X-ray intensity ratios 4-48975
 Xe, inner 4d shell photoionisation, orbital collapse 4-9732
 Xe, ionisation relax. behind shock waves in shock tube, non-Maxwell electrons and wall boundary layers effect 4-15001
 Xe L3 shells, electron impact ionisation, threshold behaviour 4-5407
 Xe, multiphoton absorption, Xe²⁺ ions formation, laser pulse duration effects 4-1135
 Xe, multiphoton ionis., ang. distrib. of photoelectrons 4-9737
 Xe, multiphoton ionis. by strong fields, ponderomotive force and AC Stark shift 4-9738
 Xe, multiphoton ionisation, photoelectron ang. distrib. 4-19008
 Xe, Rydberg and autoionizing levels, RF optogalvanic detect. 4-18945
 Xe-H₂ mixture, excitational cross-section, shock-tube meas. 4-43955
 Xe+Ar³⁺, autoionising states form. and decay 4-9957
 Xe+SF₆, collisional ionisation kinematics 4-19211
 Yb⁻, autoionisation, narrow low-lying state positions and widths 4-19002
 Zn_n clusters (x=1-6), electronic struct. rel. to bulk Zn 4-28583

ionisation of gases

- see also atmospheric ionisation; electron avalanches; Townsend discharge*
 air, negative ionisation, effect on thymus glands of laboratory rats 4-31200
 air, pulse relativistic electron beam action, conductivity, ion form. rate and light flash 4-38933
 air ions for biological studies, phys. characts. and control 4-36270
 average ionisation energies of gas mixtures for X-rays 4-24516
 cathode sheath, nonequilibrium kinetics and gas heating 4-55548
 dichlorodifluoromethane-N₂ binary mixtures, breakdown strength and synergism factor 4-34226
 discharge lasers with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 effective ionisation rates in transient gas discharges, meas. 4-55480
 electroionisation discharge, electron-ion pair form. 4-2027
 flames, laser enhanced ionisation, physical mechanism investigation 4-19915
 gas ionisation and electron capture cross-sections from proton impact 4-19185
 gaseous mixture, Townsend first ionisation coeff. theory 4-34365
 neutral gas, propagation velocity of an ionization front maintained by a relativistic electron beam 4-1869
 nonlinear striation theory in low-temperature plasma 4-29279
 pre-breakdown swarm expis., metastable particles effect 4-34232
 Ar, recombination luminesc. from ionisation tracks produced by α -particles in high press. gas 4-971
 Ar-methane proportional counters, laser induced ionisation study 4-23475
 CO-SF₆-air mixtures, breakdown, attachment and ionisation 4-34225
 CO₂ TEA laser, semiconductor preionised, operation up to 100 Hz 4-1383
 H₂, ionisation and excitation yields on fast electron irradi. 4-55479
 He glow discharge, nonlinear ionisation wave packets, selfmodulation 4-39018
 Kr, recombination luminesc. from ionisation tracks produced by α -particles in high press. gas 4-971
 N₂ gaseous discharge, ionisation currents below Paschen's minimum 4-15321
 N₂ TEA laser, miniature, with automatically timed UV preionisation 4-24017
 N₂-O₂ mixture, breakdown ionising wave propagation 4-24670
 NO₂, detect. in atm. by atm. press. ionis. mass spectrosc. 4-16703
 SF₆ (-N₂) mixtures, electron transport coeffs. 4-34215
 SF₆ low pressure gas, ionisation waves 4-34224
 SF₆, nonlinear interactions of spontaneous ionisation waves 4-38930
 SF₆ preionisation effect on the time lag to breakdown (German) 4-20052
 SF₆-CO₂ mixtures, breakdown potential, ionisation and attachment meas. 4-24647
 SF₆-N₂ binary mixtures, breakdown strength and synergism factor 4-34226
 SF₆-N₂ mixtures, ionisation and attachment coeffs. 4-49922
 SO₂, detect. in atm. by atm. press. ionis. mass spectrosc. 4-16703
 Xe, recombination luminesc. from ionisation tracks produced by α -particles in high press. gas 4-971

ionisation of liquids

- p-dioxane, neat and mixtures, radiation-induced ionisation and excitation 4-28505
 electron attachment processes in molecular gases and nonpolar liqs. 4-33531
 polydimethylsiloxane silicone oil, photoionisation, photoconductivity 4-30022
 water, ionisation distrib. in small vols. on proton irradi., biological appl. 4-41583
 water, ionisation produced by electron beams beneath curved surfaces, radiotherapy appl. 4-8092
 CO₂, aq., heat capacities, volumes and temp. depend. of ionisation 4-39532
 He surface, trapped electron bound states, radiation field effects 4-11355
 KHCO₃, aq., heat capacities, volumes and temp. depend. of ionisation 4-39532
 KHSO₃, aq., heat capacities, volumes and temp. depend. of ionisation 4-39532
 N₂O₄, solid, temp. induced autoionisation, Raman study 4-56909
 NaHCO₃, aq., heat capacities, volumes and temp. depend. of ionisation 4-39532
 NaHSO₃, aq., heat capacities, volumes and temp. depend. of ionisation 4-39532
 SO₂, aq., heat capacities, volumes and temp. depend. of ionisation 4-39532

ionisation of molecules

- see also molecular electron impact ionisation*
 2-aminoazoles, UV spectral props., ionisation consts. 4-43896
 acetone, supersonic beam, multiphoton ionisation and fragmentations, mass spectra 4-33462

ionisation of molecules continued

- acetone enolate negative ion, unimol. decomposition and vibr. induced electron autodetachment 4-9849
 acetone peroxide, thermal ionis. on W(oxidised W) surfaces 4-49187
 acetylene, photoionisation cross sections 4-49101
 alkali earth metal atom-halogen mol. chemiionisation reaction 4-21452
 allyl alcohol, unimolecular dissoc., photoelectron-photoion coincidence 4-23748
 aniline, isolated mols., ps. pump-probe multiphoton ionisation, IVR and coherence study 4-28520
 aniline-He(CH₄) solvation, mol. supersonic jet studies 4-35878
 astrophysically important molecules, photoexcitation and photoionis. cross sections calc. 4-9847
 atom-dimol collisions, vibronic excitation, time depend. quantal anal. 4-33513
 autoionising resonances probing using fluoresc. polarisation 4-9827
 benzene, ¹E_{1u} state, intramolecular vibr. relax., reson. multiphoton ionisation PES 4-19104
 benzene derivatives, laser multiphoton ionis. and dissoc., photoion-photoelectron coincidence technique use 4-9855
 benzene-d₆(d₆), Rydberg states, time resolved multiphoton ionisation 4-5299
 bromobenzene, ¹B₂ state, multiphoton ionisation, power depend. 4-54818
 1,3-trans-butadiene, ns Rydberg series, two-photon reson. multiphoton ionisation 4-23761
 chlorobenzene cation, unimol. dissoc., multiphoton ionisation TOF study 4-51982
 chlorofluoromethanes, Penning ionis., electron-ion coincidence meas. 4-10008
 cluster, one- and two-colour multiphoton ionis., ion dip spectroscopy 4-10203
 core electrons transition from adiabatic to sudden excitation 4-33466
 cyclopropanol, unimolecular dissoc., photoelectron-photoion coincidence 4-23748
 diatomic molecules, near-threshold photoionisation theory 4-43926
 diatomic neutral species, double ionis. energies, depend. on at. ionis. energies 4-14354
 ethyl bromide ions, energy-selected, kinetic energy release distrib. in fragmentation 4-51966
 ethylene, valence bands, partial differential photoionis. cross-sections calcs. 4-19113
 fluorene-inert gas (N₂), van der Waals complex, reson. two-photon ionisation, mass spectra 4-23760
 fluorescence excitation, absorpt. and multiphoton-ionisation spectra in strong light fields 4-23732
 fluorobenzene, in supersonic beam, isotopically selective two-photon ionisation 4-5296
 fluorobenzene Van der Waals clusters, reson. two-photon ionis. obs., ionis. and fragmentation pots. 4-10204
 focused beams, three-photon resonantly enhanced multiphoton ionisation, third harmonic generation 4-19017
 gas ionisation and electron capture cross-sections from proton impact 4-19185
 halogens, randomly oriented molecules, spin-polarised photoelectrons by unpolarised light 4-49102
 high Rydberg mols., photoionisation by CO₂ laser radiation study 4-18949
 ketones, cyclic, supersonic beam, multiphoton ionisation and fragmentations, mass spectra 4-33462
 laser photodesorption microscope, rhodamine crystal imaging 4-27628
 methane+He, Penning and dissoc. ionisation 4-43967
 multi-electron transitions in atoms and mols., HF transition theory 4-5126
 organic molecules adsorbed on thin metal films, surface amplification of photoionization signal 4-9842
 photoionisation, shape and autoionising reson., dynamics 4-33460
 photoionisation dynamics, triply differential photoelectron spectra 4-9831
 polyatomic molecule, laser multiphoton ionis. and dissoc. photoion-photoelectron coincidence technique use 4-9855
 radiative transitions, quantum defect theory 4-38259
 relative orbital ionis. probabilities of gaseous and condensed phase mols. Penning and photoionis. processes 4-10010
 resonance ionisation mass spectrometry, ionis. pathways, mass anal. appls. 4-43118
 spark plasma, single and double positively charged mol. ions, freq. distrib. 4-34346
 Stieltjes methods for photoabsorpt. and ionisation unified calcs. 4-19112
 trans-stilbene, isolated mols., ps. pump-probe multiphoton ionisation, IVR and coherence study 4-28520
 supersonic molecular beams, laser spectroscopy 4-38352
 symmetric charge transfer reaction, state-selected investig. 4-28551
 toluene, in supersonic beam, isotopically selective two-photon ionisation 4-5296
 toluene-d₆(d₆), Rydberg states, time resolved multiphoton ionisation 4-5299
 transition-metal carbonyl complexes, multiphoton dissoc., novel route to gas-phase metal clusters 4-28517
 triethyl boron, visible laser photolysis, multiphoton ionisation spectra 4-14488
 triterpenes, pentacyclic, NH₃ chem. ionisation mass spectrometry 4-10178
 van der Waals mols., inner valence shell photoionisation spectra 4-9841
 vinyl bromide ions, energy-selected, kinetic energy release distrib. in fragmentation 4-51966
 ArCO₂⁺ dissociation energy 4-33560
 BF₃, triply differential photoelectron spectra obs. of photoionis. dynamics 4-9831
 C₂⁻, ultrahigh resolution photodetachment obs. 4-9844
 CF(X²II), VUV photoelectron spectra, ab initio MO calcs. 4-43917
 CN⁻, photodetachment threshold by laser optogalvanic spectroscopy 4-1220
 C₂N₂, triply differential photoelectron spectra obs. of photoionis. dynamics 4-9831
 CO, A ¹II state, four photoionisation photoelectron spectra 4-1212
 CO and CO₂, photoexcitation and photoionis. cross sections calc. 4-9847
 CO B¹ Σ ⁺ state, multiphoton-induced fluoresc. and ionisation 4-23738
 CO, comparison of autoionisation and PES 4-5295
 CO, multiphoton ionisation versus dissoc. processes 4-33461
 CO, photoionis. cross sections of valence orbitals 4-9846
 CO, photoionis. spectra, 15-40 eV range 4-9845
 CO, reson. multiphoton ionis. via A ¹II state, photoelectron obs. 4-9833

ionisation of molecules continued

- CO⁺+He metastable atoms, chemi-ionisation reactions at high energy 4-1249
 CO₂, autoionising resonances probing using fluoresc. polarisation 4-9827
 CO₂, TEA lasers, photoionisation origin identification 4-28657
 Cs+O₂ (NO), electron and ion prod., absolute total cross sections 4-33512
 Cs+O₂(NO), vibronic excitation, time depend. quantal anal. 4-33513
 Cs₂, relative photoionisation cross-section meas. 4-1126
 Cs₂, relative photoionisation cross sections 4-9730
 Cu₃, jet cooled supersonic beam, resonant two-photon ionisation spectra 4-19071
 D⁺+inert gas (H₂), detached electron prod., energy spectra 4-9959
 D₂O, C¹B, states, mol. predissoc. dynamics, multiphoton ionis. spectrosc. 4-38260
 Fe(CO)₅, excited state lifetimes, energy disposal, photodissociation dynamics 4-14489
 H⁺+inert gas (H₂)(N₂)(O₂), detached electron prod., energy spectra 4-9959
 H⁺+molecule collisions, double differential ionisation cross-sections calcs. 4-9941
 H₂, autoionisation, reson., two-photon, time development 4-5294
 H₂, dissociative photoionisation, continuum coupled-channels expansion 4-5297
 H₂, gamma-ray double photoionisation, electron-electron correl. effects 4-1223
 H₂, reson. multiphoton ionis., rot. resolved photoelectron spectra 4-9834
 H₂, two-photon autoionisation reson. states, model calcs. 4-23762
 H₂+Ar³⁺ (Ar⁶⁺), electron loss peak, charge state depend. 4-9944
 H₂+He metastable atoms, chemi-ionisation reactions at high energy 4-1249
 H₃⁺→H₃→H₃⁺ in Ar, dissociation, electron capture and electron loss cross sections 4-9930
 HBr, photoabsorpt., photoionis. and fragmentation, absolute dipole oscill. strengths 4-1150
 HCN, triply differential photoelectron spectra obs. of photoionis. dynamics 4-9831
 H₂CO, H₂CS, H₂O and H₂S, photoexcitation and photoionis. cross sections calcs. 4-9847
 HCl, absolute oscillator strengths for partial photoionisation, ionic fragmentation and photoabsorpt. 4-33454
 HCl, photoabsorpt., photoionis. and fragmentation, absolute dipole oscill. strengths 4-1150
 HCl⁺, A²Σ-X²Π transition, fluoresc. cross-sections and electronic transition moments 4-14472
 HF, valence shell ionisation spectrum orthogonalised direct diagonalisation 4-54596
 H₂O, C¹B, states, mol. predissoc. dynamics, multiphoton ionis. spectrosc. 4-38260
 H₂O, excited state, gas phase multiphoton ionisation spectroscopy 4-5311
 (H₂O)₂, H⁺ transfer, ionisation, ab initio pot. energy surface calcs. 4-23581
 (H₂O)₂⁺, H⁺ transfer, ionisation, ab initio pot. energy surface calcs. 4-23581
 He+H₂, chemoionisation, interaction pot. long-range component 4-43969
 He⁶⁺+Ar₂, van der Waals mol., Penning ionisation study 4-33515
 I₂, in dense gaseous medium, three-stage photoionisation, spectral line broadening depend. on N₂ press. 4-19115
 I₂, optogalvanic effects due to positive and negative ionisation 4-33465
 K₂O (2≤x≤4), oxidised metal clusters, appearance pots. via photoionisation 4-33463
 N₂, Hopfield series, electronic autoionisation, ab initio MQDT calcs. 4-1222
 N₂, multiphoton ionisation versus dissociation processes 4-33461
 N₂, photoionisation of X¹Σ_g⁺, v''=0 and 1 near threshold region, preionisation of Worley-Jenkins Rydberg series 4-38258
 N₂⁺, A²Π_g, v⁺, state selection by reson. multiphoton ionis. 4-49100
 N₂+He metastable atoms, chemi-ionisation reactions at high energy 4-1249
 NF₃+Ca(Sr)(Ba), integral reactive cross sections for chemiionisation 4-51964
 NO, A²Σ⁺ state, reson. MPI, PES and angular distrib. 4-33464
 NO, competing photoionisation and photodissociation processes 4-38257
 NO, high Rydberg states, two colour multiphoton spectrosc. obs. 4-38265
 NO, multiphoton ionis. photoelectron spectroscopic obs. on autoionis. processes 4-9832
 NO, opt. double reson. multiphoton ionis. obs. of high Rydberg states 4-9805
 NO, photoabsorpt., photoionis. and fragmentation, absolute dipole oscill. strengths 4-1150
 NO₂, detect. in atm. by atm. press. ionis. mass spectrosc. 4-16703
 N₂⁺, 3σ_g and 2σ_g photoionis., final-state correl., reaction matrix method calcs. 4-1221
 Na_x clusters, (x2-8), supersonic jet, photoionisation, mass spectra 4-54897
 Na₂O (x=3, 4), oxidised metal clusters, appearance pots. via photoionisation 4-33463
 O₂, multiphoton ionisation versus dissociation processes 4-33461
 O₂+He metastable atoms, chemi-ionisation reactions at high energy 4-1249
 Rb₂, relative photoionisation cross-section meas. 4-1126
 Rb₂, relative photoionisation cross sections 4-9730
 SF₆, triply differential photoelectron spectra obs. of photoionis. dynamics 4-9831
 SF₆+Ca(Sr)(Ba), integral reactive cross sections for chemiionisation 4-51964
 SO₂, detect. in atm. by atm. press. ionis. mass spectrosc. 4-16703
 V₂, bond length and electronic struct. 4-33470

ionisation of solids

- dielectric solids, latent ion damage tracks, model for form. 4-48871
 electron beam initiated dielectric breakdown, beam charging model anal. 4-33551
 L subshell ionization cross section for light ion bombardment of high Z targets 4-46407
 semiconductor, photoionisation of impurity atoms in presence of applied elec. field 4-20599
 F ions+⁷⁹Au(⁸²Pb)(⁸³Bi)(⁹²), direct ionisation and electron capture in M-shell X-ray prod. 4-11980
 Zn_x clusters (x=1-6), electronic struct. rel. to bulk Zn 4-28583

ionisation of solids continued

- ZnO, X-ray struct. amplitudes, electron density distrib., ionisation effect 4-39263
 ZnS, X-ray struct. amplitudes, electron density distrib., ionisation effect 4-39263
 ZnSe, X-ray struct. amplitudes, electron density distrib., ionisation effect 4-39263
- ionisation potential**
see also work function
 5d-metal hexafluorides, electron affinities and electron struct., X_α calc. 4-5515
 acetophenones, p-substituted 4-1281
 alkanes, ionisation, ab initio MO calcs., pot. energy surface 4-14303
 aromatic azines, substituted, charge transfer complexes with tetracyanoethylene and 1,4-benzoquinones 4-7715
 atoms, chemical and ionisation potentials, improved Thomas-Fermi model 4-27404
 bicyclo[2.1.1]hexane, mol. geometry, PES 4-54806
 1,3-trans-butadiene, ns Rydberg series, two-photon reson. multiphoton ionisation 4-23761
 2-carbomethoxy-1,4-benzoquinone, conformation, molar Kerr const., MNDO CNDO CI calcs. 4-18932
 chlorophyll, in aqs. environment, photoionisation yield curves, ionisation pot 4-41439
 conjugated systems, electronic and electrochem. props., chain length depend. 4-33302
 cycloalkanes, ionisation, ab initio MO calcs., pot. energy surface 4-14303
 cyclohexenes, alkyl substituted, second ionisation pot. (Russian) 4-38350
 diazabicyclooctane in supersonic free jet, two-colour multiphoton ionisation 4-5308
 DNA radiation energy, localisation 4-7937
 ethane ions, charge stripping, vertical ionisation energies determ. 4-16630
 ethylene, electron-propagator calculations with a transition-operator reference 4-28574
 ethylene, EOM/propagator ionisation pots., complete valence-shell ionisation spectra prediction using direct diagonalisation 4-1040
 (ethylene)₂⁺ complex, unimol. decomposition investigated by mol. beam photoionisation method 4-46755
 fluorobenzene Van der Waals clusters, reson. two-photon ionis. obs., ionis. and fragmentation pots. 4-10204
 fluorocarbon radicals, optical spectra, ionisation pot., electron affinities, DVM X_α calcs. 4-33320
 formyl radical, ionisation pot., SCF and CEPA calcs. 4-33344
 glyoxal, correlated ground state wave function, direct cluster expansion method 4-14344
 group V trihalides, ionisation energies, PES, SCF-X_α-SW method 4-54803
 HCl, ionisation pot., Feshbach reson., EELS 4-38340
 β-hydroxyacrolein, valence ionised states, electronic struct., H bonds, ab initio calcs. 4-18904
 inert gas atoms, interaction energies from trial density function in Thomas-Fermi-Atsudi-Dirac formulation 4-38068
 inert gas atoms, ionisation energies, valence orbital momentum distrib., electron spectra 4-23817
 ketene dimers, mass spectrometric investig. 4-44002
 metallic elements, Auger energy shift 4-38138
 methanol and its radical and carbocations thermochemical props., methylation influence 4-46743
 methylamine and its radical and carbocations, thermochemical props., methylation influence 4-46743
 monoethylenes, electron impact ionis., Green's function calcs. 4-10169
 nontransition elements, atomic core, empirical chemical pot. 4-38024
 open shell systems, multiconfig. electron propag. ionisation pots. 4-28357
 organic molecules, small and medium sized, one-electron props., SCF ab initio calcs. 4-43778
 organolithium cpds., Li-C bond, transition operator-based MO electronegativity approach 4-38071
 organosilicon compounds, ground- and excited-state props. calc. using local pseudopot. method 4-14304
 paracyanogen, electronic struct., valence effective Hamiltonian 4-34867
 pentatomic heterocyclic-system benzoderivatives, MO and ionisation pots. calc., photoelectron spectra assignment 4-23606
 N-phenyl-O-methylurethanes, o-substituted, intramol. H bond energy determ. using PMR 4-9802
 phosphatidylcholine+I₂, mol. interaction, thermodynamic and spectrophotometric props. 4-51999
 polyenes, triplet-singlet separation and ionisation energy, correl. effects 4-2719
 polymethineimine, electronic struct., valence effective Hamiltonian 4-34867
 polypyridinopyridine, electronic struct., valence effective Hamiltonian 4-34867
 polypyrrole, and derivatives, electronic struct., valence effective Hamiltonian 4-34867
 propane, protonated, ionization energies of ions formed by ion/molecule reactions 4-35874
 propane ion, structs. and reactions study 4-49176
 pyrazine, ion derivatives, aq. solns., electronic and IR spectra, pH depend. 4-54709
 pyridazine, ion derivatives, aq. solns., electronic and IR spectra, pH depend. 4-54709
 relativistic contributions to ionisation energies and bond lengths 4-9687
 semiconductor crystallites, ionis. pot., electron affinity, aq. redox pot. calcs. 4-20717
 substitution, inductive versus polarisation effects 4-18901
 tetrathietetracene, geometry as donor in charge transfer complexes, ab initio study 4-18920
 thiophenes, substituted, charge transfer and UV photoelectron spectra 4-54855
 three-membered rings, ionisation pots., X_α calcs., Koopmans' theorem, Green's function and HAM/3 results 4-43803
 triatomic mol., geometry and props., semiempirical SINDO calcs. 4-18930
 van der Waals mol., inner valence shell photoionisation spectra 4-9841
 vinylpyridines, isomeric, geometry, conformational and electronic struct., nonempirical and HAM/3 study 4-43780
 Ag isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350

ionisation potential continued

- Ag₂, bond lengths, dissoc. and ionisation energies, pseudopot. results 4-23589
 AgH, bond lengths, dissoc. and ionisation energies, pseudopot. results 4-23589
 Au isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 B₂H₆, ionisation pot., ΔE_{SCF} , ab initio LCAO-MO-HF-SCF calcs. 4-48936
 Bi I(Bi II)(Bi III), at. partition functions calc. 4-1052
 CF(X^{II}), VUV photoelectron spectra, ab initio MO calcs. 4-43917
 C₂H₆⁺, ionization energies of ions formed by ion/molecule reactions 4-35874
 C₃H₃⁺ fragment ion, appearance energies, thermal shift corrections 4-19296
 CH₃O⁺, ionization energies of ions formed by ion/molecule reactions 4-35874
 CN⁻, electron-propagator calculations with a transition-operator reference 4-28574
 CN⁻, photodetachment threshold by laser optogalvanic spectroscopy 4-1220
 C₂N₂, electron impact, parent and fragment ions, form. cross sections, ionisation pot. 4-14591
 Cu isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 CuH, bond lengths, dissoc. and ionisation energies, pseudopot. results 4-23589
 FCP, PES and ionisation pot. calc. by Green's function theory 4-5281
 Ge halogen, cpds., $\pi\pi^* \rightarrow \sigma\sigma^*$ bonding anal. 4-1288
 H⁺+Cl₂(Br₂) gas, H⁺-stopping cross sections and excitation energies 4-9929
 H₂⁺, multiply charged ions, electron capture, target ionisation pot. effect 4-19243
 HCP, PES and ionisation pot. calc. by Green's function theory 4-5281
 HCl electron energy loss spectrum, 12.748-16.254 eV 4-10088
 HF, valence shell ionisation spectrum orthogonalised direct diagonalisation 4-54596
 H₂O, electron-propagator calculations with a transition-operator reference 4-28574
 (H₂O)_n clusters, ionisation energies and H-bond strengths 4-23850
 H₂Se mol., Rydberg transitions, vacuum UV photoabsorpt. spectrum 4-19107
 K₂O (2≤x≤4), oxidised metal clusters, appearance pots. via photoionisation 4-33463
 Li₂⁺, low-lying electronic states, ionisation pot. electron affinity, valence config. calcs. 4-43818
 Li₂⁺, Rydberg state, ionisation pot., optical-optical double reson. 4-49066
 Li₂⁺, Rydberg state, bond energy, optical-optical double reson. 4-49066
 Mn₂⁺, collision-induced dissoc. 4-5476
 MoCl₃, electronic struct., spectra and thermodynamic functions, SCF-Xalpha-SW calcs. 4-48937
 N₂, multiconfig. electron propag. ionisation pots. 4-28357
 NH₂⁺, electron-propagator calculations with a transition-operator reference 4-28574
 NH₃, methyl substitution, inductive versus polarisation effects 4-18901
 Na_x clusters, (x2-8), supersonic jet, photoionisation, mass spectra 4-54897
 Na₂O (x=3, 4), oxidised metal clusters, appearance pots. via photoionisation 4-33463
 Ne, electron-propagator calculations with a transition-operator reference 4-28574
²⁰Ne and ²²Ne, ionisation energy, specific mass shift calc. using many-body perturbation theory 4-5179
 O₂, multiconfig. electron propag. ionisation pots. 4-28357
 OD radicals, UV photoelectron spectra 4-43920
 OH radicals, UV photoelectron spectra 4-43920
 PbS, electron impact, dissoc. energy determ. by mass spectrometer meas., electron affinity, appearance pot. 4-14590
 PbSe, electron impact, dissoc. energy determ. by mass spectrometer meas., electron affinity, appearance pot. 4-14590
 PbTe, electron impact, dissoc. energy determ. by mass spectrometer meas., electron affinity, appearance pot. 4-14590
 PtH and PtH⁺, ground and excited states, relativistic ab initio electronic struct. calcs. 4-9683
 S₈, ionisation pot., UPS, ab initio CI study 4-28506
 Si₂N₂, excitation energies and ionisation pots. calc. using HF Slater eigenvalues 4-33293
 Si halogen, cpds., $\pi\pi^* \rightarrow \sigma\sigma^*$ bonding anal. 4-1288
 Si hydrides, ground- and excited-state props. calc. using local pseudopot. method 4-14304
 SiH_m⁺, mass spectrum, Gaussian 80 (6-21G) study 4-43802
 Sn halogen, cpds., $\pi\pi^* \rightarrow \sigma\sigma^*$ bonding anal. 4-1288
 Xe, photoionisation below atomic ionisation potential 4-19018
 Xe, Rydberg states diamag. behaviour, RF optogalvanic study 4-38132

ionisation time *see* ionisationionogen *see* electrolytes**ionoluminescence**

- sputtered atom, outer shell excitation, laser fluoresc. spectroscopy, Auger effect 4-9718
 Al, ion-bombardment induced photon emission, angle of incidence depend. 4-35495
 Al, sputtering, at. excitation 4-11998
 Au, sputtering, at. excitation, projectile incidence angle depend. 4-11997
 B, sputtering, at. excitation, projectile incidence angle depend. 4-11997
 Be, sputtering, at. excitation, projectile incidence angle depend. 4-11997
 Be surface, BF₂⁺ and CF₃⁺ ion sputtering, selective photon emission obs. 4-16256
 C, vacuum deposited target, sputtering yield, sputtered atom photon emission meas. (Japanese) 4-3010
 Ca, sputtering, at. excitation 4-11998
 Cd, sputtering, at. excitation 4-11998
 Cu, ion-bombardment induced photon emission, angle of incidence depend. 4-35495
 Ge, vacuum deposited target, sputtering yield, sputtered atom photon emission meas. (Japanese) 4-3010
 Mg, sputtering, at. excitation, projectile incidence angle depend. 4-11997
 Mg, sputtering, at. excitation 4-11998

ionoluminescence continued

- Nb, ion-bombardment induced photon emission, angle of incidence depend. 4-35495
 Si, vacuum deposited target, sputtering yield, sputtered atom photon emission meas. (Japanese) 4-3010
- ionosondes** *see* ionospheric measuring apparatus
- ionosphere**
see also D-region; E-region; F-region; ionospheric electromagnetic wave propagation; ionospheric techniques; sporadic-E layer
 anomalous resistivity in magnetoplasma due to low-freq. turbulence 4-10825
 auroral arc classification scheme based on elec. fields assoc. with arcs 4-42257
 auroral arc deformations of small-scale, theoretical model 4-8341
 auroral arcs, effect on neutral gas flow 4-22189
 quiet auroral arc formation, ionosphere-magnetosphere convection model 4-42256
 auroral electrojets, contribution of ionospheric conductivity and elec. field 4-13138
 auroral ionosphere, electron plasma density deduced from lower oblique resonance measurements 4-52989
 auroral oval, coordinated meas. of low-energy electron precip., scintillations and total electron content 4-22253
 book 4-47792
 Chinese work on geomagnetism and aeronomy 4-52991
 conductivities, irregularities effects, numerical anal. 4-26917
 conductivity tensor in the atmospheric dynamo equation 4-58336
 conference of polar aurora, Aug. 1982, Leeds, England 4-8638
 convection, long-line meas. at high latits. 4-22255
 currents enhancement due to solar flare radiation, geomag. field oscils. 4-22214
 dayside cleft optical emissions 4-26908
 delta function excitation of waves, theory 4-22257
 disturbed plasmasphere thermal ion composition, model calcs. 4-26924
 dynamic model of plasma convection, field aligned currents and polar regions struct. 4-22208
 earthquake at Urakawa-Oki, Japan, disturbances due to upward propagating sound waves 4-58340
 electric current densities, ground magnetometer and rocket sounding obs. 4-8351
 electric current modification by strong disturbances 4-47482
 electric currents and fields due to thunderstorm sources 4-58337
 electric field latitudinal variations during disturbed conditions 4-22216
 electric fields and currents associated with inhomogeneities, effect of longitudinal conductivity 4-17332
 electric fields and currents determination using ground magnetometer data 4-8354
 electric fields in equatorial region, due to quiet-day dynamo and solar disturbances 4-26916
 electric potential and sunrise effect in atm. elec. 4-31613
 electrojets in the explosive phase of a substorm 4-22266
 electron beam injection expts., laboratory beam plasma discharge 4-31715
 electron density and convection at high-latitudes 4-13132
 electron density and temp. vars. during mag. storms, Intercosmos-18 meas. 4-8347
 electron density equinoctial analytical model, depend. on solar activity 4-22209
 electron density in high-latitude nighttime lower ionosphere, artificial radiowave effects 4-22210
 electron density profile modeling 4-47477
 electron precipitation from radiation belt, pitch-angle diffusion 4-8345
 electron precipitation mechanism responsible for diffuse aurora 4-22218
 electron precipitation poleward boundary and IMF interaction with magnetosphere 4-13137
 electron temperature empirical model 100 to 200 km altitude 4-17333
 electron-beam plasma interaction 4-10853
 electrostatic potentials mapping into magnetosphere 4-17287
 ELF and VLF emissions from topside ionosphere; rel. to IMF sector struct. 4-47503
 energetic electrons and ions at high latitude, spectra (Russian) 4-22205
 energy flow and dynamical coupling in the solar wind-magnetosphere-ionosphere system 4-22278
 equatorial anomaly of TEC and relation to dynamo electric currents 4-26927
 equivalent current systems estimation from geomag. data 4-3872
 field-aligned irregularity generation by high-power radiowave, hysteresis effect 4-22234
 global dynamic models, magnetospheric convection association phenomena 4-36535
 gravity waves in auroral zone, EISCAT obs. 4-22247
 heating by radiowaves, effect on O I red/green lines emission 4-58322
 height of electron content changes determined by ATS6 radiobeacon method 4-47489
 HF heating and stimulated EM emissions 4-22236
 high latitude, Alouette-ISIS radio wave studies of cleft, auroral zone and main trough 4-22252
 high-latitude electrodynamics, obs. by S3-2 satellite 4-47506
 high-latitude ionospheric irregularities, radar results 4-22250
 high-latitude ionospheric irregularities, review of theories 4-22249
 hiss emissions generated by whistler mode instability 4-13151
 homogeneous polar auroral arcs 4-47486
 hydrodynamic and hydromagnetic waves, viscous and resistive dissipation 4-53037
 interhemispheric plasma flow along plasmaspheric flux tubes 4-13134
 internal Alfvén gravity waves 4-10642
 internal gravity waves in troposphere and ionosphere, origin from cumuli clouds (Russian) 4-52839
 ionisation due to cosmic ray interactions (French) 4-31722
 ion beam from sounding rocket, generation of minor species gyroharmonics 4-8353
 ion density models, effect of realistic conductivities on high-latit. thermospheric circulation 4-58328
 ions O₂⁺, NO⁺ and O⁺ vertical distrib. from airglow and plasma obs. 4-22204
 irregularities of sinusoidal nature in bottomside equatorial F-region 4-8349
 joint incoherent radar and MST radar technique for high-latitude studies 4-26925
 L current system by multi-layer model (Chinese) 4-31711

ionosphere continued

- longitudinal electric currents anal. from injected Ba clouds obs. 4-22213
- low-latitude ionosphere parameters, comparison of model and observations 4-22220
- lunar tidal oscillations of total electron content at mid-latitude 4-22228
- magnetic reconnection driven by velocity space instabilities 4-3920
- magnetometer array data 3-D analysis for ionospheric, magnetospheric and geomagnetic studies 4-52950
- magnetosphere coupling in late morning local time sector, thermal protons anal. 4-42263
- magnetospheric convection electric fields at ionospheric altitudes, obs. 4-31719
- magnetotail inductive elec. fields and auroral and substorm phenomena, review 4-42643
- main trough and assoc. E_s-layer 4-22243
- maintenance of night-time mid-latitude ionosphere, recombination and plasma flow 4-47492
- maintenance of night-time mid-latitude ionosphere above St. Santin 4-47493
- meridional electric field caused by magnetosphere curvature current 4-3868
- mid-latitude magnetic field fluctuations rel. to dynamic processes 4-21875
- neutral atom collisions following neutralisation of precipitating ions 4-19163
- omega bands with eastward drift, in morning sector of auroral oval 4-22219
- particle beams in space plasma, NATO-ARI proceedings, Geilo, Norway (Apr. 1981) 4-36804
- Pc 5 micropulsations sequence, obs. by SABRE auroral radar 4-22280
- photoelectron energy spectra struct. in 2 to 5 eV range, obs. and theory 4-22225
- photoelectron flux and UV dayglow at 3371 angstrom 4-3864
- plasma characteristics (book) 4-53368
- plasma convection at high-latitude rel. to IMF orientation 4-26922
- plasma instabilities, EM theory of collisional interchange instabilities 4-26920
- plasma instability theory, EXB instability in long-wavelength limit 4-26928
- plasma instability theory for Pedersen density drift instabilities 4-26921
- plasma interchange between ionosphere and plasmasphere 4-22227
- plasma irregularities effect on synthetic aperture radar imaging 4-3876
- plasma trough and plasmasphere low-energy plasma characts. 4-13150
- plasma trough on dayside, obs. of thermal and suprathermal ions 4-13136
- plasma tube filling and emptying 4-47483
- quiet plasmasphere, field-aligned currents 4-8344
- polar cap connection and geomagnetic pulsation passage 4-47498
- polar cap region elec. field/current/Joule heat dissipation rate 4-17325
- polar elec. current system during substorms, magnetometer chain obs. 4-26933
- proton precipitation due to pitch-angle scattering in magnetotail 4-3869
- pulsating aurora mechanism 4-13117
- radio-noise emission exhibiting geomagnetic aftereffect and relation to Pc 1 4-26934
- radiowave heating expt., probe wave backscatt. from artificial perturbations 4-17331
- radiowave heating expt., scatt. from inhomogeneities caused by heating wave 4-17344
- radiowave modification, stimulated scatt. by collisional modes 4-22258
- radiowave modification expt., subkilometre and 3-m irregularity generation 4-22224
- refilling of depleted plasmasphere flux tubes after mag. storm 4-13133
- ring current behaviour during mag. storms, influence of ionospheric currents 4-17345
- Second International Polar Year ionospheric research during 1932 and 1933 AD 4-13029
- SID caused by 1981 may 13 class 3B solar flare 4-42407
- SIDs assoc. with solar X-ray flares 4-42408
- solar eclipse of Feb. 1979 and formation of midday F-region trough 4-58341
- solar flare effects (1980 Nov. 6) 4-42406
- solar flare generated disturbances affecting ionospheric radiowave propagation 4-17328
- solar wind sector boundary crossing rel. to F-region TEC obs. 4-22217
- space plasma-electron beam simulation, Shuttle-borne appls. 4-50056
- Space Shuttle interaction with ionosphere, affecting particle measuring instruments 4-47439
- spread F plasma bubble vertical rise velocity 4-22221
- storm-time disturbances, TEC and f_o F₂-layer obs. at Cuba 4-52982
- strong radiowave reflection region, excitation of small-scale inhomogeneities 4-17330
- subauroral electron temp. peak, Intercosmos-18 meas. 4-8346
- thermal plasma environment of Space Shuttle, meas. 4-58344
- TID generation in F-region, conjugate effects 4-26930
- TID sources, location by chain of rapid-run ionosondes in Quebec 4-22248
- topside plasma line enhancement, HF heating 4-13121
- total electron content diurnal variations of undisturbed ionosphere, theoretical modeling 4-8348
- travelling ionosphere disturbances of medium scale, TEC power spectra obs. 4-17338
- travelling ionospheric disturbances, study of horizontal dispersion 4-26926
- Tromsø heating facility, results summary 4-22233
- trough studies from Millstone Hill rel. to plasmopause/magnetosphere boundary 4-22244
- ULF pulsation propagation, influence of ionosphere non-uniform conductivity 4-52993
- ULF waves excited by short atmos. whistlers in F-region 4-17335
- upper atmosphere ion-neutral collision freqs. 4-26901
- upper-hybrid waves excitation by thermal parametric instability 4-26919
- VLF emissions characts., use of cross-spectral phase methods 4-3882
- wave injection and plasma interactions 4-24
- wave-particle interactions and VLF emissions stimulation from Siple Station, Antarctica 4-22276
- western auroral electrojet, intensity depend. on solar wind and geomag. dipole orientation 4-22265
- Ba cloud release expt. effected by ion Pedersen mobility 4-13139
- Na⁺ vertical drift 4-31713
- O⁺ in polar wind flow, semikinetic model 4-13135

ionosphere continued

- O₂⁺ chemistry of F-region and subtropical airglow anomaly 4-42253
- O₂⁺+NO, charge transfer collisions, influence of vibrational excitation 4-3871

ionospheric electromagnetic wave propagation*see also atmospherics*

- A1 absorption meas., effect of spread-F conditions 4-13126
- A1 absorption meas. interpretation using virtual reflection height data 4-52947
- anomalous absorption caused by high power radio waves, freq. depend. 4-52987
- antennas in plasmas, performance 4-26981
- aspect-angle scattering by inhomogeneities with total internal reflection 4-47480
- atmospherics activity obs. at Calcutta, India, showing stepped rise 4-13119
- auroral absorption, relation to electron energy distrib. of auroral plasma 4-58343
- auroral electrojet-radiowave interactions, effect on polar substorms 4-22215
- auroral oval, coordinated meas. of low-energy electron precip., scintillations and total electron content 4-22253
- Bragg resonator in ionospheric plasma with artificial quasiperiodic lattice 4-42265
- delta function excitation of waves, theory 4-22257
- diffraction of weak waves from grating formed by powerful radiowaves 4-17327
- duct-modelling waveguide, pulse signal propag. 4-42266
- ducted whistlers at low-latitude (*Chinese*) 4-31712
- E-region, drift turbulence and radar backscatter depend. on ionospheric parameters 4-13140
- electrojet radar backscattering due to 1-metre density fluctuations 4-8350
- ELF emission at low latitude due to radiation belt electrons-whistler interactions 4-31721
- ELF emission stimulated by short fractional hop whistlers 4-22231
- equatorial nighttime UHF/VHF scintillation due to spread-F, onset at various freq. 4-31716
- equatorial post-sunrise spread-F and radio scintillations 4-42260
- equatorial scintillation at 327 MHz, corr. studies over 3.2 km baseline 4-13129
- equatorial scintillation at 327 MHz, power spectra 4-13130
- F-region, plasma freq. var. above Vietnam and plasma characts. 4-36534
- F-region plasma irregularities at very-high latitudes, HF radar obs. 4-3867
- heater wave filament instabilities, geomagnetic fluctuations 4-13122
- HF, geophysical disturbances anal. 4-3878
- HF, modelling and prediction 4-3877
- HF backscatter assoc. with heating expt. at Tromsø 4-22235
- HF communication parameters during mag. disturbances, prediction model 4-13128
- HF digital radio data links, channel evaluation meas. for 2.4 kbps modem 4-8355
- HF heating, perturbed region simulation 4-47478
- HF HIPAS transmissions, ionospheric cavitons and related nonlinear phenomena 4-22232
- HF ionospheric propag., F-region variability effects 4-22262
- HF ionospheric propag. limitations determination by real-time update of computer model from oblique sounder data 4-22263
- HF long-range paths, adiabatic calc. using parabolic model 4-47484
- HF pencil beam radar obs. of E_s-layer movements 4-26929
- HF radar and electron density profiles, automated calc. from digital ionograms 4-22188
- HF radar for sea-state meas., ionospheric factors affecting performance 4-22261
- HF radar mode patterns 4-22186
- HF radiowaves reflection from ionospheric F-region, simplified estimation of ray-path mirroring height 4-52983
- HF transmission bearings, large-scale TID effects 4-52985
- HF waves digitisation and thermosphere acoustic gravity waves anal. 4-8340
- incoherent scatter sounding using metre-range waves, influence of large-scale inhomogeneities 4-17336
- ionosphere parameter estimation using stochastic signals (*Russian*) 4-13141
- joint incoherent radar and MST radar technique for high-latitude studies 4-26925
- Kalman filtration algorithms for evaluating ionosphere parameters (*Russian*) 4-47494
- ledge effect in A1 absorption measurements 4-52988
- lower oblique resonance meas., appl. to determ. of electron plasma density 4-52989
- medium effects in theory 4-13125
- meteor scatter for VHF communication 4-47476
- MF absorption, winter anomaly obs. over Volgograd 4-52986
- MF night-time sky wave, field strength and fading for south-north propagation in Japan (*Japanese*) 4-36536
- MF partial reflection drifts and wind meas. in Antarctic middle atmosphere 4-52979
- microwave satellite links, atmospheric/ionospheric effects, EM wave propag. study 4-58261
- millimeter wave propagation through precipitation, relationship of cross polarisation discrimination to attenuation 4-22065
- multiple acceleration of electrons in plasma resonance 4-19963
- night-time post-storm absorpt. increases and electron precipitation belt characts. 4-22230
- over-the-horizon radar target detection, spectrum spreading techniques 4-22260
- plane-layered scattering medium, most probable ray trajectories 4-47485
- plasma irregularities effect on synthetic aperture radar imaging 4-3876
- plasmopause causing guiding of NAA and GBR conjugate hemisphere VLF signals 4-47504
- propagation factors affecting remote sensing by radio waves, conf., Oberammergau, W Germany (May 1983) 4-17622
- radiowave, incoherent scattering process, shaping filter design (*Russian*) 4-22259
- radiowave, ionospheric sounder, flexible waveform generator 4-47472
- radiowave absorption, effect of ground intensity 4-36533
- radiowave absorption analysis and mesopause NO conc. determ. 4-42252

- ionospheric electromagnetic wave propagation continued**
 radiowave absorption during westward travelling surge, electron precipitation effects 4-17326
 radiowave absorption enhancement following magnetic storms rel. to NO increase 4-31709
 radiowave capture by ionospheric waveguide, refraction effects 4-26932
 radiowave heating expt., probe wave backscatt. from artificial perturbations 4-17331
 radiowave heating expt., scatt. from inhomogeneities caused by heating wave 4-17344
 radiowave modification, stimulated scatt. by collisional modes 4-22258
 radiowave modification expt., subkilometre and 3-m irregularity generation 4-22224
 radiowave oblique-return sounding, large-scale inhomogeneities 4-47479
 radiowaves, basic indices, publication by CCIR Secretariat 4-42140
 radiowaves, generation of field-aligned irregularities, hysteresis effect 4-22234
 radiowaves, ionosphere heating, effect on O I red/green lines emission 4-58322
 radiowaves angular scatt. off inhomogeneities, charact. curve 4-22113
 radiowaves effect on electron density profiles 4-22210
 radiowaves scattered off meteor trails, freq. distortion 4-22211
 ray tracing in dissipative media 4-54928
 refraction effects and TRANET Doppler station apparent height vars. modelling 4-41687
 scintillation of transionospheric VHF signals due to equatorial electrojet 4-17342
 Second International Polar Year ionospheric research during 1932 and 1933 AD 4-13029
 short-wave propagation during disturbed conditions on high-latitude links 4-17334
 Siple VLF transmitter signals observed outside plasmapause 4-26923
 skywave radar, characts. and development (*Japanese*) 4-52990
 solar flare generated disturbances affecting ionospheric radiowave propagation 4-17328
 solar HF radiowaves effected by ionospheric TID phenomena 4-13120
 striations affecting EM wave propagation, theory 4-58339
 strong radiowave reflection region, excitation of small-scale inhomogeneities 4-17330
 t r 4-22183
 topside HF heating, plasma line enhancement 4-13121
 tropical spread-F, radio waves scatt. from plasma density gradients 4-13127
 UHF EISCAT obs. of enhanced plasma lines during heating expts. 4-22237
 UHF/VHF radar, EISCAT installations 4-22130
 ULF micropulsation signal propagation to Earth surface, ionosphere effects 4-42259
 ULF pulsation propagation, influence of ionosphere non-uniform conductivity 4-52993
 ULF waves excited by short atmos. whistlers in F-region 4-17335
 VHF amplitude scintillations, Kurukshetra obs. (1978 Oct.-1979 Sept.) 4-42262
 VHF satellite scintillations, obs. at Kurukshetra 4-42261
 VLF atmospherics, sunset effect 4-26918
 semiautomated VLF direction finding during ionospheric disturbances 4-42242
 VLF emissions characts., use of cross-spectral phase methods 4-3882
 VLF emissions stimulation from Siple Station, Antarctica 4-22276
 VLF monochromatic wave characts., atmospheric plasma parameters, amplitude wave meas. 4-36541
 VLF reflection of quiet and disturbed polar ionosphere above N Greenland 4-22240
 VLF wave diurnal phase shifts on E-W low latitude and transequatorial paths 4-22226
 VLF/LF wave cross modulation by gravity waves 4-3874
 wave injection and plasma interactions 4-24
 whistlers, nonlinear scatt. by electrostatic fluctuations 4-24562
 whistlers, propagation distance and polarisation characts., expt. study, Moshiri, Japan, January 1983 (*Japanese*) 4-36537
 winter anomaly and D-region struct. 4-47475
- ionospheric measuring apparatus**
 HF radar system, for obs. of F-region irregularities at very high latits. 4-22251
 HF sounding and noise measuring computer system for JINDALEE over-the-horizon-radar 4-47527
 ionosonde, microprocessor-controlled system 4-8319
 radiowave propagation, ionospheric sounder, flexible waveform generator 4-47472
 rapid-run ionosondes in W Quebec, appl. to location of TID sources 4-22248
 SABRE auroral radar, obs. of sequence of Pc 5 micropulsations 4-22280
 satellite electric potentials, for dielec. coated spinning satellites 4-22299
 Sondrestrom incoherent-scatter radar, initial results 4-31714
 Space Shuttle interaction with ionosphere, affecting particle measuring instruments 4-47439
 Tromsø heating facility, results summary 4-22233
- ionospheric measuring instruments** *see ionospheric measuring apparatus*
- ionospheric propagation** *see ionospheric electromagnetic wave propagation*
- ionospheric techniques**
see also electron density; ion density
 A1 absorption meas., effect of spread-F conditions 4-13126
 A1 absorption meas. interpretation using virtual reflection height data 4-52947
 antennas in plasmas, performance 4-26981
 D-region production rate determined by riometer method 4-47488
 differential phase method for ionospheric inhomogeneities anal. 4-22113
 digital ionograms, automatic scaling using method of structural description 4-22125
 Dynasonde meas., estimation of turbulent energy dissipation, wind, and struct. 4-22245
 electric fields and currents determination using ground magnetometer data 4-8354
 electron density determ. from digital ionograms 4-22188
 equivalent current systems estimation from geomag. data 4-3872
 height of electron content changes determined by ATS6 radiobeacon method 4-47489
 HF ionospheric propag. limitations determination by real-time update of computer model from oblique sounder data 4-22263
- ionospheric techniques continued**
 HF radiowaves reflection from ionospheric F-region, simplified estimation of ray-path mirroring height 4-52983
 HF sounding and noise measuring computer system for JINDALEE over-the-horizon-radar 4-47527
 high-latitude radio wave research, current and future programmes 4-22256
 incoherent scatter sounding using metre-range waves, influence of large-scale inhomogeneities 4-17336
 ionogram interpretation by ray tracing in dayside auroral oval region 4-3873
 joint incoherent radar and MST radar technique for high-latitude studies 4-26925
 long-line technique, appl. to convection meas. at high latits. 4-22255
 magnetometer array data 3-D analysis for ionospheric, magnetospheric and geomagnetic studies 4-52950
 plasma parameters calc. method and hydrodynamic eqns. soln. 4-22112
 probing, multiple-position radar systems, incoherent scatt. signals, correl. function evaluation (*Russian*) 4-13081
 radiowave heating expt., probe wave backscatt. from artificial perturbations 4-17331
 radiowave measurements affected by particle impacts on antenna 4-8329
 radiowave probing, conf., Fairbanks, Alaska (Aug. 1982) 4-22129
 satellite electric potentials, for dielec. coated spinning satellites 4-22299
 scintillation sounding, correl. of equatorial scintillation at 327 MHz over 3.2 km baseline 4-13129
 Space Shuttle interaction with ionosphere, affecting particle measuring instruments 4-47439
 spaced-receiver scintillation meas., self-consistent models 4-3875
 Spacelab, scientific accomplishments of first mission 4-53003
 VLF monochromatic wave characts., atmospheric plasma parameters, amplitude wave meas. 4-36541
- iontophoresis** *see electrophoresis*
- ions**
see also atoms; electrolytic ions; hydrogen ions; negative ions
 No entries
- i.r. astronomy** *see infrared astronomy*
- i.r. detectors** *see infrared detectors*
- IR drop** *see electric potential*
- IR focal plane arrays** *see image sensors; infrared imaging*
- i.r. imaging** *see infrared imaging*
- i.r. sources** *see infrared sources*
- i.r. spectra** *see infrared spectra of diatomic inorganic molecules; infrared spectra of inorganic solids; infrared spectra of organic molecules and substances; infrared spectra of polyatomic inorganic molecules; spectra of inorganic liquids and solutions*
- irasers** *see lasers*
- iridium**
see also nuclei with
 atom, ionisation, La_1 X-ray satellite 4-18973
 chemical internal sensitizer for Ag halide photographic emulsions, spectral sensitisation 4-3416
 cyclotron reson. anisotropy, electron-phonon interaction, relativistic APW Fermi surface calc. 4-29870
 electron-phonon interaction, relativistic APW band struct. calc. 4-34886
 electronic energy bands and optical props. 4-20550
 Kilauaea volcano, Ir enrichment in airborne particles during January 1983 eruption 4-31463
 quadrupole moments and Sternheimer effect, muonic atom meas. 4-4754
 surface, saturated and unsaturated hydrocarbons reactions, dehydrogenation study 4-35938
 surface (100) \times 1, LEED, interlayer multiple diff. 4-44903
 AgBr:Ir emulsion, spectral sensitisation efficiency and energetics, dye energy level effect 4-46782
 Ir abundance anomalies at Late Cambrian bioterm boundaries, unsuccessful search 4-47263
¹⁹²Ir implants, dose distrib. calc. 4-21809
 SrTiO₃:Ir⁴⁺, paramag. resonance and near IR optical absorption 4-51131
- iridium alloys**
see also iridium compounds
 Ag-Ir films, preparation and amorphous-crystalline transform. 4-11419
 CeIr₃, Fermi level reson. in electron addition spectrum 4-11958
 Ir-Ce alloys, surface composition, AES and thermionic work function 4-21074
 Ir-Ce-Mo alloys 4-21074
 Ir-Ce-Re alloys, surface composition, AES and thermionic work function 4-21074
 IrMnSb, Heusler Cl₁ alloys, sp sites, hyperfine fields, TDPAC and Mossbauer study 4-35280
 IrMnSn, Heusler Cl₁ alloys, sp sites, hyperfine fields, TDPAC and Mossbauer study 4-35280
 IrSn₄, high press. form., crystallisation and supercond. transition temp. 4-50472
 Mo-Ir, zone melt grown, impurity distrib., dislocation struct., conc. depend. 4-24846
 Mo-Ir, zone melt growth with rot., impurity distrib., dislocation struct., conc. depend. 4-24847
 Ni-Ir, local atomic ordering, diffuse X-ray scatt. 4-45345
 Pt-Ir alloy, surface segregation and diffusion kinetics study using time-of-flight atom-probe field ion microscope 4-34645
 Sc₂Ir₃-Ge₂(Si₆), cubic U₃Re₂Si₆-type structures, cryst. struct. anal. 4-39209
 Tblr₂Si₂, mag. ordering, neutron diff. study 4-25518
- iridium compounds**
see also iridium alloys
 BaIr₂Co₂O₁₀, crystal struct., and polytypism (*German*) 4-45078
 Eu₂IrH₅, ferromagnetism and ¹⁵¹Eu Mossbauer effect 4-51165
 Ir (III) complexes, spin-orbit interactions, visible and UV reflectance spectra, ligand field calcs. 4-51300
 Ir complex, Ir tri(di-isopropyl diethiophosphate), cryst. and mol. struct. 4-11067
 Ir(CO)₂Cl chains, band struct., geometry and partial oxidation 4-20536
 IrO₂ anodic films, XPS studies 4-41066
 IrO₂, electronic states, XPS studies 4-45623
 IrO₂, pH sensors applicability exam. 4-42942
 IrO₃ films, voltammetric anal. and open-circuit pH response 4-7732
 IrOx thin film electrodes for high-temp., corrosive environment pH sensing 4-57612
 IrSi Schottky barrier IR focal plane detector evolution 4-48198

iridium compounds continued

- Li₂IrO₂, cryst. struct., neutron and X-ray powder diffr. study 4-39234
 Ru₄Ir_{1-x}O₂, electronic states, XPS studies 4-45623

iron

see also nuclei with

- (100) with chemisorbed S, photoemission momentum-depend. line shapes 4-40004
 (110), exchange-split empty energy bands 4-6699
 (211), relax. phenomena in outer atomic layers 4-11392
 (211), surface struct. determ. using LEED 4-39638
 (310) and (210) surface relax. trends, LEED study 4-39646
 abundance in extreme metal poor stars HD 140283 and 19445, obs. 4-53163
 abundance in Type I supernova remnant 4-58496
 adsorption and decomp. of methanol on (110) surface, EELS study 4-20484
 adsorption of acetylene on (100), (110), and (111) surfaces, structs. and reactions 4-45504
 adsorption of Se on (001) surface, LEED, AES, and work function meas. 4-20495
 aluminisation by thermochem. method, thermodynamic calc. (French) 4-21367
 amorphous, spin polarised electronic density of states and mag. moments 4-25198
 anodic oxide films, in-situ reflection-spectroscopic study 4-46348
 Armco, boronized layers, in-depth phase anal. by glow discharge optical emission spectroscopy (Chinese) 4-16572
 Armco, cold rolled, development of microstruct. and texture 4-16414
 Armco, saturation magnetisation temp. depend., magnetometer with automatic recording meas. 4-42994
 Armco, spalling failure character, -196 to 800°C 4-30816
 armco, three-dimensional stress in surface layer, meas. method (Chinese) 4-44505
 Armco Fe, corrosion fatigue, electrochem. aspects 4-21392
 Armco Fe, crack healing, by crossed elec. and mag. fields 4-35777
 Armco Fe, heat treated, failure mechanism in abrasive wear 4-41001
 Armco Fe, laser hardening, effect on struct. 4-21375
 Armco Fe, polycrystalline, acoustic emission in deform. 4-51765
 atom, excitation energies, frozen orbital approx. at CI level 4-48952
 atom, fluoresc. investig. in hollow-cathode discharge with laser excitation 4-49185
 atom, M_{2,3} shell Auger and autoionisation spectra 4-48996
 atom, spin polarised internal conversion coeffs. 4-43789
 atom, Sternheimer antishielding, 3d contrib. 4-33310
 atom velocity distrib. in plasma discharges, rapid-freq.-scan dye laser meas. 4-44856
 atomic beam, photon impact excitation, electron spectrosc. obs. 4-1094
 atoms and chains in superstrong mag. fields, ground state energy/binding energy 4-38032
 axisymmetric conductors, effect of Fe on magnetostatic field 4-10208
 base powder metallurgical materials, crack resist. determ., scale factor effect 4-3349
 BCC 4-39527
 BCC and FCC, ferromagnetism, lattice parameter depend. 4-20803
 calcium tartrate tetrahydrate:Fe³⁺, electronic absorption spectrum 4-46293
 cast, metastable phases obtained by high power laser surface melting 4-15532
 cast ductile, austempered, SEM study rel. to impact toughness 4-35702
 catalyst on mordenite, mag. and Mossbauer meas. 4-25660
 chemisorption of H₂, atom-probe study 4-2458
 cold rolled, internal friction rel. to interstitial contents 4-51716
 cold worked, dislocation struct. adjacent to fatigue crack tips 4-16496
 concentration in thermosphere, origin 4-42251
 conduction band distrib., X-ray absorpt. and APS study 4-57043
 coordination in oxide glasses using X-ray absorption K-edges 4-11964
 core design and fabrication for OHTe expt. machine 4-9468
 core level excitations, spin-depend., spin polarised APS study 4-30567
 corrosion, FeS₂ formation, H₂ permeability meas. 4-12258
 corrosion fatigue in aq. environments 4-35758
 corrosion inhibition in acid medium by phosphonium salts 4-35765
 corrosion prevention, mechanism of passivating action of inhibitive anions 4-46642
 corrosion products in selenious acid soln. (Japanese) 4-26096
 de-mixing in solar interior 4-58423
 demagnetising fields at grain boundaries, law of approach to saturation at intermediate fields 4-11743
 diffusion in α -Ti single crystals 4-39603
 diffusion in Mo single crystals 4-56081
 diffusion of H (Japanese, English) 4-20411
 dilute impurity hyperfine fields 4-39861
 dispersed on graphitised C-B, mag. and Mossbauer study 4-25659
 ductile, mechanism of Mg, Sb and Ce interaction, SEM microanalysis 4-35629
 ductile, microstruct., mech. props., subversive effect of Pb or Bi, Ce neutralisation 4-35653
 electrode, impedance in aq. perchlorate solns. 4-16564
 electrode with passive film, capacity and photocurrent meas. 4-56431
 electrodes, electrochemical kinetics in aq. electrolytes 4-57413
 electron-yield EXAFS with use of gas-flow electron detector 4-35516
 epitaxial bilayers, accommodation and misfit dislocations obs. (French) 4-45557
 evaporation field, effect of adsorbed H₂ 4-30611
 excitation of ⁵¹Pb and ⁵¹D states by electron impact, cross sections, astron. appl. 4-33543
 excited states, ESR and Hall effect studies 4-11480
 fatigue crack propag. rel. to intermittent overstraining 4-21326
 FBR structural materials, integral neutron capture cross sections 4-37771
 FBR structural materials, neutron cross section adjustments (French) 4-37772
 FCC, paramag. susceptibility, effects on spin fluctuations 4-35143
 ferromagnet, hyperfine interaction of Ce and La impurities, NMR-ON meas. 4-39855
 ferromagnetic, bulk and surface props., spin polarised electron spectroscopy 4-6698
 ferromagnetic, bulk electronic props., XPS study 4-56202
 ferromagnetic, exchange splitting of electronic states 4-56602
 ferromagnetic, hyperfine field of heavy impurities, temp. depend., effect of lattice vibrs. 4-40164

iron continued

- ferromagnetic, mag. excitations at high energy transfers, neutron scatt. studies 4-56588
 ferromagnetic shielding for Tokamak reactors 4-9466
 film, adsorption of CO₂, effect of preadsorbed H, volumetric meas., changes in work function and resist. 4-29797
 film, clean and O₂ preadsorbed, H absorption kinetics 4-20472
 film, H₂O absorption kinetics, comparison with H and O absorption 4-20473
 film, obliquely deposited, crystallites study by ellipsometry 4-11953
 films, annealed, elec. resist. and photoelec. work function 4-6909
 films, MBE grown, diminished magnetisation 4-56726
 flow stress, press. depend., dislocation motion 4-51729
 foils, N₂ solubility rel. to surface finishing 4-41084
 fracture, computer simulation using long-range pair potentials 4-50416
 friction and wear, in NaOH solns 4-12197
 fungal solubilisation of Fe from stainless steel, biocorrosion 4-41106
 gamma-ray recoilless absorption, secondary electron emission 4-16125
 garnet:Fe³⁺, zero-field splitting, EPR, superposition model 4-2808
 graphite-Fe system, diamond form. 4-30655
 Hall-Petch relationship 4-16453
 high level radwaste containers for basalt and salt, general and pitting corrosion 4-18599
 high purity, passivation kinetics, mech. machining effect on reaction layer formation (German) 4-41059
 high purity, pitting corrosion mechanism in NaCl soln. 4-41045
 high purity, transient creep at low stresses and homologous temps. 4-3169
 high resolution depth profiling in materials using nucl. reson. in proton-induced reactions 4-46823
 hyperfine field of ¹³¹I, NMR-ON meas. 4-39854
 hyperfine fields, low temp. nucl. orientation of ⁸³Rb, ⁸³Sr, ⁸⁵Sr and ⁸⁵Ym 4-40240
 hyperfine fields and electronic struct. of non-magnetic impurities 4-39842
 impurity-vacancy interactions, muon spin rotation expts. 4-34527
 interatomic forces and phonon anomalies 4-34601
 intergranular fracture, due to S segregation and permanent H damage 4-3244
 intergranular fracture, effects of S segregation and H charging 4-12139
 intergranular subcritical crack growth, S in grain boundaries 4-40989
 internal friction, creep, dislocations (French) 4-51715
 ion irradi., surface structural radiation damage, X-ray beam scanning method (Russian) 4-24878
 ions, X, XV-XXVI, electron impact excitation collision strengths, distorted-wave calcs. 4-36807
 irradiation creep due to elastodiffusion 4-55863
 irradiation hardening 4-15543
 island formation on MoS₂, AES and work function meas. 4-39726
 isomer shift in Mossbauer spectra near Curie temp. (Chinese) 4-56823
 isotropic ferromagnetic, breakdown of dynamic scaling anal. 4-46044
 itinerant ferromagnets, spin dynamics above T_c 4-56642
 kinetics of carburization, self-diffusion coeffs. of C 4-39560
 laser surface alloying, fusion zone defect characts. 4-16560
 laser-induced phase transition, US excitation 4-29473
 local magnetic fields on ¹⁹F, studied up to T_c, TDPAD meas. 4-39852
 local magnetisation above Curie temp. 4-20825
 localised corrosion, laser beam depassivation 4-12242
 magnetic domain wall motion and magnetomech. damping (French) 4-40214
 magnetic excitations, spin waves and nonspin-flip excitations 4-6959
 magnetic excitations, temp. depend. 4-25533
 magnetic transition, pseudo-discontinuities in Mossbauer isomer shift 4-40311
 magnetised, X-ray anisotropy and spin depend. of circularly polarised soft X-ray photoabsorption 4-37488
 MBE films on GaAs substrates, mag. props. 4-25608
 metallographic reagent for characterisation of oxide scale 4-3338
 metastable states, thermally produced, characterisation using reson. ionisation mass spectrometry 4-16709
 molten, static electroconductivity numerical calcs. (Russian) 4-6760
 neutral, densities in front of rel. limiter in TEXTOR 4-17878
 neutron irradi., defects, X-ray diff. studies (Russian) 4-50372
 neutron scatt., crit., temp. shift of max. 4-2035
 NMR-ON on ²⁰⁹Bi produced by decay of cold implanted ²⁰⁹Po 4-40259
 nodular and malleable, fatigue props. and tensile strength (Swedish) 4-7593
 nuclear facility shields, γ -ray anal. from (n, γ) reactions 4-9602
 nuclear spin-lattice relax. of impurities 4-40260
 oxidation, correl. with ⁵⁵Fe oxidation meas. in Fe₂O₄ 4-15690
 oxide layers formed in electrochem. environment, Raman spectroscopy study 4-57421
 paramagnetic, optical props., interpolation scheme band struct. model 4-7148
 paramagnetic BCC phase, polarised neutron scatt. studies 4-56538
 passivating film thickness in sulphuric acid soln. 4-57408
 passivation films in neutral borate and acidic phosphate solns., reflectometry study 4-57430
 passivation in borate solns., pH depend. 4-57414
 passivation in conc. HNO₃ solns. 4-57447
 passivation study using spectrophotoelectrochem. and Raman spectroscopy 4-46770
 passive, pitting resistance, repair mechanism in solns. 4-51852
 passive film, in situ Mossbauer and EXAFS studies 4-57424
 passive film formation, comp., structure, thickness, pH depend. (Japanese) 4-26094
 passive film growth kinetics in acid media, impedance obs. 4-57412
 passive films, Raman spectroscopy study 4-57420
 passive films, structure, surface EXAFS studies 4-57425
 passive films, structure simulation by RDF method 4-57426
 passive films formed in borate solutions, electrochem. and ellipsometric study 4-57418
 passivity, study using electroreflectance 4-57417
 passivity breakdown by HF 4-57455
 passivity in neutral borate electrolyte, ellipsometric study 4-57419
 phosphate coatings on electrotechnical sheets, comp. and struct. anal. using IR spectroscopy 4-57396
 powder, sintering, shrinkage rel. to cyclic heating and phase transform. 4-40711
 powder, strength and contact growth kinetics rel. to pressing and sintering parameters 4-40710
 powders, obtained by electrolytic method, single-domain state 4-30224

iron continued

- pure, atmospheric corrosion (*German*) 4-41058
 pure, corrosion, inhibition or catalysis by guanidine derivatives 4-12235
 pure, fatigue crack nucleation sites, grain orientation depend. (*Japanese*) 4-21306
 pure, incremental step creep test, apparent activation area 4-3307
 pure single crystals, H transport by screw dislocations 4-15709
 radiography, point spread functions due to photon scatt. 4-3336
 self-shielding factors, theoretical and meas. values comparison for ^{239}Pu , ^{235}U , Fe and Na 4-37703
 self-diffusion and Co heterodiffusion, mag. anomalies 4-56085
 seven layer film, surface magnetism, self consistent calc. 4-25610
 sintered, mag. props. rel. to porosity 4-11747
 sintered, TiO_2 dispersion hardened, plastic deform. and fracture mechanisms 4-46582
 sintered compact, fatigue strength, intergranular fracture (*Japanese*) 4-35689
 sintered compacts, damping capacity rel. to processing conditions 4-12097
 sintered parts, mag. props. rel. to sintering atm. 4-11748
 small particles supported by zeolite-Y, superparamagnetism, Mossbauer study 4-40199
 solar wind Fe ion abundance variations 4-17481
 solid state effects on thermal neutron cross-sections 4-39057
 solubility of H under high press., thermodynamics 4-20367
 spheres, fast neutron spectra calcs. using Vitamin-C file 4-54205
 spin susceptibility near Curie temp., wavevector and temp. depend. 4-20784
 sputtered film, Mossbauer study 4-35317
 surface, adsorbed Fe complex with 1,10-phenanthroline, surface enhanced Raman spectroscopy 4-35429
 surface, adsorp. of I_2 , core and valence electron binding energies, XPS, UPS and electron impact meas. 4-54884
 surface, clean and with surface carbide layer, struct. study by surface extended energy loss spectroscopy 4-51425
 surface, corrosion inhibitors, IR and Raman spectra 4-12250
 surface, H_2 adsorption, Surface Orbital Modified Occupancy-Bond Energy Bond Order calc. 4-25159
 surface, high purity, ion beam nitriding study 4-51902
 surface, phase composition after B ion implantation, electron microscopy and diff. studies 4-11163
 surface (001), mag. struct. and mag. moments, ab initio calcs. 4-16012
 surface (110), clean and adsorbate covered, polarised electron diff. study 4-56129
 surface aluminization, gas phase transport and solid diffusion effects (*French*) 4-26092
 surface and thin film, mag. props. 4-16074
 surface ferromagnetism study by polarised and unpolarised electrons 4-35220
 surface magnetisation and closure domains, PAC study 4-40189
 surface magnetisation processes, Mossbauer study 4-40190
 surface states, mag. exchange splitting and band dispersion 4-20700
 surface structure of clean and oxidised surfaces 4-39647
 thermal expansion, mag. contrib. above T_c 4-51116
 thin film, adsorption and decomposition of water, work function and elec. resist. meas. 4-34776
 thin films, microstructural studies 4-34822
 thin films, pretreated and passivated, water adsorption, work function, elec. resist. meas. 4-34777
 three-spin correlation dynamics study by neutron polarisation 4-20793
 α -type 4-55933
 uniaxial loading, finite temperature Bain transformation, FCC to BCC, Monte Carlo simulation 4-12064
 US shock treatment, struct. changes 4-41091
 vapour phase chem. transport in CsI, electron beam irr., LMFBR fuel appl. (*Japanese*) 4-23149
 very thin films, conversion electron Mossbauer spectroscopy, ultra-high vac. equipment and preliminary meas. 4-40305
 ware, transverse crack, mag. leakage field determ. 4-12296
 whisker growth rate, in situ TV obs. 4-15795
 wires, cyclic sintering through α - γ transform. 4-12042
 Al:Fe, interstitial trapping following excimer laser annealing 4-45123
 AlGaAs:Cu(Fe), deep acceptor levels, comp. dependence and random alloy effects 4-25280
 α - Al_2O_3 : Fe^{3+} , $3d^5$ ions in low symmetry cryst. field, zero field splitting parameters (*Chinese*) 4-56301
 As_2S_3 :Fe chalcogenide glasses, optical and electronic props. 4-45782
 As_2Se_3 :Ni, Fe glassy films, carrier transport 4-15973
 α -Fe, morphology of α' - Fe_3N_2 precipitation, TEM obs. 4-40804
 BaTiO_3 :Fe, and undoped, cond. and photocond. meas. (*French*) 4-56346
 BaTiO_3 :Fe, cond., photocond. meas. 4-25341
 CoCO_3 : Fe^{2+} , hyperfine field features of impurity nucleus 4-20867
 CoCO_3 : Fe^{2+} , low-freq. spin excitations of impurities 4-35168
 Fe (110) whiskers, ferromag. domains 4-46061
 Fe (111) ions in soln., nonlinear effects in parallel mag. fields 4-46100
 α -Fe, cascade region, length of replacement sequences (*Russian*) 4-50344
 α -Fe, corrosion inhibition, neutral aq. soln. of amines and fatty acids 4-21353
 α -Fe, electron irr., void growth and vacancy migration energy 4-11338
 α -Fe, H induced grain boundary fracture, C segregation effect (*Japanese*) 4-7554
 Fe I, oscillator strengths rel. to solar Fe abundance (*Russian*) 4-42403
 Fe I 2.2 eV lines in solar spectra and abundance anomaly anal. 4-53115
 Fe I and II solar lines, equivalent widths oscillator strengths and Fe abundance 4-36647
 Fe II, fluoresc. lines in V1016 Cygni, excited by C IV in Bowen mechanism 4-17525
 Fe II, line strengths calcs. rel. to broad emission features in QSOs and active galactic nuclei 4-31746
 Fe II emission from quasars, implications for interstellar plasma 4-53306
 Fe II optical quasar emission correl. with X-ray spectral characts. 4-58532
 Fe IX, electron collisional excitation rate coeffs. in theta pinch 4-54871
 Fe ions passing through Be, C, Al and Cu foils, equilb. charge state distrib., microscopic anal. 4-19194
 Fe VIII, electron collisional excitation rate coeffs. in theta pinch 4-54871
 Fe XI, electron collisional excitation rate coeffs. in theta pinch 4-54871
 Fe XII lines sensitive to coronal electron density 4-3963
 Fe XXI, electron impact excitation, fine struct. transitions 4-10139
 Fe XXV, electron scatt. cross-sections, reson. effect 4-5469
 Fe XXV, forbidden lines, resons. effects 4-23640

iron continued

- Fe^{2+} , electron impact ionis. cross-sections 4-5460
 Fe^{2+} , electron impact ionisation cross-sections meas. 4-5459
 Fe^{24+} , electron scatt., relativistic deviation, autoionis. and dielectronic recomb. cross-section calcs. 4-5468
 $\text{Fe}:\text{B}$, BCC, impurity β -emitter hyperfine interactions, NMR and asymmetric β -decay obs. 4-34934
 α -Fe:He, impurity migration, vicinity of developing atom-atom collision chain (*Russian*) 4-45416
 α -Fe:He, interstitial impurity caging near collision cascade 4-56092
 $\text{Fe}:\text{N}$, ion implanted, impurity distrib. as function of fluence 4-16287
 $\text{Fe}:\text{Pt}$, Pt marker low temp. ion beam mixing 4-45205
 Fe/V composition-modulated struct. prep. 4-51499
 $\text{Fe}^{2+}/\text{Fe}^{3+}$ ratio evaluation from ^{57}Co Mossbauer emission spectra, influence of Fe^{3+} relax. 4-40312
 Fe-Al multilayers, ion beam mixing, elec. resist. study 4-34549
 Fe-Al vac. deposited multilayers, mixing by laser pulse or ion implantation 4-15722
 Fe-Ar hollow cathode discharge, atomic level populations meas. 4-24668
 Fe -austenitic stainless steel system, annealing, interdiffusion, 1023-1373K 4-15715
 Fe -based material, amorphous surface form. by H plasma bombardment 4-6638
 Fe -bearing phases, rapid determ. using Mossbauer γ -ray resonant absorption 4-57497
 Fe-C-N , BCC systems, short range and long range migration of heavy interstitials (*French*) 4-39600
 Fe-C-O , reduction-decarburizing annealing, thermodynamic study 4-3100
 Fe-FeO_x layer films, reactively sputtered, mag. props. 4-56730
 Fe-GaAs , MBE, growth mechanisms, electron diff., AES, EELS studies 4-20525
 Fe-P surfaces, valence band photoemission spectra, reson. effects 4-40604
 Fe-Si surfaces, valence band photoemission spectra, reson. effects 4-40604
 Fe-water , two-layer shields, γ -ray buildup factors approx. 4-14232
 $\text{Fe}+\text{H}_2$ system, thermal waves and nonuniform steady state 4-12382
 $\text{Fe}^{2+}+\text{Ar}$, charge transfer cross section meas. 4-49157
 $\text{Fe}^{24+}+\text{Ar}$, double K excitation cross sections at intermediate velocity, X-ray transitions obs. 4-19193
 $\text{Fe}^{25+}+\text{N}$, electron capture cross section in high p Rydberg states 4-14545
 $\text{Fe}^{26+}+\text{He}(\text{Ar})(\text{N}_2)$, high velocity asymmetric and near-asymmetric collisions, charge exchange cross sections 4-5348
 $\text{Fe}^{26+}+\text{He}(\text{Ar})(\text{Ne})(\text{N}_2)$, total charge transfer cross sections 4-33525
 $\text{Fe}^{26+}+\text{N}$, electron capture cross section in high p Rydberg states 4-14545
 $\text{Fe}^{24+}+\text{inert gases}$ ($q=12$ to 21), coincidence meas. of recoil-ion charge-state spectra prod. by ionisation and charge transfer at 1.4 MeV/u 4-9977
 Fe(I) multiphoton ionisation reson. of Fe carbonyls 4-5304
 $\text{Fe(II)}+\text{Fe(CO)}$, fragmentation branching ratios 4-14489
 ^AFe , $A=52, 55, 59$, used to study ferrokinetics, radiation absorbed dose calcs. 4-21815
 ^{56}Fe , Mn K X-ray use for β -counting thresholds estab., source prep. 4-9614
 ^{57}Fe , fast diffusion in Cu, depth-selective conversion electron Mossbauer spectroscopy study 4-35262
 ^{57}Fe in Sb, quadrupole interaction meas. by Mossbauer spectroscopy 4-35253
 ^{57}Fe , Mossbauer radiation, time dependence, hyperfine struct. effects 4-30371
 GaP:Fe , ESR line with $g=2.133$ 4-20855
 GaP:Fe , optical and thermal props. of Fe 4-2547
 GaP:Fe^{3+} , excited states, ESR and Hall effect studies 4-11480
 GeSe:Fe amorphous semicond., conduction mechanism, Mossbauer studies 4-25353
 H defect trapping, anal. using $^1\text{H}(^{15}\text{N}, \alpha)^{12}\text{C}$ reaction 4-45333
 H diffusion in Fe, influence of lattice imperfections (*German*) 4-34722
 H diffusion in high purity Fe 4-39606
 H enhanced crack propag. in situ HVEM obs. 4-57336
 H solubility, surface contamination effects 4-25028
 H trapping at TiC inclusions 4-20360
 H-charged single crystals, small angle X-ray scatt. 4-3242
 H-Fe oxide inclusion interaction 4-21310
 H_2 permeation const. meas. 4-56080
 $\text{In}_{0.53}\text{Ga}_{0.57}\text{As:Fe}$, LPE, dopant compensation 4-40688
 InGaAsP/InP channelled substrate BH laser using Fe^{+} implant for current confinement, LPE growth 4-38472
 InP:Fe , Czochralski grown crystals, electron and Fe conc., SIMS, Hall meas. 4-34971
 InP:Fe , Hall effect, elec. resist. and DLTS studies 4-25374
 InP:Fe , impulse photoconductance decay 4-50863
 InP:Fe , impurity centres, time depend. photoluminesc. study 4-46324
 InP:Fe , pure and doped, deep centres, optical studies 4-11479
 InP:Fe , recombination centre parameters, photoelec. studies 4-6828
 InP:Fe (100), surface morphology following O_2^{+} and Cs^{+} bombardment, SEM study 4-45477
 InP:Fe photoconductors, $^3\text{He}^{+}$ bombardment, picosec. photoresponse 4-45820
 InP:Fe^{+} , high resistive layers obtained by ion implantation (*French*) 4-55853
 KNbO_3 :Fe photorefractive materials, image intensification and recording (*Russian*) 4-20932
 LiBbO_3 :Fe, photorefract. characts. meas. (*Russian*) 4-20931
 LiBbO_3 :Fe(Cu), shift holograms, model using photovoltaic and photorefr. effects (*Russian*) 4-19397
 LiF:Fe , ion implanted, thermal annealing effects, conversion electron Mossbauer spectra 4-34646
 LiNbO_3 , Fe detect. by laser-induced fluoresc. of sputtered atoms 4-19605
 LiNbO_3 :Fe, hyperfine struct., Mossbauer study 4-40293
 LiNbO_3 :Fe, polariton Raman spectra, impurity conc. effect 4-29904
 LiNbO_3 :Fe, Raman spectra, photo-induced refractive index change effects (*Chinese*) 4-56900
 LiNbO_3 :Fe grating for Cu vapour laser (*Russian*) 4-5577
 LiNbO_3 :Fe self-starting nonlinear mirror for Cu vapour laser 4-44113
 LiNbO_3 :Fe Z-cut crystals, dynamic hologram, form. by transverse photogalvanic effect 4-28645
 LiNbO_3 : Fe^{2+} commercial crystals, bulk photovoltaic effect 4-20686
 LiTaO_3 :Fe, two step excitation for optical data storage 4-49293
 MgO:Fe , cathodoluminescence obs. in SEM 4-25816

iron continued

- MgO:Fe³⁺, cubic sites, EPR powder pattern anal. 4-35221
 Mg₂SiO₄:Fe³⁺, local environment of Fe³⁺, EPR study 4-56760
 NaCl:Fe, Suzuki phase, Raman active phonons 4-16207
 Nb diffusion in γ -Fe, 948-1201°C 4-15701
 NbH_{0.84}:Fe, interstitial diffusion effect on ⁵⁷Fe Mossbauer spectra 4-35311
 NbSe₂:Fe, transient nonlinear conduction and switching due to CDWs 4-25328
 Ni/Fe system, vapour transport and diffusion-induced grain boundary motion 4-25099
 NiMn-Fe, exciton ferromagnet, mag. and structural transitions 4-20822
 S segregation kinetics 4-25038
 Si:Au-Fe, deep levels in band gap. EPR and DLTS study 4-50754
 Si:Fe, multiple charge state of interstitials 4-6732
 Si:Fe, single crystals, rel. to thermal defects, radioactive tracer and ESR invest. 4-25090
 Si:Fe:B, isotope shift study of luminescence 4-2961
 Si:Fe in p⁺-n⁺ diodes, nature of deep levels (*Russian*) 4-50764
 Si:Fe reverse-biased p-n junction, photo-ESR studies 4-30280
 SrTiO₃:Fe, photochromic centres, Mossbauer spectroscopy studies 4-40314
 TeO₂:Fe³⁺, spectroscopic behaviour 4-20996
 VD_{0.78}:Fe, interstitial diffusion effect on ⁵⁷Fe Mossbauer spectra 4-35311
 VO₂:Fe³⁺, EPR linewidth, g-factor and electron-phonon interaction 4-35226
 W-Fe multi-point contact MIM diode (*Chinese*) 4-50951
 YAG:Nd:Fe lasers, pulsed and continuous, admixtures effect obs. (*Czech*) 4-23998
 Y₃Al₅O₁₂:Fe³⁺, luminescence and level structure of optical centres (*Russian*) 4-51319
 ZnS:Fe, central force constant of impurity paramag. ion complex 4-24927

iron alloys

- see also *Elinvar*; *Invar*; *iron compounds*; *Permalloy*; *steel*
 Alloy 600, open circuit potential, meas. in water at 250°C, effect of chromate and nitrate additions 4-16535
 Alloys 600 and 690, SCC, in high temp. water 4-16536
 carbide morphology effect on fatigue crack growth 4-3260
 cast, bainitic nodular, for construction of speed gears 4-46541
 cast Fe, beneficial effect of Sn 4-40995
 cast Fe, cementite with dissolved Cr, melting temp. and Cr influence (*Polish*) 4-40745
 cast Fe, crack nucleation and propagation during tensile test (*Chinese*) 4-57323
 cast Fe, ductile, ferrite-bainite matrix, tensile props. (*Korean*) 4-16442
 cast Fe, ductile, fracture toughness at low temps., X-ray fractographic study (*Japanese*) 4-57321
 cast Fe, ductile, fracture toughness of blunt-notched CT specimens (*Japanese*) 4-57501
 cast Fe, elastic modulus, var. on heating 4-40883
 cast Fe, flake graphite, C diffusion in liquid during steady-state solidification 4-57213
 cast Fe, fracture toughness rel. to ferrite and pearlite distrib. 4-21298
 cast Fe, graphite nodular ductile spent fuel casks 4-35727
 cast Fe, grey, diffusion process fading during inoculation (*Czech*) 4-39552
 cast Fe, grey, internal friction and graphite precipitates 4-40876
 cast Fe, grey, tensile behaviour, role of matrix-graphite interaction 4-12106
 cast Fe, grey, under axial strain, cyclic deformation modelling 4-35667
 cast Fe, grey (*Rumanian*) 4-35731
 cast Fe, high Cr, carbide removal mechanisms in quartz abrasion 4-41008
 cast Fe, high Cr, wear technological parameters 4-35733
 cast Fe, malleable, strength, struct. and mech. props. influence 4-21317
 cast Fe, microstruct.-prop. relationships 4-30882
 cast Fe, nodular, austenitising, microstruct. rel. to Mo addition (*French*) 4-51700
 cast Fe, nodular, scale factor effects on strength 4-12124
 cast Fe, pearlitic structures stabilised with Sb additions (*French*) 4-40761
 cast Fe, SG, automatic NDT, magnetic characterisation (*French*) 4-16574
 cast Fe, spheroidal graphite, ferritic, embrittlement at 673K, influence of microstruct. 4-26065
 cast Fe, spheroidal graphite, three-point bending fatigue, macrostructs. (*Japanese*) 4-3231
 cast Fe, stabilised mottled, sulphide inclusion graphitising action 4-21251
 cast Fe, TN 1300 cask casting process and material qualification, for spent fuel shipping/storage cask 4-35674
 cast Fe, white, 4-41000
 cast Fe, white, rapidly solidified powder compacts, room temp. strength and ductility 4-7528
 cast Fe, white, rapidly solidified powders, martensite content rel. to plastic deform. 4-40778
 cast Fe, white, wear behaviour for mining industry 4-40997
 cast Fe nodular radioactive material shipping containers, design criteria 4-35728
 cast Fe structural components for nuclear material transportation systems 4-35729
 cast Fe-enamel contact zone, metallographic inspection 4-41156
 composition of exothermal mixtures effect on ferrous metal casting properties (*Bulgarian*) 4-35623
 corrosion, FeS₂ formation, H₂ permeability meas. 4-12258
 dilute, cyclic stress-strain behaviour 4-26007
 elasticity characteristics, mag. field effect 4-56755
 fatigue crack growth, near-threshold 4-12140
 ferrite plates, struct. of broad faces 4-39530
 ferrite plates, struct. of broad faces 4-39531
 ferromagnetic, chem. short-range order effects rel. to electronic band struct. 4-6983
 Hastelloy X, high temp. carburisation in HTGR He, Ni-Al layer protection 4-16570
 Hastelloy X, high temp. ductility loss due to thermal neutron irradiation 4-43584
 impact wear testing, failure characts. 4-16608
 IN600, steam generator tubing, eddy current probe detection of defects, temp. effects 4-16584
 IN 519, Fe-Cr-Ni austenitic alloy, isothermal scaling, influence of Si and Y 4-3278

iron alloys continued

- IN 718, forged gas turbine disk, high temp. fatigue strength 4-12186
 Incoloy 800 H, oxidation, influence of cold work 4-35760
 Incoloy 800 tubes, estimated life sensitivity to material props. variation, solar panel appl. 4-35705
 Incoloy 800 tubes in KWU steam generators, operating experience (*German*) 4-9316
 Inconel 600, low temp. SCC, environmental variables 4-16532
 Inconel 600, sensitised, low temp. SCC in tetrathionate and thiosulphate solns. 4-16533
 Inconel 600-steel systems, crevice corrosion in seawater 4-12249
 Inconel 625 surfaces, desorption energies of H₂ and CO 4-34775
 Inconel 718, age hardening, struct. transform., mech. props. 4-51755
 Inconel 718, cathodically charged, NMR study of H 4-30308
 Inconel X-750, precip. hardened, high temp. fatigue, effect on microstruct. and mech. props. 4-7561
 melting temperatures 4-29580
 metallic glasses, ductile-brittle transition, kinetics (*Chinese*) 4-57311
 Metglas alloys, explosive compaction effects on ferromag. props., relative density and crystallisation 4-35591
 microstructure investigation using phys. acoustics 4-51910
 near-neighbour interactions, time differential PAC expt. 4-35276
 Ni monic PE16, solution annealing, microstruct., mech. props. rel. to double ageing 4-51754
 Nichrome, sputtered coating on Zircaloy, modular corrosion in steam 4-30848
 Nimonic PE16, precip. hardening and particle growth 4-57243
 passivating film stability on Fe alloys, chem. heterogeneity effect within metal phase 4-57464
 passive films, structure simulation by RDF method 4-57426
 rare earth alloys, R₂Fe₁₇, magnetostriction and thermal expansion 4-30256
 rare earth alloys, R₂Fe₂Co₁₄, R=Tb, Ho-Tm, mag. domain struct., Kerr magneto-optical effect, powder method, wall grooving method 4-7003
 rare earth alloys, R-Fe_{1.95}, magnetostriction and magnetisation, stress effects 4-30257
 rare earth alloys, rapidly quenched, mag. hysteresis 4-51099
 rare earth alloys, RFe₂Al₇, R=Y, Sm to Lu, ferromagnetism and hyperfine studies 4-7010
 rare earth amorphous alloy film, R-Fe, mag. props. and hydrogenation 4-56717
 rare earth ternary alloys, RFe₂Si₂, mag. transition temp., Mossbauer studies 4-25661
 Rb₂Co_{0.85}Mg_{0.15}Fe₄, antiferromagnetic, random-field effects in 2-D and 3-D, birefringence study 4-56645
 ScFe₂, mag. props. 4-20788
 shear moduli, reversible reduction during irradiation 4-15546
 Sm_{1-x}Er_x(Co,Fe,Cu,Zr)₇, 3 permanent magnets, B-H loop meas. meas 4-56706
 steel, stainless, irradiation effects on electrophysical props. (*Russian*) 4-45736
 stellite, plasma sprayed coating, laser processing, microstructure, wear, corrosion resist. 4-30854
 STEM-EDS X-ray microanal. of small precipitates 4-7678
 STEM-EDS X-ray microanalysis of grain boundary segregations 4-2337
 transition metal amorphous alloys, Fe-M, effective hyperfine field, Mossbauer studies 4-46160
 U₆Fe, comminuted, density hardness, microstructure 4-30797
 Zircaloy-4 cladding, oxidised, failure-bearing capability in LWR LOCA 4-37765
 Al bronze, commercial, superplastic behaviour (*Japanese*) 4-35666
 Al-Cu-Fe, phase equilib. between solid Al and liq. 4-30682
 Al-Cu-Mg-Fe-Ni, elevated temp. mech. props. 4-57300
 Al-Cu-Mg-Mu-Si-Fe, corrosion fatigue strength in various media 4-21396
 Al-Cu-Mg-Mu-Si-Fe, yielding and strength limiting states, block cycling effect 4-30772
 Al-Fe (0.005-0.04 wt.%), high purity, recrystn. textures, influence of Fe content and annealing temp. 4-21232
 Al-Fe (0.6 wt.%), cold drawn wire, dynamic recrystallisation 4-12079
 Al-Fe-Mn, dissolution in HNO₃, inhibitive efficiency of benzoic acid 4-41048
 Al-Fe-Mn, ternary system, phase equilib., crit. review 4-40747
 Al-Fe-Si, recrystn. texture, influence of Si additions 4-25973
 Al-Fe(cu), impurity mobility of Fe and Cu, RBS study 4-45381
 Al-Si-Cu-Fe, heat treatment, mech. props. rel. to Fe content 4-3187
 Al-Si-Mg-Fe, 6061, strain induced microstruct., US signal analysis 4-30913
 AlFeSi particles in commercial purity Al, anal. 4-46496
 Au-Fe, FCC, Mossbauer spectrum and hyperfine splitting 4-56828
 Au-Fe (1.5 at.%), canonical spin glass, linear and nonlinear susceptibilities 4-30173
 Au-Fe FCC alloys, Mossbauer spectrum and mag. struct. 4-11812
 Au-Fe thermocouple electrode, thermal EMF props. determ. for low-temp. appl. 4-8908
 AuFe alloys, double mag. transitions and allied phenomena, metallurgical explanation 4-56616
 AuFe, Mossbauer spectra, mag. field effects 4-35275
 Au₈₁Fe₁₉, anisotropy in zero-field-cooled states, irreversibility effects, spontaneous magnetisation 4-25549
 Au₈₁Fe₁₉, mag. hysteresis, irreversible effects below the de Almeida-Thouless temp. 4-40192
 Au₈₂Fe₁₈, spin glass freezing and absence of ferromagnetism, PAC study 4-30184
 Au₈₂Fe₁₈, spin glass freezing temp. internal field distrib., PAC study 4-35176
 CeFe₂, valence state of Ce (*Russian*) 4-6745
 CeNi₄Fe, ferromagnetic order, Curie temp., magnetisation 4-56542
 Co-Cr-Ni-Fe-Mo-Mn spring alloy, low-temp. strain hardening 4-30715
 Co-Fe-B metallic glass and cryst., hyperfine fields and mag. moments 4-56568
 Co-Ni-Fe base metallic glasses, struct. relax. study 4-6269
 Co-Sm-Fe-Cu-Zr powdered materials, mag. struct. form., vibr. effect 4-2793
 Co₃B₂Fe, mag. struct. and Curie temp. (*French*) 4-51029
 Co₉₂Fe₈, electronic struct., UPS and KKR calc. studies 4-29876
 Co₆₆Fe₂Mo₁₂Si₂B₁₂ metallic glass, creep-induced and field-induced anisotropy 4-56607
 Co₆₇Fe₂Mo₂(SiB)₂₇ metallic glasses, mag. hysteresis, temp. depend. 4-16063

iron alloys continued

- Co₉₃Fe₇Ni₁₀Si₁₁B₁₆ metallic glass ribbon, initial permeability, annealing effects 4-30204
- Co₉₃Fe₇Ni₁₀Si₁₁B₁₆ metallic glasses toroids, mag. props. and winding methods 4-30207
- Co₉₃Fe₇Ni₁₀Si₁₁B₁₆, amorphous, mag. props., tensile stress effects 4-35167
- Co₉₃Fe₇Ni₁₀Si₁₁B₁₆ amorphous alloy annealed, mag. props., effect of tensile stresses 4-40215
- Co_{70.3}Fe_{4.7}Si₁₅B₁₀ amorphous ribbons, domain struct., anisotropy effects 4-30199
- Co_{70.3}Fe_{4.7}Si₁₅B₁₀ amorphous ribbons, domain struct., applied current effects 4-36678
- Co_{70.3}Fe_{4.7}Si₁₅B₁₀ composite, high freq. mag. props. 4-46068
- Co₅₈Ni₁₀Fe₂Se₁₁B₆ ribbons, amorphous, coercive field, surface roughness effect 4-7011
- Co₅₈Ni₁₀Fe₂Se₁₁B₆, Vitrovac 6010, annealed, mech. and phys. props. (*German*) 4-57273
- Cr-C-Fe composite magnetoabrasive powders, synthesis 4-3106
- Cr-Fe, cold brittleness temp., plasticity and segregation (*Russian*) 4-51781
- Cr-Fe, itinerant-electron antiferromag., spin glass state, mag. susceptibility 4-51060
- Cr-Fe-V, phase equil., crit. evaluation 4-21196
- Cr₁₀Fe_{90-x}Ni_x, conc. mag transition, lattice crust., Debye temp. 4-20821
- Cr₃Fe_{2-x}Ni_x, conc. mag transition, lattice crust., Debye temp. 4-20821
- Cu-Al-Fe, bearing alloys, heavy load support appl., wear props. 4-35734
- Cu-Fe, internal friction caused by sliding on grain boundaries with second-phase particles 4-21258
- Cu-Fe alloys, charge density distrib. around Fe-Fe dimer, X α cluster calc. 4-2541
- Cu-Fe thermocouple electrode, thermal EMF props. determ., for low-temp. thermocouples appl. 4-8908
- Cu-Fe-Li thermocouple electrode thermal EMF props. determ., for low-temp. thermocouples appl. 4-8908
- Cu-Ni-Fe, marine corrosion resist. rel. to Na₂Cr₂O₇ pretreatment 4-12254
- Cu-Ni-Fe, precipitate comp., microanal. invest. using STEM/EDX (*German*) 4-57237
- Cu-Ni-Fe, spinodal decomp. mechanism 4-30679
- Cu-Ni-Fe (20, 19.8 wt.%), mag. props., influence of elastic stress 4-57229
- Cu-Ni-Fe superparamagnets, magnetocaloric effects (*Russian*) 4-51059
- Cu-Ni-Mn-Fe alloys, elec. resist. and Kondo effect at Fe impurities (*Russian*) 4-25329
- CuMnFe spin glass, NMR mean ferromagnetic enhancement factor 4-35177
- Dy-Fe-B system, phase equil. diagrams, phase comp. 4-51632
- DyFe₂, mag. domain struct. obs. 4-35195
- DyFe₃, mag. props. and domain struct. 4-51089
- DyFe₄Al₈, mag. struct., neutron diff. study 4-6953
- Dy₂Fe_{17-y}Al_y, Mossbauer study 4-35316
- Dy₂Fe_{17-y}Al_yH_x, X-ray and Mossbauer study, hydrogenation effect on hyperfine field 4-35303
- Er-Fe-B system, phase equil. diagrams, phase comp. 4-51632
- ErFe₂, hydrogenation kinetics and surface compositions, AES study 4-2440
- ErFe₂, mag. props. 4-20788
- ErFe₂H₃, magnetisation behaviour, Curie temp. and mag. moments 4-30217
- ErFe₂Si, mag. ordering, neutron diff. study 4-51030
- (Er_{1-x}Gd_x)Fe₃, spin reorientation, Mossbauer study 4-35282
- (Fe₂Co₂Ni)_{1-x}(Si₂B)_x amorphous alloys, Curie temp. 4-40166
- (Fe₂NiCo)_{1-x}(B₂P₂Si)_x alloys, amorphous, phonon thermal cond., 2 to 100K, heat treatment effect 4-6573
- (Fe₂NiCo)_{1-x}V_x ordered alloys, high cycle fatigue, 25-850°C 4-7560
- (Fe₂NiCo)_{1-x}SnB₂₀, amorphous, hyperfine field distrib., Mossbauer spectra 4-35312
- Fe-Ag high conc. alloys, sputtering prep., mag. and Mossbauer studies 4-57101
- Fe-Al, Al diffusion coeff., temp. depend., X-ray diff. study (*Russian*) 4-34689
- Fe-Al, Debye temp. anomalies (*Russian*) 4-6464
- Fe-Al, low-temp. heat capacity, long range order (*Russian*) 4-6522
- Fe-Al, magnetic hyperfine splitting induced by ion implantation, Mossbauer study (*French*) 4-29937
- Fe-Al, slip directions, temp. and comp. depend. 4-40914
- Fe-Al (26.5 to 50 at.%), quenched, thermal expansion behaviour on annealing (*German*) 4-46540
- Fe-Al (36-50 at.%), thermal expansion behaviour (*German*) 4-15668
- Fe-Al (39.8 at.%), Bailey-Orowan creep model 4-35662
- Fe-Al-C, phase composition and ordered phase formation (*Russian*) 4-7446
- Fe-Al-Si (20, 5 at.%), antiphase domain growth kinetics 4-16424
- Fe-Al-(Ti), high temp. alloys, radiotracer studies of C permeation through oxide scales 4-35759
- Fe-Al-Si(Ge)(Sn)(V)(Cr), comparison of model predictions and meas. isomer shifts 4-46166
- Fe-Au, dil., local moment induced elec. quadrupole splitting of dil. ¹⁹⁸Au, NMR-ON study 4-46127
- Fe-Au (0.18 at.%), grain boundary struct., effect of solute segregation 4-45143
- Fe-B, amorphous, electronic struct. and mag. props. 4-20545
- Fe-B, amorphous, struct. study 4-55726
- Fe-B eutectic melts, wetting of refractory compounds 4-2413
- Fe-B metallic glasses, struct. relax. and Curie temp. 4-20112
- Fe-B metallic glasses, thermoelec. power, conc. and temp. depend. 4-45750
- Fe-B-C alloys, metallic glass, struct. relax., DSC study 4-45008
- Fe-B-Si, amorphous, Si diffusion coeff. meas. 4-6557
- Fe-B-Si-Cr-C amorphous ribbons, high freq. mag. props., Cr and C addition effects 4-56688
- Fe-B-Tb-La, prod. of hard mag. materials 4-56699
- Fe-B(P), grain boundary segregation, atomic struct. and stress distrib. 4-20356
- Fe-B(P), grain boundary segregation, electronic struct. and intergranular embrittlement 4-20357
- Fe-B(P), grain boundary segregation, vibr. states of atoms at grain boundaries 4-20358
- Fe-base alloys, carburised, high-temp. phys. props. 4-51689

iron alloys continued

- Fe-base alloys, corrosion, chloride-induced high temp. SEM and energy dispersive X-ray anal. (*German*) 4-57390
- Fe-based amorphous alloy ribbons, Young's modulus rel. to quench rate 4-35652
- Fe-based amorphous alloys, magnetovolume effects, comparison with cryst. alloys 4-56756
- Fe-based amorphous ferroalloy tape, segregation in surface layers (*Russian*) 4-50513
- Fe-based metallic glasses, mag. hysteresis, temp. depend. 4-16063
- Fe-based metallic glasses, high freq. mag. props., stability 4-30206
- Fe-based metallic glasses, saturation and engineering magnetostriction, power appls. 4-56752
- Fe-Be, high temp. oxidation inhibition by Bi ion implantation 4-12244
- Fe-Be alloys, triaxially modulated microstruct., APFIM-TEM studies 4-46494
- Fe-C, dislocation enhanced Snoek relax. peak 4-50427
- Fe-C, driving force for martensitic transform. thermodynamic calc. 4-7454
- Fe-C, martensitic transform., calc. of M_s and driving force 4-51656
- Fe-C, metastable phase equil., calc. of T₀ curves in connection with rapid solidification 4-57206
- Fe-C, powder metallurgical, quality control methods 4-46706
- Fe-C (1.25 wt.%), positron-grain boundary interaction, trapping studies 4-35514
- Fe-C/Fe-Cr-C, symmetric sandwich, annealing, C diffusion, modified quasistationary model (*Czech*) 4-6543
- Fe-Cr, borided, surface layers comp., struct. and hardness, Mossbauer spectra 4-7632
- Fe-C-Si, recrystn. during diffusional comp. change 4-30706
- Fe-C-Si alloys, reaction with liquid Zn, 733K (*Japanese*) 4-46652
- Fe-C-Si-Ce system, cast Fe, eutectic crystallisation 4-12062
- Fe-Co, ferromag. powders, obtained by electrolytic method, single-domain state 4-30224
- Fe-Co, liquid, elec. resist. meas. 4-45711
- Fe-Co, phonon generation by nonequilibrium electrons, optimum temp. determ. (*Russian*) 4-24935
- Fe-Co-B-Si, amorphous alloy, thermal aged, struct. changes, calorimetric evidence 4-45010
- Fe-Co-Cr, damping, capacity, mag. props., pitting corrosion resist. (*Japanese*) 4-46549
- Fe-Co-Cr containing various admixtures, struct., NMR, nucl. gamma reson. (*Russian*) 4-25961
- Fe-Co-Cr sputtered films, mag. and corrosion props., magneto-optical meas. 4-56719
- Fe-Co-Ta, Recalloy, mag. props., thermal expansion, elec. resist., hardness (*Japanese*) 4-46069
- Fe-Co-Te alloys, NiAs-type struct., lattice parameter and mag. props. 4-56540
- Fe-Co-V, cold rolling, mech. props. 4-7553
- Fe-Co-V, heat treatment, ductility and structure 4-7509
- Fe-Co-V, ordered-disordered alloy, cold rolled, shear bands in BCC lattice 4-51745
- Fe-Co-X (X=Mn,V,Ti), low temp. fission neutron disordering, Frenkel pairs, elec. resist. obs. 22K 4-15545
- α -Fe-Cr, bright nitrided alloys, grain boundary segregation, AES 4-7471
- Fe-Cr, high purity, corrosion in molten basaltic lava and simulated magmatic gas 4-41100
- Fe-Cr, hot corrosion in HCl gas and O₂, protective scale form. 4-51903
- Fe-Cr, inhomogeneous distrib. of C atoms (*Russian*) 4-6389
- Fe-Cr, liq. alloy, elec. resistivity, conc. depend. 4-2582
- Fe-Cr, oxide surface, exoelectron glow curves, interaction with gasoline 4-3026
- Fe-Cr, phase separation, crossover phenomenon in dynamic scaling 4-50500
- Fe-Cr (Ni)(Mo)(V), stability of extrinsic grain boundary dislocations rel. to segregation and precip. 4-7458
- Fe-Cr alloy, AE during martensitic transformation 4-57227
- Fe-Cr alloys, irradiation, hardening 4-15543
- Fe-Cr alloys, passive multiple layer films, modulation reflection spectroscopy 4-57432
- Fe-Cr alloys, passive state, quantitative ESCA anal. 4-57466
- Fe-Cr alloys, surface segregation and adsorption, anal. with backscattered ions 4-29623
- Fe-Cr arc sprayed coating, fretting wear and fretting fatigue 4-7611
- Fe-Cr, high purity, oxidation at 800°C, scale topography and morphology 4-41097
- Fe-Cr-Al-Ce, high temp. corrosion in Na₂SO₄-NaCl molten salt, Ce addition effect 4-7637
- Fe-Cr-Al-Y coatings on stainless steel, laser surface fusion and oxidation 4-7649
- Fe-Cr-C, (252)_f martensitic, substruct. 4-25959
- Fe-Cr-C, (252)_f martensite transform., crystallographic characts. 4-25960
- Fe-Cr-C, sintering, C content determ. 4-12043
- Fe-Cr-Co-M (M=Mo, Ti, Zr) permanent mag. additions effect on ductility and mag. props. 4-11749
- Fe-Cr-Co-Mn, deteriorating effect of Mn on mag. props. 4-25589
- Fe-Cr-Co-Mo-Ti permanent mag., spinodal decomposition and mag. hardening 4-56017
- Fe-Cr-Co-Ni, cold drawn, strain gauge factor, elec. props. (*Japanese*) 4-6763
- Fe-Cr-Co-Si-Ti, permanent mag. alloy, microstruct., mag. props. rel. to treatment and comp. 4-16065
- Fe-Cr-Co-Ti, stress ageing, spinodal decomp., mag. props. 4-46513
- Fe-Cr-Mn, phase boundaries, thermoelec. studies (*Bulgarian*) 4-35610
- Fe-Cr-Mn-C, cast, high-Cr, phase transform. features 4-21205
- Fe-Cr-Mn-Ni, scaling resist. rel. to Ni content, subscale layer form. 4-51885
- Fe-Cr-Mo, BCC, dislocation annihilation in small-angle boundaries 4-39299
- Fe-Cr-Mo alloys, passive state, quantitative ESCA anal. 4-57466
- Fe-Cr-Mo(V)(Nb)-C 4-21333
- Fe-Cr-Ni, austenitic, electron irradi., defect props., elec. resist. meas., comp. depend. 4-55877
- Fe-Cr-Ni, elec. and mag. props. at low temp. 4-56627
- Fe-Cr-Ni, ferritic-austenitic, continuous δ - γ transform during cooling 4-3134
- Fe-Cr-Ni, invariant diffusion coeffs. (*Russian*) 4-50563
- Fe-Cr-Ni, radiation induced segregation, composition profiles 4-20368
- Fe-Cr-Ni (18, 14 wt.%), austenites, irradi. in HVEM, interstitial migration, role of C and Ti (*French*) 4-34545

iron alloys continued

- Fe-Al-Ni alloys, dissolution and passivation kinetics during localised corrosion 4-57437
- Fe-Cr-Ni alloys with square hysteresis loops, mag. sensors 4-53712
- Fe-Cr-Ni-Mo (14.5, 14.5, 2.5 wt.%), single cryst., electrochem. meas. on low index planes 4-57483
- Fe-Cr-Ni-Mo alloys, active dissolution inhibition by Mo surface enrichment 4-46646
- Fe-Cr-P-C, amorphous, structural relax., energy level schemes, DSC meas., vitrification kinetic theory (*Russian*) 4-24727
- Fe-Cr-P-C amorphous alloys, quenched ribbons mag. props. rel. to Cr content, Mossbauer obs. 4-51098
- Fe-Cr-based amorphous ferroalloy tape, segregation in surface layers (*Russian*) 4-50513
- Fe-Cr(Ni), Armco based superalloy, sulphidation/oxidation, 1073-1373K 4-35773
- Fe-Cr(Ni)(Mo), passivity in organic solns. of H_2SO_4 , effect of alloying additions 4-57482
- Fe-Cu, fibrous composite wires, age hardening 4-46521
- Fe-Cu, liq. phase sintering, particle growth by coalescence 4-21182
- Fe-Cu, liquid phase sintered, austenite grain boundaries, etching obs. (*German, English*) 4-7683
- Fe-Cu (30 wt.%), liquid phase sintered, large pore elimination, grinding, metallographic analysis (*German, English*) 4-51927
- Fe-Cu high conc. alloys, sputtering prep., mag. and Mossbauer studies 4-57101
- Fe-Cu melt, elec. cond. study (*Russian*) 4-50789
- Fe-Cu-(Co)-C melts, thermodynamic props., C solubility and Fe/Cu activity coeffs. (*Chinese*) 4-7421
- Fe-Fe₂B, eutectic system, primary phase crystal growth and shape 4-3125
- Fe-Ge films, elec. cond. and thermo-EMF, crystallisation and annealing effects (*Russian*) 4-40083
- Fe-glass Ti-alloy bimetallic material, extrusion 4-46474
- Fe-H base amorphous alloys, H diffusion study 4-45383
- Fe-metalloid alloys, conc. amorphous and cryst., band gap theory of strong ferromagnetism 4-45992
- Fe-Mn, binary alloys, oxidation 4-16551
- Fe-Mn, cold worked, martensitic transform., Mossbauer spectroscopy 4-16390
- Fe-Mn, liq. alloy, elec. resistivity, conc. depend. 4-2582
- Fe-Mn, shape memory alloy, deform. in nonsteady cyclic loading 4-12128
- Fe-Mn, Young's modulus and internal friction peaks 4-40871
- Fe-Mn (17.5 wt.%), deform. under transform. plasticity development conditions 4-57303
- Fe-Mn (19 wt.%), shape memory effects and $\alpha \rightarrow \gamma$ transition (*Russian*) 4-35661
- Fe-Mn (22.6 at.%), HCP-BCC transition, elastic moduli softening, US rel. meas. 4-15570
- Fe-Mn alloy G29, ductile-brittle transition temp., purity influence 4-21318
- Fe-Mn alloys, austenite stability and short range order, Mossbauer study (*Russian*) 4-34658
- Fe-Mn-Al-C (25.5, 0.2 wt.%), resistivity negative temp. coeff. (*Chinese*) 4-2583
- Fe-Mn-C alloys, massive transform., thermodynamics 4-57218
- Fe-Mn-Cr-Mo-Al-Si-C, superalloys, duplex microstruct., carbide stability regions 4-51667
- Fe-Mn-N, ternary austenite, N solubility and thermodynamic props. 4-7419
- Fe-Mn-Ni (11, 6.5 wt.%), strengthening mechanisms 4-46517
- Fe-Mn-Si, ternary system, phase equilib., crit. review 4-40747
- Fe-Mn-Si, yield and flow stresses, grain size depend. 4-57302
- Fe-Mn-Si alloys, shape memory effect, orientation and comp. depend. 4-57222
- Fe-Mn-(Si), Nb diffusion, 948-1201°C 4-15701
- α -Fe-Mo, bright nitrided alloys, grain boundary segregation, AES 4-7471
- Fe-Mo, dil., nucl. spin-lattice relax., mag. field depend., NMR obs. 4-46141
- Fe-Mo-C, ageing, interstitial phase formation, kinetics and morphology 4-21228
- Fe-Mo-C, amorphous, surface film form. in HCl, ion beam analysis 4-12246
- Fe-Mo-C (70, 12, 18 wt.%) amorphous, anal. of H in corrosion product films using ERD 4-45465
- Fe-Mo-Ni, phase decomposition rel. to Ni addition 4-35632
- Fe-Mo-P alloy, combustion prep. 4-51576
- Fe-Mo-S thin film, tribology 4-41005
- Fe-Mo-W, phase diagrams, μ phases interactions, physicochem. anal. 4-46491
- Fe-Nb alloys, melting temps. 4-29580
- Fe-Nb-Si-B amorphous alloys, magnetostriction and mag. core loss 4-16078
- Fe-Nd rapidly quenched alloys, mag. hardening, magnetisation and thermomag. studies 4-56704
- Fe-Ni, deformed, time-temp.-reaction diagrams for thermomech. treatment, intercrit. annealing 4-51683
- Fe-Ni, elec. resist., Hall effect, magnetoresist. meas., martensitic transform. 4-56316
- Fe-Ni, electron struct. changes in FCC \rightleftharpoons BCC transitions, XPS study (*Russian*) 4-50488
- Fe-Ni, FCC lattice, internal friction peak rel. to H interstitial pairs 4-46554
- Fe-Ni, inverse martensitic transform. induced by high press. (*Russian*) 4-25956
- Fe-Ni, liquid, elec. resist. meas. 4-45711
- Fe-Ni, phonon generation by nonequilibrium electrons, optimum temp. determ. (*Russian*) 4-24935
- Fe-Ni, quenched, annealed, $L1_0$ -type superstructure form., mag. anisotropy const. determ. (*Russian*) 4-25545
- Fe-Ni, sintered, tensile props. and phase struct. rel. to annealing temp. 4-7527
- Fe-Ni, solubility of S, 950 to 1200°C (*French*) 4-46493
- Fe-Ni, thermodynamics of martensitic transform. (*Russian*) 4-7453
- Fe-Ni (13 wt.%), strength and low temp. toughness, effect of rolling temp. 4-30820
- Fe-Ni (25 wt.%), supercooled, microstruct. and solute distrib. 4-30696
- Fe-Ni (28 wt.%), austenitic, deform.-induced transform., effects of cyclic heat treatment (*Korean*) 4-30758

iron alloys continued

- Fe-Ni (3 wt.%), anodic behaviour in multi-steady-states region in H_2SO_4 4-57477
- Fe-Ni (31.7 at. %), mag. field induced martensitic transform. 4-21215
- Fe-Ni (33.7 wt.%), thermodynamics of γ - α transform. 4-16393
- Fe-Ni (36 wt.%), electrochemical behaviour in acid and neutral media (*French*) 4-41054
- Fe-Ni alloys, decarburised, effect of quenched-in vacancies 4-7455
- Fe-Ni base alloy, CG-27, chromised and plated Cr coatings, endurance and hot gas erosion atmosphere 4-16569
- Fe-Ni base melt surface tension and metallic glass struct. 4-45455
- Fe-Ni base metallic glasses, coercive force composition depend. 4-25595
- Fe-Ni base superalloys, fatigue crack propag. at elevated temps., overload effects (*Chinese*) 4-16468
- Fe-Ni dilute alloy, electron irradi., annealing behaviour, mag. aftereffect study 4-46073
- Fe-Ni films, spin-wave spectra, volume inhomogeneity model anal. (*Chinese*) 4-56779
- Fe-Ni system, low temp. diffusivity, STEM obs. 4-15677
- Fe-Ni thin film magnetometry developments 4-53710
- Fe-Ni-Al(Mo), coarsening kinetics of coherent NiAl-type precipitates 4-57232
- Fe-Ni-Au, microstruct. and mag. props. 4-25043
- Fe-Ni-B, amorphous, structural relax., energy level schemes, DSC meas., vitrification kinetic theory (*Russian*) 4-24727
- Fe-Ni-B amorphous alloys, crystn. 4-2081
- Fe-Ni-B amorphous film, mag. saturation, defects, anisotropy and surface roughness effects 4-30252
- Fe-Ni-B metallic glasses, evidence for FCC-like short range order 4-34418
- Fe-Ni-B-P-xCr amorphous alloy passivation, Cr addition and heat treatment effect 4-57445
- Fe-Ni-C, internal friction, correl. with thermal expansion during isothermal martensitic transforms. (*French*) 4-40860
- Fe-Ni-C, Invar effect, C addition influence, Mossbauer studies (*Russian*) 4-51161
- Fe-Ni-C, Mossbauer study of atomic and mag. ordering (*Russian*) 4-7100
- Fe-Ni-C (31.9, 0.2 wt.%), martensite transform. spread, computer assisted analysis 4-30699
- Fe-Ni-C alloys, austenite-martensite interface and dislocation struct. 4-7457
- Fe-Ni-C martensites, deform. mechanisms, effect of ageing 4-21291
- Fe-Ni-Co maraging steel, hardening study (*Russian*) 4-51676
- Fe-Ni-Co-Ti (23, 10, 10 wt.%), martensitic transform., γ -phase precipitate lattice parameters, internal stresses 4-21209
- Fe-Ni-Cr, dynamic straining, behaviour multioxidant environment 4-41082
- Fe-Ni-Cr, elastic and mag. props. (*Russian*) 4-6419
- Fe-Ni-Cr, metal alloy, stress-rupture in sulphidising and oxidising environments 4-7636
- Fe-Ni-Cr and Fe-Cr, passivity breakdown and localised corrosion, electrochem. noise meas. 4-57434
- Fe-Ni-Cr austenitic alloys, He embrittlement, effect of pre-injection thermomech. treatment 4-16481
- Fe-Ni-Cr LMFBR cladding, microstruct. and irradiation swelling, rare earth addition effects 4-20270
- Fe-Ni-Cr superalloy, mech. props., microstruct. on prolonged heat exposure (*Chinese*) 4-3172
- Fe-Ni-Cr-Al, oxidation kinetics, influence of impurities 4-41044
- Fe-Ni-Cr-Mo cermet matrices, struct. and props. 4-3116
- Fe-Ni-Cr-P-B, laser glazing, surface amorphous and crystalline structures 4-34537
- Fe-Ni-Cr-P-B metallic glasses, struct. relax., DSC study 4-45008
- Fe-Ni-Cr-W, amorphous and crystallised, corrosion resist. behaviour 4-46649
- Fe-Ni-Cr(Mn), low temp. mag. sp. ht. meas. 4-30186
- Fe-Ni-Mn, dilute, diatomic impurity cluster effects (*Russian*) 4-51045
- Fe-Ni-Mn (21, 4 wt.%), plate component, lath martensitic transform. 4-21212
- Fe-Ni-Mn (23, 3.9 wt.%), isothermal martensite form., optical microscopy, continuous obs. 4-51657
- Fe-Ni-Mn based austenitic steel, ageing, hardening and microstructure (*Russian*) 4-51677
- Fe-Ni-Mn hydrogenated state, Mossbauer effect and mag. order (*Russian*) 4-25656
- Fe-Ni-Mo (13.3 wt.%), strength and low temp. toughness 4-30821
- Fe-Ni-Mo microduplex semihard magnet alloys, processing and mag. props. 4-57359
- Fe-Ni-Mo-B, Metglas 2826 MB, He⁺ implantation, bubble growth and blistering 4-15551
- Fe-Ni-Mo-B, Metglas 2826 MB, He⁺ implantation, free-vol. relax model for bubble growth 4-15552
- Fe-Ni-Mo-B metallic glasses, struct. relax., DSC study 4-45008
- Fe-Ni-Mo-Ti (13, 3, 0.2 wt.%), fracture toughness at 4K 4-30822
- Fe-Ni-P, P conc. profiles across grain boundaries, theoretical estimates 4-21216
- Fe-Ni-P, struct. and phys. props., P influence 4-30168
- Fe-Ni-S solid solutions, thermodynamics of S solubility 4-3145
- Fe-Ni-Si-B alloy and sputtered film, chem. composition, XPS studies (*Russian*) 4-25172
- Fe-Ni-Ti (30.0, 3.8 wt.%), ausaging, martensitic transform. 4-51660
- Fe-Ni-V, influence of dislocation mobility on martensitic transform. (*Russian*) 4-7451
- Fe-Ni-V, phase equilib., crit. evaluation 4-21196
- Fe-Ni-V (28, 1.5 wt.%) foils, residual austenite layers (*Russian*) 4-7415
- Fe-Ni-(Co) film on $LiNbO_3$ mag. anisotropy studies 4-56716
- Fe-P, powder, mag. props. depend. on interparticle spacing 4-51105
- Fe-P amorphous phase, thermal expansion and struct. relax. 4-20382
- Fe-P based ferromagnetic glasses, Mossbauer Zeeman spectra 4-35310
- Fe-P-C, grain boundary segregation of P, C conc. effect 4-16405
- Fe-Pd surface alloy, ion channelling and TEM studies of epitaxial growth 4-45544
- Fe-Pr rapidly quenched alloys, mag. hardening, magnetisation and thermomag. studies 4-56704
- Fe-Pr-B-Si, rapidly quenched, mag. and struct. props., permanent magnet appls. 4-2790
- Fe-rare earth based Co-free permanent magnetic materials, mag. props., chem. comp. depend. 4-56701
- Fe-Sb, dil., mag. and static lattice perturbation, diffuse neutron scatt. study 4-20794

iron alloys continued

- α -Fe-Si, bright nitrided alloys, grain boundary segregation, AES 4-7471
 Fe-Si, fatigue crack growth in air and vacuum 4-7580
 Fe-Si, grain oriented, mag. props. 4-12201
 Fe-Si, grain oriented electrical steel, domain struct., core loss, permeability, surface coating stress effect (*Japanese*) 4-35192
 Fe-Si, high-silicon steel, Si segregation during oxidation, AES study 4-3292
 Fe-Si, interaction with molten In, dislocation formation (*Russian*) 4-6375
 Fe-Si, Nb diffusion, 948-1201°C 4-15701
 Fe-Si, powder, mag. props. depend. on interparticle spacing 4-51105
 Fe-Si, transformer steel, mechanical stress meas. using mag. permeability sensor 4-46712
 Fe-Si (1.4-2.9 wt.%), comp. limit of ferrite solid solns. at 950-1100°C 4-30683
 Fe-Si (3 at.%), slightly deformed, struct. and texture changes during annealing (*Russian*) 4-25969
 Fe-Si (3 wt.%), C content effect on secondary recrystallisation 4-25970
 Fe-Si (3 wt.%), core loss and materials preparation 4-25582
 Fe-Si (3 wt.%), domain struct. during magnetisation switching (*Russian*) 4-6999
 Fe-Si (3 wt.%), fatigue cracks, 3-D obs. of plastic zones 4-26064
 Fe-Si (3 wt.%), fatigue crack propag. and plastic zone size 4-40992
 Fe-Si (3 wt.%), Goss texture, contrib. of shear bonding 4-40818
 Fe-Si (3 wt.%), grain oriented sheets, domain struct., tensile stress effect (*Chinese*) 4-2787
 Fe-Si (3 wt.%), grain oriented, domain struct., effect of compression (*Chinese*) 4-6998
 Fe-Si (3 wt.%), grain-oriented, hot rolled microstruct. (*Korean*) 4-30728
 Fe-Si (3 wt.%), hot rolling, texture study (*Korean*) 4-16412
 Fe-Si (3 wt.%), mag. power loss study 4-25581
 Fe-Si (33 at.%), amorphous films, crystn. behaviour 4-29320
 Fe-Si (33 at.%), early fatigue crack propag., etch-pit study (*Japanese*) 4-3229
 Fe-Si (3 wt.%) crystals, float zone melt grown, induction heating, electrodynamic force driven convection 4-3064
 Fe-Si (6.3 at.%), nonequib. surface segregation of C, AES study 4-56127
 Fe-Si strips, grain-oriented, desulphurisation during heat treatment in vacuum 4-16421
 Fe-Si systems, surface segregation, electron spectroscopy study 4-46426
 Fe-Si-Al ferromagnetic alloy, mech. strength in mag. fields (*Russian*) 4-35677
 Fe-Si-Al film, Sendust, transient layer on Si, Mossbauer studies 4-2473
 Fe-Si-Al Sendust alloy, prep. by rapid quenching, ordering characs., TEM, Mossbauer spectra (*Russian*) 4-25952
 Fe-Si-B metallic glasses, struct. after rapid heat treatment 4-20107
 Fe-Si-B-based soft mag. glasses, retained γ -Fe, electron microscopy studies 4-56022
 Fe-Si-B(Co-B), (Ni-B), amorphous alloys, mag. props. 4-46010
 Fe-Si-C, grey, cast, complex diffusion alloying, Si effect 4-21371
 Fe-Si-C, phase transform., struct. rel. to microadditions 4-51655
 Fe-Si (3 wt.%), secondary recrystallisation centre formation (*Russian*) 4-51687
 Fe-Si (4 wt.%), paramag. phase, inelastic neutron scatt. studies 4-35144
 Fe-Sn-B-Si amorphous alloys, crystn. and mag. props. 4-46064
 Fe-Sn-C, cast high-strength, Sn effect on struct. and props. 4-21250
 Fe-Ta(Mo)(W), semihard mag. alloys, mag. and mech. props. 4-41012
 Fe-Tc, dil., nucl. spin-lattice relax., mag. field depend., NMR obs. 4-46141
 Fe-Ti alloy with oil layer, internal friction and shear modulus 4-40873
 Fe-Ti system, retrograde solubility and equilb. phase diagrams (*French*) 4-11309
 Fe-Ti-C, microstructure study 4-56036
 Fe-V, liq. alloy, elec. resistivity, conc. depend. 4-2582
 Fe-V, σ phase form. mechanisms, elec. resist., acoustic emission obs. (*Japanese*) 4-25953
 Fe-V system, mag. phase diagram, thermodynamic anal. 4-46022
 Fe-V-B-Si alloys, N-bearing, amorphous, effects of annealing on Curie temp. 4-46028
 Fe-V-B-Si amorphous alloys, N-bearing, crystn. processes, mag., thermal, and transport props. 4-45006
 Fe-V-C, ageing, interstitial phase formation, kinetics and morphology 4-21228
 Fe-V-Ni solid solution, deformed-and-recovered, dislocation substruct., influence of processing parameters 4-57292
 Fe-VC, sintering, C content determ. 4-12043
 Fe-W, amorphous, in multilayer metalizations on Si, stability 4-2485
 Fe-W, amorphous, radical distribution function and bulk moduli at high press. 4-6275
 Fe-W system, mag. phase diagram, thermodynamic anal. 4-46023
 Fe-Y₂O₃ dispersion strengthened, fatigue crack growth rate 4-35693
 Fe-Zr amorphous alloys, Hall effect and magnetisation 4-56317
 Fe-Zr amorphous alloys, low temp. sp. ht., supercond. transition temp. obs. 4-45533
 Fe-Zr amorphous alloys, rapidly quenched, thermopower meas. 4-45747
 Fe-Zr amorphous ferromag. alloy, anomaly in Young's modulus 4-45246
 Fe-Zr metallic glasses, thermopower, inelastic mag. scattering 4-45746
 FeAl-Y(La)(Ce), liq., enthalpy of form. 4-51628
 Fe_{0.7}Al_{0.3}, anomalous mag. behaviour, inelastic neutron scatt. study 4-20808
 Fe_{1-x}Al_x, mag. vacancies, ¹⁹F TDPAD expts. and simulations 4-35265
 Fe₃Al, ordered, radiation damage (*Russian*) 4-50371
 Fe₃Al single cryst. and polycryst., magnetostriction and thermal expansion 4-40211
 (Fe_{1-x}Al_x)₂Gd (Dy), mag., elec. and thermal props., local disorder effects 4-51056
 FeB, cryst. and amorphous sputtered films, ferromag. and paramag. phases 4-30251
 FeB metallic glass, field evaporation charge-state of B ions, isotopic variations 4-35554
 Fe_{1-x}B_x amorphous sputtered alloys, optical props. 4-46281
 Fe_{1-x}B_x amorphous thin film, magnetisation, resist. and Hall const. 4-30250
 Fe_{100-x}B_x amorphous ribbons, microwave mag. props., temp. and freq. depend. 4-56780
 Fe_{100-x}B_x ferromagnetic glasses, Mossbauer Zeeman spectra 4-35310
 Fe_{100-x}B_x metallic glass, atomic environment, spin-echo NMR study 4-56814
 Fe₃₀B₇₀, metallic glass, neutron irradiation effect on property changes 4-24875

iron alloys continued

- Fe₇₅B₂₅, metallic glass, electron irradiation, displacement threshold energy 4-11187
 Fe₈₀B₂₀, ¹⁰B fission fragment induced defects (*French*) 4-39350
 Fe₈₀B₂₀, amorphous, chem. bonding evidence from radial distrib. function 4-6285
 Fe₈₀B₂₀, amorphous, computer-simulated struct. model 4-44988
 Fe₈₀B₂₀, amorphous to cryst. transform. under press., thermoelec. power meas. 4-6766
 Fe₈₀B₂₀, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
 Fe₈₀B₂₀, metallic glass, crystallisation obs. by DSC and Mossbauer spectroscopy 4-46157
 Fe₈₀B₂₀, metallic glass, X-ray scatt. anal., regularisation method 4-55745
 Fe₈₀B₂₀, metallic glasses, Mossbauer Zeeman spectrum, linewidth asymmetries 4-46159
 Fe₈₀B₂₀, Metglas 2605, activation energy spectra in relax., crossover and reversibility 4-44999
 Fe₈₀B₂₀, Metglas 2605, struct. factor problems 4-10992
 Fe₈₁B₁₉, amorphous, neutron diffraction, expt. 4-50146
 Fe₈₁B₁₉, amorphous, neutron irradiation, amorphous to crystalline transform. 4-55880
 Fe₈₁B₁₉, ferromag., electron spin polarisation in inner-shell excitations 4-30571
 Fe₈₁B₁₉, glassy alloy, primary crystallisation, X-ray diffraction, anal. 4-6289
 Fe₈₁B₁₉, mag. permeability aftereffect relax. and shear transforms. 4-25600
 Fe₈₆B₁₄, metallic glasses, short range ordering, elec. resist. studies 4-45017
 Fe₉₆B₄, laser quenched, picosecond pulsed, solidification morphology 4-12061
 Fe_{100-x}, amorphous film, mag. regimes, DC magnetisation studies 4-46074
 Fe_{100-x}, sputtered amorphous film, mag. resonance study 4-25642
 Fe₉₀B₁₀-Al, (Ga), metallic glass ribbons, elec. and mag. props. 4-30202
 Fe₉₀B₁₀Au, metallic glass ribbons, Mossbauer spectra and crystallisation products 4-56825
 (Fe₈₂B₁₈)_{0.9}La_{0.1}Sb_{0.9}, amorphous alloy, magnetostriction, thermal variations 4-25625
 Fe_{82-x}B₁₈M_x, M=Si, Ni, V or Mo, amorphous alloys, flow and relax. kinetics 4-39394
 Fe₈₀B₂₀(P₂₀), metallic glass, EXAFS study 4-57037
 FeBSi, amorphous, electronic struct. study 4-56194
 Fe₇₅B₁₅Si₁₀, metallic glass wire, mech. and mag. props. 4-56689
 Fe₇₅B_{25-x}Si_x, amorphous alloys, corrosion electrochem. invest. 4-3279
 Fe₇₅B₁₄Si₁₁, amorphous, hyperfine field, isomer shift and Mossbauer spectra 4-11811
 Fe₇₈B₁₃Si₉, amorphous powder, explosive consolidation 4-21184
 Fe₈₁B₁₄Si₅, amorphous ribbons, stress relief annealing, heating rate depend. 4-57262
 Fe₈₁B₁₄Si₅, ferromag. glass, spin polarised electron scatt. studies 4-46070
 Fe₈₁B₁₄Si₅, metallic glasses, mag. hysteresis, temp. depend. 4-16063
 Fe₈₂B₁₈Si₆, metallic glass, Mossbauer study of H 4-25658
 FeBSiC annealed amorphous ribbons, mag. and struct. props. 4-30203
 Fe₈₀B₁₄Si₅C₂, amorphous ribbon, mag., thermal and mech. props. 4-56617
 Fe₈₁B₁₃Si₅C₂, amorphous alloy, C migration studied by mag. anisotropy meas. 4-46021
 Fe₈₁B₁₃Si₅C₂, Metglas 2605SC, giant magnetoelastic effects by exciting standing torsional waves 4-2800
 Fe₈₁B₁₃Si₅C₂, metallic glass, piezomag. and elastic props. 4-16079
 Fe₈₁B₁₃Si₅C₂, metallic glass ribbon, initial permeability, annealing effects 4-30204
 Fe₈₁B₁₃Si₅C₂, metallic glasses toroids, mag. props. and winding methods 4-30207
 Fe₈₁B₁₃Si₅C₂, metallic glass toroids, power loss, coating effects 4-30208
 Fe₈₁B₁₃Si₅C_{1.5}, metallic glass, structural evolution rel. to magnetoelastic effect and magnetomechanical damping (*French*) 4-40213
 Fe₈₁B₁₄Si₅, ribbon-substrate adhesion dynamics in chill block melt-spining processes 4-57128
 Fe₂B_{1-x}, amorphous, Mossbauer isomer shift 4-56833
 Fe_{100-x}C_x, amorphous, sputter deposited, crystn., carbide form., struct. 4-11423
 Fe₂C-H, mag. struct. and Curie temp. (*French*) 4-51029
 FeC_{0.7}P_{0.3}, amorphous, segregation and crystallisation (*Russian*) 4-50518
 FeCo, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
 FeCo, stoichiometric, vacancy formation enthalpies, positron annihilation 4-34483
 FeCo-V(G)(Mn)(Ni), at. ordering characs., calorimetry, neutron diffraction, TEM studies (*Russian*) 4-24965
 FeCo₂B, mag. struct. and Curie temp. (*French*) 4-51029
 (FeCo)₈₀B₂₀, amorphous, ¹¹B NMR relax. study 4-40265
 Fe₆₇Co₈B₁₄Si, metallic glass, mag. props., tensile stress effect (*French*) 4-35202
 Fe₆₇Co₈B₁₄Si₁, amorphous ferromagnet, mag. permeability aftereffect 4-46072
 Fe₆₇Co₁₈B₁₄Si₁, METGLAS 2605CO, Mossbauer study 4-56832
 Fe₆₇Co₁₈B₁₄Si₁, metallic glass, piezomag. and elastic props. 4-16079
 Fe₆₇Co₁₈B₁₄Si₁, metallic glass, surface oxidation study by AES 4-41101
 Fe_{5.9}Co_{7.1}B₁Si₁Mo_{0.9}, amorphous, field induced anisotropy 4-25546
 FeCoNiCrBSi metallic glasses, internal friction, dynamic elastic modulus, microhardness meas. 4-40854
 (Fe_{0.1}Co_{0.55}Ni_{0.35})₇₈Si₁₄, metallic glass, crystn., precip. sequence (*Chinese*) 4-51662
 Fe₃₂Co₄₈P₁₀B₁₀, thin amorphous wires, fine struct. of spin-wave instabilities, FMR 4-16102
 Fe₄₇Co₇₀Si₃B₁₀, metallic glass, flash annealing and mag. props. 4-30726
 Fe₂Co₇₀Si₃B₁₀, amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
 Fe₂Co₇₀Si₃B₁₀, amorphous ribbons, quenched, mag. anisotropy rel. to rotational field annealing (*Chinese*) 4-56714
 Fe₂Co₇₀Si₃B₁₀TM_{0.2}, amorphous alloys, magnetostriction study 4-7044
 Fe₂Co₇₀Si₃B₁₀, amorphous, relax. processes occurring below Curie temp. (*Russian*) 4-26070
 Fe₂Co₇₀Si₃B₁₀, amorphous, density, effect of isochronal annealing 4-55899
 FeCoV, magnetisation and mag. moments 4-35199
 Fe₇₂Cr₂₈, (110) surface segregation, XPS study 4-25134

iron alloys continued

- (Fe_{1-x}Cr_x)₈₄B₁₆ amorphous, elec. cond. and mag. props. (*Chinese*) 4-2578
- Fe_{85-x}Cr₁₅B_x, x=10-20, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
- Fe_{85-x}Cr₁₅B₁₅, amorphous, electric field gradient, Mossbauer spectroscopy 4-35291
- Fe_{85-x}Cr₁₅B₁₅, X=5-30, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
- FeCr₁₀C₇P₁₃, amorphous, segregation and crystallisation (*Russian*) 4-50518
- Fe₁₄Cr₄₁Co₂₅, mag. props. following thermomagnetic treatment 4-46162
- (Fe₇₇Cr₂₃)₇₅P₁₆B₆Al₃, amorphous, ferromag.-spin glass transition study 4-56615
- FeCr₁₀P₁₃C₇, electron beam irradiated, surface amorphous layer formation 4-11189
- FeCr₈P₁₃C₇ amorphous coatings deposition by detonation-plasma sputtering (*Russian*) 4-40646
- FeCr₈P₁₃C₇, electron beam irradiated, surface amorphous layer formation 4-11189
- Fe₇₀Ga, compressive flow stress, temp. and nonstoichiometry depend., 77-800K 4-40912
- FeGe monoclinic polymorph, antiferromag. struct., neutron diffr. study 4-11672
- FeH_x, internal friction and microdeformation (*French*) 4-50426
- Fe₇₅M₃B₂₀ (M=Ti, V, Cr, Mn, Co, Ni), amorphous alloys, elec. resist., structural relax. 4-39873
- Fe_{3-x}M₃Si (M=3d transition metal), hyperfine fields and atomic moments, local environment description 4-25306
- FeMnAl steel, creep eqn. formulation in complex stress states 4-3177
- Fe₆₈Mn₁₀Cr₁₃ spin glass, Edwards-Anderson order parameter 4-56649
- (Fe_{1-x}Mn_x)₇₅P₁₆B₆Al₃ spin glass, reentrant props. 4-11721
- (Fe_{1-x}Mn_x)₇₅P₁₆B₆Al₃, amorphous, reentrant spin glass behaviour 4-51057
- (Fe_{1-x}Mn_{1-x})₇₅P₁₆B₆Al₃ spin glass, reentrant magnetism study 4-6988
- (Fe_{1-x}Mn_{1-x})₇₅P₁₆B₆Al₃, spin correlations near ferromag.-to-spin glass crossover 4-56631
- Fe₇₈Mo₂B₂₀, ¹⁰B fission fragment induced defects (*French*) 4-39350
- Fe₇₈Mo₂B₂₀, metallic glass, neutron irradiation effect on property changes 4-24875
- Fe_{80-x}Mo_xB₂₀, amorphous, electric field gradient, Mossbauer spectroscopy 4-35291
- FeN, ion implanted, cryst. struct. and compound formation 4-39324
- FeNi, FCC, paramag. state, 2γ states, ⁵⁷Fe Mossbauer isomer shift meas. 4-35309
- FeNi, residual anomalous Hall coeff., and magnetisation, CPA calc. (*Russian*) 4-34949
- Fe₃Ni, spin fluctuation effect on paramagnetic susceptibility 4-20786
- Fe₈Ni_{78-x}Si₂B₁₃, amorphous, mag. double transition, Mossbauer effect study 4-11724
- (FeNi)₈₀B₂₀, amorphous, ¹¹B NMR relax. study 4-40265
- (Fe₂₅Ni₇₅)₇₅B₂₅ metallic glass and crystal, local struct., Mossbauer study 4-51167
- (Fe_{1-x}Ni_x)₈₀B₂₀ metallic glasses, disaccommodation of mag. permeability 4-32025
- (Fe₂₀Ni₈₀)₈₃B₁₇ glass, relax. behaviour during annealing 4-45002
- Fe₂₀Ni₈₀B₂₀, amorphous, elec. cond. critical behaviour 4-11507
- Fe₄₀Ni₄₀B₂₀, amorphous, Mossbauer study 4-35314
- Fe₄₀Ni₄₀B₂₀, amorphous, crystallisation study 4-39472
- Fe₄₀Ni₄₀B₂₀, amorphous, struct. relax kinetics, Young's modulus meas. 4-45012
- Fe₄₀Ni₄₀B₂₀, amorphous, neutron-irrad., ductility and swelling 4-45195
- Fe₄₀Ni₄₀B₂₀, crystallised, re-amorphisation under neutron irradiation 4-45194
- Fe₄₀Ni₄₀B₂₀ metallic glasses, mag. hysteresis, temp. depend. 4-16063
- Fe₄₀Ni₄₀B₂₀, metallic glass, structural relax., Young's modulus, internal friction, mag. energy loss meas. 4-39153
- Fe₄₀Ni₄₀B₂₀ metallic glass, sliding friction and wear resist. 4-41011
- Fe₄₀Ni₄₀B₂₀ powder, prodn. by impact atomisation process 4-16351
- Fe₄₀Ni₄₀B₂₀, ribbon-substrate adhesion dynamics in chill block melt-spinning processes 4-57128
- Fe₆₃Ni₃₆B₁₄, mag. permeability aftereffect relax. and shear transforms. 4-25600
- Fe_{80-x}Ni_xB₂₀, amorphous, intrinsic defects, mag. aftereffect meas. 4-40204
- Fe_{85-x}Ni₁₅B₃ metallic glass, Mossbauer study 4-35318
- Fe_{85-x}Ni₁₅B₃, X=5-30, metallic glass, isomer shift, quadrupole splitting, hyperfine field distrib. 4-35292
- Fe₈Ni_{78-x}B₁₀Si₂ metallic glass, electron phenomena, positron annihilation studies 4-7268
- Fe₈Ni_{80-x}B₁₀Si, amorphous, elec. cond. critical behaviour 4-11507
- Fe₄₀Ni₄₀B₂₀, amorphous, struct. relax. and crystn. 4-3168
- Fe₃₃Ni₃₆Cr₁₄P₁₂B₆, amorphous ribbons, cold rolling (*German*) 4-25972
- γ-FeNiCr, antiferromagnetic order near stainless steel composition 4-35201
- FeNiCr metallic glasses, thermal expansion and magnetostriction meas. of amorphous ribbons 4-6532
- Fe₆₀Ni₂₀Cr₂₀, FCC, paramag. state, 2γ states, ⁵⁷Fe Mossbauer isomer shift meas. 4-35309
- Fe₆₅Ni₂₅Cr₁₀ spin glass, mag. struct., viscous change in mag. field, neutron scatt. 4-35181
- Fe₆₅Ni_{35-x}Cr_x, conc. mag. transition, lattice crust., Debye temp. 4-20821
- Fe₆₅Ni_{35-x}Cr_x, low temp. specific heat, 5-90K 4-29647
- Fe₇₀Ni_{30-x}Cr_x, exchange anisotropy and thermal expansion 4-25548
- Fe₆₉Ni₂₉Cr₁₄P₁₄B₆ metallic glasses, short range ordering, elec. resist. studies 4-45017
- Fe₃₂Ni₃₆Cr₁₄P₁₂B₆, metallic glass, influence of superimposed tensile stress 4-15392
- Fe₃₃Ni₃₆Cr₁₄P₁₂B₆, metallic glass, internal friction and Curie temp. 4-25551
- Fe₃₂Ni₃₆Cr₁₄P₁₂B₆, metallic glass, internal friction and Curie temp. 4-25552
- Fe₃₂Ni₃₆Cr₁₄P₁₂B₆ amorphous, annealing kinetics for Curie temp. changes 4-25553
- Fe₃₂Ni₃₆Cr₁₄P₁₂B₆, Metglas 2826 A, thermal annealing, embrittlement 4-35692
- Fe₃₂Ni₃₆Cr₁₄P₁₂B₆ glassy metal, reversible struct. relax., shear modulus and internal friction 4-46548
- Fe₃₂Ni₃₆Cr₁₄P₁₂B₆ metallic glass, internal friction and reversible struct. relax. 4-57274

iron alloys continued

- Fe₅₀Ni_{50-x}Mn_x, conc. mag. transition, lattice crust., Debye temp. 4-20821
- Fe₄₀Ni₃₈Mo₂B₁₈, amorphous, quenching, structural relax., internal friction, dynamic elastic modulus, elec. resist. meas. 4-40855
- Fe₄₀Ni₃₈Mo₂B₁₈ glassy alloy, crystn. EXAFS and XANES study 4-29327
- Fe₄₀Ni₃₈Mo₂B₁₈, metallic glass, Mossbauer study of H 4-25658
- Fe₄₀Ni₃₉Mo₂Si₆B₁₂, metallic glass, mag., elec. and thermolec. studies 4-46158
- Fe₄₀Ni₄₀P₂₀, amorphous, accuracy of exptl. radial distrib. functions 4-44986
- (Fe₂Ni_{1-x})₈₀P₂₀, neutron critical scattering in dilute ferromagnets 4-56640
- (Fe₂Ni_{1-x})₈₀P₂₀ metallic glass, spin wave stiffness, percolation-like behaviour 4-56583
- Fe₄₀Ni₄₀P₁₄B₆ amorphous ribbons, hydrodynamics of chill block melt spinning (*Chinese*) 4-3132
- Fe₄₀Ni₄₀P₁₄B₆ amorphous ribbons, tensile strength, fracture toughness, relax. behaviour 4-3180
- Fe₄₀Ni₄₀P₁₄B₆, amorphous alloys, self-diffusion of Fe and P using radiotracers (*French*) 4-20394
- Fe₄₀Ni₄₀P₁₄B₆, amorphous, field induced anisotropy and Curie temp. 4-25547
- Fe₄₀Ni₄₀P₁₄B₆, amorphous, ion irradiation, conversion electron Mossbauer spectra 4-34550
- Fe₄₀Ni₄₀P₁₄B₆, amorphous, density, effect of isochronal annealing 4-55899
- Fe₄₀Ni₄₀P₁₄B₆ amorphous powder, compacting by explosion pressing and struct. 4-57137
- Fe₄₀Ni₄₀P₁₄B₆, H containing, amorphous, cold worked, internal friction, mag. aftereffect, positron lifetime meas., ageing effect 4-40852
- Fe₄₀Ni₄₀P₁₄B₆, metallic glass, influence of superimposed tensile stress 4-15392
- Fe₄₀Ni₄₀P₁₄B₆, Metglas 2826, ferromagnetic, quadrupole splitting, Mossbauer spectra 4-2852
- Fe₄₀Ni₄₀P₁₄B₆, Metglas 2826, H mobility, induced mag. anisotropy 4-39605
- Fe₄₀Ni₄₀P₁₄B₆, Metglas 2826, struct. relax. kinetics 4-45001
- Fe₄₀Ni₄₀P₁₄B₆, press.-induced struct. relax. 4-45265
- Fe₄₅Ni₄₅P₈B₅, amorphous, struct. and electronic state changes (*Russian*) 4-24726
- Fe₇₂Ni₈P₁₀B₁₀, thin amorphous wires, fine struct. of spin-wave instabilities, FMR 4-16102
- (Fe₂Ni_{1-x})₇₅P₁₆B₆Al₃ ribbon, low field magnetisation studies 4-56614
- FeNiSi amorphous thin films, ESR meas. in ferromag.-spin glass transition regime 4-56735
- (Fe_{1-x}Ni_x)₇₇Si₁₀B₁₃, amorphous, mag. props. study 4-25544
- Fe₃₉Ni₅₉(SiB)₂₀ metallic glasses, mag. hysteresis, temp. depend. 4-16063
- Fe₄₀Ni₄₀Si₈B₁₂ glass, structural relaxation and embrittlement 4-45016
- Fe₇₀Ni₃₀Si₁₀B₁₀, amorphous ribbons, shape rel. to process conditions, single roll fabrication method (*Japanese*) 4-46500
- FeNiV, magnetisation and mag. moments 4-35199
- Fe₇₀Ni₂₀Zr₁₀ metallic glass ribbons, magnetisation and FMR studies 4-56691
- Fe₉₀P₁₀ amorphous alloy, electrochem. props. and passivation 4-57444
- Fe₃P_{1-x}B_x, crystalline, hyperfine field interactions 4-35289
- Fe₃P₈Cr₁₁ amorphous alloy, struct. factor, neutron scatt. study 4-44950
- Fe(Pd_{1-x}Au_x)₃, mag. struct. study 4-20795
- FePd₂Au alloy, sp. ht. of ordering, annealing studies 4-11315
- Fe₂Pr₃B permanent magnets, mag. props., characterisation 4-16060
- Fe_{1-x}Pt_{1-x}, magnetic percolation calc. and Mossbauer study 4-40141
- FePt, ground state mag. props. of ordered and disordered alloys 4-20801
- Fe(Pt_{1-x}Mn_x)₃, mag. struct. study 4-20795
- Fe₂Re₂As₂, preparation, crystal struct., elec. and mag. props. 4-29387
- (Fe_{1/2}Sn_{1/2})_{1-x}(Fe_{1/6}Sn_{5/6})_x solid soln., hyperfine interactions, Mossbauer studies 4-35319
- FeSi, single crystals, gaseous H₂ embrittlement 4-7537
- FeSi, thermal oxidation resist. and hardness 4-3277
- Fe₃Si, annealed and quenched, mag. anisotropy study 4-20813
- Fe₇Si₈B₅, amorphous wire and ribbon, structural relax., DSC obs. 4-10997
- Fe₃Si₃B₁₀, amorphous powders produced by gas-water atomisation, struct. and props. 4-40704
- (Fe_{0.5}Si_{0.4})₈₂Si₈B₁₀, amorphous, structural relax., crystn., internal friction, shear modulus meas. 4-39381
- FeSn₂ formation during Sn²⁺ ion implantation of Fe 4-45161
- Fe₂SnTe₄ amorphous alloys, spin glass behaviour 4-46055
- Fe_{1-x}Tb_xGd_{1-x} amorphous sputtered films for perpendicular recording 4-25604
- Fe₄₅Th₅₅, glassy, electronic struct., photoemission and X-ray emission studies 4-45595
- FeTi, activation for H₂ absorption and storage, review 4-12495
- FeTi, activation for hydrogenation, H₂ storage appl. 4-41251
- FeTi, H storage, thermodynamics, cryst. struct. (*Japanese*) 4-52220
- FeTi powder, thermal activation, H absorption 4-2424
- FeTi-H system, geometric model 4-29386
- Fe_{0.5}Ti_{0.5}, isotropic difference Compton profile, exptl. study 4-35509
- Fe₂Ti_{100-x} sputtered films, cryst. and amorphous, Mossbauer studies 4-56824
- Fe₃U₆₆, glassy, electronic struct., photoemission and X-ray emission studies 4-45595
- Fe₉₀V₁₀ alloy, coupling between mag. and chem. interactions 4-30180
- Fe₂Y_{100-x} metallic glasses, mag. props. hydrogenation effects 4-56563
- FeZn, Mossbauer studies, irreversible phase change on heating, charge shift model anal. 4-40315
- Fe₉₀Zr₁₀, amorphous, heterogeneous struct., EXAFS and small-angle X-ray scatt. studies 4-6276
- Fe_{1-x}Zr_x metallic glasses, ferromagnets, magnetoresist. meas. 4-56318
- Fe_{100-x}Zr_x, amorphous, low temp., sp. ht. meas. 4-46040
- Fe_{100-x}Zr_x, amorphous ferromagnets, crit. behaviour 4-51085
- Fe₉₀Zr₁₀ metallic glass ribbons, magnetisation and FMR studies 4-56691
- Fe₂Zr_{100-x} metallic glasses, mag. props. hydrogenation effects 4-56563
- Fe₉₀Zr₁₀H₂₀ glass, mag. props., effect of hydrogenation 4-2730
- ⁵⁷Fe-implanted rare earth elements, isomer shifts of conversion electron Mossbauer spectra 4-30366
- Gd-Fe-(Bi) amorphous films for magneto-optical recording 4-30244
- (GdCe)Fe₂ ferrimagnetic alloys, mag. compensation, Mossbauer effect hyperfine meas. 4-46063
- GdFe₂, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293

iron alloys continued

- Gd₂Fe_{1-x}H amorphous film, mag. and elec. props 4-46027
 Gd₂Fe₂H_x, magnetic props., H₂ absorption effects 4-2738
 Gd₂TbFe amorphous films, composition and mag. props., depend. on Ar press. (*Japanese*) 4-2794
 (GdY)Fe₂ ferrimagnetic alloys, mag. compensation, Mossbauer effect hyperfine meas. 4-46063
 Ge-Cr-C, low energy interphase boundaries, precipitation on mobile growth ledges 4-7469
 H₂ permeation const. meas. 4-56080
 Hf_{0.8}Ta_{0.2}Fe₂, magnetisation process in strong pulsed mag. fields 4-56695
 Hf_{1-x}Ta_xFe₂, antiferromag. to ferromag. transition (*Japanese*) 4-40173
 Hf_{1-x}Ta_xFe₂, itinerant electron magnets, mag. phase transitions study 4-11698
 HoFe₂Al₈, mag. struct., neutron diffr. study 4-6953
 Ho_{0.75}Fe_{2.25}N_x, D site occupation and magnetisation, neutron scatt. study 4-2143
 Ho_{0.03}Gd_{0.97-x}Fe₂, ferrimag., domain and domain wall spin echo NMR spectra 4-35193
 La-Pr-Nd-Co-Cu-Fe-Mg synthetic mischmetal alloys, mag. props. 4-7013
 La(FeAl)₁₃, Mossbauer spectroscopy, magnetisation, zero field susceptibility meas. 4-35287
 La(Fe₂Al_{1-x})₁₃, cubic intermetallic cpds., mag. props. 4-56623
 LaNi₄Fe, ferromagnetic order, Curie temp., magnetisation 4-56542
 LuFe₂, mag. props. 4-20788
 Mn-Fe metastable γ -phase alloys, lattice parameters, transform. below Neel temp. 4-24760
 Mn-Fe-Cu (26, 4 at.%), pseudoelasticity and stress-strain curves (*Russian*) 4-25988
 Mn-Fe-Cu metastable γ -phase alloys, lattice parameters, transform. below Neel temp. 4-24760
 Mo-Fe, appl. of cluster approach to mag. impurities 4-25515
 Nb-Fe, appl. of cluster approach to mag. impurities 4-25515
 Nb₂Fe₂Si₂, struct. determ., allotropic transform. 4-11048
 Nd-Fe-B, amorphous permanent magnet, high-energy product 4-40196
 Nd-Fe-B high performance permanent magnets, mag. props., struct. 4-56702
 Nd-Fe-B permanent magnets, anisotropy, magnetisation and Curie temp. 4-56703
 Ni-Cr-Al-Fe-Y, wrought heat-resist. alloy, struct. and props. 4-41071
 Ni-Cr-Fe (16, 7 wt.%), previously covered with external Cr₂O₃ layer corrosion in H₂-H₂S mixtures 4-51872
 Ni-Cr-Fe-Al-C, austenitic, deformed, heat resist., struct. fineness influence 4-57272
 Ni-Cr-Fe-Si-B-C metallic glass, internal friction, shear modulus meas. 4-40853
 Ni-Cu-Fe, corrosion in trichloroethylene and tetrachloroethylene, influence of chloroacetyl chlorides and chloroacetyl acid (*German*) 4-51867
 Ni-Fe, electrolytic codosition, comp. rel. to cathodic potential 4-40691
 Ni-Fe, magnetoresistive sensors using ferromagnetic thin films 4-22770
 Ni-Fe, passivation, influence of S 4-57423
 Ni-Fe, solid solns., creep behaviour, incorporate of Suzuki and Fisher interactions 4-7519
 Ni-Fe bars, ferromagnetic memory effect 4-20837
 Ni-Fe film, corrosion behaviour in Cl and S containing atms., rel. to mag. recording characts. 4-26088
 Ni-Fe films, Bloch line-crossing coupling, digital pickup heads appl. 4-56680
 Ni-Fe polycryst. magnetostrictive alloy, ion-electron emission under Ar⁺ or He⁺ bombard. 4-46406
 Ni-Fe-Cr, surface, He thermal desorption, time of flight spectra studies 4-29799
 Ni-Fe-Cr-Nb, electron diffr. anal., of δ -phase (*Chinese*) 4-7464
 Ni-Ta-Fe-Al, precip. hardened, containing ordered γ' and γ'' precip., deform. mechanisms 4-57294
 Ni₄₀Co₂₀Cr₁₂Mo₆Fe₈B₁₆, amorphous alloy, corrosion in deaerated H₂SO₄ 4-51856
 NiFe (110) surface, He⁺ scatt. and interaction, optical radiation study 4-11994
 Ni₃Fe, mag. moment distrib. and superlattice dislocations 4-11707
 (Ni₆₅Fe₃₅)₇₇B₂₃, amorphous, neutron diffr. expt. 4-50146
 Ni₆₁Fe₃₉Co₂₅ thin film, coercive force determ. (*Russian*) 4-51107
 Ni_{80-x}Fe₂₀ glassy alloys, thermal relax., phys. props. meas. 4-45244
 Ni₃(Fe_{1-x}Ta_x), transport and elec. props. (*Russian*) 4-6761
 Ni₃(Fe_{1-x}V_x), transport and elec. props. (*Russian*) 4-6761
 Ni₂ZrFe, amorphous, Mossbauer study 4-56834
 Pd-Cr-Os/Cu-Fe thermocouple, thermoelectric props. at low temp., technology and appl. 4-8907
 Pd-Fe, ferromagnetism 4-56578
 Pd-Fe, hyperfine mag. field, integral PAC study 4-35277
 Pd-Fe alloys, magnetostriction 4-46080
 Pd-Fe films, Curie temp. 4-56724
 Pd-Fe films, DC sputtered, disorder and mag. props. 4-56725
 PdAu₂₅Fe₂₁, mag. transition and props. (*Chinese*) 4-2753
 PdAu₂₄Fe₂₁Al₄, mag. transition and props. (*Chinese*) 4-2753
 PdCu_{1-x}Fe_x, high press. elec. cond. study 4-39877
 Pd_{75-x}Cu₁₅Si₁₀Fe_x amorphous alloys, mag. double transitions 4-30165
 PdFe, ordering, recrystallisation and mech. props. during annealing (*Russian*) 4-25966
 Pr-Fe-B high performance permanent magnets, mag. props., struct. 4-56702
 Pr(Co_{1-x}Fe_x)₅, magnetic props. and cryst. struct. 4-46066
 Pr₂(Co_{0.8}Fe_{0.2})₁₇, heat capacity anomaly, magnetisation vector rotation 4-50538
 Pr₂(Co_{1-x}Fe_x)₁₇, lattice parameters and mag. props. 4-30160
 PtFe, dil., model of ferromagnetic behaviour 4-56567
 Pt₃Fe, mag. moment distrib. and superlattice dislocations 4-11707
 RuFe₂H₂, H₂ absorption thermodynamics 4-2441
 RuFeB, hyperfine field anomalous behaviour, Mossbauer effect 4-35285
 RuFeB, mag. system, novel behaviour of Fe moments 4-20816
 RuFeSi, mag. system, novel behaviour of Fe moments 4-20816
 RuFeSi, Mossbauer studies 4-16132
 RuFeSi, hyperfine field anomalous behaviour, Mossbauer effect 4-35285
 SeFeSi, Se₃Fe₂Si₃ and Se₂FeSi₂, crystal structures 4-39210
 Se₂FeSi₂, cryst. struct., X-ray diffr. study 4-34447
 Si steel, used in quadrupole magnet cores 4-48850
 SiFe, domain wall eddy-current limited reclocking initiated at maximum shear stress points on bracket wall 4-51090
 Sm-Alnico V alloys, mag. anisotropy props. 4-51043

iron alloys continued

- Sm-Co-Cu-Fe-Zr thin sheets, domain struct. during magnetisation reversal 4-56737
 Sm-Co-Fe-Cu-Zr sintered alloys, struct. and mag. props. (*Russian*) 4-35198
 Sm-Er-Fe Laves phase alloys, struct. and magnetostriction 4-35215
 Sm-Fe amorphous films, prep. by oblique incidence method, mag. props. 4-25605
 Sm-Fe metastable phase, selectively thermalised sputtering and mag. props. 4-56693
 Sm-Fe-Co-Ni-Al-Cu alloys, struct. and mag. props. 4-6322
 Sm₂(Co,Cu,Fe,Zr)₁₇ permanent magnets, coercivity, energy product improvement 4-7021
 Sm(Co,Cu,Fe,Mn)₈ permanent magnet, coercivity rel. to Cu segregation and as cast struct. (*Chinese*) 4-56685
 Sm(Co,Cu,Fe,Zr)_{7.4} magnets, annealed and quenched cellular microstructure 4-6383
 Sm(Co,Cu,Fe,Zr)_{7.4}, coercivity, microstruct., ageing effects 4-7020
 Sm(Co, Cu, Fe, Zr)_{8.92} mag. alloys, heat treatment, metallographic studies 4-51826
 Sm₂(Co,Cu,Fe,Zr)₁₇ alloy, coercivity depend. on mag. processing 4-35738
 Sm₂(Co, Cu, Fe, Zr)₁₇-type permanent mag. alloys, hardness rel. to coercivity 4-30223
 Sm(Co,Fe,Cu,Zr)_{7.2} magnet, microstructure, mag. props., heat treatment effect 4-7018
 Sm(Co,Fe,Cu,Zr)_{7.5} magnets, coercivity enhancement by heat treatment 4-7015
 Sm(Co,Fe,Cu,Zr)₂ hard magnetic alloys, metallurgical behaviour 4-57358
 Sm(Co₆₇Cu_{0.08}Fe_{0.22}Zr_{0.03})₂ sintered magnets with coercive force up to 30 KOe 4-7033
 Sm(CoFeCuZr)_{7.4} sintered magnets, microstruct. and mag. props., annealing effects (*Russian*) 4-25592
 Sm(CoFeCuZr)_{7.4} magnets, phase composition and hysteresis props. (*Russian*) 4-51093
 Sm(Co_{72.5}Fe_{0.20}Cu_{0.055}Zr_{0.02})_{7.5} magnets, struct. and mag. props. 4-25042
 Sm(Co_{74.5}-Fe_{0.2}Cu_{0.055}Zr_x)_{7.5} permanent mag., coercive force and microstruct. 4-56706
 Sm(Co_{80-90-x}Fe₂Cu_{0.08}Zr_{0.02})_{8.35}, mag. props. meas. 4-25596
 Sm₂(CoFeCuZr)₁₇ permanent magnets, mag. props., temp. characts. 4-11741
 Sm₂(CoFeMn)₁₇, site occupancy of Fe and Mn, electron channelling, blocking obs. 4-55789
 SmFe₂, magnetisation process, elastic stress effects (*Russian*) 4-25586
 Tb-Fe, amorphous, electronic density of states, photoemission and inverse photoemission studies 4-45594
 Tb-Fe amorphous film, thermomag. recording characts. and Kerr rot. angle 4-30245
 Tb-Fe(Co) amorphous films for magneto-optical recording 4-30244
 Tb_{0.27}Dy_{0.73}Fe single cryst. magnetostriction and low temp. transition 4-30258
 TbFe₂, amorphous, crit. behaviour and mag. ordering 4-56544
 TbFe₂, Tb¹⁵⁹ nuclear magnetisation and hyperfine fields 4-34936
 TbFe₂, amorphous film, binding energy, density of states, X-ray photoemission study 4-16293
 TbFeCo magnetic films, amorphous, magnetic and magneto-optic props. 4-25606
 TbFe₂H_x, magnetisation behaviour, Curie temp. and mag. moments 4-30217
 Te-Fe amorphous films, magneto-optical const. meas. 4-2905
 Ti-⁴⁸Fe, laser irradi. Mossbauer study (*Russian*) 4-51171
 Ti-Fe-Ni, sintering process, Ni effect 4-46472
 Ti-Ni-Fe, deform. under transform. plasticity development conditions 4-57303
 Ti-V-Fe-Al (10, 2, 3 wt.%), aged, tensile deform., fracture, microstructure 4-7522
 Ti-C-Fe composite magnetoabrasive powders, synthesis 4-3106
 TiFe_{0.9}Al_{0.04} intermetallic cpd., H₂ absorption kinetics 4-46792
 TiFe_{1-x}Al_x, H₂ absorption props., H₂ storage appl. 4-46793
 TiFeSi₃, structural relationships, X-ray diffr. anal. 4-11047
 Ti₅₀Ni₄₅Fe₅, phase transform. 4-2121
 Ti₅₀Ni₄₅Fe₅, phase changes on cooling to -196°C 4-25955
 Ti_{0.8}Zr_{0.2}Mn_{0.8}Cr_{1.6}Fe_{0.2} alloys, H storage (*Chinese*) 4-57798
 TmFe₂Co₃, pure and hydride, mag. interactions, Mossbauer study 4-30155
 TmFe₂H_x, magnetisation behaviour, Curie temp. and mag. moments 4-30217
 TmFe₂Si₂, cryst. fields and second-order mag. hyperfine interactions, Mossbauer study 4-56830
 UFe₂Al₈, cryst. struct. and mag. props. 4-40151
 U(Fe_{1-x}Co_x)₂, mag. props., press. effects 4-20817
 α -V-Fe, plasmon excitation, electron energy loss study 4-25256
 VC-Fe composite magnetoabrasive powders, synthesis 4-3106
 V(Fe₂Co₂Ni₂)₃, HIXE satellite spectra 4-46373
 V₃(Fe_{0.3}Gd_{0.7})₁₀, X-ray emission spectra and electronic struct. (*Russian*) 4-51411
 (V_{0.91}Fe_{0.07})₃Si, X-ray emission spectra and electronic struct. (*Russian*) 4-51411
 V₄₀Ni₄₀B₂₀ metallic glass, fracture and stress-strain curves 4-46611
 W-Fe, cold brittleness temp., plasticity and segregation (*Russian*) 4-51781
 W-Fe, dil. alloy, grain boundary segregation rel. to grain boundary movement 4-12072
 W-Ni-Fe, heavy alloys, liq. phase sintered, fracture behaviour 4-40972
 W-Ni-Fe (3.5, 1.5 wt.%), liq. phase sintered, variation of toughness with test temp. and cooling rate 4-40965
 W-Ni-Fe (7, 3 wt.%), liq. phase sintered, strain and fracture (*Chinese*) 4-16472
 Y-Fe, amorphous, electronic density of states, photoemission and inverse photoemission studies 4-45594
 YFe₂, mag. props. 4-20788
 YFe₂, ordered and amorphous, local mag. moments and mag. instability 4-20804
 Y₄Fe₃₆, glassy, internal friction meas. 4-45262
 Y(Fe_{1-x}M_x)₂ (M=V, Mn, Co, Ni, Al), hyperfine fields at ⁸⁹Y nucl., NMR study 4-30292
 Y₆(Fe_{1-x}Mn_x)₂₃, short- and long-range mag. ordering, neutron scatt. study 4-2728
 (Y_{0.97}Hf_{0.03})Fe₂, hyperfine mag. field, γ -ray study 4-6992
 Y(Mn_{1-x}Fe_x)₁₂, Mossbauer effect, low temp. hyperfine field meas. 4-35278

iron alloys continued

- YNi₄Fe, ferromagnetic order, Curie temp., magnetisation 4-56542
 Zr-Cr-Fe (1.15, 0.1 wt.%), ZrCr₂ precip., electron metallographic study 4-30708
 Zr-Sn-Nb-Fe, reactor irradiation effect on cyclic strength 4-54272
 ZrFe, amorphous, Mossbauer study 4-56834
 ZrFe₂^{89Ym}, mag. hyperfine interaction and nuclear spin-lattice relax. 4-25550
 Zr_{1-x}Fe_x amorphous alloys, superparamagnetism and superconductivity 4-46071
 Zr_{100-x}Fe_x, struct. and crystallisation, Mossbauer study 4-55729
 Zr₇₆Fe₂₄, amorphous, mag. susceptibility, temp. and field depend. 4-40137
 Zr₇₆Fe₂₄ amorphous alloy, mag. susceptibility, temp. and field depend. 4-40153
 (Zr_{1-x}Nb_x)Fe₂, NMR study 4-11796

iron compounds

- see also ferrites; iron alloys*
 borides, formation by ion implantation in Fe, electron microscopy and diff. studies 4-11163
 carbonyls, gas-phase multiphoton dissociation 4-5304
 electrodes, photoelectrochemical props., effects of substitutional and defect doping 4-57732
 ferrocene, orbital mixing and bond populations 4-18894
 graphite-SbCl₅, struct. and stability 4-41265
 intercalated with ZrS₂ (HfS₂), electronic struct., cryst. struct. and optical props. 4-15804
 intercalation cpd. with graphite, FeCl₂-graphite, Mossbauer, EPR and SEM studies 4-56829
 magnetite based magnetic fluids, saturation magnetisation study 4-30215
 oxides, bond length-bond strength relationships and valency (*German*) 4-15419
 phthalocyanines, tetrasulphonated, reson. Raman spectra in aq. soln. 4-9777
 polyacetylene:FeCl₄, semiconductor-metal transition, cond., thermopower meas. 4-11562
 pyroxene glass ceramics, Fe-bearing and spinel type, synthesis 4-51611
 rare earth borides, RFe₂B₄ (R=Ce,Pr,Nd,Sm,Gd,Tb), cryst. struct. and ferromag. props. 4-11099
 Synroc-D, nuclear waste ceramic, phase equilib., O fugacity effect 4-54250
 AlCl₃-FeCl₃ mixed crystals., pile irradi., ³⁵S prod., thermal annealing 4-55864
 β⁺-(Al,Fe_{1-x})₂O₃-Na₂O, solid state reaction mech., TEM study 4-34661
 B₂O₃-Fe₂O₃-Mn₂O₄ glass, rapidly quenched, cryst. behaviour with regard to thermal and mag. props. (*German*) 4-2093
 BaO-B₂O₃-Fe₂O₃ glass, EPR and DC resistivity studies 4-51128
 Bi₂-Fe₂WO₆, crystal structures and struct. transitions 4-39481
 Ca₂(Al,Fe_{1-x})₂Si₂O₇(OH), 0 ≤ x ≤ 1, epidote, Mossbauer study 4-40294
 CaFe₂⁵⁷Fe³⁺Si₂O₇(OH), ilvaite, elec., mag. props., Mossbauer spectra 4-56565
 CeFe₄P₁₂, mag. and elec. props., Mossbauer spectra 4-11684
 Co₃Fe_{1-x}O₄, single cryst., Verwey transition, effect of Co²⁺ 4-15823
 Co₃Fe₂Sb₂O₄, hyperfine fields, Mossbauer spectra 4-35296
 Cr_{1-x}Fe_xCr₂S₄, phase relationships with Cr₂S₄ and spinel struct. 4-15616
 Cr₂Fe_{3-x}O₄, calorimetric studies 4-56043
 Cr₂Fe_{2-x}Te₃, mag. props., 100 to 1100K, susceptibility meas. 4-11681
 Cs₂FeF₆H₂O, antiferromagnetic resonance spectrum 4-40238
 CsFeS₂, mag. and struct. phase transition obs. 4-11664
 CsMnFeF₆, neutron study of spin correlations 4-11671
 CsNiFeF₆, neutron study of spin correlations 4-11671
 CuFe₂(1-x)Al_{2x}O₄, solid solns. with spinel structure, elec. cond. and cation ordering 4-2618
 Cu_{0.3}Fe_{0.7}Cr₂S₄, film, elec. and galvanomagnetic props. 4-56454
 CuFeS₂, X-ray spectrometry study 4-51455
 EuFe₄P₁₂, giant hyperfine fields, Mossbauer study 4-35297
 EuFe₄P₁₂, mag. and elec. props., Mossbauer spectra 4-11684
 FED, rot. const., IR obs. 4-19058
 (Fe,Co)AsS, crystal defects and group-subgroup relationships, TEM studies 4-11132
 (Fe,Cr)₃ coatings, cryst. defects, electron diff. and microscopy studies 4-11133
 (Fe,Mg)₂SiO₄ olivines, high-press. spinel polymorphs, elec. cond. meas. (*French*) 4-41890
 (Fe,V)₂S₄, metal ordering, powder X-ray diff. studies 4-2151
 Fe (III), separated hydrolysed products, ageing, Mossbauer spectra, Cl⁻ and NO₃⁻ effects 4-51160
 Fe (III) complexes, spin crossover, Mossbauer spectra, simulation 4-23729
 Fe (II) complexes, spin-crossover system, light induced excited spin state trapping, Mossbauer studies 4-51159
 Fe (II) phthalocyanine, electronic ground state, X-ray diff. investig. 4-9660
 Fe complex, (Fe(H₂O)₆)²⁺, ligand field and hyperfine interaction, Mossbauer study 4-40292
 Fe complex, cis-bis(bipyridyl)dichloroiron (III) tetrachloroferrate (III), struct. 4-15435
 Fe complex, di(ethylammonium) iron tetrachloride, heat capacity const. press. 4-45351
 Fe complex, di(methylammonium) iron tetrachloride, heat capacity const. press. 4-45351
 Fe complex, Fe(CO)₃(1,4-diazabut-1,3-diene), spectrosc. props., photochem. 4-57585
 Fe complex, Fe(N₂H₄)₂(NCS)₂, preparation, characterisation, and thermal props. 4-16654
 Fe complex, Fe(bpy)₃³⁺, reduction rate at SnO₂/propylene carbonate interface 4-46791
 Fe complex, Fe(phen)₂(NCS)₂, mag. field effect on high-spin=low-spin transition 4-6973
 Fe complex, Fe(phenanthroline)₃²⁺, excited state quantum yields, photoproduction lifetimes 4-28508
 Fe complex, iron(1,3-diketone)₂ charge transfer transitions, electrochromism spectra 4-1190
 Fe complex, solid, positron annihilation and Mossbauer effect studies 4-30363
 Fe complex, with 1,10-phenanthroline, on Ag and Fe, surface enhanced Raman spectroscopy 4-35429
 Fe complexes, Fe(I) and Fe(II), η⁵-C₅H₅Fe₂/η⁵-C₆(Me)₆ electron reservoir sandwiches, Mossbauer studies and IEHT MO calcs. 4-16127

iron compounds continued

- Fe complexes, poly(pyridine)-Fe(III), ligand-to-metal charge-transfer excited states lifetimes, isotopic substitution and temp. effects 4-15858
 Fe complexes, XPS, 2p satellite intensity correl. with complex spin state 4-5283
 Fe monoboride, band struct., densities of states, bonding, ESCA spectra 4-25063
 Fe oxide particles from freshwater lake, colloid stability 4-52767
 Fe phthalocyanine, adsorbed on Au(Cu) electrodes, laser Raman spectra 4-2434
 Fe³⁺ complexes with dopamine, NMR, EPR and INDO studies 4-5253
 Fe-based minerals, X-ray K-edge absorption spectra, near edge struct. 4-7276
 Fe-deficient oxide clusters formation in gas phase study 4-38367
 Fe-FeO, layer films, reactively sputtered, mag. props. 4-56730
 Fe-N reactively sputtered coatings, transformations, Mossbauer studies 4-16129
 Fe-S-O system, modified predominance area diagrams 4-30693
 Fe-TiO₂, eutectic formation, rel. to cooling rate 4-51650
 Fe₂ (MoO₄)₃ powder, mag. susceptibility: 300-900K, molecular field parameters 4-20799
 FeAlO₃, Mossbauer spectrum and struct. 4-46148
 (Fe_{1-x}Al_x)_{3-x}O₄, vacancy diffusion study 4-20412
 Fe_{0.6}Al_{0.4}F₂, antiferromagnetic, random-field effects in 2-D and 3-D, birefringence study 4-56645
 FeAs, cryst. struct. determ. 4-39222
 Fe₂As₂, cryst. chem. and cryst. struct. 4-11101
 FeBMO₄ (M=Mg, Cu, Ni, Co), boroferrites, synthesis and mag. props. (*Russian*) 4-6956
 FeBO₃, antiferromagnetic, magnetostatic waves and magnon relaxation, impurity effects 4-35218
 FeBO₃, circumventing linear birefringence in ferromagnetic crystals 4-51233
 FeBO₃, domain walls, oscilli., elastic wave interference 4-35219
 FeBO₃, EM radiation by magnons 4-40160
 FeBO₃-Ni, photoinduced formation of optical and mag. inhomogeneities 4-51245
 FeBr₂, EFG and electronic struct. 4-2561
 θ-Fe₂C and χ-Fe₂C microcrystals, Co disproportionation, TEM, Mossbauer spectroscopy 4-34761
 Fe₂C₃, cryst. defects, electron diff. and microscopy studies 4-11133
 Fe₂C₃ single crystals, formation and structure 4-2170
 Fe(CN)₆⁴⁻ charge transfer interactions with heterocyclic cations, visible electronic absorpt. spectra 4-26205
 FeCN₆+plastocyanin, electron exchange kinetics 4-41189
 FeCO₃, antiferromagnet, two-centre transitions, IR absorption studies 4-20971
 Fe(CO)₅, electronic struct., Penning ionisation electron spectra, UPS 4-1213
 Fe(CO)₅, excited state lifetimes, energy disposal, photodissociation dynamics 4-14489
 Fe(CO)₅, IR multiphoton dissociation at 5 μm 4-28514
 Fe(CO)₅, laser induced vibr. energy transfer, fluoresc. meas. 4-33442
 Fe(CO)₅ photofragmentation, IR and Mossbauer evidence for Fe(CO)₄ formation in polymer matrices 4-35918
 Fe(CO)₅ photofragmentation, MO studies of Fe(CO)_n, 1 ≤ n ≤ 5 4-35919
 Fe(CO)₅+Fe(II), fragmentation branching ratios 4-14489
 Fe₂(C₂O₄)₃ photographic films, solarisation phenomenon (*Russian*) 4-17965
 Fe₂(C₂O₄)₃:Pd layers, developed metallic image stability (*Russian*) 4-32371
 FeCl₂, EFG and electronic struct. 4-2561
 FeCl₃ intercalated with graphite, for Li batteries (*French*) 4-46865
 FeCl₃ intercalation cpd. with graphite, mag. ordering study 4-40147
 FeCl₃ intercalation cpd. with graphite, Mossbauer study 4-40318
 FeCl₃ intercalation cpd. with graphite, basal elec. cond. meas. 4-45771
 FeCl₃ solution for ferrite substrates surface preparation 4-41063
 FeCl₃-α-picolinium binary salt solns., tetrahedral and octahedral complexing of trivalent cations 4-29663
 FeCl₃-doped polyacetylene, mag. phase transition, aggregate form. and elec. cond. 4-25556
 FeCl₃-intercalated graphite cpds., acceptor site for donated electrons, Mossbauer anal. 4-11810
 FeCl₂²⁺ salts, mag. susceptibility meas., weak ferromag. below Neel temp. 4-16013
 FeCl₄-isopropanol frozen soln. in 0.07 to 4.2K range, mag. susceptibility meas. 4-40150
 Fe_{1-x}Co_xBr₂ randomly mixed antiferromagnets, with competing Ising and XY anisotropies, AC susceptibility meas. 4-30170
 (Fe³⁺)_A(Co²⁺, Fe^{1-x}, Fe²⁺)_BO₄²⁻, magnetite, IR study 4-25751
 Fe_{2-x}Co_xO₃ acicular particles, mag. annealing, relax., and anisotropy 4-56709
 Fe_{3-x}Co_xO₄, Mossbauer study 4-2849
 Fe_{2-x}Cr_xCaO₄ system, mag. props. 4-30149
 Fe_{1-x}Cr_{2-x}O₄, interacting Jahn-Teller and mag. transitions 4-56621
 FeCr₂S₄, film, elec. and galvanomagnetic props. 4-56454
 FeCr₂S₄, preparation, by chem. transport method, phys. props., 120-300K 4-57095
 Fe_{1-x}Cu_xCr₂S₄, valence state of ions 4-56559
 Fe₂Cu_{1-x}Cr₂Se₄, mag. moment studies (*Korean*) 4-16017
 FeF₂, antiferromagnet, mag. sp. ht., capacitance meas. technique 4-56646
 FeF₂, optical and elastic props. 4-16206
 FeF₂, Raman scatt. by optical phonons 4-20976
 FeF₂, uniaxial antiferromag., mag. props. 4-2748
 FeF₂:Mn, phonon associated relax. of local magnons 4-46018
 FeF₃, circumventing linear birefringence in ferromagnetic crystals 4-51233
 FeF₃, film, composition and struct. anal. 4-39724
 FeF₃ thin films, inhomogeneous, elec. charge transfer, less resistance path, TSC 4-15978
 Fe₄(FeCN)₆ electrode-supported films, FT external refl. and photoacoustic spectrosc. 4-57008
 Fe_(1+x)²⁺Fe_{2(1-x)}³⁺O₄²⁻, spinel solid soln., props. conc. depend. calc., crystn. quasi-particles method 4-11298
 β-FeGa₂S₄, unit cells and cryst. struct. 4-11089
 FeH, ⁴Δ ground-state assignment, GVB/MRSD CI calcs. 4-49005
 FeH absorption lines in sunspot spectrum, near-IR obs. 4-17496
 FeH, mol. bond, isomer shift, Mossbauer spectra charact. 4-49072
 FeH₃(PO₄)₂×2.5H₂O, hyperfine fields, Mossbauer spectra study 4-40304

iron compounds continued

- Fe_{1.3}, core and valence electron binding energies, XPS, UPS and electron impact meas. 4-54884
 Fe(II) phthalocyanine, electronic struct. determ., mag. susceptibility and Mossbauer meas. 4-28479
 Fe(III) β -diketonates, substituent inductive and steric props. 4-9699
 Fe(III)-haeme compounds, temp. depend. MCD spectra, pi-d interaction 4-14464
 Fe_xM_{1-x}F₂, spin-flop effects, magnetisation studies 4-56622
 Fe_{0.9}M_{0.1}Cl₂, randomly diluted metamagnet, hysteretic behaviour, neutron scatt. study 4-11709
 Fe_{1-x}Mg_xCl₂, dil. Ising system, antiferromag., random fields, sp. ht. meas. 4-2782
 Fe_{1-x}Mg_xCr₂O₄, Mossbauer spectra study 4-7108
 (Fe,Mg)_{1-x}SiO₄ olivine, nonstoichiometry and point defects, thermogravimetry study 4-6365
 Fe_{1-x}Mn_xCl₂·2H₂O, spin glass behaviour, tetracritical point, mag. phase diagrams 4-51049
 Fe_{1-x}Mn_xF₂, nonlinear mixing spectroscopy studies 4-19510
 Fe₂MoO₄, spin arrangement, Mossbauer study 4-35294
 Fe₂MoO₄Cl, two-dimensional antiferromagnet with superexchange pathways, synthesis, cryst. struct., mag. props. 4-56604
 FeMoS, thin layer, surface oxidation tribological props. (French) 4-35730
 FeMo₂Se₆, inhomogeneous mag. transition, Mossbauer study 4-35281
 FeN, phase form. by N⁺ ion implantation and heat treatment 4-39326
 Fe₁₆N₂ precipitate in BCC Fe, state and habit, elastic theory 4-39527
 Fe₂N particles, reactive gas evaporation prep., mag. props., mag. recording appls. 4-25598
 Fe₄N_{1-x}C_x, prep., crystal morphology, coercive field and use as mag. recording materials (French) 4-51103
 Fe₂Nb₂Se₆, thermoelec. power and elec. resist. 4-56324
 e-Fe_{3-x}Ni_xC, solid soln., existence in chondritic interplanetary dust particle 4-47571
 FeO, cohesive props., KKR band calcs. 4-6312
 FeO, planar and non-planar surfaces, defect struct. calc. 4-20443
 FeO polymorphism at Earth core conditions 4-52628
 FeO-Al₂O₃-SiO₂ glasses, spin glass transition and hyperfine parameters 4-30178
 FeO-Ce₂O₃, ferrous cerite, synthesis and props. 4-57131
 FeO-Fe₂O₃, ferrofluids, magneto-optics, fibre optics meas. 4-30239
 Fe_{1-x}O, chemical and tracer diffusion theory 4-15688
 Fe_{1-x}O, elastic props. near antiferromag. phase transition 4-2803
 Fe_{1-x}O, Wustite, creep, 100°C, O autodiffusion, deform. mechanism (French) 4-21289
 Fe_{1-x}O, wustite, defect struct., electron diff., TEM studies 4-20233
 α -Fe₂O₃ electrode for H₂ production 4-57800
 α -Fe₂O₃ electrodes, photodecomposition of water, surface studies (Chinese) 4-57589
 Fe₂O₃ electrodes, prep. by spray pyrolysis, photoelectrochemical behaviour 4-46771
 Fe₂O₃ films on flat glass, prep. from gels 4-57369
 γ -Fe₂O₃ fine particles, surface effects on saturation magnetisation (Chinese) 4-2791
 Fe₂O₃, fine powder, precipitation, DTA, mag. props. 4-25937
 Fe₂O₃, haematite, mag. susceptibility and mag. moments, temp. depend. (Russian) 4-25521
 α -Fe₂O₃, haematite, thermoelec. power at Morin transition 4-45817
 α -Fe₂O₃, hematite, cryst. growth from soln., seed cryst. struct. depend. 4-50226
 Fe₂O₃, high press. phase, Mossbauer study 4-56840
 α -Fe₂O₃, microcrystals, Mossbauer effect, particle motion influence 4-46163
 γ -Fe₂O₃ microcrystals, vapour phase prep., magnetic moment, particle size effect 4-7036
 α -Fe₂O₃, passivity in neutral solns., spectrophotoelectrochemistry study 4-57462
 γ -Fe₂O₃, phase transition, water vapour partial press. effect 4-26196
 α -Fe₂O₃, polycrystalline, photo-oxidation, diffusion controlled and transient photocurrents 4-45873
 α -Fe₂O₃ powder, sintering, microstruct. and density rel. to purity 4-57152
 α -Fe₂O₃ powders, particle characts., thermal analysis, electron microscopy (Japanese) 4-21191
 α -Fe₂O₃, single crystals, O diffusion coeffs. 4-2374
 α -Fe₂O₃ sintered electrodes, photoelectrochem. behaviour 4-15959
 α -Fe₂O₃, stacking defects determ., fourth moments method appl. 4-45145
 γ -Fe₂O₃, thin film, preparation, struct. and mag. props. (Japanese) 4-16312
 Fe₂O₃ thin films, high rate sputter deposition and mag. props. 4-30629
 γ -Fe₂O₃, tri-dimensional morphology, appl. of dark field weak beam method (French) 4-20137
 Fe₂O₃, ultrafine, form. by spray-inductively coupled plasma technique 4-3111
 Fe₂O₃, vacancy ordering and covalence effects, powder neutron diff. study 4-6338
 α -Fe₂O₃, water adsorption, FTIR spectra, heat flow microcalorimetry 4-40428
 γ -Fe₂O₃:Co(Ni)(Gd)(Tb), DC cond., Seebeck voltage, X-ray diff., IR spectra 4-6782
 γ -Fe₂O₃:Os sputtered thin film, microstruct. and high coercivity mag. props. 4-56722
 α -Fe₂O₃:TiO₂ sintered electrodes, photoelectrochem. behaviour 4-15959
 Fe₂O₃-Cr₂O₃ CVD coatings, modulation reflection spectroscopy anal. 4-57432
 Fe₂O₃-GeO₂ cryst. phases, growth by chem. vapour transport, cryst. struct., X-ray diff., EPMA, neutron activation anal. 4-45084
 Fe₂O₃-TiO₂, goethite-rutile intergrowth struct., hydrothermal crystallisation 4-20370
 Fe₂O₄, H₂ reduction intrinsic rate, establishing the absence of any external mag. field effect 4-7743
 Fe₂O₄, heat capacity anomaly, DTA study 4-50535
 Fe₂O₄, high temp. phase, band struct. calc. 4-45617
 Fe₂O₄, isotope and press. effects on Verwey temp. 4-2615
 Fe₂O₄ magnetic fluid, anisotropy, torque magnetometry studies 4-30230
 Fe₂O₄, magnetite, ⁵⁵Fe oxidation meas., rel. to oxidation of Fe 4-15690
 Fe₂O₄, magnetite, activated sintering, role of nonequival. defects 4-12041
 Fe₂O₄, magnetite, dissolution, surface comp. and morphology 4-7783
 Fe₂O₄, magnetite, magnetostriction near low-temp. phase transition 4-25627
 Fe₂O₄, magnetite, muon stopping sites, muon spin rot. meas., hyperfine field calcs. 4-35322

iron compounds continued

- Fe₂O₄, magnetite, optical props., evidence for 3dⁿ→3dⁿ⁻¹4s transitions 4-7163
 Fe₂O₄ microcryst. suspensions, Mossbauer spectra studies 4-30233
 Fe₂O₄, multiple phase transitions, specific heat meas. 4-15633
 Fe₂O₄, negative magnetoresistance and mag. props. 4-15890
 Fe₂O₄, passivity in neutral solns., spectrophotoelectrochemistry study 4-57462
 Fe₂O₄, polycrystalline, elec. cond. near Verwey temp. (Korean) 4-15924
 Fe₂O₄, powder insulation, improvement of extinction props., IR opacifiers 4-14873
 Fe₂O₄ spinel film, prep. by new plating method in aq. soln., structural, mag., magneto-optical props. 4-21170
 Fe₂O₄, synthesis and characterisation 4-12040
 Fe₂O₄ thin films, quantum size effect study 4-40101
 Fe₂O₄, vacancy effect on Verwey transition temp., sp. ht. meas. 4-6521
 Fe₂O₄, Verwey transition, polaronic effects 4-34878
 Fe₂O₄-CoFe₂O₄, spinel type solid solns., thermodynamics, EMF obs. (Japanese) 4-7438
 Fe₂O₄-Fe₂TiO₄, thermoelec. determ. of cation distrib. 4-39942
 Fe₂O, antiferromagnet, mag. transitions, mag. susceptibility studies 4-20819
 Fe₂O, mag. props. nonstoichiometry effects 4-56570
 Fe₂O, mag. susceptibility and mag. defect clusters 4-46008
 FeOCl, intercalated α -picoline, charge transfer effects, Mossbauer study 4-40313
 Fe(OH)₂, precipitated electrodes, electrochemical kinetics in aq. electrolytes 4-57413
 β -FeOOH colloidal particles deposition on stainless, steel 4-12239
 α -FeOOH, domain boundaries, high-resolution electron microscopy study 4-11154
 α -FeO(OH), goethite, cryst. growth from soln., seed cryst. struct. depend. 4-50226
 α -FeOOH, goethite, grinding induced decomposition to α -Fe₂O₃ 4-3269
 α -FeOOH, goethite, Mossbauer spectra interpretation 4-35315
 α -FeOOH microcrystals, Mossbauer effect, particle motion influence 4-46163
 α -FeOOH powders, particle characts., thermal analysis, electron microscopy (Japanese) 4-21191
 δ -FeOOH, superparamag., Mossbauer spectrosc. and X-ray diff. effects 4-56712
 γ -FeOOH, thermal decomp., water vapour partial press. effect 4-26196
 FeO.OH, goethite, mag. susceptibility and mag. moments, temp. depend. (Russian) 4-25521
 FeP, Mossbauer study, mag. struct. and elec. field gradient 4-11820
 Fe₃P, P LVV Auger and electron energy loss spectra 4-21076
 FePO₄, amorphous and crystalline, infrared spectra 4-30448
 FePS₃, antiferromag. transition, Mossbauer effect, susceptibility, and X-ray diff. meas. 4-40167
 FePS₃, mag. props., neutron diff., susceptibility, and ³¹P NMR studies 4-11673
 FePS₃, mag. struct. neutron diff. study 4-25517
 Fe₂P_{1-x}Si_x, cryst. struct. and mag. props. 4-11109
 Fe₂P_{1-x}Si_x, Mossbauer study, rel. to cryst. struct. 4-18119
 Fe₂Re₁₀As₂₄, prop. and cryst. struct. 4-11104
 FeS, crystal defects and group-subgroup relationships, TEM studies 4-11132
 FeS, Fe K X-ray absorpt. edge struct. 4-40569
 FeS₂, core electron binding energies, effective charge, calc. using XPS data 4-6314
 FeS₂, Fe K X-ray absorpt. edge struct. 4-40569
 FeS₂, H₂ permeability meas. 4-12258
 FeS₂, Mossbauer determ. of electric field gradient orientation 4-30368
 FeS₂, pyrite, Lamb Mossbauer fraction and Fe mean sq. displacement 4-7106
 FeS₂+H₂O, photoelectrochemical reactions, anodic photocurrents obs. 4-16663
 FeS₄ clusters, electronic struct., hyperfine interaction and radial density, X α calc. 4-29885
 Fe_{1-x}S, metal-nonmetal transition, struct. aspects 4-11444
 Fe_{1-x}S, pyrrhotite, impurity band conduction and Hall coeff. 4-45769
 Fe_{1-x}S, pyrrhotite, vacancy distrib., Mossbauer and X-ray diff. studies 4-45126
 Fe₂S₃, intraatomic-exchange splitting and cryst. field splitting 4-11504
 Fe₂(SO₄)₃, electron density distrib., X-ray diff. determ. 4-39274
 FeSb₂S₄, weak ferromagnet, magnetisation isotherms, mag. susceptibility meas. (Russian) 4-25520
 FeSiF₆·6H₂O, spin relax. consideration in Mossbauer spectra 4-46165
 Fe₂SiO₄ (fayalite), martensitic olivine-spinel transition at Earth interior conditions 4-52700
 FeSn₂, ¹¹⁹Sn hyperfine fields, Mossbauer studies 4-11818
 Fe₂SnMo₆S₈, supercond. props., press. and impurities effect 4-35114
 Fe₂TiO₃, monoclinic, characterisation by mag. susceptibility and Mossbauer spectra 4-40152
 FeVO₄, mag. props. and specific heat at low temp. (Russian) 4-7006
 FeVO₄, paramag., superexchange interactions, X-ray line widening (Russian) 4-51019
 FeV₂O₆, paramag., superexchange interactions, X-ray line widening (Russian) 4-51019
 FeWO₄, elec. transport props. as function of temp. 4-20681
 FeWO₄, elec. transport props. 4-56344
 Fe_{1-x}Zn_xCr₂O₄, Mossbauer spectra study 4-7108
 Fe₂Ni_{1-x}Cr₂S₄, magnetisation and mag. susceptibility near Neel point 4-6945
 Fe_{0.68}Zn_{0.32}F₂, random field Ising antiferromagnet, crit. behaviour, hysteresis effects, capacitance study 4-56663
 Fe₂Zn_{1-x}F₂, nonlinear mixing spectroscopy studies 4-19510
 FeZrF₆, cryst. struct., binding and phase transition studies (German) 4-24783
 Fe₂ZrSe₂, spin glass behaviour, Mossbauer and susceptibility studies 4-11728
 Gd-Fe garnet layers, Bi substituted, LPE growth 4-35586
 K₃(Fe(CN)₆), multiplet struct. of X-ray spectra 4-11961
 K₄(Fe(CN)₆)·3H₂O cryst., OH(OD) stretching vibr. correl. and H bond struct. characts. 4-24923
 KFeF₃, electron density distrib., X-ray diff. study 4-2157
 KFe(MoO₄)₂, ferroelectrics, features of domain struct. 4-29641
 LaFeP₁₂, mag. and elec. props., Mossbauer spectra 4-11684
 LaFe₃Sn, struct. and electronic stability criterion 4-11100
 Li-Al/FeS cells, thermal energy generation meas. 4-12465
 Li-Fe-S, phase equil., thermodynamics, electrochemical meas. 4-12437

iron compounds continued

- LiAl, Fe_{1-x}Cl_x ionic cond., phys. props. 4-34700
 LiCl-FeCl₂ system, phase diagram and ionic cond. 4-34707
 LiFeP₂O₆, cryst. struct. determ. 4-45093
 Li_{1-x}FeP₂O₆, intercalates, IR and struct. studies 4-25767
 Li_{1+x}(Li_{2x/3}Fe_{1-x/3}Sn_{1+x/3})O₄, cryst. struct. determ. 4-24782
 β-(Mg,Fe)₂SiO₄, significance of stacking faults to martensitic transformation 4-17472
 MgFe_{2(1-x)}Cr_{2x}O₄, solid solns. with spinel structure, elec. cond. and cation ordering 4-2618
 Mg_{1/2}Fe_{3/2}Sb₂O₂₄, hyperfine fields, Mossbauer spectra 4-35296
 MgO-(Cr₂O₃)-Fe₂O₃-SiO₂-Al₂O₃-CaO refractories, thermomech. and deform. props. 4-1212f
 Mg_{1-x}Zn_xFe₂O₄, solid solns. with spinel structure, elec. cond. and cation ordering 4-2618
 Mn-V-Fe-O, spinel struct., mag. props. 4-56558
 Mn_{1-x}Fe_xO₄, calorimetric studies 4-56043
 Mn_{1-x}Fe_xS, antiferromag, semicond., elec. props.; stoichiometry and cation substitution effects 4-34978
 (MnO)_{0.6}×O.4 Fe₂O₃, ferrimagnetic study 4-35200
 Mn_{1-x}Zn_xFe_{2(1-x)}V_{2x}O₄, solid solns. with spinel structure, elec. cond. and cation ordering 4-2618
 MoFe₂C, molybdenum cementite, cryst. struct. 4-39254
 NaFe(MoO₄)₂, ferroelastics, features of domain struct. 4-29641
 Na₂K_{1-x}Fe(MoO₄)₂ solid solns.; ferroelastics, features of domain struct. 4-29641
 Na_{2.84}K₄(H₃O)_{3.16}Fe₆S₁₂O₂₀·13H₂O, cryst. struct. and twinning 4-6328
 Na₂O-Fe₂O₃-SiO₂ glass system, ⁵⁷Fe Mossbauer absorption studies (Chinese) 4-56822
 Na₂O-Fe₂O₃-SiO₂-B₂O₃ glass system, ⁵⁷Fe Mossbauer absorption studies (Chinese) 4-56822
 NdFe₂Ge₂, antiferromag. ordering, neutron diffr. study 4-20797
 NiFe_{2(1-x)}Cr_{2x}O₄, solid solns. with spinel structure, elec. cond. and cation ordering 4-2618
 Ni_{1/2}Fe_{3/2}Sb₂O₂₄, hyperfine fields, Mossbauer spectra 4-35296
 Ni_{1/2}Fe_{3/2}Sb₂O₂₄, hyperfine fields, Mossbauer spectra 4-35296
 Pb(Fe_{1/2}Nb_{1/2})O₃-Pb(Fe_{2/3}W_{1/3})O₃, low firing multilayer capacitor material, dielec. props. 4-30404
 PbO-B₂O₃-Y₂O₃-Fe₂O₃ system, phase diagram, growth and dissolution of LPE YIG films 4-46457
 (PbTe)_{1-x}((Cr,Fe,Ni)_xTe₂), solid solns., thermoelec. props. 4-6815
 PbZrO₃-Pb₂FeNbO₆-PbTiO₃-U pyroelec. ceramic, elec. cond. 4-39898
 PrFe₂Ge₂, antiferromag. ordering, neutron diffr. study 4-20797
 RbFeCl₃, triangular antiferromag., successive phase transition and mag. phase diagram 4-16027
 RbFeCl₃·2H₂O, spin-cluster reson. intensity, temp. depend. 4-20866
 RhFeP, cryst. struct., mag. props., and Mossbauer parameters 4-11102
 Ru₂Fe₁₀As₈, cryst. chem. and cryst. struct. 4-11101
 SiO₂-Al₂O₃-K₂O-Na₂O-Fe₂O₃ porcelain bodies, Fe oxides colouring effects 4-40734
 TeO₂-V₂O₅-Fe₂O₃ glasses, elec. cond. and ESR 4-50814
 TiFe₂Te₃, mag. props. and anisotropy 4-46067
 (Y_{0.81}Tb_{0.19})₃Fe₂O₁₂ crystal for fibre optic sensor, design for low-current meas. appls. (Japanese) 4-27539
 Zn_{1/2}Fe_{3/2}Sb₂O₂₄, hyperfine fields, Mossbauer spectra 4-35296
 ZrVFeD_{3.6}, neutron diffr. study of struct. (Russian) 4-29409

iron phosphate semiconductor glasses see amorphous semiconductors**irradiation effects see radiation effects****irradiation induced creep**

- creep velocity measurement, in electron accelerator, stress relaxation (Russian) 4-50413
 crystalline solids, creep equation formulation, characteristic flow area 4-11219
 fission reactor materials, automated meas. and recording system to invest. effect of reactor radiative on creep 4-12304
 graphite material, measurement device, in WWR-SM reactor (Russian) 4-50412
 reactor structural materials, void swelling and creep during irradiation, VS6 code calcs. 4-9281
 recovery process, in cell walls (Russian) 4-50285
 steel, austenitic, radiation creep at stresses exceeding elastic limit 4-6413
 steel, austenitic stainless, 30-650°C, dislocation structure (Russian) 4-51735
 steel, austenitic stainless, low cycle life in reactor irradi., kinetic failure criteria 4-7576
 steel, stainless, structural, irradiation, in-pile nucleation and growth of gas bubbles on grain boundaries 4-15544
 Cu, irradiation creep due to elastodiffusion 4-55863
 Fe, irradiation creep due to elastodiffusion 4-55863
 Ni, dislocation loop, voids, radiation creep, influence of nonstationary diffusion (Russian) 4-50296
 Ni, electron irradi. induced creep 4-46575
 Zr-Nb (2.5 wt.%) cold drawn tubes, deform. after 7 years in-reactor 4-15579

ISDN see communication networks; digital communication systems**Ising lattices****see also Ising model**

- φ⁴ model, Ising-like system, nonasymptotic crit. behaviour, nonlinear renormalisation group 4-32181
 Baxter model with impurity lattice bonds, specific heat critical behaviour 4-53614
 correlation functions, difference eqns. and reln. to Z₂ lattice gauge theory 4-42889
 critical exponent, variation with spin on b.c.c. lattice 4-8832
 critical temperatures, confluent scaling corrections effects 4-189
 droplet theory for Ising-like systems, two-loop calc. of partition functions 4-32175
 effective fields, periodic structure 4-190
 exact transition temp. and critical exponents 4-48035
 free energy singularities near critical point 4-17861
 Ising gauge plus matter theory, two-dimens., phase transitions 4-32176
 Monte Carlo configs., renormalisation group anal., Glauber kinetic Ising and Kawasaki models appl. 4-17843
 Monte Carlo sampling with renormalisation-group methods 4-22724
 near-critical props. from potential shift 4-13750
 partition function zeros, fractal structure, on diamond hierarchical lattice 4-37041
 permissible phase numbers, catastrophe theory anal. (Chinese) 4-48014
 quantum, low temp. expansions for Gibbs states 4-4341
 random field Ising model on lattice, low temp. behaviour 4-25499

Ising lattices continued

- site-bond correlated percolation, hyperscaling reln. 4-22715
 spin systems, duality transformations 4-53617
 spin systems, Ising, on triangular-structured lattices, Ruelle theorem anal. 4-20832
 spinodal decomposition, Monte Carlo and molecular dynamics simulations 4-20363
 triangular Ising antiferromagnet, mean field renormalisation group transformations 4-20828
 two-dimensional, a ruby lattice 4-4347
 two-dimensional, with multispin interactions 4-188

Ising model**see also Ising lattices**

- 2-D spin 1/2 system with competing interactions, ground-state props. 4-25573
 2-D spin glass, entropy discontinuities 4-25574
 2D random, equilb. props., numerical transfer matrix anal. 4-25577
 2D random, thermodynamic props. and spin glass correlation length 4-25576
 3-D, surface roughening, Monte Carlo studies 4-20439
 amorphous antiferromagnets, phase transition, statistical model 4-46029
 amorphous antiferromagnets, simplified model of phase transition 4-25555
 amorphous Ising ferromagnet, spontaneous magnetisation temp. depend. 4-40155
 amphiphile monolayer phase transition, spin-1 Ising model 4-2318
 anisotropic, D+1 dimensional, competing multispin interactions 4-48036
 anisotropic double Ising chain, effect of impurities on spin polarisation 4-45989
 annealed, on triangular lattice, spin glass charact. 4-16048
 ANNNI model, branching processes 4-22702
 antiferromagnet, FCC, thermodynamic functions, Monte Carlo simulation 4-46059
 antiferromagnet, hexagonal, randomly modulated phase 4-2716
 antiferromagnet, site-disordered, random-field effects 4-35133
 antiferromagnetic in external field, A-B site-bond percolation 4-6938
 antiferromagnetic triangular lattice, partition function, Ruelle theorem anal. 4-20832
 antiferromagnetic triangular lattice with second neighbour interaction, Monte Carlo study 4-16035
 Ashkin-Teller model, phase transitions 4-13588
 axial-next-nearest-neighbour, melting mechanism, multicritical points, and dimerisation 4-30188
 Bethe-Peierls approx. 4-27667
 bidimensional spin-1/2 Ising model in a random field 4-40131
 binary alloys, first- and second-order phase transitions, collective variable method anal. (Russian) 4-24957
 Blume-Capel model, phase transition, statistical mechanics anal. 4-2777
 bond and site diluted systems, unified treatment 4-2714
 bond-diluted Glauber Ising chain, bicritical dynamic scaling and dynamic crossover 4-37038
 bond-random Ising model, transition from spin-glass to ferromagnetic state 4-30195
 chaotic spin glasses, upper critical dimension 4-56657
 classical Ising model using correl. inequalities, upper bounds on Tc 4-40183
 cluster variation method, general algorithm 4-20331
 cluster variational method, density matrices reduction 4-48033
 coarse-grained free energy functional study 4-6937
 correlated boundary conditions and Monte Carlo method 4-22707
 critical parameters, ε-convergence method 4-216
 critical specific heat of 2D Ising model in presence of bond defects 4-30177
 crossover to classical behaviour for Ising model with vacancies, renormalisation-group investigation 4-42879
 cubic Ising model, cluster free energy calcs. 4-51079
 damping of transverse and longit. excitations in transverse field 4-35390
 decoupling approx. for spin 1/2 4-48015
 diffusion and ionic conduction, Nernst-Einstein equations and cross phenomenological coeffs. interpretation 4-20392
 dilute, simple theory 4-25500
 dilute Ising ferromagnet, mag. props. calcs. 4-51081
 dilute Potts chain in mag. field, one-dimens. calcs. 4-45987
 diluted, persistency of spatially ordered phases 4-16051
 diluted transverse, with anisotropic coupling consts., thermodynamical props. 4-11736
 diluted transverse Ising model, thermodynamics, mean field type treatment 4-2778
 disordered system, random matrix theory and statistical mechanics 4-199
 disordered transverse Ising model, mean field renormalisation group, critical exponents 4-53611
 eight-vertex model, dynamical critical exponent, Monte Carlo renormalisation group 4-40182
 elastic Ising chain with exchange striction, statistical mechanics 4-56517
 ferroelectrics, hydrogen-bonded, pseudospin-phonon coupling, role of central peak in sound absorption (Russian) 4-34600
 ferromagnet, crit. exponent relations, Fisher's inequality 4-40186
 ferromagnet, quadratic, two-dimensional, with mixed spins (S=1/2,1) Curie temp. calc. 4-51075
 ferromagnet, surface mag. long- and short-range order, Ising model calc. 4-2780
 ferromagnet, three-dimens., generalised difference eqn. 4-45986
 ferromagnet, two-dimensional bond-disordered, numerical study 4-46057
 ferromagnet, with enhanced surface couplings, phase diagram 4-35185
 ferromagnet with S=∞, heat capacity study by Monte Carlo simulation 4-56515
 ferromagnetic, diluted free surface, surface magnetism 4-20834
 ferromagnetic 3-D, equilibrium cryst. shapes 4-29375
 ferromagnets, Ising, magnetisation concavity 4-20779
 finite spin, in ferromag. regime, scaling behaviour, region of validity 4-56660
 finite-temperature correlations for the Ising chain in a transverse field 4-53619
 four dimensions, critical behaviour in ferromagnetic system 4-9012
 frustrated, in presence of annealing and anisotropic defect distrib. 4-45988
 frustration in a finite spin system 4-35136
 ground state infinite series on honeycomb lattice 4-42866
 ground states of lattice gas and Ising model on square lattice 4-22697

Ising model continued

- hadron masses, renormalisation calcs. using Monte Carlo methods 4-43231
- Heisenberg-Ising chain, spin-1, with uniaxial anisotropy, finite size scaling study 4-2785
- hexagonal Ising lattice, mag. phase diagram 4-16047
- hierarchical lattices and renormalisation group transformations, critical exponents 4-42882
- high temp. dynamics in transverse field 4-46058
- incommensurate-commensurate phase transitions, extended antiferroelec. interaction Ising model 4-6467
- infinitely coordinated systems, large-size crit. behaviour 4-203
- interfaces, intrinsic struct., and long-range correlations 4-35134
- Ising ferromagnet, Curie temp. theory 4-46025
- Ising metamagnet, frustration study, spin dynamics 4-51077
- Ising spin glass, critical dynamics study 4-51080
- Ising spin glass, long range random exchange interactions 4-51078
- Ising spin $S=1$ model of f.c.c. lattice (*Chinese*) 4-2775
- lattice gauge theories, complex singularities, zeros distrib. 4-383
- lattice spin systems, duality transformations 4-53617
- Lee-Yang zeros, structure and motion 4-11735
- long-range correlated percolation, renormalisation-group study 4-27443
- magnet, susceptibility temp. depend., decimation method anal. 4-11656
- magnetic ordering, eqn. of state 4-56516
- maze-like patterns in monodisperse latex system, frustration 4-11733
- metamagnetic Ising model, finite size scaling approach in two dims. 4-40171
- mixed spin, low temp. expansions 4-51013
- modified model in random field, commensurate-incommensurate transition 4-8834
- modulated phases in Ising models with diluted frustration 4-30134
- Monte Carlo renormalisation group 4-4350
- myosin subfragment 1, interaction with regulated actin, 1D kinetic Ising model 4-21611
- nonuniversal amplitudes calcs. using primitive droplet model, Ising model below T_c 4-37035
- one-dimensional, with competing interactions, longitudinal and transverse susceptibilities 4-17842
- one-dimensional chains, diluted, bicritical dynamics for wide range of single spin flip dynamics 4-30191
- one-dimensional quantum spin system, dynamical correlation functions 4-56672
- one-dimensional quantum spin-systems, dynamic correlation functions 4-30135
- one-dimensional random Ising ferromagnets and antiferromagnets 4-2715
- phase transitions in Ising systems with strain interactions, appl. of correlated effective-field-approx. 4-29571
- Potts ferromagnet, surface and defect crit. behaviour, renormalisation group approach 4-6996
- q-state Potts model, 2-dimens., chiral and cubic crossover exponents, extended scaling relations 4-53613
- quadrupolar spin-1 Ising model, in transverse field 4-8826
- quantum spin problem with three-spin coupling, critical behaviour 4-13591
- quantum systems, correlation-length amplitudes and critical exponents 4-53624
- random, at marginal dimensionality, two-point correl. function 4-42869
- random binary alloys, Ising model with competing interactions, mean field approach 4-16005
- random field Ising model, interface stiffness and spin glass transition 4-51074
- random field Ising model, lower crit. dimension 4-56662
- random field Ising model on lattice, low temp. behaviour 4-25499
- random-bond Ising model, boundary between spin glass and ferromagnetic states 4-11703
- random-field, low-temp. behaviour 4-2776
- random-field, lower crit. dimension, Monte Carlo study 4-30196
- random-field distributions and tricritical points, mean field theory anal. 4-8859
- random-field Ising model, domain growth study 4-42885
- random-field Ising systems, ferromagnetic ordered state instability 4-11732
- rectangular lattice gas model and 2-D ANNNI model in a field 4-20466
- relaxation phenomena in the kinetic Ising model below the critical temperature 4-20780
- self-avoiding-walk lattice 4-191
- semi-infinite Ising model, real-space renormalisation 4-22700
- single-spin model coupled to harmonic oscill., time evolution, Mori method 4-17719
- site diluted, simulation through infinite random field 4-56670
- spin 1 system with dipolar and quadrupolar interactions, effective-field model 4-42883
- spin glass, and Schrödinger eqn., renormalisation group anal. on fractals 4-2779
- spin glass, dynamics and stability from closed time path Green's funct. 4-30187
- spin glass, eqns. of state from Parisi soln. 4-25575
- spin glass, frustrated 2-D, mag. props. 4-16054
- spin glass, interplay of replicas and metastable states 4-56665
- spin glass, Ising, low-temp. state, renormalisation group study 4-25578
- spin glass, Ising correlations and transition temp., exact upper bounds 4-30192
- spin glass, two-dimens. Gaussian, dynamical aspects, Monte Carlo study 4-30190
- spin glass model, replica symmetry breaking stability, Ginzburg-Landau theory 4-25579
- spin glass models with short-range forces 4-16049
- spin glass with long-range oscillating interaction 4-11734
- spin glasses, dynamics near de Almeida-Thouless line 4-20829
- spin glasses, infinite range, irreversibility 4-56658
- spin glasses, Ising and Heisenberg, irreversibility, review 4-56656
- spin glasses, logarithmic dynamic scaling and spin freezing 4-56651
- spin glasses, short-range, spatial fluctuations 4-56666
- spin system, transverse dynamic susceptibility, exact eigenvalue eqn. for reson. freq. 4-35132
- spin weight functions in models of phase transitions, Gaussian smearing 4-22703
- spin-glass phase-transition, lower critical dimensionality 4-56659
- spin-one Ising model with nearest-neighbour and next-nearest-neighbour interactions 4-186
- spins with competing interactions on Cayley tree 4-30194

Ising model continued

- square lattice, inhomogeneous, nonuniversality, exponent asymmetry and surface magnetisation 4-16055
 - quaric acid, one-dimensional mol. correlations obs. by neutron scatt. 4-40365
 - stacked frustrated triangular system, orderings and renormalisation group flow 4-56664
 - stepped surfaces, phase transitions, Landau-Lifshitz anal. 4-56130
 - surface critical behavior of the smoothly inhomogeneous Ising model 4-35186
 - surface exchange, magnetisation profile and multicritical point 4-35183
 - systems with correlated quenched random fields, instabilities 4-16052
 - Szego-Kac theorem proof and definitions of determinant 4-53632
 - three-dimensional, in a random field, lower crit. dimensionality 4-16053
 - three-dimensional, with frustration, Monte Carlo study 4-56667
 - three-dimensional Ising model, equilibrium cluster distrib. in one phase region 4-27436
 - three-dimensional Ising spin glass, real-space renormalisation anal. 4-40184
 - topological nature of phase transitions, Maslov-Arnol'd index 4-221
 - transfer matrix spectrum in C^* -algebra at high temps. 4-32173
 - transverse Ising ferromagnet, eqn. of state, quantum crossover 4-6997
 - triangular Ising antiferromagnet, mean field renormalisation group transformations 4-20828
 - triangular Ising antiferromagnet, mean-field renormalisation group transformations. 4-30189
 - triangular Ising antiferromagnet with first- and second- neighbour interactions, transition temp. 4-56655
 - triangular lattice, antiferromag. interactions, Monte Carlo and renormalisation group calcs. 4-20830
 - tridimensional spin-1/2 Ising model in a random field 4-40132
 - two dimensional, C^* algebra approach to phase transition, one-dimens. lattice 4-20831
 - two dimensional, continuous spin Ising model, critical exponent universality limits 4-53610
 - two-dimensional, depinning transition, renormalisation group 4-185
 - two-dimensional, numerical calc. by modified Kadanoff's renormalisation group 4-11729
 - two-dimensional, with quenched site disorder, crit. sp. ht. 4-42870
 - two-dimensional, with regularly disposed frustration, phase transition 4-16050
 - two-dimensional ϕ^4 model, Ginzburg-Landau free energy 4-25475
 - two-dimensional ANNNI model, numerical simulations of modulated systems 4-42884
 - two-dimensional ferromagnetic spin systems, finite-size effects at first-order transitions 4-30193
 - two-dimensional Gaussian Ising spin glass, dynamic aspects 4-11731
 - two-dimensional Ising antiferromagnet, random interface dynamics 4-11708
 - two-dimensional Ising model, partition function 4-13598
 - two-dimensional random ($\pm J$) Ising model, Monte Carlo simulation 4-11737
 - unified Heisenberg-Ising model and fermion system recursion relations (*French*) 4-47994
 - Yang-Lee singularities in 2-D infinite repulsive systems 4-51014
 - $A_2B_{X_4}$ type crystals, incommensurate-commensurate phase transitions, statics and dynamics 4-25004
 - $\text{CsCoBr}_2(\text{Cl}_3)$, quantum Ising-like antiferromag. chain, soliton dynamics 4-56661
 - DyPO_4 , mag. relax. and mag. props. 4-7090
 - DyVO_4 , specific heat with applied mag. field 4-11314
 - Fe complex, di(ethylammonium) iron tetrachloride, heat capacity const. press. 4-45351
 - Fe complex, di(methylammonium) iron tetrachloride, heat capacity const. press. 4-45351
 - $\text{Fe}_{1-x}\text{Co}_x\text{Br}_2$ randomly mixed antiferromagnets, with competing Ising and XY anisotropies, AC susceptibility meas. 4-30170
 - $\text{Fe}_{1-x}\text{Mg}_x\text{Cl}_2$, dil. Ising system, antiferromag., random fields, sp. ht. meas. 4-2782
 - $\text{Fe}_{0.68}\text{Zn}_{0.32}\text{F}_2$, random field Ising antiferromagnet, crit. behaviour, hysteresis effects, capacitance study 4-56663
 - HCl-DCI mixed cryst., NQR study of quantum tunnelling 4-11793
 - Mn_2GaC , Ising model exhibiting metamagnetic transitions 4-56654
 - $\text{Rb}_2\text{Co}_{0.85}\text{Mg}_{0.15}\text{F}_4$, random-field-induced destruction of phase transition 4-11706
 - $\text{Rb}_2\text{Co}_2\text{Mg}_{1-x}\text{F}_4$, spin dynamics near mag. percolation threshold 4-51066
 - $\text{RbFeCl}_2\cdot 2\text{H}_2\text{O}$, spin-cluster reson. intensity, temp. depend. 4-20866
 - TbAsO_4 , ferromagnetic phase, relaxation 4-2855
 - U_2P_4 , critical mag. behaviour, susceptibility and spontaneous magnetisation 4-25561
- island-like metallic thin films** *see discontinuous metallic thin films*
- islet-like metallic thin films** *see discontinuous metallic thin films*
- isobaric analogue resonances**
see also nuclear collective states and giant resonances
 A=38-208, giant isovector monopole resonance, strength function calcs. 4-43447
 Coulomb effects in nuclear structure 4-18342
 (d,n) stripping process to isolated analogue resonances, form factors, DWBA 4-43446
 (n,p), analogue isovector resonance excitation at 60 MeV on Li, C, O, Si, Bi, Ni 4-43457
 (π^+ , π^-), 165, 230, 295 MeV, isobaric analogue states around (3,3) resonance energy 4-688
 $^{197}\text{Au}(\text{n,p})^{197}\text{Pt}$, diff. cross-sections for isobaric analogue states 4-9204
 $^{209}\text{Bi}(\text{n,p})^{209}\text{Po}$, analogue isovector resonance excitation at 60 MeV 4-43457
 $^{209}\text{Bi}(\text{n,p})^{209}\text{Po}$, diff. cross-sections for isobaric analogue states 4-9204
 $^{12}\text{C}(\text{n,p})^{12}\text{N}$, analogue isovector resonance excitation at 60 MeV 4-43457
 $^{12}\text{C}(\text{n,p})^{12}\text{N}$, A=6, 7, analogue isovector resonance excitation at 60 MeV 4-43457
 $^{12}\text{C}(\text{n,p})^{12}\text{N}$, A=58, 60, 62, 64, analogue isovector resonance excitation at 60 MeV 4-43457
 $^{16}\text{O}(\text{n,p})^{16}\text{N}$, analogue isovector resonance excitation at 60 MeV 4-43457
 $^{28}\text{Si}(\text{n,p})^{28}\text{P}$, analogue isovector resonance excitation at 60 MeV 4-43457
 $^{144}\text{Sm}(\text{p,p}')^{144}\text{Sm}$ scattering through isobaric analog resonances and the structure of ^{144}Sm 4-32889
 $^{86}\text{Sr}(\text{p,p}_0)^{86}\text{Sr}$, A=86, 88, 6.02 and 5.06 MeV, compound elastic cross sections in isobaric analog resonance 4-4853
 $^{181}\text{Ta}(\text{p,n})^{181}\text{W}$, diff. cross-sections for isobaric analogue states 4-9204
 $^{130}\text{Te}(\text{p,p}')^{130}\text{Te}$ reaction on analog resonances 4-32890
 $^{232}\text{Th}(\text{p,n})^{232}\text{Ac}$, diff. cross-sections for isobaric analogue states 4-9204

isobaric analogue resonances continued

²³⁸U(p,n)²³⁸Pa, diff. cross-sections for isobaric analogue states 4-9204
⁴⁹V, 11.14 MeV level, analogue-antianalogue transition from ⁴⁸Ti(p,γ)⁴⁹V reaction 4-54037

isobaric analogue states

see also *isobaric analogue resonances*

Gamow-Teller β-decay strength functions, resonances, review 4-4814
 isovector collective 0⁺ states in random phase theory, microscopic description 4-13976
 spherical nuclei, ground and analogue state Coulomb mixing, isospin purity, shell model (*Russian*) 4-4752
 Δ-isobar formation, pion production, in heavy ion collisions 4-13938
³⁹Ar, Coulomb displacement energy of T=5/2, J^π=3⁺/2 states and charge radius 4-37436
²⁰⁸Pb isobaric analogue state width 4-37427
³⁹Cl, mass defect from ³⁷Cl(t,p)³⁹Cl, Coulomb displacement energy of T=5/2, J^π=3⁺/2 states 4-37436
⁵⁹Cu, d_{5/2} analogue strength from ⁵⁸Ni(p,γ) reaction 4-48522
¹⁶F, T=2, J^π=0⁺ isobaric states, mass prediction 4-37435
^ΔFe(p,n), A=54, 56, giant spin-isospin multipole vibr. excitation 4-18428
^ΔMo(p,p), 6 MeV, A=92,94,96,98,100, elastic and inelastic, theoretical anal. (*Russian*) 4-23114
^ΔNi(p,t) A=56, 58, 60, 62 double-hole analogue states 4-48579
¹²N, T=2, J^π=0⁺ isobaric states, mass prediction 4-37435
¹⁵N(π⁺,π⁰)¹⁵O, 48 MeV, ang. distrib. meas. 4-54180
⁹⁰Nb isobaric analogue state width 4-37427
^ΔNi(p,n), A=58, 60, giant spin-isospin multipole vibr. excitation 4-18428
¹⁸O(π⁺,π⁰)¹⁸Ne, Δ₃₃ dynamics 4-37664
 (π[±],π⁰), single charge exchange, structure effects, transition density, DWIA calcs., cross sections 4-43530

isobars see atmospheric pressure and density**isoelectronic series**

closed shell atomic and ionic systems, static quadrupole polarisability 4-33304
 four-electron ions, high-Z, l-struct. in hydrogenic states 4-18957
 hydrogenic atom, Dirac eqn., algebraic approx. 4-33285
 hydrogenic atoms in mag. fields, energy spectrum anal. 4-23656
 hydrogenic bound states, multipole polarisabilities 4-48924
 hydrogenic heavy ions, in dense ICF plasmas, Stark broadening 4-44804
 hydrogenic ions, in dense plasmas, electron impact excitation, plasma screening effects 4-44798
 hydrogenic ions, Lamb shift semiclassical interpretation 4-28404
 hydrogenic Rydberg atoms, elec. field ionis., complex energy states calcs. 4-23633
 Ag isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 Au isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 B, isoelectronic sequence, ground-state fine struct. 4-23621
 B-like ions, electron impact ionisation cross-sections 4-5458
 Ba isoelectronic sequence, n=2 configurations, level values 4-5183
 Be isoelectronic series, electron impact Auger ionisation cross-sections calcs. 4-5457
 Be isoelectronic series, quasidegeneracy effects, coupled doubly excited CI and linear coupled pair calcs. 4-33334
 Be, Slater Xα method and local exchange-correlation pots. 4-23603
 Be-like ions, electron-impact excitation, collision strengths, excitation rate coeff. 4-10135
 Be-like ions, level populations in astrophysical plasma 4-53040
 Be-like ions, resonance lines, electron impact line widths 4-48979
 C isoelectronic sequence, MCDF-EAL method appl., higher-order relativistic corrections 4-5148
 C-like ions, electron impact excitation, fine struct. transitions 4-10139
 Cu isoelectronic sequence from Ru^{15+} to Sn^{21+} , spectra and energy levels of ions 4-23647
 Cu isoelectronic series, core polarisation and relativistic effects competition in first ionisation pots. 4-33350
 F VIII, MCDF-EAL method appl., higher-order relativistic corrections 4-5148
 H in strong magnetic fields, atom behaviour, variational calcs. 4-18954
 H-like atom, ground state energy, polynomial perturbation 4-14314
 H-like atoms, Z=10-40, energy levels, quantum electrodynamic calcs. 4-36808
 H-like ions, alignment of 2P states, K X-ray emission 4-19198
 H-like ions in dense plasma, X-ray emission profile calcs. (*French*) 4-48971
 H-like systems, stable variational calculations with the Dirac Hamiltonian 4-1050
 He in strong magnetic fields, atom behaviour, variational calcs. 4-18954
 He isoelectronic sequence, var. calcs. 4-43800
 He isoelectronic sequence, ground states, ang. eigenfunctions 4-54579
 He, isoelectronic series, energy-density eqn. for isoelectronic changes, Z-depend. of electrostatic pot. 4-28356
 He isoelectronic series above n=2 continuum, autoionis. states positions and widths 4-9949
 He-like atoms, relativistic at. struct. theory 4-33301
 He-like ions, collisional radiative model for emission-line intensities 4-34242
 He-like ions, (Z=2 to 10), quantum defect theory treatment of 1sns and 1snp series 4-14321
 He-like ions, dielectronic satellites, wavelength and energy levels meas. 4-38058
 He-like ions, electron impact excitation, modified Glauber approx. 4-10133
 He-like ions, electron impact excitation collision strengths and excitation rates 4-10134
 He-like ions, electron impact excitation collision strengths 4-36809
 He-like ions, electron scatt. cross-sections, reson. effect 4-5469
 He-like ions, energy level shifts, polarisation 4-28405
 He-like ions, forbidden lines, resons. effects 4-23640
 He-like ions, ground state, Coulomb Green's function variables 4-48902
 He-like ions electron impact 2^SS excitation 4-5425
 He-like ions in dense plasma, X-ray emission profile calcs. (*French*) 4-48971
 I VII through Eu XVII, Ag I-like layer 4d¹⁰5s-4d⁹5s5p 4-48972
 Kr isoelectronic series, direct SCF calc. of excited level structs. 4-43795
 Li isoelectronic series, dielectronic recombination rate coeffs. 4-38127

isoelectronic series continued

Li isoelectronic series, electron impact Auger ionisation cross-sections calcs. 4-5457
 Li isoelectronic series, fine struct. and transition wavelengths for 1s2s2p ⁴P and 1s2p2p ⁴P states 4-38348
 Li sequence, dielectronic recombination cross section at low energies 4-19222
 Li-like ions, collision strengths for inner shell excitation transitions 4-53036
 Li-like ions, inner-shell excitation, collision strengths 4-36810
 Li-like ions+H₂, charge exchange and radiative decay 4-19254
 Mg I through Cl I sequences, mag. dipole transition 4-54626
 Mn-like ions from YXV to AgXXIII, 3p-3d transitions studied in low inductance vacuum sparks, line strengths 4-1080
 NI isoelectronic series, ground config., multiconfiguration HF Breit-Pauli approx. 4-48921
 Ne I sequence, allowed 2p³3l-2p³3l' and forbidden 2p³3s(3P₀-3P₁) transitions 4-31807
 Ne isoelectronic series, (Z=14 to 100), line strength calc., 1/Z perturbation theory 4-33371
 Ne⁺ series, atomic X-ray transition probabilities, dipole length velocity and accel. comparison 4-43843
 Ne-like ions, suprathermal electron direct collisional pumping, X-ray gain enhancement 4-28408
 Ne-like system, first-order wavefunctions, Rayleigh-Schrodinger perturbation theory 4-54614
 O, electric dipole transitions, MCHF and BP results 4-54597
 O isoelectronic sequence, forbidden transitions, multiconfig. HF calcs. with Breit-Pauli corrections 4-18921
 O-like ions, collision strength depend. of level populations 4-8385
 Rh I isoelectronic series, La XIII 4d⁹4d⁵5p transition array anal. 4-48973
 ScH⁺, electronic configurations, MRD-CI calcs. 4-43817
 Si isoelectronic series, S III to Sn XXXVII forbidden lines, transition probabilities 4-14369
 TiH⁺, electronic configurations, MRD-CI calcs. 4-43817
 Xe-like ions, 4f orbital collapse, time depend. HF tech. 4-9666
 Xe-like ions, inner 4d shell photoionisation, orbital collapse 4-9732
 Zn, isoelectronic series, E1, E2, E3, M1 and M2 transition calc. 4-38125
 Zn-like Zr XI, Nb XI and Mo XIII, 4s-4p transitions including intercombination lines 4-43842

isolators, microwave see microwave isolators

isomer shift
 alkali metal complexes, alkali bis(citrate)ferrates(III), Mossbauer studies 4-16126
 amorphous ferromagnets, mag. hyperfine field distribution from Mossbauer data 4-15863
 graphite-Eu intercalation cpd., EuC₆, Mossbauer study 4-40317
 graphite-FeCl₂ intercalation cpd., Mossbauer, EPR and SEM studies 4-56829
 Nafion ionomers, Fe neutralised, EXAFS and Mossbauer investig. 4-16272
 organotin compounds, cryst. and mol. structs., Mossbauer effect determ. 4-24800
 polyacetylene-¹²⁹I, Mossbauer effects studies 4-7103
 rare earth ferrites, RFe₂O₄(R=Zr, Y, Ho, Er, Tm, Yb), valence fluctuation and Verwey transition, Mossbauer study 4-51164
 semiconductors, ¹¹⁹Sn implanted, electronic struct., Mossbauer isomer shifts 4-35272
 truncation metals, H₂ absorption, Mossbauer spectra isomer shifts, SW-Xα calc. (*German*) 4-46155
 Cd, electric field gradient at ¹¹⁹Sn, meas. by Mossbauer spectroscopy 4-35254
 Cd-Ag dilute alloys, hyperfine interactions and recoilfree fractions of ¹⁹⁷Au, Mossbauer study 4-35255
 Cd, Mg_{1-x}Fe_xO₄, Mossbauer study at 4.2K 4-7109
 Dy₂Fe_{17-y}Al_{3y}H₄, X-ray and Mossbauer study, hydrogenation effect on hyperfine field 4-35303
 EuCl₃, anhydrous non-stoichiometric phase, Mossbauer studies 4-20890
 EuCu₂Si₂ mixed valence cpd., field induced valence shifts, Mossbauer study 4-56294
 EuPd₂Si₂Sn, valence transition and mag. ordering, Mossbauer study 4-40291
 Fe catalyst on mordenite, mag. and Mossbauer meas. 4-25660
 Fe, isomer shift in Mossbauer spectra near Curie temp. (*Chinese*) 4-56823
 Fe, pseudo-discontinuities in the isomer shift near magnetic transitions 4-40311
 Fe small particles supported by zeolite-Y, superparamagnetism, Mossbauer study 4-40199
 Fe-Al(Si)(Ge)(Sn)(V)(Cr), comparison of model predictions and meas. isomer shifts 4-46166
 Fe-Ni-Mn hydrogenated state, Mossbauer effect and mag. order (*Russian*) 4-25656
 Fe-P based ferromagnetic glasses, Mossbauer Zeeman spectra 4-35310
 FeB, cryst. and amorphous sputtered films, ferromag. and paramag. phases 4-30251
 Fe_{100-x}B_x ferromagnetic glasses, Mossbauer Zeeman spectra 4-35310
 Fe₄₀B₆₀ metallic glasses, Mossbauer Zeeman spectrum, linewidth asymmetries 4-46159
 Fe₈₇B₁₃Au₂ metallic glass ribbons, Mossbauer spectra and crystallisation products 4-56825
 Fe₇₅B_{14.2}Si_{10.4}, amorphous, hyperfine field, isomer shift and Mossbauer spectra 4-11811
 Fe, Bi_{1-x}, amorphous, Mossbauer isomer shift 4-56833
 FeH, mol. bond, isomer shift, Mossbauer spectra charact. 4-49072
 FeNi, FCC, paramag. state, 2γ states, ⁵⁷Fe Mossbauer isomer shift meas. 4-35309
 Fe₆₀Ni₄₀Cr₂₀, FCC, paramag. state, 2γ states, ⁵⁷Fe Mossbauer isomer shift meas. 4-35309
 Fe₄₀Ni₄₀P₁₄B₆, Metglas 2826, ferromagnetic, quadrupole splitting, Mossbauer spectra 4-2852
 FeO-Al₂O₃-SiO₂ glasses, spin glass transition and hyperfine parameters 4-30178
 Fe₂Ti_{99-x} sputtered films, cryst. and amorphous, Mossbauer studies 4-56824
⁵⁷Fe-implanted rare earth elements, isomer shifts of conversion electron Mossbauer spectra 4-30366
 III-V semiconductor:Sb, ion implanted, Mossbauer isomer shift studies 4-46152

isomer shift continued

- La, Eu, ^{151}Sm , ^{109}Ag , ^{119}Sn mixed valence alloy, Mossbauer isomer shifts 4-2848
 $\text{MgO} \cdot ^{57}\text{Co}$, Mossbauer second order Doppler shift 4-2851
 $\text{MgO} \cdot ^{57}\text{Co}$, pure and doped, Mossbauer emission spectroscopy 4-20893
 Np chalcogenides, isomer shift, Np valency, ^{237}Np Mossbauer study 4-11817
 $(\text{Pb}, \text{Sn})_{1-x}(\text{Sb}, \text{O}_2)$ sputtered thin film, heavily doped, Mossbauer effect studies 4-51170
 PdH_x , H distrib., PAC and Mossbauer study 4-35302
 Pd/Sn complex in Fe, hyperfine interactions and Mossbauer parameters, temp. and press. depend. 4-7105
 Re, isomer shift and elec. field gradient of ^{181}Ta , temp. depend. 4-40284
 Sb, electric field gradient at ^{119}Sn , meas. by Mossbauer spectroscopy 4-35254
 Sn compounds, isomer shift, mol. orbital calcs. appl. 4-14333
 $\alpha_2\text{-Sn}$ form, during SnCl_2 , water soln. reduction, Mossbauer spectra, X-ray diffr. studies 4-56838
 ^{119}Sn in host matrices, isomer shift calibration from internal conversion meas. 4-40285
 TiO_2/Ru , oxidation state of Ru, Mossbauer spectra 4-46161
 $\text{TiO}_2/\text{Ta}, \text{Ru}$, oxidation state of Ru, Mossbauer spectra 4-46161
 ^{169}Tm , general cases of pseudoquadrupole interaction 4-39860
 Y-transition metal metallic glasses, impurity atom atomic sizes 4-25657
 Zn, electric field gradient at ^{119}Sn , meas. by Mossbauer spectroscopy 4-35254
 Zn-Au dilute alloy, hyperfine interactions and recoil-free fractions of ^{197}Au , Mossbauer study 4-35255

isomerisation

- α -alkyl substituted enamines, configuration and conformation, IR and ^1H NMR 4-5224
 allyl alcohol, matrix isolated, IR induced photorotamerisation, ab initio calcs. 4-12340
 allylic cpds., 2-substituted, low temp. matrices, IR induced rotamerisation 4-57549
 amines, 2-substituted, low temp. matrices, IR induced rotamerisation 4-57549
 arylethylenes, photoisomerisation, ps spectroscopy 4-57587
 arylsubstituted acyclic azines, (E,Z) isomerisation, crank-shaft mechanism 4-3377
 1-azacarbazole dimers, solid state and soln. excited state double H^+ transfer, luminesc. 4-57551
 7-azaindole, soln., H bonded, excited state reaction, luminesc. 4-49085
 7-azaindole-alcohol complexes, excited state double H^+ transfer, activation energies 4-57548
 azaindole, tautomeric forms influence on basicity 4-46747
 benzene- d_6 (d_6) cations, gas phase, radiationless transitions in excited electronic states 4-38239
 benzoxazole derivatives, intramol. single and double H^+ transfer 4-7697
 trans-1,1'-biindanylidene, intermediate in trans to cis isomerisation pathway, picosecond study 4-30954
 trans-1,1'-biindanylidene, excited singlet state, photoisomerisation dynamics, solvent influence 4-21443
 bisdimethylaminoheptamethine perchlorate, alcohol soln., photoisomerisation and relax., fluoresc. study 4-46774
 2-bromoethanol, matrix isolated, low temp., isomerisation, IR and Raman obs. 4-43880
 n-butane, isomerisation, microscopic kinetic theory in high collision freq. limit 4-35858
 n-butanolamine, protonated, H^+ migration and fragmentation, pot. energy, MO calcs. 4-43812
 $\text{C}_2\text{H}_3\text{N}^+$ ions studied by ion/molecule reactions and photodissociation 4-16634
 2-chloroethanol, matrix isolated, low temp., isomerisation, IR and Raman obs. 4-43880
 cyclobutene, collisional isomerisation at silica surface, time of flight meas. 4-49134
 cis, cis-3,7-decadiene, thermal cis-trans isomerisation, model for cis-1,4-polybutadiene 4-35887
 degenerate rearrangements, chem. pathways, double coset struct. 4-12363
 cis-3,4-dichlorocyclobutene, IR multiphoton induced isomerisation 4-35883
 1,2-difluoromethane in inert-gas matrices, IR hole burning and conformer interconversion 4-49023
 diphenyl butadiene, soln., photochemical isomerisation, Kramers soln. 4-35867
 diphenylbutadiene in supersonic jets: spectroscopy and picosecond dynamics 4-28521
 double-bond cis-trans photoisomerisation $\text{S}_1\text{-S}_0$ energy gap and jump probability 4-46777
 ethanol, 2-substituted, low temp. matrices, IR induced rotamerisation 4-57549
 N-(9-fluorenyl)-pyridinium salts, restricted rot., PMR chem. shift 4-54754
 hydroxybenzoxazoles, and methoxy derivatives, excited state H^+ transfer, reaction mechanism 4-57550
 3-hydroxyflavone, intramolecular H^+ transfer, excited state dynamics, fluoresc. 4-33433
 C-hydroxyimine/formamide tautomerism in soln., ab initio calcs. 4-46744
 inorganic mols., stability, struct., isomerism 4-35860
 2-iodoethanol, matrix isolated, low temp., isomerisation, IR and Raman obs. 4-43880
 kinetics, exact soln. of deterministic model 4-30971
 mercaptomethyl cation, struct. and stability studied using analytic SCF gradient and CI calcs. 4-38076
 methane, ground state, pot. surface global anal. 4-9706
 methoxy radical, isomerisation, reaction path hamiltonian study 4-51991
 methyl isocyanide, isomerisation, separable exponential Kassel model, fall-off behaviour 4-35884
 methyl nitrite (-CO_2), ^1H NMR spectra, conformational exchange, intramol. vibr. redistrib. 4-43902
 methyl p-dimethylaminobenzenesulphonate, rearrangement in smectic solvent 4-10958
 1-methyl-4-[4-cyanostyryl]-pyridinium iodide, ethanol soln., singlet and triplet mechanism, photoisomerisation 4-3385
 1-methyl-4-[4-nitrostyryl]-pyridinium iodide, ethanol soln., singlet and triplet mechanism, photoisomerisation 4-3385
 molecular processes in liq. cryst. solvents, dynamics, NMR investig. 4-54751
 7-norbornyl cation, struct. and interactions 4-1286
 s-cis-octatetraene, soln., photoproduction, fluoresc. lifetimes 4-38234

isomerisation continued

- octatetraene, solns., ground state barrier, photoisomerisation 4-41185
 organic ions, gas phase, isomerisation, thermochem. (French) 4-21436
 pentacene, cryst. matrix isolated, triplet kinetics, spin echo EPR, dimer form. tautomerisation 4-38214
 polarization diffusion effects on reaction rates in polar solvents 4-12332
 polymethine dyes, solns., photoisomerisation and internal conversion, picosec. spectrosc. obs. 4-57547
 propane ion, struct. and reactions study 4-49176
 n-propanolamine, protonated, H^+ migration and fragmentation, pot. energy, MO calcs. 4-43812
 propanols, 2-substituted, low temp. matrices, IR induced rotamerisation 4-57549
 racemic mixtures, circularly polarised luminesc. 4-2956
 racemisation of handed mols., quantum theory, one dimens. model 4-7700
 trans-stilbene, excited singlet state, photoisomerisation dynamics, solvent influence 4-21443
 styrene, cis-trans photoisomeris., Heisenberg nonempirical Hamiltonian calcs. 4-16622
 styrene, jet-cooled, spectra and isomerisation 4-30929
 tetragonal-pyramidal rearrangement enantiomers, chem. graph symmetry problems 4-12364
 thiirene, and isomeric struct., ab initio MO studies 4-38074
 toluene, collisional deactivation of highly excited vibr. state, average energy temp. depend. 4-49136
 unsaturated polymers, synthesis and charact. 4-52006
 vinylidene-acetylene, neutral and ionic, rearrangement, ab initio calc. 4-3380
 $\text{C}_2\text{H}_3\text{O}^+$ ions, isomerisation, MNDO calcs. 4-1058
 Cr complex, $\text{Cr}(\text{CO})_5(1,3,5,7\text{-tetrathian})$, stereochem. nonrigidity, PMR investig. 4-28455
 $\text{Cu}_2(\text{X}=2\text{ to }5)$, UV-visible absorpt. and fluoresc. excitation spectra in solid Xe 4-28585
 HCN, isomerisation, internal rot., pot. function 4-14498
 HNC isomerisation, pot. surface, vibr.-rot. levels, ab initio SCR CI calcs. 4-26181
 W complex, $\text{W}(\text{CO})_5(1,3,5,7\text{-tetrathian})$, stereochem. nonrigidity, PMR investig. 4-28455

isomerism

- see also isomerisation; nuclear isomerism; rotational isomerism
 acetylene, geometric isomerism, MO-VB theory appl. 4-14335
 alkanes, isomeric, acyclic, increment system and mol. struct. (German) 4-1053
 alkene isomer groups, standard chem. thermodynamic props., extrapolation to higher C numbers 4-31014
 5-aminoindazole, singly protonated, photoautomerism, absorpt. and fluoresc. spectra 4-9784
 aminopyridines, isomeric, photoacoustic spectra in UV-visible region, non-radiative transitions 4-14441
 [10] annulene valence isomers, benzo- and dibenzoderivatives, schemes and transforms. 4-10174
 annulene-annulenes struct., multiplicity of solns. and artefact structs. problems 4-54611
 aryl oxazolidinones, ^1H and ^{13}C NMR 4-23720
 aryl thiazolidinethiones, ^1H and ^{13}C NMR 4-23720
 astatofluoromethylbenzene isomers, synthesis, identification, boiling points 4-57622
 azetidine and 1,3-diazetidine, struct., INDO calc., inversion barrier 4-43806
 benzaldazine, S_0 and S_1 electronic states, completely-optimised mol. geometries 4-23836
 benzonitrile, in micellar systems, probe vibr. Raman spectra 4-54729
 bilirubin, and derivatives, NMR spectrosc. investigation 4-54746
 biomolecules, L-D optical stereoselection by weak neutral currents 4-57831
 4,4-bis-(3,5-diphenylformazyl)biphenyl, photochromic, isomerism, spectrosc. investig. 4-28450
 1,3-butadiene, rot. about C-C bond, MO calcs. 4-48934
 2-butanol, optical activity, racemic forms, H bonding 4-9837
 chiral molecules, optical activity, racemic forms, H bonding 4-9837
 chiral molecules optical props., static mag. field effects 4-54813
 chiral mols. in binary liq. mixtures, discriminating interactions and volumetric props. 4-2895
 chloroacetaldehyde, struct. and conformation studied by gas-phase electron diff. 4-5362
 conformational isomerism, matrix isolation vibr. spectroscopy 4-54700
 costalavine, mol. struct., stereoisomerism, ^1H NMR investig. 4-9801
 N,N-dialkyl- β -bromoacrylamides, conformational anal., ^{13}C NMR, IR and UV spectra 4-5225
 1,3-diazetidine, struct., stability, ab initio calcs. 4-38033
 dimethylamine, (2,3-), (2,4-) and (2,5-) isomers, ionisation and appearance energies and calc. partial mass spectra 4-1292
 dimethylpentanes, vibr. anal., FT IR spectra 4-54688
 1,4-dithiin, struct., ab initio calcs. with STO-3G and 3-21G* basis sets 4-43782
 enantiomorph-polarity estimation, Rogers η parameter 4-11026
 episcotavine, mol. struct., stereoisomerism, ^1H NMR investig. 4-9801
 ethylene oxide radical cation, C...C ring opened form, CAS SCF and perturbation calcs. 4-38042
 hydroxypyridines, isomeric, photoacoustic spectra in UV-visible region, nonradiative transitions 4-14441
 indoles, H-bonded in supersonic jets, electronic spectra 4-9818
 inorganic mols., stability, struct., isomerism 4-35860
 lactic acid, enantiomerism rel. to condensed phase dynamics 4-2046
 methoxy dichlorophosphin oxide, IR spectra, conformational doublets, rigid rotor asymmetric top profiles 4-54714
 methoxy dichlorophosphin oxide (-d_3), solns., IR, far IR and Raman spectra, vibr. anal. 4-5226
 3-methylcyclohexanone, rot.-translational coupling, computer simulation 4-9752
 mirror image molecules, energy content (French) 4-14609
 N-mono-alkyl- β -bromoacrylamides, conformational anal., ^{13}C NMR, IR and UV spectra 4-5225
 naphthalenes, substituted, stability and population of conformers, ^{13}C chemical shift 4-43906
 4-nitrobenzylidene-4'-n-heptyloxyaniline, binary liq. crystal systems, phase diagrams, enantiomerism 4-50189
 1,2,3,4,7,8,9,10-octahydro 4(4'-methoxybenzylidene) 11-(4'-methoxyphenyl) 11aH-dibenzo (c,f)(1,2) diazepine, struct. 4-6354

isomerism continued

- oxalyl chloride, isomer energy differences, IR spectra 4-14426
 oxalyl fluoride, isomer energy differences, IR spectra 4-14426
 polyacetylene, undoped, isomers, ^{13}C NMR obs. 4-28579
 polyatomic mols., even-electron, isomers, rearrangement barriers 4-14356
 pyridines, substituted, H^+ acceptor ability, tautomerism, electrostatic pot. method 4-33484
 repanduline, struct. and conform. using PMR and long-range NOE difference spectrosc. 4-9795
 stereoisomers, gaseous transport props., chiral discrimination 4-49920
 sulphorhodamine S derivatives, isomer identification by ^{13}C NMR 4-52077
 surface-active dye, aq. methanol solns., reson. Raman spectra and micellisation 4-49034
 tautomeric equilibrium, shift, excitation and solvation effect, quantum-mechanical study 4-57592
 transferrins, metal binding sites, multinuclear NMR spectra 4-57839
 4-ylidene-cyclohexyl p-toluenesulphonate, struct., conformations 4-6355
 $(\text{CH}_2\text{CH}_2\text{NH}_2)^+$, identification and struct. 4-10173
 $(\text{CH}_2\text{XH})^+$, $\text{X} = \text{F}, \text{Cl}, \text{Br}, \text{I}, \text{OH}$, identification and struct. 4-10173
 Co complexes, dioxygen, ^{59}Co NMR chem. shifts and line widths, model calcs. 4-9794
 Cr complex, $\text{Cr}(\text{CO})_5(1,3,5,7 \text{ tetrathian})$, stereochem. nonrigidity, PMR investig. 4-28455
 Cr(III) complex, $\text{Cr}(\text{L-histidine})_2(\text{OH})_2$, ferromag. interactions, mag. susceptibility and EPR 4-51122
 $\text{FC}(\text{O})\text{SCI}$, normal coord. anal., IR and Raman spectra 4-5209
 H-like atoms, relativistic, discrete level transitions cross-sections 4-1299
 H_2 , geometric isomerism, MO-VB theory appl. 4-14335
 N_2O_3 , isomeric forms, rel. stability, electronic and geometric struct., ab initio calcs. 4-48935
 Si_2H_4 isomers, singlet and triplet states, ab initio SCF and pseudopotential calcs. 4-48953
 SiOH_2 and isomers, electronic struct., ab initio SCF calcs. (German) 4-1055
 W complex, $\text{W}(\text{CO})_5(1,3,5,7\text{-tetrathian})$, stereochem. nonrigidity, PMR investig. 4-28455

isomorphism

- spinels, anion-substituted, unit-cell parameters 4-50255
 PbIn_2S_4 , polymorphism, isomorphism with Sn chalcogenides 4-11088
 PbTl_2S_4 , polymorphism, isomorphism with Sn chalcogenides 4-11088
 SnIn_2S_4 , polymorphism, isomorphism with Pb chalcogenides 4-11088
 SnTl_2S_4 , polymorphism, isomorphism with Pb chalcogenides 4-11088

isothermal transformations

- condensation, supersaturation effects on homogeneous condensation kinetics, theory 4-39449
 disperse body, porous, isothermal sublimation kinetics 4-2316
 steel, maraging, martensitic transform., internal friction study on N18K10M5T 4-40779
 $\text{Ca}_3(\text{PO}_4)_2$, $\alpha \rightarrow \beta$ phase transform. 4-50504
 Fe-Ni-C, internal friction, correl. with thermal expansion during isothermal martensitic transformations. (French) 4-40860

isotope detection

- see also mass spectra
 mass spectrometer, automated complex MI-1201-PRM-2 (Russian) 4-27627
 radioactive rare isotope detection using CW laser radiation producing selective initial state enrichment 4-19293
 ^{26}Al detection using CW laser radiation producing selective initial state enrichment 4-19293
 ^{14}C detection using CW laser radiation producing selective initial state enrichment 4-19293
 $^{41}\text{Ca}^+$ detection using CW laser radiation producing selective initial state enrichment 4-19293
 T monitoring system using coherent demodulation technique 4-26345
 $^{44}\text{Ti}/\text{Ti}$ conc. meas. using accelerator mass spectrometry 4-4813
 U, isotope anal., optogalvanic spectroscopy (French) 4-24673
 ^{232}U and ^{238}Pu content determ. in standard and MOX fuels for LWR (German) 4-9295

isotope effects

- see also isotope shifts
 acetaldehyde- $\text{d}_0(\text{d}_1)$, S_1 rovibrational levels, fluoresc. decay 4-28493
 acetic acid, numerical reprod. of H-bond IR spectra 4-7186
 aliphatic alcohols, electron impact dissociation mechanism, electron energy effects 4-43997
 anthracene- (d_4) , inverse D isotope effect on radiationless electronic transitions 4-1072
 anthracene- $\text{d}_0(\text{d}_8)$, mol. crystals., vibron dynamics, linewidths temp. depend., CARS study 4-46243
 anthracenes, jet-cooled, D isotope effect on singlet-triplet intersystem crossing 4-28386
 benzaldehyde- $\text{d}_0(\text{d}_1)(\text{d}_5)(\text{d}_6)$, gas phase, $\text{T}_1(n\pi^*)\text{-S}_0$ decay 4-19097
 benzene- (d_6) , isotropic compressibility meas. 4-55897
 benzene- $\text{d}_0(\text{d}_6)$ cations, gas phase, radiationless transitions in excited electronic states 4-38239
 benzene- $\text{d}_0(\text{d}_6)$, mol. beams, laser photoelectron obs. 4-1211
 benzoic acid, H-bonded dimers, excited state dynamics, fluoresc. emission 4-54778
 p-benzoquinone- $\text{d}_0(\text{d}_4)$, vapour phase phosphoresc., CO stretch, vibr. struct. 4-49089
 carbon-K intercalation cpd., sorption of H_2 isotopes at low temps. 4-39688
 chlorin- $\text{d}_0(\text{d}_2)(\text{d}_4)$, vibr. spectra IR and reson. Raman obs. 4-38178
 cryogenic matrix reaction, selective vibronic excitation, IR study 4-3413
 dibenzylketone, photolysis, mag. ^{13}C isotope enrichment 4-26179
 meta-difluorobenzene, ^1H and ^{19}F NMR study of struct., J-coupling anisotropy and orientational behaviour 4-7082
 difluorodichloromethane, struct., harmonic force field, microwave obs. 4-14399
 4-N,N-dimethylaminobenzonitrile, excited state props., anomalous fluoresc., solvent effects 4-54785
 7,7-dimethylbicyclo[4.1.1]octa-2,4-dienes, substituted, electronic absorpt. and circular dichroism spectra 4-9806
 ethyl radicals, muonic, internal rot. barriers 4-54889
 ethynyltrimethylsilane- $\text{d}_0(\text{d}_1)$, vibr. relax., mol. dynamics, Raman bandshape studies 4-56925
 fluorene:acridine- d_8 , photochemical H abstraction, triplet-triplet absorpt., decay kinetics 4-7736
 formate ion, isotope effect associated with loss of O atom 4-16633

isotope effects continued

- n-heptane, vapour mixtures, isotope effect, H_2 , HD and D_2 form. in radiolysis 4-31002
 high-defect-content solids, diffusion correlation and isotope effects 4-39602
 ice, polymorphs, high press. phase transitions and H-bonded symm. 4-39192
 inorganic solids, vibrational spectroscopy, use of medium weight isotopes (French) 4-39411
 lactic acid, conformation, double reson. microwave study 4-14458
 laser-induced gas-surface interactions, review 4-6646
 metals, thermal EMF anal. using isotope effect 4-34954
 methane, solid, thermal expansion and lattice const. (Russian) 4-56054
 methane, tritiated, catalytic oxidation, T recovery for fusion fuel cycle (Japanese) 4-18772
 methane adsorbed on graphite, NMR study 4-46142
 methanediol, protonation and deprotonation, secondary β -D equilib. isotope effect 4-21424
 methanethiol, and isotopomers, normal coord. anal. 4-38173
 methanol, protonation and deprotonation, secondary β -D equilib. isotope effect 4-21424
 molecular crystals, isotopically mixed, monomer self-energy, self-consistent diagram 4-39199
 naphthalene- $\text{d}_0(\text{d}_8)$, mol. crystals., vibron dynamics, linewidths temp. depend., CARS study 4-46243
 nitromethane- d_3 , in liq. cryst., quadrupole coupling const., ^2H NMR 4-35237
 7-norbornyl cation, struct. and interactions 4-1286
 penicillamines, IR and Raman vibr. spectra isotope effects (French) 4-54686
 phenazine crystals, isotopically mixed, triplet state dimers, phosphoresc., EPR 4-56973
 polyatomic molecules, strongly excited, collisional vibr. relaxation processes, singularities 4-33508
 polyatomic mols., isotope substitution effect on vibr.-rot. line displacement 4-49010
 polymers oxidation, chain processes, mag. isotope effect and O_2 isotope selection 4-30941
 radical pairs, recombination probability, hyperfine interaction contrib. 4-26180
 short hydrogen bonds, structural studies by neutron diffraction, review 4-39052
 squaric acid, transition temp., uniaxial stress effect, dielec. meas. 4-11269
 thioacetone- $\text{d}_0(\text{d}_6)$, lower electronic transitions, visible and UV spectra 4-14440
 uracil monomers, matrix isolated, IR spectra 4-9770
 Ag (111), scatt. of n- H_2 , p- H_2 , n- D_2 , o- D_2 , selective adsorption reson. 4-25843
 Ag single crystals, impurity diffusion of Cd, isotope effect 4-56077
 Al, superconducting state parameters pseudopotential depend. 4-45906
 B, intrinsic electronic localisation, isotopic disorder effect in narrow electronic band materials 4-39802
 BCl , $\text{A}^1\Pi\text{-X}^1\Sigma^+$ transition, mol. consts. 4-33418
 B_2H_6 (D_6), ground state rot., distortion consts., Fourier transform IR obs. 4-5217
 B_2H_6 , struct. determ. using ground state spectroscopic rot. consts. and harmonic pot. function 4-38053
 CO, isotopic modifications, vibr.-vibr. exchange probabilities calc. 4-28542
 CO_2 , fundamental bands, CARS study 4-23705
 Cd, noncubic metal, elec. field gradient, isotopic mass effect 4-35252
 $\text{Cl} + \text{H}_2(\text{D}_2)(\text{HD})$, vibr. excitation, pot. energy barrier, quasiclassical trajectory study 4-3391
 Cl_2 , ion-pair states, 2-photon double reson. investig. 4-14457
 CoB metallic glass, field evaporation charge-state of B ions, isotopic variations 4-35554
 $\text{CsMnCl}_2\cdot 2\text{H}_2\text{O}$ ($2\text{D}_2\text{O}$), multiphonon relax. rate, deuterium effects anal. 4-29558
 Cu, diffusion of Cr and Mn, and Mn isotope effect 4-2381
 $\text{F} + \text{methyl nitrite-}\text{d}_0(\text{d}_3)$, reaction, FON stabilisation in Ar matrix, IR spectrosc. obs. 4-30963
 FeB metallic glass, field evaporation charge-state of B ions, isotopic variations 4-35554
 Fe_2O_4 , isotope and press. effects on Verwey temp. 4-2615
 H evolution site in photocatalytic process on Pt/TiO_2 , H-D isotope effect 4-21484
 H isotope collision systems, elastic scatt. differential cross sections, momentum transfer scaling 4-19260
 H-bonded crystals, phase transition and isotope effect (Japanese) 4-56863
 H-complexes, molecular and ionic, isotopic substitution effect on IR bands 4-23694
 $\text{H}^+ + \text{H}_2(\text{D}_2)$, isotope effects, linear- and circular-polarisation meas. 4-23804
 H + n-alkanes, kinetic isotope effects for H abstractions 4-57544
 H_2 and its isotopes, VUV laser-induced fluoresc., vibr. state distrib. 4-49077
 H_2 , electron impact, low energy dissociative attachment 4-5508
 H_2 , excited states, quadrupole moment, vibr.-rot. states 4-54662
 HCCO^- (DCCO^-), electron affinity meas. by photoelectron spectrosc. 4-38248
 HCN, isomerisation, internal rot., pot. function 4-14498
 HGeBr , isotope effects, force consts. vibrs., rot., IR spectra 4-33398
 $\text{H}_2\text{O-D}_2\text{O}$ mixtures, tritium-labelled, self-diffusion coeff., determ. by H NMR spin-echo technique 4-56056
 $(\text{H}_2\text{O})_2$, dipole moments, IR absorpt. intensities, ab initio SCF calcs. 4-23582
 HeH^+ (HeD^+), IR bound-quasibound vibr.-rot. spectrum, isotope effects 4-19051
 ^{199}Hg - $^{12}\text{C}(^{13}\text{C})$ cpds., chem. shift, weak field isotope effect 4-14449
 ^{199}Hg - $^{31}\text{Si}(^{29}\text{Si})$ cpds., chem. shift, weak field isotope effect 4-14449
 IDI, vibr. stabilised mols., IR and Raman spectroscopic props. and isotope effects 4-33345
 IHI, vibr. stabilised mols., IR and Raman spectroscopic props. and isotope effects 4-33345
 KH_2PO_4 , ferroelec. phase transition dynamics, Raman scatt. study 4-25689
 KH_2PO_4 type ferroelectrics, phase transition, models, light scatt. spectra and polarisation fluctuations 4-40375

isotope effects continued

- KH₂PO₄-KD₂PO₄ mixed cryst., ferroelec., polarisation relaxation spectra of (H₂PO₄)₂—dipoles 4-25774
 K₂H(SeO₄)₂, dielectric study of phase transitions 4-20922
 Li⁺-FH(FD), quantum and quasiclassical collinear reactive probabilities calc., isotope effects 4-46740
 LiH, (B¹¹L) state, pot. energy curves, adiabatic corrections 4-54623
 LiH₂O and LiD₂O, Li⁺ ion diffusion and water mol. reorientations, NMR study 4-34701
 Mg(ClO₄)₂·6H₂O, vibr., phase transitions, IR and Raman study 4-11881
 N⁺+H₂(D₂), chemiluminescence, NH⁺(ND⁺) emission 4-21461
¹⁴NH₃, ν₂ bands, high resolution IR diode laser meas. 4-14414
 NbH₂(D₂), dynamic cor. effects, H(D) diffusion, μ⁺ tracer study 4-11822
 Ne+H⁻(D⁻) collisions, electron detachment 4-9925
 O₂, optically pumped, far-IR laser mag. reson. 4-5260
¹⁸O₂, X^{2Σ_g⁻} state, microwave absorpt. lines 4-19046
 O₂⁺+HD⁺ state selected reactions, kinetic isotope effects 4-12345
¹⁷O(¹⁸O)(³¹P) NMR effects, further invetig. and appl. 4-1179
 SF₆, rot. heating, isotopic selectivity linewidth, multiphoton absorpt., IR emission 4-23766
 SH(D), A ^{2Σ⁺} state, radiative and predissociative lifetimes, fluoresc. obs. 4-9815
 SO₂, ν₁ bands, IR-microwave double reson. 4-14461
 Ta-H, D, electromigration of H and D, isotope effect 4-15724
 U(IV)+U(VI) electron exchange reaction for isotope separation 4-738
²³⁵U optogalvanic signal relative enhancement in hollow cathode discharge 4-43840
 V-H system, phase diagrams, structs. and isotope effects 4-11256

isotope exchanges

- crystalline solid/electrolyte soln. interface, isotope exchange kinetics 4-33551
 enzyme-catalysed ¹⁵N-label exchange, ¹H NMR meas. 4-57848
 ethyldiyne, adsorbed on Pt (111), H-D exchange reaction, static SIMS study 4-57601
 polyamides, aliphatic, physico-chem. props., accessibility, H-D isotope exchange investig. (Russian) 4-15405
 radioisotopes separation determ. of coefficient in chemical exchange of multistage extraction 4-5510
 CO⁺, vibrationally excited, isotope substitution, collisional quenching 4-5266
 H₃⁺H₂, reactions, H/D exchange study 4-41206
 H₂O-HF, in AR matrix, H bonds, inversion doubling; libration, IR obs. 4-5213
 H₂S-D₂S system, H-D exchange kinetics, isotope selective laser anal. 4-35889
 H₂Se-D₂S system, H-D exchange kinetics, isotope selective laser anal. 4-35889
 U(IV)+U(VI) electron exchange reaction for isotope separation 4-738

isotope relative abundance

see also element relative abundance

- ¹²C/¹³C, ratio in subgiant CH stars 4-22406
 alkali basalts of Massif Central, France, Nd-Sr isotope and REE geochemistry 4-47182
 Allende meteorite, C, Xe, Ne isotopes and chem. composition 4-58412
 anorthositic of E Canadian shield, Nd and Sr isotopic comps. rel. to geochemical discontinuity in Proterozoic mantle 4-21906
 Antarctica, isotopic climatic data, autoregressive evolutive spectral anal. 4-22076
 North Atlantic, Nd isotopic compositions influenced by Mediterranean outflow 4-41983
 Atlantic Ocean sediments, C isotopic comp. rel. to reduced advection during last glacial max. 4-21988
 atomic absorption spectrometric anal. techniques and speciation, review 4-41290
 Cape York iron meteorite, Ag and Pb isotopic composition 4-13263
 lower continental crust evolution deduced from granulite rock Nd-Sr isotope ratios 4-41822
 diamonds from S Africa kimberlites, C isotopes and chem. composition 4-58120
 environmental isotope geochemistry (book) 4-47785
 geochemistry in hydrosphere (book) 4-53382
 Gorgona Island, Columbia, Pb isotope ratios correl. with magma type 4-52623
 Grant iron meteorite, Ag and Pb isotopic composition 4-13263
 groundwaters of deep origin near Mount St. Helens, isotopic comps. 4-12956
 hot spot volcanic islands, Th and U isotopes and mantle source regions 4-58119
 Icelandic volcanics, mantle implications of He, O, Nd and Sr isotopic anal. 4-41797
 inert gases in Venus atm., implications for solar nebula 4-47548
 inert gases in Venus atmosphere, isotopic and elemental ratios 4-36627
 island arc volcanics from Aleutians, Genesis and geochemistry, mantle struct. implications 4-31455
 Isna meteorite, unusual Cs(O) carbonaceous chondrite, elemental and isotopic comps. of inert gases 4-8430
 isotope dilution meas. validity using at. wt. determ. 4-33561
 isotope systematics at East Pacific Rise 21°N site 4-41980
 isotopic spectral analysis, A/D meter of analytic peak intensity ratio 4-37076
 laser microprobe mass analyser, isotopic analysis appls. 4-19300
 Loihi Seamount, dunite xenoliths and basalt, coexisting glass and olivine, noble gas systematics 4-41846
 Maine, granitic magma source regions characts., isotopic anal. and Palaeozoic microplates characts. 4-41864
 mantle and continents, isotopic anal., chem. struct. and evolution 4-41798
 mantle/continents evolution and chem. struct., Nd/Sr isotopic data inversion 4-42194
 mars, atmosphere ¹⁵N/¹⁴N isotope ratio 4-17419
 meteorite isotope ratios, ²⁶Mg excess in chondrites 4-47576
 meteorite O isotope ratios, in Murchison carbonaceous chondrite 4-53104
 meteorites, anomalies and Xe isotopes neutron capture cross sections anal. 4-36573
 in meteorites, isotopic anomalies rel. to supernova shock front interaction with protosolar cloud 4-27146
 meteorites, Sm-Nd isotopic evolution of chondrites and achondrites 4-53103

isotope relative abundance continued

- Murchison meteorite, C isotope comp. of low mol. weight hydrocarbons and monocarboxylic acids 4-42388
 nuclear reactor fuel burn-up, balance determ. by γ-spectrometry of fission products 4-28041
 Orqueil meteorite, ⁸⁷Sr/⁸⁶Sr ratios rel. to aqueous activity in early solar system 4-42386
 Pacific cores isotope data, implications for N Atlantic Late Pleistocene deep water form. 4-21955
 East Pacific Rise and Mid-Atlantic Rise, Pb, Sr isotope geochemistry comparison 4-58118
 radiocarbon and other radionuclide meas. using accelerator mass spectroscopy 4-57614
 Sagale dyke, Labrador, Canada, Nd and Sr isotope geochemistry and emplacement ages 4-47181
 West Siberian plate, D and ¹⁸O content of groundwater and hydrocarbon prospecting possibilities 4-41998
 sodium formate, solid, spectral subtraction technique appl. to isotopic mixtures 4-57609
 spent nuclear fuel, isotope correl. anal. 4-28040
 Venus, atm. mass spectrometry (by Venera 13 and 14) 4-47562
 volcanic gases from Mount St. Helens summit crater, isotopic evidence for mantle origin 4-12861
⁴⁰Ar/³⁹Ar ages for Barberton Mountain komatiites 4-41820
 B isotopic meas. by thermal ionisation mass spectrometry using negative BO₂⁻ ion 4-16711
 Ba in Allende meteorite, isotopic abundances rel. to extinct superheavy element model 4-36645
¹⁰Be concentrations in polar ice, rel. to cosmic ray intensity vars. during past 30000 years (Russian) 4-52998
¹⁰Be concentrations in soil profiles from California rel. to fate of particle-reactive nuclides 4-8235
 C I spectral line isotope shifts, appl. to radioactive dating 4-9722
 CO₂ of deep origin near Mount St. Helens, isotopic comp. rel. to mantle derivation 4-12956
¹²C/¹³C, interstellar, from formaldehyde obs. towards compact H II regions 4-13401
¹²C/¹³C in giant stars, turbulent diffusion mixing effects 4-53148
¹³C in Carnegie Ridge V19-30 core and CO₂ in ice age atmosphere 4-17239
¹³C in land snail shells, palaeoclimate anal. (French) 4-52875
¹³C/¹²C ratio in atmosphere since 1400 AD, from tree ring studies 4-42090
¹⁴C content of meteorites and their terrestrial ages 4-36639
¹⁴C in lake sediments, and atm. CO₂ var. over past 30000 yrs. 4-58273
¹³⁸Ce/¹⁴²Ce in meteorites, primordial ratio and evolution 4-42387
⁶⁰Co, depth distrib. in Jilin meteorite 4-42380
 D/H ratio from primordial nucleosynthesis with adiabatic fluctuations, local vars. 4-42566
 D/H ratios in rhyolites, evidence for magma degassing during shallow intrusion and eruption 4-21912
 H, D, ³He and ⁴He balloon-borne and Voyager meas. of cosmic ray energy spectra and abundances 4-17361
 H, isotopic analysis using a microcomputer 4-16718
 He isotopes in nature and measurement methods 4-47799
 He isotopic analysis of Hawaii and Loihi-Seamount volatiles, appl. to hotspot volcanism theory 4-41845
 He variations in Hawaiian and Loihi Seamount volcanoes rock, volcanic plume model 4-41844
³He/⁴He in methane-rich natural gases, rel. to magmatic origin 4-8193
³He/⁴He ratios in diamond, implications for early Earth history 4-36322
¹²⁹I in meteorites and lunar rocks, tandem accelerator mass spectrometric meas. 4-3935
 K₂Fe(CN)₆·3D₂O, solid, isotope dilution investig., near IR spectrosc. 4-56918
 Li isotopes evolution in Galaxy 4-8564
¹⁴N anomaly in primitive meteorites rel. to stellar nucleosynthesis 4-8431
¹⁵N/¹⁴N ratio of dissolved N₂O in E tropical Pacific 4-36411
 Nd in Allende meteorite, isotopic abundances rel. to ¹⁴⁶Sm in early solar system 4-36646
 Nd, isotopic abundance anal., coupling constants from Oklo natural reactor, limits on variability 4-19292
 Nd isotopic anal. of Australian shales and continent growth anal. 4-36314
¹⁴³Nd/¹⁴⁴Nd along Galapagos spreading centre, rel. to hotspot-spreading centre system evolution 4-21905
¹⁴³Nd/¹⁴⁴Nd in late Caledonian granites, Scotland, rel. to nature of basement 4-41819
 O in benthic foraminifera rel. to N Atlantic Oligocene-Middle Miocene abyssal circulation var. 4-13027
 O in ocean sediments fossil foraminifera and Pleistocene ice vol. determ. 4-47313
 O isotopes in minerals of Illinois deep drill hole granites 4-41808
 O isotopic anomaly in carbonaceous meteorites and solar nebula photochemistry 4-31772
¹⁶OH/¹⁸OH and ¹⁸OH/¹⁷OH in interstellar medium, abundance ratios from 18-cm absorpt. line obs. 4-27145
¹⁸O, ¹⁷O/¹⁶O in unequilibrated ordinary chondrites, rel. to melt origins 4-22356
¹⁸O enrichment in High Himalayan and Transhimalayan intrusives, origin anal. 4-21924
¹⁸O in land snail shells, palaeoclimate anal. (French) 4-52875
¹⁸O isotope stages, calibration of onset of ice-raftering in N Atlantic Ocean 4-47297
¹⁸O/¹⁶O in Illinois Precambrian granites, depth var. 4-41807
¹⁸O/¹⁷O/¹⁶O in Fe meteorites 4-22357
¹⁸⁷Os/¹⁸⁶Os in Mn nodules and Cretaceous-Tertiary boundary clay, implications for meteorite impact 4-31457
 Pb from Shasta (California) palaeo-island arc, isotopic comp. 4-31450
 Pb isotope ratios and geochronology methods for ²⁰⁶Pb/²⁰⁴Pb, ²⁰⁷Pb/²⁰⁴Pb, ²⁰⁸Pb/²⁰⁴Pb ratios throughout geologic time 4-47184
 Pb, radiogenic, in Earth crust, dynamic model of continuous isotopic evolution 4-8192
²⁰⁸Pb/²⁰⁶Pb/²⁰⁴Pb vars. in ore deposits, ocean sediments and volcanic rocks 4-21902
²¹⁰Pb in Pacific, GEOSECS meas. of particulate and dissolved concs. 4-21998
³⁴S/³²S and S content of Canyon Diablo metallic spheroids 4-42381
 Sm, isotopic abundance anal., coupling constants from Oklo natural reactor, limits on variability 4-19292

isotope relative abundance continued

- ¹⁴⁶Sm in early solar system, evidence from Nd isotopes in Allende meteorite 4-36646
 Sn, isotopic composition investig., astrophys. and cosmochem. significance 4-43999
⁸⁷Sr/⁸⁶Sr, initial ratios in granite and gramophyres of Ezhimala igneous complex, Kerala, India 4-52706
⁸⁷Sr/⁸⁶Sr in intrusive rocks of S British Columbia, Canada, initial ratio and Rb-Sr ages 4-31451
⁸⁷Sr/⁸⁶Sr in Rhum intrusion, NW Scotland, implications for evolution of cyclic unit 4-47262
⁸⁷Sr/⁸⁶Sr ratios in Loihi Seamount basalt, Hawaii, mantle hot spot implications 4-41843
⁹⁰Sr abundance analysis in ⁸⁸Sr/⁹⁰Sr sample using ultrasensitive mass spectrometry based on two-photon sub-Doppler resonance ionisation 4-32378
 Th in crystalline rock, isotopic comp. 4-41809
²³⁰Th/²³²Th in oceanic tholeiites from East Pacific Rise, rel. to ²³⁰Th/²³⁸U disequilib. systematics 4-8229
²³⁰Th/²³⁸U disequilibrium in island arcs, evidence from Aleutians and Marianas 4-52636
 U in crystalline rock, mobility and isotopic comp. 4-41809
²³⁴U/²³⁸U activity ratio in Greenland ice sheet rel. to Cosmos 954 burn-up 4-21600

isotope separation

- see also isotope exchanges; laser isotope separation; radiochemistry*
 cryogenic falling liquid film He separator, design model 4-19294
 Daresbury Nuclear Structure Facility, online nuclear orientation 4-37956
 EM isotope separation technology, review 4-1285
 gas, enrichment, source-sink geometry effect 4-4358
 gas centrifuges up to 1962, review, principles of high speed rot. 4-43604
 gas centrifuges up to 1962, review, principles of separation physics 4-43603
 instability threshold for isotope separator with only one isotope species 4-50103
 mass separator, electromagnetic, description 4-4979
 multicomponent separating cascade, computer aided simulation procedure 4-14595
 polymers oxidation, chain processes, mag. isotope effect and O₂ isotope selection 4-30941
 proportional-integral control modes for a hydrogen isotope distillation column 4-54379
 radwaste, noble metal byproducts, plasma separation process for generic isotope separation 4-28015
 thin film compound formation, anal. of isotope separation 4-25075
 Ar-He, flow fields generated by opposed free jets, optical and mass spectrometric meas. 4-34155
 H isotope separation, gas chromatographic column prep., commercial tritium analysis 4-23833
 H isotope separation in rotating plasma 4-44001
³H isotope separation by CF₃Cl/CF₄ multiphonon dissociation 4-1284
³He-³H₂ separation by falling liq. film condenser and cryogenic distillation 4-14219
 T removal from contaminated water via IR laser multiple-photon dissoc. 4-9504
 T separation from H₂-HT and D₂-DT mixtures by adsorption on NaA synthetic zeolites 4-38346
 U enrichment processes, isotope separation methods survey, book contrib. 4-43607
 U isotope separation by redox chromatography 4-9308
 U reserves, mining costs and isotope separation methods (Hungarian) 4-26280
 UF₆ in gas centrifuge, vacuum core boundary conditions effects on separation 4-9309
 U(VI)+U(VI) electron exchange reaction for isotope separation 4-738
 Zr, isotope enrichment in plasma centrifuge 4-33027

isotope shifts

- see also atomic spectra*
 acetylene, IR absorpt. of N₂-broadened lines 4-19054
 acetylene-d₀(-d₂), fundamentals and combination bands, absolute IR intensities calcs. 4-38176
 alcohols, F⁻ containing, ¹⁹F mag. reson. solvate isotope shifts 4-14368
 alkaline earth atoms, Rydberg states, Doppler-free 2-photon laser spectrosc. obs. 4-18960
 anharmonic oscillators, vibr. spectroscopy, isotopic substitution as symmetry operation 4-38251
 atoms, isotope shift calc., polarisability effects 4-28406
 benzene-d₀(-d₁)(-d₂)(-d₃)(-d₄), two-photon spectra in supersonic beam, kinematic effects 4-14410
 chloroketenes, microwave spectra, mol. parameters investig. 4-14395
 determination by high-resolution optogalvanic spectrosc. 4-18961
 o-dimethoxybenzene-d₀(-d₁), low freq. vibr., Raman spectrosc. obs. 4-14431
 ethylammonium bromide, internal vibr., isotope effects, Raman spectra 4-40433
 ethylammonium chloride-d₀(d₂)(d₃)(d₅)(d₆), internal vibr., isotope effects, Raman spectra 4-40433
 fluorobenzene, in supersonic beam, isotopically selective two-photon ionisation 4-5296
 guanine, IR and Raman spectra, vibr. anal., isotopic shifts and conformational props. 4-57844
 heavy atoms, field isotope shifts calc. for optical spectral lines 4-28407
 methoxy dichlorophosphin oxide-d₀(-d₃), conform., gas phase spectra and profile simulation 4-14419
 rare-earth isotopes, HFS and isotope shift study by collinear fast-beam laser spectroscopy 4-34923
 review 4-18940
 symmetric nonlinear XY₂ mols., mol. const., isotopic freq. shift, perturbation theory appl. 4-43921
 T_d oxo complexes, spin relax. rates of quadrupolar nuclei 4-20878
 toluene, in supersonic beam, isotopically selective two-photon ionisation 4-5296
 uracil, C-O stretching vibr. study by ¹⁸O isotopic substitutions, UV reson. Raman spectra 4-9775
 valence s electron, isotope shift and hyperfine struct. 4-23625
 Ag atoms in vacuum, diamag. and cryst. inert gas matrices, mag. and opt. props. review (Russian) 4-14360
 Ar-F₂C¹⁸O (F₂C¹⁸O) rot. spectrum, mol. struct., microwave spectrum 4-14397
 AsOCl, matrix isolation IR spectra (German) 4-14421

isotope shifts continued

- Be²⁺, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
 BrCN, 01¹0 state, isotope shifts, direct I-doublet transitions 4-14384
 C I spectral line isotope shifts, appl. to radioactive dating 4-9722
 C₂, d⁴Π_g-a¹Π_g Swan system, emission spectrum 4-5288
 CO⁺, equilib. struct., microwave spectrosc. obs. and Born-Oppenheimer approx. calcs. 4-14396
 CO⁺, vibronically excited, isotope substitution, collisional quenching 4-5266
 Ca I, even-parity Rydberg states, Stark effect study 4-5169
 ClCN, 01¹0 state, isotope shifts, direct I-doublet transitions 4-14384
 D₂, autoionisation Rydberg state spectrum calc. 4-9843
 Dy I, ground term isotope shift J depend. 4-48982
 Er I, ground config. 4f¹²6s² isotope shift, crossed second order effects 4-1088
 Ga optical-optical double reson. expts. with optogalvanic detect. 4-18963
 GeO₂, vitreous isotopically substituted, vibr. dynamics, Raman spectra studies 4-6462
 H₂, autoionisation Rydberg state spectrum calc. 4-9843
 HD autoionisation Rydberg state spectrum calc. 4-9843
 HFeCo₃(CO)₁₂, DFeCo₃(CO)₁₂, ¹H and ²H NMR spectra 4-28456
 H₂SnCl₂, isotopic and rot. line struct., high resolution IR spectra 4-43872
 He, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
 In optical-optical double reson. expts. with optogalvanic detect. 4-18963
 KCl:Li, IR absorption study 4-20999
 Li⁺, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
 Lu, hyperfine struct., isotope shift, 542.2 nm line study 4-18985
 Mo I, hyperfine struct., isotope shift, laser RF double reson. study 4-33366
 NH₄⁺, D isotope effects of N chem. Shift 4-33423
 Nd I, isotope shift in even and odd config. 4-1090
 Nd II, IR spectra and isotope shift 4-38114
 Nd II, isotope shift in even and odd config. 4-1090
 Ne⁸⁺, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
²⁰Ne and ²²Ne, ionisation energy, specific mass shift calc. using many-body perturbation theory 4-5179
 Ni, crossed second-order specific mass isotope shift 4-23663
 PbO, microwave meas., rot. and vibr. fine struct., isotope shift 4-38158
 Rb, hyperfine struct. and isotope shift studied using laser spectroscopy 4-22543
 SPCL₃, mol. force field, matrix and vapour phase IR spectra 4-5211
 Si:Fe:B, isotope shift study of luminescence 4-2961
 SiH₂Cl₂, IR spectra and rovibr. anal., ν₆ region anal. 4-38181
 SiO₂ glass, anomalously narrow Raman lines, mol. models 4-56912
 Sr ions, hyperfine interactions meas. by collinear fast beam laser spectroscopy 4-33554
 Yb, Rydberg states, high resolution three-photon spectra 4-1137
 Zr, odd-even with closed neutron shells 4-18996

isotopes

- see also radioisotopes*
 instability to proton emission and stability against spontaneous fission 4-9195

isotopic generators *see radioactive sources***isotopic spin (elementary particles)**

- see also baryon spin and parity; lepton spin and parity*
 expanded supersymmetry group with central charges, spin-isospin struct. 4-22951
 Higgs model, abelian, isospin-ang. momentum conversion 4-32508
 vector-like gauge theories, restrictions on symmetry breaking 4-48284
 $\bar{\nu}_N - \mu^+ \pi^- (\mu^+ \pi^-)$, 5-200 GeV, single prod. in charged current interactions 4-4669
 ψ , vector meson mixing, hadronic isospin violating decays, phenomenological model 4-18234
 W mass, and weak isospin in technicolour dynamics 4-32507

iteration methods *see iterative methods***iterative methods**

- see also predictor-corrector methods*
 automatic lens design, appl. of generalized inversion matrix method (Chinese) 4-10389
 band-limited image restoration by iterative regularised pseudoinverse method 4-49276
 beams, nonlinear vibr., Ritz finite element approach 4-44450
 beams, vibrations, normal modes, Lanczos-Stodola iterative calc. 4-19756
 Berger equation, boundary integral eqn. analysis 4-36908
 bivariational SCF method as zeroth order dilated electron propagator, eigenvalues 4-23588
 conjugate gradient method, block splittings 4-8729
 contact problem, elasticity theory, soln. by finite element anal. 4-34014
 contact problems in elasticity and elastoplasticity theory, iteration soln. 4-14926
 dielectric objects, low-loss or lossless elongated, scatt. calc. by iterative EBCM 4-54946
 dielectrics, homogeneous anisotropic nonlinear, pot. distrib. calc. 4-16139
 dynamic linear thermoelastic problems, asymptotic behaviour, appl. of differential iteration 4-33942
 elasticity equations, soln. by variational iteration method 4-53489
 elasticity theory, stochastic boundary-value problems soln. using iteration method 4-36911
 electron beam propagation in cylindrical waveguide, integrodifferential eqns., numerical realization 4-23881
 electrostatic potentials calc. for cylindrically symmetric lenses 4-23879
 folded diagrams and 1s-0d effective interactions derived from Reid and Paris NN pot. 4-9148
 geometry optimisation by direct inversion in the iterative subspace 4-54598
 geophysical appls., remote sensing, correction factors and error distrib. for ART 4-13111
 granular materials, nonsteady-state probe method, for thermal meas. 4-48124
 Hamiltonian lattice models, iterative technique 4-32459
 harmonic eddy current computation in flat plates, efficient numerical procedure 4-54908
 heat conduction, iterative soln. procedure evaluation 4-33900
 helical sheath in coaxially layered lossy dielec. medium, EM wave propag. study 4-49243

iterative methods continued

- N-interface problem, general Dyson eqn. within tight-binding approx. 4-15931
- joining and contact of elastic bodies, matching discrepancies of displacements and stresses 4-10549
- Kepler's equation in celestial mechanics, soln. using methods of iteration 4-42292
- laser fusion, perturbative linearisation of fundamental eqns. 4-33171
- lattices, danger of iteration methods 4-8836
- man models, inhomogeneous, with large numbers of cells, moment-method soln. and SAR calc. 4-31283
- mass spectra and excess thermodynamic function calc., of binary salt systems 4-23840
- MCSCF stationary points characterisation 4-33296
- measurement procedure subject to constraints 4-13611
- metal clusters, Huckel method appl. 4-23577
- microwave power deposition in biological media, stacked two-dimensional spectral iterative technique 4-47032
- molecule, MCSCF stationary points characterisation 4-33296
- MOS structures, SiO₂ thickness determ. from Fowler-Nordheim tunnelling meas., iterative method 4-30075
- neutron diffusion, FINELM possible future developments 4-54214
- nuclear reactor control rod movement simulation, 3-D computer code 4-54347
- orbit splittings and band mergings of iterated maps of interval, parameter renormalisation 4-174
- plates, three-layer, design by iteration method 4-33957
- quantum mech. problems, variational-iterative technique appl. 4-36937
- quantum mechanical system, resonant states, iterative calc. using orthogonalised resolvent 4-123
- reactor numerical transport problems, rapidly convergent iterative methods 4-18499
- ring, variable-thickness, stability analysis under nonuniform load, num. algorithm 4-44434
- rockets passive ascent, iterating analytical soln. (*Rumanian*) 4-13168
- scattering equations with local or nonlocal pot., iterative soln. accel. 4-27319
- semiconductor steady-state problems, iteration convergence speeding-up 4-39890
- spin glasses, infinite range, irreversibility 4-56658
- supersonic separated flow, inverse boundary-layer inviscid iteration technique (*French*) 4-14997
- top loss calculation for flat plate solar collectors 4-26323
- triple hot-wire probe signals evaluation by calibration field technique (*German*) 4-49904
- two-dimensional composite substance, thermal transfer, point successive over relaxation method 4-10520
- Ar₂ Van der Waals dimer, discretised path integrals evaluation using iterative scheme 4-13531
- Be, appls. of bivariational SCF method as zeroth order dilated electron propagator, eigenvalues 4-23588
- BeO, MCSCF stationary points characterisation 4-33296
- ⁴He(π,π), low-energy elastic scatt., unitary pot. approach 4-27905

itinerant model of magnetism see band model of magnetism

IV-VI semiconductors

- chemical bonds, phase transitions, Mossbauer spectroscopy 4-35251
- covalent bonding props., LCAO method 4-24755
- cubic phase instability, unified universal parameter treatment 4-34896
- dielectric props. and band struct. calcs. 4-35331
- epitaxial cryst. growth by sputter deposition, review 4-56163
- ferroelectric, band edge struct., magneto-optical studies 4-25226
- narrow gap semiconductors, book 4-22532
- universal tight binding band structs. and bonding 4-6701
- CdSe, laser-induced sputtering near threshold laser fluence 4-7286
- Ge-Se binary system, photoluminescence and photostructural changes (*Russian*) 4-21000
- GeS, amorphous, optical props. in spectral region 18 to 38 eV 4-35463
- GeS, band struct. and lifetime determs., angle-resolved photoemission 4-35549
- GeS-GeSe solid soln. system, phase diagram and decomposition 4-34615
- GeS₂Se_{1-x} layer cryst., photocond. polarisation studies 4-25400
- GeSe, anisotropic elec. props. 4-39911
- GeSe, exciton absorpt. edge, light absorpt. spectra 4-6714
- GeTe, transition to state with mag. moment in external EM field 4-30019
- GeTe:Bi, effects of impurity defects on mechanical props. 4-55902
- Pb chalcogenides, energy gap versus refractive index relationships 4-56879
- Pb salt, IR detectors, processing, configs., performance and appls. 4-27583
- Pb-Sn-Te-Se, liquidus surface, differential thermal anal., step-wise regression anal. 4-50470
- Pb_{1-x}Cd_xSe films, photosensitivity, UV radiation effects 4-20690
- Pb_{1-x}Eu_xSe_{1-y}Te_y diode lasers grown by MBE 4-19444
- PbGeS₃, photoconductivity study (*Russian*) 4-25407
- Pb_{1-x}Ge_xTe, anomalous resistivity near ferroelectric phase transition 4-46204
- Pb_{1-x}Ge_xTe, electronic dispersion relation, influence of phase transition 4-34875
- Pb_{1-x}Mn_xS IR photon detectors, photoelec. props. near the absorpt. edge 4-27594
- PbO, polymorphic transformation, mechanochem. and thermal processes 4-39196
- PbS, electrical cond. and thermoelectric power coeff. as press. and temp. functions (*French*) 4-39941
- PbS-Ge heterojunction photocells, current and EMF temp. dependence. 4-7875
- PbS-Si MOSFET focal plane development 4-48199
- PbS-Si monolithic focal plane development 4-48199
- PbS_{1-x}S_x films, growth of epitaxial single cryst. by hot wall evaporation 4-51502
- PbS_{1-x}Se_x diode laser, time delays, minority carrier lifetimes 4-49359
- PbS_{1-x}Se_x cleaved-coupled-cavity diode laser, operation in 4 to 5 μ m region, mode control 4-49351
- PbS_{1-x}Se_x DH diode laser, fabrication by compositional interdiffusion 4-33685
- PbS_{1-x}Se_x diode lasers, low resistance contacts 4-44112
- PbSe, energy band struct. meas. 4-56190
- PbSe, epitaxial film growth, limiting temp. of substrate, laser spraying expts. 4-57110

IV-VI semiconductors continued

- PbSe: Cd, heavily doped, elec. and optical props. 4-15920
- PbSe:Ga films, ion implantation doping, electrophysical props. 4-11169
- PbSe/SnTe epitaxial bicrystals, vacuum deposited, interfacial order, He channeling study 4-25169
- (PbSe)_{1-x}(SnTe)_x epitaxial films, elec. props., band struct., depend. on composition 4-56208
- PbSnSe narrow-bandgap lasers, Fermi energy expression as function of carrier conc. 4-29864
- Pb_{0.8}Sn_{0.2}Se narrow gap semiconducting mixed crysts., photon freqs. 4-34599
- Pb_{1-x}Sn_xSe/PbSe heterostructure laser fabrication, CW operation 4-24014
- Pb_{1-x}Sn_xSe, diode laser, time delays, minority carrier lifetimes 4-49359
- Pb_{1-x}Sn_xSe mesa-structure tunable diode lasers 4-23982
- Pb_{1-x}Sn_xSe solid soln., dielec. props. and band struct. parameters 4-25224
- Pb_{1-x}Sn_xSe solid solutions, two-electron exchange between Sn centres, Mossbauer obs. 4-25312
- Pb_{1-x}Sn_xSe, struct. phase transition, elec. cond. and Hall effect studies 4-11272
- Pb_{1-x}Sn_xSe, surface band bending, temp. depend. 4-15932
- Pb_{1-x}Sn_xSe, LPE, doping, charge carrier mobility and conc. 4-56457
- PbSnTe epitaxial films grown by hot wall technique, struct. and elec. props. 4-46443
- Pb_{0.8}Sn_{0.2}Te epitaxial films, vacuum deposited, growth and high mobility props. 4-16316
- Pb_{0.8}Sn_{0.2}Te:In, In diffusion, X-ray microanal. studies 4-25096
- Pb_{1-x}Sn_xTe based injection lasers, threshold current, temp. depend. 4-49363
- Pb_{1-x}Sn_xTe, composition depend. of ferroelectric transition temp. 4-2888
- Pb_{1-x}Sn_xTe, diode laser, time delays, minority carrier lifetimes 4-49359
- Pb_{1-x}Sn_xTe dual wavelength injection lasers, threshold current densities 4-28695
- Pb_{1-x}Sn_xTe epitaxial films on substrates, effect of substrate on optical props. (*Russian*) 4-25823
- Pb_{1-x}Sn_xTe, film, effect of composition on struct. and electrophysical props. 4-50665
- Pb_{1-x}Sn_xTe heavily doped ferroelec. semicond., Curie temp. effects 4-35392
- Pb_{1-x}Sn_xTe IR photon detectors, photoelec. props. near the absorpt. edge 4-27594
- Pb_{1-x}Sn_xTe, indirect optical transitions (*Russian*) 4-56946
- Pb_{1-x}Sn_xTe LEC growth using B₂O₃ encapsulant 4-21124
- Pb_{1-x}Sn_xTe, melt growth, cryst. inclusions, EPMA, constitutional supercooling model 4-11131
- Pb_{1-x}Sn_xTe, multiply doped, electrophysical props. 4-29993
- Pb_{1-x}Sn_xTe p-n junctions, I-U characts., hydrostatic press. depend. 4-35050
- Pb_{1-x}Sn_xTe, single cryst., structural defects, X-ray topography, double-cryst. spectrometry 4-45130
- Pb_{1-x}Sn_xTe solid soln., diffusion of electrically active intrinsic defects 4-29688
- Pb_{1-x}Sn_xTe, surface band bending, temp. depend. 4-15932
- Pb_{1-x}Sn_xTe:In, liquid phase epitaxy, elec. cond., deep levels in forbidden zone 4-51556
- Pb_{1-x}Sn_xTe:In, photoconductivity, electron exchange between band and impurity states 4-30023
- Pb_{1-x}Sn_xTe:In epitaxial layers, negative photoconductivity study 4-20748
- Pb_{1-x}Sn_xTe:In films, far IR reflectivity 4-57017
- Pb_{1-x}Sn_xTe/PbSe_{1-y}Te_y distributed Bragg reflector diode lasers, LPE growth 4-38469
- Pb_{0.8}Sn_{0.2}Te, Mossbauer studies, composition depend. 4-16131
- PbSnTeSe far IR heterojunction lasers tunable to 46.2 μ m 4-19456
- PbSnYbTe DH diode lasers, MBE growth 4-28724
- n-PbTe, dynamic elec. cond. 4-20654
- PbTe, electrolytically thinned, defect struct., X-ray transmission topography 4-50292
- PbTe epitaxial film, deep level photoluminescence 4-46319
- PbTe, epitaxial film growth, limiting temp. of substrate, laser spraying expts. 4-57110
- PbTe epitaxial films, Hall effect and acoustoelectric phenomena 4-35098
- PbTe film, elec. cond., Hall effect, and thermoelec. power, adsorbed O₂ effects 4-11608
- PbTe film, with pot. barriers, transport coeffs., influence of IR illumination 4-15974
- PbTe film obliquely deposited in vacuum, anisotropy, photovoltaic and ellipsometric meas. 4-46341
- PbTe films, polycrystalline, dark current flow 4-6912
- PbTe films, thermoelec. power, anomalous temp. depend., 300 to 600K 4-15900
- PbTe heterogeneous layer, current percolation and photosensitivity 4-45794
- PbTe, hot electron drift vel., Monte Carlo simulation 4-20664
- p-PbTe, IR free carrier refl. meas., two valence band model 4-7173
- n-PbTe layers, heavily doped, LPE grown, temp. depend. of mobility 4-20749
- PbTe, mag. susceptibility theory 4-46007
- PbTe narrow-gap semicond., high press. phase transition, X-ray diff. study 4-29605
- PbTe, Peierls instability in strong mag. field 4-39778*
- PbTe RF sputtered films, struct. and transport props., substrate depend. 4-40092
- PbTe, stripe geometry diode lasers grown by molecular beam epitaxy 4-33656
- PbTe, thermoelectric figure of merit and thermal cond. 4-11354
- PbTe: Cd, LPE growth, carrier conc., doping depend. 4-45559
- PbTe:Ga, strongly doped, photoelec. behaviour near Curie temp. 4-39981
- PbTe:In, impurity chemical states, thermodynamic anal., Auger electron anal. 4-50321
- PbTe:In, photoelectric effects study 4-56392
- PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
- PbTe:Ti, single cryst. growth by travelling heater method 4-51478
- PbTe:TiNa, influence of resonant states on Hall effect 4-56371
- p-PbTe:Ti epitaxial films, refl. and transmittance meas. 1 to 15 μ m 4-40547
- PbTe/Bi compositionally modulated films, prep. and X-ray diff. studies 4-39700
- p-PbTe-Ag, thermoelectric properties in pressing and thermal treatment 4-29997

IV-VI semiconductors continued

- PbTe-Pb_{1-x}Sn_xTe modulated doped superlattices, hot wall technique prep., Shubnikov-de Haas effect 4-15950
 PbTe-PbS epitaxial bicrystals, dislocation superlattice characts. 4-11150
 Pb_{1-x}Sn_xTe, anodisation, XPS study 4-51835
 SnTe, crystal growth by iodide method, impurities and elec. props. (*Russian*) 4-6796
 SnTe epitaxial films, elec. transport props., two-circuit model 4-56460
 SnTe:In, influence of In on SnTe props., rel. to stoichiometry 4-55858
 (SnTe)_{1-x}(PbSe)_x, hot-wall film growth; physicochemical characts. 4-57111

izod testing *see dynamic testing*

J particles *see psi mesons*

Jahn-Teller effect

- amorphous metals, Jahn-Teller A_nB_{3-n} resonance polaron model 4-25249
 benzene cation radical, Jahn-Teller distortion, ab initio MO calcs. 4-1034
 benzene-d₆(d₆), mol. beams, laser photoelectron obs. 4-1211
 benzenoid cations, Jahn-Teller effect, laser induced fluorescence, vibronic struct. 4-9691
 bimetallic Lewis acid complexes, prep., struct. studies 4-51998
 centres, vibronic reduction factors for spin-orbit components 4-25310
 chromocene, mag. susceptibility and EPR, evidence for dynamic Jahn-Teller effect 4-40135
 continuous symmetries obs. 4-32009
 crystals with Jahn-Teller centres, luminesc. polarisation, spin-orbit interaction effects 4-25810
 cyclohexane, two photon UV spectra, nonlinear Jahn-Teller effects 4-54741
 degenerate impurity centres, spectral distrib., random deformation field effects (*Russian*) 4-25282
 1,1'-dimethyl-chromocene, mag. susceptibility and EPR, evidence for dynamic Jahn-Teller effect 4-40135
 disordered mags. with Jahn-Teller ions, mag. anisotropy, random strain fields 4-56610
 dynamics of off-diagonal phonon coupling and the Lee model 4-2558
 ferroelectrics, effect of pseudo-Jahn-Teller impurities on phase transitions 4-30412
 fluorobenzenes radical anions, geometric and electronic struct., INDO calcs. 4-23608
 impurity centres, magnetic circular dichroism, lattice vibr. effect on ³¹P transition 4-51242
 in supersonic free jets, electron impact, B²A₂ to X²E transition 4-38243
 intermetallic compounds, hydridisation and struct. instabilities 4-11470
 molecular systems, symmetric, with dipole instability, microwave absorpt. spectrum 4-9765
 molecules, vibronic Raman transitions via quadratic Jahn-Teller interactions 4-1163
 multimode system, Ham factors and energy levels 4-15860
 phenalenyl radical, emission and excitation spectra, Jahn-Teller effect 4-43825
 polyatomic molecules, symmetry breaking, real and artificial 4-38086
 pyridine, triplet state form., decay and quenching, struct., nonradiative relax. 4-1200
 random mixture of Jahn-Teller ions, mag. phase diagram 4-56606
 semiconductor, point defects, exptl. studies, book 4-33
 solids, dynamic central peaks, progress and prospects 4-24999
 spherical-top mols., Jahn-Teller effect, anomalous mag. field induced birefringence 4-1193
 supersymmetric Hamiltonians, anharmonic couplings among vibrational modes 4-50772
 1,3,5-trifluorobenzene cations, in supersonic free jets, electron impact, B²A₂ to X²E transition 4-38243
 tunnelling Jahn-Teller centres in random fields, state density and heat capacity 4-34662
 two-dimensional nonlinear massless field, real-space renormalisation group study 4-47885
 AgCl:Pt⁴⁺, quasistatic to static Jahn-Teller effect transition, EPR studies 4-25309
 Al₂O₃:Ni³⁺ Jahn-Teller multimode system, Ham factors and energy levels 4-15860
 Ar:K, Jahn-Teller effect and absorpt. spectra 4-2559
 B₂N₄ cation radical, Jahn-Teller distortion, ab initio MO calcs. 4-1034
 Ca₃Mn₂Ga_{2(1-x)}Ge₃O₁₂ garnets, cooperative Jahn-Teller effect 4-34920
 Ca₃Mn₂Ge₃O₁₂, photoinduced linear birefringence 4-40411
 CaSnF₆, cryst. struct., binding and phase transition studies (*German*) 4-24783
 Cd_{1-x}Mn_xTe, photolum. bands, models for temp. depend. 4-30522
 CeAg, magnetic and struct. props. at high press., elec. resist. study 4-30162
 Co alloys, cryst. and amorphous, struct. phase transforms., mol. orbital models 4-39476
 CrZrF₆, cryst. struct., binding and phase transition studies (*German*) 4-24783
 Cs₃CoCrF₈, cryst. struct. determ. 4-6340
 CsCrCl₃, heat capacity, thermodynamic functions, structural phase transitions 4-25048
 CsCrCl₃, quasi-one-dimens. Jahn-Teller cryst., struct. phase transitions 4-11270
 Cs₃CrF₈, cryst. struct. determ. 4-6340
 CsCuCl₃, quasi-one-dimens. Jahn-Teller cryst., struct. phase transitions 4-11270
 CsMnCl₃·2D₂O antiferromag., pure and Mg²⁺, Ni²⁺, Co²⁺ doped, energy transfer of exciton 4-39780
 CsMnCl₃·2D₂O, energy transfer of exciton (*Chinese*) 4-2950
 Cu atoms in inert gas matrices, MCD spectra, excited state spin-orbit coupling const. 4-54637
 Cu complex, Cu(terpyridine)₂(PF₆)₂, cryst. struct. and EPR spectra 4-11097
 Cu complex, trisethylenediamine cadmium chloride Cu(II), EPR studies 4-2810
 Cu₃, jet cooled supersonic beam, resonant two-photon ionisation spectra 4-19071
 CuFeO₄ ferrite, Jahn-Teller effect and mag. props. (*Russian*) 4-50774
 Cu(OD₂)₆(ND₄)₂(SO₄)₂, struct., phase transition, H bonding, neutron powder diff., temp. depend. 4-55777
 Cu_{0.9}Zn_{0.1}SiF₆·6H₂O, phase transition, structural and thermodynamic aspects, X-ray diff. study 4-25019
 DyAsO₄, Ising systems, with strain interactions, phase transitions, appl. of correlated effective-field approx. 4-29571

Jahn-Teller effect continued

- DyAsO₄, Jahn-Teller phase transitions, elec. susceptibility and order parameter meas. 4-29599
 DyVO₄, irreversible effects in paramagnetic state in crystallographic distorted phase 4-30143
 DyVO₄, Jahn-Teller phase transitions, elec. susceptibility and order parameter meas. 4-29599
 Fe_{1-x}Cr_{2-x}O₄, interacting Jahn-Teller and mag. transitions 4-56621
 FeZrF₆, cryst. struct., binding and phase transition studies (*German*) 4-24783
 GaAs:C²⁺, electronic and Jahn-Teller parameters, APR spectrum 4-16089
 GaAs:Mn, mag. susceptibility, Hall effect meas., Jahn-Teller strain energy 4-15854
 GaAs:Ni, double acceptor state, piezoabsorption and Zeeman studies 4-50757
 GaP, vacancy spin polarisation energy 4-39821
 HoVO₄, paramagnetic props. study 4-20783
 Li₆, props., ab initio calcs., Jahn-Teller effect in optimal geometrical shape 4-28358
 Li₇, props., ab initio calcs., Jahn-Teller effect in optimal geometrical shape 4-28358
 NH₃, low lying states, electronic struct. and spectra, ab initio calcs., Jahn-Teller distortion 4-1046
 NaCl:Ag⁺, optical absorpt. and electronic struct., multiple scatt. Xα study 4-25287
 Ni complex, Ni(terpyridine)₂(PF₆)₂, cryst. struct. and EPR spectra 4-11097
 PrCl₃, Peierls dimerisation, NQR spectrum, Jahn-Teller coupling 4-30336
 PrO₂, mag. ground state, neutron scatt. study 4-30153
 RbCrCl₃, heat capacity, thermodynamic functions, structural phase transitions 4-25048
 RbCrCl₃, quasi-one-dimens. Jahn-Teller cryst., struct. phase transitions 4-11270
 Rb₂Cr_{1-x}Mn_xCl₄ single cryst., mag. phase diagram, neutron diff. study 4-51052
 Si, vacancy spin polarisation energy 4-39821
 Si:Mn²⁺, Jahn-Teller centres, ESR and spin lattice relax. studies 4-25632
 Si:N(O), off-centre impurities theory 4-56270
 TiH₉, Jahn-Teller phase transform., NMR, 4-56786
 TiSe₂, 1T polytype, CDW state, electron-lattice interaction 4-56216
 TmPO₄, paramagnetic props. study 4-20783
 YCu₂Mn₂O₁₂ ferrimagnetic, synthesis, composition range and cryst. struct. 4-29408
 YIG:Mn thin films, noncubic anisotropy, ferromag. resonance studies 4-35207
 ZnTiF₆·6H₂O:Cu²⁺, EPR study of Jahn-Teller effect 4-30278
 Zn(pyridine-N-oxide)₆(NO₃)₂: Cu, EPR spectra, Jahn-Teller effect, exchange interaction 4-56761

jamming

- see also clutter*
 mm waves, used for anti-jam/low probability-of-intercept communication systems 4-8280

jellies *see gels*

jellium

- alkali metals, surface energy and work function theory 4-2423
 Bose jellium, Thomas-Fermi limit, Bose condensation 4-13572
 dielectric function, dynamic exchange effects, perturbative and variational methods 4-34894
 electron gas with screened Coulombic interactions 4-17820
 metal, H interaction, atomic level shift and broadening 4-11983
 metal particles, small, work function, self-consistent spherical jellium-background model 4-45857
 metal surface, pair potentials, RPA calc. 4-25265
 metals, nonradiative surface plasma oscil., quantisation, electron-surface-plasmon vertex funct. determ. 4-29914
 paramagnetic-ferromagnetic transition point, Padé approx. calc. 4-51053
 plasma, density functional theory, dynamic correl. localisation onset 4-55485
 simple metals, atom in jellium model, core level binding energies, appl. of Slater's transition state theory 4-34846
 small jellium spheres, selfconsistent electronic struct. calcs. 4-39753
 small metal sphere, density functional calc. of static electronic polarisability 4-20529
 Al dilute alloy, electronic struct. calcs. 4-2505
 Cu crystals, deformation-induced work funct. changes, models comparison 4-56412
 H, metallic liquid, ground-state energy 4-29717

jet stream *see atmospheric movements*

jets

- see also plasma jets; sprays*
 acetaldehyde, supersonic jet, rot.-vibr. levels, energy depend., mode specifically fluoresc. 4-38236
 active galactic nuclei, new VLBI obs. (*German*) 4-31926
 aerodynamic noise in spreading jet, high freq. Green function 4-28922
 aniline-He(CH₄) solvation, mol. supersonic jet studies 4-35878
 annular, vortices and pressure intensities meas. 4-38856
 annular jets, vortices coherent struct. meas. 4-1794
 atmospheric ultra-low level jet during nocturnal inversion, fluctuations (*Chinese*) 4-58251
 axisymmetric air jet flow meas., anemometer techniques comparison 4-24501
 axisymmetric, heat transfer and hydrodynamics during interaction with plate, turbulence influences (*Russian*) 4-44673
 axisymmetric flow of ideal flow with interphase, hydrodynamic instability 4-44533
 axisymmetric jet interaction with plane obstruction heat transfer and friction (*Russian*) 4-1796
 baroclinic instability inducing mean motions, atm. appl. 4-24459
 binary gas mixture, free jet expansion, theoretical studies of translational nonequilibrium and velocity slip 4-55451
 blown through convex cylindrical surface into supersonic stream, penetration 4-5933
 4C 49.22, QSO, jet props. from VLBI obs. 4-31931
 California Current, turbulent jets and eddies and inferred cross-shore transports 4-47302
 cavitation cleaning jets, erosion efficiency modelling 4-24456
 channel, heat exchange, effect of geometric characteristics of multijet mixing chamber 4-34083

jets continued

- circulation region in front of flat obstacle perpendicular to supersonic underexpanded jet 4-44668
 coaxial jets, aerodynamic and acoustic characts. 4-44671
 occurrent flow on permeable wall, radiation-blocking aerosol jet generation 4-19874
 combustion chamber, twisted annular flow, mixing and mass transfer 4-34185
 conditioned sampling instrumentation for coherent flow structures 4-15048
 confined laminar impinging two-dimens. jet, mass transfer 4-55428
 Crab Nebula, detect. of radio jet 4-53253
 crossflow, meas. by hot-wire probe 4-38857
 cylindrical capillary jets in external flow, stability 4-10720
 discharge, continuous optical, burning near refractory target, theory 4-29284
 drop velocity from an ink-jet nozzle 4-49870
 EHD jet, nonlinear breakup 4-34200
 electrically conducting liquid, viscous incompressible, rotating flow in a longitudinal magnetic field 4-38900
 elliptic, controlled excitation, near-field turbulence characteristics 4-5934
 explosions, shaped charges, optimisation 4-34119
 extragalactic jets, surface brightness and morphology 4-53298
 ferrofluid, jet flow in elec. and mag. fields 4-38858
 fibre drawing flow field, upper jet region, finite element anal. 4-24460
 flat supersonic underexpanded jets boundary layers, laser schlieren method study 4-29146
 flow around permeable plate 4-19864
 flow over immersed bodies in air fluidised beds, heat and mass transfer 4-34180
 fluid amplifier, freq. response anal. using unsteady flow characts. 4-10803
 fluid waves, generation and scatt. by turbulent and inhomogeneous flows 4-55416
 fluidised beds, gas jet penetration, variable control anal. 4-55444
 fluorene-inert gas (N_2), van der Waals complex, reson. two-photon ionisation, mass spectra 4-23760
 fluorobenzene-carbon tetrachloride complex, supersonic free jet, intermolecular vibrs., fluoresc. 4-28495
 free round turbulent jet, development region, entrainment rate 4-24457
 Freon, cflowing in air stream, concentration measurement with digital image processing 4-24498
 fully developed flow in pulsed supersonic free jets 4-24447
 gas, straight and spreading, gas-dynamic section length and wave struct. 4-5932
 gas-liquid mixer, cold blocking of channel by hot fuel jets 4-38876
 glyoxal, 3A_u - 1A_g laser-induced phosphoresc. spectrum, rot. resolved, in supersonic jet 4-38238
 Hartmann-Sprenger tubes, single-step, nonlinear flow oscillation modes 4-55429
 heated jet-pipe flow issuing into cold cross stream, heat transfer meas. 4-14971
 hot gas jet, interaction with liquid bath, heat transfer 4-24461
 hydrodynamic theory applied to jet formation with inverse cumulation 4-44667
 hydrodynamics of small tubular pumps 4-49874
 immersed, hydrodynamic characts. meas. by laser Doppler anemometer (*Russian*) 4-15010
 impinging jet, wall flow development suction effect 4-49864
 impinging jet issuing from circular planform, flow pattern visualisation 4-49892
 impinging jet on flat plate, turbulence effect, Navier-Stokes eqn. soln. 4-44666
 incompressible, momentum source model for describing flow pattern 4-5935
 incompressible asymmetric heated plane jet 4-49865
 incompressible liq., planar jet development, turbulence effect (*Russian*) 4-29144
 indoles, H-bonded in supersonic jets, electronic spectra 4-9818
 injected semi-bounded jet impingement on boundary layer, laser anemometer meas. (*Russian*) 4-29142
 instantaneous two-directional velocity measurement by sensitive pressure detecting method 4-15041
 interfacial area in a jet pump (*German*) 4-5927
 jet stream nozzles invest., CW dye laser appls. (*German*) 4-34207
 laminar isothermal free jet, buoyancy and diffusion (*German*) 4-5939
 liquid, dynamic eqns. 4-5931
 liquid jet, submerged, discharged into cavitating liq., press. variation meas. 4-10713
 liquid jet, wave injection into carrier gas flow 4-21480
 liquid metal ion source, heating effects 4-35553
 liquid-gas ejector, jet expansion jump dynamic model (*Russian*) 4-1797
 longitudinal air flow with impinging jets, heat transfer on surface 4-29084
 longitudinal flow over cylinder, heat transfer augmentation 4-29083
 luminous flames, flow meas. with photoelectron correl. laser Doppler method 4-30988
 M87, obs. of jet at 15 GHz with 0.12" resolution 4-8571
 main flow turbulence effects on flow structure 4-38854
 Markarian 348, type 2 Seyfert galaxy, evidence for directed outflow from compact radio core 4-27172
 measurement facility with laser Doppler anemometer, with automatic traversing system 4-24503
 metal plate plane vertical surface cooling by jets of water, convective heat transfer 4-14976
 MHD jet, modulational instability 4-24479
 model microjet cavitation, impact press. meas. 4-10712
 natural gas-air, coaxial turbulent jets, mixing, combustion, heat and mass transfer 4-34063
 Navier-Stokes eqns., difference scheme for numerical soln. (*Russian*) 4-10632
 nonsteady gas jet flow, rotation temp. meas. by Raman spectra 4-19903
 opposed jet flame holder, blow-off vel. prediction 4-29141
 (2,2)paracyclophane, free jet, twist mode, fluoresc. excitation 4-33435
 planar colliding jets, autooscillations 4-44670
 plane buoyant surface jets, form. conditions investigation 4-44675
 plane jet, turbulence, temporal and spatial temp. increments 4-34156
 plane triplet jet, regular struts., vortices, shear layer 4-10717
 plane turbulent jet, coherent struct. 4-5879
 plane turbulent oblique impinging jet, flow and heat transfer calc. 4-34100

jets continued

- plumes, buoyant, zone of established flow 4-34158
 polydisperse jet in gas flow, disperse fraction distrib. 4-34168
 propane-air turbulent-jet diffusion flame temp. and species concentration, CARS obs. 4-26209
 propynal- $d_0(d_1)$, supersonic jet, S_1 decay, vibr. and rot. depend., fluoresc. 4-5268
 radio sources, extragalactic, evidence for flattening of jets 4-58507
 rarefied jet, underexpanded, stresses on flat plate (*Russian*) 4-5938
 reacting polymer jets, turbulent boundary layer treatment 4-44549
 reattachment flow issuing from finite width nozzle, aspect ratio effect 4-44678
 rectangular turbulent, transverse section deform. 4-5930
 rotating disk, jet cooling optimisation 4-33925
 rotational hyperbolic flow, particle trajectories and parametric representation 4-34107
 round, impinging on flat plate, heat transfer 4-19821
 round, particle laden, turbulent, struct. 4-29139
 round turbulent, struct. and dynamics studied using laser-induced fluoresc. and particle vel. meas. 4-15011
 secondary flow in submerged bounded jet, nozzle geometry, vortex struct. (*Russian*) 4-29145
 semiinfinite gas jet, turbulent flow, free convection effect 4-34084
 shear layer instability waves, amplitude modulation 4-14950
 shock triggering of supersonic jets from plane channels 4-38851
 single- and two-phase jet flow collisions, interphase heat transfer 4-19816
 solid penetration by high speed oblique jets 4-19777
 sound generated by instability waves of supersonic flows, axisymm. jets 4-38848
 speckle velocimetry, unsteady flow instantaneous velocity fields meas. 4-24497
 spreading rates and modes 4-5936
 steels, high-alloy, cutting using combustion products from transonic jet of O_2 - H_2 and O_2 -propane generators 4-35851
 submerged axisymmetric twisted jet, heat and mass transfer 4-44674
 submerged jet array, temp. gradient distrib. prod. 4-44676
 submerged jets, micro-bubbles, turbulent press. fluctuations, cavitation, noise generation 4-1793
 subsonic jets, two dimens., subjected to periodic oscills. in pot. core region 4-15007
 supersonic annular jet, interaction with obstacle 4-44669
 supersonic flow, input of transverse sound jet (*Ukrainian*) 4-24458
 supersonic jet screech tone cancellation 4-29121
 supersonic jet-cavity oscillatory interaction (*Russian*) 4-44677
 supersonic three dimens. jet flow in channel 4-44672
 supersonic viscous gas jets, interaction, nonequilib. physicochem. processes effects 4-10715
 swirled coaxial jets from nozzles with divergent quarks, aerodynamic study 4-10719
 swirling confined jet, turbulence meas., single hot-wire technique 4-49891
 s-tetrazine-He(Ar), mixed complexes, rot. struct., laser induced fluoresc. 4-54779
 three-dimensional buoyant surface jet, expt. on spread 4-38859
 three-dimensional reattached wall jet 4-10714
 trifluoriodomethane molecules cooled in pulsed jet, multiphoton IR absorpt. 4-28524
 tropolone- $d_0(d_1)$, supersonic free jet, H bonded complexes, H^+ tunnelling, fluoresc. obs. 4-28494
 upper troposphere, combined barotropic-baroclinic instability study of tropical easterly jet 4-47384
 turbine blade row, transonic flow compatibility at thick trailing edge 4-44623
 turbulence, density fluctuations obs. by Rayleigh scatt. (*French*) 4-14952
 turbulent, surrounded by highly flexible duct, buckling 4-15012
 turbulent diffusion flames, nonequilib. effects, statistical props. 4-29206
 turbulent free axisymmetric shear streams, circular vortex generation 4-14984
 turbulent gravity-stratified shear flows 4-38861
 turbulent triplet jets in uniform crossflow 4-10653
 turbulent two-phase jet and its numerical investigation 4-34170
 turbulent wall jets, two-dimens., curvature effects 4-38855
 turbulent weakly swirling jets, base section boundary layer, integral method calcs. (*Russian*) 4-29143
 two dimens. turbulent jet, correl. and energy spectra meas., acoustic disturbance interaction 4-10718
 two-phase, turbulent pulsations energy transport 4-5929
 two-phase flows from baffle plates, nucl. power plant steam generator tube vibrs. 4-43628
 two-phase jet, fully developed region, mixing and entrainment 4-5928
 two-phase jet in general stream, exptl. study (*Russian*) 4-19866
 underexpanded gas jet longitudinal interaction with plane plate 4-5937
 vapour condensation on turbulent jets of liq., heat transfer 4-34082
 velocity profile meas., laser anemometry appls., jet dissipation, turbomachine flow 4-55465
 ventilated wall, curvature effects, turbulence velocity and Reynolds shear stress 4-29140
 vertical down flow liq. jet ejector, momentum transfer, self gas aspiration and emulsion flow 4-44699
 vertical jets with surface tension, capillary waves 4-15009
 vertical nonisothermal jet, calcs. and anal. of props. 4-19865
 vertical slender jet with surface tension falling under force of gravity 4-15008
 vortex ring, vapour phase, static and dynamic equilib. (*French*) 4-38835
 wall jet, thermal study 4-1795
 Ar rarefied plasma, supersonic jet, interaction with plate with sharp leading edge 4-29127
 Ar-He, flow fields generated by opposed free jets, optical and mass spectrometric meas. 4-34155
 CN, supersonic jet source, MODR study 4-54767
 CO molecular gas jet, cylindrical supersonic, vibr. nonequilib., Monte Carlo calc. of outgoing radiation 4-10792
 CO^+ , supersonic jet source, MODR study 4-54767
 CO^+ , $A^1\Pi_u$ state, radiative lifetimes, supersonic jet time resolved UV spectra 4-23755
 He_n clusters, supersonic free jet expansion, magic numbers, condensation onset 4-1312
 4He , superfluid, jet reaction and thermal counterflow (*Russian*) 4-29718
 K dense vapour jet IR spectroscopy 4-18965
 N_2 and CO_2 jets, supersonic mixing, IR diagnostics 4-10716
 N_2 , free jet expansions, rot. temp. meas., electron beam fluoresc. 4-33439

- jets continued**
 NH₃(A²A₁), supersonic free jet, rovibronic level, laser induced fluoresc. 4-38230
 NO-O₃ in jet or plume, chemical reaction turbulent effects 4-34204
 Na₂ relaxation in Na/Na₂ free jet, laser induced fluoresc. study 4-33436
 PF₅, cold-jet, ν_3 band, IR obs. 4-54690
 S₂, chem. form., free jet expansion, mol. consts., fluoresc. obs. 4-38235
 SF₆, supersonic free jets, rot. temp., IR diode laser diagnostics 4-9747
 SO₂ A²A₂ state, rot.-dependent intramol. processes 4-38148
- j.f.e.t. see junction gate field effect transistors**
- Johnsen-Rahbek effect see adhesion; electrostatics**
- Johnson noise see thermal noise**
- joining processes**
see also brazing; cable jointing; soldering; welding
 interlayers in joints of different moduli under static tensile loading, crack resist. 4-34007
 optical fibre bonding techniques, losses and terminations (*Croatian*) 4-10452
 Si₃N₄ ceramics, sintered, diffusion joining, flexural strength 4-40731
- jointing, cable see cable jointing**
- jointing (electric connectors) see electric connectors**
- Jordan-Thiry field see cosmology; general relativity**
- Josephson effect**
 AC- and DC-driven junctions, studies of intermittent-type chaos 4-45942
 active junction line and reaction-diffusion systems, periodically oscillating states 4-35124
 application to SQUIDs, metrology, computer elements, high-frequency devices 4-30115
 arrays Josephson-coupled, mol.-field approx. 4-25486
 channel, resistive state and min. entropy production 4-15988
 charging fluctuations and resistive transition in Josephson junction arrays 4-56504
 current steps, bifurcation and chaos anal. 4-56505
 DC SQUID with finite capacitance, simulation and optimisation 4-45935
 detection of gravit. and inertial forces (*Russian*) 4-53568
 disordered bulk granular superconductors, order parameter susceptibility exponent 4-20767
 dissipative systems, Josephson effect and quantum effect 4-30119
 electric voltage unit conservation, application of Josephson alternating superconductor tunnelling effect (*French*) 4-6929
 far-IR Josephson-generation line width 4-27607
 fluctuation resistance of Josephson junctions 4-35123
 fluxon dynamics on the circular Josephson oscillator 4-30127
 four-terminal superconducting weak link, I-V characts. 4-45939
 fractal dimension and self-similarity of the devil's staircase, Josephson junction simulation 4-34611
 granular superconductor, superfluid density, penetration depth, and integrated fluctuation cond. 4-11637
 hysteretic junction, transitions from equilb. state induced by self-generated shot noise 4-25484
 information processing appl. 4-6930
 intermittent chaos in Josephson junctions represented by stroboscopic maps 4-11644
 Josephson device for voltage measurement 4-268
 Josephson junction, for IR response in self-pumped mixer 4-30118
 Josephson junction, periodic process identification 4-45945
 Josephson long junctions, bion dynamics 4-16000
 Josephson long junctions, loss models 4-50998
 Josephson-point-contact detector radiometer with a pilot signal 4-37146
 junction, dynamics of rigid vortex translations 4-20770
 junction, monochromatic phonon emission 4-6933
 junction arrays, in transverse mag. field 4-15998
 junctions, soliton motion, perturbation theory anal. 4-50997
 long annular junctions, IV curves, fluxon motion 4-50990
 long Josephson junctions, Fiske steps, mag. field behaviour 4-45938
 microbridge arrays, microwave props. (*Russian*) 4-2700
 nonuniform junctions, bifurcations of soliton bound states 4-6934
 normal-normal junctions, resist. and quantum voltage fluctuations 4-20707
 one-dimensional supercond. systems, Josephson-coupled, quantum tunnelling 4-2703
 oscillator, intermittent switching between soliton dynamic states 4-11645
 principles of superconductivity (*Korean*) 4-11623
 resonant Josephson tunnel junctions, mag. coupling to applied microwaves 4-40112
 RF-biased junctions, bifurcating, chaotic and intermittent solns. 4-45943
 S-N-S junction, supercurrent and localisation effects 4-11647
 self-resonant Josephson tunnel junction, mag. coupling to applied microwaves on microstrip 4-40113
 semiconductor surface layer parameter effects on Josephson junction props. 4-30122
 short junction, zero field steps 4-6935
 short tunnel junction, critical currents, focused laser beam effects 4-56507
 SNS junctions, nonstationary Josephson effect and nonequilb. props. 4-35122
 solitons in solids, review book contrib. 4-6362
 SQUID, DC Josephson current, step struct. effects (*Chinese*) 4-56499
 SQUID, nonequilb. phenomena in point contacts (*Russian*) 4-45932
 superconducting slabs, flux line lattice 4-11651
 superconductor-insulator-superconductor junction, Shapiro steps at 70 and 140 GHz 4-25482
 superconductor-normal sandwich, crit. temp. 4-51000
 transmission lines, traveling fluxon waves, analytical solns. 4-20766
 tunnel functions with mag. impurities, critical Josephson currents 4-56506
 tunnel junctions, long and narrow, mixed overlap and inline character 4-15995
 tunnel junctions, mutual locking, numerical and analytical studies 4-50994
 tunnel junctions, supercurrent decay 4-20769
 two-dimensional inversion layers, quantised Hall resistance 4-15888
 two-dimensional Josephson tunnel junctions, fluxon motion (*Russian*) 4-45934
 weak link two-dimensional supercond. arrays, resist. transition, periodic flux depend. 4-25487
 wide band modulation radiometer, Josephson detector stabilisation 4-48206
 zero field steps in Josephson junctions 4-45941
- Josephson effect continued**
³He, superfluid, AC Josephson effect 4-20429
³He, superfluid, search for AC Josephson effect 4-6598
 In microbridges, resistive state and charge imbalance waves 4-45936
 Nb DC SQUIDs with submicrometer Josephson junctions 4-11642
 Nb Josephson junctions, clamped, volt unit reproduction 4-13653
 Nb/Nb small area planar Josephson tunnel junction, fabrication 4-40115
 Nb-Al-oxide-Nb Josephson junctions, critical current uniformity and stability 4-56503
 Nb-Au-Nb Josephson SNS junction, mag. field depend. study 4-30117
 Nb-NbO_x-Pb Josephson junctions, tunnelling props. 4-2693
 Nb-NbO_x-Pb Josephson junctions, reactive ion beam oxidation 4-56498
 Nb-NbO_x-Pb/In window Josephson junctions in planar interferometer 4-11638
 Nb₃Ge/oxide/Pb Josephson tunnel junctions, penetration depth and capacitance 4-50991
 NbN Josephson junctions, fabrication by RF sputtering and photolithography 4-30112
 NbN supercond. films, prep. and transition temp. 4-15778
 NbN/Ge/Nb Josephson tunnel junctions, characts. 4-50992
 NbN-Pb Josephson junctions, ion bombardment effects 4-30116
 Pb alloy Josephson device chips, Pb whisker growth from liq. phase 4-2492
 Pb alloy Josephson junctions, RF plasma oxide growth, inhibiting effect of thermal oxides 4-15997
 Pb-Cu proximity Josephson junction, resistive transition 4-45944
 Pb-In-Au films, fine grained, vacuum deposition for Josephson base electrodes appl. 4-16317
 Pb-Pb oxide-Pb tunnel junctions 4-11641
 Pb-Pb oxide-Pb two-dimens. Josephson tunnel junctions, Josephson current distrib. 4-45931
 Pb-PbO_x-Pb tunnel junctions, electrode resistance effect on characteristics 4-11640
 Pb-PbO_x-Pb resonance Josephson tunnel junctions, freq. characts. (*Chinese*) 4-2697
 Sn-I-Sn-I-Sn junctions, tunnel injection current (*Russian*) 4-56500
 Ta-Cu-Ta SNS junction, thermoelectric AC Josephson effect 4-40119
- Joshi effect see glow discharges**
- Joule-Thomson effect**
 No entries
- junction gate field effect transistors**
 dual JFET convertor, pA currents comparison appl. 4-42989
 GaAs JFET fabrication using maskless ion implantation with 100 keV focused ion beam system 4-32380
- junction lasers see semiconductor junction lasers**
- Jupiter**
 asteroids perturbations, effects of sweeping 7:3, 3:2 and 2:1 resonances 4-13229
 atmosphere, detonation propulsion study 4-10697
 atmosphere, methane and NH₃ bands, longitudinal var. 4-13242
 atmosphere, modelling of two-phase stratiform clouds in presence of H₂O and NH₃ condensates (*Russian*) 4-31787
 atmosphere, zonal flow acceleration by baroclinic instability 4-42357
 atmosphere superrotation, driving mechanism 4-17425
 bibliography, articles entered on Lunar and Planetary Institute Library database (June-October 1982) 4-27269
 Callisto, radio obs. at 2 and 6 cm and brightness temp. 4-58404
 centrifugal wind in rapidly rotating magnetosphere, numerical model 4-31786
 classical pendulum expt. simulation 4-36872
 P/Comet Chernykh (1978 IV), Jupiter and Saturn encounters (*Russian*) 4-13252
 Europa, native organisms and conditions for life 4-27038
 Europa, radio obs. at 2 and 6 cm and brightness temp. 4-58404
 Galilean satellites, 1975-82 eclipse timings 4-27036
 Galilean satellites, 1984 eclipse ephemeris 4-27037
 Galilean satellites, photographic astrometry using neutral density filter technique 4-58388
 Galilean satellites, positions obs. at ESO La Silla-GPO 4-13230
 Galilean satellites phenomena, theory using Chebychev polynomials (*French*) 4-8423
 Galileo Orbiter, mission design, trajectory and objectives 4-17376
 Ganymede, radio obs. at 2 and 6 cm and brightness temp. 4-58404
 gravitational field and figure evolution 4-27040
 Great Red Spot, isolated baroclinic eddy, laboratory analogue 4-47566
 icy satellites evolution, effects of rock-ice mixtures viscosity 4-13218
 Io, exotic volcanic fluids 4-36630
 Io, far infrared spectra and SO₂ frost on surface 4-58403
 Io, implications of refl. spectrum of liq. S 4-53038
 Io, radio obs. at 2 and 6 cm and brightness temp. 4-58404
 Io, S-flows cooling and deform. 4-13241
 Io plasma torus, Coulomb thermal props. and stability 4-8422
 Io plasma torus, longitudinal asymmetry 4-13240
 Io plasma torus, non-Maxwellian ion energy distrib. 4-8424
 Io torus, S III ³S₂→³P₂₁ transition identification 4-17423
 magnetosphere, dawn-to-dusk elec. field due to Io plasma injection 4-42358
 magnetosphere, MHD waves upstream of bow shock 4-26969
 magnetospheric ion sputtering of Galilean satellites icy surfaces 4-3949
 magnetospheric plasma, ion and electron collision processes 4-22346
 distant magnetotail, Voyager 2 obs. 4-17424
 meteor stream assoc. with Comet Lexell (1770 I), orbital perturbations by Jupiter 4-13261
 methane 6815 Å band, high resolution obs. 4-53084
 methane 6818.9 Å absorpt. feature, interpretation 4-53085
 MF/LF emission, effect of solar wind mag. sector struct. 4-27039
 nonradial oscillations, excitation by turbulent convection 4-53146
 nonradial oscillations in outer convection zones (*Russian*) 4-47603
 plasmasphere, stationary flows, MHD anal. 4-42329
 radiowave emission, beaming of decametric radiation 4-47567
 retrograde satellites, gravitational escape and capture theory 4-3905
 Voyager FIR spectra, unidentified features 4-13239
 Voyager images anal. 4-17408
 whistler mode waves in magnetosphere, effect of elec. fields 4-53086
 X-ray emissions from polar regions 4-13243
 H₂ in atmosphere, evidence for disequilb. of ortho and para H₂ from Voyager IRIS meas. 4-22345
 NH₃ ice, optical props. from far IR to near UV, Jupiter atm. appls. 4-51215

K-capture see *nuclear electron capture*

K mesons see *kaons*

K-N interactions see *kaon-nucleon interactions*

Kalman filters

- atmosphere temperature profiles, appl. of Kalman filter to ground-based microwave sensing 4-22137
- extended adaptive, used in monitoring a deposition process 4-30635
- ionosphere parameter estimation using stochastic signals (*Russian*) 4-13141
- ionosphere parameters evaluation using incoherent radiowave propagation (*Russian*) 4-47494
- nuclear materials accountancy, systematic error identification via Kalman filtering 4-33021
- satellites, orbital parameter estimation using extended Kalman filter (*German*) 4-22306
- state estimation Kalman filter using optical processing 4-38406
- track recovery system for aerial bathymetry 4-31695
- use of Kalman filters in hydrologic modelling—a review 4-26728
- well logging, method for accurate depth registration 4-42244
- well logging, tool depth determination using accelerometer 4-58300

kaon-baryon interactions

see also *kaon-baryon scattering*; *kaon-hyperon interactions*; *kaon-nucleon interactions*

$K^-b \rightarrow Y^*K$, Y^* production, problems of producing K^- beams 4-37414

kaon-baryon scattering

see also *kaon-baryon interactions*; *kaon-hyperon scattering*; *kaon-nucleon scattering*
No entries

kaon decay

- see also *kaon hadronic decay*; *kaon leptonic decay*
- CP nonconservation in GUT, universe baryon asymmetry 4-37320
- $K^- \rightarrow \nu \mu$, relativistic quark model approach 4-23009
- $K^- \rightarrow \pi^- \mu^+ \nu_\mu$ form factor, connection with quark mass differences, QCD sum rule anal. 4-23020
- $K^+ \rightarrow \pi^+ \mu^+ \nu_\mu$ requirements of kaon factory beams 4-37369
- $K^+ \rightarrow \pi^+ \mu^+ e^-$ requirements of kaon factory beams 4-37369
- $K^+ \rightarrow \pi^+ \mu^+ e^+$, rare K decays as probes of new physics 4-37368
- $K_L \rightarrow \gamma \gamma$, $A_2(1320)$ contribution to decay rate 4-37384
- $K_L^0 \rightarrow \pi^- \mu^+$, detector and beam requirements for decays 4-38016
- $K_L^0 \rightarrow \pi \nu \mu$, muon pol. normal to decay plane due to EM final state interactions 4-18229

kaon hadronic decay

- see also *kaon regeneration*
- $\Delta I = 1/2$ rule anal. in chiral $SU(3)^*SU(3)$ symm., missing penguins 4-32678
- $\Delta I = 1/2$ rule in chiral limit, nonperturbative QCD effects 4-27730
- $K \rightarrow 2\pi$, matrix elements of $\Delta S = 1$ transition operators 4-53983
- $K \rightarrow \pi\pi$, decay amplitudes in infinite momentum frame, soft pion approximation 4-37371
- $K^+ \rightarrow \pi^+ X^0$, two-body decay, search for neutral boson 4-53982
- $K^+ \rightarrow \pi^+ +$ missing neutral(s), rare K decays as probes of new physics 4-37368
- $K_L^0 \rightarrow \pi^0 \mu^0$ requirements of kaon factory beams 4-37369
- $K_L^0 \rightarrow \pi^+ \pi^-$, decay amplitude, CP violating contrib. in left-right symmetric theory 4-43274

kaon-hyperon interactions

see also *kaon-hyperon scattering*

No entries

kaon-hyperon scattering

see also *kaon-hyperon interactions*

No entries

kaon interactions see *kaon-baryon interactions*; *kaon-nucleus reactions*; *lepton-hadron interactions*; *meson-meson interactions*; *photon-hadron interactions*

kaon leptonic decay

- $K^0 \rightarrow \mu^+ \mu^-$, quark-loop anal. in soft-momentum limit 4-48451
- $K^+ \rightarrow \pi^+ \mu^+ \nu_\mu$, rare K decays as probes of new physics 4-37368
- $K^+ \rightarrow \mu^+ \nu_\mu$, muon polarisation meas., right-handed currents search 4-32668
- $K_L \rightarrow \pi^0 \gamma$, penguin diagrams and $\Delta I = 1/2$ rule 4-13896
- $K_L \rightarrow \pi \mu$, EM amplitude, t-quark mass and B meson lifetime determ. 4-27727
- $K_L \rightarrow \pi \mu^+ \mu^-$ decay rate, left-right symmetric model based on gauge group $SU(2)_L \times SU(2)_R \times U(1)_{B-L}$, limits on strength 4-32526
- $K_L \rightarrow \mu e$, detection possibilities, Glashow-Salam-Weinberg model calc. 4-32669
- $K_L^0 \rightarrow \gamma e^+ e^-$, nonlocal quark model anal. 4-32712
- $K_L^0 \rightarrow \mu^+ e^-$, rare K decays as probes of new physics 4-37368
- $K_L^0 \rightarrow \mu e$, detector and beam requirements for decays 4-38016
- $K_L^0 \rightarrow \mu$ requirements of kaon factory beams 4-37369

kaon-nucleon interactions

- see also *kaon-nucleon scattering*; *kaon-proton interactions*
- hadronic production of J/ψ and gluon structure function 4-32762
- $K^\pm N$, 150-280 GeV/c, on H_2 , Pt targets, J/ψ hadronic prod. study 4-4715

kaon-nucleon scattering

- see also *kaon-nucleon interactions*; *kaon-proton scattering*
- sigma term, dispersion integrals 4-13916
- $K^+ N$ scatt. in nonrelativistic constituent quark model, S-wave phase shifts 4-48499

kaon-nucleus reactions

- for inelastic kaon-nucleus scattering, see "kaon-nucleus scattering"
- see also *kaon-nucleon interactions*
- complex nuclei, activation studies at high energies 4-43532
- conference on hypernuclear physics, Japan, (Nov. 1982) 4-4156
- (K^- , π^-), stopped K^- , hypernuclear spectroscopy, KEK proposals 4-4794
- (K^- , π^-) hypernuclear excitations, γ -lines from proton emission 4-9168
- (K^- , π^-), Δ -hypernuclei excitation and struct. 4-23072
- (K^\pm , X), cross sections compilation 4-31984
- ($K^\pm d$, γX), prompt gamma-ray studies 4-43533
- $^{12}C(K^-, \pi^-)^{12}C$, narrow width levels, quasistable configurations 4-54068
- $^{12}C(K^-, \pi^+)^{12}Be$, narrow width levels, quasistable configurations 4-54068
- $^{12}C(K^-, \pi^\pm)$, 400-450 MeV/c, Σ -hypernuclear state prod., state widths 4-48534
- $^{40}Ca(K, K)$, hadronic radiative corrections study 4-18265
- $^{16}O(K^-, \pi^+)^{16}C$, narrow width levels, quasistable configurations 4-54068

kaon-nucleus scattering

see also *kaon-nucleon scattering*

- (K^- , K^-) on light nuclei, ($\pi\pi$) comparison, scatt. lengths, determ. from mesic atom level shifts 4-23131
- (K^- , X), S-wave scatt. lengths from exotic atom data 4-32935
- K^- -nucleus scatt. lengths from light kaonic atoms 4-32933
- $^{40}Ca(K^+, K^+)$, $A=40$, 48, 444 and 991 MeV, neutron density distrib. effects 4-37551
- $^{40}Ca(K^+, K^+)$ inelastic scatt., differential cross-sections, sensitivity 4-37666
- (K^- , K^-), 800 MeV/c, elastic scatt. in isobar-doorway model 4-43528
- $^{208}Pb(K^-, K^+)$ inelastic scatt., differential cross-sections, sensitivity 4-37666

kaon production

- factory, use of TRIUMF as injector 4-37965
- high energy collisions, light particle spectra, collective nuclear flow 4-43520
- $e^+e^- \rightarrow K_S^0 X$, charge multiplicity and scaling, comparison with QCD 4-4690
- $\gamma p \rightarrow K^+ K^+ \pi^+$, 20-70 GeV, $K\bar{K}\pi$ final states 4-32725
- $\gamma p \rightarrow K^+ K^- \pi^0$, 20-70 GeV, $K\bar{K}\pi$ final states 4-32725
- $K^0 A^0$ diffractive production, BIS-2 collaboration 4-27762
- $K^- p \rightarrow (K^+ K^+) \Lambda$, 4.2 GeV/c, P-wave/S-wave interference, perturbative QCD calcs., scalar reson anal. 4-22993
- $K^+ p$, 32 GeV/c, low p_T , K and π prod. associated with 0, K^+ valence quark fate 4-9128
- $pp \rightarrow K^0(K^{\pm}(890))$, 8.8 GeV, strange particle prod. cross sections 4-4693
- $pp \rightarrow K^\pm(\pi^\pm)X$, strangeness suppression, gluon effects, cross section ratios 4-43383
- $pp \rightarrow K\bar{K}X$, $S^{1/2}=3.6-8.8$ GeV, charged strange particle cross sections 4-13924
- $\pi^+ d \rightarrow K^+ K^- p(K^+ K^- \Delta^+)$ ($K^+ \bar{K}^- \pi^+ p$), 10 GeV/c, evidence for $M(2750)$, 7^- resonance 4-18285
- $\pi^- N \rightarrow K_S^0 K_S^0 \pi^- N$, diffractive production at 200 GeV 4-4699
- $\pi^- p \rightarrow K^- \Sigma^+$, 1.282-2.473 GeV/c, differential cross sections and Σ^+ polarisation 4-4695
- $^{40}Ca(^{16}O, X)$, 9-13 GeV/N, target fragmentation modes, π^\pm , K^0 , Λ , $\bar{\Lambda}$ and p prod. 4-43525
- $F(Ne, X)$ on NaF, 2.1 GeV/A, K^+ prod. cross section in three-dimensional cascade model 4-32921
- $F(Ne, X)$ on NaF, 2.1 GeV/A, K^+ prod. differential cross section, transport theory 4-32922
- $Na(Ne, X)$ on NaF, 2.1 GeV/A, K^+ prod. cross section in three-dimensional cascade model 4-32921
- $Na(Ne, X)$ on NaF, 2.1 GeV/A, K^+ prod. differential cross section, transport theory 4-32922
- $^{208}Pb(^{16}O, X)$, 9-13 GeV/N, target fragmentation modes, π^\pm , K^0 , Λ , $\bar{\Lambda}$ and p prod. 4-43525
- $\pi^+ p \rightarrow K^+ \Sigma^+$, energy depend. partial wave anal. between threshold and 2.35 GeV 4-32743
- $Ta(C, X)$, 4.2 GeV/c per nucleon, γ -rays, Λ hyperons and K_S^0 mesons prod. 4-27885
- $Ta(d, X)$, 4.2 GeV/c per nucleon, γ -rays, Λ hyperons and K_S^0 mesons prod. 4-27885

kaon-proton interactions

see also *kaon-proton scattering*

- kp, charge asymm. param. distrib. from pp data 4-32744
- kp, low- p_T collision, charge distrib. and correl. in Lund fragmentation models 4-43334
- $Kp \rightarrow \Lambda p$, 18.5 GeV, resonant struct. evidence 4-4698
- $K^- p$, 10-110 GeV/c, sphericity and thrust for jets, quark fragmentation anal. 4-48509
- $K^- p$, 32 GeV/c, π^0 , K^0 , n production channels cross sections and separation 4-496
- $K^- p \rightarrow (K^+ K^+) \Lambda$, 4.2 GeV/c, P-wave/S-wave interference, perturbative QCD calcs., scalar reson anal. 4-22993
- $K^- p \rightarrow n \Lambda$, cross sections and polarisation from Regge pole model, helicity amplitudes 4-43381
- $K^- p \rightarrow K^+ X^-$, Ξ resonances above 2 GeV, supermultiplets, comments 4-48500
- $K^+ p$, 32 GeV/c, low p_T , K and π prod. associated with 0, K^+ valence quark fate 4-9128
- $K^+ p$, 70 GeV/c, high- p_T jet fragmentation props. 4-43385
- $K^+ p$, 70 GeV/c, inclusive photon and π^0 prod. cross section meas. 4-43386
- $K^+ p$, strangeness fragmentation and production, Lund string model 4-27761
- $K^+ p$ -jets, low p_T planar events at 147 GeV 4-13917
- $K^+ p \rightarrow \Lambda X$, scaling approach, Regge and quark model anal. 4-18310

kaon-proton scattering

see also *kaon-proton interactions*

- $K^- p$, forward elastic nuclear amplitude, real part meas. 4-48502
- $K_L^0 p \rightarrow K_L^0 p$, detector and beam requirements for decays 4-38016

kaon regeneration

No entries

kaon resonances

see *meson resonances*

kaon scattering see *kaon-baryon scattering*; *kaon-nucleus scattering*; *lepton hadron scattering*; *meson-meson scattering*; *photon-hadron scattering*

kaons

- see also *kaon regeneration*
- conference on wave-particle dualism, Perugia, Italy (Apr. 1982) 4-31971
- Higgs-boson-exchange model of CP violation 4-9065
- $K^0 \bar{K}^0$ mixing, matrix element from vacuum saturation, long range effects 4-48444
- $K^0 \bar{K}^0$ transition amplitude, bounds on hadronic matrix element 4-43335
- K^+ / K^- ratio for quark-gluon plasma obs., critical temp. effects 4-32829
- $K_L - K_S$ mass difference, left-right symmetric model based on gauge group $SU(2)_L \times SU(2)_R \times U(1)_{B-L}$, limits on strength 4-32526
- $K_L - K_S$ mass difference, long distance, chiral contributions 4-43365
- $K_L - K_S$ mass difference and supersymmetric QCD 4-32699
- $K_L - K_S$ mass difference in left-right symmetric models 4-13868
- $K^0 \bar{K}^0$ system nonseparability, possible expt. test using $pp \rightarrow K^0 \bar{K}^0$ at LEAR 4-32110
- $^4HeK^-$ atom, possible bound state 4-14613

Kapitza-Dirac effect

see also *Schwarz-Hora effect*

No entries

Kapitza resistance

- magnetic Kapitza resistance and surface random spins 4-45480
 superfluid liquid-solid interface, boundary conditions, phenomenological derivation 4-2394
 , Cu, Kapitza cond. study between 0.3 and 1.3K 4-2690
 $\text{Gd}_2\text{Ga}_2\text{O}_{12}/\text{He}$ II interface, Kapitza conductance, 1.4 to 2.1K 4-45434
 ^3He solid, pressure, entropy and ordering transition, molar vol. depend. 4-6616
 ^4He , dynamics of solid-liq. interface, Kapitza thermal resist. 4-11357
 ^4He , solid-liq. interface, Onsager coeff. and roughening transitions 4-11358

KDP *see potassium compounds***Kelvin-Helmholtz instability** *see flow instability***Kennelly-Heaviside layer** *see E-region; ionosphere***keratin** *see proteins***kerma** *see dosimetry***Kerr effect (optical)** *see optical Kerr effect***Kerr electro-optical effect**

- see also optical Kerr effect*
 2-carbomethoxy-1,4-benzoquinone, conformation, molar Kerr const., MNDO CND0 CI calcs. 4-18932
 o-chloroanionide in carbon tetrachloride, electrooptical Kerr effect 4-7159
 dielectric liq., prebreakdown phenomena, elec. fields, Kerr effect study 4-46183
 HV pulse electro-optical bridge appl. 4-22793
 liquids, depolarised wing in light scatt., relation to Maxwell and Kerr effects 4-35459
 menthone chiral discrimination, Kerr const. determ. in optically active liquids 4-35416
 particle sizer, laser based, using elec. birefr. phenomenon 4-48072
 water, Kerr effect 4-16180
 wave, optical phenomena in predischage elec. fields 4-2903
 InGaAsP-InP DH rib waveguides, electrooptical modulation 4-24255
 SiO_2 -cored monomode fibre, temp. depend. of Kerr effect, temp. and elec. field sensor appls. 4-1498

Kerr magneto-optical effect

- ferrite films preparation by plating in aq. soln., polar Kerr rotation 4-57115
 magnetic crystals, orthorhombic symm., magneto-optical polar Kerr effect and birefringence 4-40420
 magnetic thin films, domain nucleation by localised fields produced by thin stripline 4-46078
 mol. quadrupole moments, mag. anisotropy, and charge distrib. 4-1290
 permanent magnets, RM_{12} -type, mag. domain struct. (*Slovak*) 4-46062
 rare earth-Co alloys, mag. domain struct., Kerr magneto-optical effect, powder method, wall grooving method 4-7003
 rare earth-transition metal amorphous films for magneto-optical recording 4-30244
 reflected light wave region of form, in magneto-optic expt. 4-56894
 ruthenocene, mol. quadrupole moments, mag. anisotropy, and charge distrib. 4-1290
 Co thin films, even magneto-optical effect, Kerr effect 4-56896
 Co-Cr films, RF sputtered, magneto-optic props. 4-25607
 $\text{CoFe}_2\text{-Al}_2\text{O}_3$, polar magneto-optical Kerr effect and dielec. tensor 4-46235
 CoFe_2O_4 spinel film, prep. by new plating method in aq. soln., structural, mag., magneto-optical props. 4-21170
 Fe_3O_4 , magnetite, optical props., evidence for $3d^n-3d^{n-1}4s$ transitions 4-7163
 Fe_3O_4 spinel film, prep. by new plating method in aq. soln., structural, mag., magneto-optical props. 4-21170
 Li ferrite, optical props., evidence for $3d^n-3d^{n-1}4s$ transitions 4-7163
 Mg ferrite, optical props., evidence for $3d^n-3d^{n-1}4s$ transitions 4-7163
 $\text{MnO}_2\text{-ZnO-Fe}_3\text{O}_4$ mag. surface props., effect of RF sputter etching, non-destructive anal. 4-41029
 $\text{Ni}_3\text{-Mn}_2\text{Sn}$ Heusler alloy, mag., magneto-optical and crystallographic props. 4-51037
 Sm-Co amorphous films with perpendicular anisotropy, RF sputtering and mag. props. 4-20839
 Sm-Co-Cu-Fe-Zr thin sheets, domain struct. during magnetisation reversal 4-56737
 $\text{Sm}(\text{Co}, \text{Cu}, \text{Fe}, \text{Zr})_7$, coercivity, microstruct., ageing effects 4-7020
 SmCo_5 magnets, sintered, heat treatments; mag. hysteresis, microstructure 4-7022
 Tb-Fe amorphous film, thermomag. recording characts. and Kerr rot. angle 4-30245
 U monochalcogenides, magneto-optics and electronic struct. 4-56210

kicksorters *see counting circuits***kidney**

- absorbed dose in mice injected with ^{211}At , comparison between X-irrad. and ^{211}At -treated mice 4-52489
 artificial kidney unit, portable type (*Japanese*) 4-3651
 calcium oxalate crystallisation rel. to kidney stone form., inhibition by glutamic acid 4-41421
 calculi, calcium oxalate monohydrate growth kinetics 4-35558
 calculi, calcium oxalate monohydrate growth kinetics 4-35559
 calculi, growth kinetics of calcium oxalate monohydrate 4-35557
 concentrating mechanism model, mathematical analysis 4-31264
 cortex, human, polarised X-rays for improved in vivo detectability of Cd using XFA 4-8098
 epithelial cells, single renal, fluoresc. microscopy direct evaluation using mitochondrial probe 4-17031
 functional activity after irradiation of para-aortal lymph nodes (*Russian*) 4-52457
 glomerular filtration rate, meas. by fluoresc. excitation (*Hungarian*) 4-52468
 intrarenal backflow and renal perfusion during increased intrapelvic pressure in excised porcine kidneys 4-12600
 radiation nephritis and anaemia, functional assay of renal damage after irradiation 4-36181
 scintigraphy, ^{99m}Tc , dynamic, combined computer and nomographic anal. 4-21775

Kikuchi lines *see electron diffraction crystallography***killed steel** *see alloy steel***kinematic viscosity** *see viscosity***kinematics**

- see also acceleration; ballistics*
 centrifugation of suspensions, theory of kinematic waves 4-38865

kinematics continued

- Cepheus IV star formation region, morphology and kinematics from formaldehyde obs. 4-31886
 globular clusters, eccentricities of galactocentric orbits 4-31873
 NGC 5189, planetary nebula, emission line profiles rel. to kinematic struct. of condensations 4-22460
 NGC 604, giant extragalactic H II complex, internal kinematics 4-42510
 NGC 628 (M74), face-on spiral galaxy, H I line profile and radial vel. field 4-58501
 NGC 936, barred galaxy, stellar kinematics and dynamics 4-31907
 planetary nebulae, radial vels. rel. to Galaxy rot. curve 4-13434
 stellar velocity perturbations in colliding galaxies, theory 4-58504
 theological laws comparison in rotational kinematics (*French*) 4-38733
 trains, rolling resistance, friction, soil mechanics, suspension system, fundamental mechanics studies 4-29030
 two dims. kinematics expt. using microcomputer interval timer 4-53430
 W3(OH) , H II region, expansion vel. determ. from radio recomb. obs. (*Russian*) 4-31898
 wave motion, discontinuous numerical solns. 4-53495
 H I absorption in double galaxy UGC 66081, line profile and radial vels. 4-31917
 H I in M31, radial vels. from high resolution 21-cm line survey 4-42546

kinematography *see cinematography***kinerecording** *see video recording***kinescope** *see television picture tubes***kinetic theory**

- see also Boltzmann equation; collision processes; intermolecular mechanics; kinetic theory of gases*
 Burnett transport coeff., long time behaviour 4-10633
 crystals, at. transport via point defects, at. mobilities and dielectric relaxation 4-50558
 dense fluids, Boltzmann eqn. based kinetic theory 4-32164
 dissipative hamiltonian systems, unifying principle 4-42842
 fluctuations near convective instability, kinetic theory 4-38821
 hard disc fluid, dynamical correlations, generalised Enskog theory 4-6232
 hard disc fluid, van Hove self-correlation function, Enskog theory, computer simulation 4-6233
 interacting kinks, statistical dynamics 4-4320
 irreversible classical fields, bracket formulation 4-42843
 magnetoplasma, simple non-markovian kinetic eqn. 4-44799
 mode coupling in equil. time correlation functs., Klimontovich eqn. calc. 4-27401
 nematic liquid cryst., constitutive eqn. under weak vel. gradient derived from mol. kinetic eqn. 4-6252
 nonthermal one-dimensional lattice model, kinetic critical phenomenon 4-37030
 particles in solids, short-lived large energy fluctuations, kinetic many-body theory, reviews 4-34687
 repeated-ring kinetic equation, velocity correlation funct. tail calc., Brownian limit 4-17812
 self-diffusion for a weakly-coupled plasma in a magnetic field 4-49941
 self-diffusion in a dense magnetized plasma 4-49942
 statistical kinetic failure model, material under uniaxial tension 4-10609
 thermoluminescence kinetics, non-integer order, electron traps 4-40541
 toroidal plasma, fast ions, kinetic eqn., Fokker-Planck eqn. 4-49930
 ^3He superfluid, quantum kinetic nonlinear eqn., free energies 4-39624
 ^4He superfluid, kinetic energy and condensate fraction 4-11364

kinetic theory of gases

- see also Brownian motion; collision processes; equations of state; intermolecular mechanics; Joule-Thomson effect*
 binary gas mixts., moderately dense, kinetic eqn. soln. and slip near boundary 4-44788
 binary gas mixture at liquid surface, generalised theory 4-44789
 binary gas mixtures, multiple temp. multiple velocity gas dynamics eqns. (*Russian*) 4-34217
 Boltzmann equation, numerical soln., spectral method using Fourier transforms (*Russian*) 4-34218
 classical and degenerate, extended thermodynamics 4-5989
 dilute gases, viscosity and cond., multiparameter correl., kinetic gas theory 4-55472
 electron swarm transport, diffusion tensor 4-34229
 frame-indifferent kinetic theory 4-29229
 gas-solid two-phase system thermal conductivity, interstitial gas press. and particle size effect 4-10809
 Gaussian basis functions in kinetic theory, incorporation of inelastic processes 4-5988
 generalised Lorentz gas, boltzmann eqn. 4-42892
 generalised Waldmann-Snider eqns. 4-49915
 hard sphere gas, discrete vs. continuum relax. modes 4-55471
 homogeneous isothermic mixtures, turbulent flows, moment eqn. 4-1702
 ideal gas mixtures, entropy, wave speed, frame depend., kinetic theory 4-34214
 ideal gas viscosity, flow, kinetic theory 4-11219
 local entropy production and Gibbs relation, nonlinear revised Enskog eqn. calcs. 4-42904
 many-particle distrib. functions, dissipative eqns. 4-32017
 Maxwell distrib. law of rel., spectral line shape anal. demonstrations 4-36868
 mean free path for real gases, use of variable cross-section hard sphere model 4-15052
 mixtures, fundamental eqns. for combining intermol. consts. 4-29230
 molecular collisions in gases, simulation using stochastic laws from Kac's master eqn. 4-19905
 molecular gases, nonstationary processes and ordering 4-44787
 molecular gases, nonuniform, kinetic theory of field effects 4-19907
 phase vol., adiabatic invariance, canonical transform. 4-53413
 polyatomic gas, polarisation creep tensor calc. 4-19909
 quantum systems, nonlinear transport processes, kinetic theory and irreversible thermodynamics 4-49914
 radial distrib. function at low densities, smooth pot. results 4-10805
 rarefied gas cloud expansion, discrete vel. method 4-49858
 saturated field effects, matrix expression 4-38926
 suspension of particles with internal struct., kinetic model 4-5985
 thermal equil., temp. and kinetic energy 4-36870
 two dimensional model of ideal gas, speed distrib., computer simulation 4-36858
 velocity selective excitation of gas, change in macroscopic state near wall 4-44793
 CO_2 CW laser, kinetic and fluid dynamic model 4-19420

kinetic theory of gases continued

- F₂, electronegative gas, electron swarm param. calc. 4-34230
 H₂O, electronegative gas, electron swarm param. calc. 4-34230
 N₂, dense fluid, thermodynamics study by mol. dynamics 4-38923
 N₂-CO, thermal conductivity of binary mixtures 4-55477
 N₂O-CO₂, thermal conductivity of binary mixtures 4-55477
 O⁺, energy distrib., drifting in He, Ne and Ar gases 4-38924
 SF₆, electronegative gas, electron swarm param. calc. 4-34230

kinetic theory of liquids *see kinetic theory; liquid theory*kinetics of chemical reactions *see reaction kinetics*

kink bands

- α -brass single crystal, slip in stress gradient, kink band form. 4-45141
 solid solution, BCC, activation vol. for plastic flow, conc. and stress depend., kink pair model 4-11216
 Nb-Mo solid soln., activation vol. for plastic flow, conc. and stress depend., kink pair model 4-11216
 Si, dislocation bend motion, kink model 4-15576

kinofoms *see computer-generated holography*Kirkendall effect *see diffusion in solids*kitchen appliances *see domestic appliances*

KKR calculations

- alkali halides, cohesive props. in local density formalism 4-6311
 alkaline earth oxides, cohesive props. in local density formalism 4-6311
 analytical wavefunct., normalisation procedure 4-34844
 β -brass, photoemission spectra calcs. from (011) surface, order-disorder transition effects 4-30604
 ferromagnet, relativistic multiple scatt. theory of electrons 4-15352
 ferromagnet-electron elastic scatt. and emission, electronic struct., relativistic multiple scatt. theory 4-11425
 Kondo lattice systems, supercond. theory 4-40103
 3d transition metal monoxides, cohesive props., KKR band calcs. 4-6312
 Ag, Pd_{1-x}, valence band XPS spectra, multiple scatt. theory anal. 4-51450
 CaS, cohesive props. in local density formalism 4-6311
 Co₉₂Fe₀₈, electronic struct., UPS and KKR calc. studies 4-29876
 Cu, 3d, 4d and sp impurities, electronic struct., self consistent cluster calc. 4-34910
 Cu, magneto-resistivity, Boltzmann eqn. calc. 4-20631
 Cu-Ni(111) surface states, angle-resolved emitted photocurrent calc. 4-45849
 Cu-Pd alloys, electronic struct., density of states and photoemission spectra 4-45610
 Cu-Zn(Al)(Ge), Hume-Rothery alloys, composition depend. of optical gaps 4-20936
 Cu_{1-x}Ge_x single cryst., electronic struct., KKRCPA calc. and ARPES studies 4-29877
 Eu, Fermi surface, band struct. and de Haas-van Alphen freqs. calc. 4-2500
 Ir, electronic energy bands and optical props. 4-20550
 Pt, electronic energy bands and optical props. 4-20550
 Si-Ge alloys, electronic and optical props. KKRZ pseudopot. calc. 4-15815
 Ti, liquid, electronic density of states, relativistic KKR-EMA calc. 4-45569

klystrons

see also reflex klystrons

plasma heating klystrons, recent progress 4-19979

Knight shift

see also nuclear magnetic resonance

- alkali metal-group IV liq. alloys, neutron diff., Knight shift and elec. resist. studies 4-45710
 disordered conductors, nucl. spin relax. 4-25646
 graphite-Rb intercalation cpd., RbC₈, NMR study of order-disorder transform. 4-39483
 metals, muon technique for studying parameters 4-20895
 rare earth compounds, R₂Rh₂B₄, pulsed NMR studies 4-51147
 AgPt, mag. susceptibility, NMR meas. 4-46132
 Al, muffin-tin Green's function theory of H defects 4-45675
 Bi-Te, liq., semicond., ²⁰⁹Bi Knight shift 4-46133
 Co₂TiAl(Ga), ferromagnetic Heusler alloys, hyperfine field, Knight shift 4-50778
 Cs, liquid, NMR ¹³³Cs Knight shift and relax. rate studies 4-46130
 HfV₂H₃, phase transition, NMR study, 20 to 320K 4-20885
 In-Ni alloys, liq., NMR Knight shift and linewidth meas. 4-46119
 Li-Bi(Pb)(Sn)(Si), liq., electron localisation and cpd. form., ⁶Li spin relax. study 4-40261
 Nb₂V_{1-x}H single cryst., NMR and acoustic NMR studies 4-51149
 Ni, Neel-type, Knight shift, hyperfine field, NMR freq., and magnetisation meas. 4-40255
 Ni-B alloys, amorphous and crystalline, mag. and NMR study 4-46139
 Pb_{0.92}Mo_{0.08}S_{7.5}, NMR and mag. susceptibility meas. 25 to 300K (Russian) 4-2833
 PdH_x, x=0.70, 0.75, 0.86, muon Knight shift meas. 4-35323
 Pt (001), Knight shift, relativistic spin polarisation and magnetisation 4-20875
 Pt, muon Knight shift meas. 4-35323
 Sb-Te liquid semicond., mag. contrib. to hyperfine field, Knight shift meas. 4-56802
 Sb-Te liquid semiconducting alloys, NMR investig. 4-46129
 V₃Au, high temp. NMR studies, Knight shift 4-56803
 V₃Ga, Knight shift, 300-1300K, temp. depend. 4-46118
 V₃Pt, high temp. ⁵¹V and ¹⁹⁵Pt NMR, linewidth and Knight shift investig. 4-46117
 VSe₂, NMR study of charge density wave state 4-2836
 YCo₂, nearly ferromag., nucl. mag. relax. study 4-46134
 YCo₂, mag. supercond., NMR, NQR studies 4-2834
 YCo₂, mag. supercond., normal state ⁵⁹Co NMR, itinerant electron ferromagnetism study 4-2840

Knudsen flow

- distribution function macroparameters, closed system of eqns. 4-44658
 gas diffusion in porous solids, Knudsen and ordinary diffusion regimes, Monte Carlo simulations 4-10708
 nonisothermal flow of a rarefied gas in a circular cylindrical channel 4-34136
 pure gases under pressure, permeation through asymmetric porous membranes, membrane characterisation and performance prediction 4-55441
 rarefied binary gas mixture, conc.-jump coeff. 4-34134
 rarefied gas flow and heat transfer around heated circular cylinder 4-44656

Knudsen flow continued

- spherical particle motion in saturated vapour for arbitrary Knudsen numbers 4-10709
 thermal plasma, heat transfer to immersed particle, Knudsen number effect 4-1881
 vapour gas behaviour around its spherical droplet 4-44657
 Ar, behavior of small particles in a thermal plasma flow 4-15086
 Cs atom, on-axis, velocity analysis by time-of-flight method 4-54887
 N₂ Knudsen gas flow, ang. momentum polarisations 4-24452

Knudsen number *see Knudsen flow*Kohn effect *see lattice dynamics*

Kondo effect

- alloys, Kondo, cryst. field effect on resist. maximum 4-25330
 amorphous metals, Jahn-Teller A_gB_{4-n} resonance polaron model 4-25249
 amorphous superconductors, atomic motion, Kondo-like effect and pair-breaking 4-50979
 Anderson model, perturbation expansions for systems with strong local correlations 4-2551
 Anderson symmetric lattice, ground states in 1-D 4-29873
 anisotropic s-d model, mag. susceptibility 4-20790
 concentrated mag. alloys, collective mode and spectral shapes 4-6948
 degenerate Anderson impurity system, Fermi liq. theory 4-40140
 degenerate Anderson model, Fermi liq. relations, large-N expansion and Bethe-ansatz soln. 4-50768
 dilute mag. alloys, double impurities scatt. theory 4-6947
 Kondo lattice, 1/N expansion, spin fluctuations 4-8842
 magnetic alloys, exact results in theory, review 4-51022
 mixed-valence problem, new approach 4-56292
 multichannel Kondo problem, solution 4-35145
 renormalization group studies of tunneling systems in the condensed phase 4-6686
 spin glasses, transport props., effect of including Kondo-like terms 4-51070
 superconductivity in the Kondo lattice, Anderson model anal. 4-50980
 superconductivity theory in Kondo lattice systems 4-40103
 transition metal amorphous binary alloys, sputtered, elec. resistance, Kondo effect 4-45715
 valence fluctuations between two mag. configurations, mag. susceptibility, RG approach 4-56514
 Au-Co (2 at.%), precipitation kinetics, elec. resist. and magnetisation meas. 4-7472
 Ce and Ce cpds., mixed valency, bistability and collective effects 4-56287
 Ce mononitrides and monochalcogenides, mag. props. 4-11692
 Ce systems, mixed valent props., effect of d-f correl. 4-6746
 CeAl₃, thermal expansion and magnetostriction, reson. level model 4-2357
 CeCu₂Si₂, magnetism and supercond. 4-56543
 CeCu₂Si₂ single cryst., superconductivity and Fermi surface 4-35110
 Ce_{1-x}Gd_xAl₃, x=0.05, 0.2, effect of ferromagnetism on Kondo state 4-56753
 (Ce_{1-x}La_x)Be₁₃, valence regime mag. props. 4-6949
 CeRu₂Si₂, Kondo lattice system, mag. behaviour 4-2726
 CeSi_{2-x}Ga_x, electronically driven volume transition, mag. susceptibility study 4-46033
 Ce_{1-x}Y_xIn₃, mag. ordering, Kondo lattice, mixed valence, Neel temps., susceptibility, resist. meas. 4-56289
 Cu-Ni-Mn-Fe alloys, elec. resist. and Kondo effect at Fe impurities (Russian) 4-25329
 Cu-Zn alloys, elec. resist. at low temps. (Japanese) 4-34946
 (Fe_{1-x}Cr_x)₈B₁₆ amorphous, elec. cond. and mag. props. (Chinese) 4-2578
 La_{1-x}Ce_x(Pb_{1-x}Sn_x)₃, mag.-nonmag. transition of Ce impurities, elec. resist., supercond. transition temp. 4-56333
 La_{1-x}Ce_xRh₃, mixed valent Kondo system, elec. resist. saturation, mag. susceptibility meas. 4-56332
 Mn impurity in metal, n-channel Kondo problem 4-51023
 Pr_{0.25}La_{0.75}Al₃, elec. resist., Kondo-like behaviour 4-56334
 TmS, band struct., local density functional approx., self-consistent relativistic linearised APW calc. 4-34853
 U mononitrides and monochalcogenides, mag. props. 4-11692
 Y-Ce dil. alloy, transport props., temp. depend. 4-29959
 Yb-Cu-Al, magnetic isotherm, Coqblin-Schrieffer model, high and low temp. results 4-30148

Korringa-Kohn-Rostoker calculations *see KKR calculations*Koster effect *see dislocation damping*

k.p calculations

- magnetic semiconductors, dil., indirect exchange interaction 4-46020
 semiconductors, narrow gap, band mixing calcs. 4-50717
 CuCl, excitonic polaritons, wave vector depend. of third-order nonlinearity 4-20577
 GaAs, band struct., Auger recombination 4-39772
 GaAs, conduction band, dispersion, nonparabolicity and warping 4-45626
 GaAs/Ga_{1-x}Al_xAs quantum-well struct., hydrogenic donor energy levels, nonparabolicity effects 4-50916
 InP, band struct., Auger recombination 4-39772

Kramers-Kronig relations

- alkali halide crystals, isoelectronic, estimates of van der Waals coeffs. from optical data 4-20938
 generalised Langevin eqn. for 1/f noise 4-15926
 guanine hydrochloride dihydrate, cryst. growth, reflection UV spectra 4-2934
 hexachalcogenohypodiphosphates, far IR spectra and vibr. modes 4-40445
 optical spectra, anal. by Fourier methods, appl. to Si ellipsometric data 4-37217
 polypyrrole perchlorate, optical transmittance and conductivity spectra 4-16196
 reflectivity extrapolation, linear-eqns. algorithm 4-40389
 rock velocity dispersion rel. to rheology and quality factor depend. on freq. 4-31478
 squalane, liq., vacuum UV spectra, reflectance determ., dielectric and energy loss function 4-40469
 squalene, liq., vacuum UV spectra, reflectance determ., dielectric and energy loss function 4-40469
 TTF-TCNQ, far-IR spectra and elec. cond. 4-25759
 (As₂S₃)_{1-x}(Sb₂S₃)_x glasses, far IR and Raman spectra 4-20960
 Ba₂NaNb₂O₁₃, optical props. in fundamental absorpt. band, cond. and valence band 4-51224

Kramers-Kronig relations continued

- Ba₂Sr_{1-x}Nb₂O₆, optical props. in fundamental absorpt. band, cond. and valence band 4-51224
 Cu₂O, birefringence dispersion, validation of Kramers Kronig relation 4-11863
 Hg₂(Cl,Br_{1-x})₂, long-wavelength optical vibr. study 4-11898
 n-HgCr₂Se₄, reflectivity and dynamical cond. 4-30453
 NH₃ ice, optical props., from far IR to near UV, Jupiter atom. appls. 4-51215
 Na₂KSb cryst., optical props., empirical pseudopot. calc. 4-11858
 NbS₂ intercalation with first-row transition metals, band struct., reflectivity anal. 4-29863
 Se₂O₃, electron energy struct. and optical props. 4-34876
 Si single crystal, optical constants, UV and X-ray reflection spectra meas. 4-25710
 SmB₆, far IR reflectivity and hybridisation model 4-40456
 TaC, optical and elec. props. meas. 4-40476
 TiN, optical props. study 4-7151
 TiSe, reflectance and thermorefectance spectra 4-7169
 Y₂O₃, electron energy struct. and optical props. 4-34876
 Zn_{0.16}Hg_{0.84}Te, epitaxial layers, reflectance and thermorefectance spectra, permittivity 4-40556
 ZnTe, opt. functions and parameters of long-wavelength exciton 4-11903

Kramers systems see determinants**Kromayer lamps see mercury vapour lamps****Kronig-Penney model**

- amorphous material, 1D, energy gaps, disordered Kronig-Penney model 4-22554
 classical particle mobility in three-dimensional periodic potential field 4-214
 energy bands and forbidden gaps 4-20530

krypton**see also nuclei with**

- adsorbed layer on graphite, incommensurate phase, mol. dynamics method anal. 4-34788
 adsorbed monolayer, weakly incommensurate phase, soliton theory 4-20467
 adsorbed on Au (111), triple point wetting study 4-39673
 adsorbed on graphite, commensurate phase melting 4-11252
 adsorbed on graphite, generalised law of corresponding states 4-45496
 adsorption kinetics and electron scatt. on Ni (110), angle-resolved UPS study 4-21109
 air pollution mesoscale dispersion by numerical models 4-12501
 atom, 4s- ϵ p photoelectron ang. distrib. calcs. 4-23667
 atom, electron impact excitation of elec. dipole forbidden transitions 4-10170
 atom, electron scatt., differential cross sections, 50 MeV to 2 eV 4-10093
 atom, electron-photon ang. correl. with spin-orbit interactions 4-5433
 atom, excited state, photoionisation, elec. field induced reson. 4-28411
 atom, low energy electron scatt. 4-5371
 atom, resonantly enhanced multiphoton ionisation, UPS 4-38134
 atom, Rydberg states, threshold excitation, post collision interaction 4-10129
 atomic linewidth spatial variation, optogalvanic signal obs. in hollow cathode discharge 4-18988
 atoms, autoionising state selective multiquantum excitation and stimulated emission obs. 4-48992
 atoms, electron impact excitation, grandparent and nonvalence reson. 4-5151
 atoms, electron scatt. total cross sections 4-5373
 atoms, low-level resonant ionisation detect. using tunable VUV light 4-1101
 atoms, metastable states, electron impact excitation functions 4-14578
 atoms, selective counting using resonance ionisation spectroscopy 4-48243
 atoms, shielding efficiencies determined from atomic spectroscopy for use in semiempirical SCF-MO calculations 4-1074
 atoms, slow electron superelastic collisions, impact deexcitation 4-38275
 atoms, ultrasoft X-ray emission spectra interpretation 4-38122
 collision-induced polarisability anisotropy, depolarised light scatt. 4-9781
 Debye-Waller exponents, phenomenological rigid atom model 4-11248
 electron drift vel. and excitation coeff. 4-23491
 electron impact excitation of lowest excited state ang. correls. 4-5441
 excimer at small interatomic distances, keV electron impact excitation 4-9711
 fluid, quasi-free-electron energy rel. to mobility 4-6849
 gas, explosion-driven shock wave optical props. 4-19917
 gas, viscosity coeffs., temp. depend. 4-34222
 gas continua in a barrier discharge 4-5163
 immobilisation by combined ion implantation and sputtering into metallic matrix 4-32992
 isoelectronic series, direct SCF calc. of excited level structs. 4-43795
 low-energy electron energy characts. 4-34228
 methane-Kr solid mixture, octupolar glass struct. 4-7068
 monolayer on graphite (0001), surface vibr. and thermodynamic props. 4-6659
 monolayer on graphitised C black, validity of Brunauer-Emmett-Teller eqn. study 4-2431
 overlayer on Ag (111), electron stimulated desorption 4-29812
 overlayer on graphite, commensurate melting, domain walls, and dislocations 4-29788
 physisorbed on graphite, ground state props. calcs. 4-29785
 recombination luminesc. from ionisation tracks produced by α -particles in high press. gas 4-971
 shock-heated at electron densities from $1.50 \times 10^{19} \text{ m}^{-3}$, ionisation relax. 4-14503
 solid, electronic excited states relaxation processes, luminesc. study 4-51325
 solid state props. near OK from [n(r)]-6 pot. 4-29383
 stopping cross section of ^4He 4-1012
 submonolayer film on graphite, melting transition, mol. dynamics studies 4-29787
 surface, mol. dynamics calcs. 4-29753
 tracer diffusion in methanol, 1-butanol and 1-octanol from 298 to 433K 4-11323
 vapour, nonlinear conversion to short wavelengths, 100-200 nm range (Japanese) 4-55130
 viscosity at intermediate temp. 4-10806
 wetting on graphite, complete and incomplete, reentrant type 2 growth 4-39676

krypton continued

- Ar:Kr cryst., IR absorpt., mol. dynamics calcs. 4-20957
 Ar-Kr, binary mixtures, thermal diffusion factors 4-34220
 Ar-Kr mixtures, multiple nucleation pathways near triple points 4-50458
 H⁺ + Kr collisions, autodetaching state excitation 4-9969
 He-Kr ion laser in a DC hollow cathode discharge 4-55014
 Kr excimers, electron impact excitation, emission from outer turning points of the vibr. states 4-9710
 Kr I 4p⁵5p and 4p⁶6p configs., crossing fields calc. of Zeeman sublevels 4-28400
 Kr I LTE-plasmas, 5s-5p transitions, absolute transition probabilities 4-50064
 Kr I optogalvanic effect, simultaneous freq. and power stabilisation of AlGaAs laser 4-23981
 Kr III, nsⁿnp ¹S₀ state, Auger spectra 4-33380
 Kr ions + Kr(Xe), ionisation and inelastic energy losses, differential meas. 4-49151
 Kr VII, energy-level and lifetime meas. 4-48981
 Kr⁺ CW mode-locked laser for synchronous pumping, tunable ultrashort light pulse generation 4-19468
 Kr²⁺, electron impact ionisation cross sections 4-10140
 Kr^{q+}, (q=1 to 9), charge transfer cross sections on various gas targets 4-19246
 Kr-Ar(Ne), collision induced dipole moment, ab initio HF treatment 4-54593
 Kr-Br mixture, electron temp. and density 4-39015
 Kr-glyoxal, vibr. predissoc., fluoresc. spectrum, lifetime meas. 4-54822
 Kr-SF₆, second interaction virial coeff. 4-54833
 Kr+Ar₂(Xe₂), van der Waals bond exchange, ang. and vel. distrib. 4-21454
 Kr+Ar²⁺, state-selective electron capture studied by translational attenuation method 4-19223
 Kr+Ar⁴⁺, Kr M-NN Auger spectra 4-9951
 Kr+Ca(4s5p ¹P₁), electronic energy transfer, radiative lifetimes, spin and fine struct. changing cross sections 4-1248
 Kr+Cl^{q+} (q=8-12), electron capture into metastable states, delayed Auger electron meas. 4-14540
 Kr+Cs⁺, ejected electron spectra, Barker-Berry effect 4-9955
 Kr+H₂⁺, selectively excited rovibronic states, collisional quenching 4-9923
 Kr+H⁺, elastic scatt. and charge exchange at E_{cm}=0.5-30 eV 4-9879
 Kr+H⁺, L-shell ionisation 4-14518
 Kr+H⁺ collisions, ionisation cross sections for 5 to 4000 KeV H⁺ in gases 4-9973
 Kr+H(H⁺)(H⁻), charge transfer cross section, expt. data compilation 4-42621
 Kr+K(Na), extended multiproperty anal. model pot. calc. 4-5319
 Kr+Kr (Ar) two-electron transitions, 3p-vacancy prod. 4-19208
 Kr+Kr⁺, charge transfer cross-section, 0.08 to 2 eV 4-10034
 Kr+Kr⁺, quasimol. prod., Auger spectrosc. 4-19132
 Kr+Kr^{q+} collisions (q=13, 25, 27), multipole ionisation, projectile charge state effect 4-9978
 Kr+methane-d₄, vibr. deactivation rate const., laser fluoresc. study 4-49128
 Kr+N₂H⁺, endothermic proton transfer reaction, role of internal energy and translational energy 4-57543
 Kr+Na⁺(K⁺), ionis. and charge exchange cross-sections, 0.5 to 7.0 keV 4-10038
 Kr+Ne, excitation transfer in charge-transfer reactions of multicharged ions 4-28553
 Kr+O, cross section measurements with selectively detected O ¹S beam atoms 4-14517
 Kr+Rb collision, broadening of level crossing signals 4-23778
 Kr+Sr, Sr reson. line broadening, absorpt. coeff. 4-18986
 Kr+Ti, collisional shift and adiabatic broadening of ground state Ti hyperfine transition lines 4-49126
 Kr+U, inner-shell vacancy prod. 4-19134
 Kr⁺+Kr, charge transfer cross-section, 0.08 to 2 eV 4-10034
 Kr⁺+Kr, low MeV collisions, autoionisation spectra 4-19206
 Kr⁺+Kr, quasimol. prod., Auger spectrosc. 4-19132
 Kr⁺+methane, atomic capture cross section meas. 4-21458
 Kr¹⁸⁺+inert gases, coincidence meas. of recoil-ion charge-state spectra prod. by ionisation and charge transfer at 1.4 MeV/u 4-9977
 Kr²⁺+He, low energy electron capture cross sections 4-14550
 Kr²⁺+He(Ne), low-lying state transitions, ion energy-loss 4-14519
 Kr²⁺+Ne, electron capture, ion energy-loss spectra 4-14551
 Kr²⁺+Ne, one electron capture reactions, drift tube study 4-43948
 Kr^{q+}+He, electron capture and transfer ionisation cross section 4-49154
 Kr^{q+}+He (q=7 to 25), one-electron capture cross sections, R_e depend. 4-43973
 Kr^{q+}+inert gas atom, charge transfer cross-sections 4-54857
 Kr^{q+}+Kr, K-shell excitation by Kr to L-shell charge transfer 4-9994
 Kr^{q+}+Ne(Ar)(Kr) collisions (q=13, 25, 27), multipole ionisation, projectile charge state effect 4-9978
 Kr₂, inner valence shell photoionisation spectra 4-9841
 Kr₃, inner valence shell photoionisation spectra 4-9841
⁸⁴Kr, A=77, 79, prod. for medical appls. by Br(p,X)Kr 4-3617
⁸⁵Kr from radwaste, beneficial uses, thermoelectric generation heat source 4-28012
⁸⁵Kr in the atmosphere, contamination during 1950-1980 (Czech) 4-46910
⁸⁵Kr, radioactive release from hydroquinone kryptonate, determ. of SO₂ (Slovak) 4-33183
⁸⁵Kr, radioluminescent low-level lighting, use of radwaste byproducts 4-28010
^{81m}Kr generator development for clinical ventilation and perfusion 4-31335
 methane:Kr, disordered system of octupoles NMR study 4-56812
 a-Si:Kr, stopping cross sections for MeV He ions 4-24880

krypton compounds

- KrF laser, electron-beam pumped, excitation, quenching and absorption kinetics 4-55020
 pentacene-Kr complexes van der Waals, vibr. modes 4-9751
 KrCl discharge pumped laser improved energy output 4-44091
 KrCl, formation in quasi-stationary electric discharge (Russian) 4-24683
 Kr₂Cl⁺ kinetic studies in electron beam excited Kr-carbon tetrachloride mixtures 4-23754
 KrF discharge laser, narrow linewidth gain, saturation meas. 4-1386
 KrF excimer laser, electron beam pumped, with 14 J output power 4-14680

krypton compounds continued

- KrF excimer laser, multichannel breakdown switch appl 4-34356
 KrF excimer laser circularly polarised beam, in H₂ gas, forward Raman scatt. (*Chinese*) 4-49446
 KrF laser, coaxially excited by electron beam generator 4-55021
 KrF lasers, longitudinally electron-beam excited, 115 J output energy 4-14672
 KrF unstable resonator excimer lasers, injection-locking 4-24047
 KrF* laser, discharge, with UV preionisation, radiating in UV, visible and IR ranges 4-44089
 KrH⁺, gas target collision, H⁺ loss reaction study 4-21458

Kuhn-Thomas sum rule *see* molecular energy levels

Kurie plots *see* beta-decay theory

kymography *see* radiography

Kyropoulos method *see* crystal growth from melt

labelled atoms *see* radioactive tracers

labelled compounds *see* radioactive tracers

labelled molecules *see* radioactive tracers

laboratories

see also acoustical laboratories

Gran Sasso underground lab., description 4-14272

multineuron studies, laboratory design 4-47113

neutrino laboratory at Rovenki nuclear power station, USSR, research and appls. (*Russian*) 4-469

laboratory apparatus and techniques

see also specific instruments and techniques, e.g. balances, plasma probes, vacuum techniques

see also instrumentation; instruments; measurement; student laboratory apparatus; test equipment; test facilities; testing

applied psychology laboratory, visual and acoustical perception stations, microprocessor-based systems 4-52550

automatic speech recognition work at British National Physical Laboratory (1981-3) 4-19674

balances, developments 4-53657

biological research, telemetry equipment for ECG and temp. meas. in lab. animals 4-47107

chromatography automation system 4-3432

data display option for laboratory microcomputers, using CRO 4-17882

data handling using Apple II computer 4-27492

data management, processing and display, integrated approach for marine research 4-22092

distributed laboratory data collection and management 4-8882

furnace for physics expts., microcomputer controlled 4-262

general-purpose laboratory workstations, productivity and data quality improvements, appls. 4-8881

high-voltage resistive dividers, BCS Laboratories at AERE, comparative methods, traceability 4-53705

laboratory microcomputer system Labtech 70, 650 kHz analog data acquisition speed 4-8880

low cost automatic alpha counter for laboratory use 4-14290

management information system, Perkin-Elmer LIMS/2000 4-27499

metrology facilities, establishment in developing countries for instruments calibration 4-48118

MICRODARE/LABNET software for instrumentation, control, and simulation 4-27493

microprocessor-aided Technicon autoanalyser, for wet chemistry analysis 4-27495

Osram-GEC laboratory automated mirror photometer 4-22820

positive displacement vacuum-sweep dispenser for small particles 4-22783

radioactive data spectrometer recording with a microprocessor-oriented device, automation 4-52534

sugar crystallisation control system (*Japanese*) 4-30618

US breast scanners, commercial vs. lat. instruments, performance comparison 4-3601

vacuum/pressure pumps, maintenance 4-8916

VisiCalc program for custom computerized analytical reports and data reduction 4-27491

labryrith speakers *see* loudspeakers

Lacertids *see* BL Lacertae-type objects

ladder filters *see* filters

lakes

see also rivers

acidification indicator, use of diatoms in sediments 4-41409

acidification of headwater lakes, retarding influence of sediments 4-3505

Adirondack lakes, New York, USA, acidification due to polluted rain 4-46917

advective mixed-layer models, velocity shear effects 4-36371

Bonneville, Utah, USA, isostatic rebound study 4-52668

Bonneville, W United States, reinterpretation of last two lake cycles 4-36420

Chicot, Arkansas, turbid lake light penetration 4-17187

Erie, eutrophication in eighteenth century, sediment diatom evidence 4-22026

Esthwaite Water, Cumbria, colloid stability of Fe oxide particles 4-52767

evaporation rates 1-D computer model of energy budgets 4-52790

Flat Tops wilderness area, Colorado, USA, lake alkalinity and sensitivity to acidification 4-52769

Florida, USA, lake sensitivity to acid rain 4-52781

Fontana, North Carolina, surficial sediments heavy metals, origin 4-42000

glacial Lake Agassiz, independent registration of Emerson Phase in NW Minnesota and NW Ontario 4-31527

glacier-fed natural lakes, sedimentation processes and implications for hydroelectric storage lakes 4-41988

Great Lakes of N America, ice cover statistics, 4-22004

humic substances contrib. to acidity 4-31536

Huron, near-surface meas. of quasi-Lagrangian vels. 4-36378

interaction with variably saturated porous media, numerical simulation 4-52787

Lago Maggiore, Ispra site aspects (*Italian*) 4-13010

Lake Dieri (ancestral Lake Eyre), South Australia, Pleistocene environment of sedimentation 4-26724

Lake of Lugano, Switzerland, topographic Rossby wave obs. 4-8247

limnology, effect of cloud cover in Landsat data 4-31653

Loch Lomond, Scotland, sediments, statistical comparison of palaeomagnetic directional records 4-36280

Lake of Lugano, Switzerland, internal wave dynamics 4-36416

lakes continued

NE Mali, radiocarbon chronology of Holocene hydrological changes 4-17178

Maracaibo, cone-shaped hypolimnion and local reactor as outstanding eutrophication features 4-52761

McNearney Lake, Wisconsin, USA, acidity due to snowpack melting 4-52768

Michigan, 1978 November 7 winter land breeze, simulation 4-36434

Michigan, eutrophication in eighteenth century, sediment diatom evidence 4-22026

Michigan, low-freq. current fluctuations, numerical simulation 4-52766

Michigan, vars., in distrib. of suspended particles during upwelling event (October 1980) 4-52763

Mono Lake, California, Pu speciation 4-47314

Nethravati estuary, Mangalore, India, physico-chem. parameters of brackish ponds 4-42181

New York, lakes sediments, organic and inorganic S constituents 4-41391

Ontario, Canada, acidification retarded by sediments 4-3505

Ontario, eutrophication in eighteenth century, sediment diatom evidence 4-22026

Ontario, sediment metal pollution in Hamilton and Toronto harbours 4-12499

Ontario, turbulent vel. beneath wind waves 4-47283

pollution, acidification study, lake pH and atmospheric deposition analysis in USA 4-41392

pollution dispersal from outlets, calc. of max. concs. 4-21597

reservoir lake-waves, calc. of return period (*Chinese*) 4-31543

Searles Lake, California, ³⁶Cl dating of saline sediments 4-31458

sediment re-suspension due to wind over shallow lake 4-58208

sediments, ¹⁴C meas. and atm. CO₂ var. for past 30000 yrs. 4-58273

sediments, statistical comparison of palaeomagnetic directional records 4-36280

seismic waves in canyons of hydroelectric power station sites 4-36305

Silver Lake, New York State, USA, inflow water short-circuiting to outflow 4-52774

Skilak Lake, Alaska, varve thicknesses rel. to climatic parameters and palaeoclimatic reconstruction 4-36421

St. Moritz lake, Switzerland, snow and slush on floating ice 4-22021

subterranean reservoirs, hydraulic calcs., rock permeability influence 4-5950

Superior, anal. of recent diatom assemblages in sediments 4-52762

Sweden, unique tributary chloride load from Mineral River 4-52764

Switzerland, crust heat flow determ. from lake sediment obs. 4-47204

S Tibet, heat flow meas. in lake sediments 4-26675

variable-density hydrodynamic circulation, two dimensional model validated 4-36413

water vapour flux over water surface 4-31495

waves generated by wind, frequency spectrum theory 4-26711

Ziway-Shala Lake Ethiopia, stratigraphy and geomorphology rel. to ages of post-glacial arid episodes 4-22072

Lamb shift

formation in 2S state and obs. of Lamb shift transition 4-49190

gas lasers, inhomogeneity effects 4-1388

high-Z atoms, Lamb shift 4-38096

hydrogenic ions, Lamb shift semiclassical interpretation 4-28404

methanol, vibr. transition, Stark const., optoacoustic Lamb dip spectroscopy 4-49074

methanol vibration level Stark shift meas. by optoacoustic Lamb dip spectroscopy 4-54769

molecular dynamics in intense laser fields, dressed pot. surfaces, radiative corrections 4-1073

Mollow's theory, appl. to Lamb-dip line shape 4-43826

muonium, Lamb shift meas. using beam-foil spectroscopy RF technique 4-49189

resonant atoms, statistical quantum electrodynamics 4-48895

Ci¹⁶⁺, 1s Lamb shift, H-like X-ray spectrum 4-48974

H, discrete quantum mechanics fundamental length bounds determ. 4-17734

H₂O vapour, 28 μm laser line, Lamb dip and linewidth 4-38253

He Lamb shift, 1s2p-1s3d transitions fluoresce. obs. 4-23652

Li⁺, Lamb shift 4-54641

³²S¹³⁺, Lamb shift, reson. meas. 4-54642

Ti XXII, dielectronic satellite spectra 4-38121

Lamb waves *see* surface acoustic waves

lambda point *see* liquid helium-4; superfluidity

laminar flow

see also laminar to turbulent transitions

aerodynamic research, IR thermal images processing appl. 4-29213

air past heated backstep, laminar flow, heat transfer 4-38832

analysis of flow through corrugated tube, appl. to arterial prostheses 4-38880

autocatalytic models for turbulent flows in tubes 4-5878

axial laminar flow through circular pipe, viscosity variation with temp. and conc. 4-34183

axisymmetric micropolar boundary layer on a long thin cylinder 4-38788

axisymmetric mixing layer, natural large scale struct. 4-38837

Bingham fluid, laminar entrance region flow 4-24404

blood flow in circular duct, laminar heat transfer 4-47018

blood velocity profiles in annular perfusion chamber measured by laser-Doppler velocimetry 4-47027

blunt cones in supersonic flow, unsteady aerodynamic characteristics, boundary layer influence 4-44630

boundary layer on plate in inhomogeneous chem. props., stationary convective diffusion 4-5886

boundary layers, Gortler instability, suction effect on transition 4-49822

boundary layers, low speed, integral relations method appl. 4-5870

Brownian particle suspension, diffusion in laminar flow, correl. functions and effective transport coeff., shear rate depend. 4-38787

buoyancy-induced laminar flow in porous media, multiple steady-state solns. 4-44720

cavity flow, laminar driven, convection, finite difference method 4-34093

chemical equilibrium laminar or turbulent three-dimensional viscous shock-layer flows 4-34126

chemically reactive flow, heat and mass transfer coeff. calc. 4-34202

circular cylinder with ribs, boundary layer development, laminar-turbulent transition 4-10640

confined laminar impinging two-dimens. jet, mass transfer 4-55428

convection to rot. disks in non-Newtonian power-law fluids 4-5888

laminar flow continued

convective mass and heat transfer of reacting particles with flow, non-linear boundary-value problems 4-38913
 convective mass transfer at rigid and mobile interfaces in laminar flow (*German*) 4-19837
 decelerating laminar boundary layer stability 4-38790
 diffusional deposition from laminar viscous stream in rectangular channel 4-29162
 dipolar fluid flow due to suddenly accelerated flat plate 4-5869
 drops in forced flow, laminar condensation, numerical solns. 4-49872
 drops in forced flow, laminar condensation, singular perturbation technique 4-49871
 ducts, rectangular, internally finned, laminar convective flow 4-10780
 dusty gas, unsteady flow in elliptical annulus 4-1835
 Falkner-Skan equation with mass transfer, Meksyn series method calcs. 4-34039
 ferrofluid, hydrodynamics and thermal props. in magnetofluid seals 4-38906
 film condensation in tube with upward vapour flow 4-5871
 film flow over sphere, hydrodynamic stability 4-29056
 fission reactors, particulate debris, 1-D model of heat removal 4-54336
 flame, laminar, cylindrical stationary in vortical medium, linear longwave stability 4-7726
 flame, laminar, propag. in closed container, anal. using finite difference scheme 4-34041
 flames, curvilinear stationary, linear long-wavelength stability 4-7725
 flames, premixed, laminar, extinction by stretch and radiative loss 4-41215
 flat plate flow, momentum and heat transfer variable fluid props. effects 4-19839
 flat plate heating in supersonic flow, unsteady laminar boundary layers 4-29124
 flow structure in laminar boundary layers with adverse press. gradient, acoustic perturbation effect 4-44523
 flow through packed column, wall effect 4-10751
 flows with strong interaction and separation, global press. relax. anal. 4-10629
 fluid transient control, matched impedance 4-10782
 forced convection film condensation on horizontal tube, press. gradient effect 4-24419
 forced convection in fluid-flow in heat exchangers corrugated wall channels 4-1712
 free convection around horizontal circular cylinders 4-1718
 free convection heat and mass transfer rates from inclined plate interfacial vel. effects 4-38807
 free convection over horizontal circular cylinder with blowing and suction (*Chinese*) 4-38822
 fuel, liquid, surface diffusion combustion of heterogeneous systems (*Russian*) 4-12372
 gases, compressible, laminar flow calc. in presence of heat transfer in two dims. channels 4-44521
 Graetz problem, eigenvalue upper and lower bounds by weighting function approxs. 4-13508
 Graetz problem with axial fluid conduction and uniform heat flux, solution using numerical methods (*Italian*) 4-24477
 heat transfer numerical props., conf., College Park, USA, Sept. 1981 4-31973
 heated ellipsoid, delayed laminar-turbulent transition surface roughness effect 4-10641
 heavy fuel oils laminar flow through internally insulated pipelines 4-10765
 high viscosity non-Newtonian fluid, laminar pipe flow, heat transfer 4-19795
 hypersonic boundary layers for slender axisymmetric bodies with large injection or mag. field 4-44639
 incompressible fluid laminar boundary layer heat exchange optimisation, heat balance eqn. 4-24436
 incompressible laminar-separating flow, Navier-Stokes eqn. approx. 4-49800
 isomeric flow in eccentric ring channels (*Russian*) 4-43626
 isothermal free jet, buoyancy and diffusion (*German*) 4-5939
 jets, spreading rates and modes 4-5936
 laminar film boiling, finite difference method study 4-24421
 laminar flow at supercritical press., local heat transfer coeff. 4-14945
 liquid metals, natural convection heat transfer from downward facing horizontal surfaces 4-44574
 low Reynolds no. flow past elliptical cylinder 4-29057
 low-conductivity liquid, charging in pipe flow with surface electrochem. reaction 4-5976
 magnetic fluid, pipe flow resist. in nonuniform transverse mag. field 4-29186
 marginal separation, integral eqn. 4-34036
 Maxwell fluid exponential flow, laminar boundary layers along infinite plate with uniform suction 4-44524
 methane-pulverised coal flames, spectroscopic obs. 4-46766
 MHD channel flow with anisotropic conductivity, stability anal. 4-10789
 MHD flows, 3D in rectangular duct with thin cond. walls and strong nonuniform mag. fields 4-29201
 MHD of laminar flow in slowly varying tubes in axial mag. field 4-34199
 natural convection, laminar regime, vel. profiles along heated wall of rectangular enclosure 4-38826
 non-Newtonian fluid, laminar flow in channel of twin screw mixer (*German*) 4-49862
 non-Newtonian fluid, laminar nonisothermal pipe flow, heat transfer and drag 4-19794
 parallel and contra flow, laminar combined convection from horizontal cylinder 4-24418
 pipe flow, instability associated with sudden expansion 4-5874
 pipe flow with liq. solidification, heat transfer 4-44570
 pipeline transport, laminar heat transfer problems, pseudospectral solutions 4-5960
 porous annulus, laminar flow and heat transfer 4-14962
 Power-law fluid flow in straight channel hydrodynamic inlet region 4-44735
 premixed supersonic free shear layer, with chem. reactions, stability 4-44638
 pulmonary gas mixing during spontaneous breathing and at high-frequency ventilation 4-47019
 pulsed system dispersion, passive dispersion in porous media 4-10755

laminar flow continued

radial flows between two parallel disks, flow separation and heat transfer 4-44569
 recirculating flow in tubes with circumferential fins, heat transfer 4-55401
 rotationally oscillating cylinder in crossflow, heat transfer 4-24422
 secondary flow and turbulence in a cone-and-plate device 4-38838
 separation point meas. by laser Doppler anemometer 4-38789
 shear layers, free, natural instability 4-29059
 smooth horizontal pipe, isothermal two-phase flow of air and aqueous polymer solns. 4-44723
 stability, nonlinear, constant vorticity solns. of plane Euler eqn. 4-19850
 stream function vorticity 4-24403
 subsonic flow, composite velocity procedure for the compressible Navier-Stokes equations 4-29115
 suspension flows in plate-and-frame ultrafiltration units 4-10638
 suspensions, two-dimensional, viscosity, cluster statistics, percolation theory 4-29164
 thermal boundary layers, laminar convective heat transfer 4-1722
 thermal EHD induction pump with harmonics and inhomogeneous fluids 4-44750
 thermosyphon, vertical asymmetric heating, laminar mixed convection (*French*) 4-1716
 thin film flows, third order boundary value problems, asymptotic soln. 4-34038
 transient forced convective heat transfer anal. by boundary layer approx. 4-33099
 transient heat transfer in laminar pipe flow, thermal entrance region 4-1717
 two-phase Couette flow between two plates examined using eqns. of laminar boundary layers 4-10729
 two-phase flow measurement using laminar flowmeter (*Italian*) 4-49867
 two-phase systems, detonation, shock wave, laminar boundary layer, mass exchange 4-5973
 unsteady laminar boundary layers with separation, numerical anal. using on param. integral method 4-14946
 vertical plate fin, conjugate natural convection, similarity soln. 4-1721
 viscoelastic fluid, unsteady laminar flow through hexagonal ducts under time-varying pressure gradient 4-1836
 viscous incompressible laminar fluid flow between rot. disks, Navier-Stokes eqn. soln. 4-29095
 viscous liq., wave hydrodynamic excitation by hot surface (*Russian*) 4-29102
 water, unsteady three-dimensional mixed convection flow with temperature dependent viscosity 4-38816
 water spray in a condensable environment (steam), laminar flow 4-44692
 wavy surfaces, linear and nonlinear effects 4-19788
 Cd-Zn eutectic alloy, directional solidification, forced convection flow effects 4-21201
 He at supercritical press., viscous quasistable pipe flow, heat transfer and drag calcs. 4-14944
 Hg, spiral vortices in a Taylor instability subjected to an external magnetic field (*French*) 4-38793
 LiBr, falling wavy laminar liq. films., heat and mass transfer coeff. 4-19805
 Pb-Sn eutectic alloy, directional solidification, forced convection flow effects 4-21201

laminar to turbulent transitions

aerodynamic research, IR thermal images processing appl. 4-29213
 boundary layer, laminar, turbulence generation, determ. method 4-44527
 boundary layers, Gortler instability, suction effect on transition 4-49822
 boundary layers, transitional and turbulent, development of counter-rot. streamwise vortices 4-5883
 boundary-layer stability, numerical expts. 4-49802
 circular cylinder with ribs, boundary layer development, laminar-turbulent transition 4-10640
 critical flow round smooth circular cylinders 4-29060
 cylinder, streamlined by transverse flow, intensified heat transfer at critical values of Reynolds number (*Russian*) 4-14968
 front between fluids, instability in porous medium 4-1822
 geostrophic turbulence transition, in rot. annulus, dims. meas. 4-1699
 heated ellipsoid, delayed laminar-turbulent transition surface roughness effect 4-10641
 MHD flow, turbulent flow transition, stochastic self-excited oscills. 4-38907
 oscillating tank, laminar to turbulent flow transition, laser Doppler anemometer meas. 4-38798
 reacting polymer jets, turbulent boundary layer treatment 4-44549
 resonant interaction of disturbances at laminar-turbulent transition in boundary layer 4-38803
 rotating axisymmetrical bodies, spiral vortices, boundary layer transition 4-1735
 turbulent spots, ensemble mean particle paths 4-10639
 viscoelastic flow, drag reduction parameter with polymer additives 4-44660
 Hg, liq. tube flow, heat transfer, temp. distrib. in longit. mag. field 4-38824

laminates

angle-ply, antisymm., design sensitivity anal. 4-49740
 aramid fibre reinforced Al alloy laminate, flight simulation behaviour, fatigue crack growth 4-12282
 beams, bimodular sandwich beams, vibrations, theory and expt. 4-1645
 beams, curved, of bimodulus material, finite element anal. 4-33938
 beams, fibre reinforced laminates, thin-walled open cross sections, Vlasov theory of buckling 4-49728
 beams, laminated anisotropic, of bimodulus materials, finite element analysis 4-49696
 bimodular composite laminates, transverse shear effects 4-1621
 brass/Nb alloy/brass three-layered composite, strain rate influence on deform. interaction between components 4-57284
 composites, steady-state point source excitation 4-1663
 cylindrical shells, axial buckling (*Japanese*) 4-24361
 damping props. 4-40849
 delamination buckling and growth 4-1636
 disc of wood laminate, vibr. modes 4-5832
 elastic, boundary-value problems soln., static and dynamic problems, thermal cond. 4-44386
 fatigue crack kinetics, analytical description 4-55377
 fibre reinforced, multidirectional, thin-walled structural elements, failure modelling 4-10607

laminates continued

- fibre reinforced laminates, bilinear failure analysis 4-16510
- fibre reinforced three-component laminated composites, fracture criterion 4-12167
- float glass, thermally polished, defectiveness and strength 4-12107
- glass fabric, low-cycle loading effect on mech. and LF dielec. characts. 4-46607
- glass fabric epoxyphenol laminate, fatigue, moisture influence 4-46609
- glass fibre reinforced epoxy, mech. props. at cryogenic and elevated temp. 4-51772
- glass fibre reinforced laminates, environmental stress corrosion rel. to toughness design 4-16519
- glass fibre reinforced plastics, elevated temp. testing for comparison of thermal and mech. props. 4-41112
- glass fibre reinforced polyester laminate, multiparametric characterisation of cracking 4-26033
- glass fibre reinforced polyester resin, elastic and strength properties 4-16436
- graphite fibre reinforced epoxy laminate, transient wave propag. produced by steel ball impact 4-14916
- graphite fibre reinforced epoxy laminates, low vel. impact behaviour 4-51779
- graphite fibre reinforced epoxy laminates, low vel. impact damage, residual strength assessment 4-51780
- graphite fibre reinforced epoxy resin, out of plane thermal expansion, holographic interferometry 4-20380
- graphite fibre reinforced epoxy unidirectional laminates, mech. props. rel. to high temp. welding exposure 4-3183
- graphite reinforced epoxy composite shells, nonlinear stress-strain, strength response 4-51730
- interlaminar stresses, failure prediction 4-19773
- isotropic, Love waves, dispersion relations analysis 4-44468
- lamellar composites, arbitrarily oriented cracks, stress intensity factors 4-1674
- laminated wall subjected to periodic thermal effects, optimisation 4-14876
- layered composites, effective dispersion theory 4-1611
- mica reinforced epoxy insulation, interlaminar shear strength 4-26126
- multilayer laminates, anal. using three-dimens. super-elements 4-55323
- notched composites, failure strength 4-35634
- panels, angle-ply laminated, antisymmetric, circular cylindrical, free vibrs. 4-33993
- periodically layered elastic composites, stress pulses propagation 4-19753
- plate, circular, two layer, with initial penny-shaped delamination, delamination buckling dynamics 4-24362
- plate, finite size laminated composite, uniaxial tension, stress distrib. around semi-circular edge notch 4-1675
- plates, anisotropic, rectangular, unsymm. laminated, transient response, symm. considerations 4-33935
- plates, composite, moderately thick, triangular shear-flexible finite element 4-14882
- plates, multilayer, laminated, thick, and thin, invariant eight-node hybrid-stress element 4-55322
- plates, multilayered, stress anal. around circular holes 4-5792
- plates and shells, one- and three-layer, of complex geometry, stress-strain state, numerical study 4-55329
- plates with layers with differing elastic characts., bending theory 4-28991
- polyethylene-(ethylene-vinyl acetate) copolymer composites, TSC and cond. meas., interface effects 4-35007
- polyethylene-ethylene vinyl acetate laminates, elec. cond. interface effects 4-34986
- polymer laminate structs., props., HV appl., review 4-2876
- polypropylene woven scrim laminate material, light transmission between 2 and 500 μm , low cost filter appls. for solar far IR studies 4-40387
- residual stresses and their effects in composite laminates 4-14902
- shell, cylindrical, orthotropic, with nonuniform boundary conditions, stress state investig. 4-44393
- shell, sandwich type, cylindrical, immersed in compressible fluid stationary reaction to axisym. press. wave propag. 4-53497
- shells, cross-ply laminated oval cylindrical, free vibr. anal. 4-19762
- shells, flexible, laminated, statics problems, nonlinear boundary-value problem soln. in supercritical region 4-19732
- shells, spherical, three-layered, stability 4-55359
- sphere, hollow, radial vibrs. 4-10585
- steel three-layered composite, strain rate influence on deform. interaction between components 4-57284
- two-phase, creep effect on elastic deform. 4-44415
- viscoelastic layered composite plates, higher order dynamic theory 4-38755
- Ag-Pd cyclic multilayered alloy coatings, electroplating 4-12036
- B fibre reinforced epoxy, three-dimens. curing stress 4-35642
- C fabric laminate, notched, fatigue life and strength distrib. (*Japanese*) 4-21308
- C fibre reinforced epoxy laminates, failure, edge stresses effect 4-26037
- C fibre reinforced epoxy laminates, impact and subsequent fatigue damage 4-57316
- C fibre reinforced epoxy resin laminate, thermal expansion, strain deviation from lamination theory 4-25063
- C fibre reinforced epoxy resin, notch, compressive strength, effect of environment 4-51831
- C fibre reinforced epoxy-polyethersulphone, fatigue behaviour, effect of morphology 4-51778
- Nb-Ta laminated composites, intrinsic diffusion parameters 4-56095
- Ti glass fibre reinforced plastics, elec. and mech. tests (*Polish*) 4-57240
- TiC/Ni microlaminates, evaporated, prep. and props. 4-15785

laminations

- Fe-air lamination, 3-D finite element model (*French*) 4-37122

lamp accessories*see also lamps*

- halogen lamps illumination characts. obs., optical projectors appl. (*Czech*) 4-55153
- quartz-Hg lamp, type DRT-220, luminous intensity thermal stabilisation device 4-10387

lamps*see also discharge lamps; filament lamps; light sources*

- fibre optic clinical headlamp, surgery appl. 4-8065
- whiteness evaluation method, CIE standards (*Hungarian*) 4-27558

Landau levels

- crystal electrons on square lattice, Landau level subband struct. 4-25264
- diamagnetic excitons, odd states in crossed mag. and elec. fields 4-11450

Landau levels continued

- electron in homogeneous mag. field and plane wave state, wavefunction, adiabatic and sudden approx. 4-6718
- fractional quantised Hall effect, many-body theory 4-34938
- graphite:³¹P, ion implanted, Landau level study 4-29908
- graphite, neutron irradi., CESR study 4-25638
- narrow-gap semiconductor, mixed zincblende struct., free carrier magnetosorption, theory 4-16184
- quantized Hall effect and localization, review 4-50847
- quasi-two-dimensional systems, mag. quantum oscills. 4-15893
- semiconductors, hot electron relax. in strong mag. field 4-11537
- semiconductors, magneto-optical interband transitions, wave vector depend. 4-20950
- semiconductors, magnetophonon and spin-magnetophonon oscills. 4-25376
- single-photon processes between Landau levels in non-relativistic quantum electrodynamics 4-13856
- two-dimensional CDW state in strong mag. field, density functional theory 4-6719
- two-dimensional disorder in the presence of a uniform magnetic field 4-2554
- two-dimensional electron delocalisation in mag. field 4-11469
- two-dimensional electron gas, anomalous quantum Hall effect 4-2572
- two-dimensional electron gas filled with Landau levels, Hall voltage 4-2571
- two-dimensional electron gas in quantising mag. field, Coulomb and harmonic interactions 4-6720
- two-dimensional electron in random pot. under strong mag. field, Borel-Pade anal. 4-56305
- two-dimensional system, role of edge currents in quantised Hall effect 4-39864
- two-dimensional systems, quantised Hall effect 4-20676
- Wigner crystal, two-dimensional, static and dynamic props. in strong mag. field 4-6723
- GaAs/AlGaAs quantum well lasers, spontaneous emission in strong mag. field 4-38477
- GaAs, Landau level reson. polaron coupling and impurity transitions 4-11459
- GaAs, polarons, cyclotron resonance study under hot electron conditions 4-6717
- GaAs-AlGaAs heterostructures, Hall effect studies 4-11583
- p-Ge, light hole energy spectrum and quasibound Coulomb states 4-25212
- ³He liquid, fully spin-polarised, microscopic theory 4-6581
- ³He liquid, quasiparticle scatt. amplitude, parametrisation 4-6579
- n-HgTe, cyclotron resonance, magnetoabsorption 4-34862
- Si/dielectric/metal struct., electron gas Hall conductivity in inversion channels, ultraquantum limit 4-30077

Landé g-factor *see g-factor***Landé splitting factor** *see g-factor***landing fields** *see airports***Langmuir films**

- cadmium stearate, Langmuir-Blodgett film on semicond. substrates, RHEED obs. 4-29835
- cadmium stearate Langmuir-Blodgett multilayers, struct. effects on elec. cond. 4-35107
- copper phthalocyanine Langmuir-Blodgett films, gas detector appls. 4-243
- fatty acid salt Langmuir-Blodgett films, props. and appls. (*Japanese*) 4-39671
- haemoglobin, Langmuir-Blodgett films, dielec. props. 4-16830
- Langmuir-Blodgett film coatings for oxidised Si wafers, interface defects, ESR 4-46106
- Langmuir-Blodgett films in dielectric and biological research 4-35360
- lipid acid, geminally branched, Langmuir-Blodgett films, surface plasmons and XPS 4-6649
- merocyanine Langmuir-Blodgett films, thermochromic props. 4-25735
- monolayers formation, using Langmuir's trough, transistor appls. (*German*) 4-16308
- organic acid monolayer at gas-water interface, phase controlled surface reactivity, FTIR spectra 4-7376
- porphyrin Langmuir-Blodgett films, elec. conductivity meas. 4-56450
- proteins and constituent amino acids, dielec. props. and far IR spectra 4-36098
- transducer and other appl. 4-22766
- ω -tricosenoic acid, Langmuir-Blodgett film layers, model for deposition 4-29849
- ω -tricosenoic acid Langmuir-Blodgett films study 4-56171
- vibration isolation of a Langmuir trough, surface waves at air-water interface meas. 4-35566

Langmuir probes*see also plasma diagnostics*

- arc discharge, unipolar initiation and sustainment by microsecond pulse plasma 4-15318
- dichlorodifluoromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
- electron distribution function in flowing afterglow plasma, Langmuir probe meas. 4-10886
- flowing afterglow/Langmuir probe (FALP) apparatus for reaction processes study 4-34321
- low-current vacuum arc, electron temp., Langmuir probe meas. 4-24664
- Pretext tokamak, edge turbulence studied using fixed-Langmuir probe diagnostic 4-55537
- single-ring magnetic cusp ion source, diagnostics and appl. 4-13724
- tetrachloromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
- trichlorodifluoromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
- trichloromethane, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
- wide-range Langmuir probe sweep circuit 4-24629
- Cl₂, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534
- H₂O⁺, dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
- NH₄⁺, dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
- NO⁺, dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366

Langmuir probes continued

- O₂⁺, dissociative recombination coeffs. at thermal energy, flowing afterglow/Langmuir probe study 4-34366
 SF₆, thermal electron attachment coeffs., flowing afterglow/Langmuir probe study 4-33534

lanthanides *see rare earth metals***lanthanons** *see rare earth metals***lanthanum**

see also nuclei with

- atom bremsstrahlung spectrum, energy depend. of high energy tip 4-5455
 dissolution in La-Sn melt at high temp., enthalpy (*French*) 4-50511
 f electron characterisation using EELS and XPS studies 4-56261
 hyperfine interaction in 3-d ferromagnets 4-39855
 liquid, electronic conduction, s-d band hybridisation, theory 4-45719
 resonant photoemission near 3D thresholds 4-21112
 spectra of short-wavelength edge of bremsstrahlung generated by electrons 4-2245
 superconducting transition temp., press. depend. 4-2668
 BaTiO₃:La, lifetime spectra of positrons 4-7267
 CaF₂:La, defect struct., neutron diff. study 4-15463
 CaF₂:La, impurity-defect clusters, EXAFS study 4-16275
 He II photoelectron spectra, features in valence band region 4-16296
 La I hyperfine struct. and isotope shifts, determ. by high-resolution optical-galvanic spectrosc. 4-18961
 La XIII 4d³4d⁵p transition array anal., Rh I isoelectronic series 4-48973
 La³⁺, inner 4d shell photoionisation, orbital collapse 4-9732
 PbF₂:La, Ce, dipolar relax. times, anomalous press. depend. 4-11841
 p-PbF₂:La, superionic cond. and point defect parameters 4-45390
 PbTiO₃:La ceramic, internal stress anisotropy 4-39373
 SrO_{0.9}Ba_{0.1}Nb_{0.5}O₃:La dislocation-free cryst., dielec., SAW, and electro-optical props. 4-30400
 SrCl₂:La, defect struct., neutron diff. study 4-45125
 SrF₂:La, polarisation and depolarisation processes 4-16140
 SrF₂:La, surface charge accumulation and clustering, TSC studies 4-46176
 YIG:La, Ga bubble garnet films, annealing and mag. props. 4-56745
 YIG:La film for magnetostatic wave device for beam steering and spreading 4-56728

lanthanum alloys

see also lanthanum compounds

- rare earth alloys, (La,R)₂Sn₃, R=Ce-Nd, Sm, Gd-Er, spin disorder resist., anomalous behaviour 4-56331
 Au-La_{1-x} amorphous alloy, interdiffusion reaction prep. and free energy 4-45429
 (Ce_{1-x}La_x)Be₁₃, valence regime mag. props. 4-6949
 Ce_{1-x}La_xMn₂Si₂, mag. props., X-ray diff., magnetometric meas. 4-11682
 Ce_{0.9}-La_{0.1}Th_{0.10}, phase diagram and crit. points, Fermi liquid model 4-55966
 Fe-B-Tb-La, prod. of hard mag. materials 4-56699
 Fe-Al-La, liq., enthalpy of form. 4-51628
 (Fe₂B₁₈)_{0.9}La_{0.1}Tb_{0.1}, amorphous alloy, magnetostriction, thermal variations 4-25625
 Gd_{1-x}La_xAl₂, g-factor shifts, ESR meas. d-character of band electrons 4-51133
 La₉₀Ga₁₀, metallic glass, EXAFS spectra 4-57035
 La-Al metallic glasses, elec. resist. and transverse magnetoresist. 4-45728
 La-Al metallic glasses, electronic transport props. 4-56310
 La-Pr-Nd mischmetal magnets, mag. props. 4-25597
 La-Pr-Nd-Co-Cu-Fe-Mg, La-Pr-Nd-Co-Cu-Mg, synthetic mischmetal alloys, mag. props. 4-7013
 La-Sn melt, La dissolution enthalpy (*French*) 4-50511
 LaAgPb, lattice parameters, X-ray diff. study 4-2144
 La₄Au, high press. synthesis and supercond. props. (*Chinese*) 4-57134
 La_{1-x}Ce_x(Pb_{1-x}Sn_x)₃, mag.-nonmag. transition of Ce impurities, elec. resist., supercond. transition temp. 4-56333
 La_{1-x}Ce_xRh₂, mixed valent Kondo system, elec. resist. saturation, mag. susceptibility meas. 4-56332
 LaCuSi, cryst. struct., neutron diff. study 4-45059
 La₂Eu_{1-x}Pd₂Si₂, mixed valence alloy, Mossbauer isomer shifts 4-2848
 La(FeAl)₁₃, Mossbauer spectroscopy, magnetisation, zero field susceptibility meas. 4-35287
 La(FeAl_{1-x})₁₃, cubic intermetallic cpds., mag. props. 4-56623
 La_{1-x}Gd_xAl₂, electronic and mag. props., bremsstrahlung isochromat spectra 4-21063
 La₂Gd_{72-x}Ga₁₈B₁₀, metallic glass, mag. props. study 4-46026
 La₂Mg₁₇, hydrogen storage behaviour (*Chinese*) 4-16803
 La₂Mg₁₆Ni, hydrogen storage behaviour (*Chinese*) 4-16803
 LaMn₂Si₂, X-ray spectroscopy study 4-46368
 LaNi₅, cryst. struct., neutron diff. studies 4-11053
 LaNi₅ films for H₂ separation 4-46794
 LaNi₅, H storage, thermodynamics, cryst. struct. (*Japanese*) 4-52220
 LaNi₅, H₂ absorption, plateau pressures, H aliquot size effect 4-2442
 LaNi₅, intrinsic cycling degradation and annealing procedures 4-20362
 LaNi₅, surface poisoning and regenerating by sulphides 4-41247
 La₂Ni₇, absorption of H, mag. props. study 4-35170
 LaNi_{4.6}Al_{0.4} single- and dual-hydride bed devices dynamic characts. 4-21593
 LaNi₅D_x, one and two-phase states, struct., neutron scatt. study (*Russian*) 4-39215
 LaNi₄Fe, ferromagnetic order, Curie temp., magnetisation 4-56542
 LaPd₃, XANES spectra, expl. evidence for shake-down peak 4-35518
 La_{1-x}Pr_xAl₂:Gd³⁺, Van Vleck paramagnet, Stark splitting and exchange forces, EPR study 4-30145
 La_{0.75}-Pr_{0.25}Al₂(Ga₂S₃), crystal field effects study 4-56298
 La_{1-x}U_xSn₃, elec. resist., supercond. transition temp. meas. 4-56474
 La_{0.9}Yb_{0.1}Al₂, surface and bulk valence, photoemission, mag. susceptibility meas. 4-56288
 LiNi_{5-x}Cu_x, enthalpies of formation 4-41244
 Ni-La, ion implanted, pulsed laser treatment, surface alloying, trapping, and damage 4-15531
 Pr_{0.25}La_{0.75}Al₃, elec. resist., Kondo-like behaviour 4-56334

lanthanum compounds

see also lanthanum alloys

- lanthanum p-hydroxybenzoate SO₄.3H₂O, mol. and cryst. struct., thermal behaviour 4-14604
 PLZT, hot-pressed, translucent, prep., characterisation and props. 4-51607

lanthanum compounds continued

- PLZT-10, ferroelectric ceramic, light modulation, linear operators (*Russian*) 4-28822
 ZrF₄-BaF₂-LaF₃ glass fibres for telecommunication appls. 4-28797
 β-Al₂O₃-Na₂O-M₂O₃ (M=La, Nd), cryst. struct., ionic cond. and EPR studies (*French*) 4-39582
 Ba_{1-x}La_xF_{2+x}Gd³⁺, ionic thermocurrent and defect struct. 4-20899
 Ba_{0.95}La_{0.05}Nb₈Ti₂O₃₀ transparent ceramics for electro-optical appls. 4-35375
 Ca₂F-LaF₃ solid solns., ionic cond. studies 4-56069
 CaLaF₆, tridimensional mag. couplings, Neel temp. and bond covalency 4-6977
 Cs₂NaLa_{1-x}Nd_xCl₆ crystal, fluoresc., conc. and temp. quenching 4-46316
 Cs₂WO₄-La₂(WO₄)₃, phase diagram, cross-section of Cs₂O-La₂O₃-WO₃ system 4-51638
 Cu_{0.28}LaTe₂, cryst. struct., disordered tunnel struct. 4-11087
 GaLa₃OS₂, cryst. struct., X-ray diff. study (*French*) 4-20152
 Ga₂S₃-La₂X₃-MnS (X=S,O), glass formation, EPR and optical study (*French*) 4-6508
 (Gd,La)MgB₆O₁₀Tb, energy transfer, luminesc. 4-46313
 GeO₂-La₂O₃, phase diagram, glass transition and thermal expansion 4-11255
 KCaLa_{1-x-y}Ce_xTb_y(PO₄)₂, green emission and energy transfer mechanisms 4-46304
 KPO₃-La₂P₂O₇ system, compound formation, DTA, X-ray and IR absorpt. obs. (*French*) 4-50249
 (La, Sm, Lu, Tm, Ca)₃(Fe, Ge)₂O₁₂ bubble garnet film, mag. props. study 4-56740
 (La, Sm, Lu, Tm)₃(Fe, Ga)₂O₁₂ bubble garnet film, mag. props. study 4-56740
 LaAlO₃:G³⁺, EPR powder spectra, simulation and interpretation 4-56771
 LaB₆, compressibility, high press. X-ray diff. studies 4-11218
 LaB₆ hemispherical single crystal, O-enhanced thermionic emission pattern 4-57063
 LaB₆ point cathode, use in laser cathode-ray tube 4-28710
 LaB₆ powder, effect of Ni additions, reaction character, microstruct. and fracture 4-51599
 LaB₆ thick refractory film, AC cond., freq. depend. of resist., cond. mechanisms 4-6850
 La₂B₆C₂, cryst. struct. and supercond. transition 4-24773
 La_{1-x}B_xF_{3-x}, F mobility, NMR relax. time study 4-45397
 La_{1-x}Ba_xF_{3-x}, ionic cond. and ¹⁹F NMR spin-spin relax. 4-45400
 La_{1-x}Ba_xF_{3-x} solid soln., elec. cond. study 4-15877
 La_{1-x}Ba_xMnO₃ system, mag. and crystallographic props. 4-30142
 La_{1.35} supercond., sp. ht. studies 4-40111
 (La_{0.8}Ca_{0.2})MnO₃, homogeneous ionic distrib., elec. cond. 4-29972
 (La_{0.8}Ca_{0.2})MnO₃, monoclinic phase, mag. heat capacity meas. 4-51084
 LaCl₃:Nd³⁺, laser induced fluore. line narrowing 4-7226
 LaCl₃:Pr³⁺(Eu³⁺), force electric-dipole transition probabilities, electron correl. effect 4-34919
 LaCl₃:Pr³⁺, laser excited fluore. IR absorpt. study 4-20963
 LaCoAl₁₁O₁₉, crystal growth and characterisation 4-21130
 LaCo_{0.57}Sn₂, struct. and electronic stability criterion 4-11100
 LaCrO₃, ceramic material for high temp. noise resistor 4-13643
 LaCu₂Si₂, cryst. struct., band struct., and Fermi surface props. 4-6690
 LaCu_{0.56}Sn₂, struct. and electronic stability criterion 4-11100
 LaErO₃ ceramic, microstructure, elec. cond. meas. 4-56035
 LaF, singlet and triplet states, resolved fluore. spectra 4-5276
 LaF₂ protecting reflecting layers for Cu and Ag mirrors to protect against tarnishing 4-5681
 LaF₃, anharmonic low freq. optical phonon lifetime and electron phonon relax. 4-6457
 LaF₃ ionic crystals, bulk cond., polarisation and defect exchange 4-45408
 LaF₃, photoexcited Auger transitions, post-collision interaction, solid-state screening effect 4-40580
 LaF₃, struct. and space group, single cryst. neutron diff. study 4-15433
 LaF₃:Gd³⁺, two-photon absorption lines, polarisation depend. 4-2938
 LaF₃:Ho³⁺, electron-phonon coupling S factor in multiphonon transitions (*Chinese*) 4-55946
 LaF₃:Nd³⁺, energy transfer up-conversion, UV fluore. detect. 4-25796
 LaF₃:Pr³⁺, Raman heterodyne detection of nuclear magnetic resonance 4-11802
 LaF₃:Pr³⁺, stochastic theory of coherent optical transients, free induction decay 4-10381
 LaF₃:Pr³⁺(Nd³⁺), phonon-induced transverse relaxation, photon echo study 4-19521
 LaFeAl₁₁O₁₉, crystal growth and characterisation 4-21130
 LaFe₄P₁₂, mag. and elec. props., Mossbauer spectra 4-11684
 LaFe_{0.34}Sn, struct. and electronic stability criterion 4-11100
 La₂Ga₃SiO₁₄, cryst. growth and optical props. 4-34431
 La₂Ga₃SiO₁₄:Nd³⁺ quasi-CW crystal lasers, pyrotechnically pumped 4-28700
 LaH_{2.25}:Gd³⁺ impurity effects in NMR 4-20881
 La₂Hf₂O₇:Eu³⁺(Tb³⁺)(Ti⁴⁺), lattice const., luminesc. props. 4-45082
 La(IO₃)₃, anhydrous and hemihydrated, dielec. props., phase transition 4-11837
 LaIrSi₃, cryst. struct., X-ray diff. studies 4-24775
 LaR₂Si₃, cryst. struct. and supercond. transition temp., rel. with LaRh₂Si₂ and La₂R₂Si₃ 4-39243
 La₂Li_{0.5}Cu_{0.5}O₄:Co³⁺, intermediate spin impurity, mag. props. (*French*) 4-2727
 La_{2-x}M_xCuO₄ (M=Mg, Ca, Sr, Ba), elec. props. 4-56340
 LaMgB₆O₁₀:B³⁺(Mn²⁺), photoluminescence, Stokes shift and energy transfer 4-40521
 LaMg_{1-x}Mn_xAl₁₁O₁₉, crystal growth and characterisation 4-21130
 LaMnO₃, decomposition, O partial press., elec. cond. and heat of form. 4-55988
 LaMnO₃, standard Gibbs' energy of formation, EMF obs. 4-46783
 LaMnO_{3+x}, concentrational antiferromagnetic-ferromagnetic transition 4-51047
 La(MnO₄)₃.nH₂O, reson. Raman spectra, anharmonicity const. 4-56928
 LaNbO₄, acoustic soft modes and ferroelastic phase transition, Brillouin and Raman scatt. meas. 4-25771
 LaNbO₄, ferroelastic transition, Brillouin scatt. study 4-25772
 (La_{1-x}Nd_x)₃Ga₂SiO₁₄, spectral laser and electromech. props. 4-30516
 (La_{1-x}Nd_x)₃Ga₂SiO₁₄, cryst. growth and optical props. 4-34431
 La_{1-x-y}Nd_xLn_yP₂O₇ (Ln=Tb, Eu), donor luminesc. quenching, energy transfer processes 4-30525

lanthanum compounds continued

- ($\text{La}_2\text{Nd}_{0.3}\text{Lu}_{0.7}\text{O}_3$) $\text{Lu}_2\text{Ga}_2\text{O}_{12}$ garnet, elastic and photoelastic consts. 4-11212
 $\text{La}_{1-x}\text{Nd}_x\text{MgAl}_2\text{O}_9$, continuous lasing and spectroscopic props. 4-14699
 $\text{La}_{1-x}\text{Nd}_x\text{MgAl}_2\text{O}_9$ single crystals, spectroscopic and lasing props. 4-28702
 $\text{La}_{1-x}\text{Nd}_x\text{TiO}_3$ system, synthesis and crystal struct. 4-20148
 LaNi_2H system, X-ray diff. exam. 4-2033
 $\text{LaNiAl}_{11}\text{O}_{19}$, crystal growth and characterisation 4-21130
 LaNi_2D_6 , cryst. struct., neutron diff. studies 4-11053
 LaNi_2H formation and enthalpic behaviour 4-36040
 LaNiO_3 preparation and oxygen reduction performance, application as catalyst in fuel cells 4-35888
 La_2NiO_4 , cryst. struct. and semiconductor-metal transition 4-50268
 LaNi_2P_3 , cryst. struct. determ. 4-50260
 $\text{LaNi}_{0.74}\text{Sn}_{2.26}$, struct. and electronic stability criterion 4-11100
 $\text{A-La}_2\text{O}_3\text{:Eu}^{3+}$, fluorescence spectrum anal. 4-21023
 $\text{La}_2\text{O}_3\text{-BeO}$ system, phase equilib. 4-40755
 $\text{La}_2\text{O}_3\text{-HfO}_2$, elec. cond., ion transport number, defect struct. 4-11561
 $\text{La}_2\text{O}_3\text{-Nd}_2\text{O}_3\text{-Ta}_2\text{O}_5$ system, lumiphore design 4-21020
 $\text{La}_2\text{O}_3\text{-WO}_3$, refinement of phase equilibria, X-ray phase anal. 4-51637
 $\text{LaOCl}\cdot\text{Bi}^{3+}$, photoluminescence and luminescent centres 4-40520
 $\text{La}_2\text{O}_3\cdot 4.4\text{P}_2\text{O}_5$, amorphous, radicals formation, EPR study 4-51135
 $\text{La}_{1-x}\text{P}_x\text{O}_{14}\cdot\text{Nd}^{3+}$, fluorescence quenching and spectral diffusion 4-51335
 $\text{La}_2\text{Pd}_2\text{P}_{17}$, cryst. struct., Guinier powder diff. studies 4-24776
 LaRh_2B_4 , absence of itinerant-electron ferromagnetism 4-25511
 LaRhSi_3 , cryst. struct. and supercond. transition temp., rel. with LaRh_2Si_2 and $\text{La}_2\text{Rh}_2\text{Si}_5$ 4-39243
 LaS , supercond. and self-consistent electronic struct., comparison with La (*Russian*) 4-56472
 LaS , thermodynamic props. in homogeneity range 4-39537
 La_2S_3 chalcogenide material for IR optical appls., fabrication 4-28790
 La_2S_3 , inelastic electron scatt. 4-35534
 La_2S_3 , Schottky levels and thermodynamic contris., calorimetric and optical studies 4-6518
 $\gamma\text{-La}_2\text{S}_3\text{:Nd}^{3+}$, luminescence quantum efficiency study 4-35489
 $\gamma\text{-La}_2\text{S}_3\text{:Nd}^{3+}$, semiconductor crystals 4-30526
 $\text{La}_2\text{S}_3\text{-Nd}_2\text{S}_3$, phase equilib., ingot growth from melt, vacancy diffusion mechanism 4-3130
 $\text{La}_2\text{S}_3\cdot 2\text{Ga}_2\text{O}_3\text{:Nd}^{3+}$ glasses, upper active level filling process characts. 4-30526
 $\text{La}_2\text{S}_3\cdot 2\text{Ga}_2\text{O}_3\text{:Nd}^{3+}$ glass, luminescence quantum efficiency study 4-35489
 $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$ oxide cathodes for sealed-off CO_2 lasers 4-28712
 $\text{La}_{1-x}\text{Sr}_x\text{MO}_{3-\delta}$ ($\text{M}=\text{Cr}, \text{Fe}$) perovskite-type oxide, nonstoichiometry, defect equilib. (*Japanese*) 4-24801
 $\text{La}_{0.9}\text{Th}_{0.1}\text{C}_{1.6}$, supercond., sp. ht. studies 4-40111
 $\text{La}_{2/3+x}\text{TiO}_{3+y}$, perovskite struct., elec. and mag. props. 4-50806
 LaTiO_3 , thermal decomp. kinetics 4-3379
 LaVO_4 , paramag., superexchange interactions, X-ray line widening (*Russian*) 4-51019
 $\text{La}_2\text{WO}_6\text{Cl}_3$, cryst. struct. refinement, neutron powder diff. data 4-2166
 LaYbO_3 ceramic, microstructure, elec. cond. meas. 4-56035
 Li-La-Sm phosphate glass, luminescence study of impurity distrib. 4-25811
 $\text{Li}_x\text{La}_{1/3}\text{Nb}_{1-x}\text{TiO}_3$, ionic cond., effect of two-dimensional vacancy sublattice, NMR obs. 4-56072
 $\text{Na}_2\text{O-La}_2\text{O}_3\text{-TiO}_2\text{-B}_2\text{O}_3\text{-SiO}_2$ system, heat treatment, leaching, phase decomposition 4-7470
 $\text{Nd-La}_{1-x}\text{P}_{0.14}$ (NLPP) miniature solid state laser using pocket power supply (*Chinese*) 4-55073
 $\text{Nd}_2\text{O}_3\text{-La}_2\text{O}_3\text{-P}_2\text{O}_5$, vitreous, concentration quenching of luminescence 4-51343
 $\text{Ni-Cr-La}_2\text{O}_3$, oxidation, effect of oxide dispersion 4-26109
 PLZT ceramics, subjected to high elec. fields, autocorrel. anal. of piezoelec. coupling 4-7126
 PLZT electro-optic ceramic depolarisation at low temps. 4-44165
 PLZT electro-optical ceramic as light-gate array for non-impact printer 4-55185
 PLZT ferroelectric ceramics, transparent, dielec. props., electron- and γ -irrad. and mag. field effects 4-46191
 PLZT , space-charge-limited current study 4-34991
 PLZT transparent ferroelec. ceramics, electronic processes and phase transitions 4-11846
 PLZT , transparent ceramics, prep. of active powders 4-12048
 PLZT:Al , photoferroelectric sensitivity enhancement by thermal diffusion and ion implantation 4-34728
 $(\text{Pb}, \text{Ba}, \text{La})\text{Nb}_2\text{O}_6$ ceramics, hot-pressed, transparent, anisotropies 4-20945
 $(\text{Pb}, \text{La})\text{TiO}_3$ ceramics, mech. props., ageing changes 4-35678
 $\text{Pb}_{2-x}\text{La}_x\text{Li}_{0.5}\text{O}_{6+x}$ ceramic pyrochlore structured system, dielectric relaxation and conduction meas. 4-40334
 $\text{Si}_3\text{N}_4\text{-La}_2\text{O}_3$, hot pressed, sintering behaviour, effect of La_2O_3 additions 4-25933
 $\text{Sm}_{1-x}\text{La}_x\text{S}$, T-P-x phase diagram, piezometric study 4-30695
 $\text{SrCl}_2\text{-LaCl}_3$, defect aggregation study 4-50528
 $\text{Sr}_{1-x}\text{La}_x\text{F}_{2+x}$ solid soln., ionic cond. study 4-34695
 $\text{SrO}_3\text{-La}_{1.5}\text{Li}_{0.5}\text{Co}_2\text{O}_4$, ESR and mag. studies 4-20782
 $\text{SrO}_3\text{-La}_{1.5}\text{Li}_{0.5}\text{FeO}_3\text{O}_4$, stacking defects and mag. struct. (*French*) 4-40145
 SrLaMO_4 ($\text{M}=\text{Fe}, \text{Cr}$), tridimensional mag. couplings, Neel temp. and bond covalency 4-6977
 $\text{Sr}_2\text{La}_2\text{W}_2\text{O}_{12}\text{:Tm}, \text{Eu(Er)}$, two-colour emission spectra (*German*) 4-7228
 $\text{Tm}_{0.05}\text{La}_{0.95}\text{Se}$ dilute mixed valent system, neutron scatt. studies 4-15859
 $(\text{YLa})_2\text{Fe}_{1-x}\text{Ga}_x\text{O}_{12}$ laser annealed films, thermal anal., bubble statics 4-25618
 $\text{ZrF}_4\text{-BaF}_2\text{-LaF}_3$ glass, crystn. kinetics, DSC study 4-24729
 $\text{ZrF}_4\text{-BaF}_2\text{-LaF}_3\text{-AlF}_3\text{-NaF}$ optical fibres, improved crucible fabrication technique 4-33819

Laplace transforms

- bar, twisted, with thin reinforcing layer, stress function singularities at corner points 4-44376
 composite straight fin, transient response 4-33910
 dynamic contact problem for finite elastic region in contact with half-plane, soln. method 4-38767
 half-space bounded by vertical perfectly smooth plane, elastokinetics problem 4-1654
 inversion, functional approx. 4-36887
 numerical solns. 4-53432
 plane transient elastodynamic problem solutions 4-44406
 QCD, three-meson vertex sum rules 4-43316

Laplace transforms continued

- scintigraphic images, Laplace operator appl. 4-21779
 sharply bounded ultrasound, light diff., Laplace transform method 4-54955
 shell, nonstationary hydroelasticity, interior problems, transfer functions computation 4-44472
 special functions, 2D Laplace transforms 4-32024
 transient waves in stratified flows, Laplace-Fourier transforms (*Chinese*) 4-49866
 water wave generation at inertial surface 4-44614

Large Magellanic Cloud

- A 0538-66, buried neutron star, time-resolved X-ray spectrum obs. during outburst 4-58473
 A 0538-66, X-ray binary in LMC, IR and UV obs. 4-53224
 A 0538-66, recurrent X-ray transient, IR continuum photometry during outburst 4-58475
 Bar West field, search for IR luminous stars, JHKL obs. 4-13422
 DM catalogues stars, correspondence with LMC nebulae and star clusters 4-53065
 giant bubbles, visible obs. 4-27149
 giant interstellar shells, H I profiles, UHF obs. 4-42520
 globular clusters flattening, ellipticity-luminosity relation 4-36723
 globular clusters in Galaxy and LMC, true shapes rel. to kinematic props. 4-17565
 globular clusters in LMC, SIT Vidicon photometry 4-47665
 halo, H I detect. and struct., UHF obs. 4-17575
 HDE 269879, 271182, pseudo-Cepheids in LMC, photometric obs. 4-3999
 Henize S63, peculiar emission object in LMC, UV and optical spectra 4-31834
 LMC X-3, blackhole and B-type stars, radius, masses and mass transfer 4-4036
 LMC X-3, X-ray obs. by HEAO 2 and comparison with X-ray source (Cygnus X-1) 4-13359
 N49, supernova remnant in LMC, kinematics and struct. from spectroscopic obs. 4-31878
 N63A, supernova remnant and assoc. H II regions in LMC, kinematics and struct. from spectroscopic obs. 4-31877
 NGC 1856, blue globular cluster, age, populations and comp. 4-53229
 NGC 2121, LMC globular cluster, age, comp., evolutionary status 4-13376
 NGC 2133 and 2134, ages of blue globular clusters 4-58490
 planetary nebulae, spectroscopy rel. to plasma diagnostics and abundances 4-4059
 R136a, supermassive star or compact cluster? 4-42481
 R 136a, supermassive object in 30 Doradus nebula, UV spectra 4-3981
 R 136a, supermassive object in LMC, X-ray luminosity and mass loss rate 4-58456
 S22 (HD 34664), LMC emission line star, UV to IR energy distrib. 4-4006
 Sanduleak's star, peculiar emission object in LMC 4-31834
 star formation, evidence for two discrete epochs 4-13433
 star formation history (*German*) 4-53276
 Wolf-Rayet stars in LMC, UV and visible spectrophotometry 4-13326
 young stars and bubbles in LMC, statistical props. 4-8562

large scale integration

- dual grating alignment technique for X-ray lithography 4-27630
 flip-chip interconnection, metallographic techniques for soft solder 4-35815
 internal voltage waveform analysis, use of stroboscopic scanning electron microscope 4-18019
 laser activated flow of phosphosilicate glass for IC fabrication 4-10350
 laser beam appl. in microelectronics 4-10349
 laser microchemistry for direct writing of microstructures 4-10351
 multilayer resist technique for submicron optical lithography 4-27614
 plasma oxidation of semiconductor and metal surfaces 4-57378
 polysiloxanes, lithographic appls., thermal stability, plasma etch resist. for VLSI 4-43091
 profile modification of resist patterns in optical lithography 4-43092
 RAM, alpha particle soft-error evaluation and flux measurement 4-11204
 SOS films, ion implanted, elec. characts. 4-35072
 speech processing LSI's (*Japanese*) 4-10504
 ultrafast deep UV lithography using excimer lasers 4-43088
 VLSI, deflection system for electron and ion beam lithography, large area, with very low aberration 4-38385
 VLSI, IR annealing appls. (*Chinese*) 4-20222
 VLSI, optical parameter optimisation in variable shape electron beam lithography 4-38381
 VLSI, SiO_2 growth on metal silicides 4-35750
 VLSI devices fabrication, processing conditions to form Si on insulator substrates 4-45167
 VLSI using low-energy high flux reactive ion etching by RF magnetron plasma 4-41013
 VLSI with submicron lithography using electron beam optical system with large field coverage 4-38380
 Al-Si-Ti metallisation, sputtered, for VLSI circuits, characterisation and props. 4-40925
 Pt, atomic etching inhibition by preexposure to O plasma 4-51844
 Si laser annealing with XeCl excimer lasers 4-33707
 Si MOS VLSI, forward-biased p-n junction electroluminesc., leakage current study 4-30060
 Si surface, (111), nitridation process, XPS and LEED study 4-57604
 Si:Sb, polycrystalline, ion implantation doping and annealing, expt. study and VLSI appl. 4-45169
 Si_3N_4 thin gate insulators, thermal nitridation of Si and SiO_2 4-6920
 TiSi_2 film formation by rapid thermal processing, VLSI appls. 4-15777

large-scale systems

- engineering sciences and mechanics, conf., Tainan, Taiwan (Dec. 1981) 4-13484
 gyroscopic systems stability anal. using large-scale systems with weighted function method (*Chinese*) 4-48120
 MHD generator current consolidation systems analysis and ranking 4-3474

laser accessories

- acousto-optic filter for dye laser rapid tuning 4-49386
 acousto-optical modulator for Nd:YAG laser modulation appls. (*Czech*) 4-24156
 acousto-optical Q-switch, two-coord., for Nd^{3+} :YAG laser with unpolarised radiation 4-5622

laser accessories continued

- acoustooptic modulation of two wavelengths of bichromatic light beam 4-49499
- aerodynamic windows, use in extraction of laser beams from laser cavity 4-44121
- Antares beam alignment system performance 4-14707
- Antares CO₂ laser facility, automatic alignment telescope system 4-10321
- Antares CO₂ laser fusion system, reference telescope system 4-10320
- antireflection coatings, high quality, on laser facets by sputtered Si₃N₄ 4-28711
- antireflective-interference-layer-systems produced by dip coating and neutral soln. processes 4-24260
- autocorrelator for measuring CW ultrashort optical pulses having freq. vars. 4-19494
- axial guide field for free-electron lasers 4-55051
- axicons for flat top laser beam profile generation 4-19487
- band-stop absorption filters for use with CO₂ lasers 4-1403
- beam deflecting optical switch using volumetric thermal gratings 4-24150
- beamsteering application of two-wave mixing and energy transfer in BaTiO₃ 4-51116
- bulk waveguide resonators for increasing output power of ZnO UV electron-pumped lasers 4-10326
- calorimetry at 10.6 μ m for large aperture beams and high powers 4-17892
- closed-cycle gas transport laser systems, axial flow compressor design and operation 4-3602
- CO₂ laser light absorber using GeO₂-ZnO-K₂O glass, diffuse reflectance determ. 4-33723
- coatings for laser systems, RF diode sputtering process advantages 4-33815
- coaxial high-power laser chambers, thermophys. characts. 4-10323
- cold-cathode electron gun for CO₂ laser pre-excitation 4-33682
- COMEDY: a microcomputer based system for controlling pulsed dye-laser experiments 4-28720
- comparator, independently calibrated 4-33702
- constant gain Q-switched laser, nanosecond and subnanosecond pulse generation (Czech) 4-55095
- cooled laser mirrors, advanced technological, rapid trade study anal. method 4-44180
- deformable annular flat diamond turned mirror, cylindrical laser, low temporal freq. aberration correction appls. 4-1459
- deformable mirror located in annular beam region of adaptive half-symmetric unstable resonator with internal axicon, intracavity adaptive optics studies 4-1420
- deformable mirror located in compacted beam region of adaptive half-symmetric unstable resonator with internal axicon 4-1419
- diamond machining for laser beam optics 4-55232
- dye laser frequency stabilisation to an at. transition 4-28738
- electron beam laser, high power, microscopic study of cathode damage 4-14709
- fixed-alignment waveguide laser 4-1412
- flash lamp, vortex gas flow stabilised high power, for dye laser pumping (Chinese) 4-55062
- focusing grating, diff. limited, high energy laser diagnostics appls. 4-1472
- four surface prism for generating square flat-top intensity irr. from Gaussian laser beam 4-19490
- Fox-Smith mode selector for CO₂ waveguide laser freq. tuning 4-28723
- free electron laser oscillator, two-dimens. pulse propag. calcs. 4-55055
- free radical films for real-time laser display and recording (Chinese) 4-53783
- functional alignments and self-tests for tilted and decentered optics 4-10471
- Gamo triple intensity interferometer for ultrashort laser pulse shape meas. 4-24008
- helical wiggler for free-electron lasers 4-55051
- holographic filters for reshaping collimated laser beams with Gaussian profile to uniform profiles 4-19398
- HV subnanosecond risetime electrical pulse generator, for Nd:YAG picosecond laser 4-33679
- induced gain grating for mode selection in standing wave lasers 4-28741
- industrial lasers, opto-mech. and electronic criteria anal. in relation to super-stable resonator and laser head design 4-49392
- interferometric method for analysis of spatial components of multimode laser radiation (Spanish) 4-33698
- intracavity adaptive phase conjugation system, numerical modelling 4-28780
- laser diode collimator characts. 4-24142
- light-boiler property effect on laser efficiency 4-5606
- liquid crystal acoustooptic effects for intracavity modulation of laser output intensity 4-10335
- magnetothyrister excitation-pulse generator for a metal-vapor laser 4-10314
- master oscillator with tunable emission spectrum for spectral charact. control of high-power pulsed Nd:glass laser 4-10327
- mirror, broadband high refl. for tunable dye lasers (Chinese) 4-55063
- mirror, porous substrate, cooling and heat transfer 4-10524
- mirrors, metal, multiple-pulse laser-induced damage, theoretical model 4-5631
- multichannel laser system, optics alignment process control 4-19497
- multichannel system, adjustment control facilities 4-10324
- multichannel system for precision energy measurement for pulsed lasers 4-44122
- multilayer coatings for laser mirrors and lenses, optical parameters and elec. field distrib. optimisation 4-28809
- nonlinear saturating filters based on alkali-halide crystals containing color centers 4-5685
- optical alignment equipment for laser system 4-28707
- optical component fabrication considerations and tradeoffs 4-49480
- optical element surface radiation strength testing using nondestructive techniques, review 4-5605
- passive polymethine film switch for mode-locked Nd:YAG lasers 4-14711
- permanent magnet undulator for free electron laser, mag. field study 4-53662
- photoacoustic laser beam monitoring device 4-24331
- photodiode array, two dimens. far field pattern real-time meas. for semiconductor lasers (Chinese) 4-49413
- photometric laser controller for thin film growth and etching (French) 4-45566

laser accessories continued

- picosecond laser source mirror-shutter and saturable pumping system for kinetic spectroscopy 4-4481
- PMMA, modified, active elements for dye lasers 4-5598
- polymer passive laser shutters 4-5688
- polymers, transparent, as optical components of lasers 4-10385
- power supply circuit, highly reliable and accurate, for repetitive pulsed lasers (Chinese) 4-49384
- pyroelectric laser pulse microenergy gauge (Chinese) 4-55099
- pyroelectric polycrystalline organic thin-film detector for pulsed laser radiation parameter meas. 4-17936
- rail-gap switch, electrically triggered for wide aperture excimer lasers 4-55075
- regenerative amplifier, spatially modulated signal, noise characteristics 4-5604
- remote control system for free electron laser LELA expt. 4-10313
- resonator, excitation and cooling systems for CO₂ laser, thermal source appl. (Czech) 4-38496
- resonator mirror problems at high output powers in Ar ion CW laser 4-38511
- rotating scanning mirror, method for parameters meas. 4-55158
- scanning components, precision galvanometers and multifaceted polygons, replication process 4-55156
- scanning Fabry-Perot based technique for second order dispersion meas. in diode lasers 4-24058
- segmented conical surface mirror design tangent to discontinuous aspheric industrial high power laser appls. 4-44178
- semiconductor laser, temperature control using Peltier element (Japanese) 4-28708
- shutter for pulsed-periodic laser, using taitron 4-33678
- space-time light modulator design for laser radiation spatial charact. control using electrooptical effect in crystals 4-5621
- spatial filtering for beam geometry fluctuation suppression 4-1430
- spectroscopic technique to improve stability and reproducibility of laser freq. (Japanese) 4-32327
- square flat-top intensity irr. generation from Gaussian laser beam using simple optical device 4-19490
- surface and transmitted wavefront meas. of laser components and solid-state laser resonators using Fizeau interferometer (German) 4-55064
- switch with all avalanche transistor driver, single pulse selection (Chinese) 4-49491
- synchronous ECL divider for reduced jitter in laser pulse studies 4-24054
- thin film for freq. doubling, high transmissivity at 1.06 μ m and high reflectivity at 0.53 μ m (Chinese) 4-55127
- two-section interferometer for stabilised tuning of the emission freq. 4-19493
- uniform-field electrodes with min. width 4-55065
- vibrating cross hair laser beam alignment device 4-24053
- wavefront sphericity sensor 4-55105
- Ag, mirror, intensity-depend. absorpt., role of temp. and surface roughness 4-24131
- Al cathode in He-Ne laser, examination using scanning electron microscope (Chinese) 4-49385
- CO₂ TEA laser pulse meas. by plasma detector 4-39011
- CdHgTe photodetectors advances for CO₂ laser beam detection 4-43054
- p-CdHgTe photodetectors for CO₂ laser radiation detection 4-43055
- Cu electroplated mirrors, dimens. instability 4-10391
- Cu mirror, air breakdown plasma form. threshold, depend. on surface absorpt. coeff. 4-28808
- Cu mirror, intensity-depend. absorpt., role of temp. and surface roughness 4-24131
- Ge-window temperature control scheme for output-line selection of CO₂ lasers (Chinese) 4-14713
- LaB₆ point cathode, use in laser cathode-ray tube 4-28710
- LiF F₂ Q-switch for laser, polarisation characts. (Chinese) 4-49411
- LiF radiatively coloured crystals for passive shutters in Nd lasers 4-5599
- LiF with F₂ centres, passive Q-switch for Nd:glass tunable narrow-band laser 4-28729
- LiNbO₃ Ti microwave modulated waveguide interferometer for picosec. pulse prod. from He-Ne laser CW output 4-49576
- Mo low-scatter surfaces as laser mirrors, prep. by dual-abrasive polishing and sputtering 4-24123
- NaCl high-pressure unclamped window for CO₂ laser transmission 4-33681
- Nd:garnet CW lasers, active mode locking by resonator loss modulation using acoustooptical modulator 4-14729
- Si photodetector for Nd laser light pulse meas. (Japanese) 4-32309
- SiO₂-ZrO₂ high-optical-strength thin-film interf. polarisers for high-power lasers 4-55066
- TeO₂ paratellurite based acoustooptical devices for solid-state laser radiation control 4-5623
- TiO₂ thin nonabsorbing films, radiation strength, fabrication parameters influence 4-10344
- VO₂ film, self-Q-switching mirror material for solid laser 4-24112
- Xe flash tubes for lasers (Bulgarian) 4-49383
- XeCl excimer laser with phase-conjugating Brillouin mirror, regenerative amplification 4-44092
- Y₂FeO₇ crystal diffraction modulator 4-49504
- ZnSe, laser window material, refr. index 4-40388
- ZrO₂-SiO₂ dielectric multilayer interference polarisers for lasers 4-33742

laser annealing see laser beam annealing

laser applications see laser beam applications

laser beam annealing

- cooling rate parameter for laser annealing (Chinese) 4-55866
- covalent semiconductors, plasma assisted melting, pulsed laser annealing 4-20244
- elemental semiconductor thin films, laser ordering processes 4-39736
- laser irr. in inert gas, mag. props. 4-25617
- material deposition and removal using laser-initiated chemistry 4-16672
- materials processing, book 4-4173
- metals and semiconductors, conference, Pianore, Italy (July 1980) 4-36794
- nuclear weapons and laser annealing effects 4-32013
- pulsed laser annealing, Bose condensation and athermal nature 4-20245
- scanning Gaussian laser beam temp. distrib. due to absorpt. by solid target 4-24040
- semiconductor, developments, book contrib. 4-6402
- semiconductor, ion implanted dopant distrib., laser annealing (German) 4-15530

laser beam annealing continued

semiconductor, laser heating, CW, transients, general method and anal. solns. 4-20251
 semiconductor, plasma transport and laser annealing 4-20247
 semiconductor surface laser annealing study 4-40577
 semiconductors, beam annealing, techniques and appls. 4-55868
 semiconductors, carrier recombination under laser annealing 4-15886
 semiconductors, elemental, pulsed laser annealing, structural phase transitions and energy exchange 4-24865
 semiconductors, ion-implanted, crystallisation induced by pulsed laser irradi. 4-6400
 semiconductors, laser heating, machining and phase transitions 4-39338
 solar cell processing, appl. of transient annealing 4-16784
 transient thermal processing of materials and laser-solid interactions, conf., Strasbourg, France (May 1983) 4-17628
 Al/Sb thin film couples, grain boundary interdiffusion and surface cpd. form. 4-15721
 CdS electrophoretically deposited layers for CdS-Cu₂S solar cells, phase conversion 4-29853
 CdS, powder layers, transformed into heterojunction solar cells using transient heating techniques, SEM studies 4-26294
 CdTe:P, doping by laser annealing, photoluminesc. and SIMS studies (French) 4-15527
 EuYIG films, Ga substituted, laser annealed, thermal variation in mag. props. 4-25619
 GaAs, ion implanted, picosecond laser annealing 4-15526
 α -GaAs, laser annealing dynamics 4-15522
 GaAs, lattice temp. during laser annealing and reflectivity 4-15523
 GaAs surface annealing, second harmonic generation 4-19512
 GaAs:Si, ion implanted, laser annealing, photoacoustic spectra study 4-20242
 Ge, amorphous, low power laser annealing effects, crystallisation 4-15528
 a-Ge film, laser annealing, in situ TEM studies 4-24860
 Ge films, laser and electron beam enhanced crystallisation 4-15524
 Ge, heavily doped, implanted laser annealed, and bulk grown, photolum. study 4-21031
 Ge, heavily doped, laser annealed, photolum. study 4-21032
 a-Ge, low-power laser annealing, defect migration and temp. gradient effects 4-24861
 Ge, pulsed laser annealing, time-resolved surface struct. study using LEED 4-34538
 Ge:Ga(P)(B)(As), ion implanted, laser annealed, phonon softening, Raman study 4-15597
 Ge:P, ion implanted, laser annealed, Raman study 4-16204
 Ge(S₂Se_{1-x})₂ glasses, Raman spectra and athermal laser annealing 4-7197
 InAs ion-implanted, laser annealing, defect and elec. props. study 4-11182
 InP:Si, ion implanted, laser beam annealing, Hall effect and ellipsometry studies 4-50346
 InSb, ion-implanted, laser annealing, defect and elec. props. study 4-11182
 Ni (001), laser annealing for surface cleaning 4-16538
 Si (111), laser annealed, H₂ chemisorption, IR study 4-6658
 Si, amorphous, laser-annealing, acoustic signals obs. 4-11181
 Si annealing using CW CO₂ laser 4-50348
 Si, CW beam-annealed, electron microscopy and defect/impurity spectroscopy 4-20604
 poly-Si, cond. processes 4-11604
 Si deep point defect centre levels, passivation/annihilation techniques (Chinese) 4-6728
 Si, doped, CO₂ laser heating and appls., fast CO₂ laser detect. 4-20241
 Si, doping by laser beam annealing during nonequilibrium solidification 4-15499
 Si epitaxial growth on porous Si, defect struct. study 4-25188
 Si film, laser crystallisation on amorphous insulating substrates 4-20243
 Si films, laser and electron beam enhanced crystallisation 4-15524
 Si grapho-epitaxy using partly ionised particle beams 4-16335
 Si, heavily doped, ion implanted, laser annealed, electronic struct. study 4-15838
 Si, heavily doped, laser annealed, photolum. study 4-21032
 Si, heavily doped, pulsed laser annealed, optical and elec. props. 4-20650
 Si, implanted, transient annealing, elec. characts. and microscopic anal. 4-24859
 Si, impurity trapping, influence of fast solidification 4-15647
 p-Si insulator a-Si:As⁺, p-n junction, current-voltage characteristics (Korean) 4-40020
 Si, ion implanted, picosecond laser annealing 4-15526
 Si, laser annealing, in depth O contamination, IR, AES and ESCA studies (Chinese) 4-55856
 Si, laser annealing, pulsed ruby, surface phase change, depth meas. 4-20250
 Si, laser annealing, temp. dependence, laser mode dependence 4-24855
 Si, laser generated plasma, nonequilib. effects, luminesc. study 4-21030
 Si, laser irradiated, melting mech. 4-20248
 Si, laser-annealed, transiently molten, ultra-rapid solidification 4-24858
 Si, laser-induced lattice tensile strain, Raman scatt. study 4-45182
 Si, lattice temp. during laser annealing and reflectivity 4-15523
 Si, liquid phase transient laser annealing, point defect origins 4-15460
 Si p-n junctions, ion implanted, rapid annealing techniques (French) 4-15782
 Si preheated sample annealing using Nd:YAG laser 4-49424
 Si pulsed laser annealing, fundamentals, optical studies 4-20246
 Si, resonance Raman scatt. at elevated temp. 4-40454
 Si solar cells, polycryst., ion implanted, pulsed and CW laser treatments 4-16787
 Si with XeCl excimer lasers 4-33707
 Si:Al, ion implanted, diffusion under semi-continuous laser annealing (French) 4-15700
 n-Si:As, ion implanted, laser annealed, Brillouin study of phonon softening 4-40466
 Si:B,Ar, ion implanted, epitaxial regrowth 4-50656
 Si:B⁺ ion implanted wafers, defects induced by laser annealing (Chinese) 4-20240
 Si:Ga(P)(B)(As), ion implanted, laser annealed, phonon softening, Raman study 4-15597
 Si:H₂⁺, ion implantation and diffusion effects on laser induced defects, EPR study 4-15501
 Si:P, ion implanted, laser annealed, precipitation study 4-39520
 n-Si:P(As)(Sb), effect of free carriers on Raman freq. 4-40461
 a-Si:Si⁺(As⁺) layers, pulsed laser melting study 4-34535

laser beam annealing continued

Si:Te, ion implanted, pulsed laser annealing, supersaturated solid soln. formation 4-24863
 Si/Mo bilayers, MoSi₂ form. kinetics by CW laser annealing 4-15720
 Si/Sb thin film system, pulsed laser-and electron beam-induced diffusion 4-15716
 Si-on-insulator, CW laser crystn., thermal modelling 4-15529
 Si-on-insulator layers, crystn. by laser annealing (German) 4-15530
 YIG:Bi, Ga (La, Ga) bubble garnet films, annealing and mag. props. 4-56745
 (YLa)₂Fe₂-Ga₂O₁₂ laser annealed films, thermal anal., bubble statics 4-25618
 ZnO sputtered thin films, post-deposition annealing using furnace and laser beam 4-55865
 ZnSe:Mn luminescent thin films, scanning CW laser beam annealing 4-50350

laser beam applications
 see also holography; integrated optics; laser beam annealing; laser beam machining; laser beam welding; laser isotope separation; matrix isolation spectroscopy; measurement by laser beam; modulation spectroscopy; optical communication; optical radar; patient treatment; plasma production and heating by laser beam; Raman spectra; Raman spectroscopy; remote sensing by laser beam; spectroscopy; surgery; two-photon spectroscopy
 activated flow of phosphosilicate glass for IC fabrication 4-10350
 adaptive-optics laser transmitter turbulence-induced performance degradation, evaluation in the time domain 4-49488
 aligner for JF-1 X-ray crystal analyser for human injury prevention (Chinese) 4-58018
 alignment of parallel mech. axes 10 m apart 4-24068
 alignment system for automatic workpiece setting (Chinese) 4-53672
 artificial satellite tracking for global tectonics 4-42226
 atomic hyperfine interactions 4-33346
 coherent compact real-time optical correlators 4-48174
 combustion gas meas. using quantitative flow visualisation technique 4-49890
 contact lithography at 157 nm with an F₂ excimer laser 4-27610
 crack strain displacement meas. with laser speckle method (Chinese) 4-49780
 CVD, expt. studies 4-25898
 CVD, laser induced 4-21148
 damage testing using hole gratings 4-10414
 data recording applications of He-Cd lasers 4-24006
 deep-UV spatial-frequency doubling by combining multilayer mirrors with diffraction gratings 4-27612
 deuterium streamer chamber at 5 atm. in self-shunt regime 4-23484
 diagnostics of flowfields using system utilising single Q-switched ruby laser 4-29223
 diode-laser second-derivative modulation spectrometry with a reference cell, calibration 4-22842
 direct high-resolution excimer laser photoetching 4-48221
 dithered-ring-laser gyroscope, mean beat freq. quantum noise 4-24030
 drift chamber systems, laser track alignment calibration 4-23476
 dry Ag, electrophotographic and wet processed recording media performance comparison when exposed to gas laser and laser diode sources for image recording 4-22860
 electron transverse acceleration using laser or maser drivers 4-48812
 electronic blackboard billiard scanner, design 4-10315
 electrophotographic laser copier printer scanner 4-22859
 electrophotographic printing and drawing machines 4-55183
 electrophotographic transfer printer, laser writing sub-system 4-55107
 epifluorescence microscopy system with pulsed nitrogen tunable dye laser source 4-53746
 external cavity diode sensor 4-33705
 femtosecond laser pulses for the study of ultra-rapid phenomena (French) 4-55110
 fibre optic testing, BNC light pulse generator design 4-55234
 fibre optic testing, Hewlett-Packard opt. signal source design 4-55235
 fine lens array fabrication by laser beam writing 4-49580
 fluorometric detection for thin-layer chromatography 4-12402
 galvanometer scanner, precision post-objective two-axis system 4-24128
 gears, laser hardening, expt. results 4-16557
 glass metals, laser quenching, overview, book contrib. 4-40712
 graphic arts, high speed laser recording appls. 4-24066
 graphic arts, laser based system appls. 4-24065
 gyro, phase conjugate ring laser 4-38500
 gyro, ring laser, data analysis with cluster sampling technique 4-38503
 gyroscope, square ring laser, distortion-induced mag. field bias 4-44117
 gyroscopes, nonplanar ring resonators 4-38501
 He-Ne laser stroboscopic high speed interferography (Chinese) 4-43037
 heat treatment, book contrib. 4-7495
 heat treatment, equipment and technology, review 4-21249
 high speed writing appls. of He-Cd lasers 4-24010
 history of Los Alamos laser programmes 4-8702
 hologon laser scanners for nonimpact printing 4-23918
 holographic applications of ruby lasers 4-49425
 holographic scanner for laser printer 4-23919
 holographic video disc and laser scanning optics 4-54982
 image recording for wideband spectrum analysis using acousto-optic modulator 4-24141
 industrial applications of laser technology, conf., Geneva, Switzerland (April 1983) 4-36774
 industrial lasers, opto-mech. and electronic criteria anal. in relation to super-stable resonator and laser head design 4-49392
 input scanner of cards or documents, digital video signal generation 4-49421
 intelligent multichannel data-acquisition system for pulsed laser applications 4-44135
 interferometric lens-centring system, theory and struct. 4-49579
 IR laser spectroscopy, 1980-83 4-22854
 laser plasmatron 4-10900
 lenses, cement free centering with laser centering devices (German) 4-19608
 liquid crystalline polymers, thermo-recording with laser beam 4-39092
 lunar laser ranging, Earth rot. orientation and Universal Time 4-26569
 lunar laser ranging, effect of Earth and lunar tides (Chinese) 4-58064
 mammalian tissues and organs imaging 4-31386
 manufacturing processes 4-14708
 mass spectrograph having dual focusing and laser-plasma ion source, ion-beam space charge effect 4-43120

laser beam applications continued

- mass spectrometry, laser desorption chemical ionisation 4-12403
 materials processing, book 4-4173
 materials processing, laser requirements, book contrib. 4-5634
 materials processing, Nd:YAG appls., book contrib. 4-5635
 materials processing by high-repetition-rate pulsed excimer and CO₂ lasers 4-24059
 medical and industrial applic. developments of low-power CO₂ lasers 4-44132
 medical applications, fibre optic delivery systems 4-57989
 medical applications of fibre optics 4-57990
 medicine, laser surgery and therapeutic appls. 4-21761
 metal surface treatment by laser 4-21387
 methanol, laser-chromatographic anal. 4-21503
 metrology target fabrication by step and repeat method 4-49422
 microelectronic thin film deposition by UV laser photolysis 4-12032
 microelectronics 4-10349
 microhologram recording in photothermoplastic carriers developed by CO₂ laser radiation 4-23930
 modulated laser polarimeter, principles and accuracy anal. (*Chinese*) 4-13668
 multiple aperture laser systems for thermal blooming environments 4-10348
 multiplexer using coupled-cavity laser, WDM and TDM, fibre transmission 4-14816
 Novette pulse power system description 4-14181
 ophthalmocoagulator, Nd laser, for clinical and public health expts. 4-8063
 ophthalmological applications of laser operating microscope using Q-switched laser 4-8062
 ophthalmology, cutting and coagulation techniques, summary (*German*) 4-8066
 optical gyro freq. correction (*Chinese*) 4-49404
 optical links, thermal blooming of an optical carrier in the atmosphere 4-58285
 optical time standard based on He-Ne/methane laser (*Russian*) 4-238
 optothermal detection of gas flow spectral absorpt. 4-41283
 particles thrown by detonation waves, laser visualisation, coating appls. 4-39398
 patient beam positioning system for treatment planning using CT images (*Japanese*) 4-8067
 patient treatment in dermatologic clinics, compact He-Ne laser system design (*Czech*) 4-58034
 pellicular materials, projection laser equipment for processing (*Russian*) 4-26558
 phase conjugate ring gyroscopes, reduced lock-in effect 4-44118
 photoacoustic imaging by laser beam irr. for subsurface struct. obs. 4-24312
 photodesorption microscope, rhodamine crystal imaging 4-27628
 photometric laser controller for thin film growth and etching (*French*) 4-45566
 photoradiation therapy, beam profile control method 4-31316
 photoresist films, deep etching using XeCl laser 4-3263
 photothermal deflection spectroscopy detection of ps photoinduced dichroism 4-37210
 picosecond laser source mirror-shutter and saturable pumping system for kinetic spectroscopy 4-4481
 picosecond pulse generation and detect. in 1200 to 1600 nm wavelength range 4-44149
 plate camera construction for 12 beam position laser recording (*German*) 4-49300
 polyethylene terephthalate film, deep etching using XeCl laser 4-3263
 polyimide film, deep etching using XeCl laser 4-3263
 polymer characterisation by gel permeation chromatography, laser light scatt. detector 4-15362
 polymer science, laser spectroscopy applications 4-16209
 printer, multibeam acoustooptic and electrooptic modulators 4-55182
 printing, method for measuring rotating scanner parameters 4-55158
 printing and data handling, high speed read/write techniques, conf., Los Angeles, CA, USA (Jan. 1983) 4-22506
 printing system, optical system design 4-24064
 printing with linear TIR spatial light modulator 4-55184
 projection lithography using excimer laser 4-48217
 projection system with a brightness intensifier and an independent illumination source 4-4446
 radioactive rare isotope detection using CW laser radiation producing selective initial state enrichment 4-19293
 radiographic image enhancement by precision laser scanning and computer processing 4-52470
 rapid solidification laser processing at high power density, book contrib. 4-7622
 review (*Spanish*) 4-5600
 review of laser physical principles, history and applications 4-14703
 ring laser gyroscopes, nonreciprocal optical effect (*Chinese*) 4-55084
 safety aspects 4-19467
 scanner, polygon-type flying spot, compact optical system 4-24061
 scanner resolution, generalised eqns. 4-1434
 scanner subsystem, high speed high resolution, testing techniques 4-24060
 scanning and recording advances, conf., Geneva, Switzerland (April 1983) 4-53338
 scanning laser microscope for inspection of microelectronic devices 4-37168
 scanning lens for optical rotating data storage on video and audio discs (*German*) 4-19534
 scanning system, catadioptric, with dynamic field flattening 4-24062
 scanning systems, low wobble resonant scanners 4-24063
 scanning techniques in optical microscopy 4-53745
 semiconductor laser coupling to single-mode fibres, efficiency and feedback charact. comparison 4-19573
 semiconductor laser-monomode optical fibre coupling efficiency optimisation 4-5709
 semiconductor-insulator boundaries, prep., characterisation, conf., Eindhoven, The Netherlands (April 1983) 4-42605
 single-pass e⁺e⁻ linear colliders, colliding γ e and $\gamma\gamma$ beams, polarisation effects and monochromatisation 4-54459
 solar cells photovoltaic conversion efficiency, determ. of cell area effects by digital laser scan system 4-12477
 speckle interferometry and other inspection techniques 4-43036
 spectroscopic techniques, industrial meas. and control appls. 4-19495
 spectroscopy, laser, appl. 4-38516

laser beam applications continued

- spectroscopy, review of advances 4-53772
 spherical mirror F-P interferometer using HCN laser as radiation source (*Chinese*) 4-37155
 spin atomisation technique for producing rapidly solidified prealloyed powders 4-57139
 Stellite hardfacing coating on stainless steel, laser processing effects 4-7648
 STEM, in situ laser heating 4-10931
 structural vibrations, selective mode excitation by a laser 4-1649
 submicron VUV contact lithography with F₂ excimer laser 4-32337
 surface glazing using pulsed laser, expt. study 4-12214
 surgery, phys. aspects, review 4-57982
 thin films, photodeposited, microstruct. 4-25187
 thomson backscattering from a relativistic electron beam as a diagnostic for parallel velocity spread 4-34314
 time-of-flight monitoring system using high-speed vacuum photodiode 4-972
 transducers, acoustic parameter meas. by laser probe method 4-44319
 transformation hardening, hardness geometry method (*German*) 4-30568
 two-coordinate light-beam deflection device 4-43004
 ultrafast deep UV lithography using excimer lasers 4-43088
 ultrasonic pulse laser-generator, hand-held NDT appl. 4-21402
 VLSI laser microchemistry for direct writing of microstructures 4-10351
 wideband frequency-offset-locked dye laser spectrometer using a Schottky barrier mixer 4-27603
 wire chamber conf., Vienna, Austria (February 1983) 4-17624
 (AlGa)As laser diodes for long-life space appls., reliability 4-1415
 Al₂O₃ surface activation and cleaning by CW CO₂ laser 4-35523
 Ar-methane proportional counters, laser induced ionisation study 4-23475
 Au deposition, high speed maskless patterning by laser-enhanced jet plating 4-12033
 CO₂ laser effects, instrumentation and biomedical appl. (*Czech*) 4-55109
 CO₂ laser materials processing systems, development and appl. (*Japanese*) 4-10352
 CO₂ lasers appl. as thermal source (*Czech*) 4-38496
 CaSO₄:Dy neutron thermoluminescent dosimetry by laser heating 4-48760
 Cd₃As₂ films, pulsed laser evaporation and elec. props. 4-46437
 GaAs laser chemical etching method for drilling vias 4-12205
 GaAs optical gratings, submicrometer, maskless laser-enhanced chem. etching 4-28817
 He-Ne laser, up to 5 mW, for meas. and control appl. (*Czech*) 4-38497
 He-Ne thermally stabilised two freq. laser meas. system for industrial use 4-10319
 KrF excimer laser, multichannel breakdown switch appl. 4-34356
 NH₃ detection in flue gas using ¹³C¹⁸O₂ laser monitor 4-12515
 NH₄Cl-H₂O, unidirectional solidification in microgravity, optical obs. 4-6475
 Ni-Al-Mo, rapidly solidified prealloyed powders by laser spin atomization 4-57139
 NiAuGe contacts to InP, laser alloying 4-25443
 PbSe, epitaxial film growth, limiting temp. of substrate, laser spraying expts. 4-57110
 PbTe, epitaxial film growth, limiting temp. of substrate, laser spraying expts. 4-57110
 Rb, hyperfine struct. and isotope shift studied using laser spectroscopy 4-22543
 Rb-Xe NMR gyroscope, CW single-mode GaAlAs laser appl. 4-42993
 SOI, Si film recrystn. using laser beam split by birefringent plate 4-56159
 Si amorphous film deposition by laser induced-CVD and sputtering 4-7369
 Si crystal lifetime doping, comparison of Nd:YAG fundamental and second harmonic Q-switched laser-beam 4-29981
 Si, doping by dye-laser pulse induced diffusion (*Chinese*) 4-39318
 Si, doping with organic colloidal dopants by laser irradiation, electrical and optoelectrical characts. 4-39319
 Si films, CO₂ laser CVD of SiH₄, CARS study 4-16338
 Si, oxidation using laser radiation 4-44136
 Si solar cell fabrication by laser induced diffusion 4-16785
 Si thin films, laser beam zone melted on amorphous substrates, recrystallisation, struct. control 4-15775
 Si:B, laser implanted, AES and SIMS study 4-34519
 Si:B(P), UV laser doping, npn bipolar struct. form. appls. 4-34513
 Si:Cu(Al), laser implantation of impurities 4-15505
 SiO₂, photooxidation from SiO with pulsed far-UV laser radiation 4-21340
 SiO₂ surface activation and cleaning by CW CO₂ laser 4-35523
 Ti-Al-V, rapidly solidified prealloyed powders by laser spin atomization 4-57139
 Ti-Al-Y (8.4 at.%), as-cast and laser surface melted, comparison of microstruct. 4-7634
 ZnO films, highly oriented, laser evaporation growth 4-16315
 ZnO surface activation and cleaning by CW CO₂ laser 4-35523
- laser beam effects**
 see also laser beam annealing; plasma-beam interactions; plasma production and heating by laser beam
 ablation, vacuum impulse coupling at low laser intensities 4-55869
 absorbent film, destruction under action of laser irr., fusion role (*Russian*) 4-45181
 alkali atoms, electron elastic and inelastic collisions in presence of nonresonant laser field 4-14575
 alloy, self-fluxing, pulse laser irr. influence on mass ejection (*Russian*) 4-40702
 alloys, ordered, laser induced defect and disorder creation 4-24862
 anisotropic two-dimensional scatt., effects of incident laser wavelength 4-23899
 4,4bis(heptyloxy)azoxybenzene, smectic C liq. cryst. film, optically induced mol. orientation 4-19498
 blister rust fungi of Korean pine, control by laser irr. (*Chinese*) 4-57944
 blood vessels, laser irr. effect on mech. props. after welding 4-47057
 borosilicate charged glasses, laser-induced elec. breakdown 4-7123
 2-bromo-1,1,3,3,3-hexafluoro-2-(trifluoromethyl)-propane, vibr. lifetime meas. 4-33457
 cataract, radiation induced, annotated bibliography 4-17664
 coherent radiation dispersed by 'frost' deform. in thermoplastic medium, statistical characts. (*Russian*) 4-49420

laser beam effects continued

cold atom intense stationary flow formed by laser deceleration of atomic beam 4-49186
 Coulomb excitation of nuclei, intense laser field effects 4-4846
 1,2-dichloroethane, pyrolysis, 308 nm laser radiation effect 4-31004
 dielectrics, laser vaporisation waves, instability 4-50484
 dye solutions, laser-induced density profiles 4-25065
 electron atom scattering in the field of a CO₂ laser 4-14576
 elliptical Gaussian beam power coupling efficiency into multimode step-index fibre 4-19485
 erythrocyte irradiation studies, safe exposure levels of He/Ne laser light of human body appl. 4-47033
 evaporation instability produced during laser evaporation of thin films 4-29475
 eye sensitivity, Nd laser ophthalmocoagulator for clinical and public health expts. 4-8063
 ferrimagnet, inverse Faraday effect, laser beam effects 4-20952
 fibre optic analog video transmission, semicond. laser diode intensity noise 4-24213
 fibres, graded-index, multimode, relation between impulse response and excitation by laser 4-19576
 film thermal diffusivity meas. by noncontact single-ended pulsed-laser-induced thermal radiometry 4-42961
 fusion target irradiation uniformity with 24-beam OMEGA facility 4-23425
 gas-surface interactions, laser-induced, review 4-6646
 gaseous media, chem. active, thermokinetic processes induced by laser radiation 4-28785
 geological sample spectral analysis during atomisation by CW laser radiation (*Russian*) 4-42240
 glass, irreversible changes due to laser radiation, radiant destruction, review 4-1468
 hardening using step functional heat input 4-16516
 heat-conducting target heating by laser pulses with high-intensity leading spike 4-10346
 high-power light pulse narrowing in medium, with an optical-collisional nonlinearity 4-14762
 hot electrons in solids, theory of laser interactions 4-25363
 ion components in solids, mass spectrosc. investig. using laser probing 4-21500
 ions, pulsed laser field desorbed and field evaporated, energy distrib. 4-34789
 ions, trapped, laser cooling, final stage dynamics 4-48983
 IR optics materials, surface breakdown mechanism by pulsed CO₂ laser radiation 4-38513
 laser control of the flow of resonant molecules through capillaries 4-5963
 laser produced acoustic pulses in liquid 4-44280
 laser-induced chemiionisation theory 4-14373
 laser-induced struct. changes, kinetics and thermodynamics 4-39448
 α-LiIO₃ crystals, laser damage accumulation kinetics 4-15533
 liquid metal surface, laser-driven corrugation instability 4-14756
 liquid surface deforms., laser induced, holographic real-time interferometry obs. 4-45456
 liver carcinoma cell line, human, BEL-7402, biological effects of Ar laser (*Chinese*) 4-52389
 living cells, laser-induced multiphoton processes 4-36165
 magnetic semiconductor, nonCerenkovian magnon amplification by electrons in laser radiation field 4-35159
 materials, effect of conc. energy fluxes, review 4-55862
 materials treatment, conference, Pianore, Italy (July 1980) 4-36794
 metal disks, natural vibrations excited by laser pulses, mech. props. meas. 4-29003
 metal heating by nanosec. XeCl* laser radiation pulses generating a surface plasma 4-24856
 metal microstructures, optical breakdown, local field influence 4-34539
 metal mirrors, multiple-pulse laser-induced damage, theoretical model 4-5631
 metal surface condition influence on air plasma form. due to microsec. CO₂-TEA laser pulse irradi. 4-49921
 metal surface treatment by laser 4-21387
 metal surfaces, oxidising reactions, laser activation 4-12260
 metals, glass form. by picosecond pulsed laser-induced melting 4-44996
 metals, heating, energy deposition 4-39337
 metals, laser combustion self-oscillatory regimes 4-12371
 metals, laser heating, machining and phase transitions 4-39338
 metals, laser pulse interaction mechanism 4-51415
 metals, liq., surface instability under intense IR radiation 4-20249
 metals, oxidation under action of laser emission, thermopower mechanism 4-12259
 metals, ultrashort heat transients under laser irradi. 4-14875
 microwave production, 35 GHz, by high intensity CO₂ laser light 4-57044
 molecular gas flow through porous wall, laser irradi. effects 4-55445
 molecular vibration excitation on collision with atom (or mol.) in presence of IR laser beam 4-23783
 multilayer coatings for laser mirrors and lenses, optical parameters and elec. field distrib. optimisation 4-28809
 multilevel atoms, multiple-laser excitation 4-49002
 ocular hazards of low-power lasers, functional approach to assessment 4-47031
 optical collisions in strong laser fields 4-14521
 optical coatings, photothermal deflection microscopy of dielectric thin films 4-17914
 optical glass, interferometry of laser-induced birefringence 4-7154
 optical material with spherical inclusion, pulsed laser induced damage, thermal scaling laws 4-24043
 optical materials, pulsed laser induced damage, photoacoustic monitoring method 4-45184
 optical thin films, microscopic impurities, spatially resolved absorption and detection by photothermal detection 4-46694
 optoacoustic signals decrease induced by laser pulse absorption on solids 4-34589
 organic dyes, long-wavelength region of S₀-S₁ absorpt. band, fluoresc. and amplified spontaneous emission obs. 4-54774
 periodic grating structure form. characts. due to solid surface absorpt. of monochromatic radiation 4-14780
 pigment apparatus of higher plants, selective effect of ruby laser radiation 4-31282
 plane interface between condensed material, sublimation, supercritical struct. form. by laser, heat conduction 4-24991
 plastic targets, laser irradi., electron thermal transport 4-55573

laser beam effects continued

PMMA, commercial grade, single- and multiple-shot laser-damage props. 4-50345
 PMMA, intense impulsive loads, stress waves 4-34540
 poly-dT exposed to high-intensity ps UV laser irradi., pyrimidine dimers yield reduction 4-52395
 polyatomic molecules, photon echo due to Fermi-reson. vibr. levels 4-28784
 polychromatic laser speckle pattern autocorrel. function near the image plane 4-10236
 polymers, transparent, as optical components of lasers, damage mechanism 4-10385
 polymers, transparent, laser damage statistics 4-28746
 progress in optics, book 4-47768
 red blood cell membrane of rats, low power He-Ne laser irradi. effects (*Chinese*) 4-57945
 reproductive system, status of exposed animals, biological activity of red and violet laser radiation (*Russian*) 4-12630
 retina, thermochem. model for calc. of max. permissible exposure in near IR range 4-31285
 rhodamine 6G ions on W substrate, laser photodetachment from adsorbed layers 4-29814
 ruby, light induced three-dimensional polar struct., luminescence study 4-21015
 self-induced diffraction grating in CdS crystals subjected to CW laser excitation 4-28820
 semiconductor films, amorphous, laser-induced oscillatory phenomena 4-5645
 semiconductor heterojunctions, laser-enhanced mobility 4-40033
 semiconductor-metal interfaces, beam processed, anal. by MeV ion back-scatt. spectrometry 4-24857
 semiconductors, intrinsic, magnetabsorption in field of reson. IR radiation 4-11870
 semiconductors, laser-induced desorption, review (*Japanese*) 4-39684
 short Josephson tunnel junction, critical currents, focused laser beam effects 4-56507
 short-pulse grating formation in photorefractive materials 4-28818
 single particle in optical levitation, 10.6 μm Mie scatt. 4-54949
 smectic-A film, laser induced transient and permanent gratings and ultrasonic waves 4-55709
 soft-photon interactions generating symmetry-broken pre- and postcollision states of molecules 4-14506
 solid targets in vacuum, laser light interaction, energy balance 4-51414
 speckle pattern intensity, partially polarised, statistical props. (*Chinese*) 4-49269
 spinel ferrite, low temp. mag. behaviour under laser irradi. (*Rumanian*) 4-40191
 steel, alloy, laser-hardened surface structure, effect on wear resist. 4-41087
 steel, Armco, laser irradi., surface phase composition, γ-resonance studies 4-22890
 steel, C, laser surface alloying, fusion zone defect characts. 4-16560
 steel, Cr, laser-processed, rapid solidification 4-40705
 steel, tool and C, laser surface melting parameters 4-6401
 steel, type 45, surface strain hardening by CW CO₂-laser radiation using different absorptive coatings (*Russian*) 4-3282
 steel, W, laser hardened, thermal stability 4-21376
 steel surface hardening and alloying by high power laser beams 4-41107
 stellite, plasma sprayed coating, laser processing, microstructure, wear, corrosion resist. 4-30854
 stimulated thermal scattering of laser radiation in chemically active media 4-28748
 superconducting films, response to laser irradi. 4-11634
 surface EM wave excitation and reson. transform. during irradi. of solid by high-power laser radiation, periodic struct. form. 4-14734
 surface vaporisation by intense laser beam 4-46377
 temperature distributions in solid targets produced by scanning Gaussian laser beams 4-24040
 thermal coupling and plasma-induced surface damage mechanisms 4-55870
 thermoluminescence kinetics with extreme heating rates with thermal laser simulation 4-51363
 thermoluminescent continuous layers, heating with localised laser beams 4-48758
 transient thermal processing of materials and laser-solid interactions, conf., Strasbourg, France (May 1983) 4-17628
 transition metal alloys, M-Ti (M=Au, Co, Cr, Zr), laser quenched, glass forming ability 4-34408
 transparent insulator laser damage accumulation kinetics 4-15533
 transverse atomic motion in transient polarization phenomena 4-44162
 tumour cells, nucleic acid and protein synthesis, impulse laser radiation effect (*Russian*) 4-12628
 two-level-atom population vel. redistribution induced by strong light beam and collisions 4-33498
 two-photon radiative collisions, phase control of at. scatt. states 4-14505
 UV vibrations excitation by laser interaction with solid body 4-50621
 UV laser doping in Si, npn bipolar struct. form. appls. 4-34513
 vapour, excited by high intensity laser, electron spectra of ionisation 4-14588
 water, laser irradi., nonlinear photoacoustic effect 4-50441
 water drops, explosion under intense laser radiation 4-1582
 weakly absorbing medium, laser light induced thermal structs., thermal breakdown 4-25734
 Ag, electrode surface, laser damage, intense Raman scatt. from Ag-KCN-Na₂SO₄ system 4-31024
 Ag, inelastic scatt. of NO from (111) surface, molecule-surface dynamics, laser induced fluoresc. study 4-30593
 Ag, mirror, intensity-depend. absorpt., role of temp. and surface roughness 4-24131
 Al alloys, laser-induced phase transition, US excitation 4-29473
 Al foil laser evaporation, laser-evaporation instability 4-29475
 Al, laser generated US waves, freq. spectrum 4-33892
 Al wall, laser heating, vaporisation and effect on vapour (*Russian*) 4-34541
 Al/Cr(Si)(C), bilayer films, laser irradi., hole formation, laser beam recording appl. 4-28793
 As₂S₃ amorphous films, photostructural transformation, quantum output, spectral and field dependence (*Russian*) 4-20344
 As₄₀Se₆₀/Ge₂₅Se₇₅ multilayered amorphous film struct., long-range interactions and photostruct. changes 4-20959
 Au, new intense CO₂ laser induced electron emission 4-25851

laser beam effects continued

- Au-Bi amorphous alloys prod. by laser quenching and ion irradiation 4-15382
 BCl₃ molecules, vibrational energy transfer dynamics due to IR laser light excitation 4-38142
 Bi laser evaporation, influence of hydrodynamic perturbations 4-24989
 Br₂ sorption on finely porous filter, laser light effect 4-34802
 C black, laser heating and rapid cooling, phase transformations obs. 4-34629
 C particles, laser radiation initiated combustion 4-3419
 CO₂ laser effects, instrumentation and biomedical appl. (Czech) 4-55109
 CdS, surface, laser induced desorption of atoms and mols. study 4-20463
 CdSe, deform. of band gap absorpt. edge by laser radiation (Russian) 4-7215
 CdSe, laser-induced sputtering near threshold laser fluence 4-7286
 CdSe, surface, laser induced desorption of atoms and mols. study 4-20463
 CdTe, laser irradiation, orientation depend. surface damage 4-25131
 Cr-Al-Y-Fe (Co) coatings on stainless steel, laser surface fusion and oxidation 4-7649
 Cu early oxidation stage during CW CO₂ laser irradiation 4-41035
 Cu mirror, air breakdown plasma form. threshold, depend. on surface absorpt. coeff. 4-28808
 Cu mirror, intensity-depend. absorpt., role of temp. and surface roughness 4-24131
 Cu, nonequilibrium electron heating obs., thermomodulation spectroscopy 4-16187
 Cu target oxidation under CO₂ CW laser irradiation 4-50347
 Cu-Zr phases formed by laser surface treatment, microstructs., anal. 4-46378
 Fe, Armo, laser hardening, effect on struct. 4-21375
 Fe, cast, metastable phases obtained by high power laser surface melting 4-15532
 Fe, laser surface alloying, fusion zone defect characts. 4-16560
 Fe, laser-induced phase transition, US excitation 4-29473
 Fe, localised corrosion, laser beam depassivation 4-12242
 Fe-Al vac. deposited multilayers, mixing by laser pulse or ion implantation 4-15722
 Fe-Ni-Cr-P-B, laser glazing, surface amorphous and crystalline structures 4-34537
 Fe₂B₄, laser quenched; picosecond pulsed, solidification morphology 4-12061
 GaAs, laser induced local etching in CCl₄ gas atmosphere 4-39334
 GaAs, laser-induced surface damage, channelling study 4-40576
 GaAs, light scatt. intensity from plasmaritons 4-30484
 GaAs, native oxides behaviour during pulsed laser irradiation 4-15525
 n-GaAs, photoetching and selective etching in aq. CrO₃-HF solns., hillock morphology rel. to gas bubbles 4-15472
 GaAs, pulsed laser excitation, electronic power transfer 4-30569
 n-GaAs:Si, selective etching and photoetching of {100} surface in aq. CrO₃-HF solns. 4-15471
 GaAs-AlAs multiple-quantum-well structs., laser heating, luminesc. study 4-46301
 GaP, laser-induced sputtering near threshold laser fluence 4-7286
 GaP, pulsed laser-induced surface damage, Rutherford backscatt. channelling study 4-20239
 Ge, amorphous, in-situ crystn. under laser irradiation in TEM 4-39336
 Ge, combined effects of CO₂ and Nd laser radiation, carrier recomb. rate meas. 4-30025
 Ge, electron-hole liq. decay and recomb. under CO₂ laser pulse irradiation, microwave cond. meas. 4-6819
 Ge, growth model from amorphous phase 4-16299
 Ge, laser beam irradiation, surface rippling kinetics 4-2230
 a-Ge, laser induced structural changes 4-39340
 Ge, laser-generated plasmas, picosecond time-resolved reflectivity and transmission 4-39333
 Ge single crystals, optical properties and appls. 4-24110
 Ge surface, <111>, higher-order laser-induced grating obs. 4-29472
 Ge surface bombarded by laser, resonant conversion of EM waves 4-5691
 Ge thin film, surface EM wave excitation and reson. transform. during irradiation by high-power laser radiation, periodic struct. form. 4-14734
 Ge, transverse photovoltaic effect meas. (Russian) 4-50873
 Ge-Sn metastable semicond. alloy, synthesis by pulsed UV laser crystallisation, charact. study 4-11411
 GeSe₂ films, amorphous, laser-induced oscillatory phenomena 4-5645
 H-like atoms, electron elastic and inelastic collisions in presence of non-resonant laser field 4-14575
 H+e⁻+h ω -H(2s)+e⁻, simultaneous electron-photon excitation 4-14583
 He, laser assisted electron impact ionization 4-14585
 He, laser breakdown from single-mode ruby laser irradiation 4-55478
 He simultaneous electron-photon excitation, quadrupole effect 4-14584
 He²⁺+H collisions in presence of a laser field, charge transfer cross section calc. 4-14566
 In_{1-x}Ga_xSb amorphous films, laser induced explosive crystn. for optical information storage 4-14763
 InSb, conductivity transients under intense laser excitation 4-15875
 p-InSb film, polycryst., elec. props., effect of laser irradiation 4-2663
 InSb, hysteretic cyclotron resonance excitation 4-40234
 K₂ molecule resonant laser excitation, for ultrafine particle formation 4-44012
 KBO₃:Sn glass, luminescence and absorpt. (Russian) 4-51345
 KBr IR optical crystals, picosecond pulse laser-induced damage study (Chinese) 4-50349
 KBr, laser excitation, F-H pair creation from localised exciton 4-50283
 KCl, F-centres, laser induced bleaching 4-29433
 KCl IR optical crystals, picosecond pulse laser-induced damage study (Chinese) 4-50349
 KCl(Br), laser irradiation, impurities and absorpt. spectra 4-39331
 KI:ReO₄, spectral hole dynamics for IR vibr. mode 4-29548
 LiF, charged dislocation motion due to laser pulse 4-39309
 LiF, single cryst., light induced desorption 4-20464
 LiNbO₃ surface laser damage statistics 4-25836
 LiNbO₃ waveguides, susceptibility to optical damage 4-38578
 Mo_{1-x}N_x(C_x) ion implanted alloy films, supercond. props. 4-15981
 MoO₃ reduction in H₂ during laser bombardment 4-31006
 Na, laser modified electron scattering from a slowly ionizing atom 4-14586
 Na vapour, induced conical light scattering 4-55128
 Na vapour, resonantly excited by CW laser, electron spectra of ionisation 4-14587

laser beam effects continued

- Na+Na multiphoton-assisted radiative collisions in a strong field regime 4-14524
 Na₂, fluorescence, induced by laser radiation, 3²P-3²S atomic transition (Russian) 4-33446
 Na₂, laser-excited fluorescence 4-38245
 NaCl, charged dislocation motion due to laser pulse 4-39309
 NaCl IR optical crystals, picosecond pulse laser-induced damage study (Chinese) 4-50349
 NaCl, laser irradiation, impurities and absorpt. spectra 4-39331
 Na₂O-SiO₂ glass, optical breakdown under conditions of two-photon absorpt. of laser radiation 4-29474
 Ni, Eu and La ion implanted, pulsed laser treatment, surface alloying, trapping, and damage 4-15531
 Ni/Si system, silicide form. by pulsed laser irradiation 4-15719
 O₃, laser chem. and stratospheric nonlinear optics 4-3826
 Pb laser evaporation, influence of hydrodynamic perturbations 4-24989
 Pb(N₃)₂, laser detonation initiation, size effect, surface energy distrib. effect on critical flow 4-7728
 PbO-SiO₂, colour centres form. and photoelasticity effect by laser radiation (Russian) 4-51413
 PbO-SiO₂ glass, optical breakdown under conditions of two-photon absorpt. of laser radiation 4-29474
 Ps-atoms dynamics in laser field 4-14615
 RbI:ReO₄, spectral hole dynamics for IR vibr. mode 4-29548
 SF₆ free jet, IR laser action on spatial, vel. and cluster size distrib., energy transfer 4-49130
 SF₆ supersonic beams, laser excited and thermally heated, energy distrib., collisional effects 4-43970
 SF₆, V-T relax. rate, CO₂ laser induced thermal lens spatial anal. by moiré deflectometry 4-38287
 Si, amorphous, photocrystallisation by laser beam or incoherent radiation, SEM/TEM study 4-6304
 Si amorphous ion implanted layers, seeded crystallisation using laser and electron irradiation 4-55724
 Si, conductivity transients under intense laser excitation 4-15875
 Si, deep level defects after beam processing in solid phase regime 4-15839
 Si, desorption, electron-hole pairs role under laser irradiation 4-2455
 Si doping by laser irradiation (Chinese) 4-50320
 Si, epitaxy in ultra-high vacuum, substrate surface cleaning by pulsed laser irradiation 4-3076
 Si, graphoepitaxy by laser or strip heater recrystn., orientation mechanism 4-11416
 Si, growth model from amorphous phase 4-16299
 Si, ion implanted, excimer laser annealing 4-45183
 Si, laser generated electron-hole plasma using picosec. pulses 4-34534
 Si, laser induced structural changes 4-39339
 Si, laser induced thin film crystal growth on fused silica, TEM study 4-6675
 Si, laser irradiation, liq.-amorphous phase transition, thermal model 4-6478
 Si, laser-generated plasmas, picosecond time-resolved reflectivity and transmission 4-39333
 Si, laser-induced carriers in picosec. time range 4-11856
 Si, laser-induced electron-hole plasma near melting transition 4-20238
 Si, laser-induced free-carrier absorption, Auger constant 4-34536
 Si, MBE, pulsed laser irradiation, effects, LEED study 4-35571
 Si on quartz, laser recrystn. of Si stripes in SiO₂ grooves with polycryst. Si sublayer 4-20237
 Si, photoexcited, reflectivity meas. 4-16215
 Si, resolved Raman spectra during pulsed laser heating 4-16203
 a-Si solar cells, photovoltaic props. degradation after laser irradiation, Staebler-Wronski effect rel. to excess carriers 4-52153
 Si³⁺ ion implanted wafers, defects induced by laser annealing (Chinese) 4-20240
 a-Si:H, two-beam photoluminescence study 4-40505
 Si₃(Bi)(Ga)(In), laser-induced diffusion, TEM studies (French) 4-15698
 a-Si:Si³⁺(As³⁺) layers, pulsed laser melting study 4-34535
 Si/metal systems, silicide formation by CW scanned laser and electron beams 4-24864
 Si-metal films, laser induced structural changes 4-39339
 Si-on-insulator, buried oxide, laser recrystallised and graphite strip heater recrystallised systems 4-25887
 Si₃N₄ ceramic, laser generated US waves, freq. spectrum 4-33892
 SiO₂, laser induced bulk damage at 1.064, 0.532 and 0.355 μ m 4-39335
 SiO₂-LiO₂-Al₂O₃-K₂O-Na₂O glass, laser-irradiated, thermally stimulated exoelectron emission 4-57079
 SiO₂-ZrO₂ high-optical-strength thin-film interf. polarisers for high-power lasers 4-55066
 Sr+Ar, laser assisted collisions, final state distrib., nonadiabatic theory 4-14522
 steel, high C, metastable phases obtained by high power laser surface melting 4-15532
 Te alloy films, optical recording, hole formation anal. 4-14764
 Te-Se films, ablative hole form. process 4-14765
 Ti alloys, rapid solidification processing, strength and microstructure 4-7443
 Ti alloys, rapidly solidified, microstruct. 4-30697
 Ti³⁺Fe, laser irradiation, Mossbauer study (Russian) 4-51171
 TiO₂, laser-induced sputtering near threshold laser fluence 4-7286
 TiO₂ thin nonabsorbing films, radiation strength, fabrication parameters influence 4-10344
 V, laser induced oxidation, V₂O₅ layer prod. 4-3281
 W, polycryst. surface, laser induced thermal desorption of small mols., SIMS analysis 4-20468
 WO₃ reduction in H₂ during laser bombardment 4-31006
 YIG, interaction of shock waves with magnetoelastic waves 4-51117
 YIG:Ho³⁺, FMR, laser irradiation, effect 4-2827
 Zn, nanosecond laser heating, reflectivity changes 4-51229
 ZnO, laser-induced sputtering near threshold laser fluence 4-7286
 ZnTe, filiform crystals, effects of pulsed laser radiation on electrophysical props. 4-55867
 Zr ceramic, brittle fracture in bending under laser impulse heating 4-35696

laser beam machining

- CR-39 allyl diglycol carbonate sheets cutting with CW CO₂ laser instrumentation and parametric study 4-54547
 industrial applications of laser technology, conf., Geneva, Switzerland (April 1983) 4-36774

laser beam machining continued

- materials processing, book 4-4173
- materials processing, laser requirements, book contrib. 4-5634
- materials treatment, conference, Pianore, Italy (July 1980) 4-36794
- metals, laser heating, machining and phase transitions 4-39338
- metrology target fabrication by step and repeat method 4-49422
- plate with two-sided machining, thermal stresses and nonsteady temp. field 4-55338
- rapid solidification laser processing at high power density, book contrib. 4-7622
- reactive gas assisted laser cutting, phys. mechanism, technical limitations 4-49423
- reactor fuel element cladding, fission gas sampling, laser hole drilling and rewelding 4-18703
- UV laser etching of polymer laser targets 4-6140
- CO₂ laser applications, low-power 4-44132
- Nd lasers for processing 4-49424
- Nd:YAG laser materials processing appls., book contrib. 4-5635
- XeCl laser for metal film removal and patterning 4-21352

laser beam modulation *see optical modulation***laser beam properties** *see laser beams***laser beam welding**

- materials processing, book 4-4173
- materials treatment, conference, Pianore, Italy (July 1980) 4-36794
- rapid solidification laser processing at high power density, book contrib. 4-7622
- reactor fuel element cladding, fission gas sampling, laser hole drilling and rewelding 4-18703
- Nd:YAG laser materials processing appls., book contrib. 4-5635

laser beams

- see also holography; laser frequency stability; Schwarz-Hora effect*
- adaptive optics systems and technology, conf., San Diego, CA, USA (Aug. 1982) 4-6
- alignment using vibrating cross hair device 4-24053
- amplifying system with expanding light beam, shaped pulse deform. 4-10336
- amplitude distribution high-order azimuthal Fourier term propag., useful feature 4-49416
- Antares beam alignment system performance 4-14707
- Antares driver amplifier post pulse study 4-14730
- attenuation meas., by intermediate frequency substitution method 4-28740
- axial irradiance and optimum focusing 4-1425
- beam radius measurement by means of rotating blade and photodetector (Slovak) 4-55102
- beamsteering application of two-wave mixing and energy transfer in BaTiO₃ 4-55116
- bichromatic beam, acoustooptic modulation of two wavelengths 4-49499
- bolometric laser radiation detector 4-17937
- calorimetric power meas., advanced temp. control method 4-27527
- calorimetry at 10.6 μ m for large aperture beams and high powers 4-17892
- chirped picosecond pulses, semicond. film laser time-depend. wavelength evaluation 4-24041
- conference, Waikato, Hamilton, New Zealand (Jan. 1983) 4-13480
- cross-section, CW and pulse, spatial energy distrib. meas. 4-14733
- CW excited lasers, self-pulsing and chaos 4-14740
- CW ultrashort optical pulses having freq. vars., meas. using autocorrelator 4-19494
- diffraction of beams with smooth profile of intensity variation 4-44125
- distortion and optical system aberrations, interrelationships, geometrical-optics model 4-10343
- dye DFB laser, N₂ laser pumped, 6 psec. pulse generation 4-10316
- dye laser, CW, chirped pulses in colliding pulse mode-locking regime 4-24036
- dye laser, uncorrelated double-beam tunable, design and expt. results (Chinese) 4-49391
- dye laser characts. meas., lamp-pumped, induced absorption exam. 4-44124
- dye laser radiation, externally initiated polaris. coherence (Russian) 4-38515
- dye solution emission under lamp excitation, spatial-angular characts., Fresnel refl. effect 4-55027
- electron beam laser, high power, microscopic study of cathode damage 4-14709
- elliptical cross section beams, thermal self-interaction influence on SHG 4-19514
- elliptical laser beam focusing, optimised spot 4-49410
- energy density in cross section, relative energy distribution unit reproduction and transmission 4-49417
- energy meas., using BaTiO₃ pyroelectric digital calorimeter 4-44123
- expanded laser beam wavefront monitoring using shearing interferometer 4-28745
- flat top laser beam profile generation using axicons 4-19487
- focused Gaussian light beam undergoing total internal refl. in prism, evanescent intensity 4-49262
- forward multiple scattering corrections as a function of detector field of view 4-1350
- functional alignments and self-tests for tilted and decentered optics 4-10471
- Gaussian 1- μ m dia. beam meas. techniques 4-44120
- Gaussian beam diameter meas. using generalisation of Ronchi ruling method 4-4448
- Gaussian laser beam dia. meas. through direct inversion of knife-edge data 4-10337
- Gaussian profiled collimated beam reshaping to uniform profiled beam using holographic filters 4-19398
- geometry fluctuation suppression by spatial filtering 4-1430
- Hermitian-Gaussian beam transformation in square-law medium exhibiting simple astigmatism 4-23871
- industrial lasers, opto-mech. and electronic criteria anal. in relation to super-stable resonator and laser head design 4-49392
- injection lasers in beat freq. stabilisation regime, emission line width determ. using heterodyne method 4-28747
- intense laser beam scatt., vacuum thermalisation and uncertainty principle 4-33703
- intracavity laser power meas. by Rayleigh scatt. 4-14725
- intracavity modulation of laser output intensity by acoustooptic effects in liquid crystals 4-10335
- IR laser field, Talbot effect and its appls. (Chinese) 4-53739

laser beams continued

- IR pulse generation, tunable picosecond, with mode-locked CW lasers, by difference freq. generation 4-24086
- lambda-meter, comparison of laser wavelengths using double Michelson interferometer (French) 4-37159
- laser speckle intensity space-time correl. function in two-lens imaging optical system 4-19376
- lens design for laser target expts. (Chinese) 4-55161
- linewidths in two-mode operation, mode coupling effects 4-55006
- metre, definition, new CCDM proposal based on laser freq. (Japanese) 4-27482
- microenergy measurement of laser pulses with pyroelec. gauge (Chinese) 4-55099
- multichannel laser system, optics alignment process control 4-19497
- multichannel system for spectral analysis of fast optical pulses using optical fibres 4-24618
- multifrequency laser field, fourth-order time correlation functions 4-55103
- multimode laser radiation spatial component analysis using interferometric method (Spanish) 4-33698
- non-invasive radiation dosimetry, radiowaves, microwaves, US, lasers and UV 4-54435
- optimal 0-II pulses 4-38514
- optimal control of laser beams in nonlinear media 4-5627
- physical optics modelling of systems with multiple lasers 4-10339
- picosecond duration laser pulse generation by simultaneous active-passive mode-locking in Ar⁺ ion and dye lasers 4-10334
- picosecond light pulse shaping and anal., book contrib. 4-49265
- picosecond pulse shape 4-44062
- picosecond pulse shortening by travelling wave amplified spontaneous emission 4-5630
- polarisation rotation on refl. from transparent spherical shell 4-29256
- progress in optics, book 4-47768
- propagation modelling with Mie scatt. phase function 4-1347
- pulse measurements, femtosec. to subnanosec., using tilted-pulse second-harmonic beam anal. 4-38492
- pulse profiles, active mode locking theory 4-19484
- pulse time compression in course of stimulated Brillouin scatt. in gases 4-28765
- pulsed laser precision energy meas. using multichannel system 4-44122
- Raman pulse compressor, comparison between one and two dims. models 4-10370
- refraction loss influence on laser radiation characts. 4-14736
- retroreflected laser radiation fluctuations in turbulent atm. 4-52880
- rhodamine 6G solution laser, radiation coherence under intense laser pumping 4-5581
- ring laser, anisotropic cavity, nonlinear interaction of elliptically polarised counterpropagating waves 4-5619
- ring laser, Lamb's theory of travelling-wave Gaussian beams, output expressions (Chinese) 4-55085
- ring laser counterpropagating wave interference in an independ. coordinate system 4-33699
- ruby laser, Q-switched, rectangular intensity profile generation 4-49418
- ruby laser with saturable absorber, ultrashort pulse duration control in Q-switched laser 4-28737
- semiconductor laser, two dims. far field pattern real-time meas. (Chinese) 4-49413
- semiconductor laser coupling props. to collimating optics 4-55096
- semiconductor laser near radiation field transform. by multimode rectangular waveguide 4-28750
- semiconductor laser with external refl. element, degree of coherence of beam 4-49419
- short pulse temporal analysis using degenerate four-wave mixing 4-24039
- single-mode fibre system, Gaussian pulse transmission 4-24208
- solid-state laser radiation control by paratellurite based acoustooptical devices 4-5623
- solid-state Q-switched laser, ultrashort pulse duration control 4-28737
- spatial characteristic control on basis of the electrooptical effect in crystals 4-5621
- speckle patterns formed by a laser beam transmitted by scattering slabs of various optical thicknesses 4-54957
- square flat-top intensity irrad. generation from Gaussian laser beam using simple optical device 4-19490
- stimulated Brillouin scattering, apodisation and spatial filtering of light beams 4-55135
- subpicosecond pulses monitoring, real-time instrument with autocorrelator 4-44131
- symmetric mirror confocal resonator, stability 4-19476
- synthesized subpicosecond pulse holographic reconstruction 4-44073
- thermal blooming, time depend., in axial pipe flow 4-10382
- thermal blooming in homogeneous gas flows 4-1451
- thermal self-stressing in turbulent media 4-1433
- tunable ultrashort light pulse generation 4-19468
- two-pass amplifier, transient operation, radiation pulse shape control 4-14722
- ultrashort laser pulse shape meas. using Gamo triple intensity interferometer 4-24008
- ultrashort laser pulses for study of the picosecond image tube camera (Chinese) 4-55213
- ultrashort light pulse temporal characts., sum freq. beam anal. 4-44151
- ultrashort light pulse time-depend. spectrum, action of nonstationary linear systems 4-44127
- ultrashort pulse response determ. from intensity autocorrel. meas. 4-1431
- unstable resonator radiation directivity, effect of light scatt. 4-5628
- UV short pulse generation by resonator transient quenching 4-5601
- waveform and amplitude modulated laser light by means of mech. chopper 4-5624
- wavefront distortion diagnosis and compensation (Chinese) 4-49412
- wavefront sphericity sensor 4-55105
- wavelength meas. device, lambda meter (French) 4-27575
- CO CW laser beam, transmission switching between output states, InSb bistable device use 4-28758
- CO₂ laser detector using electron-hole plasma generation in doped Si 4-20241
- CO₂ laser pulse effect on transmission through fog at visible, IR wavelengths 4-1348
- CO₂ laser pulses, atmospheric propag. 4-47403
- CO₂ laser radiation scatt. by pseudo-random surface of rectangular grooves 4-23903
- CO₂ pulsed laser attenuation by plasma breakdown in aerosols at reduced particle density 4-10363

laser beams continued

- CO₂ pulsed laser radiation recording, by thermal stabilisation of photoemulsions 4-10340
- CO₂ pulsed laser radiation wavefront reversal by mirror 4-19520
- CO₂ TEA high-power laser, direct pulse shaping 4-24032
- C³⁺:BeAl₂O₄, alexandrite, high repetition rate laser divergence meas. 4-19486
- Cu vapour laser, nonaxial beam radiation divergence dynamics and loss calcs. 4-28674
- D₂O far IR laser, angular divergence of forwards and backwards emission at 66, 116 μ m 4-44090
- GaAs/GaAlAs semiconductor laser, beam-scannable light source, superluminescent mode, grating coupler design 4-19469
- He-Ne Gaussian laser beam dia. meas. through direct inversion of knife-edge data 4-10337
- He-Ne laser light atm. extinction meas. rel. to aerosol particle conc. (Chinese) 4-58283
- InGaAsP diode laser, real-time meas. of picosecond optical pulses 4-1426
- LiF F₂ Q-switch for laser, polarisation characts. (Chinese) 4-49411
- N₂ laser, output pulse parameters obs. 4-33686
- Nd laser light pulse meas. using Si photodetector (Japanese) 4-32309
- Nd:glass four-pass amplifier with full utilisation of active element aperture, wavefront reversal 4-14721
- Nd:glass mode-locked laser, psec. pulse propag. expts. in diffuse medium 4-28627

laser cavity resonators

- adaptive optics systems and technology, conf., San Diego, CA, USA (Aug. 1982) 4-6
- adfoal resonator, waveguide mode losses, plane mirror position effect 4-55090
- aerodynamic windows, use in extraction of laser beams from laser cavity 4-44121
- anisotropic annular resonances, freq.-polarisation characts., operator calc. 4-19477
- axis stability and instability from first principles 4-38502
- book, waves and fields in optoelectronics 4-27261
- cleaved-coupled-cavity lasers, single-longitudinal mode performance, high-speed direct modulation 4-19480
- closed-cavity power, geom. and physical optics models, comparison with HF expts. 4-10331
- closed-cavity solutions with partially coherent fields in space-freq. domain 4-10330
- CO₂ lasers appl. as thermal source (Czech) 4-38496
- coupled mode number evaluation for FM mode-locked lasers 4-14728
- diode laser chip, optical feedback stabilised 850 nm source, for optical fibre attenuation meas. 4-5613
- diode laser modelling, rate eqn. and Fabry-Perot approach comparison 4-10293
- diode lasers, threshold variations induced by external resonator feedback 4-24027
- distributed feedback laser with gyroanisotropic resonator, design from thin magneto-optical film 4-33689
- double heterostructure semiconductor laser, static field model with cavity longit. effects 4-28687
- dual picosecond dye lasers synchronously pumped by mode locked CW YAG laser 4-1413
- dye laser, double-cavity, CW, multimode, intracavity absorpt. investigation 4-23968
- dye laser, lamp-pumped, with active Q-switching, ultrashort pulse form. analysis 4-10291
- dye laser, synchronously pumped, mode locking degradation via diffuse refl. feedback 4-19483
- dye laser cavity optics, high angle of incidence antireflection coating use 4-10332
- dye laser freq. locking near a Na reson. transition 4-28744
- dye laser ring cavity, anal. using ray matrix and equivalent thick lens sequence (Chinese) 4-55086
- dye laser systems pumped with N₂-TEA laser, tunable subnanosecond pulses generation 4-55077
- dye lasers, CW, stabilising and tuning using optical reference resonator (German) 4-1404
- dye lasers, pulsed, tunable, possibility of obtaining single-freq. lasing regime 4-5609
- dye ring laser frequency stabilisation using optical resonators 4-44116
- dye subpicosecond lasers, synchronously pumped linear and ring cavity using Nd:YAG laser pump source 4-10325
- dynamic-single-mode coupled-cavity lasers, stabilisation and optimum biasing 4-38468
- eigenstates dynamics in resonators (French) 4-1423
- electron beam controlled pulsed laser cavity, discharge confinement 4-28731
- excimer lasers, unstable resonator type, injection-locking 4-24047
- external cavity diode sensor 4-33705
- Fabry-Perot externally excited nonlinear resonator, parametric up-conversion, optimal conditions 4-28767
- Fabry-Perot interferometer intracavity freq. selector for freq. tuned dye laser (Russian) 4-38507
- free electron collective tunable laser operation in stimulated Raman scatt. regime 4-33677
- free electron laser, energy conversion in diff.-emission generators 4-10312
- free-electron tapered wiggler laser, long pulse evolution 4-14700
- free-electron tapered wiggler laser, stable resonator, three-dimens. wave propag. soln. 4-14701
- gas laser, glass ceramic tubes, design and construction 4-19472
- gas laser, two mode, with anisotropic resonator in weak mag. field, level g factor, difference influence on emission characts. 4-10284
- gas lasers, modulation by time varying perturbation 4-14664
- Hermitean-Gaussian beam transformation in square-law medium exhibiting simple astigmatism 4-23871
- industrial lasers, opto-mech. and electronic criteria anal. in relation to super-stable resonator and laser head design 4-49392
- injection laser, fibre resonator loaded, autostabilisation technique for stable resonant optical feedback 4-24023
- injection laser, V-channelled substrate inner stripe, mode characts. 4-23984
- injection laser emission line narrowing methods 4-23989
- intracavity adaptive optic mode control theory 4-1418
- laser cavity resonators continued**
- intracavity adaptive optics expts. using deformable mirror located in compacted beam region of adaptive half-symmetric unstable resonator with internal axicon 4-1419
- intracavity adaptive optics expts. using deformable mirror located in annular beam region of adaptive half-symmetric unstable resonator with internal axicon 4-1420
- intracavity adaptive phase conjugation system, numerical modelling 4-28780
- intracavity electrooptical modulator, laser generation, photorefractive effects (Russian) 4-38506
- intracavity laser power meas. by Rayleigh scatt. 4-14725
- intracavity modulation of laser output intensity by acoustooptic effects in liquid crystals 4-10335
- intracavity spectrometer with ring travelling-wave dye laser, detection limit reduction 4-300
- laser gyro lock-in-thresholds depend. on ring laser parameters (German) 4-55087
- laser oscillator, injection-locked, quantum noise 4-55007
- light beam amplitude distribution high-order azimuthal Fourier term propag., useful feature 4-49416
- materials treatment, conference, Pianore, Italy (July 1980) 4-36794
- methane, 3.39 μ m system, line shapes of intracavity saturated absorpt. peak diffracted light spectroscopy 4-23687
- methyl alcohol submillimetre wave laser, pumping geometry of CO₂ laser 4-23955
- mode behaviour in resonators with zones of different indices of refr. 4-33700
- mode degeneracy removal and freq. difference anal. (Chinese) 4-1379
- mode simulation by imaging method for cavity with tilted corner cube reflector 4-24022
- monolithic coupled-cavity laser, continuous operation, tunable single-mode selection 4-49388
- monomode transmitter module, optimal design, external cavity model 4-24031
- multi-cavity lasers for holography 4-49425
- near-hemispherical resonator, diff. losses 4-24029
- nonlinear optical resonator, incommensurate frequencies 4-49438
- operational modes and methods (Spanish) 4-19417
- optical wiggler free-electron X-ray laser in the 5 Å region 4-49376
- passive resonator matrix theory, self-consistent field matrix eqn. (Chinese) 4-1416
- passive resonators, matrix theory for axial symmetric stable resonators (Chinese) 4-1417
- passively mode-locked laser resonator optimisation 4-33694
- phase conjugate resonator performance, three-dimens., ideal conjugator 4-1421
- photoacoustic detection of intracavity absorption 4-8954
- polarisation eigenstates in resonator with partial polariser and phase plate 4-14727
- POPOP/TOPOT vapour laser, nonmonochromatically pumped 4-14685
- pulsed dye laser design, reln. between output power, spectral linewidth and cavity (Chinese) 4-44097
- Q-factor modulation, lasing kinetics analysis in cavity with thin absorbing layer 4-49405
- refraction loss influence on laser radiation characts. 4-14736
- repetitive subnanosecond laser, Q-switched, active control (Russian) 4-5620
- rhodamine 6G double prism dye laser cavities, thermal effects 4-24024
- rhodamine 6G in microporous glass laser, output characts. 4-23972
- rhodamine 6G pulsed dye laser investigation under various pumping conditions 4-28682
- ring dye commercial laser resonator with two foci, stability calcs. 4-28733
- ring gas laser with anisotropic resonator, radiation polarisation characts. 4-28735
- ring gas laser with longit. mode selector 4-14726
- ring laser, anisotropic cavity, nonlinear interaction of elliptically polarised counterpropagating waves 4-5619
- ring laser gyro class optics damage susceptibility 4-55106
- ruby laser, Q-switched, rectangular intensity profile generation 4-49418
- ruby laser with saturable absorber, ultrashort pulse duration control in Q-switched laser 4-28737
- saturable absorber lasers, transverse effects in bistable operation 4-44083
- self-phase locking in lasers with homogeneously broadened emission lines 4-44082
- semiconductor coupled cavity lasers, bistable operation 4-33652
- semiconductor coupled parallel waveguide laser 4-49390
- semiconductor laser, coupled cavity, spectral bistability 4-49350
- semiconductor laser, spectral linewidth reduction by external cavity with weak optical feedback 4-5588
- semiconductor laser emission freq. tuning, external resonator feedback influence 4-14694
- semiconductor laser with Michelson interferometer type cavity, electrical tuning 4-10322
- semiconductor lasers, composite cavities for mode selection 4-38508
- semiconductor lasers, Q switching method by electro-optic intracavity phase modulation 4-49407
- SHG in a resonant cavity 4-14758
- solid-state Q-switched laser, ultrashort pulse duration control 4-28737
- stable optical resonators with internal limiting apertures, diff. loss anal. 4-28732
- stripe-geometry DH lasers, index antiguiding effect on far-field distrib. 4-1396
- surface and transmitted wavefront meas. of laser components and solid-state laser resonators using Fizeau interferometer (German) 4-55064
- symmetric mirror confocal resonator, stability 4-19476
- tetrafluoromethane laser, optically pumped, polarisation phenomena 4-24052
- three-mirror cavity based apparatus for radiation loss meas. in optical elements 4-33824
- transmission loss, semiclassical theory 4-38441
- tunable laser coupled to external resonator, bistable operation theory 4-49319
- unstable resonator, small-scale perturbation influence on field correlation function 4-55091
- unstable resonator misalignment effects in cusping domain 4-38499
- unstable resonator radiation directivity, effect of light scatt. 4-5628
- unstable ring resonator geometrics, intracavity spatial filtering, passive cavity mode theory 4-24028
- UV short pulse generation by resonator transient quenching 4-5601

laser cavity resonators continued

- wide-aperture plane resonator, in-resonator field transform. 4-19478
 AlGaAs coupled-cavity laser, single longit. mode operation, 0.2-1.0 GHz FM characts. meas. 4-33695
 AlGaAs current-confined constricted-double-heterojunction large-optical-cavity diode laser, high power 4-1409
 AlGaAs operating in dispersive external cavity, transient optical response 4-24026
 AlGaAs/GaAs single mode CSP lasers with optical feedback, phase noise characts. 4-33650
 AlGaAs-DH laser coupled to external resonator, bistability, self-sustained oscils. and irregular operation 4-1432
 Al_{1-x}Ga_xAs quantum well heterostructure, lasers with external grating, broadband tuning 4-1393
 Ar ion CW laser, resonator mirror problems at high output power 4-3511
 Ar ion laser, acousto-optically mode-locked, degradation via diffuse refl. feedback 4-19483
 Ar laser, mode-locked, with intracavity radiation extraction 4-38504
 CO electron-beam-controlled laser, submicrosec. pulse emission by Q-switching 4-19474
 CO laser, pulsed electron-beam-controlled, with intracavity water cell, emission spectrum 4-19432
 CO₂ CW tunable laser resonator optimisation 4-24018
 CO₂ cascade lasers with electric discharge excitation 4-28661
 CO₂ hybrid laser, multiline oscillation by cavity length tuning 4-19419
 CO₂ laser, continuous, freq. stabilisation and band selection (*Spanish*) 4-28727
¹³C¹⁶O₂ 4.4 μ m cascade laser 4-38443
 CdS, lasing in the streamer channel direction 4-24055
 CdS, undoped, laser oscillations in bound excitonic region 4-33663
 CdS_{1-x}Se_x lasing in the streamer channel direction 4-24055
 Cr:BeAl₂O₄ alexandrite, high efficiency CW laser operation 4-1411
 Cu vapour laser with self-recording nonlinear mirror (*Russian*) 4-5577
 Cu vapour laser with self-starting LiNbO₃ nonlinear mirror 4-44113
 DF-CO₂ transfer laser, high-pressure, continuously tunable, optically pumped 4-23951
 DF-CO₂ chemical supersonic laser ring model with unstable-telescopic resonator, energy characts. 4-19435
 GaAlAs diode laser, linewidth reduction with high reflectivity coating 4-38470
 GaAlAs index-guided diode lasers, FM-noise spectrum 4-49360
 GaAlAs interferometric coupled-waveguide laser 4-10295
 GaAlAs laser diodes, broad-area, single-heterostruct., inelastic reflection of photons 4-23988
 GaAlAs tunable mode-locked lasers incorporating Brewster-angled diodes 4-33657
 (GaAl)As-GaAs isolated stripe CW laser degradation by proton bombardment (*Chinese*) 4-49414
 GaAs crystals, cleavage, surfactants effect on mech. strength, heterojunction laser resonators appl. 4-29504
 GaAs Fabry-Perot resonator, instability of ultrashort light pulse amplitude and polarisation 4-28757
 GaAs high power phase-locked laser arrays, mode-locked picosec. pulse generation 4-49406
 GaAs-Al_{0.3}Ga_{0.7}As DH lasers with two sections in common cavity, steady state characts. (*Chinese*) 4-5585
 GaAs-AlGaAs surface emitting laser diode with multilayered heterostructure reflectors 4-14723
 HF chemical laser, ring shaped active medium, quasi-1-dimens. calcs. 4-49339
 HF laser excited by a capacitively coupled discharge 4-49399
 HF single field chemical laser, mode interactions 4-5633
 He-Ne 3.39 μ m single-mode standing-wave laser, anomalous mode pulling, instabilities 4-55015
 He-Ne frequency-stabilised lasers, gas-lens effect and cavity design 4-10329
 He-Ne three mode 3.39 μ m laser, mode locking chaos, secondary beat freq. 4-10280
 He-Ne two-mode laser, freq. stabilisation using mag. hyperfine components of methane F₂⁽²⁾ 3.39 μ m line 4-10345
 HgBr efficient cavity-dumped laser 4-24009
 InGaAsP BH injection laser coupled to GRINROD external cavity, single longit. mode operation 4-1422
 InGaAsP external cavity laser, intensity fluctuations meas. 4-49354
 InGaAsP film lasers, chirped picosec. pulses, time-depend. wavelength evaluation 4-24041
 InGaAsP lasers, cleaved-coupled-cavity, 1.5 μ m, single mode operation 4-1390
 InGaAsP-InP Q-switched cleaved-coupled-cavity laser with integrated intracavity modulator 4-28716
 KTiOPO₄, intracavity SHG in acousto-optically Q-switched Nd:YAG laser oscillator 4-44154
 LiF F₂⁻ centre laser, quasi-CW lasing 4-24003
 LiF F₂⁺ centre laser, quasi-CW lasing 4-24003
 NH₃ CW Raman laser, optically pumped, 12.08 μ m, high power-conversion efficiency 4-28664
 N₂O sequence band laser, transversely excited, 10.7 μ m operation 4-38449
 Na gas in Fabry-Perot, polarisation switching obs. 4-24071
 Nd: garnet CW lasers, active mode locking by resonator loss modulation using acoustooptical modulator 4-14729
 Nd:glass high-power telescopic amplifier of single-pulse radiation 4-24056
 Nd:glass laser, antiresonant cavity, colliding pulse mode locking 4-33664
 Nd:glass laser picosecond pulse shaping by passage through LiF colour centre crystal 4-14126
 Nd:glass passively mode-locked laser with partially suppressed natural mode selection 4-5632
 Nd:YAG, laser amplifier system, characteristics (*Korean*) 4-38498
 Nd:YAG acousto-optic Q-switched laser, intracavity freq. doubling by LiNbO₃:Mg (*Chinese*) 4-49447
 Nd³⁺:YAG, Q-switched laser with active mode locking Q-switched laser with active mode locking 4-49403
 Nd³⁺:YAG intracavity fibre laser, CW Raman oscill. 4-49370
 Nd³⁺:YAG mode locked laser with unstable confocal resonator, high output energy and brightness 4-55079
 Nd³⁺:YAG ring laser counterpropagating wave competitive interaction control method 4-14738
 O₂-I CW transverse-flow chem. laser, small-signal gain and saturation parameter 4-28676

laser cavity resonators continued

- PbS_{1-x}Se_x cleaved-coupled-cavity diode laser, operation in 4 to 5 μ m region, mode control 4-49351
 Si-SiO₂ layers as reflection coatings for resonator mirrors in injection laser 4-38505
 XeCl laser, actively mode-locked, subnanosec.-pulse generation 4-44129
 YAG Q-switched laser, two-pass SHG produced by LiNbO₃:MgO in resonator (*Chinese*) 4-49448
 Zn_{0.9}Cd_{0.1}S optically pumped platelet laser, external cavity controlled lasing 4-19463
 ZnO UV laser, electron-pumped, output power increase using bulk waveguide resonators 4-10326
 ZnSe, lasing in the streamer channel direction 4-24055
- laser damage** see *laser beam effects*
- laser effects** see *laser beam effects*
- laser frequency stability**
 cleaved-coupled-cavity laser active spectral stabilisation 4-55098
 constant gain Q-switched laser, nanosecond and subnanosecond pulse generation (*Czech*) 4-55095
 coupled-cavity semiconductor lasers, wavelength self-stabilisation, single mode operation 4-28717
 CW excited lasers, self-pulsing and chaos 4-14740
 DFB laser diode, stability under high data rate modulation 4-55030
 diode laser frequency stabilisation, for coherent optical fibre transmission system 4-55082
 dye laser emission freq. stabilisation and tuning using Fabry-Perot interferometer 4-28728
 dye laser frequency stabilisation to an at. transition 4-28738
 dye lasers, CW, stabilising and tuning using optical reference resonator (*German*) 4-1404
 dye lasers, transversely pumped, mode selection by induced gain grating 4-28741
 dye ring laser frequency stabilisation using optical resonators 4-44116
 dynamic-single-mode coupled-cavity lasers, stabilisation and optimum biasing 4-38468
 excimer lasers, unstable resonator type, injection-locking 4-24047
 injection laser, fibre resonator loaded, autostabilisation technique for stable resonant optical feedback 4-24023
 injection lasers, single-mode, frequency stabilisation at 830 nm and 1.3 μ m 4-23974
 mode degeneracy removal and freq. difference anal. (*Chinese*) 4-1379
 Nd:YAG laser freq. stability, temp. effects (*Russian*) 4-28743
 rhodamine 6G double prism dye laser cavities, thermal effects 4-24024
 rhodamine 6G picosecond dye laser, excimer laser pumped 4-38494
 ring dye commercial laser resonator with two foci, stability calcs. 4-28733
 semiconductor laser, injection locked, influence of asymmetric locking characts. on coherent modulation behaviour 4-24037
 semiconductor laser instabilities 4-14732
 semiconductor laser with optical feedback, stability props. meas. 4-23975
 semiconductor lasers, freq. stabilisation (*Japanese*) 4-10302
 semiconductor lasers, frequency control by computer system (*Japanese*) 4-19482
 semiconductor lasers, linewidth broadening due to 1/f carrier noise, theoretical study 4-19489
 semiconductor lasers, single longit. mode type, AM at 1.5 μ m, dynamic linewidth study 4-38510
 spectroscopic technique to improve stability and reproducibility of laser freq. (*Japanese*) 4-32327
 standing wave lasers, mode selection by an induced gain grating 4-28741
 two-mode internal minor laser, frequency stabilized, environmental behaviour meas. (*German*) 4-14731
 AlGaAs laser, freq. stability, theory 4-38475
 AlGaAs laser, high-speed freq. stabilization using servo-system 4-24034
 AlGaAs laser, quantum noise limited freq. stability 4-19488
 AlGaAs laser simultaneous freq. and power stabilisation using optogalvanic effect of Kr 4-23981
 AlGaAs lasers, near threshold struct. depend. wavelength shifts, wavelength-stable source appls. 4-28694
 Al_{1-x}Ga_xAs-GaAs heterostructure injection lasers, dynamic characts. 4-28698
 CO₂ far IR hybrid laser, CW and pulsed, with improved efficiency and amplitude stability at short far IR wavelengths 4-28715
 CO₂ laser, continuous, freq. stabilisation and band selection (*Spanish*) 4-28727
 CO₂ laser, electron-beam sustained, laser-induced freq. sweeping 4-44085
 CO₂ laser emission freq. stabilised tuning using two-section interferometer 4-19493
 CO₂ laser frequency stabilisation with NH₂D Stark cell (*Chinese*) 4-55100
 CO₂ laser power stabilisation by feedback loop, freq. stability (*Chinese*) 4-55069
 GaAlAs single-mode laser freq. fluctuation stabilisation using fibre interferometer, noise props. 4-24045
 GaAlAs stabilised laser low freq. noise props. 4-33653
 GaAlAs tunable mode-locked lasers incorporating Brewster-angled diodes 4-33657
 HF chemical laser stabilization, photoacoustic Zeeman spectroscopy of Na¹⁵O 4-38217
 He-Cd laser, output stabilisation using feedback with axial magnetic field 4-55078
 He-Ne 3.39 μ m laser, single-mode self-pulsing instabilities at the Lamb dip 4-1384
 He-Ne 3.39 μ m single-mode standing-wave laser, anomalous mode pulling, instabilities 4-55015
 He-Ne 633 nm lasers, two-mode frequency stabilised, short-term and long-term stability 4-24015
 He-Ne frequency-stabilised lasers, gas-lens effect and cavity design 4-10329
 He-Ne laser, internal-mirror, amplitude-and frequency-stabilisation 4-24033
 He-Ne stabilised laser radiation wavelength ratio at 3.39 μ m and 0.633 μ m, meas. using servo controlled Michelson interferometer 4-10338
 He-Ne thermally stabilised two freq. laser meas. system for industrial use 4-10319
 He-Ne two-mode laser, freq. stabilisation using mag. hyperfine components of methane F₂⁽²⁾ 3.39 μ m line 4-10345
 He-Ne Zeeman laser, ¹²¹I₂ stabilised, evaluation of stability and wavelength (*Korean*) 4-38447
 Hf small CW chem. laser, short-term freq. stability (*Chinese*) 4-49338

laser frequency stability continued

- InGaAsP/InP buried crescent lasers; stable CW operation at high temp. 4-23992
 N₂O sequence band laser, transversely excited, 10.7 μ m operation 4-38449
 Nd³⁺:YAG ring laser, lasing dynamics, influence of gain profile struct. 4-24002

laser hardening *see laser beam effects; radiation hardening; surface hardening***laser induced breakdown** *see laser beam effects***laser induced damage** *see laser beam effects***laser isotope separation**

- beta-unstable nuclei, laser spectroscopy 4-43438
 gas dynamic technique, IR laser assisted, using condensation 4-44000
 gas lasers, pulsed high repetition rate, appls. in chemistry and isotope separation 4-23959
 history of Los Alamos laser programmes 4-8702
 laser-enhanced chemical reaction method 4-19291
 nuclear waste by-product utilisation, laser isotope separation 4-23242
 trifluoromethane-t₁, multiphoton dissociation, CO₂-laser irradiation, isotope separation 4-38345
 uranyl liquid-liquid extraction from aq. soln., effect of IR laser radiation (*Chinese*) 4-49172
¹²C isotope separation by multiple-photon dissociation 4-23832
 Li isotope separation, laser-enhanced chemical reaction method 4-19291
 OCS, two-step laser photodissociation, for O, C and S isotope separation 4-23834
 T isotope separation by CO₂-laser irradiation, at low temps. 4-38345
 U atoms, laser linewidth influence on selectivity 4-23835
 U, laser spectroscopy 4-43585
 UF₆ 4-43585

laser magnetic resonance

- ethynyl radical, laser mag. reson. rot. spectra 4-54764
 methylene, spin-orbit mixing, singlet-triplet transitions, far-IR laser mag. reson. 4-19091
 methylene-d₂, vibrationally excited, far-IR laser mag. reson. 4-49058
 molecular ions, high-resolution IR spectra 4-9772
 molecular ions, spectroscopy, structure and chemistry, book 4-8662
 CF radical, vibr.-rot., laser mag. reson. 4-5259
 FO radical, elec. dipole moment, laser mag. reson. spectra 4-14455
 O₂, optically pumped, far-IR laser mag. reson. 4-5260
 SiH, ground ²II state, using vibr.-rot. laser mag. reson. 4-49061

laser mirrors *see laser accessories; mirrors***laser mode locking**

- active mode locking theory, pulse profiles 4-19484
 correlation functions for mode-locked longitudinal modes 4-55103
 coumarin 102 dye laser, mode locking by cyanine dye 4-19523
 coupled mode number evaluation for FM mode-locked lasers 4-14728
 CW excited lasers, self-pulsing and chaos 4-14740
 diode lasers, threshold variations induced by external resonator feedback 4-24027
 double synchronously pumped mode-locked dye laser system, continuous cross-correlation meas. 4-55104
 dye laser, CW, chirped pulses in colliding pulse mode-locking regime 4-24036
 dye laser, CW, passive mode-locking tunable ultrashort light pulse generation 4-19468
 dye laser, mode-locked, tunable near IR picosecond pulses using Nd:YAG laser pumping 4-38462
 dye laser, mode-locked ring, chirping 4-24025
 dye laser, synchronously pumped, mode locking degradation via diffuse refl. feedback 4-19483
 dye lasers, CW, freq. locking by at. absorpt. lines 4-28683
 excimer lasers, unstable resonator type, injection-locking 4-24047
 injection laser, fibre resonator loaded, autostabilisation technique for stable resonant optical feedback 4-24023
 IR pulse generation, tunable picosecond, with mode-locked CW lasers, by difference freq. generation 4-24086
 local oscillator using mode-locked laser in heterodyne ranging system, bandwidth compression 4-19481
 microsecond-pulsed dye laser transient injection freq.-locking, atm. meas. appls. 4-44102
 multiple twisted DH laser with stable longitudinal mode operation 4-19441
 passively mode-locked laser resonator optimisation 4-33694
 picosecond duration laser pulse generation by simultaneous active-passive mode-locking in Ar⁺ ion and dye lasers 4-10334
 semiconductor laser, injection locked, influence of asymmetric locking characts. on coherent modulation behaviour 4-24037
 semiconductor laser, injection locked, light intensity pulsations 4-44105
 solid laser, CW, gain nonlinearity influence on lasing under forced mode-locking conditions 4-28703
 switch with all avalanche transistor driver, single pulse selection from mode locked train (*Chinese*) 4-49491
 ultrashort laser pulses for study of the picosecond image tube camera (*Chinese*) 4-55213
 AlGaAs single mode injection lasers for optical signal processing 4-38474
 AlGaAs/GaAs DH lasers, twisted-terraced substrate, design and mode locking 4-33684
 Ar ion laser, acousto-optically mode-locked, degradation via diffuse refl. feedback 4-19483
 Ar laser, mode-locked, with intracavity radiation extraction 4-38504
 Ar⁺ CW mode-locked laser for synchronous pumping, tunable ultrashort light pulse generation 4-19468
 CO₂ multiline AM mode-locked TEA laser, independently adjustable 4-28722
 CO₂ TEA lasers, plasma effect in injection-mode locking 4-38445
 GaAlAs tunable mode-locked lasers incorporating Brewster-angled diodes 4-33657
 GaAs high power phase-locked laser arrays, mode-locked picosec. pulse generation 4-49406
 GaAs-(AlGa)As twin mesa laser integrated with a passive waveguide 4-10299
 He-Ne three mode 3.39 μ m laser, mode locking chaos, secondary beat freq. 4-10280
 Kr⁺ CW mode-locked laser for synchronous pumping, tunable ultrashort light pulse generation 4-19468
 Nd:garnet CW lasers, active mode locking by resonator loss modulation using acoustooptical modulator 4-14729
 Nd:glass laser, antiresonant cavity, colliding pulse mode locking 4-33664

laser mode locking continued

- Nd:glass passively mode-locked laser with partially suppressed natural mode selection 4-5632
 Nd:glass passively mode-locked flashlamp-pumped laser, tunable ultrashort light pulse generation 4-19468
 Nd:YAG CW mode-locked laser, pump for subpicosecond dye lasers 4-10325
 Nd:YAG CW mode-locked laser for synchronous pumping, tunable ultrashort light pulse generation 4-19468
 Nd:YAG mode-locked laser using passive polymethine film switch 4-14711
 Nd:YAG passively mode-locked flashlamp-pumped laser, tunable ultrashort light pulse generation 4-19468
 Nd³⁺:YAG, Q-switched laser with active mode locking Q-switched laser with active mode locking 4-49403
 Nd³⁺:YAG CW laser mode locking by saturable absorber 4-24001
 Nd³⁺:YAG laser, mode locking with travelling acoustic wave modulation 4-49409
 Nd³⁺:YAG mode locked laser with unstable confocal resonator, high output energy and brightness 4-55079
 Nd³⁺:YAG ring laser counterpropagating wave competitive interaction control method 4-14738
 XeCl laser, actively mode-locked, subnanosec.-pulse generation 4-44129
 Zn₂Cd_{1-x}S optically pumped platelet laser, mode locked operation 4-19463

laser modes*see also laser mode locking*

- Airy-Hermite-Gaussian waveguide mode propagation in free space 4-24164
 bistable two-mode laser, first-passage time distrib. and switching statistics 4-1380
 cleaved-coupled-cavity lasers, single-longitudinal mode performance, high-speed direct modulation 4-19480
 closed-cavity solutions with partially coherent fields in space-freq. domain 4-10330
 confocal laser mode analysis based on prolate functions (*Chinese*) 4-55005
 coupled-cavity laser multiplexer, WDM and TDM, fibre transmission 4-14816
 coupled-cavity semiconductor lasers, wavelength self-stabilisation, single mode operation 4-28717
 CW excited lasers, self-pulsing and chaos 4-14740
 DFB laser, nonuniform stripe width for complete single-mode oscillation 4-28719
 DFB laser diode, stability under high data rate modulation 4-55030
 DFB laser mode separation, theory based on effective refractive index 4-24044
 DFB phase-shifted lasers for single-mode operation, 1.5 μ m 4-28718
 dye amplifier, single-mode evanescent-field-pumped, using fibre with active cladding 4-23969
 dye laser high-speed mode synchronisation anal. (*Russian*) 4-24049
 dye laser high-speed mode synchronisation anal. (*Russian*) 4-24050
 dye lasers, transversely pumped, mode selection by induced gain grating 4-28741
 dynamic single-mode coupled-cavity lasers, stabilisation and optimum biasing 4-38468
 flatness subdivision meas. using laser longitudinal modes (*Chinese*) 4-8864
 fluoromethane optically pumped 496 μ m laser, helical and linear DFB, mode selectivity 4-44115
 free electron collective tunable laser operation in stimulated Raman scattering regime 4-33677
 free electron laser, dispersion characteristics calc. for linearly polarized wiggler and axial guide field 4-33666
 free electron lasers in, collective regime, three dimensions theory 4-19464
 free-electron laser transverse mode dynamics 4-28704
 free-electron tapered wiggler laser, stable resonator, three-dimensions wave propagation soln. 4-14701
 gas laser, two mode, with anisotropic resonator in weak mag. field, level g factor, difference influence on emission characts. 4-10284
 gas lasers, mode interaction suppression 4-33639
 helical DFB laser realisation, group theoretical anal. 4-24048
 inhomogeneity effects in a gas laser 4-1388
 injection laser, single mode, phase noise and power spectrum 4-23979
 injection laser, V-channelled substrate inner stripe, mode characts. 4-23984
 injection laser arrays, phase-locked, coupled-mode anal. 4-38493
 injection laser mode partition study, statistical meas. 4-55034
 injection lasers, rate eqn. approx. analytical soln., transient spectrum anal. 4-23980
 intracavity adaptive optic mode control theory 4-1418
 intracavity adaptive optics expts. using deformable mirror located in compacted beam region of adaptive half-symmetric unstable resonator with internal axicon 4-1419
 intracavity adaptive optics expts. using deformable mirror located in annular beam region of adaptive half-symmetric unstable resonator with internal axicon 4-1420
 laser cavity with tilted corner cube reflector, mode simulation by imaging method 4-24022
 linewidths in two-mode operation, mode coupling effects 4-55006
 mode degeneracy removal and freq. difference anal. (*Chinese*) 4-1379
 monolithic coupled-cavity laser, continuous operation, tunable single-mode selection 4-49388
 multilayer strip laser heterostructures of rectangular cross section, critical dimensions 4-49365
 multimode laser radiation spatial component analysis using interferometric method (*Spanish*) 4-33698
 passive resonators, matrix theory for axial symmetric stable resonators (*Chinese*) 4-1417
 phase conjugate resonator performance, three-dimensions, ideal conjugator 4-1421
 picosecond optical switching in semiconductor lasers 4-10342
 pigtailed lasers, modal noise characterisation and specification 4-33660
 Raman-type free electron laser, two-dimensional, mode analysis (*Japanese*) 4-19466
 resonators with zones of different indices of refr., mode behaviour 4-33700
 rhodamine 6G laser high-speed mode synchronisation (*Russian*) 4-24050
 rhodamine 6G thin-film quasiwaveguide tunable dye laser with DFB 4-44101
 ring gas laser with longitudinal mode selector 4-14726

laser modes continued

- self-phase locking in lasers with homogeneously broadened emission lines 4-44082
 semiconductor injection lasers; transverse and longitudinal mode control 4-23948
 semiconductor junction arrays, gain-guided integrated, coupling mechanism 4-49352
 semiconductor laser, linewidth broadening due to mode competition noise 4-5587
 semiconductor laser, spatial radiation distrib., expt. and theory (Czech) 4-19492
 semiconductor laser, two dimens. far field pattern real-time meas. (Chinese) 4-49413
 semiconductor laser emission, intensity noise, multimode rate eqn. anal. 4-5586
 semiconductor laser emission freq. tuning, external resonator feedback influence 4-14694
 semiconductor laser partition noise influence on modal noise 4-38485
 semiconductor lasers, composite cavities for mode selection 4-38508
 semiconductor lasers, investigation of build-up of emission 4-19460
 semiconductor lasers, longitudinal mode spectrum under high-speed modulation 4-49361
 semiconductor lasers, multilongitudinal mode rate equations and spectral output oscills., expt. and theoretical study (Japanese) 4-19461
 semiconductor lasers, multimode theory, basic mathematical formulae (Japanese) 4-23973
 semiconductor lasers, optical gain, uniaxial stress effects 4-38480
 semiconductor lasers, single longit. mode type, AM at 1.5 μm , dynamic linewidth study 4-38510
 semiconductor single longitudinal mode lasers, spectral dynamics 4-23990
 separately pumped integrated-etalon-interference lasers, wavelength tuning, temp. characts. 4-1429
 standing wave lasers, mode selection by an induced gain grating 4-28741
 stimulated scattering of light by waves representing excited-state populations 4-10376
 stripe-geometry injection lasers, transverse mode switching freq. 4-10303
 symmetric DH lasers, effective refr. index, approx. expression 4-23978
 transmission loss, semiclassical theory 4-38441
 tunable laser coupled to external resonator, bistable operation theory 4-49319
 twin-stripe semiconductor lasers, bistable props., mode-guiding mechanisms 4-1428
 two-mode internal minor laser, frequency stabilized, environmental behavior meas. (German) 4-14731
 two-mode laser, homogeneously broadened, chaotic emission 4-44084
 two-mode ring laser, multivariable stochastic processes, first passage times and hysteresis 4-55008
 unstable ring resonator geometrics, intracavity spatial filtering, passive cavity mode theory 4-24028
 waveform and amplitude modulated laser light by means of mech. chopper 4-5624
 AlGaAs coupled-cavity laser, single longit. mode operation, 0.2-1.0 GHz FM characts. meas. 4-33695
 AlGaAs current-confined constricted-double-heterojunction large-optical-cavity diode laser, high power 4-1409
 AlGaAs injection lasers, mode switching induced by temp. variations and optical feedback 4-19447
 AlGaAs single mode injection lasers for optical signal processing 4-38474
 (AlGa)As TJS laser mode partition study, statistical meas. 4-55034
 AlGaAs/GaAs DH lasers, twisted-terraced substrate, design and mode locking 4-33684
 AlGaAs/GaAs single mode CSP lasers with optical feedback, phase noise characts. 4-33650
 Al_{1-x}Ga_xAs DH lasers, picosecond pulse generation 4-10298
 Al_{1-x}Ga_xAs-GaAs DH gain-induced laser with nonhomogeneous pumping, longit. mode selection 4-38483
 Al_{1-x}Ga_xAs-GaAs heterostructure injection lasers, dynamic characts. 4-28698
 CO₂ laser, mode pulling obs. 4-49322
 CO₂ TEA hybrid laser design and operation 4-38495
 CO₂ TEA multimode laser, phase conjugate study 4-5661
 CO₂ waveguide laser with Fox-Smith mode selector 4-28723
 fluoromethane helical DFB laser realisation 4-24048
 GaAlAs BH lasers grown by two-step MOCVD process 4-1406
 GaAlAs CW single-mode laser appl. to Rb-Xe NMR gyroscopes 4-42993
 GaAlAs current pulsed laser with dispersive external feedback, single mode operation 4-33649
 GaAlAs high power twin-ridge-substrate laser (Japanese) 4-55039
 GaAlAs interferometric coupled-waveguide laser, longitudinal mode selection 4-10295
 GaAlAs laser diodes, spectral props. (German) 4-55043
 GaAlAs single-mode laser freq. fluctuation stabilisation using fibre interferometer, noise props. 4-24045
 GaAlAs visible laser, transverse mode stabilized, separated multiclad layer stripe built-in waveguide 4-19471
 GaAs laser, longitudinal mode spectrum under high-speed modulation 4-49361
 GaAs/GaAlAs semiconductor laser, beam-scannable light source, superluminescent mode, grating coupler design 4-19469
 GaAs-(AlGa)As twin mesa laser integrated with a passive waveguide 4-10299
 GaAs-AlGaAs integrated laser phased arrays, longit.-mode control by phase vel. matching 4-38466
 GainAsP/InP high quality 1.3 μm BH-DFB lasers with first-order gratings 4-5615
 HCN CW waveguide laser, RF-excited, operational characts. (Japanese) 4-28675
 HF single field chemical laser, mode interactions 4-5633
 He-Ne 3.39 μm laser, single-mode self-pulsing instabilities at the Lamb dip 4-1384
 He-Ne 3.39 μm single-mode standing-wave laser, anomalous mode pulling, instabilities 4-55015
 He-Ne 633 nm lasers, two-mode frequency stabilised, short-term and long-term stability 4-24015
 He-Ne multimode linear Zeeman laser, radiation characts. 4-33701
 He-Ne single-mode laser beam, spatial coherence radius evaluation by speckle contrast (Russian) 4-1424
 He-Ne three mode 3.39 μm laser, mode locking chaos, secondary beat freq. 4-10280

laser modes continued

- He-Ne two-mode laser, freq. stabilisation using mag. hyperfine components of methane F₂(2) 3.39 μm line 4-10345
 InGaAsP BH injection laser coupled to GRINROD external cavity, single longit. mode operation 4-1422
 InGaAsP DFB, double channel, planar buried heterostruct. laser diode, modulation characts. 4-55031
 InGaAsP lasers, 1.3 μm , screening at high temp. and current by EL mode ageing 4-14717
 InGaAsP lasers, cleaved-coupled-cavity, 1.5 μm , single mode operation 4-1390
 InGaAsP-InP channelled substrate BH lasers, improved linearity and kink criteria 4-49355
 InGaAsP-InP DFB double-channel planar BH laser diodes, antireflection-coated, CW single longit. mode operation 4-49396
 InGaAsP-InP ridge waveguide laser, 1.55 μm , low threshold current 4-1408
 InGaAsP-InP:Cr semiconductor buried-crescent type laser (Japanese) 4-55040
 In_{1-x}Ga_xP_{1-y}As_y/InP waveguide struct., DH laser active layer thickness 4-38580
 Nd:glass passively mode-locked laser with partially suppressed natural mode selection 4-5632
 Nd³⁺:YAG CW laser mode locking by saturable absorber 4-24001
 Nd³⁺:YAG ring laser counterpropagating wave competitive interaction control method 4-14738
 PbS_{1-x}Se_x cleaved-coupled-cavity diode laser, operation in 4 to 5 μm region, mode control 4-49351
 laser Q-switching see Q-switching
 laser radar see optical radar
 laser theory
 see also laser transitions; population inversion; stimulated emission
 active particles in laser media, optimal conc. determ. 4-28699
 adiabatic elimination in nonlinear dynamical systems 4-55009
 amplification by enhanced internal refl., reflectance and transmittance of exponentially nonuniform gain region 4-23949
 anisotropic annular resonances, freq.-polarisation characts., operator calc. 4-19477
 atoms in gas lasers 4-28653
 bistable two-mode laser, first-passage time distrib. and switching statistics 4-1380
 broadband population inversion by phase modulated pulses 4-10380
 chemical lasers, theoretical and experimental anal. 4-33645
 Cherenkov gas laser possibility 4-14665
 coherent population trapping and effect of laser phase fluctuations 4-19418
 conference, Waikato, Hamilton, New Zealand (Jan. 1983) 4-13480
 confocal laser mode analysis based on prolate functions (Chinese) 4-55005
 coumarin 1-acriflavine-urarine-rhodamine 6G dye mixture laser system, continuously tunable energy transfer operation (Japanese) 4-33647
 DFB laser non-CW operation theory, effective Q factor model 4-28656
 diode laser modelling, rate eqn. and Fabry-Perot approach comparison 4-10293
 double heterostructure semiconductor laser, static field model with cavity longit. effects 4-28687
 dye laser, driven by coloured noise, statistical props. 4-38460
 dye laser high-speed mode synchronisation anal. (Russian) 4-24049
 dye laser high-speed mode synchronisation anal. (Russian) 4-24050
 dye lasers, photon statistics, non-Marcovian analytical model 4-5582
 far-IR lasers, transient behaviour 4-38442
 free electron laser, crossfield instability for tenuous electron beam 4-33670
 free electron laser, dispersion characteristics calc. for linearly polarized wiggler and axial guide field 4-33666
 free electron laser, electron quantum dynamics 4-44109
 free electron laser, photon propag. in relativistic electron beam 4-49380
 free electron laser instability, theoretical models and physical mechanisms 4-55053
 free electron laser storage ring system, 1-dimens. numerical simulation, power output, electron beam props. 4-33669
 free electron lasers, development and appls. 4-19465
 free electron lasers, multiphoton interaction, correspondence principle 4-55049
 free electron lasers, nonlinear theory and efficiency enhancement 4-33675
 free electron lasers, undulator radiation, near field calc. 4-33596
 free electron lasers in, collective regime, three dimens. theory 4-19464
 free-electron laser, low-gain, nonlinear oscill. particle motion effects 4-55054
 free-electron laser transverse mode dynamics 4-28704
 gamma-ray stimulated emission using Mossbauer isotopes, quasiclassical model 4-1378
 gas laser, two mode, with anisotropic resonator in weak mag. field, level g factor, difference influence on emission characts. 4-10284
 gas lasers, mode interaction suppression 4-33639
 gas lasers Gaussian beam parameters, saturation and population inhomogeneity 4-19423
 gas suspension of particles with internal struct., kinetic model 4-5985
 inhomogeneity effects in a gas laser 4-1388
 injection laser, homogeneously broadened, analytical model 4-49356
 injection lasers, nonlinear modulation response and relax. oscills. 4-23986
 laser matrices, impurity centres, crystal-matrix phase transition 4-49372
 laser oscillator, injection-locked, quantum noise 4-55007
 linewidths in two-mode operation, mode coupling effects 4-55006
 logistic equations in nonlinear systems 4-1439
 master eqn. to fourth order, microscopic theory 4-49320
 metal vapour lasers, pulsed, similarity relationships 4-28673
 multilayer strip laser heterostructures of rectangular cross section, critical dimens. 4-49365
 multiphoton free-free transitions in spatially inhomogeneous laser field 4-10270
 nonlinear spectroscopy in intense Markov field, review 4-38526
 oscillations, chaotic (turbulent) behaviour 4-55004
 output power of a laser utilizing multistage transitions 4-28655
 quantum well lasers, polarisation dependent momentum matrix elements calc. 4-38478
 quantum-optical systems, single-mode laser model, fluctuation theory 4-23943
 quasi-isotropic laser, eigenstates dynamics, vectorial bistabilities 4-49321

laser theory continued

- radiation theory for Dicke models, ordered operator method study 4-1381
- Raman-type free electron laser, two-dimensional, mode analysis (*Japanese*) 4-19466
- relaxation oscillations and stability, comments 4-28654
- rhodamine 6G-Safrin T-cresyl violet-blue dye mixture laser system, continuously tunable energy transfer operation (*Japanese*) 4-33647
- ring gas laser with longit. mode selector 4-14726
- ring laser, Lamb's theory of travelling-wave Gaussian beams, output expressions (*Chinese*) 4-55085
- ring laser diffraction irreprocity, numerical soln. 4-55089
- ring lasers with homogeneously broadened gain line, orthogonally polarised counterpropagating wave generation 4-10333
- saturable absorber lasers, transverse effects in bistable operation 4-44083
- self-phase locking in lasers with homogeneously broadened emission lines 4-44082
- semiconductor injection laser, light pulsations frequency and attenuation props. (*Czech*) 4-10300
- semiconductor injection lasers; transverse and longitudinal mode control 4-23948
- semiconductor laser, spatial radiation distrib., expt. and theory (*Czech*) 4-19492
- semiconductor laser emission, intensity noise, multimode rate eqn. anal. 4-5586
- semiconductor laser mode comparison, dynamic behaviour 4-23947
- semiconductor lasers, multi-longitudinal mode rate equations and spectral output oscils., expt. and theoretical study (*Japanese*) 4-19461
- semiconductor lasers, multimode theory, basic mathematical formulae (*Japanese*) 4-23973
- semiconductor lasers, refractive index, freq. modulation, first-order model 4-14691
- semiconductor lasers, strong field generation theory 4-10306
- separated subsystems in four-level atom 4-23939
- spectral purity of laser fields, phasor derivation of fundamental limits 4-55010
- spontaneous coherent pulsations in lasers 4-14666
- stimulated scattering of light by waves representing excited-state populations 4-10376
- stripe-geometry heterojunction laser, I-V characts. 4-49367
- stripe-geometry heterojunction laser, power-current characts. 4-49366
- stripe-geometry injection lasers generalised Epstein model 4-23946
- symmetric DH lasers, effective refr. index, approx. expression 4-23978
- transmission loss, semiclassical theory 4-38441
- tunable laser coupled to external resonator, bistable operation theory 4-49319
- twin-stripe semiconductor lasers, bistable props., mode-guiding mechanisms 4-1428
- two-mode laser, homogeneously broadened, chaotic emission 4-44084
- VUV anti-Stokes Raman lasers based on group VI elements 4-44093
- X-ray laser, radiation transfer anal. 4-1578
- (AlGa)As DH laser, gain mechanism 4-23985
- C IV ions in laser plasma, population inversion 4-14372
- CO₂ CW laser, kinetic and fluid dynamic model 4-19420
- CO₂ electron-beam-controlled laser, thermal self-interaction, numerical analysis 4-14667
- CO₂ laser discharges, optogalvanic effect, temp. perturbation model 4-33642
- CO₂ laser impedance fluctuations, multi-step ionisation and temp. perturbation models 4-33643
- CO₂ transverse flow laser, small signal gain along gas flow direction, anal. (*Chinese*) 4-55011
- CO₂-N₂ gasdynamic lasers employing two-dimensional wedge nozzles, gain optimisation, analytical studies 4-10275
- CO₂-N₂ gasdynamic lasers, 10.6 μ m, gain optimisation, theory 4-33640
- (GaAl)As two-component heterojunction laser with spatially inhomogeneous injection 4-28697
- GaAs-(AlGa)As broad-contact single heterostruct. laser diode, thermal props. 4-55041
- HF chemical laser, ring shaped active medium, quasi-1-dimens. calcs. 4-49339
- He-Ne, gas laser, mode interaction suppression 4-33639
- He-Ne laser Gaussian beam parameters, saturation and population inhomogeneity 4-19423
- N₂ Blumlein-type laser simulation by numerical anal. (*Japanese*) 4-28666
- N₂ glass, nonlinear absorption coefficient from laser energy transmissivity 4-38488
- XeCl electron-beam-excited lasers, theoretical simulation 4-23960

laser transitions

- see also laser theory
- carbon tetrafluoride CW 16 μ m laser, CO₂ laser pumped 4-23957
- difluoroethene, optically pumped submillimetre laser lines, MODOR 4-5575
- 1,1-difluoroethylene CW far IR lasing lines, optically pumped 4-28667
- difluoromethane, optically pumped submillimetre laser lines, MODOR 4-5575
- fluoromethane-d₂, far IR laser assignments 4-5574
- free electron laser, storage ring, operation at 6500 Å 4-5594
- gas laser, two mode, with anisotropic resonator in weak mag. field, level g factor, difference influence on emission characts. 4-10284
- injection semicond. lasers, multifreq. emission, impurity effects 4-28696
- methanol, optically pumped submillimetre laser lines, MODOR 4-5575
- methanol CO optically pumped 119- μ m far IR laser for plasma diagnostics 4-5611
- methyl alcohol, optically pumped, laser line M-independent Stark splitting 4-19427
- methyl fluoride-d₂ SMMW laser emission and freq. meas. 4-49334
- output power of a laser utilizing multistage transitions 4-28655
- quantum well lasers, polarisation dependent momentum matrix elements calc. 4-38478
- ring gas laser with longit. mode selector 4-14726
- ruby, excitation processes leading to emission 4-19462
- semiconductor lasers, strong field generation theory 4-10306
- tetrafluoromethane laser, optically pumped, polarisation phenomena 4-24052
- trifluoromethane-d₁, ν_3 band, optical pumping, laser emission 4-14674
- tunable laser coupled to external resonator, bistable operation theory 4-49319
- vapour laser with stabilised output parameters 4-14720
- vinyl chloride CW FIR laser action, optimally pumped 4-49336

laser transitions continued

- vinyl fluoride optically pumped by CO₂ laser, far IR laser lines 4-44094
- CO CW laser line correl. investigation (*Chinese*) 4-49331
- CO₂ isotopic modifications, vibr.-vibr. exchange probabilities calc. 4-28542
- CO laser, pulsed electron-beam-controlled, with intracavity water cell, emission spectrum 4-19432
- CO₂ CW tunable laser resonator optimisation 4-24018
- CO₂ cascade lasers with electric discharge excitation 4-28661
- CO₂ laser active medium energy charact. determ. from gain meas. 4-19422
- CO₂ lasers, transversely excited, anomalous gain coeff. meas. 4-28658
- CO₂ multiline AM mode-locked TEA laser, independently adjustable 4-28722
- CO₂ selective branch laser operating in sequence bands (*Chinese*) 4-49324
- CO₂-Ar CW gasdynamic laser emitting at 18.4 μ m 4-10278
- CO₂-Ne(Ar) mixture, lasing transitions between symmetric and deform. modes 4-49325
- ¹³C¹⁶O₂ 4.4 μ m cascade laser 4-38443
- CdS, undoped, laser oscillations in bound excitonic region 4-33663
- Cd(6³S₁ to 5³P₁) laser at 480 nm pumped by transverse discharge 4-49332
- Cl₂ intense CW visible and UV emission from Cl II and Cl III ions 4-49337
- Cr³⁺-Be₃Al₂Si₆O₁₈, emerald, laser action wavelength band peaked at 684.8 nm 4-23997
- Cr³⁺-Gd₂(ScGa)₂O₁₂ 4-55046
- Cu vapour laser lower active level lifetime meas. 4-23965
- Cu vapour laser transitions, in hollow cathode, optogalvanic spectroscopy 4-24676
- D₂O far IR laser, angular divergence of forwards and backwards emission at 66, 116 μ m 4-44090
- Er³⁺, Pr³⁺, YLF pulse-periodic lasing at 0.8503 μ m 4-33665
- Fe XVII, suprathermal electron direct collisional pumping, X-ray gain enhancement 4-28408
- Ge II hollow cathode discharge lasers 4-14670
- H₂-HF gasdynamic laser utilising purely rot. transitions, kinetic gasdynamic model and characts. calc. 4-10285
- HF single field chemical laser, mode interactions 4-5633
- He II transitions, stimulated radiation as a result of proton beam pumping 4-14668
- He-Cd white light laser using negative glow discharge 4-55023
- He-Cd-Hg CW hollow-cathode laser characts. 4-10283
- He-Cd⁺ laser, mag. reson. obs. through high freq. modulation (*French*) 4-23963
- He-Kr ion laser in a DC hollow cathode discharge 4-55014
- He-Ne laser, simultaneous generation in transitions 4-55013
- He-Ne model HND-120 visible multi-wavelength laser, tuned by dispersion prism (*Chinese*) 4-55072
- Hf small CW chem. laser, struct. and performance (*Chinese*) 4-49338
- Hg II compact laser excited by transverse electron beam glow discharge, 6149.5 Å transition 4-23958
- Hg, produced by HgI₂ two-photon dissociation, laser output at 5461, 4358 Å 4-5578
- I₂ lasers, He-Ne laser pumped 4-23964
- K₂ lasers, He-Ne laser pumped 4-23964
- KClO₃ crystals, amplified spontaneous emission and laser action at 6350, 5984 Å 4-5591
- KEr(WO₄)₂, self-activated Er³⁺ new laser channel 4-10309
- (La_{1-x}Nd_x)₂Ga₂SiO₄, spectral laser and electromech. props. 4-30516
- (La_{1-x}Nd_xMgAl₁₀)₉, continuous lasing and spectroscopic props. 4-14699
- Li resonance line lasing at 670.7 nm, LiI photodissociation 4-23967
- LiPrF₄O₁₂ single crystal laser oscillations 4-1398
- N II 4-5569
- N₂ laser emission spectra, new vibrational bands 4-19424
- N₂ narrow band laser system with variable wavelength ~337.1 nm 4-38448
- N₂⁺ ion laser, amplification characteristics at 391.4, 427.8 nm 4-38453
- NH₃ CW laser, line-tunable oscill. from 10.7 to 13.3 μ m 4-49328
- NH₃ two-photon optically pumped visible laser 4-14671
- N₂O sequence band laser, transversely excited, 10.7 μ m operation 4-38449
- ¹⁵ND₃ 15.9 μ m laser source 4-14716
- Na CW hyper-Raman laser in the near-IR 4-19428
- Na₂ cascade stimulated emission 4-33375
- Na₂ lasers, He-Ne laser pumped 4-23964
- Na₂ molecules, optically pumped, cascade laser emission 4-19426
- Nd³⁺-LaF₃, energy transfer up-conversion, UV fluoresc. detect. 4-25796
- Nd³⁺-YAG laser, Q-switched lasing as result of ⁴F_{3/2}-⁴I_{13/2} transition and SHG in LiNbO₃ 4-28701
- Ne-like ions, suprathermal electron direct collisional pumping, X-ray gain enhancement 4-28408
- PH₃ mid IR light rotor laser action 4-1387
- Pb vapour lasing at 722.9 nm, investigation using double pulse method 4-14675
- Te II hollow cathode discharge lasers 4-14670
- Tm³⁺-BaYbF₆ laser emission at 1.482 μ m due to new lasing transition in Tm³⁺ 4-10310
- Tm³⁺-LiYbF₄ laser emission at 1.4625 μ m due to new lasing transition in Tm³⁺ 4-10310
- XeF excimer laser, ¹³⁶Xe¹⁹F B-X transition obs. 4-19425

laser trimming see laser beam machining**laser tuning**

- 1,4-bis β -(substituted phenyl)ethenyl benzene derivatives, conversion efficiency and tuning range meas. (*Chinese*) 4-49343
- coumarin 1-acriflavine-urarine-rhodamine 6G dye mixture laser system, continuously tunable energy transfer operation (*Japanese*) 4-33647
- coupled mode number evaluation for FM mode-locked lasers 4-14728
- dye DFB laser, tuning by divergent pumping beams 4-38459
- dye doped microporous quartz glass as tunable DFB laser 4-44098
- dye IR laser, CW operation in 685 to 880 nm range 4-49342
- dye laser, freq. tuned, intracavity freq. selection by Fabry-Perot interferometer (*Russian*) 4-38507
- dye laser, mode-locked, tunable near IR picosecond pulses using Nd:YAG laser pumping 4-38462
- dye laser, tunable single mode high power pulse laser for spectroscopy appl. (*French*) 4-5583
- dye laser, uncorrelated double-beam tunable, design and expt. results (*Chinese*) 4-49391

laser tuning continued

- dye laser emission freq. stabilisation and tuning using Fabry-Perot interferometer 4-28728
 dye laser frequency stabilisation to an at. transition 4-28738
 dye laser system, flash lamp pumped, with oscillator and amplifier (Chinese) 4-55071
 dye lasers, CW, freq. locking by at. absorpt. lines 4-28683
 dye lasers, CW, stabilising and tuning using optical reference resonator (German) 4-1404
 dye lasers, picosecond pulse generation, tuning up to 1.425 μm 4-14686
 dye lasers, tuning using acoustooptic filter 4-49386
 dye low-cost tunable laser systems, chemical anal. appls. 4-28714
 dye tunable lasers, broadband high refl. mirror (Chinese) 4-55063
 fluoromethane laser, tuning and gain characteristics of stimulated Raman scatt. (Chinese) 4-38450
 free electron collective tunable laser operation in stimulated Raman scatt. regime 4-33677
 free electron maser, mm-wave, atmospheric pressure air breakdown plasma production 4-19415
 injection lasers in beat freq. stabilisation regime, emission line width determ. using heterodyne method 4-28747
 laser gyro lock-in-thresholds depend. on ring laser parameters (German) 4-55087
 mode degeneracy removal and freq. difference anal. (Chinese) 4-1379
 monolithic coupled-cavity laser, continuous operation, tunable single-mode selection 4-49388
 polychromatic laser light source 4-5616
 rhodamine 6G dye laser based broadband source for optical processing 4-55097
 rhodamine 6G thin-film quasiwaveguide tunable dye laser with DFB 4-44101
 rhodamine 6G-Safranin T-cresyl violet-nile blue dye mixture laser system, continuously tunable energy transfer operation (Japanese) 4-33647
 semiconductor coupled parallel waveguide laser 4-49390
 semiconductor laser emission freq. tuning, external resonator feedback influence 4-14694
 semiconductor laser with Michelson interferometer type cavity, electrical tuning 4-10322
 separately pumped integrated-etalon-interference lasers, wavelength tuning, temp. characts. 4-1429
 p-terphenyl tunable laser UV emission, KrF excimer laser pumping (Chinese) 4-49344
 tunable laser coupled to external resonator, bistable operation theory 4-49319
 AlGaAs grating loaded lasers, tunable single mode picosecond pulse generation 4-24038
 AlGaAs semiconductor laser with grating feedback, tunable single mode pico-second pulse generation 4-1389
 Al_{0.5}Ga_{0.5}As quantum well heterostructure, lasers with external grating, broadband tuning 4-1393
 CO CW tunable laser with two wavelengths (Chinese) 4-49330
 CO laser, pulsed electron-beam-controlled, with intracavity water cell, emission spectrum 4-19432
 CO₂ CW tunable laser resonator optimisation 4-24018
 CO₂ CW tunable waveguide high-press. lasers 4-5608
 CO₂ laser, mode pulling obs. 4-49322
 CO₂ laser, pulsed, using passive Q switch with SF₆ gas 4-44111
 CO₂ laser emission freq. stabilised tuning using two-section interferometer 4-19493
 CO₂ laser frequency selection by Ge-window temp. control (Chinese) 4-14713
 CO₂ laser power stabilisation by feedback loop, freq. stability (Chinese) 4-55069
 CO₂ waveguide laser with Fox-Smith mode selector 4-28723
¹³C₆₀O₄ 4,4 μm cascade laser 4-38443
 Cr:BeAl₂O₄ alexandrite, high efficiency CW laser operation 4-1411
 Cr³⁺:BeAl₂O₄, alexandrite, vibronic laser output, tunable emission obs. (Chinese) 4-55044
 Cr³⁺:BeAl₂O₄ frequency doubled laser based tunable near UV laser system 4-23996
 Cr³⁺:Gd₃(ScGa)₂O₁₂ 4-55046
 Cr³⁺:KZnF₃ tunable near IR laser, 775 to 826 nm spectral range 4-44107
 GaAlAs CW single-mode laser appl. to Rb-Xe NMR gyroscopes 4-42993
 (GaAl)As lasers, separately pumped, longit. mode behaviour and tunability 4-33651
 GaAlAs tunable mode-locked lasers incorporating Brewster-angled diodes 4-33657
 He-Ne model HND-120 visible multi-wavelength laser, tuned by dispersion prism (Chinese) 4-55072
 He-Ne three mode 3.39 μm laser, mode locking chaos, secondary beat freq. 4-10280
 LiF F₂ tunable colour centre laser (Chinese) 4-49368
 LiF F₂⁻ crystal laser, strongly excited, output characts. 4-55047
 LiF with stable and unstable F₂⁺ centres, lasing characts. 4-49373
 NH₃ CW laser, line-tunable oscill. from 10.7 to 13.3 μm 4-49328
 NH₃, laser energy and tuning characts., parameters of laser pumped mol. lasers 4-38456
 N₂O sequence band laser, transversely excited, 10.7 μm operation 4-38449
 Na CW hyper-Raman laser in the near-IR 4-19428
 Nd: garnet CW lasers, active mode locking by resonator loss modulation using acoustooptical modulator 4-14729
 Nd:glass laser producing ultrashort pulses with controllable parameters 4-5597
 Nd:glass tunable narrow-band laser with passive Q-switch of LiF:F₂⁻ cryst. 4-28729
 Nd³⁺:YAG ring laser counterpropagating wave competitive interaction control method 4-14738
 PbS_{1-x}Se_x cleaved-coupled-cavity diode laser, operation in 4 to 5 μm region, mode control 4-49351
 Pb_{1-x}Sn_xSe mesa-stripe tunable diode lasers 4-23982
 Pb_{1-x}Sn_xTe/PbSe_{1-y} distributed Bragg reflector diode lasers, LPE growth 4-38469
 PbSnTeSe far IR heterojunction lasers tunable to 46.2 μm 4-19456
 XeCl excimer laser, spectral characteristics (Russian) 4-5568

laser velocimeters

- aerosols, particle size determ. by signal visibility of differential laser Doppler velocimeter 4-34175

laser velocimeters continued

- aerosols turbulent pipe flow, laser Doppler velocimeter meas. 4-10746
 aerospace simulation facilities, conf., St. Louis, France (Sept. 1983) 4-22520
 air-solid two-phase flow in vertical pipe, laser-Doppler velocimeter study 4-49877
 boiler tube bank, wind tunnel air flow meas. using laser Doppler anemometry 4-49907
 burst correlation laser Doppler velocimetry results 4-24507
 closed flow of convection, velocity profiles meas. by laser Doppler velocimetry (Spanish) 4-5980
 combustive flows in IC engine, velocity meas., laser diagnostic methods 4-38922
 compact Doppler velocimeter, optical fibre type, using laser diode 4-44780
 comparison of measured and calculated gas velocities in the inlet channel of a single cylinder reciprocating engine, using laser Doppler anemometer 4-44773
 directional laser velocimetry without freq. biasing 4-24484
 Doppler anemometer, rapidly scanning design 4-34208
 Doppler anemometer, with automatic traversing system 4-24503
 Doppler anemometer study of turbulent struct. of non-Newtonian fluids 4-49861
 Doppler anemometry, errors due to voltage level trigger effects 4-24502
 Doppler anemometry, macroparticle dynamics obs. in vacuum arc 4-24667
 Doppler anemometry, principle, configuration and equipment selection 4-34213
 Doppler anemometry, threshold method for processing Doppler signal (Russian) 4-1852
 Doppler anemometry in turbulent flow, mean vel. shift (Russian) 4-10795
 Doppler freq. track speedometer (Chinese) 4-42930
 Doppler system, crosswind vel. meas. (German) 4-3856
 Doppler vel. meter, influence of scattered-wave polarisation (Russian) 4-44134
 Doppler velocimeter, pulsed, remote controlled (Chinese) 4-55460
 Doppler velocimeter for moving surface vel. and length meas., industrial process control appls. 4-24486
 Doppler velocimetry by modulating a CO₂ laser with backscatt. light 4-24485
 Doppler velocity meas., in low-speed wind tunnel 4-24504
 dual-wavelength Doppler anemometer, simultaneous particle size and velocity meas. appl. 4-24505
 fibre optics use in flow meas. instruments 4-44212
 flame propagation, laser Doppler velocimetry meas. 4-49896
 flames, laser Doppler velocimetry, refractive index change effect 4-44771
 flow meas. in axis-symmetric air jet, anemometer techniques comparison 4-24501
 flow velocity measurement in small glass tube, differential-type velocimeter with spatial grating filter (Japanese) 4-1855
 flowing media, velocity profile meas., laser anemometry appls., jet dissipation, turbomachine flow 4-55465
 immersed jet, hydrodynamic characts. meas. by laser Doppler anemometer (Russian) 4-15010
 internal combustion engine cylinder turbulent air flow meas. by laser Doppler anemometer 4-19899
 kerosene atomised vaporising spray, droplet size and vel. meas. 4-34159
 laminar separation point meas. by laser Doppler anemometer 4-38789
 laser Doppler anemometer, for two-phase flow meas. 4-15049
 luminous flames, flow meas. with photoelectron correl. laser Doppler method 4-30988
 micrometer, revolving starting characteristics meas. by laser Doppler velocimeter (Chinese) 4-13623
 motion of macromols. and fluids determ. using Doppler shift (French) 4-34210
 multiphase flow fields, optical meas. of particle size, velocity and concentration 4-49908
 non-Doppler laser velocimetry advances 4-49895
 oscillating tank, laminar to turbulent flow transition, laser Doppler anemometer meas. 4-38798
 pipe flow velocity meas. at high temp., using laser Doppler anemometry 4-24506
 polymer melt flow measurements by laser Doppler velocimeter 4-15040
 ramjet engine development, optical meas. 4-49899
 remote laser probe system for vel. and temp. meas. in fluids 4-10800
 speckle velocimeter using a pair of virtually shifting photodiodes 4-19901
 tachometer, high-precision, based on Doppler velocimetry, for shaft RPM meas. (German) 4-48090
 three-dimensional laser Doppler anemometer, accuracy assessment 4-55454
 time-of-flight velocimetry, time and time-lag estimation 4-19898
 transonic diffuser flows, unsteady separated, laser Doppler velocimeter meas. 4-49843
 velocity characteristics in the turbulent near wakes of confined axisymmetric bluff bodies 4-49821
 vortex shedding strut mounted in pipe laser Doppler velocimeter meas. 4-10684
 window aberration correction in laser velocimetry using multifaceted holographic optical elements 4-49295
- laser windows** see laser accessories; optical elements
- lasers**
 see also chemical lasers; distributed Bragg reflector lasers; distributed feedback lasers; dye lasers; excimer lasers; free electron lasers; gas lasers; laser beams; laser frequency stability; laser tuning; liquid lasers; nuclear pumped lasers; Raman lasers; ring lasers; solid lasers; X-ray lasers
 colour holographic filming appl. (Russian) 4-10328
 conference, Optical Society of America 1983 Annual Meeting, New Orleans, LA, USA (Oct. 1983) 4-22522
 conference on optics, Los Alamos, NM, USA (April 1983) 4-8637
 high-power lasers and optical waveguides for robotic material-processing applications 4-14704
 integrated optics, conf., Florence, Italy (Oct. 1983) 4-22519
 physical principles, history and applications 4-14703
- latent heat**
 see also heat of fusion; heat of sublimation; heat of vaporisation
 latent heat storage tanks, heat transfer with phase change around finned cylindrical tubes 4-57785
 low temperature storage by reciprocal salt pairs 4-52212

latent heat continued

- phase change material in pool, heat transfer, effect of cycling 4-57794
 q-state Potts model, critical props., mean-field theory with symmetry breaking 4-53615
 salt-water desalination three-stage unit, design 4-57776
 solar absorber house heating systems, heat source with ice/water latent heat storage (*German*) 4-26326
 thermal energy storage reservoir using spherical capsules (*Japanese*) 4-41383
 $\text{CaCl}_2 \cdot 6\text{H}_2\text{O} - \text{SrCl}_2 \cdot 6\text{H}_2\text{O}$ latent heat stores reversibility problems 4-52209
 Na_2SO_4 heat storage characs. in solar storage systems 4-26328
 latent heat of adsorption *see* heat of adsorption
 latent heat of combustion *see* heat of combustion
 latent heat of crystallisation *see* heat of crystallisation
 latent heat of dissociation *see* heat of dissociation
 latent heat of formation *see* heat of formation
 latent heat of fusion *see* heat of fusion
 latent heat of mixing *see* heat of mixing
 latent heat of reaction *see* heat of reaction
 latent heat of solution *see* heat of solution
 latent heat of sublimation *see* heat of sublimation
 latent heat of transformation *see* heat of transformation
 latent heat of vaporisation *see* heat of vaporisation
 latent image *see* photographic process

lattice constants

- see also* crystal atomic structure
 actinide nitrides, AnN , $\text{An} = \text{Th-Am}$, lattice parameters, electronic struct., LMTO, RLMO calcs. 4-56211
 alkali halides, cohesive props. in local density formalism 4-6311
 alkali halides, crystals, γ -irrad., mechanoluminesc. study 4-40545
 alkali halides, electron charge density beyond rigid-ion approx. 4-34438
 alkali metal alloys, binding energy, heat of soln., bulk modulus and shear elastic const. 4-50716
 alkali metal halide crystals, lattice constants, localised centre absorption band spectral location 4-56970
 alkaline earth cpds. MPd_2P_2 , cryst. struct., Guinier powder diffr. studies 4-24776
 alkaline earth oxides, cohesive props. in local density formalism 4-6311
 β -alumina, divalent-cation, preparation, struct. and Raman spectra 4-24795
 cholesteric liq.-crysts., blue phase I, elasticity, normal shear modes determ. 4-44944
 difference meas., high sensitivity double-source double-cryst. X-ray spectrometer method 4-15346
 dimethylammonium copper tetrachloride, normal and deuterated, struct. props. 4-55811
 electronic dielec. const., quantum theory, Clausius-Mosotti limit 4-35330
 eutectic alloy, directional, model of subgrain boundary form. 4-51629
 garnets, $\text{R}_3\text{Ga}_2\text{O}_{12}$ ($\text{R} = \text{Gd, Nd, Sm}$), melt grown, lattice spacings, stress birefringence obs. 4-34429
 graphite, adsorbed Ne , energy and struct. of monolayer and bilayer solids 4-45503
 graphite intercalated with K and Rb, $\text{K}_x\text{-Rb}_x\text{C}_8$, elastic distortion fields, lattice parameter changes 4-45095
 graphite-IIIb element trichloride intercalation cpds., struct., low temp. anal. (*French*) 4-45103
 graphite-SbCl₅ intercalation cpd., ^{121}Sb NMR and EPR studies 4-40250
 hexagonal cryst., loading behaviour, struct. and equil. states 4-24899
 I-III-V₂ semiconductors, band gap anomaly, chem. and struct. factors 4-45624
 III-V pseudoquaternary alloy systems, LPE growth, lattice const., comp. deviation effects 4-15776
 insulators, thermal cond., universal high temp. saturation 4-56105
 intermetallic cpds., alloying-induced lattice parameter changes 4-29382
 large d-spacings, meas. problems with parafocusing powder diffractometer 4-53813
 metal films, sputtered, stress and prop. control without substrate bias 4-15786
 metal-H system, phase transition and form. of quantum cryst. with vacancies 4-25017
 metals, lattice const. and bulk moduli depend. on pseudopotential parameters 4-39204
 metals, lattice constant and force const. relationships 4-29381
 methane, solid, thermal expansion and lattice const. (*Russian*) 4-56054
 molecular cryst., lattice energy-functional, symmetry 4-11031
 monoclinic crystals, lattice parameter determ. method from powder diffr. patterns 4-29288
 noncentral force systems, F-centres, spin-orbit and host-lattice effects 4-24814
 paracrystalline lattice, general lattice factor 4-11020
 precise lattice constants determination, geom. correction 4-39189
 rare earth borides, RFe_2B_4 ($\text{R} = \text{Ce, Pr, Nd, Sm, Gd, Tb}$), cryst. struct. and ferromag. props. 4-11099
 rare earth cpds., $\text{R}_2\text{Hf}_2\text{O}_7$, $\text{R} = \text{La-Nd, Sm-Lu, Sc}$ and Y, lattice const. 4-45082
 rare earth cpds., RPd_2P_2 , cryst. struct., Guinier powder diffr. studies 4-24776
 rare earth hydrides, $\text{RH}(\text{D})_{233}$, cryst. struct., X-ray and neutron diffr. studies 4-24777
 rare earth monosulphides, thermodynamic props. in homogeneity range 4-39537
 rare earth sesquioxides, metal-O bond lengths, inclined V systemisation 4-2136
 rare earth ternary silicides, RZnSi , prep., elec. and mag. props. 4-30144
 semiconductors, free carrier influence on equilibrium lattice parameter 4-34457
 spinels, anion-substituted, unit-cell parameters 4-50255
 steel, austenitic stainless, weld metal, microstruct., neutron diffr. study 4-16422
 superalloy, GH302, fault structure of simple hexagonal lattice (*Chinese*) 4-55847
 syn-cis-1-methyl-4-octalin-1,2-dicarboxylic acid anhydride, cryst. and mol. struct. 4-34474
 $\text{TEA}^+(\text{TCNQ})_2^-$ order-disorder phase transition 4-24754
 tensile and shear strength, correl. with friction props. 4-50402
 3d transition metal monoxides, cohesive props., KKR band calcs. 4-6312
 transition metal ternary κ phases, cryst. chem. features 4-11050
 zeolites, Y struct., Al content determ. from lattice const. 4-50247

lattice constants continued

- Ag-Bi-Tl alloys, rapidly quenched phases, solid solubility and lattice const. 4-24970
 Ag-Mn spin glass alloys, local order, EXAFS 4-46365
 Ag-Tl alloys, rapidly quenched phases, solid solubility and lattice const. 4-24970
 $\text{AgInS}_2(\text{Se}_2)$ and $\text{AgInSe}_{2(1-x)}\text{S}_{2x}$, cryst. growth and props. 4-25874
 $\text{Ag}_3\text{P}_2\text{O}_7$ crystal, Czochralski growth, phys. props. 4-51476
 Al-Hf-Al₃Hf, lattice parameter variation, dispersion hardening characs. 4-11043
 Al-Ti-Al₃Ti, lattice parameter variation, dispersion hardening characs. 4-11043
 Al-V-Al₃V, lattice parameter variation, dispersion hardening characs. 4-11043
 Al-Zr-Al₃Zr, lattice parameter variation, dispersion hardening characs. 4-11043
 $\text{AlGa}_{1-x}\text{N}$, reactive MBE growth and optical characterisation 4-16328
 AlOOH , boehmite, thermal expansion anomaly at 560K, DSC study 4-45366
 $\text{BaLi}_2\text{Nb}_{10}\text{O}_{30}$ cryst., low temp. phase transitions, dielec. const. studies 4-34640
 $\text{BaO-Al}_2\text{O}_3\text{-TiO}_2$ system, lattice parameters of $\text{BaAl}_2\text{Ti}_2\text{O}_{14}$ phase, X-ray indexing 4-16378
 BaSiN_2 , unit cell parameters, X-ray powder diffr. 4-34451
 BaTiO_3 , crystal defect characterisation, X-ray diffr. anal. (*French*) 4-50278
 Be, isothermal compression and phase transition to 28.3 GPa, X-ray diffr. study 4-29602
 Be, structural and electronic props., ab initio study 4-6318
 $\text{Bi}_{2-x}\text{Y}_x\text{FeSbO}_7$, Mossbauer study in paramag. and mag. ordered states 4-7107
 CaB_6 , X-ray reflections intensities, nonstoichiometry effect 4-24684
 CaCo_2Al_3 , cryst. struct., X-ray diffr. study (*German*) 4-24761
 $\text{Ca}_{10-x}\text{Pb}_x(\text{PO}_3)_6(\text{OH})_2$, apatites, struct., X-ray diffr. and IR absorpt. spectra 4-24788
 CaS , cohesive props. in local density formalism 4-6311
 $\text{Cd}_{1-x}\text{Cu}_x\text{Cr}_2\text{S}_4(\text{Se}_4)$, phase diagrams and solid solubility, X-ray diffr. studies 4-39441
 $\text{Cd}_2\text{Hg}_{1-x}\text{Te}$, refractive index calc. rel. to freq. and mole fraction 4-40385
 CdI_2 , interlayer bonding under hydrostatic press., Raman scatt. study 4-6313
 $(\text{Cd}(\text{NH}_3)_6)(\text{ClO}_3)_2$, phase transitions, NQR, NMR, dilatometric and DSC studies 4-50501
 $\text{CdS}_{1-x}\text{Se}_x$ films, struct., elec. and optical props. 4-30094
 $\text{Cd}_2\text{Zn}_2\text{Mn}_2\text{Te}$, lattice parameter and optical-energy gap values 4-29393
 CeAl_3 , thermal expansion and lattice const., X-ray diffr. study 4-20381
 $\text{Ce}(\text{Co}_{1-x}\text{Ni}_x)_2$, Laves system, valency compensation effect, mag. susceptibility, X-ray obs. 4-15425
 $\text{CeCu}_2(\text{Ni}_5)(\text{Co}_3)(\text{Fe}_2)$, valence state of Ce (*Russian*) 4-6745
 CeCu_2Si_2 single cryst. growth, Bridgman method 4-21127
 $\text{CeGa}_{10}\text{Ni}$, cryst. struct. and lattice const., X-ray diffr. studies 4-34448
 CeNi_2 , intermediate valence compounds, physical props. 4-2555
 CeNi_2Ge_2 single cryst. growth, Bridgman method 4-21127
 CeNi_2P_2 , cryst. struct. determ. 4-50260
 CeO_2 , precipitated, thermal treatment, texture rel. to atmosphere 4-40728
 $\text{Ce}_2\text{Pd}_6\text{P}_{17}$, cryst. struct., Guinier powder diffr. studies 4-24776
 $\text{Ce}(\text{Rh}_{1-x}\text{Pt}_x)_2$, mixed valence, X-ray L_{III} absorpt. 4-57031
 $\text{Ce}(\text{Rh}_{1-x}\text{Ru}_x)_2$, mixed valence, X-ray L_{III} absorpt. 4-57031
 CeRh_2Si_2 , mag. props., lattice parameters and EXAFS measurements 4-2740
 $\text{CeSi}_2\text{-xGa}_x$, electronically driven volume transition, mag. susceptibility study 4-46033
 Co/Cr compositionally modulated films, struct. and mag. props. 4-29826
 $\text{Co}_2\text{Re}_{10}\text{As}_{24}(\text{P}_{24})$, prop. and cryst. struct. 4-11104
 CoRh_2O_4 , polycrystalline spinel, unit cell parameters, IR absorpt. obs. 4-50250
 Co_2RhO_4 , polycrystalline spinel, unit cell parameters, IR absorpt. obs. 4-50250
 $\alpha\text{-Co}_2\text{SiO}_4$, cryst. struct. and electron distrib., X-ray diffr. study 4-15434
 $\text{Co}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$ ferrites, Young's modulus, mag. field depend. 4-34561
 $\text{Cr}_{1-x}\text{Co}_x\text{Cr}_2\text{S}_4$, phase relationships with Cr_2S_4 and spinel struct. 4-15616
 $\text{Cr}_{1-x}\text{Fe}_x\text{Cr}_2\text{S}_4$, phase relationships with Cr_2S_4 and spinel struct. 4-15616
 $\text{Cr}_2\text{Fe}_{90-x}\text{Ni}_x$, conc. mag. transition, lattice const., Debye temp. 4-20821
 $\text{Cr}_2\text{Fe}_{95-x}\text{Ni}_x$, conc. mag. transition, lattice const., Debye temp. 4-20821
 $\text{Cr}_{1-x}\text{Mn}_x\text{Cr}_2\text{S}_4$, phase relationships with Cr_2S_4 and spinel struct. 4-15616
 Cu (111), subthreshold effect, inner potentials and surface relax., LEED study 4-34763
 Cu, FCC, electronic energies, densities of state, X-ray scatt., total energy, calcs. using Gaussian basis sets contraction 4-34440
 Cu foil, He ions implantation effects 4-45168
 Cu-Ag, lattice stability parameters, phase equil. (*Chinese*) 4-7422
 Cu-Tl alloys, rapidly quenched phases, solid solubility and lattice const. 4-24970
 $(\text{Cu}_{1-x}\text{Ag}_x)(\text{Ga}_{1-y}\text{In}_y)(\text{Se}_{1-z}\text{Te}_z)_2$, lattice parameter and optical-energy gap values 4-29392
 $(\text{Cu}_{1-x}\text{Ag}_x)(\text{Ga}_{1-y}\text{In}_y)(\text{Se}_{1-z}\text{Te}_z)_2$, solid soln., lattice const. and electronegativity 4-39513
 $\text{CuGaSn}\square\text{Se}_4$, chalcopyrite semicond., high temp. lattice parameters 4-24770
 CuGeP_3 , ternary semicond., elastic behaviour, US pulse echo study 4-45242
 CuInS_2 , lattice vibr., IR study 4-30449
 $\text{Cu}_2\text{Mo}_6\text{S}_{18-y}$, supercond. critical temp. and stability range 4-15982
 D_2 , solid, lattice const. and thermal expansion (*Russian*) 4-45443
 EuCl_2 , anhydrous non-stoichiometric phase, Mossbauer studies 4-20890
 $\text{Fe, BCC and FCC, ferromagnetism, lattice parameter depend. 4-20803}$
 Fe-Co-Cr sputtered films, mag. and corrosion props., magneto-optical meas. 4-56719
 Fe-Co-Te alloys, NiAs-type struct., lattice parameter and mag. props. 4-56540
 Fe-Ni-Co-Ti (23, 10, 10 wt.%), martensitic transform., γ -phase precipitate lattice parameters, internal stresses 4-21209
 $(\text{Fe}_{1-x}\text{Al}_x)_2\text{Gd}$ (Dy), mag., elec. and thermal props., local disorder effects 4-51056
 Fe_2Ga , compressive flow stress, temp. and nonstoichiometry depend., 77-800K 4-40912
 FeN_x phase form. by N^+ ion implantation and heat treatment 4-39326

lattice constants continued

- Fe₅Ni₃₅₋₃₇-xCr_x, conc. mag transition, lattice crust., Debye temp. 4-20821
 Fe₅₀Ni_{50-x}Mn_x, conc. mag transition, lattice crust., Debye temp. 4-20821
 Fe₂O₃, mag. props. nonstoichiometry effects 4-56570
 Fe₂Re₁₀As₂₄, prop. and cryst. struct. 4-11104
 Fe₂Zn_{1-x}Cr₂S₄, magnetisation and mag. susceptibility near Neel point 4-6945
 GaAs, doped with group VI elements, lattice parameters, pseudopot. approach 4-2179
 GaAs/AlAs superlattices, characterisation by laser-Raman spectroscopy 4-34807
 GaAsP strained-layer superlattices, independently variable band gaps and lattice consts. 4-2465
 GaP, thermal expansion in range 20 to 300K 4-34675
 GaS₂Se_{1-x} solid solns., elec. props. study, rel. to struct. and optical props. 4-29987
 (GeTe)_{1-x}(AgSbTe₂)_x, fundamental energy gap, temp. depend. 4-2509
 para-H₂, crystal struct. determ. using neutron diff. 4-15424
 H₂N.BH₃, mol. dynamics and cryst. struct., X-ray diff. study 4-11064
 H₂N.BH₃, mol. dynamics and struct., NMR studies 4-11065
 Hg_{1-x}CdTe thin films, cryst. struct. study 4-15784
 HoAl₂, thermal expansion and lattice consts., X-ray diff. study 4-20381
 HoCo₂, lattice distortion meas. using X-ray powder diff. 4-6497
 In-Pb-Sn, pseudobinary alloys, martensitic transform. 4-16391
 InGaAsP/InP heterostructure, lattice mismatch causes 4-30523
 γ-InSe, lattice const., dynamics and thermal expansion (*Russian*) 4-50274
 KGa₃, cryst. struct. and exact composition, X-ray diff. study 4-34449
 K₂O-Ga₂O₃-MgO solid solution, single cryst., elec. cond., lattice parameter (*Japanese*) 4-50580
 KPO₃-LaP₃O₉ system, compound formation, DTA, X-ray and IR absorpt. obs. (*French*) 4-50249
 La₄Au, high press. synthesis and supercond. props. (*Chinese*) 4-57134
 La_{1-x}Nd_xTiO₃ system, synthesis and crystal struct. 4-20148
 LaNi₅, cryst. struct., neutron diff. studies 4-11053
 LaNi₅D₄, cryst. struct., neutron diff. studies 4-11053
 LaNi₅C₆, one and two-phase states, struct., neutron scatt. study (*Russian*) 4-39215
 LaNi₅P₃, cryst. struct. determ. 4-50260
 La₆Pd₆P₁₇, cryst. struct., Guinier powder diff. studies 4-24776
 La_{1-x}U_xSn₃, elec. resist., supercond. transition temp. meas. 4-56474
 Li, energy bands and density of states, linear combination of Gaussian orbital calc. 4-56199
 LiErP₂O₁₂, crystal structure study with X-ray diffraction 4-39218
 LiKSO₄, low-temp. phase transition, X-ray study 4-25013
 LiTaO₃-based solid soln. with cation vacancies, prep. and ferroelec. props. 4-40373
 Li₂Ti_{1-y}MyS₂ (M=V, Cr, Fe), prep., chem. and phys. props. 4-20175
 LiTiZn ferrites, dielec. const. and mag. props., Zn conc. effects 4-56844
 LiW₂O₆F, cryst. struct. determ. 4-50263
 MgO/MnO_{1-x}N solid soln., unit-cell parameter conc. depend. 4-11061
 Mn-Al-C wires, metastable FCC phase, prod. by in-rotating-water spinning method 4-16385
 Mn-based metastable γ-phase alloys, lattice parameters, transform. below Neel temp. 4-24760
 Mn-Fe-Cu (26, 4 at.%), pseudoelasticity and stress-strain curves (*Russian*) 4-25988
 Mn-Ge, antiferromag. Invar type alloy, thermal expansion, mech. props. rel. to Fe, Co or Ni additions 4-20847
 Mn-Zn ferrites, phys. props. and structural imperfection 4-11678
 Mn_{1-x}Cr_x(Fe₂)S antiferromag. semicond., elec. props., stoichiometry and cation substitution effects 4-34978
 Mn_{1-x}Cu_xCr₂S₄(Se₄), phase diagrams and solid solubility, X-ray diff. studies 4-39441
 Mn_{1+x}Sb, mag., elec., and struct. props. after high press. high temp. treatment 4-11753
 Mn₂Sn(C), mag. transitions and cell parameters, X-ray diff. studies 4-11098
 (Mn_{1-x}Ta_x)₂B₄ ferromag. solid soln., exchange striction 4-30260
 Mo alloys, low-alloyed cast, interstitial solid soln. decomp., fine struct. 4-51621
 Mo, equilibrium ground state props., self-consistent pseudopot. calc. 4-20139
 Mo-C system, struct. and supercond. props., cubic δ-phase stabilisation with Zr or Hf 4-11622
 Mo_{1-x}Nb_xS₂ layered cpds., Li insertion and charge transfer 4-45573
 NH₄BeF₃, struct. phase transitions, X-ray study 4-25014
 NH₄NO₃, cryst. struct. and low temp. vibr. modes, neutron diff. study 4-15432
 NaBaNd(Si₂O₇), cryst. struct. X-ray phase anal. 4-55807
 NaCl, struct. props. 4-56000
 NaNb_{1-x}W_xO₃, high press. synthesis and struct. evolution 4-39235
 NaTeF₃, synthesis and orthorhombic struct. characterisation (*French*) 4-39240
 Na_{1+x}Zr_{2-x}(PO₄)₃, prep., solid solutions and lattice consts. 4-40695
 Na_{1+x}Zr_{2-x}Yb_x(AsO₄)₃, ionic cond. and crystal chem. 4-56066
 Nb, equilibrium ground state props., self-consistent pseudopot. calc. 4-20139
 Nb single cryst., elastic props. and RMS dynamic displacement of Nb atoms 4-2255
 Nb-Ge, struct. and phase composition, metallographic study (*Russian*) 4-51649
 Nb-Ge thin sputtered films, struct. and superconductivity, annealing effects (*Russian*) 4-56471
 Nb-Ge-Si, struct. and phase composition, metallographic study (*Russian*) 4-51649
 Nb-V-Ga system, A15 and σ phase alloys, struct. and props. 4-50239
 Nb₃Al_{1-x}B_x(C_x), A15 phase, ion implanted, cryst. struct. and supercond. transition temp. 4-34444
 NbN films with differing granularities, crit. fields (*Russian*) 4-25491
 NbN supercond. films, prep. and transition temp. 4-15778
 NbS (2H), supercond. layer cpd., pyridine intercalation and press. effects 4-15986
 Nb₂Sn, crystallisation by arc casting 4-40637
 Nb₂Sn multifilamentary superconductors, composition, struct. and current carrying capacity 4-45976
 Nb₂Sn superconducting wires, crystallographic changes caused by appl. stresses 4-45972
 Nd-Fe-B permanent magnets, anisotropy, magnetisation and Curie temp. 4-56703

lattice constants continued

- NdCo₂, lattice distortion meas. using X-ray powder diff. 4-6497
 NdGa₂Co_{4-x}, cryst. struct. and lattice consts., X-ray diff. studies 4-34446
 Nd₂Ga₁₀Ni, cryst. struct. and lattice consts., X-ray diff. studies 4-34448
 Ni foil, He ions implantation effects 4-45168
 Ni-Al phase diagram, Ni₂Al₃ precipitates, morphology and lattice parameters 4-57191
 Ni-Al(36.9 at.%), single crystal, struct. of stress induced and thermal martensites 4-11042
 Ni-Cr-S, solubility of Cr₂S₃ phase, X-ray analysis 4-51670
 Ni-Zn-Cu ternary alloys, martensitic transform. 4-57225
 Ni₃Al-Ni₃Ge-Ni₃Ge-Ni₃Si, pseudo-quaternary system, continuous solid soln. 4-35612
 Ni₂Ge, compressive flow stress, temp. and nonstoichiometry depend., 77-800K 4-40912
 (Ni_{1-x}Mg_x)₃(PO₄)₂ solid solns., struct. refinement, X-ray studies 4-6347
 Ni₄Re₁₀As₂₄, prop. and cryst. struct. 4-11104
 Ni₂Si, compressive flow stress, temp. and nonstoichiometry depend., 77-800K 4-40912
 α-Ni₂SiO₄, cryst. struct. and electron distrib., X-ray diff. study 4-15434
 α- and β-O₂, energy struct. and mag. props., phonon dispersion curves 4-34598
 Pb-Tl, lattice stability parameters, phase equilib. (*Chinese*) 4-7422
 PbHfO₃, struct. phase transition study 4-25015
 Pb₂KNb₂O₁₅, SAW substrate material, cryst. growth and dielec. characts. 4-30617
 Pb(Mn_{0.5}Nb_{0.5}Ti_{0.5}Zr_{0.5})O₃ piezoelec. comps., X-ray diff., SEM, and thermal anal. studies 4-29402
 PbNb_{0.5}In_{0.5}O₃, phase transition, X-ray and dielec. studies 4-25694
 PbNb_{0.5}Sc_{0.5}O₃, phase transition, X-ray and dielec. studies 4-25694
 PbSi_{1-x}S_x films, growth of epitaxial single cryst. by hot wall evaporation 4-51502
 PbTiO₃, phase transition at low temps., X-ray and optical studies 4-2330
 PbTiO₃, struct. phase transition study 4-25015
 PbZrO₃, struct. phase transition study 4-25015
 Pb(Zr_{0.35}Ti_{0.65})O₃ solid soln. struct.-sintering temp. relationships 4-29646
 Pr₂(Co_{1-x}Cr_x)₁₇, lattice parameters and mag. props. 4-30160
 Pr₂(Co_{1-x}Fe_x)₁₇, lattice parameters and mag. props. 4-30160
 Pr₂(Co_{1-x}Mn_x)₁₇, lattice parameters and mag. props. 4-30160
 Pr₂Ga₁₀Ni, cryst. struct. and lattice consts., X-ray diff. studies 4-34448
 PrNi₂D₃, one and two-phase states, struct., neutron scatt. study (*Russian*) 4-39215
 PrPd₂, new intermetallic cpd., lattice parameters (*Chinese*) 4-6319
 Pt film, RF sputter deposition, effect of rare gas and O₂ on elec. and struct. props. 4-3070
 RAgPb, lattice parameters, X-ray diff. study 4-2144
 Rb₂AdyF₆ (A=Na, K), struct. phase transitions, DTA and X-ray diff. studies 4-11267
 Sb, epitaxy on PbS [001] 4-45547
 Sc₂FeSi₂, cryst. struct., X-ray diff. study 4-34447
 Si, LCAO model Hamiltonian, 1/d² dependence 4-25210
 Si, total energy conversion, momentum-space formalism, pseudopot. calc. 4-29917
 SmCo₅, phase homogeneity ranges, X-ray study 4-30686
 SmGa₂Co_{4-x}, cryst. struct. and lattice consts., X-ray diff. studies 4-34446
 Sm_{1-x}Gd_xS, mixed valence cpd., lattice parameter and EXAFS studies 4-2556
 SmS, elec. props. in strong elec. field 4-25362
 SmS, isostructural phase transitions under press., phenomenological model 4-11273
 Sm_{1-x}Sc_xS solid solutions, miscibility meas. 4-2339
 SnMo₂S₈O, Chevrel phase, supercond. transition temp., lattice consts., impurity effect 4-30104
 SnS₂, interlayer bonding under hydrostatic press., Raman scatt. study 4-6313
 Sr(NO₃)₂·H₂O, pyroelectric material, room temp. cryst. struct. 4-29404
 SrTiO₃, lattice const. temp. depend. ground 105K transition 4-39480
 Ta-Zr supersaturated solid soln. films, supercond., pulsed electron beam form. 4-20754
 TbFe₂, Tb¹⁵⁹ nuclear magnetisation and hyperfine fields 4-34936
 TbGd, Tb¹⁵⁹ nuclear magnetisation and hyperfine fields 4-34936
 ThMn₁₂ type structures, unit cell dimensions anal. 4-39207
 ThMn₁₂ type structures, unit cell dimensions anal. 4-39208
 TiB₂-TaC system, sintering kinetics, struct. and props. of heterophase materials 4-7406
 TiB₂ based cpds., mag. susceptibility temp. and field depend. under high press. 4-20845
 Ti₈₀Si₂₀, amorphous alloy, quenched, annealed, crystallisation at high press. 4-15379
 TiBr, electronic struct. and static struct. props., ab initio calc. 4-50747
 TiCl, electronic struct. and static struct. props., ab initio calc. 4-50747
 Ti₂Zr₂O₇F₁₂, cryst. struct., X-ray diff. study 4-39232
 Tm₂Fe₂₃, pure and hydride, mag. interactions, Mossbauer study 4-30155
 (U, Ce)O_{2-x}, O potential and lattice parameter studies, lattice defects 4-15446
 UAs, electronic struct., lattice parameters, bulk moduli 4-45621
 UC, electronic struct., self-consistent LMTO calcs. 4-45620
 UN, electronic struct., self-consistent LMTO calcs. 4-45620
 UNi₂P₂, cryst. struct. determ. 4-50260
 UO, electronic struct., self-consistent LMTO calcs. 4-45620
 UP, electronic struct., lattice parameters, bulk moduli 4-45621
 US, high press. X-ray diff. studies 4-6499
 USi(Se)(Te), electronic struct., lattice parameters, bulk moduli 4-45621
 USB, electronic struct., lattice parameters, bulk moduli 4-45621
 V-Ge-Cu, phase comp., struct. and supercond. 4-30690
 V₂Si thin films, internal stress and thermal expansion 4-25190
 W, energy bands and cohesive energy, self-consistent relativistic calc. 4-45609
 YAG, melt grown, lattice spacings, stress birefringence obs. 4-34429
 YCo₂, ordered and amorphous, local mag. moments and mag. instability 4-20804
 YFe₂, ordered and amorphous, local mag. moments and mag. instability 4-20804
 Y_{1-x}Nd_xFe₂O₇, garnet single cryst., magnetostriction consts. 4-25626
 Yb_{1-x}Tm_xS, mag. and elec. transport props. 4-56541
 ZnTe, single crystal growth, characterisation (*Korean*) 4-40640

lattice constants continued

- Zr(Co_{1-x}Ni_x)₂, Laves system, lattice spacing, mag. susceptibility, X-ray obs. 4-15425
 ZrS₂, intercalation cpd. with Li, electrochemical and X-ray diffr. studies 4-55806

lattice defects *see crystal defects***lattice diffusion** *see diffusion in solids***lattice dynamics**

see also crystal surface and interface vibrations; displacive transformations; Grüneisen coefficient; lattice dynamics of covalent crystals; lattice dynamics of ferroelectric crystals; lattice dynamics of ionic crystals; lattice dynamics of metallic crystals; lattice dynamics of molecular crystals; lattice localised modes; lattice phonons; soft modes; vibrational states in disordered systems

- anharmonic crystals, statistical mechanics 4-34605
 anharmonic lattice with single defect, nonlinear normal mode 4-20310
 anharmonic lattice with two-component order param. solitary waves 4-27437
 aragonite structure compounds, lattice vibr. 4-45276
 brown diamonds, luminescence decay times, cathodoluminescence and photoluminescence 4-57000
 corundum structure, inner-strain tensor 4-2103
 double quadratic chain with strong, medium and weak coupling 4-2280
 elastic radiation from a point force in an anisotropic medium 4-45273
 entropy, separation of anharmonic and vacancy effects 4-34665
 ferromagnetic plate, bubble domain lattice vibr. excitation by electroelastic waves in piezoelec. semicond. substrate (*Russian*) 4-25613
 fractals, harmonic excitation spectrum 4-36931
 graphite, lattice dynamical model, inadvertent symmetries 4-55938
 graphite, surface vibr. amplitude and thermodynamic props. 4-29763
 graphite intercalation compounds, conf., Pont-a-Mousson, France (May 1983) 4-42591
 graphite-SbCl₃ intercalation cpd., LF longitudinal lattice modes, inelastic neutron scatt. study 4-45275
 graphite-SbF₃ intercalation cpd., electronic and struct. props., Mossbauer study 4-39268
 impurity centres, magnetic circular dichroism, lattice vibr. effect on ³S-²P transition 4-51242
 inorganic solids, vibrational spectroscopy, use of medium weight isotopes (*French*) 4-39411
 molecular cryst., strongly harmonic and orientationally disordered, phase transitions 4-39453
 multiphonon structure of optical transitions to impurity reson. states, anharmonicity effect 4-24937
 one-dimensional disordered lattices, dynamics, receptance anal. 4-36899
 one-dimensional systems, disordered, position-space rescaling and hierarchical lattice models 4-53602
 orientationally disordered crystals 4-2285
 semiconductor, energetic level determination, oscillation processes (*Russian*) 4-34874
 shell model and nature of shell collective oscils. 4-20302
 single-kink dynamics in one-dimensional atomic chain 4-22730
 structural phase transitions, EPR and ENDOR studies of slow dynamics and central peak phenomenon, review, book contrib. 4-20850
 surface Green function matching for crystal lattice dynamics 4-50623
 thermal expansion, dynamical aspects, nonlinear Schrödinger eqn. 4-50546
 transition metal ditellurides and dichalcogenides, layered cpds., Raman spectroscopic studies 4-25740
 transition-metal compounds, supercond., cluster-deformation model for lattice dynamics 4-39412
 two-dimensional harmonic cryst., phonon peaks in dynamic struct. factor 4-11242
 two-dimensional solid near melting, size depend. props. 4-15612
 variable excluded volume effect on lattice chain dynamics 4-32174
 vibrational spectra of crystals, effect of vacancies 4-29550
 AgMnO₄, reson. Raman spectra, anharmonicity consts. 4-56928
 β-Al₂O₃, ionic cond. and Raman scatt. 4-39570
 β-Al₂O₃, vibr. and normal mode anal. 4-6459
 AmPO₄, vibr. props. (*German*) 4-2277
 BaLaGa₃O₉, IR spectra, light polarisation, refractive indices and birefringence meas., vibr. 4-51277
 Bi, third order elastic consts. and acoustic mode vibr. anharmonicity 4-6420
 BkPO₄, vibr. props. (*German*) 4-2277
 CdGa₂S₄, lattice vibr., Raman and IR study 4-20306
 ClPO₄, vibr. props. (*German*) 4-2277
 CmPO₄, vibr. props. (*German*) 4-2277
 Co₂Ni₃P₂S₆ mixed cryst., IR spectra characterisation (*German*) 4-2911
 Cs-halides, bond bending forces in cryst. dynamics 4-55783
 CsMnO₄, reson. Raman spectra, anharmonicity consts. 4-56928
 Cs₂NaNdCl₆, single cryst., phase transform., thermal at. vibr. 4-55996
 CuGe₂P₃ ternary semicond., elastic behaviour, US pulse echo study 4-45242
 EsPO₄, vibr. props. (*German*) 4-2277
 α-Fe₂O₃ microcrystals, Mossbauer effect, particle motion influence 4-46163
 α-FeOOH microcrystals, Mossbauer effect, particle motion influence 4-46163
 Ga₂In_{1-x}P, two-modes behaviour, reson. Raman scatt. of disorder induced modes (*French*) 4-35446
 GaS(Se), elastic consts., press. depend., lattice dynamic model 4-34560
 GeO₄ anions in orthosilicates and orthogermanates, force consts. and chem. bonds 4-55939
 HfO₂ crystals, biphonons formation, phonon linewidths and oscillator strengths 4-15601
 HfS₂, lattice vibr. anisotropy and IR two-phonon absorption spectra 4-15598
 InP, lattice dynamics, phenomenological parameter model anal. 4-55941
 InSe, elastic consts., press. depend., lattice dynamic model 4-34560
 γ-InSe, lattice const., dynamics and thermal expansion (*Russian*) 4-50274
 K₂Cd₂(SO₄)₃, langbeinite, Raman vibr. spectra near phase transition 4-35451
 KClO₃, Raman spectra under high press. 4-11886
 KHgC₄, graphite intercalation compound, intercalant ordering and lattice dynamics 4-34603
 La(MnO₃)₂.nH₂O, reson. Raman spectra, anharmonicity consts. 4-56928
 MnIn₂S₄, partially inverse spinel cpd., struct. parameters and optical props. 4-30487

lattice dynamics continued

- Ni₂P₂S_{6-x}Se_x mixed cryst., IR spectra characterisation (*German*) 4-2911
 Pb, thermal vibr., temp. depend., short-wavelength neutron diffr. data 4-55950
 PbCl₂, lattice oscils. near isolated high symmetry points (*Russian*) 4-45282
 RbMnO₄, reson. Raman spectra, anharmonicity consts. 4-56928
 Si, semiconductor layer in capacitor field, vibration processes (*Russian*) 4-35096
 Si small particles, gas-evaporated, Raman scatt. 4-51285
 Si-Ge, solid soln, lattice dynamics, thermal props. 4-55940
 SiO₄ anions in orthosilicates and orthogermanates, force consts. and chem. bonds 4-55939
 Sn₂P₂(Se_{1-x}S_x)₆ ferroelec. solid soln., lattice dynamics, Raman spectra studies 4-24932
 SnSe₂, lattice dynamics calcs. 4-24930
 Sr(MnO₄)₂.H₂O, reson. Raman spectra, anharmonicity consts. 4-56928
 TaS₃, orthorhombic, effect of CDW gap on Raman spectra 4-40458
 TiSe₂ 1T polytype, CDW state, electron-lattice interaction 4-56216
 W (100), H induced surface reconstruction, lattice dynamic effects 4-45475
 ZnBr₂, calorimetric, spectroscopic and struct. studies 4-39534
 ZnSiF₂ crystal, press. depend. of Raman modes 4-30458
 ZnTe, lattice dynamics, phenomenological parameter model anal. 4-55941
 ZrH₂, lattice dynamics, show inelastic neutron scatt. and Monte Carlo calc. (*Rumanian*) 4-29557
- lattice dynamics of covalent crystals**
 GaP:O, localised and resonant O vibr. modes, Green's function calc. 4-45291
 Ge, local modes and IR absorpt. of substitutional group IV impurities (*Chinese*) 4-39423
 Si, lattice dynamics and renormalised density response 4-29551
 Si, local modes and IR absorpt. of substitutional group IV impurities (*Chinese*) 4-39423
 Si, Raman scatt. of phonons, absolute efficiency and dispersion 4-2927
 ZnS:Fe(Mn)(Co)(Ni), central force constant of impurity paramag. ion complex 4-24927
- lattice dynamics of ferroelectric crystals**
see also displacive transformations; soft modes
 perovskites, ferroelectric complex, phys. phenomena, review 4-35377
 spectroscopy of ferroelectrics in submillimetre range 4-35521
 squaric acid, ferroelectric, soft modes and proton tunneling 4-35372
 squaric acid, two-dimens. ferroelec., cryst. dynamical study 4-34596
 Ba_{0.8}Sr_{0.2}TiO₃ solid solns., lattice dynamics, inelastic neutron scatt. study 4-55936
 BaTiO₃, cubic, lattice dynamics, inelastic neutron scatt. study 4-55936
 KH₂PO₄, ferroelectric, soft modes and proton tunneling 4-35372
 KH₂PO₄ type ferroelectrics, phase transition, models, light scatt. spectra and polarisation fluctuations 4-40375
 KTaO₃, incipient ferroelec., hyper-Raman scatt. 4-40459
 PbH₂PO₄ ferroelectric, soft modes and proton tunneling 4-35372
 PbZrO₃ antiferroelec. phase, struct. phase transition meas. by neutron diffr. 4-45318
- lattice dynamics of ionic crystals**
 alkali halides, elastic and thermal props., compressible ion theory 4-15605
 alkali metal halides, ionic cryst. films, mol. dynamics simulation 4-6684
 metal crystals with Zincblende structure, interorbital theory 4-15607
 α-AgI, Raman spectral shape and lattice dynamics 4-30471
 K halides, zero-point vibr. contrib. towards static and thermodynamical props. 4-56050
 MnF₂, first order Raman spectra linewidths, temp. depend., phonon dispersion curve anal. 4-35444
 NaCl lattice dynamics calc. using deformation dipole model 4-24928
 NaF, lattice dynamics, phonon dispersion curves 4-39415
 NaI, lattice dynamics, phonon dispersion curves 4-39415
 Na₂O₂, phases II and III, lattice dynamics in rigid ion approx. 4-45281
 NbCl₃, lattice dynamics, deform. dipole model 4-39417
- lattice dynamics of metallic crystals**
 alkali halide ion dynamics and anion-cation mirror symm. 4-45278
 FCC, lattice dynamics using ion Morse pot. in sea of free-electron gas 4-55945
 interatomic forces and lattice vibr., microscopic anal. 4-24757
 metals, lattice constant and force const. relationships 4-29381
 rare earth metals, thermal and elastic props., review 4-56044
 simple metal, pseudopotential theory of effective interaction 4-2289
 transition metals, BCC, lattice waves, shell model 4-2286
 transition metals, crystal dynamics 4-45284
 transition metals, lattice dynamics and thermodynamics, self-consistent calcs. 4-24924
 transition metals, phonon spectrum, conduction electron band struct. effects 4-34604
 transition metals, vibrational frequencies via total-energy calcs. 4-45048
 Ag (111), He atom inelastic scatt., anomalous peaks 4-35540
 Ag, crystal dynamics 4-45284
 Al₂Cu₃Zn₄, lattice dynamics above martensitic transformation, neutron scatt. study 4-50449
 Be, band struct., lattice vibr. and mag. props. (*Russian*) 4-50711
 Cr, interatomic forces and phonon anomalies 4-34601
 Cs, band struct., lattice vibr. and mag. props. (*Russian*) 4-50711
 Cu, crystal dynamics 4-45284
 Fe, ferromagnetic, hyperfine field of heavy impurities, temp. depend., effect of lattice vibr. 4-40164
 Fe, interatomic forces and phonon anomalies 4-34601
 α-Fe, lattice dynamics, extended Cheveau model calcs. 4-55933
 Fe-B(P), grain boundary segregation, vibr. states of atoms at grain boundaries 4-20358
 K, high pressure equations of state and phase diagrams 4-34608
 Li, high pressure equations of state and phase diagrams 4-34608
 β-LiAl, bonding and lattice dynamics, inelastic neutron scatt. studies 4-45288
 Mo, lattice equilb. and phonons 4-34602
 Na, high pressure equations of state and phase diagrams 4-34608
 Nb, attractive short-range interact. pot. 4-55784
 NbD₂, α'-phase, lattice dynamics and ordering effects 4-11235
 Nb₂Sb, Al₁₅ cpd., lattice dynamics, inelastic neutron scatt. study 4-20307
 Ni, ferromagnetic, hyperfine field of heavy impurities, temp. depend., effect of lattice vibr. 4-40164

lattice dynamics of metallic crystals continued

- Pd₃Ag_{1-y}D_{3+y}, phonon density of states, CPA study 4-2281
 Ta, attractive short-range interact. pot. 4-55784
 V, attractive short-range interact. pot. 4-55784
 V, interatomic forces and phonon anomalies 4-34601
 W, lattice equilb. and phonons 4-34602

lattice dynamics of molecular crystals

- anthracene, mol. crystal, harmonic dynamics anal. 4-50450
 aromatic polycyclic hydrocarbons, nonplanar vibr., simplified force field 4-38152
 bis-methylammonium cadmium tetrachloride, phase transitions and lattice dynamics 4-39461
 bis-methylammonium manganese tetrachloride, phase transitions and lattice dynamics 4-39460
 chloroform, Raman and far IR spectra, crystal field splittings 4-40426
 cis-polyacetylene, lattice dynamics study 4-50447
 indihalo benzene crystal, absolute intensity of phonon Raman bands, electro-optic parameters 4-11888
 p-dihalo benzene crystals, lattice dynamics with nonpair interactions 4-55932
 ethylammonium bromide, internal vibr., isotope effects, Raman spectra 4-40433
 ethylammonium chloride-d₆(d₂)(d₃)(d₅)(d₆), internal vibr., isotope effects, Raman spectra 4-40433
 method, solid phase II, A-spin species, rotational excitation 4-29349
 molecular dynamics, const. press. calcs. 4-20301
 pentacene lattice dynamical calcs., vibr. 4-39409
 polyethylene crystal, mol. motion and phase transition, Monte Carlo simulation 4-55937
 polymers, longit. acoustic modes, influence of defects, normal mode calcs. 4-2296
 potential models and torsional stability 4-45274
 squaric acid, two-dimens. ferroelec., cryst. dynamical study 4-34596
 TCNQ complex salts, lattice distortions and donor induced charge, electron-phonon coupling 4-45289
 TCNQ salts, Raman active intramolecular modes, press. depend. 4-2923
 terephthalic acids, disordered H-bonded dimers, neutron scatt. 4-29562
 tetracene, lattice dynamical calcs., vibr. 4-39409
 sym-triazine, mol. cryst., ferroelastic transitions, mean field approach 4-34634
 s-triazine, mol. cryst., translational-rot. coupling, lattice dynamics, ferroelastic phase transform. 4-34630
 s-triazine, per-deuterated, lattice dynamics, neutron scatt. study 4-11237
 Br₂, molecular cryst., stability and lattice dynamics 4-55935
 α-CO mol. cryst., potential models and torsional stability 4-45274
 CO₂ electrostatic interactions, lattice dynamic calcs. 4-6451
 CS₂, liq. and cryst., high-pressure Raman study up to 45 kbar at 300K 4-25739
 CS₂, liq. and cryst., time-resolved spectroscopy of vibrational overtones and two-phonon states 4-51275
 CuInS₂, lattice vibr., IR study 4-30449
 HF, crystalline, lattice dynamic calcs. 4-6448
 HF, solid, lattice vibr. calcs. 4-2283
 K₄Fe(CN)₆·3H₂O, OH(OD) stretching vibr. correl. and H bond struct. characts. 4-24923
 KI:ReO₄⁻, spectral hole dynamics for IR vibr. mode 4-29548
 N₂, electrostatic interactions, lattice dynamic calcs. 4-6451
 N₂, solid, const. press. mol. dynamics calcs. 4-20301
 NH₃, lattice dynamics, polarisation interactions 4-50443
 Na₂O₂, phases II and III, lattice dynamics in rigid ion approx. 4-45281
 α- and β-O₂, energy struct. and mag. props., phonon dispersion curves 4-34598
 PbZrO₃, antiferroelec. phase, struct. phase transition meas. by neutron diffr. 4-45318
 RbI:ReO₄⁻, spectral hole dynamics for IR vibr. mode 4-29548

lattice energy

- see also binding energy*
 alkali halide crystals, ion wavefunctions, cryst. field effects 4-11502
 alkali halides, electron charge density beyond rigid-ion approx. 4-34438
 alkali metal chlorides, defect energy calcs. using repulsive parameters from charge density overlap 4-39283
 electrostatic lattice sums, planewise summation method using PLATT-SUM program 4-29378
 eutectic binary alloys, cohesion, phase boundary effects (Russian) 4-57190
 FCC lattice, deformed under uniaxial loading, special points 4-2501
 hexagonal cryst., loading behaviour, struct. and equilb. states 4-24899
 interatomic potentials, derivation from data obtained from first principles calcs. 4-55785
 metals, asymptotic elastic energy calcs. 4-45149
 metals, exchange and correlation effects on structural energetics 4-25258
 mica, interlayer energy after partial slip (French) 4-39304
 molecular cryst., lattice energy-functional, symmetry 4-11031
 molecular crystals, isotopically mixed, monomer self-energy, self-consistent diagram 4-39199
 naphthalene anion radical salts, solid, interaction with water, thermochem. 4-31013
 plane lattice sums calc. for dielec. cryst. 4-11038
 polyacene anion radical sodium salts, solvation enthalpy and cryst. lattice energies 4-11318
 α-quartz, cryst. pots., elastic and dielec. const., cohesive energy and phonon freq. 4-20304
 simple metals, analytic pair pot. 4-29384
 sp bonded elements, trends in cohesive props. 4-15421
 transition metal dichalcogenide layer cpds., Madelung const., 2-D Poisson summation anal. 4-39198
 transition metals, interionic interactions, total energy and elastic and bonding props. calc. 4-6726
 transition metals, vibrational frequencies via total-energy calcs. 4-45048
 triphenylbromomethane, cryst. struct. determ. 4-39277
 AgCl(Br), third- and second-order elastic const. calc. 4-24894
 Al₂Si₂O₅(OH)₄, kaolinite, heat decomposition, spinel phase form., struct., lattice energy 4-3142
 CsEuF₃, prep., cryst. struct., mag. props., Madelung lattice energy determ. 4-2120
 CsYbF₃, prep., cryst. struct., mag. props., Madelung lattice energy determ. 4-2120
 Cu, FCC, electronic energies, densities of state, X-ray scatt., total energy, calcs. using Gaussian basis sets contraction 4-34440
 (CuGaTe₂)_{1-x}(2ZnTe) system, phase diagram, pseudopot. anal. 4-25944

lattice energy continued

- Fe₂O₃, vacancy ordering and covalence effects, powder neutron diffr. study 4-6338
 Ir(CO)₂Cl chains, band struct., geometry and partial oxidation 4-20536
 KCl, activation energy of substitutional defects 4-55813
 LiScO₃, cryst. struct. study, α-LiFeO₂ type struct. 4-29418
 MgO (001), vacancy form. energy, computer simulation calc. 4-50280
 MnF₂, first order Raman spectra linewidths, temp. depend., phonon dispersion curve anal. 4-35444
 Mo, lattice equilb. and phonons 4-34602
 NaCl, activation energy of substitutional defects 4-55813
 NaCl, struct. props. 4-56000
 NaNdO₂, cryst. struct. study, α-LiFeO₂ type struct. 4-29418
 RbCl, activation energy of substitutional defects 4-55813
 RbYbF₃, prep., cryst. struct., mag. props., Madelung lattice energy determ. 4-2120
 TiO₂, electrostatic pot. calcs., surface reducibility, catalytic activity 4-6644
 TlBr, electronic struct. and static struct. props., ab initio calc. 4-50747
 TlCl, electronic struct. and static struct. props., ab initio calc. 4-50747
 W, energy bands and cohesive energy, self-consistent relativistic calc. 4-45609
 W, lattice equilb. and phonons 4-34602

lattice gas *see* lattice theory and statistics**lattice gauge theory *see* axiomatic field theory; gauge field theory****lattice localised modes**

- see also phonon-defect interactions; phonon-impurity interactions*
 alkaline earth-rare earth halides, superionic solid soln., Raman spectra studies 4-51278
 BCC lattice, substitutional-interstitial complexes, mech. relax. 4-24809
 crystal surface and bulk, interstitial atom equilb. distrib. and natural freqs. (Russian) 4-39289
 damped multistable system, universal localised relax. mode of uniformly driven kinks 4-45290
 degenerate impurity centres, spectral distrib., random deformation field effects (Russian) 4-25282
 excited electronic state, configurational coordinate, relaxation of density matrix 4-39422
 free radicals, microdiffusion in solid organic cpds., tunnel mechanism (Russian) 4-15711
 localized-particles approach for classical and quantum crystals 4-45272
 methane structure I clathrate hydrate mol. dynamics computer simulation 4-29297
 AgBr:Ir³⁺, radiative recomb., photoluminesc. spectra 4-11932
 BaF₂, localised mol. rose centre, multiple order reson. Raman scatt. 4-20958
 CsBr:Ir³⁺, optical absorpt. and mag. circular dichroism spectra, moments anal. 4-40468
 CuInSe₂, low-temp. thermal expansion 4-39546
 GaAs:C, localised vibr. mode of C, cluster Bethe lattice treatment 4-2294
 GaP, bound exciton series, absorpt., isoelectronic trap luminesc. studies 4-39818
 GaP:O, localised and resonant O vibr. modes, Green's function calc. 4-45291
 GaP:O, vibr. modes of O incl. nearest-neighbour interactions 4-20311
 Ge, local modes and IR absorpt. of substitutional group IV impurities (Chinese) 4-39423
 a-Ge:H, H-atom local density of states, T-matrix anal. 4-24938
 Ge:P, ion implanted, laser annealed, Raman study 4-16204
 KBr(I):Ag⁺, CrO₄²⁻, degenerate local impurity vibrations, anharmonic interactions, Raman and IR studies 4-29561
 KI, far IR studies of OCN⁻, SCN⁻, and SeCN⁻ centre gap modes 4-35467
 Nb-O-H, elastic const., US attenuation and velocity of trapped H 4-34591
 PbCl₂, lattice oscills. near isolated high symmetry points (Russian) 4-45282
 Pd-Ag, Young's modulus variation induced by H or D 4-39363
 RbCl:H, anion site H ENDOR study 4-11799
 Si, local modes and IR absorpt. of substitutional group IV impurities (Chinese) 4-39423
 SiO₂, surface clusters, zero-freq. modes in vibr. calcs. 4-15604
 ZnS:Al, Al_{2n}-V_{2n} pairs, IR absorption studies 4-55825
 ZrO₂-P₂O₅-M₂O-SiO₂, M=Li, Na, K, Ag, struct., ionic cond., and optical spectra (French) 4-24796

lattice mechanics *see* lattice dynamics**lattice parameters *see* lattice constants****lattice phonons**

- see also electron-phonon interactions; lattice dynamics of covalent crystals; lattice dynamics of ferroelectric crystals; lattice dynamics of ionic crystals; lattice dynamics of metallic crystals; lattice dynamics of molecular crystals; lattice localised modes; phonon-defect interactions; phonon dispersion relations; phonon drag; phonon-exciton interactions; phonon-impurity interactions; phonon-magnon interactions; phonon-phonon interactions; phonon-plasmon interactions; polaritons; soft modes; spin-phonon interactions; tunnelling spectra; tunnelling spectroscopy*
 (001) surface screening effects in Brillouin zone boundaries 4-20459
 acoustic phonon bound states at Brillouin zone boundaries 4-15599
 adsorbed molecule, surface enhanced Raman scatt. by cylindrical gratings 4-25749
 alkali halides, elastic and thermal props., compressible ion theory 4-15605
 alkaline earth-rare earth halides, superionic solid soln., Raman spectra studies 4-51278
 atom-surface scattering, one-phonon, pot. cutoff calc. 4-30584
 bilayer systems, surface phonon-polaritons 4-15758
 bis(O-iodobenzoyl)peroxide, solid state rearrangement, laser Raman studies 4-6493
 cascade evolution in materials, phonon generation simulation (Russian) 4-50445
 Chevrel-phase ternary cpd., high-temp. supercond. 4-11615
 complex BCC metals, seven param. shell model 4-15423
 crystal with isotropic impurity, local biphonons 4-24933
 crystals, combination light scatt. by phonon solitons 4-35460
 crystals near melting temp., quantum field theory 4-6452
 cubic crystals, soft acoustic modes, phonon relax. due to anharmonism and central peak 4-6465
 diamond, defect-induced one-phonon IR absorpt. spectra 4-46249

lattice phonons continued

- dielectric thin slabs, boundary scatt. of phonons and hypersound absorption 4-11231
- dielectrics, polariton dispersion relations and damping, ATR, light scatt., nonlinear optical processes meas. 4-25245
- indihalo-benzene crystal, absolute intensity of phonon Raman bands, electro-optic parameters 4-11888
- discrete Frenkel-Kontorova model, elastic consts. and critical behaviour 4-39437
- disorder, at high temps., neutron scattering investigation 4-50251
- dynamics of off-diagonal phonon coupling and the Lee model 4-2558
- elastic phase transitions, soft acoustic subspaces and transverse acoustic modes 4-39430
- excited electronic state, configurational coordinate, relaxation of density matrix 4-39422
- ferroelectric, nuclear spin-lattice relax., Kobayashi model anal. 4-35242
- ferroelectrics, H-bonded, Debye relax. time 4-55942
- ferroelectrics, uniaxial, soft optic modes, phonon relax. due to anharmonism and central peak 4-6465
- fluctuating valence solid, polaronic effects, renormalization group study 4-2527
- garnets, phonon Raman scatt., selection rule, influence of Faraday rot. 4-11884
- graphite adsorbed monolayer, weakly incommensurate phase, soliton theory 4-20467
- graphite with adsorbed ^4He , phonon interactions 4-11406
- graphite-Br intercalation cpd., C₆Br, phonons and elastic consts., neutron scatt., meas. 4-45280
- graphite-heavy alkali metal intercalation cpd., phonons study by inelastic neutron scatt. 4-45279
- graphite-Li intercalation cpd., LiC₆, phonons study by inelastic neutron scatt. 4-45279
- Heisenberg antiferromagnet, magnon-phonon coupling, self-consistent field anal. (Russian) 4-51039
- hexachalcogenohypodiphosphates, far IR spectra and vibr. modes 4-40445
- hexagonal crystals, surface influence on phonon-pulse propagation 4-20458
- ice Ic, mol. dynamics computer simulation 4-29297
- II-VI semiconductor, mixed, anharmonic reson. of one-phonon and two-phonon states 4-11887
- III-V semiconductors, impact ionisation by holes in materials with a complex valence band struct. 4-15884
- insulators, impurity containing, longitudinal acoustic wave absorption, temp. depend. 4-34593
- ion axial channelling, electron loss mechanisms 4-20278
- ionic crystals, circular phonons and optical magnetisation 4-6453
- ionic crystals, semi-infinite, strong coupling polarons 4-56241
- irregular crystals, quantum diffusion of atoms 4-20393
- isotropic elastic half-space, quantisation of phonons 4-6455
- IV-VI semiconductors, dielectric props. and band struct. calcs. 4-35331
- Josephson junction, monochromatic phonon emission 4-6933
- Kane semiconductors, thermopower and thermomagnetic effects 4-2627
- lattice temp. meas. using pulsed Raman spectra 4-7176
- layered crystals, vibr. spectra 4-35421
- lithium ammonium tartrate, phase transition, Raman scatt. study 4-25690
- lithium potassium tartrate, phase transition, Raman scatt. study 4-25690
- localized-particles approach for classical and quantum crystals 4-45272
- magnetic materials, phonon Raman scatt., selection rule, influence of Faraday rot. 4-11884
- martensitic transform, none-equilibrium phase transition theory 4-45325
- mesogenous molecular crystals, self-consistent phonon and libron interaction 4-55722
- metal hydrides, optical phonon-induced H diffusion, quantum theory 4-29686
- metal surface film phonon emission into insulating substrate, anharmonic interactions 4-29765
- metal-insulator transition, phonon model and static cond. (Russian) 4-34877
- metals, entropy of fusion, vacancy model 4-15618
- metals, interacting electron gas, nonlinear susceptibilities, calc. using density functional method 4-2535
- metals, phonons, point-contact noise spectroscopy studies 4-45285
- metals, surface screening effects in vibr. spectra 4-20459
- metals, surface vibr., adsorpt. site symm. effect 4-39659
- methane structure I clathrate hydrate mol. dynamics computer simulation 4-29297
- mixed crystal, two-mode behaviour 4-24925
- mixed polarons, optical absorpt. 4-39791
- molecular cryst., optical trapping, vibr. struct. of transitions 4-11926
- multiphonon structure of optical transitions to impurity reson. states, anharmonicity effect 4-24937
- naphthalene, cryst., internal vibr. lifetimes and linewidths, temp. depend., 1.5 to 150K 4-39413
- naphthalene, cryst., temp. depend. libron relax. 4-39410
- nitromethane, neutron and Raman scatt. studies of methyl dynamics 4-30460
- nonmetallic solids, magnetism, magnons, phonons and solitons 4-25541
- one-dimensional N-sites N-electrons system, extended Peierls-Hubbard model, lattice relax. 4-45654
- optical magnetization of crystals 4-24921
- oxazine dye, spectral hole burning, at liq. He temps. 4-38536
- paramagnetic spin system in contact with thermostat, kinetic model 4-6939
- perovskites, sp. ht., phonon model 4-56039
- phonon focusing, effect of finite phonon wavelength 4-24931
- phonon jets: streamer-breakdown channels in crystals 4-56397
- piezophoresis, surface-mode enhanced local fields effect 4-38942
- piezoelectric cubic crystals, longitudinal optical phonons excitation by stimulated Raman effect 4-25685
- piezoelectrics as phonon echo generating materials 4-56856
- polar semicond., carrier screening effect on longit. optic phonon emission time 4-39947
- polyacetylene, lattice relaxation and soliton and polaron generation 4-29905
- polymethylene dye, spectral hole burning, at liq. He temps. 4-38536
- powdered materials, dynamic polarisation echoes, book contrib. 4-20299
- quantum coherence among phonons generated by fast collisions on elastic targets 4-6458

lattice phonons continued

- quartz, backward-wave phonon echo enhancement by structural defects 4-50451
- quartz, Brillouin scattering at α - β transition 4-20979
- α -quartz, cryst. pots., elastic and dielec. consts., cohesive energy and phonon freq. 4-20304
- quartz, incommensurate struct. form. near α - β transition, phenomenological theory 4-29598
- random binary alloys, phonon freq. spectrum 4-45283
- sapphire, ballistic phonon imaging, bulk focusing and crit. cone channelling effects 4-45481
- self-consistent phonon theory of H-bond melting 4-57824
- semiconductor, nonlinear optical effects due to coherence of probe and high-intensity EM radiations 4-14752
- semiconductor alloys, ternary, phonon spectra, embedded cluster calc. 4-6456
- semiconductors, capture into deep electronic states 4-29925
- semiconductors, elemental, pulsed laser annealing, structural phase transitions and energy exchange 4-24865
- semiconductors, heavily doped, plasma freq., cryst. lattice polar vibr. effect, carrier conc. correction 4-39414
- semiconductors, nonequilibrium phonon distrib. function, cyclotron output 4-45277
- semiconductors, nonlinear cyclotron-phonon reson. 4-16100
- semiconductors, polariton and phonon spectra restructuring in presence of strong EM wave 4-15828
- semiconductors of finite size, thermomagnetic effect theory 4-35017
- semimetals, electrical cond. and thermopower, effects of phonon drag 4-11527
- small particles, surface plasmons and phonons, optical absorption studies 4-25269
- solid paramagnet, electron-nucleus spin system relax. study 4-35139
- solids, collective excitations, conf., Erice, Italy (June 1981) 4-22528
- solids, collective excitations, review 4-25255
- solids, heat and elec. cond., thermodynamic approach 4-17864
- solids, quantum mech. description 4-25253
- strontium formate dihydrate, cryst. growth from aq. soln., TGA, Raman studies 4-2106
- sum rule breakdown for polarisable crystals 4-29555
- sum rules and force models 4-29556
- superconducting alloys, quasiparticle density of states calcs. 4-35118
- superconducting films, response to laser irradi. 4-11634
- superconductivity, Eliashberg eqn., role of electron Coulomb interaction 4-11625
- superconductor, nonequilibrium, inhomogeneous gap states, instability model 4-2677
- superconductors, nonequilibrium phonon effect on energy gap (Russian) 4-56484
- superionic conductors, charge density waves, microscopic model 4-25267
- surface and interface effects on phonon density of states 4-6450
- TCNQ crystals, reson. Raman effect 4-20956
- tetramethylammonium tetrachlorozincate, elastic stiffness coeffs. in incommensurate and commensurate phases, Brillouin scatt. meas. 4-15567
- tetramethylpyrazine, ^{14}N NQR and spin lattice relax. 4-30352
- TGS, adiabatic elastic stiffness moduli, US wave vel. meas., hydrostatic press. depend. 4-24895
- thermal conductivity theory at high temp. 4-34729
- thermoluminescence kinetics with extreme heating rates with thermal laser simulation 4-51363
- toluene, α -phase, neutron and Raman scatt. studies of methyl dynamics 4-30460
- transition metal dichalcogenides, Raman scatt. and IR spectra in CDW state, microscopic theory 4-46263
- transition metals, lattice dynamics and thermodynamics, self-consistent calcs. 4-24924
- two-dimensional sine-Gordon lattice, mol. dynamics study, adsorbed monolayer model 4-187
- two-pulse phonon echoes in solid-state acoustics, book contrib. 4-20298
- $\text{V}_2\text{Zr}_{0.95}\text{Nb}_{0.05}$ superconductors, phonon freqs. and transition temps. (Chinese) 4-56469
- vibrational broadening in Auger and photoelectron spectroscopy 4-57072
- Cu, Kapitza cond. study between 0.3 and 1.3K 4-2690
- Ag (111), He atom inelastic scatt., anomalous peaks 4-35540
- AgBr, indirect-forbidden exciton transitions, reson. Raman scatt. 4-56939
- Al film, supercond., energy gap and crit. current, phonon-induced enhancement 4-20765
- Al thin tunnel junctions, light irradi., nonequilib. superconductivity 4-45937
- AlGaAs quantum well lasers, phonon assisted gain coeff. 4-1391
- AlN, phonon freqs., vol. depend. and effective charges 4-6463
- BN(P), phonon freqs., vol. depend. and effective charges 4-6463
- BaClF:Sm²⁺, phonon annihilation and excited state desorption processes, anti-Stokes fluorescence 4-46323
- BaF₂, low temp. heat capacity and Debye temp. 4-11311
- BaTiO₃, structural phase transitions study by hyper-Raman and Rayleigh scatt. 4-25692
- BaY₂F₈:Ho³⁺, phonon bottleneck, ESR line doubling 4-2292
- CS₂, liq. and cryst., time-resolved spectroscopy of vibrational overtones and two-phonon states 4-51275
- Ca, first-principles phonon spectra 4-11239
- CaF₂:Ce³⁺, lowest 4f-5d near UV transition, two-photon excitation 4-2939
- Cd, noncubic metal, elec. field gradient, isotopic mass effect 4-35252
- CdGa₂S₄, defect chalcopyrite cryst., Raman scatt. 4-30457
- CdGa₂S₄, lattice vibr., Raman and IR study 4-20306
- CdGa₂Se₄, defect chalcopyrite cryst., Raman scatt. 4-30457
- Cd,Hg_{1-x}Te, low freq. phonons, far IR absorpt. spectra 4-20974
- CdS single cryst., polaron scatt. processes, exciton absorption studies 4-34889
- CdSb, Raman spectra at 100K, phonons obs. 4-40446
- Cd,Zn_{1-x}Te, bound excitons and resonant Raman scatt. 4-30470
- CeAl₃, coupled phonon and crystn. elec. field excitations, Raman scatt. 4-25757
- CeAl₂, valence instabilities, bound state of phonons and cryst. field excitation 4-55934
- CeAl₃ valence fluctuation cpd., far IR absorption 4-35445
- CeCu₂Si₂ valence fluctuation cpd., far IR absorption 4-35445
- CoP₂ valence fluctuation cpd., far IR absorption 4-35445
- CoO₃, elastic consts. determ., sound vel. anisotropy, Mandelstam-Brillouin light scatt. by phonons 4-35461

lattice phonons continued

- Cr_2Si , phonon and electron densities of states, regularisation method 4-2291
 $\text{CsI}(\text{Br})$, secondary emission efficiency (*Russian*) 4-51422
 $\text{Cs}_2\text{NaBiCl}_6$, elpasolite, low temp. phase transition, struct. props. 4-56002
 CuAlO_2 , charge density distrib. and d-s hybridization 4-2158
 CuInS_2 , direct phonon-assisted transitions near fundamental absorption edge 4-30454
 CuInS_2 , lattice vibr., IR study 4-30449
 $\text{Cu}_x\text{Mo}_x\text{S}_8$ films, supercond. tunnelling 4-40117
 Cu_2PS_2 , Raman spectra, hydrostatic press. effect 4-30476
 D_2 , solid, crystal field determ. model 4-20613
 EuSe , one-phonon and multiphonon absorpt. 4-7192
 $\text{Eu}_{1-x}\text{Sr}_x\text{S}$, one-phonon and multiphonon absorpt. 4-7192
 Fe-Al , Debye temp. anomalies (*Russian*) 4-6464
 Fe-Mn alloys, austenite stability and short range order, Mossbauer study (*Russian*) 4-34658
 FeF_2 , Raman scatt. by optical phonons 4-20976
 Fe_2O_3 , isotope and press. effects on Verwey temp. 4-2615
 $\text{Ga}_{1-x}\text{Al}_x\text{As}$, disorder-activated phonons, resonant Raman study 4-25736
 GaAs , far IR dielectric response in phonon combination bands 4-56916
 GaAs , ion implanted with As^+ , Raman spectrum, spatial correlation effects 4-40423
 GaAs , light scatt. intensity from plasmaritons 4-30484
 GaAs:C , localised vibr. mode of C, cluster Bethe lattice treatment 4-2294
 GaAs:Ta , luminesc. of Ta centres 4-25806
 GaAs/AlAs superlattices, characterisation by laser-Raman spectroscopy 4-34807
 $\text{GaAs-Al}_x\text{Ga}_{1-x}\text{As}$ multiple quantum well heterostructs., spontaneous and stimulated photoluminesc. 4-16250
 GaP , far IR lattice absorpt. 4-7201
 GaP , longitudinal optical phonon lifetimes, temp. depend., Raman studies 4-45286
 GaP , TO (Γ) phonon mode, anharmonicity and Fano effect 4-29565
 GaP , zone edge phonons, IR absorption and Raman scatt. studies 4-11238
 GaP:Ta , luminesc. of Ta centres 4-25806
 GaS , phonon density of states, heat capacity calc. 4-2288
 $\text{GaS}_{1-x}\text{Se}_x$ layer mixed cryst., optical phonons, IR and Raman spectra studies 4-11236
 $\text{GaSb}_{1-x}\text{As}_x$ lattice vibr., CPA calc. 4-55944
 GaSe , phonon density of states, heat capacity calc. 4-2288
 $\text{Gd}_2\text{Ga}_2\text{O}_7$ garnet, Raman spectrum (*Chinese*) 4-51249
 Ge , electron-hole drop formation 4-39783
 Ge , first-order Raman scatt. by phonons, temp. depend., anharmonic effects 4-46262
 n-Ge , magnetophonon reson. at low temps. 4-25372
 p-Ge , phonon limited cond. and Hall mobility calcs. 4-20653
 Ge single cryst., phonon pulse detection by fluorescence meas. 4-50452
 Ge , two-phonon density of states and anharmonic decay 4-11241
 Ge:Ga(P)(B)(As) , ion implanted, laser annealed, phonon softening, Raman study 4-15597
 Ge:Sb , ballistic heat-pulse transport under mag. field 4-45432
 H_2 solid, crystal field determ. model 4-20613
 HF solid, lattice vibr. calcs. 4-2283
 He solid/liq. boundary, high freq. acoustic wave reflection 4-34744
 ^4He , phonon pulse propag. and phonon focusing in boundary scatt. regime 4-2284
 $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{V}_2\text{H}_x$, C15 phase, phonon spectra rel. to supercond., H content depend. (*Chinese*) 4-50448
 In halides, exciton transitions, refl., absorption and emission spectra 4-46279
 $\text{In}_{1-x}\text{Ga}_x\text{As}_y\text{P}_{1-y}$ epitaxial layers, four-mode behaviour, Raman scatt. 4-30545
 $\text{In}_{1-x}\text{Ga}_x\text{P}$ lattice vibr., CPA calc. 4-55944
 $\text{In}_{1-x}\text{Ga}_x\text{P}$ layers, two-mode behaviour, Raman scatt. 4-30545
 $\text{In}_{1-x}\text{Ga}_x\text{Sb}$ lattice vibr., CPA calc. 4-55944
 InP , heat treated, photoluminescence and photocond. spectrum 4-51326
 InP:Si , ion implanted, photoluminescence excitons and polaritons 4-40498
 InPS_4 , Raman spectra, hydrostatic press. effect 4-30476
 InSe , exciton absorpt. line, influence of indirect phototransitions (*Russian*) 4-50736
 KCN , far IR spectrum and dielec. function in disordered cubic phase 4-20973
 KCl , secondary emission efficiency (*Russian*) 4-51422
 KCl:Li , IR absorption study 4-20999
 $\text{KH}_2\text{PO}_4\text{-KD}_2\text{PO}_4$ mixed cryst., ferroelec., polarisation relaxation spectra of $(\text{H}_2\text{PO}_4)^-$ dipoles 4-25774
 KMnF_3 , electron density distrib. and anharmonic vibr., X-ray diffr. study 4-2156
 KNiF_3 , electron density distrib. and anharmonic vibr., X-ray diffr. study 4-2156
 $\text{K}_2\text{O:Rb}_2\text{O}$, mixed crystal, two-mode behaviour 4-24925
 KReO_4 film, nonlinear IR spectra and LO phonons 4-11955
 KTaO_3 , semicond., Raman scatt. spectra due to ferroelec. soft phonon modes 4-25742
 Kr adsorbed monolayer, weakly incommensurate phase, soliton theory 4-20467
 LaF_3 , anharmonic low freq. optical phonon lifetime and electron phonon relax. 4-6457
 LiF (001), surface phonon spectroscopy by He atom inelastic scatt. 4-29764
 LiGaO_2 , nonlinear-optical props. and Raman tensor signs 4-46265
 LiIO_3 , effective charges, press. depend. 4-55943
 MgF_2 , optical birefringence temp. depend., specific heat 4-51235
 MgO-CoO solid solns., electronic and vibr. spectra 4-30490
 Mn^{2+} systems, concs., spectroscopic props. rel. to collective excitations 4-25254
 MnCO_3 , elastic consts., determ., sound vel. anisotropy, Mandelstam-Brillouin light scatt. by phonons 4-35461
 MnCO_3 , Raman scatt. from phonons 4-11885
 MnF_2 , optical birefringence temp. depend., specific heat 4-51235
 MoTe_2 single crystals, semiconducting props. and band struct. 4-50851
 NH_4Br , cubic rotator phases, orientational order, mol. dynamics calcs. 4-20128
 NH_4Cl , order-disorder phase transition, critical fluctuations, light scatt. study 4-25768
 Na , melting curve calc., perturbation approach 4-6477
 NaBr:Cd , Suzuki phase, Raman active phonons 4-16207

lattice phonons continued

- NaCN , far IR spectrum and dielec. function in disordered cubic phase 4-20973
 NaCl , secondary emission efficiency (*Russian*) 4-51422
 NaCl , struct. props. 4-56000
 NaCl:Ni(Fe) , Suzuki phase, Raman active phonons 4-16207
 NaVO_3 , Raman spectra, ferroelectric behaviour below 380°C 4-35435
 Nb , attractive short-range interat. pot. 4-55784
 Nb , superconducting transition temp. electron-phonon coupling const. and spectral function calc. 4-45918
 Nb-Nb oxide-Pb tunnel junctions, phonon struct. 4-2704
 Nb_2Al , supercond., nearly stoichiometric and homogeneous, sp. ht. and mag. susceptibility 4-45929
 $(\text{NbSe}_2)_x$, I, evidence of phase transition, DC elec. resist. and far IR reflectance spectra 4-34639
 Ni (100) with adsorbed CO, anharmonic damping of adsorbate vibr. modes 4-20480
 Ni (100) with adsorbed O or S, anharmonic damping of adsorbate vibr. modes 4-20480
 Ni , phonon generation, simulation, cascade evolution (*Russian*) 4-50445
 NiF_2 , Raman scatt. by optical phonons 4-20976
 $\text{Ni}(\text{NH}_3)_6(\text{NO}_3)_2$, phase transitions, incoherent inelastic and quasielastic neutron scatt., neutron diffr. meas. 4-15409
 Ni (100) with adsorbed O and S, adsorbate vibr. energies 4-29781
 $\text{Pb}_{0.8}\text{Sn}_{0.2}\text{Se}$ narrow gap semiconducting mixed crystals, photon freqs. 4-34599
 $\text{Pb,Sn}_{1-x}\text{Te}$, Mossbauer studies, composition depend. 4-16131
 n-PbTe , dynamic elec. cond. 4-20654
 PbTe , thermoelectric figure of merit and thermal cond. 4-11354
 PbTiO_3 , press. depend. Raman study of phonons 4-25738
 PbTiO_3 , zone centre phonons and ferroelec. transition, high press. Raman study 4-29554
 $\text{Pd,Ag}_{1-x}\text{D}_x$, phonon density of states, CPA study 4-2281
 RbCl:Ti^+ , first-order Raman scatt. 4-46247
 Si , first-order Raman scatt. by phonons, temp. depend., anharmonic effects 4-46262
 Si , laser-induced lattice tensile strain, Raman scatt. study 4-45182
 n-Si , magnetophonon resonance study of intervalley phonons 4-20672
 Si , optic phonon decay, appl. of double constrained Brillouin zone integrals, tetrahedron method 4-24922
 p-Si , phonon limited cond. and Hall mobility calcs. 4-20653
 Si , Raman scatt. of phonons, absolute efficiency and dispersion 4-2927
 Si , resolved Raman spectra during pulsed laser heating 4-16203
 Si , resonance Raman scatt. at elevated temp. 4-40454
 Si single cryst., phonon pulse detection by fluorescence meas. 4-50452
 n-Si:As , ion implanted, laser annealed, Brillouin study of phonon softening 4-40466
 Si:Cu , vibronic coupling and photolum. spectrum 4-51338
 Si:Ga(P)(B)(As) , ion implanted, laser annealed, phonon softening, Raman study 4-15597
 a-Si:H , N glow discharge films, optical band gap, H content effects 4-57011
 a-Si:H , phonon interactions in tail states 4-20308
 n-Si:Ge(As)(Sb) , effect of free carriers on Raman freq. 4-40461
 Si-Ge alloys, amorphous and cryst., struct. studies using EXAFS and Raman scatt. 4-40571
 $\alpha\text{-Sn}$, first-order Raman scatt. by phonons, temp. depend., anharmonic effects 4-46262
 $\alpha\text{-Sn}$ thin films, semicond.-metal transition, Raman scatt. studies 4-39779
 Sn-insulator-Sn , superconductor, nonequilibrium, tunnel injected, emitted phonons spatial distrib. 4-2706
 Sr , first-principles phonon spectra 4-11239
 SrF_2 , low temp. heat capacity and Debye temp. 4-11311
 SrS:Pb^{2+} phosphors, luminesc. of Pb^{2+} centres 4-46302
 SrSe:Pb^{2+} phosphors, luminesc. of Pb^{2+} centres 4-46302
 SrTiO_3 , IR absorpt. by mixed polarons 4-39792
 SrTiO_3 , semicond., Raman scatt. spectra due to ferroelec. soft phonon modes 4-25742
 SrTiO_3 , structural phase transitions study by hyper-Raman and Rayleigh scatt. 4-25692
 T_2 , solid molecular, high press. eqn. of state, semiempirical calc. 4-45447
 Ta , attractive short-range interat. pot. 4-55784
 TbPO_4 , antiferromag. ordering, struct. transition obs. via induced IR activity 4-25007
 p-Te , heavily doped, Raman study of A_1 -phonon asymmetry 4-7194
 ThO_2 , disorder, at high temps., neutron scattering investigation 4-50251
 $\text{Ti}_{1-x}\text{Hf}_x\text{Se}_2$, electronic and lattice dynamical props., IR reflectivity spectral meas. 4-29889
 TmSe , mixed-valent, acoustic phonon anomaly 4-24929
 V , attractive short-range interat. pot. 4-55784
 V , ultrafine particles, specific heat in normal and superconducting states 4-50982
 $\text{V}_0\text{Hf}_{0.5}\text{Zr}_{0.5}\text{Nb}_{0.2}$ superconductors, phonon freqs. and transition temps. (*Chinese*) 4-56469
 V_2Si , phonon and electron densities of states, regularisation method 4-2291
 $(\text{Y}_{1-x}\text{Er}_x)_2\text{Al}_2\text{O}_{12}$ garnet cryst., Raman light scatt. 4-25766
 YIG , double-phonon absorpt. spectra (*Russian*) 4-51287
 $\text{Y}_3\text{-Lu}_3\text{Al}_5\text{O}_{12}$, absorpt. of high freq. acoustic waves 4-20296
 $\text{Y}_3\text{-Lu}_3\text{Al}_5\text{O}_{12}$ garnet, acoustic props. study 4-11232
 YbCuAl valence fluctuation cpd., far IR absorption 4-35445
 YbCu_2Si_2 valence fluctuation cpd., far IR absorption 4-35445
 Zn , phonon pulse propag. and phonon focusing in boundary scatt. regime 4-2284
 ZnF_2 , optical birefringence temp. depend., specific heat 4-51235
 ZnGa_2S_4 , defect chalcopyrite cryst., Raman scatt. 4-30457
 ZnO , phonon halfwidths and phonon-plasmon coupling, Raman study 4-2282
 ZnP_2 , tetragonal, IR lattice vibr. spectra 4-2926
 ZnS:I , excitonic and time-resolved edge emissions 4-39786
 ZnSe , Brillouin resonance scatt. of light by thermal acoustic phonons 4-25775
 $\text{ZrH}_{1.88}$, optical phonon struct., neutron total cross section meas. 4-29552
 ZrRuP , superconducting t_c and specific heat 4-56489
 $\text{ZrS}_3\text{-Se}_3$ lattice vibr., IR transmission spectra 4-46264

lattice structure, crystals see crystal atomic structure

lattice theory and lattices

- see also Ising lattices; percolation; renormalisation; X-Y model
 Φ^4 model, kink dynamics, thermostat influence 4-13609

lattice theory and statistics continued

- ϕ^4 theory, kink-antikink interactions, resonance structure 4-17854
- aggregates, diffusion limited, Alexander-Orbach conjecture, geometrical arguments 4-53612
- aggregates, diffusion limited, crossover of fractal dimension 4-213
- aggregation, two-dimens. diffusion limited, finite size scaling approach 4-53588
- aggregation by kinetic clustering of clusters 4-42875
- aggregation phenomena, models and calcs. 4-8829
- Alexander-Orbach conjecture and fractal classes 4-17849
- alkylpyridines aq. solns., substituent effect on intermol. H bonding from lattice gas theory for lower crit. points 4-11250
- Amalgamation Property in lattice varieties 4-27458
- amorphous lattice, two-dimens., statistics study 4-13595
- amorphous solid state, long range correlations, phenomenological Lagrangian 4-20105
- anharmonic lattice with two-component order param. solitary waves 4-27437
- anisotropic quantum Heisenberg model on self-dual hierarchical lattice, criticality, comments 4-35135
- anisotropically diffusing particles accretion 4-37053
- ANNNI model, branching processes 4-22702
- antiferromagnetic Potts model, d-dimensional q-state, high temp. series expansion 4-46035
- antiferromagnetic Potts models, dil., Monte Carlo simulations 4-16036
- Ashkin-Teller like model Hamiltonian with four-spin interactions, phase diagram, domain and wall form. 4-204
- Ashkin-Teller model, phase transitions 4-13588
- Ashkin-Teller model, self-triality 4-22725
- atomic and molecular clusters (*German*) 4-55774
- attractor dimension for the generalized Baker's transformation 4-22723
- Baxter's hard square lattice gas, multicritical scaling 4-22709
- Baxter-Wu model, dynamical exponent, Monte Carlo renormalisation group calc. 4-22701
- Bethe lattice, disordered, total and surface density of states, node counting method 4-2207
- Bethe lattices, thermodynamic limit 4-22699
- biased correlated walks in one dimens., novel behaviour 4-53603
- bifurcation theory with rotational symm., gradient props. 4-4343
- bisemilattices with four essentially binary polynomials 4-32193
- bond-random Ising model, transition from spin-glass to ferromagnetic state 4-30195
- book, phase transition theory, rigorous results 4-27250
- boundary layer transition, control using wave-superposition principle 4-34043
- boundary-layer transition and the behaviour of spiral vortices on rotating spheres 4-34042
- Bravais lattice, free energy convexity in some real space renormalisation group approximations 4-2351
- breakage model, solution of population balance equation via shifted Legendre functions 4-42865
- cellular automata, growth rates and fractional dimensions 4-48042
- cellular automata, modelling with partial differential eqns. 4-48044
- cellular automata, physics simulation 4-48043
- characterization of distributive lattices 4-32192
- clock model, universal dynamic scaling 4-8844
- close-packed self-avoiding walks on square-planar and honeycomb lattices as polymer models 4-32179
- cluster formation, irreversible, hierarchical model 4-27414
- cluster sums for lattice gases with second nearest neighbour interactions 4-42868
- cluster variation method for lattice gas models, free energy calc. 4-22696
- cluster-hierarchical models, mag. susceptibility and criticality 4-42881
- cluster-particle aggregation with fractal (Levy flight) particle trajectories 4-53625
- commensurate phase melting and new universality classes 4-11252
- commutator in finitely generated ortholattices 4-27454
- compact elements in lattices 4-27455
- comparability graphs of partially ordered sets of different types 4-32195
- compartmentalised systems, lattice theory of reaction efficiency; reduction of dimensionality 4-35855
- compatible ordering of lattices 4-32188
- composite nearest-neighbour degeneracy for $2 \times N$ lattice space, exact recursion rel. 4-42871
- composite von Neumann lattice 4-198
- conference, lattice theory, Szeged, Hungary (Aug. 1980) 4-31968
- continuous one dimens. average unsaturated coverage 4-17841
- continuum field model of diatomic polymer, fermion fractionisation at finite temp. 4-32183
- convergence and extrapolation in finite-size scaling renormalization 4-48031
- critical behavior of systems with quenched random transverse fields 4-25564
- d-dimensional hypercubic lattices, self-avoiding loops, numerical study 4-13592
- defect proliferation due to order parameter multivaluedness 4-32467
- degenerate Anderson model, functional integral formalism 4-193
- di-dimensional lattice with d-dimens. defect, perpendicular critical correlations 4-13596
- diatomic linear chain, modified moments and continued fraction coeffs. 4-27429
- dielectric cryst., eqns. of motion for slow variables 4-37045
- dielectric cryst., generalised hydrodynamics 4-37046
- differential-difference eqns. in wronskian form, soliton solns. 4-22595
- diffusion controlled-reactions, lattice valency effects 4-17851
- diffusion on random clusters and parasite problem 4-37037
- diffusion-controlled aggregation, fractal model 4-8847
- diode-insulator random networks, resistive susceptibility 4-27433
- directed self-avoiding walk, critical exponent 4-176
- directed self-avoiding walk, finite-size scaling 4-24962
- directed self-avoiding walks on cubic lattice, critical behaviour 4-22717
- directed square lattices, bounds on self-avoiding walks 4-4346
- discrete lattice systems, surface tension between coexisting phases 4-17845
- disordered magnetic lattice gas, simple model 4-8838
- disordered n-orbital model, density of states, scaling relation 4-25194
- distributive correlation lattices 4-27457
- distributive lattices and rings of quotients 4-27456
- double sine-Gordon system, commensurate-incommensurate phase transition study 4-29572
- qualities and equivalences for varieties of algebras 4-32189

lattice theory and statistics continued

- effective characteristics of media containing foreign inclusions 4-39745
- electrostatic lattice sums, planewise summation method using PLATT-SUM program 4-29378
- epidemic process with immunisation, field theoretic formulation 4-22698
- epitaxy and thick film form. on attractive substrate, lattice gas model 4-6679
- equivalence of x-systems and m-lattices 4-32196
- Euclidean lattice field theory, random walk simulation, lattice QCD appl. 4-13748
- exciton transport, non-Markovian, in one dimens. lattice 4-27427
- fermion lattice model, discrete Hubbard-Stratonovich transformation 4-171
- ferroelectric ordering in one dimension, finite size theory 4-46196
- ferroelectric vertex models on square lattice, long range order 4-7133
- ferromagnetic ϕ^4 lattice models, correlation inequalities from random walk rep. 4-2712
- field-induced chaos in the Toda lattice 4-8837
- finite lattice characterisation for elements as join of cycles 4-27449
- finite-size scaling, reln. between amplitudes and critical exponents 4-8833
- first- and second-order phase transitions in a system with multispin interactions 4-32185
- fixed point property of partially ordered sets 4-32197
- forced Toda lattice, soliton birth rate determ., 4-42873
- forced Toda lattice as almost integrable system 4-42872
- formal diagrams for lattice gases 4-37047
- formal diagrams for lattice gases 4-37048
- formal diagrams for lattice gases 4-37049
- fractal dimens. and convergence exponents 4-53621
- fractal lattices, percolation phase transition 4-27438
- fractal lattices, scaling and density of states rel. to complex generating function 4-194
- fractal lattices as Sierpinski gasket generalisations, lack of finite-temp. phase transitions 4-32178
- fractal structures, nature of eigenstates 4-8840
- fractal structures, random walks statistical props., Monte Carlo calcs. 4-13589
- fractals, harmonic excitation spectrum 4-36931
- fractals, trapping and reaction rates, random-walk study 4-17853
- fractals trapping, long time props. 4-32167
- frustrated hierarchical lattice, dilution effect 4-37044
- frustration in local environment 4-48034
- functional Boolean equations in lattice theory 4-27453
- gelation, irreversible kinetic, self-similarity 4-16700
- general n-vector models, renormalisation-group fixed points 4-48041
- generalised diffusion-limited aggregates, fractal dimension 4-27439
- generating sets of order-preserving functions over finite lattices 4-32191
- generative complexity of α -complete lattices 4-32199
- Ginzburg-Landau and Ginzburg-Landau-Wilson models, large-n renormalisation group eqns. solns. 4-53605
- glass, properties, pseudo-topological disorder 4-55740
- growth processes, cell renormalisation, true self-avoiding walk and Eden process appl. 4-32177
- hard-particle lattice gas mixture, coexistence curve 4-53604
- harmonic chains with random masses, sp. ht., low freq. expansion 4-53640
- Heisenberg antiferromagnet, two dimens. on triangular lattice, phase transition 4-51083
- Heisenberg chain, integrable model with impurities 4-30139
- Heisenberg classical chain, discrete, soliton dynamics, rel. modulation and stochastic depinning 4-196
- Heisenberg equation, isotropic, N-soliton soln. 4-42867
- Heisenberg periodic magnet, 1-D, density of states in reciprocal lattice 4-30136
- hierarchical lattices and renormalisation group transformations, critical exponents 4-42882
- Hilbert space model of orthomodular lattices 4-27447
- Hubbard model, Saddle point mean field calc. 4-13586
- identities in interval lattices of lattices 4-27445
- infinitely coordinated systems, large-size crit. behaviour 4-203
- instabilities in continuum equations for aggregation by diffusion 4-48030
- interacting walks in one dimens., asymptotic soln. 4-4351
- invasion percolation clusters in two and three dimens. Monte Carlo study 4-37033
- ionic solids, defect volume formulation 4-20186
- irreversible random and cooperative processes, density expansion direct determ. 4-48029
- irreversible random and cooperative processes on lattices, hierarchy truncation and soln. 4-13587
- Ising ferromagnet with $S=\infty$, heat capacity study by Monte Carlo simulation 4-56515
- Ising model, anisotropic D+1 dimensional, competing multispin interactions 4-48036
- Ising model, frustrated, in presence of annealing and anisotropic defect distrib. 4-45988
- Ising model, ground state infinite series on honeycomb lattice 4-42866
- Ising model, random, at marginal dimensionality, two-point correl. function 4-42869
- Ising model, two dimensional, C^* algebra approach to phase transition, one-dimens. lattice 4-20831
- Ising model, two-dimensional, depinning transition, renormalisation group 4-185
- Ising model, two-dimensional, with quenched site disorder, crit. sp. ht. 4-42870
- Ising model below T_c , nonuniversal amplitudes calc. using primitive droplet model 4-37035
- Ising model on self-avoiding-walk lattice 4-191
- Ising models with diluted frustration, modulated phase 4-30134
- Ising spin 1 system with dipolar and quadrupolar interactions, effective-field model 4-42883
- kinetic gelation model, phase diagrams, critical props. and dimens. effects 4-22705
- Kondo lattice, $1/N$ expansion, spin fluctuations 4-8842
- Krull dimension of lattices, constructive theory 4-206
- L-dense sets and L-compatible partial functions 4-27450
- lattice animals, Alexander-Orbach conjecture, geometrical arguments 4-53612
- lattice diffusion with traps, self-consistent calcs. 4-32202
- lattice gas clusters, scaling theory, surface tension and free energy study 4-37040

lattice theory and statistics continued

lattice gas of hard spheres on simple cubic lattice, phase transition 4-17844
 lattice kink diffusion, mol. dynamics study 4-32184
 lattice of convexly compatible topologies on a partially ordered set 4-27451
 lattice of varieties of algebras with zero 4-32200
 lattice trees with specified topologies, growth constants and critical exponents 4-22716
 lattice varieties, products survey 4-32201
 lattices, danger of iteration methods 4-8836
 lattices, whose covering graphs are S-graphs 4-32198
 linear lattice, continuous time random walks, first passage time and escape time distrib. 4-13599
 localized-particles approach for classical and quantum crystals 4-45272
 long-range correlated percolation, renormalisation-group study 4-27443
 many-cluster growth model, coalescence critical point 4-4344
 massless systems, continuum scaling limit 4-4342
 mean field theory, t 4-42876
 mixed binary lattices, enumeration of self-avoiding walks 4-8843
 modular lattices, equational theories of projective geometries 4-32190
 modular polarity lattices, distributivity characterisation 4-27444
 modularity in atomistic lattices 4-27452
 noninteracting N-vector models, Griffiths inequalities, interacting systems appl. 4-4348
 nonlinear difference-differential eqn., soln. related to multi-solitons in non-linear lattice 4-42888
 nonlinear integrable systems, conf., Kyoto, Japan (May 1981) 4-42595
 nonmaximal isotropy groups and successive phase transitions 4-13608
 nonthermal one-dimensional lattice model, kinetic critical phenomenon 4-37030
 O(2) symmetric spin Hamiltonians, Migdal transformations 4-13590
 one-dimensional site and bond percolation, real space renormalisation group study (Chinese) 4-48013
 one-dimensional systems, disordered, position-space rescaling and hierarchical lattice models 4-53602
 one-dimensional systems with long-range superstable interactions, analyticity 4-27435
 p-algebras or pseudocomplemented lattices 4-27448
 packing of identical spheres 4-42886
 pair diffusion in random lattices, behaviour at percolation threshold 4-42874
 Paley-Wiener criterion for relaxation functions 4-17852
 percolation, directed and diode, approach for multicriticality 4-22728
 percolation, infinite cluster prob. on Bethe lattice 4-8830
 percolation, Monte Carlo simulations of site percolation on the directed square lattice 4-53622
 percolation, quantum, $1/\sigma$ expansion and Cayley trees 4-48037
 percolation, treelike, phase transition, Metropolis Monte Carlo method study 4-22726
 percolation and fractals 4-8828
 percolation cluster, infinite, fractal geometry and anomalous diffusion in backbone, Monte Carlo study 4-27434
 percolation cluster and lattice animal structure, branched polymer approach 4-48021
 percolation clusters, anomalous acoustic behaviour and backbone structure 4-37034
 percolation for multicomponent spin models on Cayley tree 4-22721
 percolation fractals, diffusive annihilation 4-48020
 percolation networks in an external field, diffusion and drift 4-53606
 percolative lattice, diffusion as interacting Bose-Fermi fields theory 4-27432
 periodic Toda chain, quasiclassical quantisation 4-53628
 phase transition to ordered phase, conf., Kyoto, Japan (Sept. 1982) 4-8641
 pinning-free soliton lattices and bifurcation in discrete double-well model 4-22710
 plane channel flow, spot-like turbulence development 4-44737
 plane rotator model, two-dimens., phase transition, Monte Carlo study 4-8856
 plane rotator model with long range random interaction, absence of symmetry breakdown 4-4334
 polychromatic Potts model, lattice statistical problem and some exact results 4-22704
 polymer chain, field theoretic, conformational space renorm. of tricritical exponents 4-48022
 polymer chains, branching and vulcanisation 4-10193
 polymer chains, terminally attached and free-floating, conformational props. 4-23846
 polymerisation, equilibrium model and n to 0 limit 4-21466
 polymers, directed branched, correction to scaling 4-37028
 polynomial algebra lattice, generalisations 4-32194
 Potts ferromagnet, critical point in triangular and honeycomb lattices 4-2764
 Potts ferromagnet, surface and defect crit. behaviour, renormalisation group approach 4-6996
 Potts model, AB-percolation problems 4-53620
 Potts model, correlation identities and mean field approximations 4-48028
 Potts model, effective-field theory 4-48040
 Potts model, exact transition temp. and critical exponents 4-48035
 Potts model, mean field solution 4-13594
 Potts model, q-component, random walk problem and percolation 4-27442
 Potts model, Q-state, Wilson's exact renormalisation-group eqn. anal. 4-27441
 Potts model, scale-invariant quenched disorder and stability criterion at random critical points 4-48038
 Potts model, three- and four-state, crossover to continuous transitions 4-17866
 Potts model, three-state, crit. behaviour, Monte Carlo renormalisation group 4-202
 Potts model in random fields 4-205
 Potts model on diamond hierarchical lattice, fractal structure of partition function zeros 4-37041
 Potts models in random fields 4-42880
 pressure in certain lattice systems, generic Frechet differentiability 4-17840
 q-state antiferromagnetic Potts model with competing interactions 4-46053

lattice theory and statistics continued

q-state Potts model, 2-dimens.; chiral and cubic crossover exponents, extended scaling relations 4-53613
 q-state Potts model, critical props., mean-field theory with symmetry breaking 4-53615
 q-state vertex models, families of commuting transfer matrices 4-42890
 quadrupolar glassy system, orientational ordering simulation 4-8841
 quantum asymmetric clock model, finite size effects 4-53601
 quantum energy-entropy inequalities, method for proving absence of symmetry breaking 4-36945
 quantum mechanical cell model for two dimens. 4-27428
 quantum sine-Gordon system, one-dimens., commensurate-incommensurate cross-over 4-13597
 quantum spin systems, low dimensional, with planar symmetry, existence of long range order 4-51015
 quantum systems, correlation-length amplitudes and critical exponents 4-53624
 quenching, model of nonequilibrium behavior with two long range order parameters 4-22719
 random fields, percolation criterion 4-53631
 random fields on Z^d lattice, percolation criterion for percolation and non-percolation fields 4-53629
 random flights in Euclidean space for prescribed hit expectance density 4-37018
 random lattice diffusion, weak disorder expansion 4-27466
 random lattice plaquettes system 4-22676
 random media with uncorrelated bonds, conductivity, recursive model anal. 4-208
 random one-dimensional lattice, Laplacian spectrum 4-53616
 random process, interpolation between Markovian and self-avoiding random walks on lattices 4-37014
 random supercond. network, screening of deeply invaginated clusters and critical behaviour 4-53623
 random walk model for case of gaussian randomness and finite correlation time 4-37015
 random walk models of polymers, generating functs. determ. 4-27430
 random walk on lattice with random trap distrib. 4-27423
 random walk on percolation clusters 4-32171
 random walks, lattice animal and percolation cluster calcs., renormalisation group anal. 4-48018
 random walks on lattice animals, spectral dimens., renorm. group anal. 4-48019
 random walks on percolation clusters at the percolation threshold 4-192
 randomly mixed cryst., diffusion and trapping of excitations on fractals 4-29894
 reaction efficiency in compartmentalised systems, lattice theory 4-30922
 reaction kinetics on fractals, random walker simulations and exciton expts. 4-53626
 recurrent covers and Boolean equations 4-32187
 refinement property of reduced-free products in varieties of lattices 4-32186
 relaminarisation, MHD and non-MHD flows 4-29061
 rigid cores with semiflexible tails, orientational and positional ordering, lattice statistics 4-17850
 selection rules for polymers and quasi-one-dimens. solids, line group Kronecker products 4-48027
 self-avoiding and planar random surfaces on the lattice 4-9007
 self-avoiding domain walls, edge pinning and internal phase transitions 4-39434
 self-avoiding random walks on square and triangular lattices, connective consts. determ. 4-32180
 self-avoiding walk, fully directed, on hypercubic lattice, renormalisation-group study 4-4345
 self-avoiding walk, generalisation 4-8831
 self-avoiding walk adsorption, real space renormalisation group study for d=2,3 4-22708
 self-avoiding walk on Manhattan lattice, real space renorm. group theory 4-22714
 self-avoiding walks, real-space renorm. calc. of γ exponent 4-48026
 self-avoiding walks on fractal spaces: exact results and Flory approximation 4-48017
 self-dual transfer matrix renormalization for the triangular Potts model 4-48032
 semi-infinite Ising model, real-space renormalisation 4-22700
 semi-infinite systems, special transition, $1/n$ expansion 4-22722
 Sierpinski gasket lattice, self-interacting self-avoiding walks 4-53618
 Sine-Gordon equation, solns. using Fredholm determinants 4-17856
 sine-Gordon model, 1D, higher-order corrections in classical limit 4-22729
 sine-Gordon model, parametrically modified, kink-antikink interactions 4-17855
 single-kink dynamics in one-dimensional atomic chain 4-22730
 site percolation critical probabilities, full triangulated graphs 4-37036
 site percolation threshold for square lattice, Monte Carlo program determ. 4-27431
 six-vertex model, eigenvectors of multicomponent generalisation 4-22720
 six-vertex model with defective horizontal bonds, quantum inverse scatt. anal. 4-37042
 sixteen vertex model, bifurcation points in parameter space 4-17848
 snoidal sine-Gordon kinks and renormalization effects 4-27440
 SO(N) symmetric spin systems with long range interactions, correlation decay, upper bounds 4-53600
 soft disk ground state crystallinity in two dimens. 4-37039
 solids, solubility in supercritical gases studied using lattice gas model 4-34649
 solitons in solids, review book contrib. 4-6362
 spectral dimensionality of fractal structs. 4-22718
 spherical layer model, percolation theory 4-13600
 spin weight functions in models of phase transitions, Gaussian smearing 4-22703
 spiral self-avoiding walk, asymptotic props. 4-48024
 spiral self-avoiding walks, number of n-step walks 4-53609
 spiral self-avoiding walks on square lattices, asymptotic behaviour 4-37032
 spiralling self-avoiding walks, universality class 4-48025
 spiralling self-avoiding walks on square lattice, exact soln. 4-37031
 square Ising model, correlated boundary conditions and Monte Carlo method 4-22707
 square lattice, coadsorption, phase transitions 4-48016
 square lattice gas model, phase diagram and critical exponents 4-45305
 square-lattice Potts model, renormalisation study 4-48039

Lattice theory and statistics continued

- stochastic lattice gases in nonequilibrium steady state, long range correl. 4-22706
 strong extensions of lattice-ordered algebras 4-27460
 structure preserving maps between quantum mech. systems, angle conservation prop. 4-36928
 structure theorem for lattices of generalized partitions 4-27459
 SU(N) Anderson mag. impurity thermodynamics 4-51024
 superionic conductors, ionic cond. and thermoelectric power in lattice gas model 4-20395
 surface interacting self-avoiding lattice walks, crit. exponents in infinite systems 4-37029
 Szego-Kac theorem proof and definitions of determinant 4-53632
 three-body bound states on a lattice, vel. to magnetism and supercond. 4-42878
 three-dimensional Ising model, equilibrium cluster distrib. in one phase region 4-27436
 three-state chiral clock model, melting and wetting transitions 4-17847
 time self-avoiding walk, one-dimens., scaling and crossover 4-27413
 Toda chain, pseudo-nonintegrability 4-32182
 Toda chain, two-dimensional, elliptic soln. of sinh-Gordon eqn. 4-13593
 Toda eqn., bilinear soliton eqns. generation 4-42735
 Toda lattice, 2-dimens., hierarchy 4-200
 Toda lattice, real normal matrices, global convergence, appl. to eigenvalue problem 4-42887
 Toda lattice hierarchy, l-reduced family, N-soliton solns. 4-201
 Toda lattice systems, integrability and singularities in complex T-plane 4-42891
 topological representation theory for orthomodular lattices 4-27446
 transfer matrix spectrum in C^* -algebra at high temps. 4-32173
 transition in Potts model, with short-ranged random-exchange interaction, field-theoretical formulation 4-25572
 true self-avoiding walk, one-dimens. 4-22712
 true self-avoiding walk, r.m.s. distance 4-22711
 true self-avoiding walk on fractals, site number and r.m.s. displacement calc. 4-22713
 two particle clusters system, free energy, Hamiltonian 4-53630
 two-dimensional ANNNI model, numerical simulations of modulated systems 4-42884
 two-dimensional dynamical system, nonlinear eqns. of string type and their complete integration 4-53627
 two-dimensional Ising model, partition function 4-13598
 two-dimensional O(n) spin systems heat capacity by Monte Carlo method 4-24341
 two-dimensional Potts model with ferromagnetic and antiferromag. interactions, critical behaviour 4-40181
 two-dimensional quantum XY model, nature of ordered phase 4-8827
 two-dimensional sine-Gordon lattice, mol. dynamics study, adsorbed monolayer model 4-187
 two-dimensional square lattice, diffusion controlled aggregation 4-56030
 two-dimensional sticks system, critical behaviour 4-4349
 unusual random walks 4-13583
 variable excluded volume effect on lattice chain dynamics 4-32174
 vertex model, staggered ice-type, associated lattice gauge theories 4-32408
 NaN_3 , Potts model phase transition, birefringence study 4-6488

lattice vibrations *see* **lattice dynamics**

Laves phases *see* **alloys**

lawrencium

No entries

lawrencium compounds

No entries

LCAO calculations

- acetone/trile dimer, intermol. pot., SCF MO LCAO ab initio calc. 4-28525
 N-(2-aminoethyl) pyridinium ions, gauche conformation, X-ray anal., SCF-LCAO-MO calcs. 4-43796
 atoms, mol. and solids, relativistic effects, conf., Vancouver, Canada, Aug. 1981 4-36796
 bifurcated H-bonded systems, H^+ motion, spectrosc. and quantum chem. investigations 4-14325
 complex inorganic ions, vibr., thermodynamics, ab initio SCF MO LCAO calcs. 4-28369
 differential operators for variational methods 4-48922
 3,5-dinitropyridine charge transfer sandwich complexes investig., pot. energy surfaces of form. 4-11494
 IV-VI semiconductors, covalent bonding props., LCAO method 4-24755
 IV-VI semiconductors, cubic phase instability, unified universal parameter treatment 4-34896
 many-electron molecules relativistic kinetic energy operator, matrix representation 4-38084
 metal surfaces, dissociative chemisorption of H_2 , role of d orbitals 4-29792
 metalloporphyrin dimer, excited states, mol. orbital calc. 4-18918
 metalloporphyrin dimer, MO LCAO SCF calcs. of excited state energies 4-9676
 molecules, photon- and electron-impact ionisation, ejected-electron ang. distrib., nonrelativistic theory 4-49170
 molecules and crystals, relativistic HF theory, LCAO calcs. 4-38065
 muonic atom prompt fission, muon energy levels and final probability 4-38356
 peroxide radicals, electronic struct., mag. reson. parameters calcs. 4-28374
 trans-polyacetylene chain, dimerised, band struct., LCAO calc. with Gaspar-Kohn-Sham pot. 4-20535
 polyatomic inorganic molecules, force fields and vibr. spectra, ab initio LCAO SCF calcs. 4-9675
 positrons, hydrated, HF-MO-LCAO SCF calcs. 4-28353
 semiconductor heterojunctions, interface electronic props., microscopic approach 4-6874
 semimetals, group V, cubic phase instability, unified universal parameter treatment 4-34896
 solids, relativistic effects, LCAOC and APW methods 4-39756
 symmetry-adapted LCAO functions, rel. to point group symmetries on spherical shell 4-28351
 three-membered rings, ionisation pots., Xalpha calcs., Koopmans' theorem, Green's function and HAM/3 results 4-43803
 transition metal surfaces, chemisorb. atomic monolayers, orbital population and polarisation effects 4-15769

LCAO calculations continued

- B_2H_6 , ionisation pot., ΔE_{SCF} , ab initio LCAO-MO-HF-SCF calcs. 4-48936
 Be, structure factor, γ -ray meas. and band struct. calcs. 4-39205
 BeH, valence and Rydberg states, pot. energy curves, LCAO-MO-SCF-CI calcs. 4-43801
 $\text{C}_2(4)$ crystalline modification, electronic struct. calcs. 4-11432
 CdTe:Mn, impurity states calcs. (Russian) 4-50766
 Cr_3Si , electronic struct. study 4-25219
 Cu, FCC, electronic energies, densities of state, X-ray scatt., total energy, calcs. using Gaussian basis sets contraction 4-34440
 $\text{Cu}_x\text{Zr}_{1-x}$ glasses, electronic struct., first-principles CLCAO calc. 4-45597
 $\text{EuO}(\text{S})(\text{Se})$, mag. interactions, band model study 4-11662
 GaP, vacancy induced deep levels, density of states change 4-39747
 $\text{He}^{2+} + \text{H}$, charge transfer cross section, mol. calcs. 4-14561
 He^{2+} , (n=2-4), stability, LCAO MO GO SCF calcs. 4-33316
 InP, vacancy induced deep levels, density of states change 4-39747
 $\text{K}_2(\text{Fe}(\text{CN})_6)$, multiplet struct. of X-ray spectra 4-11961
 KNiF_3 , multiplet struct. of X-ray spectra 4-11961
 Li, energy bands and density of states, linear combination of Gaussian orbital calc. 4-56199
 Li_2CO_3 , geometric struct., stability, ab initio LCAO SCF calcs. 4-28368
 $\text{Mg} + \text{H}_2$, dissociative near-reson. charge exchange, theory 4-49142
 Ne open-chain mol., FOGO and LCAO-MO calcs., geometries, internal rot. 4-23599
 Na_2SiO_3 , electronic struct. and density of states, LCAO calc. 4-6702
 $\text{Na}_2\text{Si}_2\text{O}_5$, α and β phases, electronic struct. and density of states, LCAO calc. 4-6702
 $\text{Pd}_{41}\text{Zr}_{59}$ glass, electronic struct., LCAO calc. 4-45600
 Pt (110) surface, unreconstructed and (1 \times 2) reconstructed, struct. energy calc. 4-56138
 Pt surface core level shifts, influence of CO, K, and NH_3 adsorbates 4-30041
 SF_6 , nuc. elc. shielding, coupled HF study 4-5132
 Si bilayers, randomly stacked, localised electron states, LCAO calc. 4-45693
 Si, impurity nuclei at interstitial sites, hyperfine interactions 4-34899
 Si, LCAO model Hamiltonian, $1/d^2$ dependence 4-25210
 a-Si:H and a-Si, dangling bond states, rigorous energy bounds 4-45681
 UO_2^{2+} , excited states, LCAO-MO-HF Slater calcs., relativistic effects 4-54605
 YC_x , band struct., CPA, LCAO and APW calcs. 4-56212

LCD *see* **liquid crystal displays**

lead

- see also* **nuclei with**
 adsorbed layer on ZnS , coverage, photothermal deflection spectroscopy studies 4-39667
 adsorbed water activation by chemisorbed O, XPS anal. 4-41255
 adsorption on Cu (111) and (100), secondary electron emission changes 4-57049
 alkali halides: Pb^{2+} , optical spectra, influence of precipitation processes 4-25786
 atmosphere, ^7Be and ^{210}Pb deposition fluxes to land and sea surfaces 4-42113
 atmosphere, trace metal content of aerosol over Tennessee, USA 4-42092
 atmosphere of Wisconsin, USA, Pb and ^{210}Pb in aerosol and rain 4-42085
 atmospheric bulk deposition in Tulsa, Oklahoma 4-46914
 atom, optical rot., parity nonconservation 4-14371
 atom, photon induced L-shell X-ray intensity energy depend. 4-18974
 atom, relative intensity meas. of L-shell X-rays in energy range 17 to 60 keV 4-43848
 atom, reson. states, decay into exit channel, counterbalancing contrib. 4-14351
 atomic clusters, formation in supersonic nozzle expansions 4-14621
 bulk metal/thin metal film interface, room temp. compound form. 4-25166
 Cape York iron meteorite, Ag and Pb isotopic composition 4-13263
 chemisorption on Ge (111), LEED and AES meas. 4-15763
 crystallites on surfaces, model for growth shape 4-34430
 crystals, equilb. shapes, obs. of Pokrovsky-Talapov crit. behaviour 4-50221
 cyclic dissolved-particulate phase exchange in Gironde estuary 4-57806
 Debye temp., Grueneisen parameter, temp. depend. 4-15608
 double hole binding energy shifts, rel. to AES results 4-3002
 dynamic, single to multiple peak transition, effect of test method 4-40819
 elec. resist., pre-melting effects 4-50793
 electrode, potentiodynamic and cyclic voltammetries in H_2SO_4 solns. 4-46656
 electrode containing trace Te, Sb, As, Co, and Ni, for Pb-acid battery, linear pot. sweep 4-26281
 electrodeposition from sulphamate soln., optimum parameters 4-3092
 FCC, lattice dynamics using ionic Morse pot. in sea of free-electron gas 4-55945
 geochemistry, isotopic comp. of Pb from Shasta (California) palaeo-island arc 4-31450
 Gorgona Island, Columbia, Pb isotope ratios correl. with magma type 4-52623
 Grant iron meteorite, Ag and Pb isotopic composition 4-13263
 hot isotostic pressing, mechanisms 4-7380
 N Illinois deep drill hole granite, Pb content, implications for Mississippi Valley ore deposits 4-41810
 impurity in precipitation-hardening austenitic steel, thermocyclic treatment effect on props. 4-40845
 irradiated by scatt. and direct ^{60}Co photons, fluoresc. X-ray yields 4-48844
 island films, Debye-Waller factor size depend. of Bragg reflections, Debye temp., electron diff. (Russian) 4-24940
 isomer shift calibration of ^{119}Sn in Pb, internal conversion meas. 4-40285
 isotopic evolution of radiogenic Pb in Earth crust, dynamic model 4-8192
 laser evaporation, influence of hydrodynamic perturbations 4-24989
 liq., monolayer struct. on Ge (111), RHEED study 4-29306
 liquid, contact reaction with Ti 4-2414
 liquid, precision density meas. (German) 4-22762
 liquid, struct. and viscosity, mag. field influence 4-29664
 liquid, WCA struct. factor, core sizes and forces 4-44930
 liquid surface, instability under intense IR radiation 4-20249

lead continued

mantle heterogeneity beneath French Polynesia and Sr, Pb, Nd isotope ratios 4-41823
 mechanical stability and theoretical tensile strength under hydrostatic loading (*Chinese*) 4-3174
 Mexico City, particulate air pollution, elemental composition obs. 4-52232
 molecule, relativistic calculations of dissociation energies and related properties 4-33352
 monolayers on Al (111) and Ni (111), coverage and core level binding energies 4-25153
 nuclear reactions induced by heavy ions, recoil atoms ionisation 4-4896
 East Pacific Rise and Mid-Atlantic Rise, Pb, Sr isotope geochemistry comparison 4-58118
 Pb-acid cells, reactions at Pb electrodes in H_2SO_4 near equilibrium potential 4-52020
 photoelectric cross sections around K edge 4-19019
 polycrystalline films, grain size reduction using AuIn_2 barriers to grain growth 4-50667
 Rayleigh and Compton scatt. differential cross sections 4-30555
 scintillator appl. polymer based with 10% Pb 4-28300
 silicates, Na and H depth profiles after Pb^{2+} implantation and leaching 4-45171
 soil pollution near Zn smelters 4-3502
 steel, Pb-plated, Hertzian contact, expt. study 4-12195
 submonolayer deposits on Cu (111), oxidation, XPS and work function study 4-51889
 superconducting film, interaction of flux tubes, magneto-optical study 4-40122
 target, external bremsstrahlung from ^{90}Sr , ^{90}Y β particles, Z depend. 4-11957
 thermal vibr., temp. depend., short-wavelength neutron diffr. data 4-55950
 thick layers, electron transmission, EELS 4-51423
 thin film, superconducting props. (*Russian*) 4-50970
 underpotential deposits on Cu and Ag, ellipsometry, optical model 4-40403
 vapour laser, pulsed, decay kinetics of $6p^2\ ^1\text{D}_2$ lower active level 4-10286
 vapour laser at 722.9 nm, investigation using double pulse method 4-14675
 vitrification kinetics, glassy layer thickness 4-39156
 whisker growth from liq. phase of Pb alloy Josephson device chips 4-2492
 $\text{Al-Al}_2\text{O}_3\text{-Pb-Co}^{2+}(\text{Ni}^{2+})$, MIM junction, EPR study 4-46096
 $\text{B}_2\text{O}_3\text{-SiO}_2$ nucl. waste glasses, Pb implanted, radiation damage effects 4-18519
 $\text{CaF}_2\text{:Pb}$, X-ray irradi., optical detection of EPR using afterglow 4-25637
 CdTe:Pb , deep level form., EPR study 4-40224
 KBr:Pb , X-ray elec. cond. study 4-25354
 KBr:Pb^{2+} , A-band emission, decay kinetics temp. meas. 4-11918
 $\text{KBrCl}(\text{I})\text{:Pb}^{2+}$, impurity-cation vacancy interactions, luminesc. study 4-11934
 KCl:Pb^{2+} , X-ray irradiated, Pb^{2+} defect, ESR study 4-2820
 Li-Pb solutions, nonideal, N_2 , O_2 and H_2 solubilities, chem. theory 4-45337
 NaCl:Ca , Pb^{2+} , precipitation processes, optical spectra study 4-11306
 NaCl:Ca(Pb) , yield stress, hardness, dislocation motion meas. 4-50403
 NaCl:Pb , nucleation processes, ionic cond. and optical spectra 4-15651
 NaCl:Pb^{2+} , aggregation and precipitation, UV absorption studies 4-50529
 NaCl:Pb^{2+} , precipitation, light scatt. study 4-46508
 Nb-Nb oxide-Pb tunnel junctions, phonon struct. 4-2704
 Nb-Nb $_2\text{O}_5$ -Pb Josephson junctions, tunnelling props. 4-2693
 Nb-Nb $_2\text{O}_5$ -Pb superconducting tunnel junctions for proportional counters 4-43767
 Nb $_2\text{Ge-SiO}_2$ -Pb tunnel junctions for meas. Nb $_2\text{Ge}$ props. 4-30120
 Nb-Nb Josephson junctions, ion bombardment effects 4-30116
 Pb isotope ratios and geochronology methods for $^{206}\text{Pb}/^{204}\text{Pb}$, $^{207}\text{Pb}/^{204}\text{Pb}$, $^{208}\text{Pb}/^{204}\text{Pb}$ ratios throughout geologic time 4-47184
 Pb-acid cells discharge performance, influence of acid diffusion into electrodes 4-35999
 Pb/Ag superlattice, growth and X-ray diffr. spectra 4-2470
 $\text{Pb/Al}_2\text{O}_3/\text{Al}$ inelastic electron tunnelling junctions, conductance changes during infusion doping 4-50953
 Pb/oxide/Nb $_2\text{Ge}$ Josephson tunnel junctions, penetration depth and capacitance 4-50991
 Pb-acid cell, deep discharge-charge cycles, phys. changes in positive active mass 4-26282
 Pb-acid storage batteries, developments in Yugoslavia (*Croatian*) 4-46866
 $\text{Pb-Al}_2\text{O}_3$ tunnel junction barriers, effect of H(D) implantation, IEIS and work function meas. 4-11590
 $\text{Pb-Al}_2\text{O}_3\text{-Al}$ supercond. junction, electron-phonon interaction function, numerical anal. from expt. data 4-11639
 Pb-Cu proximity Josephson junction, resistive transition 4-45944
 Pb-Ge (111) interface, growth and struct., LEED, AES, and SEM study 4-20502
 Pb-1-Pb superconducting junction, quasiparticle number variations (*Chinese*) 4-2694
 Pb-In-Au thin-film tunnel junction fabrication (*Chinese*) 4-2696
 Pb-Pb oxide-Pb tunnel junctions 4-11641
 Pb-Pb oxide-Pb two-dimens. Josephson tunnel junctions, Josephson current distrib. 4-45931
 Pb-Pb $_2\text{O}_3$ -Pb tunnel junctions, electrode resistance effect on characteristics 4-11640
 Pb-PbO $_2$ -Pb resonance Josephson tunnel junctions, freq. characts. (*Chinese*) 4-2697
 Pb-Sn double monolayers, adsorption on Cu, AES, secondary electron emission obs. 4-39697
 Pb-water, two-layer shields, γ -ray build up factors approx. 4-14232
 Pb+Br(I), asymmetric collision, δ -electron spectrosc. obs. of inner quasiatomic shells 4-9900
 Pb+Cm, coupling matrix elements calcs. 4-19138
 Pb+H $^{+}$, M-subshell ionisation cross sections X-ray prod. cross sections 4-9927
 $\text{Pb}^{2+}+\text{H}_2$, electron capture cross-sections meas., 10-150 keV 4-10037
 $\text{Pb}^{2+}+\text{H}_2$, electron capture cross-sections meas., 10-150 keV 4-10037
 Pbl, fine structure and HFS anal. of odd config. 4-38089
 $^{82}\text{Pb}+F$ ions, direct ionisation and electron capture in M-shell X-ray prod. 4-11980
 ^{208}Pb , small impact parameter K-shell ionisation probabilities and δ -electron spectra 4-19192

lead continued

$^{208}\text{Pb}/^{206}\text{Pb}$ vars. in ore deposits, ocean sediments and volcanic rocks 4-21902
 ^{210}Pb dating of sediments, freshwater and marine appl. 4-13088
 ^{210}Pb distribution in E and central Indian Ocean 4-21999
 ^{210}Pb fallout rate in California, USA 4-46909
 ^{210}Pb in Pacific, GEOSECS meas. of particulate and dissolved concs. 4-21998
 ^{210}Pb meas. intercomparisons at GEOSECS 500 in NE Pacific 4-21997
 Ph $_2$ and Bi $_2$ in Ne matrices, fluoresc. emission from PbBi, vibr. assignments 4-54783
 RbCl:Pb^{2+} , X-ray irradiated, Pb^{2+} defect, ESR study 4-2820
 Sn/insulator/Pb two-dimensional Josephson tunnel junctions, fluxon motion (*Russian*) 4-45934
 Sn-Sn-Pb superconducting thin film tunnel junction struct., tunnel injected, nonthermal quasiparticle distrib. 4-2705
 SrS:Pb^{2+} phosphors, luminesc. of Pb^{2+} centres 4-46302
 SrSe:Pb^{2+} phosphors, luminesc. of Pb^{2+} centres 4-46302
 U+Pb collisions, K-ionisation probability at high energies 4-9995

lead alloys
 see also lead compounds
 binary alloys, struct., mag., physical and supercond. props., quenching rate depend. 4-51651
 Heuser L $_2$ alloys X $_2$ MnZ (X=Ni, Cu, Rh, Pd and Z=Ga, Ge, In, Sn Pb), hyperfine mag. field 4-35279
 Josephson device chips, Pb whisker growth from liq. phase 4-2492
 Josephson junctions, RF plasma oxide growth, inhibiting effect of thermal oxides 4-15997
 $\text{Au}_{55}\text{Pb}_{22.5}\text{Sb}_{22.5}$, molten, kinematic viscosity and elec. cond. anomalies rel. to glass form. 4-2365
 Bi-Pb, liq. alloys, activity of O 4-57186
 Cu/Pb-Bi, resist. of supercond.-normal metal interfaces at OK 4-40120
 Cu-Pb alloy films electrodeposited on single-cryst. Cu (111), structure 4-25183
 Cu-Pb-Su-Zn, bearing alloys, heavy load support appl., wear props. 4-35734
 Cu-Su-Pb-Zn, bronze, surface layer form. and struct. in aq. solns. 4-46655
 $\text{Ge}_{41.5}\text{Pb}_{25.5}\text{Sb}_{56.5}$ chalcogenide glass films, bipolar photoconductivity 4-56384
 In-Pb-Sn pseudobinary alloys, martensitic transform. 4-16391
 $\text{La}_{1-x}\text{Ce}_x(\text{Pb}_{1-y}\text{Sn}_y)_3$, mag.-nonmag. transition of Ce impurities, elec. resist., supercond. transition temp. 4-56333
 Li-Pb, liq., electron localisation and cpd. form., ^8Li spin relax. study 4-40261
 Li-Pb, liq., thermodynamic state functions, aggregation model 4-34670
 Li-Pb, liquid, multicomponent hard sphere mixture, struct. factors 4-44938
 Li-Pb, liquid, struct. factors, hard sphere model 4-2060
 Li-Pb, liquid, total struct. factor, temp. depend. 4-2059
 Li-Pb eutectic alloy, breeding blanket material in fusion reactor 4-9419
 Li-Pb liquid dilute alloy, elec. resist. and chem. short range order 4-50785
 Li-Pb(H/N) ternary solutions, solubility of hydrides and nitrides, elec. resist. obs. 4-54402
 $\text{Li}_{0.9}\text{Pb}_{0.2}$ liquid alloys, conc. fluctuations, neutron scatt. study 4-20080
 $\text{Li}_1\text{Pb}_{0.83}$ eutectic, combined N_2 determ., fusion reactor material 4-33162
 $\text{Li}_1\text{Pb}_{0.83}$ fusion blanket incorporating Pb neutron multiplier, cross section sensitivity study 4-37851
 $\text{Li}_1\text{Pb}_{0.83}$, fusion reactor breeder materials safety compatibility studies 4-14168
 $\text{Li}_1\text{Pb}_{0.83}$, liq. breeder for fusion reactor blanket, progress in studies 4-9445
 $\text{Li}_1\text{Pb}_{0.83}$, liquid eutectic, tritium recovery by vacuum degassing 4-9543
 Li_2Pb , liq., model for struct. 4-44931
 Li_2Pb , liquid, partial struct. factors and radial distrib. functions 4-2061
 Li_2Pb , Zircaloy clad assembly, reactor irradi., T production and distribution 4-14200
 Mg-Cu-Pb, liquidus surface model synthesis 4-7423
 Na-Pb liquid alloys, mag. susceptibility, temp. and conc. depend. 4-45998
 NaPb, cryst. struct. containing stellae quadrangulae 4-2150
 Nb-NbO $_2$ -Pb/In window Josephson junctions in planar interferometer 4-11638
 Pb-Bi/Nb $_2\text{O}_5$ /Nb supercond. tunnel junctions, MM props. during quasiparticle tunnelling 4-2707
 Pb-In, Abrikosov vortex density effect on dislocation hysteresis losses (*Russian*) 4-6376
 Pb-In, with dislocations, mag. field penetration (*Russian*) 4-56486
 Pb-In-Au films, fine grained, vacuum deposition for Josephson base electrodes appl. 4-16317
 Pb-In-Au Josephson electrodes, thermal stability 4-7362
 Pb-Li, molten eutectic, kinetics of H absorption 4-29779
 Pb-Li alloys, liq., solubility of H_2 , D_2 , and T_2 4-56021
 Pb-Mn, dil., thermodynamics, effect of localised states in energy gap 4-25478
 Pb-Sb, liq., O activity, determ. by modified coulometric titration 4-34671
 Pb-Sb eutectic, twin-roll rapid solidification process, cooling characteristics 4-7445
 Pb-Sb eutectic alloy, rapidly solidified ribbon, rolling characts. 4-21202
 Pb-Sb-Als, model alloy, creep and ratchetting study 4-12131
 Pb-Sb-Als alloy tubes, thick flanged, subjected to steady axial mech. loading and transient thermal loading, ratchetting and creep 4-26000
 Pb-Sn (5 wt.%), cellular precipitation, impurity effects (*Russian*) 4-50515
 Pb-Sn eutectic, superplastic, influence of prestrain on ductility 4-21275
 Pb-Sn eutectic alloy, directional solidification, forced convection flow effects 4-21201
 Pb-Sn monotectic, liq.-liq. and solid-liq. interface tension (*French*) 4-39628
 Pb-Sn system, heat of fusion, conc. depend. 4-55968
 Pb-Sn-Sr, phase diagram up to ~ 36 at.% Sr 4-40749
 Pb-Sn-Sr-Al, as-cast, cellular precipitation and overaging 4-51679
 Pb-Te, liq. alloys, elec. resist., compound forming effect 4-50786
 Pb-Tl, lattice stability parameters, phase equilib. (*Chinese*) 4-7422
 Pb-Tl alloys, solidification front morphology during unidirectional growth 4-40764
 $\text{Pb}_{83}\text{Li}_{17}$ liquid alloy blanket, T recovery 4-9591
 $\text{Pb}_{40}\text{Sn}_{60}$ low field supercond., mag. shielding, wall-thickness depend. 4-11630

lead alloys continued

- RAgPb, lattice parameters, X-ray diff. study 4-2144
 Sn-Pb, semi-solid dendritic, compression at low strain rates, liquid-solid segregation 4-57301
 Ti-Pb, maximum solubility of Pb (*Chinese*) 4-6510
 Zn-Pb, phase diagrams (*French*) 4-46495
 Zn-Pb monotectic, liq.-liq. and solid-liq. interface tension (*French*) 4-39628
 Zn-Pb system, thermodynamic props. and phase diagrams 4-16373

lead bonding

- US amplitude measurement and calibration using laser interferometer 4-33704

lead compounds

see also *lead alloys*

- BaTiO₃-PbTiO₃ system, ferroelec. phase diagram, computer calc. 4-40374
 chalcogenides, energy gap versus refractive index relationships 4-56879
 lead phthalocyanine, oriented films on Cu(100), angle resolved photoemission obs., interpretation 4-16292
 oxides, multicomponent, solid solutions formation 4-50523
 Pb-acid cells, reactions at Pb electrodes in H₂SO₄ near equilibrium potential 4-52020
 PbCl₂, polycrystalline film, dielec. function, EELS study 4-46383
 PLZT, hot-pressed, translucent, prep., characterisation and props. 4-51607
 PLZT-10, ferroelectric ceramic, light modulation, linear operators (*Russian*) 4-28822
 Ti-supported PbO₂ electrode, T-SnO₂ layer functional mechanism (*Chinese*) 4-46768
 (Ba,Pb)SnO₃ solid solns., posistor effect 4-50818
 BaPb_{0.75}Bi_{0.25}O₃, reentrant superconducting resistive transition obs. 4-45921
 Ca_{10-x}Pb_x(PO₄)₆(OH)₂, apatites, struct., X-ray diff. and IR absorpt. spectra 4-24788
 Cd₂B₂O₇-PbO system, synthesis, X-ray diff. and IR spectra studies 4-55802
 CsPbF₃, ²⁰⁷Pb chemical shift meas., mag. shielding study 4-11783
 Ge_{1-x}Pb_xTe_{2+y}, solubility, deviation from stoichiometry effect, X-ray diff. 4-56016
 K₂PbCl₄, cryst. struct. and thermodynamic props. (*German*) 4-39252
 Ni₃PbS₂(Se₂), elec. resist., Hall effect and paramag. susceptibilities (*French*) 4-45773
 PLZT 9.2 ferroelectric ceramic, photorefractive sensitivity study 4-25724
 PLZT ceramics, domain determ. by Ag photodeposition 4-35397
 PLZT ceramics, subjected to high elec. fields, autocorrel. anal. of piezoelec. coupling 4-7126
 PLZT electro-optic ceramic depolarisation at low temps. 4-44165
 PLZT electro-optical ceramic as light-gate array for non-impact printer 4-55185
 PLZT ferroelectric ceramics, transparent, dielec. props., electron- and γ-irrad. and mag. field effects 4-46191
 PLZT films, RF diode sputtering prep., dielec. and optical props. 4-30394
 PLZT, space-charge-limited current study 4-34991
 PLZT thin film waveguides for integrated optical device (*Japanese*) 4-55226
 PLZT transparent ferroelec. ceramics, electronic processes and phase transitions 4-11846
 PLZT, transparent ceramics, prep. of active powders 4-12048
 PLZT:Al, photoferroelectric sensitivity enhancement by thermal diffusion and ion implantation 4-34728
 PZT, electrically excitable mech. resonance, effects of domain struct. 4-35398
 PZT ferroelectric ceramics, shock wave-explosive energy conversion 4-34580
 PZT ferroelectric films, RF magnetron sputtering 4-30628
 PZT, ferroelectric films, thermal decomp. prep., dielec. props. 4-40667
 PZT powders, sintering and characterisation 4-16363
 PZT, solid solns., electrostrictive props. near tricritical point 4-46184
 PZT, solid solns., form. reaction sequence, role of raw materials 4-25929
 PZT, temperature-composition-electric field phase diagram 4-46200
 PZT:Mn, electromechanical nonlinearity under reson. excitation 4-51192
 PZT:Mn,Ce, ferroelectric ceramic, stabilisation effects 4-46192
 PZT/polymer 1-3 and 1-3-0 piezoelec. composites, hydrophone appl. 4-40352
 PZT/polymer composite sandwich transducer, hydrophone and NDT apps. 4-38682
 PZT/polymer composites, piezoelec. props. 4-40350
 PZT/polymer perforated composites, piezoelec. props., hydrophone apps. 4-40351
 PZT/silicone rubber composite, piezoelec. props. 4-40353
 PZT-5A ceramics, 1 MHz fundamental freq., use in fixed path double crystal interferometer 4-44312
 (Pb, Ba, La)Nb₂O₆ ceramics, hot-pressed, transparent, anisotropies 4-20945
 (Pb, La)TiO₃ ceramics, mech. props., ageing changes 4-35678
 (Pb,Ni)(Zr,Ti,Zn,Nb)O₃ piezoelectric ceramic, dynamic strength and dynamic nonlinearity 4-20917
 Pb salt multispectral response photovoltaic IR detectors 4-48200
 Pb-β'-alumina 4-24795
 Pb-Ga-Te, containing PbTe, homogeneity region, solid solubility 4-57217
 Pb-Mo-Se ternary system, phase relations and superconductivity 4-50465
 Pb-Pb oxide-Pb tunnel junctions 4-11641
 Pb-Pb₂O₃-Pb tunnel junctions, electrode resistance effect on characteristics 4-11640
 Pb-PbO₂-Pb resonance Josephson tunnel junctions, freq. characts. (*Chinese*) 4-2697
 Pb-Sn-Te-Se, liquidus surface, differential thermal anal., step-wise regression anal. 4-50470
 Pb-Te-O single cryst. growth from melt, electrophysical props. 4-30625
 Pb²⁺-β'-alumina, ion transport study 4-25082
 Pb₂B²⁺O₆ ternary oxides, ferroelec., lattice ion ordering influence 4-30413
 (Pb_{0.8}Bi_{0.2})_{0.97}La_{0.02}Nb₂O₆ piezoelectric ceramic, mechanical props. 4-40940
 PbBi in Ne matrices, fluoresc. spectra, vibr. assignments 4-54783
 Pb_{1-x}(BiLi)_{x/2}TiO₃ and Pb_{1-x/2}(BiLi)_{x/2}(NaCe)_{x/2}TiO₃ ferroelectric solid solutions, piezoelec. props. 4-25683
 PbBi₂Nb₂O₆, grain-oriented ceramic, fabrication process 4-40726
 PbBr₂, polycrystalline film, dielec. function, EELS study 4-46383

lead compounds continued

- PbBr₂ single cryst., acousto-optical props. and photoelasticity 4-7158
 Pb_{1-x}Cd_xSe films, photosensitivity, UV radiation effects 4-20690
 PbCl₂, lattice oscils. near isolated high symmetry points (*Russian*) 4-45282
 PbCl₂, photolysis investigation by quartz resonator method (*Russian*) 4-21489
 PbCo₂(PO₄)₂, synthesis, Bridgman-Stockbarger crystn. and characterisation 4-40635
 Pb₂Co(PO₄)₃, synthesis, Bridgman-Stockbarger crystn. and characterisation 4-40635
 Pb₂CrO₅ ceramics, photovoltaic effect 4-30016
 PbDAsO₄, NQR under high hydrostatic press. 4-30315
 Pb_{1-x}Eu_xSe₂Te_{1-y} diode lasers grown by MBE 4-19444
 β-PbF₂, cryst. struct., anion disorder and conduction path 4-45106
 PbF₂, electronic band gap and exciton states, temp. depend. 4-6712
 PbF₂, high temp. ionic transport and disorder 4-20396
 PbF₂, perfect cryst. and intrinsic defect props., quasiharmonic calc. 4-45127
 PbF₂, polycrystalline film, dielec. function, EELS study 4-46383
 PbF₂, premelting lattice disorder rel. to superionic cond. 4-6553
 PbF₂, quasi-harmonic pot. and defect props., computer simulation studies 4-45049
 PbF₂, rare earth doped, elec. relax., complex impedance meas. 4-16146
 PbF₂, structural defect annealing near sublattice melting temp. 4-24804
 β-PbF₂, thermal hysteresis of anion disorder and ionic cond. 4-45107
 PbF₂Er³⁺, defect sites identification using site selective laser spectroscopy 4-11164
 PbF₂Eu³⁺, ³D₁-⁷F₀ transition, homogeneous linewidth, anomalous temp. depend. 4-11930
 PbF₂:La, Ce, dipolar relax. times, anomalous press. depend. 4-11841
 β-PbF₂:Na(La), superionic cond. and point defect parameters 4-45390
 PbF₂:rare earth, lattice distortion and local compressibility induced by trivalent impurities 4-6385
 PbF₂:CaF₂, ²⁰⁷Pb chemical shift meas., mag. shielding study 4-11783
 PbF₂:YF₃, phase diagram and ionic conductivity 4-6549
 PbFCl, ²⁰⁷Pb chemical shift meas., mag. shielding study 4-11783
 Pb₂Fe(CN)₆ with interstitial water, n-type semiconduction 4-20647
 Pb₂(Fe(CN)₆)₆ with interstitial water, p-type semiconduction 4-20647
 Pb₂(Fe_{1/2}Nb_{1/2})O₃-Pb(Fe_{2/3}W_{1/3})O₃, low firing multilayer capacitor material, dielec. props. 4-30404
 PbGeO₃, new struct. modification, DTA and X-ray diff. studies 4-55791
 Pb₂Ge₂O₁₁, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 Pb₂Ge₂O₁₁, ferroelec., photovoltaic effect 4-45822
 Pb₂Ge₂O₁₁ films, doped and undoped, sputtering prep. and pyroelec. props. 4-30393
 Pb₂Ge₂O₁₁ films, elec. and dielectric props. 4-35105
 Pb₂Ge₂O₁₁ pyroelectric glass-ceramics, oriented grain growth from germanate glass 4-30676
 Pb₂Ge₂O₁₁:Nd³⁺, trigonal ferroelec., stimulated emission generation 4-46289
 Pb₂Ge₂O₁₁:Nd³⁺,K⁺ ferroelec., stimulated emission and laser action 4-44108
 PbGeS₃, photoconductivity study (*Russian*) 4-25407
 Pb_{1-x}Ge_xTe, anomalous resistivity near ferroelectric phase transition 4-46204
 Pb_{1-x}Ge_xTe, electronic dispersion relation, influence of phase transition 4-34875
 PbHAsO₄, NQR under high hydrostatic press. 4-30315
 PbHAsO₄, lattice parameter meas. in vicinity of T_c, X-ray diff. study 4-15437
 PbH₂PO₄ ferroelectric, soft modes and proton tunneling 4-35372
 PbHfO₃, antiferroelectric twins 4-24830
 PbHfO₃, struct. phase transition study 4-25015
 Pb_{1-x}Hg_xS films, flash-evaporated, structure 4-39731
 Pb₂, electron-hole cond., Hebb-Wagner polarisation 4-29690
 Pb₂, exciton absorption, spatial dispersion effects 4-45645
 Pb₂, layered cryst., struct. behaviour and phys. props., review 4-40325
 Pb₂, polycrystalline film, dielec. function, EELS study 4-46383
 Pb₂, polytropism and cryst. struct. 4-34456
 Pb₂In₈Bi₄S₁₉, cryst. struct. study 4-2167
 PbIn₂S₄, polymorphism, isomorphism with Sn chalcogenides 4-11088
 Pb₂KNb₂O₁₅, SAW substrate material, cryst. growth and dielec. characts. 4-30617
 Pb_{2-x}La_xLi_{0.5}O_{6+δ} ceramic pyrochlore structured system, dielectric relaxation and conduction meas. 4-40334
 PbMg_{1/3}Nb_{2/3}-PbSc_{1/2}Nb_{1/2}O₃ solid soln., electrostriction study 4-7127
 Pb(Mg_{1/3}Nb_{2/3})O₃, cryst. ferroelec. materials, glassy polarisation behaviour obs. 4-25675
 Pb(Mg_{1/3}Nb_{2/3})O₃, dielectric and electrostrictive props. 4-40321
 Pb(Mg_{1/3}Nb_{2/3})O₃, dielec. props. rel. to ceramic processing 4-51174
 Pb(Mg_{1/3}Nb_{2/3})O₃, electrostriction meas. 4-40356
 PbMg_{1/3}Nb_{2/3}O₃, ferroelectric, diffused phase transition, refractive index study 4-30431
 PbMg_{1/3}Nb_{2/3}O₃, ferroelec., with diffuse phase transition, phys. phenomena, review 4-35413
 Pb(Mg_{1/3}Nb_{2/3})O₃, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
 Pb(Mg_{1/3}Nb_{2/3})O₃:PbTiO₃, electrostriction meas. 4-40356
 (PbMg_{1/3}Nb_{2/3}O₃)_{1-x}(PbSc_{1/2}Nb_{1/2}O₃)_x solid soln., electrostriction study 4-35366
 Pb(Mn_{0.5}Nb_{0.5}Ni_{0.5}Tr_{0.5})O₃ piezoelec. comps., X-ray diff., SEM, and thermal anal. studies 4-29402
 Pb_{1-x}Mn_xS, diode laser spectra splitting in zero mag. field 4-7243
 Pb_{1-x}Mn_xS IR photon detectors, photoelec. props. near the absorpt. edge 4-27594
 Pb_{1-x}Mn_xTe, anomalous magnetooptical behaviour in interband transition range 4-2908
 Pb_{1-x}Mn_xTe, semicond., mag. freezing 4-35178
 Pb_{1-x}Mn_xTe semimag. semicond., transport and mag. props. 4-56569
 Pb_{1-x}Mn_xTe, thin films, growth by hot-wall epitaxy 4-34809
 PbMoO₄ centrosymmetric cryst., electrogyration, temp. depend. 4-25723
 PbMoO₄, X-ray excited luminescence and cond. 4-40526
 Pb₂MoO₆, superstructure and space groups determ. (*French*) 4-50245
 PbMoS₈, crit. current density, magnetisation meas., grain size, neutron irradi. and doping effects 4-35128
 PbMoS₈, critical current density and mech. reinforcement for magnets 4-51007
 PbMo₂S₈, total flux meas., AC method 4-35127
 PbMo₂S₈O, point defect struct., neutron powder diff. study 4-11138

lead compounds continued

- PbMo_{0.8}S_{0.2}, supercond. Chevrel cpd., charact. and reproducibility 4-2676
 Pb_{0.92}Mo_{0.08}S_{0.92}, NMR and mag. susceptibility meas. 25 to 300K (*Russian*) 4-2833
 Pb(N₃)₂, laser detonation initiation, size effect, surface energy distrib. effect on critical flow 4-7728
 Pb(NO₃)₂, NO₂⁻ impurity centre, multiplicity of spectra and local symm. 4-25802
 Pb(NO₃)₂:K⁺(Na⁺), ionic cond. and dielec. loss meas., 100 to 400°C 4-6552
 Pb_{0.15}(NaBi)_{0.425}Bi₂Ti_{0.15}O₁₅ ferroelec. ceramic SAW device 4-10517
 Pb_{1-x}(NaCe)_{x/2}B₄Ti₄O₁₅, layer-structured ferroelec., grain orientation effects 4-46193
 Pb_{0.8}Nb_{0.78}, cryst. struct., rel. to pyrochlore type (*German*) 4-29419
 Pb_{0.99}Nb_{0.02}(Zr_{0.68}Sn_{0.40})_{0.94}Ti_{0.06}O_{0.98}O₃, electrostriction study 4-40354
 Pb_{0.99}Nb_{0.02}(Zr_{0.68}Sn_{0.25}Ti_{0.07})_{0.98}O₃, pyroelec. energy conversion, hysteresis losses 4-7130
 Pb(Ni_{1/3}Sb_{2/3})₂Ti₂Zr₂O₃:MnO ferroelec. ceramics, dielec. const., expt. study (*German*) 4-46171
 PbO, low-lying states, relativistic CI calcs., rel. to chemiluminesc. spectra 4-28383
 PbO, microwave meas., rot. and vibr. fine struct., isotope shift 4-38158
 PbO, polymorphic transformation, mechanochem. and thermal processes 4-39196
 PbO-B₂O₃-Y₂O₃-Fe₂O₃ system, phase diagram, growth and dissolution of LPE YIG films 4-46457
 PbO-B₂O₃ glass, Ag migration 4-11352
 PbO-BaO-P₂O₅:Er³⁺ glass, Er³⁺ ⁴I_{3/2} level population inversion characts. 4-5592
 PbO-FeO₂:Er³⁺ glass, Er³⁺ ⁴I_{3/2} level population inversion characts. 4-5592
 PbO-GeO₂, immiscible region in molten state (*Japanese*) 4-40760
 PbO-GeO₂ glass, crystn., oriented grain growth of pyroelec. glass-ceramics 4-30676
 PbO-PbCl₂, glass, X-ray diffraction study 4-39154
 PbO-SiO₂, colour centres form. and photoelasticity effect by laser radiation (*Russian*) 4-51413
 PbO-SiO₂ glass, statistics of atomic network 4-50210
 PbO-SiO₂ frit, Pb solubility rel. to metal oxide additions 4-20361
 PbO-SiO₂ glass, optical breakdown under conditions of two-photon absorpt. of laser radiation 4-29474
 PbO-SiO₂-CuO glass, EPR line width and X-band spectra, freq. depend. 4-46099
 PbO-TiO₂, multicomponent thin film systems, phase and struct. transforms 4-34834
 PbO-ZrO₂-Nb₂O₅, pyrochlore-type structure, solid-solution region 4-51640
 PbO₂ electrode containing trace Te, Sb, As, Co, and Ni, for Pb-acid battery, linear pot. sweep 4-26281
 PbO₂, high porosity, preparation, use in acid cell 4-16661
 Pb₂(BO₃)₂SO₄, cryst. struct. 4-11057
 Pb₂OBr, prep., luminesc. spectra 4-2126
 Pb₂OCl, prep., luminesc. spectra 4-2126
 Pb₂OFl, prep., luminesc. spectra 4-2126
 Pb₂O(Pb₂(BO₃)₂Cl), cryst. struct. determ. 4-2162
 Pb₃(P_{1-x}As_xO₄), ferroelastic phase transition, critical exponents, sp. ht. meas. 4-20349
 Pb₃(PO₄)₂, ferroelastic phase transition, critical exponents, sp. ht. meas. 4-20349
 Pb(ReO₄)₂, cryst. struct., X-ray diff. study (*French*) 4-39227
 Pb₂Ru₂O₆, crystal struct. and vacancy ordering 4-50267
 PbS, electrical cond. and thermoelectric power coeff. as press. and temp. functions (*French*) 4-39941
 PbS, electron impact, disoc. energy determ. by mass spectrometer meas., electron affinity, appearance pot. 4-14590
 PbS, electron impact, dissociative attachment, ion pairs and excited states form., entropy 4-14592
 PbS IR detectors, processing, configs., performance and appls. 4-27583
 PbS oxidised layer, Auger spectra 4-16278
 PbS-As₂S₃ (Sb₂S₃), glass form. tendency and disorder-induced defects 4-6279
 PbS-Ge heterojunction photocells, current and EMF temp. dependence. 4-7875
 PbS-Si MOSFET focal plane development 4-48199
 PbS-Si monolithic focal plane development 4-48199
 Pb₃S₂Mo_{1-x}O₈, solid soln., superstructure and space groups determ. (*French*) 4-50245
 PbS_{1-x}S_x films, growth of epitaxial single cryst. by hot wall evaporation 4-51502
 PbS_{1-x}Se_x diode laser, time delays, minority carrier lifetimes 4-49359
 PbS_{1-x}Se_x, cleaved-coupled-cavity diode laser, operation in 4 to 5 μm region, mode control 4-49351
 PbS_{1-x}Se_x DH diode laser, fabrication by compositional interdiffusion 4-33683
 PbS_{1-x}Se_x diode lasers, low resistance contacts 4-44112
 Pb₂Sb₂S₃, cryst. struct. determ. 4-6332
 Pb(Se_{0.5}Nb_{0.5})O₃ ceramic, ferroelectric, dielec. and thermal props. 4-35388
 Pb₂SeNbO₆, single crystal growth, phase transitions, dielectric nonlinearity 4-51474
 PbSc_{0.5}Nb_{0.5}O₃; ferroelectric ceramics, transparent, dielec. props., electron- and γ-irrad. and mag. field effects 4-46191
 Pb(Se_{1-x}Ta_x)O₃ ceramics, depolarisation and reversible pyroelectricity 4-40359
 PbSe, electron impact, disoc. energy determ. by mass spectrometer meas., electron affinity, appearance pot. 4-14590
 PbSe, energy band struct. meas. 4-56190
 PbSe, epitaxial film growth, limiting temp. of substrate, laser spraying expts. 4-57110
 PbSe IR detectors, processing, configs., performance and appls. 4-27583
 PbSe synthesis by mech. mixing and vapour deposition 4-46434
 PbSe:Cd, heavily doped, elec. and optical props. 4-15920
 PbSe:Ga films, ion implantation doping, electrophysical props. 4-11169
 PbSe/SnTe epitaxial bicrystals, vacuum deposited, interfacial order, He⁺ channeling study 4-25169
 (PbSe)_{1-x}(SnTe)_x, epitaxial films, elec. props., band struct., depend. on composition 4-56208
 (Pb_{0.9}Sn_{0.1})_{1-x}Sb_{0.2}O₂ sputtered thin film, heavily doped, Mossbauer effect studies 4-51170
 PbSnSe narrow-bandgap lasers, Fermi energy expression as function of carrier conc. 4-29864

lead compounds continued

- Pb_{0.8}Sn_{0.2}Se narrow gap semiconducting mixed crystals, photon freqs. 4-34599
 Pb_{1-x}Sn_xSe/PbSe heterostructure laser fabrication, CW operation 4-24014
 Pb_{1-x}Sn_xSe, diode laser, time delays, minority carrier lifetimes 4-49359
 Pb_{1-x}Sn_xSe mesa-stripe tunable diode lasers 4-23982
 Pb_{1-x}Sn_xSe solid soln., dielec. props. and band struct. parameters 4-25224
 Pb_{1-x}Sn_xSe solid solutions, two-electron exchange between Sn centres, Mossbauer obs. 4-25312
 Pb_{1-x}Sn_xSe, struct. phase transition, elec. cond. and Hall effect studies 4-11272
 Pb_{1-x}Sn_xSe, surface band bending, temp. depend. 4-15932
 Pb_{1-x}Sn_xSe, two-band model, energy spectrum and permittivity, renormalisation 4-25223
 Pb_{1-x}Sn_xSe, LPE, doping, charge carrier mobility and conc. 4-56457
 PbSnTe epitaxial films grown by hot wall technique, struct. and elec. props. 4-46443
 PbSnTe-piezoelec. ceramic interface, channelled acoustic wave propag. vel. meas. in polydomain ferroelec. 4-2421
 Pb_{0.8}Sn_{0.2}Te epitaxial films, vacuum deposited, growth and high mobility props. 4-16316
 Pb_{0.8}Sn_{0.2}Te:In, In diffusion, X-ray microanal. studies 4-25096
 Pb_{1-x}Sn_xTe based injection lasers, threshold current, temp. depend. 4-49363
 Pb_{1-x}Sn_xTe, composition depend. of ferroelectric transition temp. 4-2888
 Pb_{1-x}Sn_xTe, diode laser, time delays, minority carrier lifetimes 4-49359
 Pb_{1-x}Sn_xTe dual wavelength injection lasers, threshold current densities 4-28695
 Pb_{1-x}Sn_xTe epitaxial films on substrates, effect of substrate on optical props. (*Russian*) 4-25823
 Pb_{1-x}Sn_xTe, film, effect of composition on struct. and electrophysical props. 4-50665
 Pb_{1-x}Sn_xTe heavily doped ferroelec. semicond., Curie temp. effects 4-35392
 Pb_{1-x}Sn_xTe IR photon detectors, photoelec. props. near the absorpt. edge 4-27594
 Pb_{1-x}Sn_xTe, indirect optical transitions (*Russian*) 4-56946
 Pb_{1-x}Sn_xTe LEC growth using B₂O₃ encapsulant 4-21124
 Pb_{1-x}Sn_xTe, melt growth, cryst. inclusions, EPMA, constitutional supercooling model 4-11131
 Pb_{1-x}Sn_xTe, multiply doped, electrophysical props. 4-29993
 Pb_{1-x}Sn_xTe p-n junctions, I-U characts., hydrostatic press. depend. 4-35050
 Pb_{1-x}Sn_xTe seed, directional solidification, segregation coeff., X-ray microanalysis 4-35561
 Pb_{1-x}Sn_xTe, single cryst., structural defects, X-ray topography, double-cryst. spectrometry 4-45130
 Pb_{1-x}Sn_xTe solid soln., diffusion of electrically active intrinsic defects 4-29688
 Pb_{1-x}Sn_xTe, surface band bending, temp. depend. 4-15932
 Pb_{1-x}Sn_xTe:In, liquid phase epitaxy, elec. cond., deep levels in forbidden zone 4-51556
 Pb_{1-x}Sn_xTe:In, photoconductivity, electron exchange between band and impurity states 4-30023
 Pb_{1-x}Sn_xTe:In epitaxial layers, negative photoconductivity study 4-20748
 Pb_{1-x}Sn_xTe:In films, far IR reflectivity 4-57017
 Pb_{1-x}Sn_xTe/PbSe_{1-x}Te_x distributed Bragg reflector diode lasers, LPE growth 4-38469
 Pb_{1-x}Sn_xTe, Mossbauer studies, composition depend. 4-16131
 PbSnTeSe far IR heterojunction lasers tunable to 46.2 μm 4-19456
 PbSnYbTe DH diode lasers, MBE growth 4-28724
 (Pb_xSr_{1-x})₂(Fe_{2/3}Ge_{1/3})O₃ solid solns., ferroelec. and antiferromag. props. 4-56859
 Pb_{1-x}Sr_xS, optical struct., Haydock recursion method calcs. 4-29883
 Pb_{1-x}Sr_xS, optical props. and band struct. 4-51298
 n-PbTe, dynamic elec. cond. 4-20654
 PbTe, electrolytically thinned, defect struct., X-ray transmission topography 4-50292
 PbTe, electron impact, disoc. energy determ. by mass spectrometer meas., electron affinity, appearance pot. 4-14590
 PbTe epitaxial film, deep level photoluminescence 4-46319
 PbTe, epitaxial film growth, limiting temp. of substrate, laser spraying expts. 4-57110
 PbTe epitaxial films, Hall effect and acoustoelectric phenomena 4-35098
 PbTe film, elec. cond., Hall effect, and thermoelec. power, adsorbed O₂ effects 4-11608
 PbTe film, size-quantised many-valley semicond., s-polarised optical props. 4-7256
 PbTe film obliquely deposited in vacuum, anisotropy, photovoltaic and ellipsometric meas. 4-46341
 PbTe films, polycrystalline, dark current flow 4-6912
 PbTe films, thermoelec. power, anomalous temp. depend., 300 to 600K 4-15900
 PbTe heterogeneous layer, current percolation and photosensitivity 4-45794
 PbTe, hot electron drift vel., Monte Carlo simulation 4-20664
 p-PbTe, IR free carrier refl. meas., two valence band model 4-7173
 PbTe, IR pushbroom arrays for remote sensing, satellite-borne 4-43060
 n-PbTe layers, heavily doped, LPE grown, temp. depend. of mobility 4-20749
 PbTe, mag. susceptibility theory 4-46007
 PbTe narrow-gap semicond., high press. phase transition, X-ray diff. study 4-29605
 PbTe, Peierls instability in strong mag. field 4-39778
 PbTe RF sputtered films, struct. and transport props., substrate depend. 4-40092
 PbTe, stripe geometry diode lasers grown by molecular beam epitaxy 4-33656
 PbTe, thermoelectric figure of merit and thermal cond. 4-11354
 PbTe:Cd, LPE growth, carrier conc., doping depend. 4-45559
 PbTe:Ga, strongly doped, photoelec. behaviour near Curie temp. 4-39981
 PbTe:In, impurity chemical states, thermodynamic anal., Auger electron anal. 4-50321
 PbTe:In, photoelectric effects study 4-56392
 PbTe:Ti(Cr), impurity reson. states, elec. meas., optical transmission, Faraday effect, EPR studies 4-15853
 PbTe:Ti, single cryst. growth by travelling heater method 4-51478
 PbTe:TiNa, influence of resonant states on Hall effect 4-56371

lead compounds continued

- p-PbTe/Tl epitaxial films, refl. and transmittance meas. 1 to 15 μm 4-40547
- PbTe/Bi compositionally modulated films, prep. and X-ray diffr. studies 4-39700
- p-PbTe-Ag, thermoelectric properties in pressing and thermal treatment 4-29997
- PbTe-Bi₂Te₃, eutectic point solubility, microstructure, X-ray diffr. and thermal anal. study 4-56015
- PbTe-CdSe, phase diagram, X-ray diffr. and DTA studies 4-55965
- PbTe-CdTe system, phase diagram and mutual solubility, DTA study 4-7437
- PbTe-Pb_{1-x}Sn_xTe modulated doped superlattices, hot wall technique prep., Shubnikov-de Haas effect 4-15950
- PbTe-PbS epitaxial bicrystals, dislocation superlattice characts. 4-11150 (PbTe)_{1-x}(Cr,Fe,Ni)₂Te₃, solid solns., thermoelec. props. 4-6815
- PbTeO₃, cryst. growth from melt, phase transition, to spontaneously polarised state, dielec., X-ray diffr., SHG meas. 4-25696
- Pb₂TeO₆, ferroelec., prep., X-ray diffr., dielec., SHG, calorimetric props. 4-25697
- Pb(Ti,Zr)O₃, form. by thermal decomposition of oxalate precursors 4-51593
- PbTiO₃, amorphous, heterogeneous struct., EXAFS and small-angle X-ray scatt. studies 4-6276
- PbTiO₃, amorphous, Raman spectra, low wave-number response 4-25737
- PbTiO₃, amorphous and cryst. sp. ht., dielec. const. meas. (*Japanese*) 4-20921
- PbTiO₃, amorphous rapid and slow crystallisation, Raman spectroscopic study 4-24724
- PbTiO₃, elec. cond., optical absorpt., lattice disorder 4-51294
- PbTiO₃, heteroepitaxial sputtered films 4-40648
- PbTiO₃, optical gyration and electrogyration 4-35415
- PbTiO₃, phase transition at low temps., X-ray and optical studies 4-2330
- PbTiO₃ piezoelectric ceramics, rare earth substituted, SAW and US apps. 4-30397
- PbTiO₃, press. depend. Raman study of phonons 4-25738
- PbTiO₃ single cryst., photocond. and current-volt. characts. 4-11560
- PbTiO₃, soft phonon linewidth, press. depend., Raman scatt. study 4-2924
- PbTiO₃, struct. phase transition study 4-25015
- PbTiO₃, ultrasoft X-ray emission spectra (*Ukrainian*) 4-7281
- PbTiO₃, zone centre phonons and ferroelec. transition, high press. Raman study 4-29554
- PbTiO₃:La ceramic, internal stress anisotropy 4-39373
- PbTiO₃-chloroprene piezoelectric ceramic composites, props. 4-35362
- Pb(Ti_{0.35}Zr_{0.33}Nb_{0.08}Sn_{0.018}Mg_{0.023})O₃, ferroelectric films, cathode sputtering 4-57100
- PbTiNb₂O₆, crystal struct. and vacancy ordering 4-50267
- PbTi₂S₄, polymorphism, isomorphism with Sn chalcogenides 4-11088
- Pb_{1-x}U_xF_{2+2x}, ionic cond. and sp. ht. anomaly 4-45396
- Pb_{1-x}U_xF_{2+2x}, thermally generated defect struct., sp. ht. studies 4-45121
- PbX₂, (X=Cl,Br,I), UV photoelectron spectra of gas and condensed phases 4-43918
- PbX₂, (X=F,Br,I), mol. struct., vibr. characts., electron diffr. obs. 4-10079
- Pb_{1-x}N_xTe, anodisation, XPS study 4-51835
- Pb(Zn_{1/3}Nb_{2/3})O₃, glassy polarisation, refr. index meas., temp. depend., IR reflectivity spectra 4-11832
- Pb(Zr,Ti)O₃ ceramic US piezoelec. transducers, vibr. anal. 4-24323
- Pb(Zr,Ti)O₃ ferroelectric films, RF planar magnetron sputtering and dielec. props. 4-16166
- Pb(Zr,Ti)O₃ piezoelec. ceramic, photomechanical effects 4-7157
- Pb(Zr,Ti)O₃ piezoelectric plate, fracture mechanics and strength 4-39374
- PbZrO₃ antiferroelec. phase, struct. phase transition meas. by neutron diffr. 4-45318
- PbZrO₃ ceramics, electrostrictive high-temp. props. meas. 4-22795
- PbZrO₃, struct. phase transition study 4-25015
- PbZrO₃, ultrasoft X-ray emission spectra (*Ukrainian*) 4-7281
- PbZrO₃-Pb₂FeNbO₆-PbTiO₃:U pyroelec. ceramic, elec. cond. 4-39898
- PbZrO₃-PbTiO₃ system ceramics, electric polarisation effect study (*Chinese*) 4-2864
- PbZrO₃-PbTiO₃:Nb₂O₅ ceramic, FE₁-FE₂ phase transition, doping effects 4-40368
- PbZr_{1-x}Ti_xO₃, phase diagram, crystallographic and dielec. studies 4-30694
- PbZr_{1-x}Nb_xO₃ ceramic, phase transition props. (*Chinese*) 4-2881
- Pb(Zr_{0.53}Ti_{0.47})O₃ solid soln. struct.-sintering temp. relationships 4-29646
- Pb(Zr_{0.6}Ti_{0.4})O₃, ferroelectric transition study 4-40370
- PbZr_{1-x}Ti_xO₃ ceramic, elec. cond. and ageing 4-34970
- SiO₂-PbO-BaO-K₂O-Na₂O system glasses, viscosity, temp. depend. (*Czech*) 4-50556
- SiO₂-PbO-K₂O-ZnO glass, silicate and glass form. 4-40738
- Sn_{1-x}Pb_xO₂ sputtered thin films, photoanode for photoelectrochem. cells 4-41354
- (SnTe)_{1-x}(PbSe)_x, hot-wall film growth, physicochemical characts. 4-57111
- tartrate, anhydrous, EPR of Cu²⁺ study 4-56766
- Tb-Pb-S system, PbS based solid solns. 4-50524
- TeO₂-PbO-CuO-ZnF₂ glasses, optical absorpt. and site symmetry of Cu(II) 4-30485
- TiO₂-PbO layered thin film system, phase and structural transitions 4-25182

leak detection

- acoustic leak detection system 4-23320
- acoustic leak detection system for Na-water steam generators 4-14092
- cables, optical fibre, fibre-optic sensor for water penetration detect. in optical fibre cables, atten. meas. 4-14792
- liquid alkali metal coolant systems, on-line monitoring equipment 4-9320
- PWR primary circuit leaks, saturation detector using resistance thermometer (*German*) 4-9359
- recovery boilers, leak detection by acoustic emission 4-49640
- remote selective release of gases inside a container 4-28240
- THTR 30, leak rate meas. on concrete press. vessel (*German*) 4-18768

leakage, electrical *see electrical faults***leakage, magnetic** *see magnetic leakage***leakage currents**

- Si-pn junction, forward-biased, electroluminesc. by radiative recomb., leakage current study 4-30060

learning systems

- see also adaptive systems; self-adjusting systems*
- Boolean complete neural model of adaptive behavior 4-46971
- nuclear power plant, intergranular SCC recognition, adaptive learning network approach reviewed 4-33023
- self-organising neural nets, field theory 4-46978

least squares approximations

- binary liquids, least squares calc. (*German*) 4-25062
- Cepheid variables, light max. phase determ. via least-squares cubic approximation 4-31840
- CODAR data analysis and ocean surface current extraction 4-22115
- convergence in least squares fitting procedures 4-42701
- curve-fitting problems, dielectric const. eqns. and Lorentzian spectral line profile 4-32030
- effective variance method 4-53428
- EM theory, appl. of Rayleigh-Ritz variational method, Galerkin's method and least squares method 4-19323
- images distorted by bilinear system, restoration, constrained least-squares method 4-14645
- linear signal restoration, iterative, least-squares, unified Hilbert space approach 4-10250
- linkage optimum synthesis with autocorrelation concept, modified least squares technique 4-5789
- LMSE classifiers, optimum selection of target points 4-38414
- method when both variables have uncertainties 4-36850
- optical spectra analysis by Fourier methods, filtering and least-squares regression in reciprocal space 4-23909
- plates, stress conc. regions near notches, least squares asymptotic analysis of photoelastic data 4-5852
- plates, thin rectangular clamped, buckling, collocation least squares method 4-49725
- polychlorinated biphenyls, multicomponent analyses by FTIR spectroscopy 4-12406
- powder diffr. data, POWLS program for calc. and refinement, in FORT-RAN 4-24691
- sound insulating systems, output energy distrib. calc., least squares method (*Japanese*) 4-38662
- spectral coordinate transformation method effectiveness in unknown spectral parameters eval. 4-8957
- transition metal complex electronic absorption spectral curve resolution 4-31044
- under-damped balance, centre of swing estimation formulae 4-8876
- vascular transport function estimation using model-free deconvolution techniques 4-21635
- X-ray diffuse scatt., appl. to organic crystals. 4-11114
- La₂B₂C₆, cryst. struct. and supercond. transition 4-24773
- Y₂O₃, thermodynamic props. 4-45361

leather *see materials***LEC growth** *see crystal growth from melt***LED** *see light emitting diodes***ledeburitic steel** *see alloy steel***Lee model**

- Bogolyubov transformation in the Lee model 4-53879
- dynamics of off-diagonal phonon coupling and the Lee model 4-2558

LEED *see low energy electron diffraction***legal research (computing applications)** *see social and behavioural sciences computing***legislation**

- acoustic noise suppression possibilities (*Italian*) 4-28928
- atomic federal safety legislation, THTR-300, legal approval (*German*) 4-9257
- automobile exhaust emissions and energy consumption, forecasting by computer 4-16820
- noise at construction sites, legislation and test standards, review 4-26343
- nuclear power station licensing procedures in Spain (*Spanish*) 4-43700
- nuclear power station regulations and licensing procedures (*Hungarian*) 4-23437
- radioactive waste disposal, German law, State and Industry responsibility (*German*) 4-27964
- NO_x emission control technology for utility and other combustion plants 4-12507

length measurement

- see also micrometry*
- differential laser interferometer, displayed value stability and reliability (*Japanese*) 4-48187
- Doppler velocimeter for moving surface vel. and length meas., industrial process control apps. 4-24486
- error due to thermal deform., estimation from temp. regime 4-53653
- fundamental constants meas. 4-17870
- high precision expt. in diffr. and interf., optical assembly (*French*) 4-22834
- inductive precision length measuring instruments, signal-to-noise ratio, computer-aided optimisation (*German*) 4-48099
- laser interferometric length measurement 4-48188
- long lengths accurate meas. by infrared synthetic method (*Japanese*) 4-48186
- measuring-data acquisition using displacement sensors, principles, design, application 4-48086
- photolithography measuring tasks, special problems of length meas. and absolute width meas. on microstructures. (*German*) 4-13685
- US wave apps. (*German*) 4-22757

length standards *see measurement standards***Lennard-Jones and Devonshire theory** *see liquid theory***Lennard-Jones potential**

- acetone/nitric dimer, intermol. pot., SCF MO LCAO ab initio calc. 4-28525
- amorphous solid, dislocationlike motion, computer simulation 4-2080
- atomic liq., dynamic and static props., mol. dynamics simulation 4-50165
- binary gas mixture, free jet expansion, theoretical studies of translational nonequilibrium and velocity slip 4-55451
- classical fluid, struct. factor calcs. 4-39072
- crystal-fluid interface, free energy, triple point, compressibilities and Gruneisen parameters 4-15620
- dense fluid stationary nonequilibrium states, mol. dynamics calcs. 4-44916
- dense fluids, static three-body corrs. representation 4-44914
- dense gases, density fluctuations, binary collision effects 4-42846
- dense Lennard-Jones fluid, microscopical sound waves 4-55925
- diatomic fluids, thermodynamic props., ang. median pot. 4-56049

Lennard-Jones potential continued

- p-difluorobenzene, S_0 energy level collisional deactivation rate consts. 4-23790
 energy scaled displacement Monte Carlo for improving convergence rates appl. 4-10935
 FCC crystal-vapour systems, struct., densities, pot. energies, 2D radial and ang. distrib. functions 4-15628
 fluid, homonuclear diatomics struct. near wall, mol. dynamics simulation 4-34388
 fluid, pair distrib. function, quantum corrections, mol. dynamics calc. 4-55696
 fluids of Lennard-Jones spheres with dipoles and tetrahedral quadrupoles, computer simulation 4-39076
 fluids with spherical boundary conditions, finiteness effects in computer simulations 4-6234
 freezing transition in Lennard-Jones, fluid 4-29575
 homogeneous nucleation for inverse power pot. and Lennard-Jones liqs. 4-55693
 ice, amorphous, adsorpt. and mobility of H atoms on surface 4-29775
 Lennard-Jones diatomic fluid, perturbation theory of site-centered spherical harmonic coeffs. 4-29293
 Lennard-Jones system, two dims., ordered and stochastic behaviour 4-10943
 liquid drops, simulated microscopic, surface thickness 4-20435
 liquid Lennard-Jones mixtures, molecular dynamics studies 4-24705
 liquid metals, roulette theory calc. of thermodynamic props. (Korean) 4-2063
 liquid mixture models, molecular basis for local compositions 4-24703
 liquid mixtures, thermodynamic props., conformal soln. theory 4-50164
 liquids, anisotropy in computer-simulated fluids 4-34383
 molecular fluids, ang. pair correl. function, perturbation and integral eqn. theory 4-6230
 molecular fluids, effective central pots. calcs. 4-6229
 neopentane, in water, mean force solute-solute pot. 4-34396
 non-polar mol. soln. in water, mean force, solute-solute pot. 4-34396
 nonspherical molecular fluid in contact with solid surfaces, Percus-Yevick approx. reformulation for density profile 4-24710
 one dims. Lennard-Jones fluid, Weeks-Chandler-Anderson perturbation theory 4-44908
 pair correlation function and density profile of a liquid in contact with rigid wall 4-24708
 Percus-Yevick eqn. numerical soln. in crit. region for nontruncated pots. 4-10937
 radial distrib. function at low densities, smooth pot. results 4-10805
 rare gas type atom microclusters, morphology statistical statics 4-49201
 reference-hypernetted-chain eqn. solns. with minimised free energy 4-2052
 resonance energies, complex energy eigenvalues, quantum complex rot. 4-33483
 simple liquids, velocity correlations and cooperative effects 4-2049
 single and multichain systems, simulated, static and dynamic props., attractions influence 4-1302
 solid-liquid phase boundary, mol. theory, elementary kinetic processes 4-2447
 tetrafluoromethane+Ar gas mixtures, depolarisation ratios 4-10814
 two dimensional Lennard-Jones system, melting, isothermal-isobaric mol. dynamics calcs. 4-55975
 two dimensional triangular lattice, crack initiation, atomistic model of slip formation 4-29447
 two-dimensional Lennard-Jones system, melting, mol. dynamics calc. 4-55974
 two-dimensional melting transition, orientational order 4-34620
 water, molecular dynamics study between Lennard-Jones walls 4-24711
 Ar₂O₂ alloy, single cryst., elastic constants, rotation-translation coupling effect on intermolecular forces 4-50398
 HF, crystalline, lattice dynamic calcs. 4-6448
 Kr monolayer on graphite (0001), surface vibr. and thermodynamic props. 4-6659
 ND₄Cl phase transition, molecular dynamics, ND₄⁺ rotations and libration frequency determ. 4-45317
 Xe monolayer on graphite (0001), surface vibr. and thermodynamic props. 4-6659

lenses

- see also aberrations; aspherical lenses; contact lenses; electron lenses; electrostatic lenses; focusing; magnetic lenses; photographic lenses
 aberration reduction technique, design and testing optical transfer function calc. for system (Rumanian) 4-24130
 achromatic objective for several wavelength ranges, materials development 4-24129
 achromatic-Fourier-transform all-glass lens design 4-5679
 achromatized system for performing optical Fourier transforms 4-44058
 acoustic lenses, solid-liquid, low-aberration operation, theory 4-28946
 afocal supplementary lenses for changing projection formats (Czech) 4-53789
 air lens based design 4-44172
 anamorphic rotation-variant system, nonsymm. Fourier transforming 4-54958
 array modes of operation for obtaining integral photography 4-8975
 aspheric high positive power lenses and third order theory 4-17017
 astigmatic lens approach to automatic focus control 4-44188
 automatic lens design, appl. of generalized inversion matrix method (Chinese) 4-10389
 axicons for flat top laser beam profile generation 4-19487
 beam-shaping system having a reduced lens diameter 4-55166
 blank advanced manufacturing method for lens-type optical elements 4-19612
 CAD, SODA-1 program for microcomputer 4-44166
 cascaded optical systems, convolution formulation of Fresnel diff. 4-55164
 centering, cement free, with laser centering devices (German) 4-19608
 chirp grating lenses on LiNbO₃, fabrication, state of the art 4-49572
 chirped grating lenses on Nb₂O₅, transition waveguides 4-1476
 coated plastic optical elements, state of the art 4-24113
 coherent projection systems with real objectives, image struct. problem 4-28635
 collecting lens system investigation using Twyman interferometers 4-53743
 collector and objective lenses rel. to resolution improvement of confocal coherent microscope 4-53748
 collimator characteristics for laser diode 4-24142

lenses continued

- concentrating photovoltaic systems, various types, economics 4-7884
 concentric unit-magnification lens-compensated catadioptric objectives, limiting capabilities 4-19539
 conical lens for IR Earth sensor appls. 4-49484
 crystal lenses, apparent world, rel. to human eye and optics (Italian) 4-57881
 design, short course 4-24124
 design and analysis using programmable calculators 4-38547
 design for laser target expts. (Chinese) 4-55161
 design program 4-44167
 design program for microcomputers 4-38548
 design software, current and future directions 4-44171
 design using fast running program for minicomputer based on exact derivative of optimisation criterions 4-38549
 double Gauss lens synthesis 4-44173
 edge enhancement, oblique illum. and matched high spatial freq. cut-off 4-38408
 elastic lens blocking using cementing resin compound 4-33826
 eyepiece, mirror-lens optical system, mirror compensator for image surface curvature 4-19540
 fine lens array fabrication by laser beam writing 4-49580
 focusing systems, low-Fresnel-no., diffraction patterns 4-24133
 galvanometer scanner, precision post-objective two-axis system 4-24128
 glass sphere lenses for better coupling of optical fibres 4-10428
 glass-rod ultra-small convex lens development 4-44179
 gradient lenses in fibre optical devices, simulation 4-49555
 gradient-index rod, defocusing, imaging props., aberration analytic expressions 4-1358
 GRIN lens profile measurement by ray trace analysis 4-1456
 Grin lenses, microscope objectives appl. 4-48192
 GRIN lenses, ray tracing methods (Spanish) 4-1462
 GRIN-rod lens array, refr. index distrib. parameter randomness influence on trajectory 4-38584
 history of optical engineering at Los Alamos 4-8701
 hologram lens based interferometer for studying spatial inhomogeneities 4-32306
 holographic, recording technique for IR and UV wavelengths (Chinese) 4-14658
 holographic photoobjective (German) 4-19405
 imaging synthesis in Fresnel approx., combined optical system with distorters 4-54968
 integrated optical spectrum analyser development, component fabrication techniques 4-49568
 ion and electron lens optimisation procedure 4-33606
 iron optics, first order systems 4-23888
 laser interferometric lens-centering system, theory and struct. 4-49579
 liquid crystal cell, focusing by elec. modulation of refr. 4-38568
 low-strain high performance lens manufacturing process, production mounting (German) 4-14819
 magnifying lens inspection in series production, using contrast transfer function (Czech) 4-55241
 micro-lens, wave aberrations, automatic shear interference system 4-38554
 microscopy at a distance, lens systems design 4-286
 monomode-fibre-semiconductor laser coupling efficiency optimisation using micro-lenses 4-5709
 Mossbauer gamma quanta, diffr. focusing 4-22899
 mounting techniques 4-33816
 multifocus dichromated gelatin hololens, design techniques and appls. 4-10264
 multilayer coatings for laser mirrors and lenses, optical parameters and elec. field distrib. optimisation 4-28809
 Newall 25" refractive telescope, objective lens optical consts./design anal. method 4-17402
 objective lens, elliptical laser beam focusing 4-49410
 objective lens calc. having a relieved entrance pupil 4-33733
 objectives, possible light scatt. reduction 4-10396
 ocular lens of ground squirrel, spherical aberration 4-12560
 ophthalmic lenses, distortion calc. at farpoint sphere 4-36255
 ophthalmic lenses, scanning focimeter to meas. peripheral power 4-12673
 ophthalmic lenses processed in a US stimulated chemtempering bath, strength obs. 4-41649
 optical disc storage, objective lens design (Russian) 4-28802
 optical information processing, conf. Cuernavaca City, Mexico (Jan. 1982) 4-53340
 optical system design, analysis and production, conf., Geneva, Switzerland (Apr. 1983) 4-36775
 orthoscopic surfaces in object and image space of centered optical system 4-44185
 outer mirror type fibre optic passive device using single rod lens (Japanese) 4-55215
 planar micro-lens array, appl. to 2-D lightwave components 4-33809
 plano-convex lens, spherical aberration and diffraction derived via Fourier optics 4-49290
 polymer gradient lenses for optical junction, fibre optical system design 4-28859
 precision centering, prismatic interferometers appl. (Czech) 4-22833
 projection lens for high-resolution optical counter (German) 4-55162
 projection TV lens resolution evaluation using He-Ne laser point source and scanning knife-edge detector 4-14772
 pseudo-second-derivative lens design optimisation technique, improved convergence 4-44170
 radius of curvature and focal length meas. using parallel plate interferometer 4-19535
 radius of curvature meas. using autostigmatic microscope 4-17932
 real world optical design in real time 4-44175
 reflecting radial-shear interferometer using thick lens, for optical testing 4-43039
 reflection holographic lens having nonspherical wavefront designed by a microcomputer 4-5557
 refraction-diffraction optical systems, anal. and synthesis 4-49489
 refractive index determ. using Murty shearing interferometer 4-14767
 refractive index evaluation using grating in coherent optical-processing config. 4-48184
 refractive index meas., nondestructive nonmiscible liq. immersion focusing with shearing interferometry 4-10400
 refractive index meas. using laser light, innovative nondestructive technique 4-49477
 Ritchey-Chretien telescopes, better but bigger prime focus corrector lenses 4-22320

lenses continued

- scanning lens for optical rotating data storage on video and audio discs (*German*) 4-19534
- Selfoc microlenses, SLS and SLW, nuclear radiation doses, optical attenuation 4-14814
- SELFOC lens characts., elec. compensation 4-19536
- slide projector condenser design 4-24118
- speckles, laser-produced, dynamic props. for lens evaluation method 4-14768
- spherical surface refracted wave fronts, exact algebraic calc. 4-49257
- split lens stadimeter for submarine periscope 4-33737
- Talbot shearing interferometer, tests for prisms, lenses and phase objects (*Chinese*) 4-48185
- teleanastigmatic lenses, automated design (*Russian*) 4-14771
- thermal imaging lens transmittance and MTF reduction effects on subjective performance 4-49478
- thermal imaging lenses, common production error identification 4-10390
- thermoelastic structures for increasing available acoustic power in US NDT 4-35850
- torsion angle meter based on mirror-and-lens light returner (*Russian*) 4-27572
- turbid-medium-objective system, coherent transfer characts., holographic wavefront recording 4-54974
- two-dimens. lens, light distrib. near focal point 4-42658
- visual locomotive simulator, projection system design 4-24135
- volume holographic off-axis lens, efficiency evaluation 4-14659
- wave aberration coefficient and wave aberration derivative calc. from ray trace data 4-44168
- white light Fourier transform lens 4-55160
- wide aperture ion lens for mass spectroscopy 4-48248
- wide-angle lens design, influence of back focus determ. 4-44174
- X-ray, galvanoplastic fabrication, props. and appl. (*Czech*) 4-53812
- X-ray coded-aperture image reconstruction using kinoform array, lens-matrix decoding method 4-22892
- zoom system for near IR and visible region, high boresight shift stability 4-49485

lepton decay

- see also muon decay
- conference, weak interactions and neutrinos, Javea, Spain (Sept. 1982) 4-27240
- electroweak processes in const. external field 4-32529
- heavy leptons with long life in cosmic ray EAS above 10^{15} eV, models 4-47516
- neutrino mass and lifetime, astrophysical constraints 4-32464
- weak decays of leptons, quarks, hadrons in intermediate vector bosons 4-27377
- $L \rightarrow \bar{\nu}_l \nu_e (\bar{\nu}_l Q Q)$, heavy lepton signal identification 4-23016
- $(\mu^+ e^-) \rightarrow (e^+ e^-) + \nu_e + \bar{\nu}_e$ 4-18250
- ν decay, massive, from spontaneous global lepton symm. violation 4-13822
- $\nu_j \rightarrow \nu_i \gamma \gamma$, Dirac and Majorana neutrino decay rates 4-37377
- $\nu_e \rightarrow e^- e^- \nu_e$, CHARM heavy neutrino decay searches 4-32696
- τ , semileptonic decay, duality in QCD 4-37378
- τ , semileptonic decays, weak decay props. from hadronic system anal. 4-53987
- τ decay widths and local current commutators calcs. (*Bulgarian*) 4-43360
- $\tau \rightarrow e^+ \nu + \bar{\nu}$, weak and EM interactions (*Russian*) 4-23005
- $\tau \rightarrow K^0 \nu$, 4-9102
- τ lifetime meas., charged weak current coupling 4-27732
- $\tau \rightarrow \nu_e X$ decay modes, ν_e mass estimate 4-18249
- $\tau \rightarrow \bar{\nu}_l \bar{\nu}_l$, scalar neutrino mass limitation 4-32692
- $\tau \rightarrow \pi \nu (K^* \nu)$ ($\bar{\nu}_l K^* \nu_l$), mesonic decays, effects of neutrino mass and mass mixing 4-23017

lepton-deuteron interactions

- see also lepton-deuteron scattering
- $d\nu(\bar{\nu})$ deep inelastic scatt., p and n structure function meas., quark distrib. 4-32704
- $\nu(\bar{\nu})d \rightarrow n\nu(\bar{\nu})$, relativistic effects in $\nu(\bar{\nu})$ disintegration 4-37500
- $\nu d \rightarrow n\nu p n$ neutrino scatt. reaction, deuteron disintegration (*Russian*) 4-37364
- $\nu_d d \rightarrow \mu^+ \pi^+ \pi^- p p$, $(\mu^- \pi^+ \pi^0 p n)$, $(\mu^- \pi^+ \pi^+ n n)$, charged current 2π prod., cross sections 4-18222
- $\nu_d d (\bar{\nu}_d d)$, neutral current chiral coupling constants meas. 4-23006

lepton-deuteron scattering

- see also lepton-deuteron interactions
- ed, elastic scatt., deuteron struct., wave function, relativistic light front dynamics appl. 4-23100
- ed, elastic scatt., vector and tensor polarisations 4-48475
- ed-ed tensor polarisation meas. 4-37386

lepton-hadron interactions

- see also lepton-hadron scattering; lepton-nucleon interactions
- gauge theory in high energy phys., meeting, Les Houches, France (Aug.-Sept. 1981) 4-31951
- pion density in nuclei and deep-inelastic lepton scattering 4-37387
- supersymmetric EM corrections 4-43373
- twist-four spin-two effects, model depend. from quark confinement 4-13908
- $lh \rightarrow (qq)$, hadronisation of quarks 4-4712

lepton-hadron scattering

- see also lepton-hadron interactions; lepton-nucleon scattering
- QCD, quark-gluon jet formation (*Russian*) 4-22986

lepton interactions see lepton-deuteron interactions; lepton-lepton interactions; photon-lepton interactions**lepton-lepton interactions**

- see also electron-electron interactions; electron-positron interactions; lepton-lepton scattering; neutrino-electron interactions; neutrino-neutrino interactions
- No entries

lepton-lepton scattering

- see also electron-electron scattering; electron-positron scattering; lepton-lepton interactions; neutrino-electron scattering; neutrino-neutrino scattering
- $e\mu \rightarrow e\mu$, higher-order QED contribs., γZ^0 interference 4-23002

lepton mass

- asymptotically free SU(5) theory, τ -leptons, ν mass, leptoquark bosons, cosmology 4-37317
- charged lepton in nuclear field, $\bar{\nu}\nu$ production, standard theory anal. lepton mass effects 4-48395
- composite models, mass as EM self energies 4-32639

lepton mass continued

- conference on monopoles and proton decay, Kamioka, Japan (Oct. 1982) 4-4157
- dark matter, nonbaryonic, cosmological constraints on neutrino and ino masses 4-53318
- Dirac neutrino mass generation in gauge theories 4-22934
- electroweak interactions based on $SU(2)_L \times SU(2)_R \times U(1)_{B-L}$, low-mass right-handed neutrinos 4-53910
- electroweak processes in const. external field 4-32529
- galaxy missing mass, explained by massive neutrinos 4-47534
- heavy Majorana right-handed neutrinos, constraints on masses and couplings 4-48386
- lepton-mirror lepton mixing in neutral and charged current interactions, mirror ν masses 4-4587
- light composite fermions in dynamical subquark model of pre-gauge interactions 4-48454
- Majorana neutrinos, large oscillation amplitudes and lengths 4-13846
- majoron and left-handed neutrino masses in SU(5) model 4-27679
- massive neutrinos, expt. limits 4-43288
- muon resonant-cavity model, mass determ. 4-4653
- neutrino, calcs. from double β decay, nuclear matrix elements in ^{48}Ca and ^{58}Ni 4-9176
- neutrino's, fission reactor neutrino interactions, status and prospects 4-27722
- neutrino electrodynamics, magnetic charge, mass and oscillation 4-18143
- neutrino mass and lifetime, astrophysical constraints 4-32464
- neutrino mass determ. from ^3H β -decay 4-27844
- neutrino mass determ. in EC expts. 4-27843
- neutrino mass effects in β -decay 4-27842
- neutrino mass limitation from $\tau \rightarrow \bar{\nu}_l \bar{\nu}_l$ 4-32692
- neutrino mass matrices in gauge theories, props. 4-37324
- neutrino mass meas. with low energy electron beam 4-43388
- neutrino mass phenomenology, mass meas., neutrinoless double- β -decay, oscillations, beam dump expts. 4-27724
- neutrino masses in supersymmetric $SU(2) \times U(1)$ models 4-53915
- neutrino oscillations, non-observation, mass bounds 4-32535
- neutrino oscillations and mass studies (*French*) 4-4605
- neutrinos, electroweak model, neutral currents in left-right symmetric models 4-43284
- neutrinos, nonvanishing neutrino rest mass in early Universe 4-47734
- nonperturbative neutrino masses in $SU(2)_L \times SU(2)_R \times U(1)$ left-right symmetric models 4-13837
- preon model, fermion-boson symmetric, composite fermion masses 4-37351
- preon models, quark-lepton masses and generation mixing 4-43338
- selection, cosmological consequences of low mass 4-48371
- SU(11), mass spectra for quarks and leptons 4-48359
- SUSY and gauge hierarchy problem 4-43282
- SUSY GUT, ultralight Dirac neutrino generation 4-43275
- e-p mass ratio, vacuum lattice theory determ. evaluation 4-9056
- ν mass from ^3H β -decay in valine 4-32847
- ν decay, massive, from spontaneous global lepton symm. violation 4-13822
- ν_e , mass from ^{163}Ho electron capture expt. 4-32848
- ν_e , mass meas. expts. 4-585
- ν_e mass conf., Japan (March 1983) 4-4159
- ν_e mass from ^{163}Ho electron capture decay, review 4-4816
- $\bar{\nu}_e$ mass from ^3H beta-decay spectrum near end-point 4-4815
- $\bar{\nu}_e$ mass from ^3H β -decay, review, Japanese project 4-4817
- ν_e mass estimate from $\tau \rightarrow \nu_e X$ decay modes 4-18249
- τ , lepton mass and form factor effects on $D \rightarrow \Pi^0 \tau^+ \bar{\nu}_\tau$ 4-27725
- τ , mass determ. from spectra of τ -leptonic atom 4-10189
- τ , mass $e^+ \nu + \bar{\nu}$, weak and EM interactions (*Russian*) 4-23005
- $W \rightarrow e\nu$, $e\nu$ perpendicular mass, transverse props. 4-18317
- ^3H in molecules, β spectrum and neutrino rest mass 4-23082

lepton-nucleon interactions

- see also electron-nucleon interactions; lepton-nucleon scattering; muon-nucleon interactions; neutrino-nucleon interactions
- deep inelastic processes, forward and backward multiplicities 4-13907
- deep inelastic scattering, diquarks and the structure functions of the nucleons 4-9087
- deep-inelastic scatt. process, pp and e^+e^- , universality features 4-37407
- hadron production in deep inelastic lepton-nucleon scattering 4-32724
- IN , deep inelastic interactions, recent results 4-32723
- IN , deep inelastic scatt. in Fe and D, structure function in multi-quark cluster model 4-54062
- IN , gluon linear polarisation and neutral currents effects 4-32722
- $IN \rightarrow l^+ h X$, nuclear target effects, quark fragmentation 4-18269
- $IN \rightarrow l^+ h X$, spin physics at short distances 4-27707
- lp , deep inelastic scatt., transverse energy distrib. 4-53998

lepton-nucleon scattering

- see also electron-nucleon scattering; lepton-nucleon interactions; muon-nucleon scattering; neutrino-nucleon scattering
- $lN \rightarrow l^+ X$, spin physics at short distances 4-27707

lepton-nucleus reactions

- see also electron-nucleus reactions; lepton-nucleon interactions; muon-nucleus reactions; neutrino-nucleus reactions
- deep inelastic lepton-nucleus scatt., α -cluster effects 4-4842
- ($l, l \nu$), bremsstrahlung process, standard theory anal., lepton mass effects 4-48395

lepton-nucleus scattering

- see also electron-nucleus scattering; lepton-nucleon scattering; muon-nucleus scattering; neutrino-nucleus scattering
- No entries

lepton production

- see also electron pair production; muon production; neutrino production
- Drell-Yan cross sections, all-order factorisation in QCD 4-32595
- Drell-Yan production of lepton pairs: 4-32607
- hard hadronic collisions, parton annihilation, jets, Drell-Yan, ψ prod. 4-27769
- meson-meson interactions, Drell-Yan process, lepton pair prod., spectator interactions 4-27755
- $p\bar{p}(p\bar{p}) \rightarrow l^+ l^- X$, lepton pair asymmetries, test of electroweak gauge models 4-500
- pair production in hadronic reactions, quark anomalous mag. moment 4-18205
- prompt lepton generation, atmospheric muon and neutrino spectra 4-13161
- quark-gluon matter formation in nucleus-nucleus collisions, parameters and signals, review 4-43514

lepton production continued

- e^+e^- annihilation, scalar lepton prod., photino mass effects 4-32651
- $e^+e^- \rightarrow l^+l^-$, weak neutral current effects 4-43355
- $e^+e^- \rightarrow \tau^+\tau^-$, electroweak prod. props. of τ pairs 4-53987
- $hh \rightarrow l^+l^-X$, transverse mom. calc. using soft gluon summation and QCD coupling const. 4-23037
- $\nu N, \mu^+ \mu^-$ mass enhancements at 10 GeV 4-53978
- $\nu_\mu N \rightarrow \mu^- e X$ ($\mu^- e^+ e^- X$), CERN SP5 energies, dilepton and tripleton prod. 4-467
- pp, associated prompt leptons prod. and jets 4-48506
- pp-dileptons X, ang. distrib., test of electroweak gauge model 4-4717
- $pp \rightarrow l^+l^-l^+l^- \gamma$, identification of signatures 4-32755
- $\pi N \rightarrow llX$, massive lepton pair differential cross-sections 4-4629
- $qq \rightarrow l^+l^-X$, ang. distrib. of lepton pairs 4-4672
- $Z \rightarrow \tilde{\gamma} l^+l^-$, pair production as supersymmetry test 4-53974

lepton scattering *see* **lepton-deuteron scattering**; **lepton-hadron scattering**; **lepton-lepton scattering**; **photon-lepton scattering****lepton spin and parity**

- τ production by $e^+e^- \rightarrow \tau^+\tau^-$, composite spin 3/2 model of τ heavy lepton 4-13893

leptonic decays

- see also baryon leptonic decay; meson leptonic decay; muon decay*
- degenerate quark matter, beta decay, chemical kinetics 4-18151
- $\nu_\mu \rightarrow e^+ e^- \nu_\mu$ CHARM heavy neutrino decay searches 4-32696
- W boson decay, charged lepton ang. distrib., parity-nonconserving asymmetries 4-54011
- W $\rightarrow e^+ \nu$, scalar lepton production, supersymmetry 4-54019
- W $\rightarrow \mu^+ \mu^- \nu_\mu(\bar{\nu}_\mu)$, high transverse momentum muon obs. at CERN 540 GeV pp collider 4-32768
- Z $\rightarrow (se) + (\bar{se})$, signature for supersymmetric electrons 4-18312

leptons

- see also electrons; heavy leptons; lepton spin and parity; muons; neutrinos; positrons*
- characteristics, general discussion 4-430
- charge operators in simple Lie groups, spectrum of quarks and leptons 4-53911
- chiral preon model for quarks and leptons, generation and mass spectrum 4-13891
- composite models, electroweak interactions for quarks and leptons 4-43300
- composite models, fermion-boson mass inequalities 4-48456
- compositeness, potential problems for quarks, leptons and vector bosons 4-43299
- conference, electroweak interactions at high energies, Hamburg, Germany (Sept. 1982) 4-42600
- cosmic rays, hadrons and leptons, energy spectra in atmos. 4-22286
- fractional charges and proton decay in SO(14) 4-410
- geometrical rishon model, colour structure of quark and lepton generations 4-18202
- heavy fermions and leptoquarks in Glashow-Weinberg-Salam model 4-48384
- light composite fermions in dynamical subquark model of pregauged interactions 4-48454
- Lorentz structure of leptonic charged weak interactions 4-32500
- magnetic moment in non-Abelian gauge model in intense EM field 4-483
- mass as EM self energies in composite models 4-32639
- mass spectrum in SU(8) GUT, extended technicolour model 4-43297
- number conservation, current expt. status 4-27688
- preon models, electroweak symmetry, dynamical breaking 4-43337
- preon models, quark-lepton masses and generation mixing 4-43338
- quark-lepton mass hierarchies and $1/N_{\text{subcolour}}$ 4-53965
- Rishon model, chiral symmetry breaking and condensates, 't Hooft's constraints 4-43340
- rishon subquark model for stratoms and leptons, proton decay modes (Chinese) 4-43339
- SU(4) \otimes SU(2) \otimes SU(4) \otimes SU(2) $_R$ model, number of generations of quarks and leptons from flavour-colour symmetry 4-4654
- supersymmetric flavon-chromon model using R-breaking mechanism induced by N=1 supergravity 4-48453
- supersymmetric preon models, composite models of quarks and leptons 4-48452
- weak interactions of leptons and quarks, book 4-53385
- d quark-charged lepton mass relations and mixing angles in SU(5) and SO(10) GUTs 4-48380
- e^+e^- interactions, search for new lepton and quark flavours 4-43358
- $e^\pm N$, polarised scatt., lepton and quark substructure probing 4-48488

leucocytes *see* **blood**; **cellular biophysics****level control**

- feedforward water level control, hot water self-evaporation effects 4-10727
- overflow sensor, for liquid N₂ filling system 4-4414

level crossing (energy) *see* **energy level crossing****level measurement**

- capacitance sensor for cryogenic liquid level meas. (Chinese) 4-13645
- cryogenic liquids, continuous level monitoring using capacitive devices 4-27531
- fibre sensors development and appl. (Czech) 4-244
- liquid level detection by US Lamb waves, non-invasive technique 4-48085
- monocrystal growth control techniques using Czochralski method (Czech) 4-25876
- optical point sensors for process control, conf., London, England (Jan. 1984) 4-36805
- optical transducers with fibre-optic links using incoherent light 4-53760
- pulsed sonic liq. level device appl. to chem. processing tanks 4-33097
- PWR coolant level meas., need for instrumentation 4-33072

level meters

- see also power measurement*
- heat transfer agents, level indicator (Russian) 4-27485
- sound level meters, differences in IEC and ANSI standards 4-28940
- sound level meters integration, design principles 4-28941
- sound signal quasi-peak, design (Russian) 4-10515
- thermocouple level gauge for liquid metals 4-53652

levels, energy *see* **energy states****levitation, magnetic** *see* **magnetic levitation****librarianship** *see* **information science****library science** *see* **information science****LIDAR** *see* **optical radar****Lie groups**

- see also elementary particle symmetry*
- \in Lie algebra, Casimir elements 4-9041
- accidental degeneracy in energy levels and symmetry group 4-27352
- affine algebras and strong interaction theories 4-53889
- angular momentum at null infinity 4-36975
- Bianchi type VI spatially homogeneous cosmology, regularised field eqns. 4-42569
- Caldirola eqns., Lie admissible struct. for dissipative processes 4-119
- causal A-statistics, general props., quantisation, Lie algebras 4-43245
- causal A-statistics, lowest-order representation 4-43246
- Cayley-Klein geometries, group contraction and Lie algebra 4-42685
- character generators from standard Young tableaux 4-22568
- charge operators in simple Lie groups, spectrum of quarks and leptons 4-53911
- classical compact Lie groups, decomposition formulae in terms of basis representations 4-37304
- Clebsch-Gordan coeffs. and matrix elements calc. 4-32481
- coherent states and classical limit of algebraic quantum models 4-27809
- cohomology of Lie algebras with a nontrivial center 4-53445
- compact semisimple, character generators 4-4197
- compact simple, character generators for finite order elements 4-4582
- compact symplectic manifolds, lifting theorem, classical and quantum parallels 4-8743
- complex finite-dimens. Lie algebras with nonfinite Casimir operators 4-4199
- conference on hadronic mechanics, Cambridge, MA, USA (Aug. 1983) 4-42581
- conference on high energy physics, Tokyo, Japan (Sept. 1982) 4-13481
- derivative nonlinear Schrodinger eqn., existence of infinitely many Lie-Backlund symmetries 4-22621
- diffusion eqns., Lie Backlund vector fields 4-17858
- Dirac spinor theory, covariant, from Clifford and Lie bundles 4-4530
- dissipative Schrodinger eqns., Lie-admissible generalisation 4-42743
- division algebras, (pseudo)orthogonal groups and spinors 4-53838
- evolution systems with zero curvature, affine Lie algebras 4-53446
- finite-dimens. representations, general indices and Casimir invariants 4-42691
- function groups, geometric foundations of integrability prop. 4-4200
- gas flow, unidimens., with arbitrary entropy distrib., SU(3) symm. 4-42724
- gauge algebra closure, generalised Lie eqns. and Feynman rules 4-48282
- gauge theories, Lie isotopic lifting, isotopic covariant derivatives, field strengths 4-43183
- gauge theory and Poincare symmetry, internal symmetry, supersymmetry 4-32463
- gauge theory Lie isotopic lifting induced antisymmetric connection coeffs. 4-43184
- generalised Bose-Fermi symmetric parameters for Lie groups and algebras 4-397
- generalised coherent states apps. using factorisation method 4-118
- geometry of Lie admissible algebras 4-47838
- graded, geometric quantisation and dynamics 4-43255
- graded, on superspace basis manifold 4-4514
- graded Lie algebras, use in supergravity and supersymmetry 4-13827
- graded tensor calculus, graded Lie algebras 4-8716
- hadronic mechanics, time non-canonical character, quantum dissipative models 4-43347
- Hamiltonian systems, nonlinear behaviour computation using Lie algebraic methods 4-27290
- Hirota-Satsuma nonlinear partial diff. system, complete integrability, Painleve test 4-53449
- infinitesimal tensor operators from Wigner-Eckart theorem 4-4195
- integrable field theories, nonlocal charges and monodromy matrices 4-43224
- interacting bosons and fermions, path integrals over coherent states on Lie group 4-400
- Kac-Moody Lie algebras, soliton eqns. 4-22598
- Kac-Moody Lie algebras, stationary soliton eqns. 4-22599
- Kadomtsev-Petviashvili eqn., hierarchy of symmetries 4-22573
- Kolmogorov's theorem on invariant tori, canonical transformations by Lie method 4-53470
- Korteweg-de Vries eqn. perturbed around soln., Lie-Backlund symms., complete integrability 4-4236
- large amplitude collective motions, variational approach 4-54058
- liquids, nucl. spin dynamics 4-20871
- low-mass solitons from fractional charges in quantum chromodynamics 4-18167
- N=1 supergravity symmetry group, supermanifolds and automorphisms of super Lie groups 4-53564
- Nambu's generalised mechanics, classical and quantum, symmetries and conserved quantities 4-43352
- Navier-Stokes equations, groups properties and new solns. 4-1695
- nonHermitian operator appl. in quantum mech. and quantum field theory, Lie admissible algebras 4-27350
- nonlinear σ -model, two-dimens., Noether character of higher local conserved quantities 4-4536
- nonlinear diffusion eqns., Lie algebra of infinitesimal symmetries 4-22733
- nonlinear eqns. rational soln. and bilinear operator struct. 4-32489
- nonlinear evolution eqns., mastersymmetries, higher order time depend. symmetries and conserved densities 4-53847
- nonlinear field eqns., transformation theories and infinite-dimens. Lie algebras determ. 4-43215
- nonlinear integrable systems, conf., Kyoto, Japan (May 1981) 4-42595
- nonlinear scalar field symmetries, diff. eqn. generating operator, Lie-Backlund algebra 4-53878
- nonthermal master eqn. connection with Lie-admissible isotopic Heisenberg eqn. of motion 4-36950
- nuclei as bound states of protons and electrons 4-43407
- orthogonal, superextensions 4-43261
- partial differential eqns., Lie symmetries of the von Karman equations 4-47841
- periodic Toda chain, quasiclassical quantisation 4-53628
- Poisson Lie algebra of arbitrary symplectic manifolds, star prods., formal deformations 4-18109
- Poisson Lie algebra of symplectic manifold, second and third cohomology spaces (French) 4-53444

Lie groups continued

- q-analysis props., noncanonical mech. appl., hadronic oscillator, q-algebra 4-43348
- quantum-mechanical systems, controllability 4-8773
- quark symmetries and aggregates as hadron constituents 4-9066
- Schrodinger eqn., dissipative, Lie admissible unification 4-120
- self-dual SU(3) Yang-Mills eqns., harmonic map and Killing fields 4-53837
- semisimple, infinite dimensional reps., tensor operators and projection techniques 4-22567
- simple Lie algebras and symmetrised product representation, general indices 4-27331
- soliton equations, transformation groups determ. 4-42736
- spontaneous supersymmetry breaking and infinite Lie algebras 4-13819
- SU(N) theory, Adler-Bell-Jackiw anomalies, representation theory 4-53893
- superalgebras, discrete series 4-36885
- superalgebras, linear and orthosymplectic, Casimir operator eigenvalues 4-9040
- superalgebras, linear and orthosymplectic, Casimir operator eigenvalues 4-9042
- supergravity, Cartan integrable systems, differential free algebra 4-42826
- supergravity, construction tools, disintegration triangle and Lie group generalisations 4-42830
- superluminal Lorentz transformations 4-53480
- superspace struct. in supersymmetry, massless case 4-27673
- time-dependent variational principle in quantum mech., geometry and appl. 4-27351
- transitive primitive Lie algebras, nonlinear diff. eqns. with superposition principles 4-36884
- two-dimensional dynamical system, nonlinear eqns. of string type and their complete integration 4-53627
- U(3)-boson matrix elements for nuclear collective motion, analytic formula 4-4775
- U(N) Thirring model, two-dimens., Noether character of higher local conserved quantities 4-4536
- unitary symmetries, Lie isotopic lifting 4-27336
- universal enveloping algebra of completely solvable Lie algebra field of individual centres (*Russian*) 4-8721
- varieties generated by irreducible representations of Lie Algebras (*Russian*) 4-8719
- varieties of hypercentral metabelian Lie algebras over a null characteristics field (*Russian*) 4-8720
- velocity depend. force systems, inverse Lie and Lie admissible approaches 4-42744
- Wigner's theorem for extended deformable particles, Lie isotopic lifting 4-27336
- Yang-Baxter quantum equation, constant quasiclassical solns. (*Russian*) 4-32066
- Z-algebras on reductive Lie algebras (*Russian*) 4-36883

life testing

- dielectric materials, breakdown, relaxation and life tests, Weibull statistical analysis 4-16160
- inverted rib waveguide (IRW) laser reliability for 1.3 μm monomode appls., life tests 4-33692
- MHD power generation, progress review (*Japanese*) 4-3473
- polypropylene films long-term breakdown 4-20914
- rhombic-drive Philips refrigerator with bellows seals, life test performance 4-4413
- semiconductor laser diode wear-out life prediction, appl. of degradation models 4-23994
- solar collector mirrors, accelerated life testing, dust storm simulation 4-21585
- space/terrestrial solar cells performance testing and calibration 4-7885
- Al-Cu sputtered thin films, electromigration, metallisation lifetime monitoring technique 4-11351
- Cu-Ni-Sn alloy, Pfinodal C72900, for burn-in test sockets 4-46557
- GaAlAs 800 nm wavelength lasers, lifetime investig. 4-10307
- GaAlAs stripe geometry DH lasers, life testing, low temp. cathodoluminesc. spectra 4-38479
- (GaAl)As-GaAs isolated stripe CW laser degradation by proton bombardment (*Chinese*) 4-49414
- InGaAsP/InP 1.3 μm double-channel planar buried heterostruct. laser with reflective coated mirror, ageing test 4-19455

ligand field theory see bonds (chemical); crystal field interactions; molecular energy levels

light

- see also *airglow*; *optics*; *sunlight*; *zodiacal light*
- Arago spot, size and shape, annular beams, wavefront anal. 4-53405
- classical wave-particle problem for light, quantum theory 4-53505
- squeezed states of light, quantum states of EM field 4-5565
- Swedish pupils, understanding of light and props. 4-13504

light absorption

- see also *atmospheric optics*; *densitometry*; *light transmission*; *optical constants*; *optical films*; *optical filters*; *optical saturable absorption*; *pleochroism*; *spectra*
- acetaldehyde in aqs. soln., electronic transition, solvent effects, thermodynamic props. 4-43832
- aerosol absorbing droplets, propag. effects on pulsed light beams 4-28625
- aerosol heating and vaporisation by pulsed light beams 4-28624
- aerosols in atm., background continental characts. from mountain top obs. in Arizona 4-26753
- alkali aluminoborate glasses containing U, neutron and γ -irrad. effects on physical props. 4-20258
- alkali metals, optical breakdown thresholds and density of absorbing inhomogeneities 4-6399
- allophycocyanin, chromophore structure changes during optical absorpt. 4-52275
- ambipolar semicond., drift distrib. of carriers heated by spatially inhomogeneous radiation 4-34994
- amorphous semiconductor, intermediate order, rel. to light absorpt. coeff. in optical tail region 4-6271
- atmosphere, volcanic aerosols optical depth rel. to brightness of lunar eclipses 4-36491
- atmospheric anomalous attenuation in 7-10 cm^{-1} window 4-42051
- atomic collisions, light absorpt. and emission 4-19144
- calorimetry at 10.6 μm for large aperture beams and high powers 4-17892
- Capron heat-insulating fabric, absorpt. and scatt. characts. in IR spectrum 4-20977

light absorption continued

- chlorophyll adsorbed on metals, light absorption spectra, extinction coeff. meas. 4-14439
- CO₂ laser light absorber using GeO₂-ZnO-K₂O glass, diffuse reflectance determ. 4-33723
- collimated radiation, transmittance by cylindrical absorbing column 4-38941
- correlated distributions, small-spaced, wavelength depend. refr. and absorpt. terms for propag. 4-10232
- cylinders, soft, of finite length, scatt. and attenuation of radiation 4-28623
- dielectric thin film radiation flux enhancement and absorpt., solar cell appls. 4-49261
- dielectric waveguide directional couplers interferometers, normal mode loss effects 4-49522
- diffraction grating, Ag-coated, phase correl. of surface plasmons, photoacoustic study 4-7141
- directional switching in planar waveguides effected by adsorption-desorption processes 4-33763
- dye laser, double-cavity, CW, multimode, intracavity absorpt. investigation 4-23968
- fibre-glass heat-insulating fabric, absorpt. and scatt. characts. in IR spectrum 4-20977
- flow cryostat for optical absorpt. and luminesc. meas. 4-48097
- gas mixture, light-induced selective diffusion 4-24513
- gas-solid interface, collision-induced spectra 4-45483
- glass, optical properties, book 4-36811
- glass optical fibres, γ -ray induced loss characts., drawing effects 4-33787
- high-power light pulse narrowing in medium, with an optical-collisional nonlinearity 4-14762
- ice, cryst., hexagonal, optical spectra and electronic struct. 4-29880
- ice, hexagonal cryst., optical characts., attenuation matrix 4-46230
- in vivo light-induced absorbance changes, artifact in meas. 4-21861
- induced resonance absorption, theory and appls. to photothermal and photovoltaic inversion (*German*) 4-14638
- Infrablack IR absorbing surface produced by Martin Black process, performance data 4-24115
- interstellar extinction curve, fit using grain mixture without graphite 4-4064
- interstellar UV extinction, effects of shock processing of dust grains 4-31882
- IR low loss prism absorptivity meas. and optical metrology 4-10404
- mammalian cells, UV radiation action: spectra, shift due to screening 4-52392
- many-valley semiconductor, size quantised film, s-polarised optical props. 4-7256
- metal clusters, anomalous optical absorption band and IR spectra 4-30473
- metal crystals with Znblende structure, interorbital theory 4-15607
- metal surfaces, electronically excited state, nature nonradiative decay 4-21014
- metal-insulator composites, divergent diamagnetism near percolation threshold 4-35117
- metals, IR absorption and conductivity, transport eqn. calc. 4-45835
- metals, surface response, non-local, role of bound electrons 4-40008
- mineral absorption in near-IR, RELAB results 4-42328
- mixed polarons, optical absorpt. 4-39791
- multicomponent glass fibres, drawing induced absorption losses 4-7218
- multilayer dielectric-metal structure, strong absorpt. of light 4-55222
- multiphonon structure of optical transitions to impurity reson. states, anharmonicity effect 4-24937
- nebulae, point light source in absorbing and scatt. plane layer 4-47689
- nematic liquid crystals, light transmission variation due to orientating action of elec. field 4-35406
- nonstationary incident radiation, reson. Raman scatt. and reson. fluoresc. (*German*) 4-18997
- opaque glasses, for filters, absorpt. coeffs., photoacoustic determ. 4-33883
- optical black sample reflectance spectra in 12-700 μm range 4-55149
- optical fibre, attenuation changes due to dissolved H₂ 4-10431
- optical fibres, doped silica cores, radiation response meas. (*Japanese*) 4-1487
- optical fibres, increased attenuation caused by H₂ diffusion, fundamental and overtone absorpt. spectra obs. 4-33797
- optical links, bidirectional, influence of Rayleigh backscattering on cross-talk attenuation (*German*) 4-38614
- optimal 0-II laser pulses 4-38514
- organic liquids, refractive index, absorption coeff. and complex permittivity meas. 4-43032
- particulate matter, multipolar effects on surface modes 4-30419
- periodic grating structure form. characts. due to solid surface absorpt. of monochromatic radiation 4-14780
- pheophytin adsorbed on metals, light absorption spectra, extinction coeff. meas. 4-14439
- photographic emulsion layer, absorbed light energy distrib. for nonuniform illum. 4-43096
- photon attenuation coeffs. 4-46216
- photothermal displacement spectroscopy for solids and surfaces 4-32322
- pigments adsorbed on metals, light absorption spectra, extinction coeff. meas. 4-14439
- planar luminescent solar concentrator light transport, role of matrix losses 4-10225
- polypropylene, isotactic, crystallisation from melt, struct., IR obs. (*Russian*) 4-55754
- pulsed wave beam propag. in absorbing medium with strongly anisotropic scatt. 4-33622
- quantum optics, book 4-31994
- quantum-size effects on the optical properties of small particles 4-51223
- quarter-wave stack reflectors, reflective phase shifts and substrate, vol. and interface absorpt. prediction at oblique angles of incidence 4-1341
- semiconductor, anisotropic, optical absorpt. by exciton-ionized donor complex 4-2946
- semiconductor, band charge carriers, nonlinear kinetics and optical props. 4-7150
- semiconductor, disordered polar, light absorption, Hubbard attraction effects 4-25702
- semiconductor, transparent, light absorpt. wavefront, struct., reflection coeff. 4-51227
- semiconductor, zero gap, impurity absorption of light by free carriers 4-11859

light absorption continued

- semiconductor thin filaments, exciton states and interband absorption coefficient 4-20573
- semiconductors, two photon absorption, intensity dependence, laser calorimetry study 4-25700
- semiconductors with light absorpt. conc. nonlinearity, electron/hole multiple-value nonequilib. distrib. (*Russian*) 4-25708
- silicate glass, ultrapure multicomponent, optical absorpt. and scatt. rel. to As_2O_3 additions 4-55152
- skin, optical absorption, in vivo photoacoustic spectroscopy study 4-41675
- soil particles, explosively dispersed, visible and IR extinction 4-19374
- speckling absorbers, Gaussian and binary statistics (*German*) 4-10235
- spectral transmission data anal. using microprocessor controlled digitiser, camouflage appls. 4-1355
- superconducting composites, divergent diamagnetism near percolation threshold 4-35117
- suspensions, radiation transfer, meas., comparison with predictions 4-41273
- temperature distributions in solid targets produced by scanning Gaussian laser beams 4-24040
- textile fibres, light absorption coeff., heat treatment process effects 4-20934
- thin film absorption edge determ. from transmission meas. 4-49260
- tissue, light absorpt. and flux distrib., Monte Carlo computer model 4-26476
- (TMTSF) $_2$ FSO $_3$, polarisability tensor, indicatrix orientation, birefr., absorpt. meas. 4-2892
- turbid-medium-objective system, coherent transfer characts., holographic wavefront recording 4-54974
- ultrashort light pulse time-depend. spectrum, action of nonstationary linear systems 4-44127
- water vapour absorption coeffs. at HF laser wavelengths, photoacoustic meas. 4-1865
- waveguide loss measurement, direct temp. meas. method 4-38571
- Ag, mirror, intensity-depend. absorpt., role of temp. and surface roughness 4-24131
- Ag spheroidal particles in dielectric, composite reson. effect on optical absorpt. 4-35402
- Ag thin films, heated, optical absorbance, polarisation, angular and wavelength depend. 4-57016
- AgGaS $_2$ single cryst., and thin film, fundamental absorption studies 4-7212
- (AgI) $_x$ (Ag $_2$ O n B $_2$ O $_3$) $_{1-x}$ glasses, superionic, optical and X-ray absorpt. meas. 4-40574
- Al adsorbed on rough Ag surface, EM field investigation by differential reflectometry 4-51396
- Al hermetic coated optical fibre, spectral loss characts. at high temp. 4-24232
- Al $_x$ Ga $_{1-x}$ N, reactive MBE growth and optical characterisation 4-16328
- As-Se, thin film, optical recording kinetics (*Russian*) 4-30427
- As $_2$ S $_3$ chalcogenide glass films, photoluminescence polarisation 4-46307
- As $_2$ S $_3$ glass, medium range order and optical props., Raman scatt. study 4-44971
- As $_2$ Se $_3$ (Te $_3$) chalcogenide glasses, photocarrier recomb. and band struct. parameters 4-45830
- Bi $_{12}$ GeO $_{20}$, photocurrent kinetics during fundamental light absorption 4-35026
- C spheroids, randomly oriented, optical absorpt. 4-19372
- CO $_2$ absorption coeffs. at HF laser wavelengths, photoacoustic meas. 4-1865
- CO $_2$ laser beam upper hybrid resonance absorption in magnetised plasma 4-34269
- CaF $_2$:Gd $^{3+}$, two-photon absorption, ligand polarisation contribs. 4-56868
- CD crystals and polycrystalline films temp. response obs., high-resolution thermoprobe development 4-21061
- CdS single cryst., polaron scatt. processes, exciton absorption studies 4-34889
- CdTe IR low loss prism absorptivity meas. and optical metrology 4-10404
- Cu adsorbed on rough Ag surface, EM field investigation by differential reflectometry 4-51396
- Cu mirror, air breakdown plasma form. threshold, depend. on surface absorpt. coeff. 4-28808
- Cu mirror, intensity-depend. absorpt., role of temp. and surface roughness 4-24131
- Cu $_x$ (As $_{0.6}$ Se $_{0.6}$) $_{100-x}$ system glasses, elec. and optical props. for $x=5$ to 30 4-45788
- Cu $_2$ O, heat treatment effects, photoluminescence and optical absorpt. studies 4-11914
- EuLiH $_3$, synthesis, cryst. growth and optical absorption 4-40638
- GaAs, photoemission yield and its photoelectric thresholds (*Polish*) 4-35544
- GaAs, radiation defect energy levels, light absorption and Hall effect studies 4-20602
- GaAs/GaAlAs quantum well high-speed optical modulator in p-i-n diode struct. 4-35047
- GaAs-GaAlAs optical waveguides, MOCVD grown, low losses, attenuation meas. 4-24179
- Gd, Curie temp., anomaly of emissivity and absorptivity 4-2757
- Ge amorphous film, absorption edge determ. from transmission meas. 4-49260
- p-Ge, interaction of tunable probe beam with high-intensity pulsed CO $_2$ laser beam 4-46261
- Ge-Bi-Sb-Se and Ge-Bi-S system glasses, optical and elec. props. 4-45785
- GeS $_2$, glassy, optical gap, temp. depend. 4-2894
- InGaAsP-InP DH wafers, optical props., effect of proton bombard., rel. to lasing characts. (*Chinese*) 4-38473
- K vapour accurate vapour press. determ. using optical absorpt. 4-1861
- KNO $_3$, liq. and solid, ionic interactions and IR self-absorption 4-51279
- KNbO $_3$ doped ferroelec. semicond., phase transitions and props. 4-46205
- KPO $_3$ -LaP $_3$ O $_9$ system, compound formation, DTA, X-ray and IR absorpt. obs. (*French*) 4-50249
- Mg $_x$ Zn $_{1-x}$ Te:Li, photoluminesc. and optical props. 4-56992
- Nd:glass, nonlinear absorption coefficient from laser energy transmissivity 4-38488
- Ni, electronic props., refractive index and absorption coeff. studies (*Russian*) 4-40405
- NiO, optical absorption coeff., Green's function anal. 4-25711
- PbI $_2$, exciton absorption, spatial dispersion effects 4-45645

light absorption continued

- Pb $_{1-x}$ Sn $_x$ Te epitaxial films on substrates, effect of substrate on optical props. (*Russian*) 4-25823
- Rb vapour, light absorpt. var. with increased buffer gas press. 4-49925
- SF $_6$, V-T relax. rate, CO $_2$ laser induced thermal lens spatial anal. by moire deflectometry 4-38287
- SO $_2$, air pollution, remote monitoring by laser, nonexponential absorption effects 4-41393
- Sb $_2$ S $_3$ films, growth by soln.-gas interface technique, optical and electrical props. 4-29838
- a-Si alloys, optical absorpt. props., effects of topological and quantitative disorder 4-46217
- Si polycrystalline MBE films, prep. and active device appl. 4-16334
- Si single crystal, optical constants, UV and X-ray reflection spectra meas. 4-25710
- Si:H, amorphous, RF sputtered, light-induced optical absorption changes (*Chinese*) 4-21056
- a-Si:H RF sputtered coatings, microcryst. struct. 4-45550
- SiC submicron particles, absorpt. props. between 2.5 and 40 μ m, cosmic source simulations 4-40431
- Si $_x$ C $_{1-x}$ amorphous CVD films, photoluminescence and optical props. (*French*) 4-46320
- SiO $_2$ based fibres, attenuation increase due to H $_2$ diffusion at room temp. 4-10432
- SiO $_2$ -Cr $_2$ O $_3$ (CoO) coloured glasses, spectral absorption coeff. in near IR region 4-16174
- STiO $_3$:Ir $^{4+}$ paramag. resonance and near IR optical absorption 4-51131
- TeO $_2$ -PbO-CuO-ZnF $_2$ glasses, optical absorpt. and site symmetry of Cu(II) 4-30485
- ThF $_4$ -ZnF $_2$ based glasses for visible and mid IR prep., manufacture, optical and thermal props. 4-28796
- ZnO single crystals, nonlinear light absorption, two-photon and impurity absorpt. 4-25787
- ZnSe, transparent, optical inhomogeneity, rel. to Zn/Se ratio 4-51219
- ZrF $_4$ based glasses for visible and mid IR prep., manufacture, optical and thermal props. 4-28796
- light absorption spectra** see spectra
- light amplifiers** see image intensifiers
- light attenuation** see light absorption; light scattering; light transmission; optical dispersion
- light coherence**
see also laser beams; lasers
- achromatized system for performing optic Fourier transforms 4-44058
- adaptive optics wave-front inverting mirror in turbulent medium, av. intensity of reflected wave 4-38399
- aerosol-scattered laser radiation at 1 micron, lateral coherence study 4-36488
- ambiguity function and Wigner distribution function applied to partially coherent imagery 4-54971
- blade-like optical fields generated by anisotropic Gaussian Schell-model sources 4-19363
- channelled spectra, coherence props. 4-23925
- closed-cavity solutions with partially coherent fields in space-freq. domain 4-10330
- coherent data processing, use of radiation with low degree of coherence (*Russian*) 4-10239
- coherent diffuse object image form., image illuminance average power spectrum and average autocorrel. 4-54967
- coherent image formation, spatial filtering system design 4-54963
- coherent microscopes image and super-resolution improvement using pupils 4-53749
- compact real-time coherent optical correlators 4-48174
- correlator, output signal rel. to radiation coherence (*Russian*) 4-19544
- coupled two-level systems, nonlinear mag. and optical coherence 4-19526
- dye laser radiation, externally initiated polaris. coherence (*Russian*) 4-38515
- dynamic holography using coherent cooperative processes 4-54986
- fractal diffuser, IR scatt., statistical and spatial coherence props. 4-44055
- grating shearing interferometers using incoherent illum., heuristic explanation 4-37161
- grating-based white-light optical signal processor, coherence meas. 4-38403
- holograms dynamic, time-varying writing by partially coherent light beams 4-49305
- holographic optical elements, interferometrically recorded, in light of reduced coherence 4-54979
- image resolution, complex degree of coherence effect 4-54973
- incoherent optical processing, coherence theory 4-38402
- longitudinal coherence and interferometry in dispersive media 4-10230
- microscope, confocal coherent, collector and objective lenses rel. to resolution improvement 4-53748
- molecular photodissociation fragments, emitted light polarisation, coherence effects 4-1224
- multi-level system, coherent diffractive light propagation algorithm 4-24074
- multimode coherent optical fields, spatial filters separating transverse modes 4-28815
- multimode radiation, second-order coherence lower bounds 4-33582
- optical information processing, conf. Cuernavaca City, Mexico (Jan. 1982) 4-53340
- partially coherent light, lower bound on uncertainty principle 4-1343
- partially coherent light beam intensity fluctuations in a turbulent atm. 4-36486
- phase imaging by the transport equation of intensity 4-44064
- phase retrieval problem 4-19387
- photorefractive incoherent-to-coherent optical converter using holographic recording and phase conjugation 4-19399
- picosecond light pulse shaping and anal., book contrib. 4-49265
- polychromatic field shape invariant propag. 4-44051
- projection system imagery, effects of partial coherence 4-24134
- projection systems with real objectives, image struct. problem 4-28635
- projection-type imaging system with extended incoherent source, transfer charact. 4-49274
- quantum optics, book 4-31994
- rainfall-induced optical phase fluctuations in the atmosphere 4-13025
- resolution and the spatial freq. cut-off 4-44061
- retroreflected laser radiation fluctuations in turbulent atm. 4-52880
- rhodamine 6G solution laser, radiation coherence under intense laser pumping 4-5581

light coherence continued

- semiconductor, nonlinear optical effects due to coherence of probe and high-intensity EM radiations 4-14752
- semiconductor laser, coherence length control using multi-electrode structs. 4-38482
- semiconductor laser with external refl. element, degree of coherence of beam 4-49419
- spatial coherence, two-dimens. control by acoustooptic interactions 4-19354
- spatially periodic wave fields, lateral and longit. periodicities of coherence function 4-44049
- speckle optics for measuring surfaces having a small degree of roughness 4-42925
- spectral imaging, nonlinearity and coherence props. 4-44048
- straight edge object, semitransparent, with acoustically coherence-controllable illum., Fresnel diffr. 4-38389
- temporally coherent fibre optics 4-55208
- thermoplastic medium, statistical characts. of coherent radiation dispersed by 'frost' deformation (*Russian*) 4-49420
- three-dimensional light distributions, fundamental restrictions 4-44063
- turbid-medium-objective system, coherent transfer characts., holographic wavefront recording 4-54974
- turbulent medium, optical propagation coupled-mode theory 4-10233
- uniform diffuser spectral and imaging props. 4-49283
- CuCl-type pulsed laser radiation, computed spectral-linewidth minima 4-23954
- He-Ne single-mode laser beam, spatial coherence radius evaluation by speckle contrast (*Russian*) 4-1424
- Na vap., four-wave mixing resonantly enhanced by AC-Stark-split levels in self-trapped filaments of light 4-38539

light communication *see optical communication***light cones**

- see also current algebra*
- axial and light-cone gauges, method for regulating Feynman integrals 4-22933
- canonical quantisation on light cone in self-interacting scalar field and Yukawa model 4-367
- cubic interaction terms for arbitrarily extended supermultiplets, light-cone superspace formalism 4-333
- cubic self-interaction terms, light-cone formulation of dynamics 4-332
- extended supersymmetries and supergravities construction 4-43218
- Liouville and Toda field theories, light-cone quantisation 4-330
- null infinity, light-cone cuts 4-4282
- null infinity, light-cone cuts in Schwarzschild geometry 4-4283
- QCD, asymptotic Q^2 for exclusive processes 4-53947
- QCD, nonlocal light-cone expans. 4-435
- quantum space-time description, light cone approx. 4-13753
- reduced model with fermions, nonperturbative treatment 4-4566
- supergravities, extended superspace, in light-cone gauge 4-42821
- supersymmetric theories, light-cone approach, vacuum states, super Yang-Mills appl. 4-43248
- eN, deep inelastic scatt., invariant current algebra on light cone 4-53999

light diffraction

- see also holography; optical zone plates*
- achromatized system for performing optical Fourier transforms 4-44058
- acousto-optic diffraction by adjacent parallel US waves, theory 4-49267
- acousto-optic strobe recorder, wideband signal recording and playback with high time-bandwidth product 4-24140
- apertures with N-fold rot. symm., Fraunhofer diffr. pattern struct. 4-23896
- arbitrary amplitude and phase distrib. light diffr. by ultrasound 4-19365
- atmosphere, turbulent layer, diffr. by opaque half-plane 4-17263
- atmosphere-telescope system, instantaneous impulse response statistical props. 4-36487
- bandpass grid diffraction props. 4-38392
- bigratings, surface-polariton resonances and field enhancements in light scatt. 4-1339
- birefringent cryst., three dimensional phase lattice light diffr. 4-23898
- book, waves and fields in optoelectronics 4-27261
- cascaded optical systems, convolution formulation of Fresnel diffr. 4-55164
- chiral smectics with large pitch spirals, diffraction optics 4-35405
- circular apertures with apodisation filters, diffracted field characts. 4-54966
- coherent projection systems with real objectives, image struct. problem 4-28635
- colour pattern creation with ordered latex lattices 4-49271
- computer-generated holograms, cell-oriented on-axis, for use in Fresnel diffr. mode 4-38421
- deterministic phase retrieval Green's function soln. 4-10246
- dielectric films, polarisation hysteresis obs. using light diffr. by acoustic waves 4-51207
- dielectric half space, periodically modulated, light diffraction 4-44053
- diffracting aperture identification models, ideal and convolutional obs. comparison 4-19358
- diffraction pattern intensity measurements in the introductory college physics laboratory using microcomputers 4-46
- dilute solutions, reson-enhanced Rayleigh scatt., efficiency and its relation to diffr. by vol. holograms 4-1353
- displacement pattern optical differentiation using double diffr. and spatial filtering 4-32304
- double diffraction imaging system polychromatic laser speckle pattern autocorrel. function near the image plane 4-10236
- encircled energy function for arbitrary aperture shapes, asymptotic approx. 4-38405
- energy preponderance in the geometrical focal plane, diffracting aperture Fresnel no. 4-23894
- Fabry optics, diffr.-image-sized, coupling efficiency to optical systems 4-38556
- focal region in diffr.-limited systems 4-54953
- focusing aperture optimum illumination derivation by system-theoretic approach 4-54954
- focusing systems, low-Fresnel-no., diffraction patterns 4-24133
- Fresnel diffraction by US progressive wave phase grating, theory 4-38566
- Fresnel diffraction from US progressive wave associated with optical grating, theory 4-38565
- Fresnel diffraction images of a complex object under Gaussian beam illum. 4-49272

light diffraction continued

- grating diffraction, numerical soln. using mode-matching method with higher-order smoothing procedure 4-1342
- ground based telescope optical specification 4-42309
- high precision expt. in diffr. and interf., optical assembly (*French*) 4-22834
- high precision metrology appl. to photographically recorded interf. fringe patterns (*French*) 4-22835
- hologram whitening (*Russian*) 4-49309
- holographic multiple exposure thick absorpt. gratings, interference fringes due to strong coupling 4-44069
- holographic optical element ray tracing program 4-44075
- holographic volume phase gratings, diffr. efficiency, material charact. curve influence 4-23927
- holography, generalised geometries 4-1372
- images of anisotropic screens, polarisation self-production 4-49264
- incoherent isolated objects, diffr. pattern intensity distrib. at optimum compensated fifth order spherical aberrations (*German*) 4-14639
- intensity distribution of waves diffracted in a hologram, analytical evaluation 4-44047
- inverse scattering problem from non-periodic rough surfaces, numerical soln. 4-14641
- Kirchhoff theory modification for scalar diffr. from three-dimens. objects 4-54948
- lamellar metallic gratings for metrology and process control simple parameter optimisation problem 4-44200
- large mirror system optical quality requirements 4-33729
- laser beam axial irradiance and optimum focusing 4-1425
- laser near-hemispherical resonator, diffr. losses 4-24029
- laser optical diffr. techniques for interpretation of X-ray and electron diffr. from mol. crystals. (*Japanese*) 4-55690
- lasers in component size meas., optimum beam size (*Russian*) 4-28751
- Linik interference experiment interpretation, based on diffr. of Gaussian spherical incident waves 4-44045
- liquid crystal modulated structures, light diffr. at inclined incidence 4-6256
- microscopic optical strip waveguide, open end diffr. of surface waves 4-10424
- mixed molecular crystal, dilute, transient vibrational grating scattering 4-14743
- monochromatic light beam channelling in nonlinear medium, spatially nonuniform gain 4-14761
- multichannel phase-shifted interferometer 4-43042
- muscle, skinned fibres, transition from relaxed to rigor state, optical depolarisation and diffr. 4-26474
- muscle, thick filaments of isolated A discs and longitudinal sections, struct., optical diffr. obs. 4-52260
- optical fibres, butted, coaxial alignment meas. technique using diffr. pattern interference 4-33789
- optical information processing, conf. Cuernavaca City, Mexico (Jan. 1982) 4-53340
- optical system wavelength scaling considerations 4-23908
- particle size distrib. meas., Hankel transform of Fraunhofer diffr. spectrum 4-8870
- phase gratings, 3D, electrodynamic perturbation theory of light diffr., second and third approx. 4-55177
- phase shifted adjacent ultrasonic beams, light diffr. 4-56889
- picosecond light pulse shaping and anal., book contrib. 4-49265
- polarisation of light diffracted by volumetric phase lattice (*Russian*) 4-23891
- polyoxyethylene-polyoxypropylene copolymer, gel, ultrasonic absorpt. meas. by light diffr. and resonator methods 4-15592
- quartz, acousto-optic diffraction of optical guided waves 4-30438
- Raman-Nath diffr., appl. for US absorpt. meas. in liquids 4-19687
- random-phase screen weak fluctuations, speckle contrast in diffr. field 4-23902
- ray tracing techniques, paradox in path integral context 4-33621
- refraction-diffraction optical systems, anal. and synthesis 4-49489
- resolution in diffr.-limited imaging, singular value analysis, sampling and data truncation effect 4-54969
- ring laser diffraction irreprocity, numerical soln. 4-55089
- sharply bounded ultrasound, light diffr., Laplace transform method 4-54955
- single-mode fibre light pipe, excited, induced acoustooptical interaction 4-44233
- some cinematic properties of standing waves (*French*) 4-33617
- speckle photography fringes, new developments in its digital processing 4-28626
- spherical aberration and diffraction derived via Fourier optics 4-49290
- stable optical resonators with internal limiting apertures, diff. loss anal. 4-28732
- statistically independent laser photons diffr. pattern detection with photomultiplier 4-33620
- straight edge object, semitransparent, with acoustically coherence-controllable illum., Fresnel diffr. 4-38389
- temporal modulation of light diffr. by two US beams, exptl. study 4-14636
- thick-layer speckle-field hologram reconstruction theory 4-28646
- thin film thickness meas. using gratings 4-42909
- transparencies, bounded, diffr. anal. using Kotelnikov's theorem 4-19366
- trihydroxyfluorionate colloids, particles recording by laser beam diffr. 4-16692
- uniform dielectric gratings, coupled wave versus modal theory 4-19364
- volume phase gratings, multiwave regime of light diffr. and focusing effect 4-24153
- volume phase holography extended coupled-wave theory 4-33627
- (BiSmYb)₃(FeGa)₂O₇ garnet films, light diffr. at stripe domains 4-7259
- CdS single crystals, light self-diffr. and wave front reversal in four-wave interaction 4-28776
- Co-P amorphous films, anisotropy fluctuations, laser diffraction study 4-30161
- Ge thin film, surface EM wave excitation and reson. transform. during irradi. by high-power laser radiation, periodic struct. form. 4-14734
- x-LiO₃, light diffr. due to space charge (*Chinese*) 4-2900
- α -LiO₃, light diffr. due to space charge (*Chinese*) 4-2901
- Si, shallow impurity influence on self-diffr. of light 4-56273
- Si:Au, nonequilibrium carrier lifetime determ., dynamic grating method 4-6806
- TiO₂ thin film hologram recording (*Russian*) 4-49310
- YIG, magneto-optical study of self-modulation oscills. 4-35419

light diffusion *see* light scattering

light dispersion *see* optical dispersion

light emitting devices

see also light emitting diodes; light sources; luminescent devices

InGaAsP/InP DH, 1.3 micron emission, elec. characts. study using line diagram method 4-56424

light emitting diodes

see also semiconductor junction lasers

application to direct optical triggering of thyristors 4-1414

colour multiplexing for optical information transmission, passive and active components development (Czech) 4-1509

device degradation, surface and volume effects 4-19457

electroluminescence delays, nanosec. time range 4-40535

fibre coupling modules and light sources (Japanese) 4-55217

fibre-optics, two dimensional 4X4 array applied to monolithic LED array 4-19586

LED package to fibre coupling 4-28855

methane, $\nu_2 + \nu_3$ band absorpt. meas. at 1.33 μm using InGaAsP LED 4-19048

temperature-compensating pulsed reference light source using a LED, scintillation detector appl. 4-23507

weather vane. Remote electronic indication with LEDs (German) 4-53817

AlGaAs/GaAs fibre coupled 2-D monolithic LED array with highly uniform radiance 4-24239

Al_{0.3}Ga_{0.7}As LED materials, organometallic VPE, growth temp. depend. 4-51522

GaAlAs fibre coupled edge emitting LEDs 4-5708

GaAs shallow junction LEDs, gamma ray irradiated, surface emission and wavelength tuning via surface states 4-50353

GaAs-AlGaAs heterostructure layers with high optical quality, MBE growth 4-16325

GaP red-emitting LED, 0.75 eV killer centre, dark transient capacitance study 4-11471

GaP:N LED, degradation and cathodoluminescence profile 4-35494

p-InAs/metal struct., elec., photoelec. and luminesc. props. 4-30072

InGaAsP/InP LEDs, field and hot carrier enhanced electron leakage, model calc. 4-25430

InGaAsP-InP microlensed edge emitting LEDs for long haul optical fibre systems 4-5707

InP/InGaAsP aged LEDs, dark spot defects 4-56999

light filters *see* optical filters

light intensifiers *see* image intensifiers

light interference

see also light interferometers; light interferometry; Moire fringes

achromatic fringe automatic selection by the envelope method 4-28622

Aleksandrov and Zapasskii experiment and the Raman effect 4-9708

atmosphere-telescope system, instantaneous impulse response statistical props. 4-36487

corneal interference isochromes anal. and diagnostic indices derivation (Russian) 4-36101

diffusive objects, finite fringe shadow moire slope mapping 4-283

dralon-X multiple skin fibres, interferometric determ. of optical constants 4-19581

Fabry-Perot interferometer, interf. pattern caused by short light pulses 4-4455

Faraday magneto-optical transducer for electric current meas., performance limitations 4-32254

fibres, multimode, optical FM signal interferometric demodulation, relation to modal dispersion 4-24196

fibres with trilobal cross-section, interference fringes 4-19580

film thickness determination using interferences at critical angle measurement (German) 4-48075

filter, contrast interf.-polarisation, for UV region 4-5686

filter, interf.-polarisation, with partial-polarising elements, spectral background 4-10411

fringe sharpening, complementary gratings effect on fringe orders 4-10415

glass, optical properties, book 4-36811

high precision expt. in diffr. and interf., optical assembly (French) 4-22834

high precision metrology appl. to photographically recorded interf. fringe patterns (French) 4-22835

holographic multiple exposure thick absorpt. gratings, interference fringes due to strong coupling 4-44069

imperfect Fabry-Perot etalon, analytical description 4-43035

induced resonance absorption, theory and appls. to photothermal and photovoltaic inversion (German) 4-14638

interferometry techniques for materials evaluation, advancements and appl. 4-17931

Link interference experiment interpretation, based on diffr. of Gaussian spherical incident waves 4-44045

mirror hologram analyser capabilities 4-33634

optical fibres, butt, coaxial alignment meas. technique using diffr. pattern interference 4-33789

pattern sharpness, depend. on EM field quantum state 4-19371

pico-second pulse shape 4-44062

polarised ray interference anal. by Poincare sphere method 4-28621

polymers, differential interference contrast microscopy appl. 4-41142

ring laser counterpropagating wave interference in an inpend. coordinate system 4-33699

Sagnac effect with beam width correction, general relativity verification 4-37002

semiconductors, interference effect on magneto-optical studies in the long-wave IR spectral region 4-7165

spatial frequency filtering using interferences 4-49275

speckle optics for measuring surfaces having a small degree of roughness 4-42925

speckle patterns formed by a laser beam transmitted by scattering slabs of various optical thicknesses 4-54957

speckle photography fringe formation, cross-correlation function 4-49270

speckle photography fringes, new developments in its digital processing 4-28626

thin films, optical transmittance interference struct., non-uniform layer thickness effects 4-44043

transparent films, refractive index and thickness determination, interference method 4-25822

two-wave mixing experiments with Bi₂SiO₂₀ crystals, energy transfer spatial freq. depend. 4-23926

Young arrangement, interference of different freq. optical waves 4-38395

light interference continued

NH₄Cl-H₂O, unidirectional solidification in microgravity, optical obs. 4-6475

SiO₂-ZrO₂ high-optical-strength thin-film interf. polarisers for high-power lasers 4-55066

ZrO₂-SiO₂ dielectric multilayer interference polarisers for lasers 4-33742

light interferometers

see also light interferometry

angle gauge for autocollimator certification 4-10407

book, waves and fields in optoelectronics 4-27261

corner cube interferometer, for high-performance FTIR 4-53776

cryogenically cooled interferometers, automatic alignment technique 4-4453

dielectric waveguide directional couplers interferometers, normal mode loss effects 4-49522

differential laser Doppler interferometer for surface vel. meas. 4-13670

differential laser interferometer, displayed value stability and reliability (Japanese) 4-48187

discrete photodetector arrangement in interferometers 4-32307

Doppler interferometer using longitudinal laser modes, appl. to refl. surface vel. meas. 4-285

double-beam interferometer with doubled sensitivity 4-43048

dye laser emission freq. stabilisation and tuning using Fabry-Perot interferometer 4-28728

dynamic displacement interferometer with improved sensitivity using laser detector 4-284

Dynamics Explorer Fabry-Perot interferometer, image detector 4-17267

errors of interferometer for testing large-aperture concave spherical surfaces 4-43046

Fabry-Perot, intracavity freq. selector for freq. tuned dye laser (Russian) 4-38507

Fabry-Perot, using multichannel detection system 4-43044

Fabry-Perot electrooptical bistable devices, bistability anal. 4-37156

Fabry-Perot etalon, power limiting and multiple optical bistability 4-49429

Fabry-Perot etalons control, using capacitance micrometry 4-22832

Fabry-Perot interferometer, interf. pattern caused by short light pulses 4-4455

Fabry-Perot interferometer, servo controlled, for FIR 4-37157

Fabry-Perot interferometer for Stark effect meas., Na D line appl. 4-42931

Fabry-Perot interferometer using glass fibre sensors, state of the art (Dutch) 4-5700

far-IR interferometers, band pass filter for increased resolution 4-53740

fibre-optic interferometer for remote subangstrom vibration measurement 4-44232

fibre end interferometric sensor using cooperative retroreflectors 4-10443

fibre interferometric sensors, passive quadrature demodulation 4-38598

fibre Mach-Zehnder interferometer, passively stabilised, using (3X3) fibre directional couplers 4-38597

fibre optic accelerometers, interferometric type 4-17318

fibre optic Fabry-Perot resonator as temp. sensor and optical spectrum analyser 4-38602

fibre optic gyroscope, Sagnac interferometer, review 4-44221

fibre optic hydrophone array, pulsed Michelson interferometer config., design and characts. 4-28908

fibre optic interferometer, passive accurate phase meas. system 4-38601

fibre optic interferometer as acoustic sensor for sensitive spectrophone 4-38600

fibre optic interferometer sensors, laser noise props. 4-5716

fibre optic laser interferometer, Michelson-type equal-arm, with holographic wavefront correction 4-10446

fibre optic Mach-Zehnder interferometer, US sensing from 100 kHz to 50 MHz 4-38595

fibre optic remote interferometric sensor, close loop FM 4-44216

fibre optic sensor devices using single-mode fibres 4-24187

fibre optic sensors, demodulation schemes 4-5720

fibre optic sensors, transduction mechanisms 4-14809

fibre optical phase modulator, single mode, using piezoelec. plastic jacket, high freq. response 4-38603

fibre optical sensors, principles of operation, review 4-55211

fibre optics and laser sensors, conf., Arlington, VA, USA (Apr. 1983) 4-31954

fibre optics use for sensing 4-38605

fibre ring interferometer, optical nonreciprocity induced by nonstationary processes 4-55201

fibre ring interferometer with rot. accel., light guide dispersion effect on wave phase 4-19593

fibre-optic interferometers, zero path-length difference 4-22829

fibre-optic Mach-Zehnder interferometer based on a multimode waveguide excited by an injection heterolaser 4-14807

Fizeau interferometer for surface and transmitted wavefront meas. of laser components and solid-state laser resonators (German) 4-55064

Fizeau interferometer based nonobscuring easily-calibrated testing method for testing ellipsoids and hyperboloids 4-33818

Gamo triple intensity interferometer for ultrashort laser pulse shape meas. 4-24008

glass thermooptic waveguide interferometric modulator/switch 4-33749

grating shearing interferometers using incoherent illum., heuristic explanation 4-37161

heterodyne interferometer design, for US NDT 4-35848

high-resolution multifold path interferometers for dilatometric measurements 4-22755

high-temperature laser interferometer for thermal expansion and optical-length measurements 4-43043

hologram lens based interferometer for studying spatial inhomogeneities 4-32306

holographic optical elements use in laser interferometers 4-5560

imperfect Fabry-Perot etalon, analytical description 4-43035

IR Fourier interferometer, low-temp. pyrometry appl. (German) 4-27605

lambdamer, comparison of laser wavelengths using double Michelson interferometer (French) 4-37159

laser interferometer, appl. to meas. of second order tilt axis error of WILD T4 universal theodolite (German) 4-47470

laser wavelength meas. device, lambda meter (French) 4-27575

lens system, radius of curvature and focal length meas. using parallel plate interferometer 4-19535

Ludman interferometer, parallelism and flatness meas. of object faces 4-53737

Mach-Zehnder, accelerometer design appl. 4-13624

light interferometers continued

- Mach-Zehnder, guided-wave, development and appl. 4-14782
 Mach-Zehnder fibre interferometer fringe movement obs. technique 4-43041
 Mach-Zehnder interferometer, integrated optical modulator, tuning with Ta_2O_5 film loading 4-24240
 Mach-Zehnder interferometric modulator, high-speed integrated optics, design and fabrication 4-49503
 Michelson, laser meter for vibration displacement appl. 4-32236
 Michelson, Mossbauer spectrometer velocity calibration using (Al,Ga)As laser diode 4-18025
 Michelson interferometer interf. signal, laser displacement meas. instruments 4-43047
 Michelson interferometer sensor, all single-mode fibre directional coupler 4-24212
 Michelson interferometer with beam divider and compensating plate having slight wedge angles 4-4456
 Michelson interferometric spectrophotometry calibration for atm. radiometric appls. 4-8321
 miniature optical acoustic emission transducer 4-27580
 multichannel Fabry-Perot interferometer on Dynamic Explorer spacecraft, Doppler line profile anal. 4-47415
 multichannel phase-shifted interferometer 4-43042
 nonlinear Fabry-Perot etalon as optical logic gate 4-38517
 nonlinear Fabry-Perot interferometer, stochastic regimes of light pulse refl. 4-28786
 optical testing using interferometers (German) 4-27574
 passive cavity gyro based on empty ring interferometer 4-43038
 phase-conjugating mirror, self-pumped, for interferometer 4-8949
 polarisation interferometer, design for thin film thickness meas. appl. 4-37071
 prismatic interferometers, construction and optical testing appl. (Czech) 4-22833
 radial speckle shearing interferometer and its engineering appls. 4-53744
 reflecting radial-shear interferometer using thick lens, for optical testing 4-43039
 remote interferometer using an optical fiber 4-32305
 ring resonator and quasi-waveguides as integrated optics devices for physical meas. 4-49573
 rotating scan interferometer 4-53738
 Sagnac and Mach Zehnder fibre interferometers, effects of directional coupler asymm. losses 4-44215
 Sagnac interferometer fibre gyroscopes, compensation of linear sources of nonreciprocity 4-44218
 Sagnac passive gyro, use of 1.3 μm optical devices 4-44217
 scanning Fabry-Perot interferometer for plasma spectral line profiles anal. (Russian) 4-6183
 scatter-plate interferometer construction using speckle pattern photographs 4-43040
 semiconductor Fabry-Perot interferometer, nonlinear thermooptical waves 4-27578
 semiconductor laser with Michelson interferometer type cavity, electrical tuning 4-10322
 single-mode fibre light pipe, excited, induced acoustooptical interaction 4-44233
 SISAM instrumental function, determ. using two-freq. recording method (Russian) 4-37162
 specular refl. cancellation in interferometer with phase conjugate mirror 4-1460
 Talbot shearing interferometer, tests for prisms, lenses and phase objects (Chinese) 4-48185
 thickness meas. of thin films with rough surfaces, using modified Michelson interferometer 4-4376
 travelling-wave interferometer containing well-collimated Na beams, obs. of steady-state hysteresis in absorptive bistability 4-1438
 twenty channel imaging FIR interferometer and polarimeter 4-50074
 two-beam for coherent data processing, use of radiation with low degree of coherence (Russian) 4-10239
 two-beam infrared interferometer for long lengths accurate meas. (Japanese) 4-48186
 Twyman interferometers 4-53743
 GaAs-AlGaAs etalon, room-temp. low-power optical bistability obs. using diode laser 4-49426
 LiNbO_3 :Ti microwave modulated waveguide interferometer for picosec. pulse prod. from He-Ne laser CW output 4-49576
 LiNbO_3 :Ti microwave integrated optical modulator 4-49500
 LiNbO_3 :Ti guided light interferometric modulators 4-33746

light interferometry

- see also *holographic interferometry*; *Moiré fringes*
 accelerometers, reference standard, calibration using new interferometric technique 4-8878
 acoustic emission, displacement amplitude meas. by laser interferometry 4-55288
 active mirror segment figure control using point diffraction interferometer 4-1458
 aspherical element surface testing using interference method on UIM-23 microscope 4-44260
 autocorrelator for measuring CW ultrashort optical pulses having freq. vars. 4-19494
 automatic scanning with improved sensitivity of fringe patterns using microdensitometer 4-53741
 binary amplitude grating production and testing using a self-imaging and double exposure technique 4-17929
 binary-star interferometry, standard stars 4-22339
 bistability, saturable interferometer theory 4-24101
 book, holographic and speckle interferometry 4-53375
 capillary GC/FTIR using moderate-cost interferometer 4-57611
 clock crystal resonator, interferometric meas. of vibrations (French) 4-24067
 combustion system particle size, number density and vel. meas. using particle-sizing interferometer and spectrometer 4-8948
 compensation system design for interferometric testing of aspherical surfaces (German) 4-53742
 correlation interferometry of scattered laser radiation 4-17930
 curved surface elastic-plastic strain meas. by moiré effect (German) 4-34023
 curved surface strain determ. using three-beam interferometric technique 4-10617
 cutting tool insert contouring in real time using moiré of interference 4-42914

light interferometry continued

- diaphragm NDT by multiaperture speckle shearing technique 4-26143
 digital wave-front measuring interferometry, systematic error sources 4-8947
 displacement pattern optical differentiation using double diff. and spatial filtering 4-32304
 Doppler-free phase-conjugate reflection by four-wave mixing with $\text{Bi}_2\text{SiO}_{20}$ in phase-conjugate Michelson interferometer 4-44159
 double-star speckle interferometry, nonisoplanaticity effect on shift-and-add algorithm 4-47545
 dralex-X multiple skin fibres, interferometric determ. of optical constants 4-19581
 dynamic two-frequency interferometry for small displacement measurements 4-32303
 electronic speckle pattern interferometry, vibration mode anal. appls. 4-48189
 ellipso-interferometry, elimination of de-focusing blur (Japanese) 4-27579
 expanded laser beam wavefront monitoring using shearing interferometer 4-28745
 extrema of interference bands separation, by nonlinear photographic recording 4-37158
 Fabry-Perot interferometer containing nonlinear intracavity medium optical bistability with two-level atoms 4-14748
 Fabry-Perot pressure scanning method for analysis of spatial components of multimode laser radiation (Spanish) 4-33698
 fibre and integrated optical monomode sensors, a review (German) 4-55191
 fibre cutoff-wavelength determ. by mode interf. 4-33778
 fibre gyroscope with highly birefr. fibre and integrated-optic LiNbO_3 :Ti⁺ phase shifter 4-33799
 fibre interferometric sensor demodulation using a fibre-optic passive quadrature demodulator 4-22830
 fibre optic acoustic sensors, interferometer arrangements 4-19696
 fibre optic gyroscopes and related sensor systems 4-4397
 fibre optic interferometric sensors, single-mode 4-4396
 fibre optic method for sensing diaphragm deflection 4-38590
 fibre-optic interferometric SAW sensor for NDT 4-35847
 fibre-optic temperature sensor, dual-mode interferometric config., design and operation 4-38611
 film thickness determination using interferences at critical angle measurement (German) 4-48075
 flow visualization with Doppler-pictures, using Michelson interferometer 4-24509
 Fourier transform spectroscopy data superresolution by max. entropy method 4-19381
 fringe counting method for rapid changes of refractive indices in gases meas. 4-22828
 fringes curvature determ., by automated topography measurement system 4-22752
 gap measurement technique, wide-range, printing lithographic mask-to-substrate gap meas. appls. 4-27479
 gases, refr. index dispersion meas. with two-wavelength one-path interferometer 4-29233
 geothermal borehole temp. and pressure meas., applicability of fibre optics (French) 4-46855
 gravimeter, laser ballistic, gravitational acceleration precision meas. by interferometric method 4-8318
 gravitational metric theory verification using beam width correction for Sagnac effect (Chinese) 4-47990
 He-Ne laser stroboscopic high speed interferography (Chinese) 4-43037
 heterodyne optical strain sensor 4-13633
 heterodyne speckle photogrammetry, scintillation noise effect 4-53733
 high precision expt. in diff. and interf., optical assembly (French) 4-22834
 high precision metrology appl. to photographically recorded interf. fringe patterns (French) 4-22835
 holographic optical elements, interferometrically recorded, in light of reduced coherence 4-54979
 hook method expt. setup improvement and simplification 4-13675
 hybrid optical-digital image processing method for surface inspection 4-42917
 imaging of thermally luminous two-dimens. object 4-19377
 interference goniometer image information parameters 4-33743
 intracavity spectrointerferometry 4-32334
 IR speckle interferometry, appl. to astronomical seeing meas. at Mauna Kea 4-22089
 large surface measuring machine, interferometer based, mirror testing appls. 4-10469
 laser gyro models, Sagnac effect (German) 4-32308
 laser interferometric length measurement 4-48188
 laser interferometric lens-centring system, theory and struct. 4-49579
 laser interferometry, appl. to meas. of second order tilt axis error of WILD T4 universal theodolite (German) 4-47470
 Lau interferometry with cross gratings 4-17928
 lens refractive index determ. using Murty shearing interferometer 4-14767
 lens refractive index meas., nondestructive nonmiscible liq. immersion focusing with shearing interferometry 4-10400
 lens refractive index meas. using laser light, innovative nondestructive technique 4-49477
 liquid dielectric elec. field meas. by Mach-Zehnder interferometers 4-46183
 lithographic mask alignment precision checking using interferometric method 4-42910
 long lengths accurate meas. by infrared synthetic method (Japanese) 4-48186
 longitudinal coherence and interferometry in dispersive media 4-10230
 lunar globules, interferometry of smooth elongated shapes 4-36598
 Mach-Zehnder, unidirectional solidification in microgravity obs. 4-6475
 magnetic recording materials, surface topography meas., computer analysed microscopic interferometry 4-22750
 materials evaluation sheet, 4-17931
 metals, anisotropic sheal, yield loci testing 4-21273
 metrology target fabrication by step and repeat method 4-49422
 micro-lens, wave aberrations, automatic shear interference system 4-38554
 microinterferometric method for refr. index gradient analysis in intact objects 4-4452
 microphone acoustic pressure optical direct analogue-to-digital conversion 4-10511

light interferometry continued

- monomode fibre first-order dispersion, interferometric meas., source spectrum effects 4-28850
 multicomponent system interferometric meas., refraction error analysis 4-53734
 multiphase flow fields, optical meas. of particle size, velocity and concentration 4-49908
 multiple exposure speckle interferometry, appl. to material creep vel. study (*Chinese*) 4-3306
 NDT, quantitative, of composites, interferometric techniques using embedded optical fibres 4-35845
 nematic liquid crystal, correlation interferometry of scattered laser radiation 4-17930
 nonlinear ring cavity polarisation and amplitude optical multistability 4-5642
 optical components at European Southern Observatory automated interferometric evaluation 4-38641
 optical elements, interference testing on dispersion relations basis, for anal. signal logarithm 4-10231
 optical fibre sensors, sensors, giving optical output for nonoptical quantities meas. (*German*) 4-4388
 optical metrology, conf., Arlington, VA, USA (Apr. 1983) 4-8635
 optical-heterodyne method for measuring a deflection angle 4-32302
 organosilicon rubbers, gelatinous, elec. controlled layers, rheological characts. (*Russian*) 4-14900
 out-of-plane surface movement inspection over small-areas using electronic speckle pattern interferometry 4-17927
 phase angle of optical interference, improved polar display technique 4-43045
 phase conjugation, real time optical treatment appls. 4-55141
 photoacoustic cell, thermal and acoustic modes in gas of photoacoustic cell, exptl. obs. 4-33878
 plasma focus, shock and current sheet dynamics; streak mode interferometric study 4-6186
 polarisation-maintaining fibres, polarisation modal dispersion meas. method 4-19589
 polygon mirror beam deflector, compact air bearing spindle, prod. and testing 4-55157
 probe position meas. using laser interferometry system 4-27484
 quartz piezoelectric disk resonators, AT-cut, acoustic modes, laser interferometric study 4-28915
 quasi-interferometry, colour coded, dispersive and colour correlation filtering 4-281
 quasi-interferometry, optical correlation, spatial freq. filtering 4-282
 review of holographic interferometry and speckle metrology 4-38423
 ruby, EM field phase jumps in light pulse coherent amplification, interferometric registration 4-44160
 scanning Fabry-Perot based technique for second order dispersion meas. in diode lasers 4-24058
 shearing interferometric collimation technique for measuring lens parameters 4-33820
 solar corona, Fabry-Perot interferometric obs. of red and green lines during 1983 Indonesian eclipse 4-42391
 spatial frequency filtering using interferences 4-49275
 speckle interferometry, statistical evaluation of spectral band 4-27576
 speckle interferometry and other inspection techniques 4-43036
 speckle interferometry image reconstruction from the Fourier transform phase 4-49279
 speckle photography, double-pulsed white-light, for transient phenomena analysis 4-37153
 speckle photography fringe formation, cross-correlation function 4-49270
 speckle shearing interferometry, multiplexed diff. gratings appl., slope meas. 4-32301
 speckle shearing interferometry, single-aperture, with single grating 4-37154
 stabilised optical fibre Fabry-Perot interferometer for semiconductor laser spectrum meas. 4-33662
 straightness and position departure meas., high precision, interf. and air-bearing instruments (*German*) 4-42916
 strain analysis by grating interferometry 4-53735
 subpicosecond pulses monitoring, real-time instrument with autocorrelator 4-44131
 surface, nonplanar, quantification by optical interferometry (*Czech*) 4-39642
 surface and transmitted wavefront meas. of laser components and solid-state laser resonators using Fizeau interferometer (*German*) 4-55064
 surface macroprofile measurements under dynamic conditions using heterodyne interferometer 4-32237
 Talbot effect in IR laser field and its appls. (*Chinese*) 4-53739
 Talbot interferometry, optical differentiation of quasi-periodic patterns 4-37160
 Talbot interferometry, plane surface inspection appls. 4-32300
 television system for measuring interferograms 4-27577
 TGS, growth rate of (001) face at various saturations, interferometric study 4-34432
 thermal imaging lenses, common production error identification 4-10390
 thickness meas. of SiO₂ insulating film 4-48081
 thickness measurement of semi-thin and thick sections, interference technique 4-37070
 thin film stress determ. technique 4-38770
 thin film thickness measurement, 10-3000 Å, technique and meas. error using polarisation interferometer 4-37071
 Transducer Tempcon, conf., London, England (June-July 1982) 4-53350
 turbine blade analysis using moiré system for producing profile numerical data using a computer and video store 4-53736
 two-dimensional fringe-pattern analysis 4-17926
 visual binary stars, interferometric obs. (*Russian*) 4-13371
 wavefield behind moving cylinder in stratified fluid, interferometric visualisation methods 4-10693
 Young's modulus, new meas. method using high speed moiré topography 4-22776
 B₂O₃-SiO₂ glass, type BK-10, nonlinear refr.-index coeff. at 355 nm, interferometric determ. 4-33709
 Ba(NO₃)₂ crystals, (111) face growth rate from aqueous soln., slope angle of spiral hillocks 4-2114
 CdS, dielec. const. determ. by ellipsometry, interferometry and surface plasmon optical excitation 4-46345
 CdS thin transparent films on Ag, optical anisotropy, interferometric investigation using polarised light 4-7258
 GaAlAs single-mode laser freq. fluctuation stabilisation using fibre interferometer, noise props. 4-24045

light interferometry continued

- He-Ne stabilised laser radiation wavelength ratio at 3.39 µm and 0.633 µm, meas. using servo controlled Michelson interferometer 4-10338
 LiNbO₃ ultrafast all-optical gate 4-28880
 LiNbO₃/Ti integrated interferometric optical-waveguide press. sensor 4-33811
 LiNbO₃/Ti linear Mach-Zehnder interferometric modulators for EM field sensing 4-33751
 LiNbO₃/Ti Mach-Zehnder interferometric high-speed travelling-wave integrated-optics modulator 4-33747
 Na yellow doublet line relative oscillator strength determ. using intracavity spectrophotometry 4-32334
 Nd:YAG, EM field phase jumps in light pulse coherent amplification, interferometric registration 4-44160
 Se-MgF₂ multilayer coatings, enhanced Fabry-Perot fringe visibility over long path differences 4-1464
 SiO₂, fused, nonlinear refr.-index coeff. at 355 nm, interferometric determ. 4-33709
 Ti thin film oxidation, in situ multiple-beam interferometry refl. obs. 4-12219
- light meters** see *photometers*
- light microscopes** see *optical microscopes*
- light microscopy** see *optical microscopy*
- light modulation** see *optical modulation*
- light polarisation**
 see also *birefringence; optical rotation; photoelasticity; polarimetry*
 Aleksandrov and Zapasskii experiment and the Raman effect 4-9708
 amplification by enhanced internal refl., reflectance and transmittance of exponentially nonuniform gain region 4-23949
 anisotropic annular resonances, freq.-polarisation characts., operator calc. 4-19477
 Ap stars, numerical modelling of circular polarisation profiles in spectral lines (*Russian*) 4-31848
 asteroids, surface optical properties, quantitative anal. 4-36629
 astronomical masers, linear polarization by anisotropic pumping 4-17379
 atomic inner shell fluorescence polarisation and ang. distrib. variations 4-1086
 Be stars, UBVR polarimetric obs. (1982 to 1983) 4-27093
 Be stars in open cluster NGC 6611, UBVR polarimetry 4-22390
 (BEDT-TTF)₂ClO₄(C₂H₅Cl)_{0.5}, organic conductor, polarised reflectance spectrum 4-51284
 bent multi-mode light guides, Stokes vector transform. (*Russian*) 4-24226
 biaxial crystals, transparent, optical activity, elliptically polarised light transmission meas. 4-35408
 bow-tie highly birefringent fibres, single polarisation operation, differential bending loss 4-24228
 Ceres, 10 µm polarimetry rel. to thermal inertia and rot. pole orientation 4-53079
 chiral smectics with large pitch spirals, diffraction optics 4-35405
 chlorophylls a and b in nematic liq. crystals, effect of elec. field on polarised absorpt. spectra 4-36066
 circular polarising filter for VDU, eye strain prevention 4-46987
 cobalt phthalocyanines, tetrasulphonated, reson. Raman spectra in aq. soln. 4-9777
 coronene centre in n-heptane cryst., vibronic luminesc. and absorpt. spectra, multiplet polarisation 4-9823
 crystals with Jahn-Teller centres, luminesc. polarisation, spin-orbit interaction effects 4-25810
 cubes and parallelepipeds, randomly oriented, light scatt., geometric ray tracing theory 4-1333
 3-diethylamino-6-amino-N-ethylphthalimide solution, luminesc., spectral-polarisation characts. order light quenching conditions 4-54794
 diffraction by volumetric phase lattice, polarisation of light (*Russian*) 4-23891
 diffraction grating, Ag-coated, phase correl. of surface plasmons, photoacoustic study 4-7141
 directional coupler using polarisation maintaining monomode fibres 4-38618
 diverging beam polarisation state var. in a reflecting prism 4-19369
 dye laser radiation, externally initiated polaris. coherence (*Russian*) 4-38515
 electron impact polarisation, anal. for Stokes parameter Q 4-3918
 elliptic polarised spectrometer, TPP-1 type (*Chinese*) 4-43063
 elliptically polarised light, new matrix evaluation 4-33618
 EM sensor using integrated optic channel waveguide modulator and polarisation preserving fibres 4-38599
 fibre, polarisation-maintaining, active transmission line, backward-stimulated Raman gain 4-49451
 fibre, polarisation-maintaining, classification model (*Japanese*) 4-5731
 fibre circular polariser 4-19575
 fibre directional couplers, monomode polarisation maintaining, fabrication 4-28873
 fibre optic polarimetric sensor, differential polarisation-maintaining fibre config., design and compensation 4-27506
 fibre optic polarisers with high excitation ratio 4-28871
 fibre optic sensitive polarisation hydrophone 4-38596
 fibre polarisation coupler for polarisation maintaining fibres (*Japanese*) 4-28863
 fibre ring interferometer, optical nonreciprocity induced by nonstationary processes 4-55201
 fibres, birefringent, Raman scatt., light polarisation depend. (*French*) 4-25753
 fibres, birefringent type, linear polarised light transmission, fundamental mode study 4-28849
 fibres, coiled high-birefringence type, polarisation holding ability, expt. study 4-1493
 fibres, elliptical core, polarisation changes 4-10440
 fibres, elliptical-core and stress-induced birefr., polarisation mode props. 4-28856
 fibres, polarisation-maintaining birefringent 4-55210
 fibres, polarisation-maintaining fibres fabrication with stress-induced birefringence (*Japanese*) 4-49589
 fibres, polarisation-maintaining type, birefringent mode coupling, spatial distrib. meas. method 4-38609
 fibres, self-induced nonlinear effects, unified approach 4-55122
 fibres, single-mode, polarisation maintaining, fabrication by asymmetric deposition 4-24258
 fibres, single-mode, polarisation-holding capability, anisotropic Rayleigh scattering study 4-19588

light polarisation continued

fibres, single-mode, three-layer, W-type, polarisation property characts. 4-28861
 fibres, single-mode polarisation-maintaining, polarisation mode coupling meas. using optical time-domain reflectometry 4-49550
 fibres, ultrahigh birefr., mode anal. 4-49552
 film sheets fabrication, for near IR region 4-10383
 films, form birefr., anisotropic microstruct. contrib. to polarisation effect 4-11952
 filter, contrast interf.-polarisation, for UV region 4-5686
 finite rough two-dimens. surface in TE polarisation, new relations 4-44056
 fluorescent samples, errors in spectrophotometry and colorimetry caused by polarisation of meas. system 4-37142
 Fourier decomposition of phase matrix for polarised light scatt. 4-38393
 Fresnel formulae generalisation in soft X-ray region, S polarisation 4-44050
 glass, optical properties, book 4-36811
 glories, polarised and cross-polarised optical, uniform Mie theory 4-28617
 grating, large polarising, for IR region 4-10416
 holographic, microscopy, polarisation filtering (*Russian*) 4-5564
 human vision, crit. flicker freq., rel. to retinal location (*Italian*) 4-52339
 ice, hexagonal cryst., optical characts., attenuation matrix 4-46230
 III-V semiconductor, two-dimensional electro-optic polarization modulator for integrated optics 4-55180
 images of anisotropic screens, polarisation self-production 4-49264
 imaging systems changing the state of light polarisation 4-44060
 interference of polarised rays, anal. by Poincare sphere method 4-28621
 interference-polarisation filter with partial-polarising elements, spectral background 4-10411
 interstellar circular polarisation, phase retardation by nonspherical grains scatt. 4-4073
 IR microscopy for semiconductor materials (*French*) 4-17933
 iron phthalocyanines, tetrasulphonated, reson. Raman spectra in aq. soln. 4-9777
 laser beam polarisation rotation on refl. from transparent spherical shell 4-29256
 laser resonator with partial polariser and phase plate, polarisation eigenstates 4-14727
 laser-based Doppler vel. meter, influence of scattered-wave polarisation (*Russian*) 4-44134
 lightguides, dynamics of intense short pulses 4-14745
 lightguides, multimode, bent, linearly polarised light transmission 4-28858
 linear and circular, appl. to atom-ion collision study 4-9882
 liquid crystals, light polarisation plane rotation, temp.-induced inversion 4-40406
 Lyot depolariser, degree of polarisation anal. 4-24143
 M20, emission nebula, optical polarisation obs. 4-17574
 magnetic media, Azzam effect generalisation 4-49259
 many-valley semiconductor, size quantised film, s-polarised optical props. 4-7256
 MCD meas. apparatus, using quartz polarisation modulator 4-32333
 megampere current meas. with fibre optic sensors 4-17898
 microchannel plates, polarisation sensitivity variations with photon incidence angle and wavelength in VUV 4-48196
 Mie scattering matrices, expansion in generalised spherical functions 4-53027
 monomode fibre systems, polarisation noise 4-44244
 monomode fibres, active polarisation stabilisation systems for coherent transmission systems or fibre optic sensors 4-28872
 monomode fibres, polarisation meas. of cut-off wavelength of LP₁₁ mode 4-33794
 MOS system, ellipticity and Faraday rot., memory function approach 4-7166
 multilayer-coated optics, total integrated scatt. relationship to angle of incidence, polarisation, correl. length and roughness cross-correl. props. 4-1335
 multimode ribbon lightguides, Faraday effect props. 4-33757
 muscle, skinned fibres, transition from relaxed to rigor state, optical depolarisation and diff. 4-26474
 near IR polarising microscope for semiconductor wafer inspection 4-4458
 nematic liquid crystal, orientational self-focusing, nonstationary and polarisation effects 4-5672
 nematic liquid crystal thin films, induced gratings, polaris. anal. 4-44201
 nonlinear ring cavity polarisation and amplitude optical multistability 4-5642
 optical fibre, single mode polarisation holding cable, loss and polarisation characts. 4-28867
 optically anisotropic substances, light polarisation change of state (*Italian*) 4-44046
 optically thin films, polarisation of centre radiation, resonator effect on phototransition probability 4-51401
 organic molecule solutions, luminesc., spectral-polarisation characts. order light quenching conditions 4-54794
 oriented lipid membranes, orientational order parameters, angle-resolved fluoresc. depolarisation obs. 4-21492
 Orion molecular cloud, IR polarisation and fluxes rel. to large dust grains 4-58491
 β Persi (=Algol), eclipse polarisation discovery and orbit orientations 4-4037
 photon-echo polarisation switching, coherent optical field direction 4-24106
 phthalimide derivative polar liquid soln., emission depolarisation nonexponential kinetics 4-9825
 PLZT-10 ferroelectric ceramic based modulator model theory (*Russian*) 4-28822
 polarisation-maintaining fibres, polarisation modal dispersion meas. method 4-19589
 polarised light photomicrography, double refraction, microcrystal prep. (*Italian*) 4-43078
 polarizing microscope with crossed polarizers, low-frequency sinusoidal phase error effects on performance (*German*) 4-13672
 polymers amorphous, powder, polarised IR attenuated total refl. spectra 4-56899
 polypropylene films, uniaxially stretched, orientation, IR obs. 4-11007
 polystyrene melt, stretched, labeled chain relax., mol. wt. depend., fluoresc. polarization 4-10951
 quarter-wave stack reflectors, reflective phase shifts and substrate, vol. and interface absorpt. prediction at oblique angles of incidence 4-1341

light polarisation continued

radiative transfer of polarised light, inverse problem solns. 4-19361
 radiative transfer of polarised light, inverse problem solns. 4-19362
 randomly oriented mols., in soln. diagonally polarised light scatt. 4-7209
 reflection gratings, triangular groove, perfectly blazed 4-49496
 reflection of polarized light from a diffraction grating at oblique incidence 4-28620
 refraction haloes, polarisation and intensity distrib., ice crystal effects 4-26799
 resonant media, nonlinear saturated absorpt., level-degeneracy-induced polarisation effects 4-38535
 retinal oil droplets, model of light collection and polarisation detect. in birds 4-36102
 ring gas laser with anisotropic resonator, radiation polarisation characts. 4-28735
 ring laser, anisotropic cavity, nonlinear interaction of elliptically polarised counterpropagating waves 4-5619
 ring laser, single pulse travelling-wave, polarisation radiation coupling out of resonator 4-28736
 rough surface, emissivity, radiation polarisation calcs. 4-11322
 semiconductor, cubic, hot exciton optical orientation, effect of mag. field 4-25235
 semiconductor lasers, optical gain, uniaxial stress effects 4-38480
 semiconductor nonlinear Fabry-Perot resonator, picosecond light pulse amplitude and polarisation instability 4-10357
 semiconductor superlattice, light transmission in mag. field 4-16186
 semiconductors, interference effect on magnetooptical studies in the long-wave IR spectral region 4-7165
 side-tunnel single polarisation fibre, prediction of ultimate perform. 4-24193
 single mode fibres, spatial distrib. of random polarisation coupling, meas. method 4-28866
 single mode optical fibre cable, polarisation holding props. 4-24204
 single mode polarisation-maintaining fibre resonator 4-19590
 single-mode fibres with polarisation-mode coupling, impulse response 4-10439
 small polarisation-plane rotation meas. 4-13669
 soliton laser incorporating single-mode polarisation preserving fibre into mode-locked colour-centre laser feedback loop, 1.4-1.6 μ m 4-33680
 spectrometers used for remote natural-resource studies, spectral polarisation characts. determ. 4-27606
 step-index optical fibres, fund. mode polarisation study (*German*) 4-33775
 stress investigation of models, optically sensitive material appl. 4-3118
 Sun, He I D₃ Stokes profile in prominences, mag. fields determ. 4-36653
 Sun, spectral coherent scatt., linear polarisation survey (420 to 995 nm) 4-27050
 surface roughness determination using bidirectional reflectance distribution function 4-53650
 tetrafluoromethane laser, optically pumped, polarisation phenomena 4-24052
 3,6-tetramethyldiamine-N-methylphthalimide solution, luminesc., spectral-polarisation characts. order light quenching conditions 4-54794
 thin film thickness measurement, 10-3000 Å, technique and meas. error using polarisation interferometer 4-37071
 three-wave coherent anti-Stokes Raman spectroscopy with polarisation suppression of nonresonant background 4-53770
 time-resolved laser-induced fluoresc., polarisation effects 4-22844
 transfer of polarized light in scattering atmosphere 4-22312
 transparent thin film coating absorbing substrate, pseudo- and second-Brewster angles 4-23890
 transverse atomic motion in transient polarization phenomena 4-44162
 1,3,3-trimethyl-6-nitrospiro[indoline-2,2'-[2H-1] benzopyran], closed form, phosphoresc. polarisation 4-38241
 twisted single mode fibres, polarisation dispersion meas. method 4-24207
 two-photon phase conjugate mirror polarisation characts. 4-33719
 two-photon reson., coherent transition phenomena, polarisation features 4-19032
 uniaxial crystal-isotropic medium interface, total spatial separation of normal waves 4-10227
 waveguide scattering problem analysis, TM polarisation 4-28827
 weakly inhomogeneous medium with birefr., and dichroism; vector representation of polarised light 4-23892
 Ag thin films, heated, optical absorbance, polarisation, angular and wavelength depend. 4-57016
 As₂S₃ chalcogenide glass films, photoluminescence polarisation 4-46307
 BaLaGa₃O₇, IR spectra, light polarisation, refractive indices and birefringence meas., vibrs. 4-51277
 Bi₁₂SiO₂₀ PROM, photopolarisation (*Russian*) 4-19553
 CaF₂:Ce³⁺, lowest 4f-5d near UV transition, two-photon excitation 4-2939
 CaF₂:Sm²⁺ crystals in mag. field, polarised luminesc. 4-7231
 Cd inner shell fluorescence polarisation and ang. distrib. variations 4-1086
 CdS, plastically deformed cryst., optical props. 4-16234
 CdS thin transparent films on Ag, optical anisotropy, interferometric investigation using polarised light 4-7258
 GaAlAs p-i-n junction waveguide modulators using Pockels effect 4-55179
 GaAs Fabry-Perot resonator, instability of ultrashort light pulse amplitude and polarisation 4-28757
 GaAs-Al_{1-x}Ga_xAs_{1-x}Si doped quantum well struct., photolum., anomalous polarisation 4-2962
 GaN, deep centre emission anisotropy 4-35492
 GaSb flash evaporated amorphous film, Raman studies 4-46353
 Ge-CdGe₂ p-n heterostructures, polarisation photosensitivity 4-2648
 GeS₂Se_{1-x} layer cryst., photocond., polarisation studies 4-25400
 H₂S, liq., isotropic induced scatt. 4-20984
 He inner shell fluorescence polarisation and ang. distrib. variations 4-1086
 Hg, impact radiation prod. by polarised electrons, circular polarisation 4-28322
 HgCr₂Se₄, circularly polarised and unpolarised light absorpt. spectra near absorpt. edge 4-30477
 I₂-polyvinyl alcohol polarisers, transmission improvement 4-1466
 InP, p- and n-type, luminesc. polarisation and deformation pot. consts. 4-30523
 KCl:Ga, A_T luminescence decay and polarisation, mag. field effects 4-11927
 KCl:Ti, crystals, decay kinetics and polarisation of A_T emission, mag. field effect 4-25803

light polarisation continued

- KI:In, crystals, decay kinetics and polarisation of A_T emission, mag. field effect 4-25803
 KI:In, polarised A_T luminescence, kinetic, spectral and polarisation props. 4-11928
 KrF excimer laser circularly polarised beam, in H_2 gas, forward Raman scatt. (*Chinese*) 4-49446
 $LaF_3:Gd^{3+}$, two-photon absorption lines, polarisation depend. 4-2938
 $LiF F_2^-$ Q-switch for laser, polarisation characs. (*Chinese*) 4-49411
 $LiNbO_3:Ti$ channel waveguides, electro-optical control of photoinduced polarisation conversion 4-49525
 $LiNbO_3:Ti$ diffused channel-waveguide couplers, calculated and measured performance comparison 4-1478
 $LiNbO_3:Ti$ low-loss polarisation-independ. electro-optical switch design for 1.3 μm 4-33812
 $LiNbO_3:Ti$ low-loss polarisation-independ. electrooptical switches at 1.3 μm 4-55225
 $LiNbO_3:Ti$ waveguides, integrated optical polarisers/analysers for single-mode selective transmission 4-38636
 MgF_2 crystals, optical absorpt. by self-trapped excitons 4-16239
 $MnCO_3$, Raman scatt. from phonons 4-11885
 Na gas in Fabry-Perot, polarisation switching obs. 4-24071
 Nd:glass amplifier exit beam depolarisation in case of small-scale self-focusing 4-10347
 Nd^{3+} :YAG laser with unpolarised radiation, two-coord. acousto-optical Q-switch 4-5622
 Nd^{3+} :YAG lasers with passive Q switches, radiation polarisation 4-14735
 O_2 single crystal, absorpt. band polarisation, biexciton transitions 4-11904
 OH laser-induced fluoresc. polarisation in atm. press. methane- O_2 flame 4-52009
 Pt/electrolyte interface, Cu adsorption, Mirage detection and polarisation modulation study 4-39668
 S sublimed targets, polarisation of refl. 10.6 μm radiation, standard reflectance 4-1334
 Si (111)2 \times 1, surface state absorption by photothermal displacement spectroscopy, polarisation depend. 4-56878
 Si (111)2 \times 1 surface, differential reflectivity, polarisation depend., test for surface struct. 4-56877
 Si, dislocated crystal, photolum. study 4-16235
 a-Si $_3$ -C $_2$ H, AC electrolum., polarisation effects 4-40534
 $Si_2H_5(OH)_3$, siloxene, layer cpd., time resolved luminesc., mol. exciton model 4-40515
 SiO_2 -ZrO $_2$ high-optical-strength thin-film interf. polarisers for high-power lasers 4-55066
 Sr-inert gas spectra, polarisation of redistributed light, spectral satellites and interatomic pots. 4-14358
 Tl, photon-echo polarisation switching, coherent optical field direction 4-24106
 ZnS-Ag film-substrate parallel-mirror beam displacers that maintain 10.6 μm radiation polarisation 4-5678
 ZrO $_2$ -SiO $_2$ dielectric multilayer interference polarisers for lasers 4-33742

light propagation

- see also *atmospheric light propagation*; *guided light propagation*
 aerodynamic windows, use in extraction of laser beams from laser cavity 4-44121
 Airy-Hermite-Gaussian waveguide mode propag. in free space 4-24164
 anisotropy, first-order optical tests 4-27556
 book, waves and fields in optoelectronics 4-27261
 chiral smectics with large pitch spirals, diffraction optics 4-35405
 correlated distributions, small-spaced, wavelength depend. refr. and absorpt. terms for propag. 4-10232
 diffuse medium of uniform latex microspheres, psec. pulse propag. expts. 4-28627
 energy flow for inhomogeneous acoustical and optical waves in anisotropic media 4-14824
 Gaussian pulse propagation theory, complex-ray representation 4-44052
 graded-index media, coherent states and nonparaxial light propag. 4-10238
 gravitational lenses and light bending 4-13190
 gyrotropic media, optical problems in electrodynamics 4-7168
 Hermitian-Gaussian beam transformation in square-law medium exhibiting simple astigmatism 4-23871
 imaging synthesis in Fresnel approx., combined optical system with distorters 4-54968
 inverse problem in a random medium 4-19325
 ionized communication channel, optical carrier propag., self-focusing phenomenon 4-55146
 laser resonators with zones of different indices of refr., mode behaviour 4-33700
 media with closely packed particles, light propag. 4-23905
 monochromatic light beam channelling in nonlinear medium, spatially nonuniform gain 4-14761
 multi-level system, coherent diffractive light propagation algorithm 4-24074
 multiple aperture laser systems for thermal blooming environments 4-10348
 nonlinear medium, high-power wave beam propag. with small-scale spatial amplitude and phase modulation 4-24076
 nonseparable system multidimensional wave eqn., asymptotic-perturbational eigenvalues 4-104
 ocean optical propagation parameters anal. by satellite remote sensing method 4-26895
 optimal 0-II laser pulses 4-38514
 phase and correlation function uniqueness conditions in wave propag. 4-19359
 picosecond light pulse shaping and anal., book contrib. 4-49265
 plano tilted surface insertion losses in a convergent beam 4-14637
 polychromatic field shape invariant propag. 4-44051
 progress in optics, book 4-47768
 pulsed wave beam propag. in absorbing medium with strongly anisotropic scatt. 4-33622
 random media, wave propag., comparison of two theories 4-1354
 refractive medium, light props., introductory physics course expt. 4-36866
 some cinematic properties of standing waves (*French*) 4-33617
 spatially periodic wave fields, lateral and longit. periodicities of coherence function 4-44049
 three-dimensional light distributions, fundamental restrictions 4-44063

light propagation continued

- tissue, light absorpt. and flux distrib., Monte Carlo computer model 4-26476
 turbid media light pulse propagation theory (*Russian*) 4-17262
 turbulence, suppression, generation, amplification by optical and IR radiation propag. 4-34059
 turbulent medium, optical propagation coupled-mode theory 4-10233
 ultrashort light pulse time-depend. spectrum, action of nonstationary linear systems 4-44127
 Venus atmosphere, optical props. of S-coated H_2SO_4 drops 4-53072
 ZnO film, high rate magnetron sputtering prep., optical and elec. props. 4-30632
- light propagation in plasma**
 bounded plane plasma instability, high intensity laser beam irradi. 4-6044
 electron and ion fluid dense inhomogeneous plasmas, computation of high electrostatic fields with nonlinear laser interaction 4-6179
 fast electron prod., two-plasmon decay, stimulated Raman scatt. 4-55575
 laser plasma, light self focusing, reflected radiation spectrum 4-34287
 laser plasma irradi. phenomena, long and short pulse effects 4-55542
 laser-plasma interaction, ion-acoustic fluctuations, Thomson scatt. meas. 4-29252
 laser-plasma interaction, self-consistent reson. absorpt. Model 4-55540
 laser-plasma interaction and implosion fusion 4-50011
 laser-plasma interactions, stimulated Brillouin scatt. occurrence 4-38965
 laser-plasma interactions at 1.3 and 0.44 μm 4-55577
 long-scale length plasma, laser absorpt. variation 4-29251
 radiating gas dynamics, 2-dimens. unsteady-state problems, numerical soln. (*Russian*) 4-5977
 Raman forward and back scattering at 0.35 μm 4-55544
 scattering of 1.06 and 0.53 μm laser beams in plasma 4-6091
 simultaneous emission from single plasma producing event, streak camera recording 4-50084
 stimulated Brillouin backscattering model expts., laser plasma interaction model 4-6014
 stimulated Brillouin scattered light, nonlinear eqns. 4-1925
 stimulated Brillouin scattering ion wave investigation under well-defined interaction conditions 4-29248
 Al, laser-plasma interaction simulation, two temp. eqns. of state 4-55617
 CO $_2$ laser beam upper hybrid resonance absorption in magnetised plasma 4-34269
 Ne positive column discharge, optogalvanic signal generation by reson. chopped CW radiation at 588.2 nm 4-6089
- light reflection**
 see also *mirrors*; *optical films*
 adaptive optics wave-front inverting mirror in turbulent medium, av. intensity of reflected wave 4-38399
 amorphous absorbing thin films in multilayer systems, complex refr. index spectral distrib. 4-57019
 amplification by enhanced internal refl., reflectance and transmittance of exponentially nonuniform gain region 4-23949
 amplification by enhanced internal refl., single-pass reflectance of optically pumped gain region 4-23970
 antireflection treatment for optical surfaces, nuclear track technique 4-5546
 artificial satellites, space orientation determ. from specular refl. (*Russian*) 4-42278
 bilayer lipid membranes, roughness rel. to optical parameters and capacitance 4-52284
 close binary stars, reflection effect, distrib. of radiation from point source 4-4040
 book, waves and fields in optoelectronics 4-27261
 cavity reflectors, elliptical optimal design, for coupling cylindrical sources and targets of finite dimensions 4-44189
 CCD instruments, astronomical, ghost images prod. by multiple refl. 4-47540
 cholesteric liq. crystals, optical props. at oblique incidence 4-39110
 cholesteric liquid crystal theory, radiation conditions for EM waves, refr. and refl. 4-10981
 close binary stars, limb darkening of illuminated primary atmosphere, reflection effect 4-36711
 dielectric reflectors, semitransparent, broad band, numerical design 4-38557
 dielectric with surface monolayer, s-polarised optical props., classical microscopical model 4-40398
 diffuse reflectance of GeO $_2$ -ZnO-K $_2$ O glass, for CO $_2$ laser light absorber 4-33723
 dye lasers, amplification frequency shift on light reflection from inverse medium 4-55025
 dye monolayers at air-water interface, enhanced-light reflection 4-6648
 dye solution emission under lamp excitation, spatial-angular characs., Fresnel refl. effect 4-55027
 Earth's surfaces 4-42176
 Earth surface, effects of non-Lambertian refl. on remote sensing of vegetation 4-22142
 fibre end interferometric sensor using cooperative retroreflectors 4-10443
 fibre optic sensors, total internal reflection, designs and pot. appls. 4-5721
 focused Gaussian light beam undergoing total internal refl. in prism, evanescent intensity 4-49262
 Fresnel formulae generalisation in soft X-ray region, S polarisation 4-44050
 glass, optical properties, book 4-36811
 graded-index fibre splice refl. props., meas. using time-domain reflectometer 4-19571
 graphite, reflection coeff., heating in gaseous media effects investig. 4-10226
 holographic diffraction grating refl. props. analysis 4-44204
 holography with evanescent reference wave 4-54993
 illumination, circular optical reflectors, curve derivation for any beam, light source compensation 4-28801
 interface between two transparent media, light transmission, roughness effects (*French*) 4-1336
 interferometer with phase conjugate mirror, specular refl. cancellation 4-1460
 lamellar metallic gratings for metrology and process control simple parameter optimisation problem 4-44200
 laser Gaussian beam diameter meas. using generalisation of Ronchi ruling method 4-4448
 laser plasma, light self focusing, reflected radiation spectrum 4-34287
 retroreflected laser radiation fluctuations in turbulent atm. 4-52880

light reflection continued

- linear array total internal refl. electrooptical spatial light modulator for optical information processing 4-24157
- lipid bilayers, capacitance and optical parameters, combined anal. 4-31181
- lossy dielectric layers, beam reflection 4-23865
- magnetic media, Azzam effect generalisation 4-49259
- magneto-optic experiment, region of form. of reflected light wave 4-56894
- metal layers on glass, energy loss from internal refl. when EM radiation is incident from the glass side 4-19367
- metallic reflection suppression by surface plasma wave reson. excitation 4-56864
- mirror systems, rotating, comparative analysis 4-10397
- multilayer coatings for laser mirrors and lenses, optical parameters and elec. field distrib. optimisation 4-28809
- objectives, possible light scatt. reduction 4-10396
- photographic film, reflection halation effect on MTF 4-17971
- photometric method of evaluating the smoothing action of plating baths containing brightening agents 4-44258
- planar luminescent solar concentrator light transport, role of matrix losses 4-10225
- polarised light reflection from a diff. grating at oblique incidence 4-28620
- porphyrin dye monolayers at interfaces, light refl. 4-56872
- quasidegenerate four-photon interaction, retroreflection precision 4-55138
- retroreflective microscope illuminator 4-289
- Rochelle salt, ferroelectric, ferroelastic domains, light deflection 4-51211
- semiconductor, transparent, light absorpt. wavefront, struct., reflection coeff. 4-51227
- single-mode fibre coupling to semicond. lasers, efficiency and feedback charact. comparison 4-19573
- solar concentrators using total internal reflection 4-26270
- stochastic regimes of light pulse refl. by nonlinear Fabry-Perot interferometer 4-28786
- surface roughness determination using bidirectional reflectance distribution function 4-53650
- thin film complex reflectivity and refr. index profiles from reflectivity magnitude meas. 4-19357
- thin film thickness meas. using gratings 4-42909
- transparent spherical shell, laser beam polarisation rotation on refl. 4-29256
- ultrashort light pulse time-depend. spectrum, action of nonstationary linear systems 4-44127
- uniaxial crystal-isotropic medium interface, total spatial separation of normal waves 4-10227
- wavefront reversal in four-wave hypersonic mirrors in the absence of wave detuning 4-28778
- Ag, electric field induced light reflection and second harmonic generation 4-40415
- BCl₃, four-wave interaction in resonant media at 10.6 μ m, dynamic refl. range 4-19519
- BaF₂ retroreflectors; temp. effect on reflected light beam divergence 4-33739
- Ba₂Ti₃O₁₂, ferroelectric, ferroelastic domains, light deflection 4-51211
- CaF₂ polished optical surfaces, surface roughness spectral-density function 4-234
- Cd films, epitaxial growth by hot wall technique, surface topography, reflectivity 4-20512
- Gd₃(MoO₄)₃, ferroelectric, ferroelastic domains, light deflection 4-51211
- LiF polished optical surfaces, surface roughness spectral-density function 4-234
- MgF₂ polished optical surfaces, surface roughness spectral-density function 4-234
- Ni, passivation film, reflectometry and impedance obs. 4-57416
- S, liquid, optical refl. spectrum and implications for Jupiter's satellite Io 4-53038
- SF₆, four-wave interaction in resonant media at 10.6 μ m, dynamic refl. range 4-19519
- SiO₂, kersil, radiation-optical props. 4-55873
- ZnO-SiO₂ dielectric multilayer interference polarisers for lasers 4-33742
- light reflection spectra** *see reflectivity; spectra*
- light reflectometry** *see reflectometry*
- light refraction**
see also birefringence
- aerosols in atm., refr. index and particle size distrib. from light scatt. obs. 4-12981
- aquatic animal refraction, development of contact lens 4-12734
- astronomical refraction, method of calc. for three-dimensional inhomogeneous atmosphere (Russian) 4-31645
- atmosphere, comparative accuracy of calc. methods for slant paths refr. (Russian) 4-42165
- atmosphere, refraction effects on vertical angle meas., dissertation 4-47413
- atmosphere refraction errors in geodetic levelling of S California 4-31402
- cholesteric liquid crystal theory, radiation conditions for EM waves, refr. and refl. 4-10981
- eye, refractive error rel. to accommodation mechanisms 4-12564
- glass, optical properties, book 4-36811
- illusion of hollow mask, Bust of the Tyrant 4-41519
- laser radiation characteristics, influence of refraction losses 4-14736
- monochromatic light beam channelling in nonlinear medium, spatially nonuniform gain 4-14761
- ocean wave slope two-dimens. optical meas. using CCD sensors 4-17266
- prism, light refraction 4-53
- rectilinearity deviation due to refr. along air path, meas. using optical methods 4-53654
- refraction-diffraction optical systems, anal. and synthesis 4-49489
- refractive medium, light props., introductory physics course expt. 4-36866
- resonant nonlinear refraction theories for semiconductors, comparison 4-28756
- Rochelle salt, ferroelectric, ferroelastic domains, light deflection 4-51211
- spherical surface refracted wave fronts, exact algebraic calc. 4-49257
- vapour bubble shape in subcooled boiling, light refraction 4-19873
- Venus atmosphere, optical props. of S-coated H₂SO₄ drops 4-53072
- Bi₁₂SiO₂₀, photorefractive crystals, elec. field distrib., light absorpt. effects 4-45837
- Bi₁₂Ti₃O₁₂, ferroelectric, ferroelastic domains, light deflection 4-51211
- Gd₃(MoO₄)₃, ferroelectric, ferroelastic domains, light deflection 4-51211
- Ni, passivation film, reflectometry and impedance obs. 4-57416

light scattering

- see also Brillouin spectra; opalescence; Raman spectra; Rayleigh scattering; stimulated scattering*
- λ^{-2} scattering and λ^{-2} Strehl on-axis irradiance reduction 4-1340
- absorbing fibre sizing using scatt. intensity-ratio technique, eikonal approx. 4-32232
- active spectroscopy of light scattering in a Rayleigh line wing 4-5654
- aerosol backscattering of a laser beam, radiative transfer eqn. 4-1349
- aerosol-scattered laser radiation at 1 micron, lateral coherence study 4-36488
- aerosols dispersion determ. by integrated scattered light characts. 4-55467
- aerosols in atm., background continental characts. from mountain top obs. in Arizona 4-26753
- aerosols in atm., refr. index and particle size distrib. from light scatt. obs. 4-12981
- amorphous, anisotropic absorbing media, light scatt. study 4-56866
- aniline-cyclohexane, binary mixtures under shear flow near crit. points 4-2319
- anisotropic two-dimensional scatt., effects of incident laser wavelength 4-23899
- atmosphere, aerosol single-scatt. albedo in Arctic from ground-based solar irradiance meas. 4-47411
- atmosphere, radiative transfer through aerosol cloud 4-26802
- atmosphere, scatt. indicatrices meas., accuracy characts. of nephelometer 4-52949
- atmospheric, polydisperse aqueous aerosol, narrow light beam in turbid atmos., irradiance distrib. 4-31647
- atmospheric aerosols, normalised scatt. diagram with power law for particle size distrib. 4-19373
- atmospheric extinction meas. of He-Ne laser light rel. to aerosol particle conc. (Chinese) 4-58283
- atmospheric lidar observation analysis 4-52879
- atomic interactions, investig. using light scatt. 4-19153
- atoms and spherical top molcs., collision induced polarisability anisotropy, depolarised light scatt. 4-9781
- atoms experiencing different driving fields, cooperative reson. fluoresc. 4-23651
- biological suspensions, photometer for time-resolved angular dependent meas. of triggered light scatt. changes 4-21863
- blood, effects of haemolysis, haematocrit, erythrocyte swelling and flow rate 4-21685
- Capron heat-insulating fabric, absorpt. and scatt. characts. in IR spectrum 4-20977
- carnauba wax in liquid phase, quasi-elastic light scatt. dynamics 4-19375
- cirrus particle single-scattering phase function determ. 4-42157
- coherent optical correlator for diffuse scattering objects using a spatial light modulator 4-44196
- colloidal suspensions, dilute, shear flow, Debye-Scherrer light scatt.: patterns 4-34174
- corneal light-scattering characts. mapping instrument 4-12733
- correlated distributions, small-spaced, wavelength depend. refr. and absorpt. terms for propag. 4-10232
- correlation interferometry of scattered laser radiation 4-17930
- crystals, combination light scatt. by phonon solitons 4-35460
- cubes and parallelepipeds, randomly oriented, light scatt., geometric ray tracing theory 4-1333
- cylinder, circular, anomalous diff. theory, plane wave scatt. by soft obstacles 4-54947
- cylinders, soft, of finite length, scatt. and attenuation of radiation 4-28623
- deflection angle measurement using optical-heterodyne method 4-32302
- dielectric multilayer stacks, interface roughness, light scatt. meas. (German) 4-34758
- dielectric objects, low-loss or lossless elongated, scatt. calc. by iterative EBCM 4-54946
- dielectric slab waveguides, longit. discontinuity anal. 4-49520
- dielectric spheres, resonant spectra, pole locations 4-49258
- dielectric spheroids and short cylinders, perturbation theory 4-38390
- dielectric thin layers, light scatt., thickness dependence 4-7263
- dielectrics, polariton dispersion relations and damping, ATR, light scatt., nonlinear optical processes meas. 4-25245
- diffraction grating, diffuse light scattering, photoacoustic study 4-1471
- diffuse-transmission coeff. meas. for scattering material 4-32291
- dilute solutions, reson.-enhanced Rayleigh scatt., efficiency and its relation to diff. by vol. holograms 4-1353
- disperse phase, relative scatt. characts., depend. on material optical consts. 4-54956
- DNA, electrophoretic mobility, low freq. dispersion 4-7919
- DNA solutions, light scatt. and struct. 4-21619
- Earth surface indicatrix determ. from Landsat MSS data 4-22093
- electron, light scatt. in mag. and microwave fields 4-38377
- eye cone oil droplets, light intensification, EM considerations 4-26388
- femtosecond dephasing measurements using transient scatt. technique 4-44139
- ferrofluids, optical and elec. oscill. induced by const. electric field 4-45845
- fibre joint loss measurement using two-point processing 4-24218
- fibre waveguides multimode, backscatt. characts. 4-10447
- fibre-glass heat-insulating fabric, absorpt. and scatt. characts. in IR spectrum 4-20977
- fibres, concentric-core, characterisation 4-14795
- fibres, multimode, scattering, mode degeneration anal. 4-44229
- fibres, rough-ended, light scatt. props. 4-33776
- finite rough two-dimens. surface in TE polarisation, new relations 4-44056
- flames, luminous, particle size diagnostics, fast Fourier transform method for dynamic light-scatt. 4-21473
- fluid, liq. to amorphous solid or glass range, generalised hydrodynamic theory 4-49860
- fog, laboratory generated, CO₂ laser pulse effect on transmission at visible, IR wavelengths 4-1348
- forward multiple scattering corrections as a function of detector field of view 4-1350
- Fourier decomposition of phase matrix for polarised light scatt. 4-38393
- fractal diffuser, IR scatt., statistical and spatial coherence props. 4-44055
- gelatin gels, diffusion coeff., dynamic light scatt. study 4-20980
- glass, optical properties, book 4-36811
- glories, polarised and cross-polarised optical, uniform Mie theory 4-28617

light scattering continued

- halogen acids and their Na salts, low freq. depolarised light scatt. 4-35432
- heterogeneous materials, optical props. characts. (*Czech*) 4-55150
- n-hexane-n-tetradecafluorohexane, spinodal approx. by light scatt. 4-56025
- holographic gratings, stray radiation meas. in spectrophotometer 4-14776
- homogeneous sphere with radial projections 4-38391
- ice-water interface, enhanced light scatt. during freezing 4-30480
- image fibre, transmission characts., light diffusion process, anal. (*Japanese*) 4-33786
- inert binary mixture in nonequilib. steady state, light scatt. 4-20983
- inhomogeneous scatt. layer, nonlinear spatial-freq. characts. 4-14642
- interstellar dust, silicate core-ice mantle cylinders (*Russian*) 4-47690
- interstellar dust grains, scatt. by large grains in Orion mol. cloud 4-58491
- interstellar nonspherical grains, light scatt. and phase retardation 4-4073
- inverse scattering problem from non-periodic rough surfaces, numerical soln. 4-14641
- isobutyric acid-water, binary mixtures under shear flow near crit. points 4-2319
- laser Doppler velocimetry by modulating a CO₂ laser with backscatt. light 4-24485
- laser radiation directivity from unstable resonator, effect of light scatt. 4-5628
- laser scattered light polariscope model JGT-1, design, photoelasticity theory (*Chinese*) 4-8945
- laser-based Doppler vel. meter, influence of scattered-wave polarisation (*Russian*) 4-44134
- latex ordered suspensions, struct. factors, incoherent light scatt. 4-46274
- lidar equation solution, two-component, significance of extinction/back-scatter ratio and boundary value term 4-26797
- line source functions in scatt. media, density depend. 4-3914
- liquid crystal-photoconductor optically addressed light modulator, light scatt. 4-38570
- liquid films, surface waves, power spectrum, thermal fluctuation, light scatt. 4-56951
- liquid interfaces, light scatt. and reflectivity 4-46277
- liquid-core fibres, light propag. characts., temp. induced mode cutoffs 4-10444
- liquids, laser based light-scatt. coeff. meas. apparatus 4-20985
- lyotropic mesophases, optical props., review 4-51217
- M20, emission nebula, scatt. by dust grains rel. to optical polarisation 4-17574
- macromolecular solutions, light scatt. from oscill. flows 4-20981
- metal large particles, enhanced fields, dynamic depolarisation 4-11566
- metal rough surface, second-and higher-order scatt. of EM waves 4-23867
- metals, anisotropic Fermi surfaces, light scatter. 4-34864
- 3-methylpentane-nitroethane, spinodal decomposition, turbulent suppression, light scatt. 4-25033
- micellar solutions, laser light scatt., absolute intensity calibration 4-51289
- micellar system, lower critical consolute point, light scatt. study 4-46276
- microemulsions, ultrasonic absorpt. and flow birefringence, salinity effect 4-41270
- microrough surface scattering, theory and expt. comparison 4-10234
- Mie scattering phase function, power series expansion 4-1347
- molecular light scattering coeff., Einstein formula expt. verification 4-16210
- molecular solutions, characterisation using electro-optical effects 4-1300
- molecule in strong quasi-monochromatic light, quasi-energy calcs. 4-23937
- monodisperse colloid soln., coagulation kinetics, dynamic light scatt. 4-7757
- mononucleosomes, electrophoretic mobility, low freq. dispersion 4-7919
- multilayer-coated optics, total integrated scatt. relationship to angle of incidence, polarisation, correl. length and roughness cross-correl. props. 4-1335
- multimode light channel based high-performance backscatt. set-up 4-40423
- nebulae, point light source in absorbing and scatt. plane layer 4-47689
- nematic aromatic polyester, mesogenic elements in main chain 4-55718
- nematic liquid crystal, correlation interferometry of scattered laser radiation 4-17930
- nitrobenzene-n-hexane, binary mixtures under shear flow near crit. points 4-2319
- nitrobenzene-n-hexane mixture at critical composition, periodic spinodal decomposition 4-25031
- nonlinear scatt. by static optical nonuniformities, enhanced transmission 4-10237
- nonlocal polarisability densities, moments, short-range interactions effects 4-28529
- nonstationary incident radiation, reson. Raman scatt. and reson. fluores. (*German*) 4-1997
- object restoration by zero location of scattered fields 4-38410
- objectives, possible light scatt. reduction 4-10396
- oceanic air bubble sizes, light scatt. probe meas. 4-13071
- optical correlations and spectra 4-8678
- optical materials, pulsed laser induced damage, photoacoustic monitoring method 4-45184
- optical surfaces, scratch standards simulation, theory 4-24257
- organic liquids, dynamic hologram recording and nonlinear light scatt. 4-1373
- particle, large spherical, embedded in nonabsorbing medium, near field scatt. 4-28618
- particle analysis using forward scattering data 4-42162
- particle concentration and size in liquids meas., using light scattering based apparatus 4-8868
- particle size analysis techniques 4-4379
- particle size distrib. estimation from forward scattering data 4-42163
- particle size distribution anal. by scatt. light meas. using optically defined meas. vol. 4-27483
- particle size distribution determination from scattered light intensity pattern in laser droplet sizer using inversion method (*Japanese*) 4-27486
- particle size spectrometers intercomparison, marine aerosol effects on atm. transmission 4-26854
- particulate mirror contaminant visible light scatter study 4-55154
- periodic planar waveguides, elementary and coupled waves 4-28838
- PET film lightguide slit, diffusion model and expt. (*Russian*) 4-44209
- phase ambiguities in more than one dimension 4-19389

light scattering continued

- phase retrieval problem 4-19387
- photocount distribution of scattered light, small no. of particles determ. 4-23901
- photometric method of evaluating the smoothing action of plating baths containing brightening agents 4-44258
- photometric turbidity meter, vertical submerged convertor (*Russian*) 4-17918
- planar luminescent solar concentrator light transport, role of matrix losses 4-10225
- planar optical waveguide, in-plane scatt., surface roughness effect 4-44208
- planar waveguide with exponential index profile, ray optics, scatt. attenuation const. 4-33755
- planetary atmospheres, scatt. models for 6818.9 Å methane feature on Jupiter, Saturn and Uranus 4-53085
- planetary atmospheres, scatt. models for methane 6815 Å band in major planets 4-53084
- PMMA, cosolvent mixtures, carbon tetrachloride/isoamyl acetate, light scatt. and viscometry obs. 4-39080
- PMMA, photon correl. polarised light scatt., relax. processes, activation energy and vol. meas. 4-56950
- polarised light, expansion of Mie scatt. matrices in generalised spherical functions 4-53027
- polarised light, radiative transfer, inverse problem soln. 4-19361
- polarised light, radiative transfer, inverse problem solns. 4-19362
- poly-2-methyl-N-vinyl imidazole, conform. props. (*Russian*) 4-6244
- poly-L-lysine mols., mobilities in low-scatt. solns. 4-52254
- polychromatic laser speckle pattern autocorrel. function near the image plane 4-10236
- polydisperse systems, characteristic light scatt. functions 4-41267
- polymer blends, form. of regular two-phase struct. during solution casting studied using light scatt. 4-11010
- polymer characterisation by gel permeation chromatography, laser light scatt. detector 4-15362
- polymers, bulk, dynamic light scatt., book contrib. 4-7211
- trans-poly(pent)ene, dil. solns., light scatt., viscosity and sedimentation (*Russian*) 4-16211
- polystyrene, near glass transition, relax. of intensity fluctuations, laser speckle obs. 4-11293
- polystyrene, semi-dilute theta soln., scaling, dynamic light scatt. study 4-34679
- polystyrene films, coherent Raman scatt. obs. in thin-film optical waveguides 4-44156
- polystyrene latex solns., liq.-like struct., depend. on ionic strength of added NaCl 4-10955
- polystyrene-cyclohexane semidilute solns., quasi-elastic light scatt. at theta temp. 4-56954
- polyurethane, pseudoencapsulated films containing nematic liquid crystals, light transmission, thermal effects (*Russian*) 4-29337
- polyurethane, segmented block copolymers 4-56956
- polyvinyl alcohol, pseudoencapsulated films containing nematic liquid crystals, light transmission, thermal effects (*Russian*) 4-29337
- positive photoresist MTF determ. using Monte Carlo method 4-37237
- pseudo-random surface of rectangular grooves, 10.6 µm radiation scatt. meas., Huygens-Fresnel optics 4-23903
- pulsed wave beam propag. in absorbing medium with strongly anisotropic scatt. 4-36222
- quartz, fused, UHF US props. meas. by Bragg reflection technique 4-15595
- rainfall-induced optical phase fluctuations in the atmosphere 4-13025
- randomly oriented mols., in soln. diagonally polarised light scatt. 4-7209
- reflection gratings, triangular groove, perfectly blazed 4-49496
- resonance radiation transfer, random walk theory 4-19707
- tRNA solutions, light-scatt. induced changes by strong optical field of picosecond pulses 4-41444
- rough surface, light scatt., vector theory, unitary and reciprocal expansions 4-44054
- rough surfaces, light scatt. theory 4-38398
- ruled gratings, stray radiation, ghosts 4-14777
- ruthenium tris-bipyridine adsorbed on Ag-island films, light scatt., electromagnetically induced changes in intensities, spectra and temporal behaviour 4-51395
- Sahara dust investigation using network of Italian Sun photometers, extinction models 4-8298
- Sahara dust program, vertical particle mass loading determ. using extinction models 4-8299
- salol crystal/melt interface, cryst. growth and asymmetry of dynamics 4-55767
- seawater, relation between ang. and spectral dependences (*Russian*) 4-41932
- semiconductors, electron-hole drops, props., collective aspects 4-25243
- semimetals, anisotropic Fermi surfaces, light scatter. 4-34864
- shallow rough surfaces, EM theory for scatt. 4-23869
- single particle in optical levitation, 10.6 µm Mie scatt. 4-54949
- sodium octanoate micelle solns., light scatt. study 4-30482
- sodium polyacrylate, mol. characterisation by aqueous gel permeation chromatography-light scatt. method 4-57620
- soft sphere system struct. under shear, computer simulations and colloidal suspensions comparison 4-10936
- soil particles, explosively dispersed, visible and IR extinction 4-19374
- solids, dynamic central peaks, progress and prospects 4-24999
- speckle patterns formed by a laser beam transmitted by scattering slabs of various optical thicknesses 4-54957
- specular black vane cavities 4-55169
- specular nonimaging baffled systems, use of real ray tracing to extend APART anal. 4-55155
- spherical target, laser emission scatt., directionality diagram 4-20033
- spheroidal particles, horizontally oriented, light scatt. 4-14635
- stellar atmospheres, Ca II K emission diagnostics for 1-D model 4-8449
- stimulated thermal scattering of laser radiation in chemically active media 4-28748
- stray light analysis with the HP-41C/CV calculator 4-54950
- stray light control as an integral part of optical design 4-38546
- stray radiation generation, meas. and control, conf., Los Angeles, CA, USA (Jan. 1983) 4-53337
- styrene-acrylonitrile-methyl methacrylate terpolymers in dilute solns., mol. characts. (*Russian*) 4-29301
- sunlight scattering in comet atm. and sunlight incident at nucleus head 4-8429
- supersmooth surface scatter evaluation 4-55231

light scattering continued

- surface roughness determination using bidirectional reflectance distribution function 4-53650
 surface strain measurement using optical-heterodyne method 4-49787
 surface studies by light scattering spectroscopy (*Japanese*) 4-40011
 suspended particle solutions, fluorescence enhancement by Rayleigh and Mie scatt. (*Chinese*) 4-51313
 suspensions, particles concentration measurement with digital image processing 4-24498
 suspensions, radiation transfer, meas., comparison with predictions 4-41273
 suspensions, radiation transfer, radiance and flux meas. 4-41272
 o-terphenyl, supercooled liq., homodyne photon correl. investig., press. and temp. depend. 4-30483
 TGS, light scatt. by dislocations, orientation depend. 4-56955
 thin liquid wires, physical optics formulation 4-1322
 thin liquid films, thermal fluctuation power spectrum, long wavelength limit 4-56952
 thomson backscattering from a relativistic electron beam as a diagnostic for parallel velocity spread 4-34314
 Thomson scatt. profile meas. using nonimaging technique, electron temp. and density 4-50073
 toluene, liq. and supercooled, relax. processes, light scatt. investig. 4-20280
 Transpaseal, use as partial occluder in amblyopia treatment, optical characts. 4-16935
 turbid-medium-objective system, coherent transfer characts., holographic wavefront recording 4-54974
 variable angle scatterometer instrumentation 4-53724
 Venus atmosphere, scattered solar radiation meas. by Venus probes 4-36616
 volume holograms, secondary scatt. effects 4-28647
 water permeability through biomembranes, isotopic effects, fluoresc. and light scatt. 4-58052
 wave-vector selective light scatt. magnon spectrometer 4-53769
 waveguide scattering problem analysis, TM polarisation 4-28827
 white light critical angle scatt. off cylindrical bubble in glass 4-28616
 Ag sphere, enhanced fields, dynamic depolarisation 4-11566
 Ar condensation in cryogenic shock tubes 4-29587
 CS₂ liq., density fluctuations, polarised light scatt. 4-2932
 CaF₂ polished optical surfaces, surface roughness spectral-density function 4-234
 Cu vapour laser with self-recording nonlinear mirror (*Russian*) 4-5577
 Eu₂Sr_{1-x}S_x reentrant spin glass, elastic light scatt. 4-56639
 GaAs, light scatt. intensity from plasmaritons 4-30484
 Ge, impurity clouds, IR scatt. study 4-24848
 H₂S, liq., isotropic induced scatt. 4-20984
 He-Ne single-mode laser beam, spatial coherence radius evaluation by speckle contrast (*Russian*) 4-1424
 LiF polished optical surfaces, surface roughness spectral-density function 4-234
 LiNbO₃ ferroelec. cryst., dielec. anomalies and inelastic light scatt. 4-11848
 LiNbO₃ Ti diffused waveguides, struct. and optical meas. 4-24176
 LiNbO₃:Fe, Raman spectra, photo-induced refractive index change effects (*Chinese*) 4-56900
 MgF₂ polished optical surfaces, surface roughness spectral-density function 4-234
 Mo low-scatter surfaces as laser mirrors, prep. by dual-abrasive polishing and sputtering 4-24123
 NaCl (1k0) surfaces, thermodynamic stability during macrostep form., light scatt. study 4-25143
 NaCl:Pb²⁺, precipitation, light scatt. study 4-46508
 Na₂O-B₂O₃-SiO₂ system, gel homogeneity and glass prep., light scatt. obs. 4-57172
 Na₂O-CaO-SiO₂ glass microstruct. form., defect related process (*German*) 4-2097
 Ni etched electroless plate, scatt. characts., solar collector surface finish appl. 4-55147
 PbF₂, structural defect annealing near sublattice melting temp. 4-24804
 Si, impurity clouds, IR scatt. study 4-24848
 SiO₂ graded index planar optical waveguides on Si exhibiting low scatt., fabrication 4-49510
 TiBrI KRS-5 extruded polycryst. fibres, loaded and unloaded, attenuation at 10.6 μ m 4-1481
 Xe vapour, crit. temp., nonlinear renormalisation group 4-34623

light sensitive materials see *optical materials; photographic material sensitivity; photographic materials*

light sources

- see also *infrared sources; light emitting devices; photometric light sources; spectroscopic light sources*
 anisotropic Gaussian Schell-model sources, blade-like field generation 4-19363
 colour-rendering capacity of illumination 4-22821
 edge enhancement, oblique illum. and matched high spatial freq. cut-off 4-38408
 explosive-driven plasma generator, pulsed light source parameter calcs. 4-34323
 fibre coupling modules and light sources (*Japanese*) 4-55217
 fibre-optic system for observing through, effect of lighting conditions on perform. (*Russian*) 4-10445
 field distance depend. meas. by photodiodes and solar cells 4-42653
 halogen lamps, illumination characts. obs. optical projectors appl. (*Czech*) 4-55153
 He-Ne laser stroboscopic high speed interferography (*Chinese*) 4-43037
 incandescent lamps, light output increase by use of transparent heat reflecting filters 4-19533
 incident photometry, specifying stimuli for vision and light detectors 4-8931
 luminaires luminous flux measurement using Tikhodeyev method (*Russian*) 4-32294
 optical communication fibre characteristics and parameters (*Croatian*) 4-10464
 picosecond light source, tunable, highly monochromatic 4-55026
 plasma pinch array as optical pumping source for dye lasers 4-14684
 polychromatic laser light source 4-5616
 projection performance of theatrical motion-picture films using xenon short-arc lamps 4-8977
 projection system with a brightness intensifier and an independent illumination source 4-4446

light sources continued

- Rheinberg illumination for optical microscopy 4-287
 rhodamine 6G dye laser based broadband source for optical processing 4-55097
 signal source for fibre optic testing, BNC light pulse generator design 4-55234
 signal source for fibre optic testing, Hewlett-Packard instrument design 4-55235
 spectral characts. meas. using set of filters 4-33726
 system for continuous film printers (*Russian*) 4-8982
 temperature-compensating pulsed reference light source using a LED, scintillation detector appl. 4-23507
 terrestrial solar spectra modelling and measurement, relation to solar cell short circuit currents 4-52164
 XUV high-resolution radiation source using spontaneous Raman scatt. 4-49473
 D₂ open-anode lamps, energy and operational charact. improvements 4-33727
 Xe flash tube, fatigue testing of metals, appl. 4-26133
 Xe II spectral lines emitted by nonconventional light source, classification in 2100-6750 Å range 4-33368

light transmission

see also *light absorption; optical filters*

- absorbing film on transparent substrate, reflectance and transmittance computation 4-30550
 absorbing thin solid films on substrate, optical constants 4-25819
 amorphous absorbing thin films in multilayer systems, complex refr. index spectral distrib. 4-57019
 amplification by enhanced internal refl., reflectance and transmittance of exponentially nonuniform gain region 4-23949
 anisotropic composites, stress analysis by transmission optical patterns 4-34017
 atmosphere aerosol, appl. of particle-size spectrometers to transmission meas. 4-26854
 atmospheric transmittance measurement by base method, effect of atm. conditions and optoelectronic instrum. parameters 4-36492
 beam-matrix method application to system with phase and amplitude correctors 4-28619
 bilayer lipid membranes, roughness rel. to optical parameters and capacitance 4-52284
 cadmium thiogallate crystal optical activity near the isotropic point, effect of external mag. and elec. fields 4-25714
 camera lenses with different antirefl. coatings, transmission coeff. calc. in oblique parallel beams 4-32350
 cellular membrane optical props., transmission function, optical image processing 4-41451
 ceramics, electrooptic, cryst. microstruct., piezoelec. and optical props. 4-35414
 cholesteric liq. cryst., Borrmann effect for obliquely incident light, transmission spectra 4-20084
 coating, light-splitting, for viewing systems of optical instrums. 4-55171
 collimated radiation, transmittance by cylindrical absorbing column 4-38941
 compressible turbid physical and biological media, internal struct. imaging 4-52542
 double beam spectrophotometer for measuring extremely small changes of optical transmission (*German*) 4-8961
 fibre, periodically deformed, light modulation study 4-33781
 fibre-optic system for observing through, effect of lighting conditions on perform. (*Russian*) 4-10445
 fibres, birefringent type, linear polarised light transmission, fundamental mode study 4-28849
 fibres, graded-index, multimode, relation between impulse response and excitation by laser 4-19576
 fibres, multimode, bent, light transmission anal. 4-10448
 fibres, multimode, cabled, transmission props. 4-19594
 fibres, multimode, harmonic signal transmission influence of intramode dispersion 4-55203
 fibres, multimode type, signal attenuation and mode coupling study (*German*) 4-14800
 filter, contrast interf.-polarisation, for UV region 4-5686
 filter, interf.-polarisation, with partial-polarising elements, spectral background 4-10411
 fog, laboratory generated, CO₂ laser pulse effect on transmission at visible, IR wavelengths 4-1348
 foil target, anomalous laser light transmission, amplified spontaneous emission 4-38980
 glass fibre insulation, for electrochemical batteries, energy density 4-35992
 image transmission through turbulent medium using a point reflector and four-wave mixing, system characteristics 4-19379
 image-transmission system through turbulent medium using multiple reflectors and adaptive focusing combined with four-wave mixing 4-49282
 interface between two transparent media, light transmission, roughness effects (*French*) 4-1336
 lamellar metallic gratings for metrology and process control simple parameter optimisation problem 4-44200
 laser transmission loss, semiclassical theory 4-38441
 lens defects and their effect on thermal imager performance 4-49478
 lipid bilayers, capacitance and optical parameters, combined anal. 4-31181
 liquid-core fibres, light propag. characts., temp. induced mode cutoffs 4-10444
 lyotropic nematics, uniaxial-biaxial phase transition, light transmission 4-11857
 many-valley semiconductor, size quantised film, s-polarised optical props. 4-7256
 multilayer coatings for laser mirrors and lenses, optical parameters and elec. field distrib. optimisation 4-28809
 nematic liquid crystals, light transmission variation due to orientating action of elec. field 4-35406
 nonlinear ring cavity polarisation and amplitude optical multistability 4-5642
 nonlinear scatt. by static optical nonuniformities, enhanced transmission 4-10237
 ocean wave slope two-dimens. optical meas. using CCD sensors 4-17266
 optical coatings, thickness gauging according to transmission extrema 4-57503
 optical gyro freq. correction (*Chinese*) 4-49404

light transmission continued

optical links, bidirectional, influence of Rayleigh backscattering on cross-talk attenuation (*German*) 4-38614
oxide films on flat glass, prep. from gels 4-57369
phase gratings, 3D, electrodynamic perturbation theory of light diffr., second and third approx. 4-55177
photographic lenses, spectral transmission characts. and colour restoration characts. correction (*Chinese*) 4-8968
photographic material MTF determ., characteristic curve nonlinearity importance 4-32349
plano tilted surface insertion losses in a convergent beam 4-14637
plastic sheets, nearly opaque, spectral transmittance meas. with modified spectrophotometer 4-27570
polypropylene woven scrim laminate material, light transmission between 2 and 500 μm , low cost filter appls. for solar far IR studies 4-40387
polypyrrole perchlorate, optical transmittance and conductivity spectra 4-16196
polysiloxanes, smectic, elec. field induced turbulence 4-55715
polyurethane, pseudoencapsulated films containing nematic liquid crystals, light transmission, thermal effects (*Russian*) 4-29337
polyvinyl alcohol, pseudoencapsulated films containing nematic liquid crystals, light transmission, thermal effects (*Russian*) 4-29337
pupil effect in nonsymmetric GRIN material, effective transmittance function 4-5547
quartz, cryst., transmittance and refl. 2 μm to 1 mm 4-24108
ruby, heavily doped, light transmission variation at mag. resonance, ODMR studies 4-56881
semiconductor superlattice, light transmission in mag. field 4-16186
shutter, cylindrical electrooptical, with large aperture, radial transmission distrib. 4-5689
SiO₂-GeO₂(P₂O₅) fibres, dopant effect on optical transmission loss due to H₂ permeation, expt. study 4-38607
SiO₂-GeO₂ fibres, optical loss spectra due to H₂ and D₂ permeation, expt. study 4-38608
smectic-C liq. cryst., optically induced mol. reorientation 4-24719
soil particles, explosively dispersed, visible and IR extinction 4-19374
speckle patterns formed by a laser beam transmitted by scattering slabs of various optical thicknesses 4-54957
stratified media with exponentially graded refr. index, optical props. 4-23889
thin film absorption edge determ. from transmission meas. 4-49260
thin film for freq. doubling, high transmissivity at 1.06 μm and high reflectivity at 0.53 μm (*Chinese*) 4-55127
thin films, optical transmittance interference struct., non-uniform layer thickness effects 4-44043
ultrashort light pulse time-depend. spectrum, action of nonstationary linear systems 4-44127
uniform diffuser spectral and imaging props. 4-49283
A₂S(Se)(Ge-Se) glass IR optical fibre cable for continuous CO laser transmission, design and expt. study 4-38610
As-Se chalcogenide glass film, plasma effects on light transmission and solubility 4-34656
As₂Se₃ synthetic cryst., photoluminescence, optical transmission and elec. cond. 4-7236
Au thin island films, dielec. props., statistical theory, appl. and comparison with expt. results 4-51398
BaF₂-YF₃-InF₃, vitreous transition and recrystallisation temp. determ., optical transmission meas. (*French*) 4-39505
a-C:H thin films, optical constns. and dielectric props. 4-46339
CdGa₂S₄:I single cryst., donor and acceptor levels, photocond. and light transmission studies 4-34909
CdTe antireflection coatings for enhanced transmission in IR region 4-28810
Cr films covered by SiO₂ layer, optical characts. in visible 4-30542
Cu discontinuous films, oxidation effect on optical props. 4-2976
Cu₂S films, reactive RF sputtering, characterisation and solar cell appl. 4-51492
GaAlAs-GaAs DH laser, IR transmission/emission method (*Chinese*) 4-55035
Ge amorphous film, absorption edge determ. from transmission meas. 4-49260
Ge-S-Ag amorphous films, photoinduced metal surface deposition 4-46449
Ge_{22.5}As₁₀Se_{67.5}, sputtered film, photodarkening effect 4-30548
Ge₁₀As₄₀Se₅₀, sputtered film, photodarkening effect 4-30548
Ge₂₅Se₇₅, sputtered film, photodarkening effect 4-30548
HgCdTe, epitaxial film on CdTe, reflectance and transmittance study 4-30553
I₂-polyvinyl alcohol polarisers, transmission improvement 4-1466
In_{2-x}Sn_xO_{3-y}, sol-gel derived transparent IR-reflecting semiconductor coatings 4-55151
In_{2-x}Sn_xO_{3-y} thin film passive solar windows produced by reactive evaporation, surface anal. and optical props. 4-30549
LiF, crystal, transport efficiency of high power VUV light beams 4-11971
LiNbO₃:Ti waveguides, integrated optical polarisers/analysers for single-mode selective transmission 4-38636
Li₂S-Sb₂S₃ solid solutions, cryst. struct. and phys. props. (*French*) 4-34704
MgAl₂O₄, polycrystalline, for use as windows and domes in 0.3 to 6.0 μm region 4-28791
MgF₂, crystal, transport efficiency of high power VUV light beams 4-11971
p-PbTe:TI epitaxial films, refl. and transmittance meas. 1 to 15 μm 4-40547
Pb(Zr,Ti)O₃, ferroelectric films, RF planar magnetron sputtering and dielec. props. 4-16166
Si:P epitaxial layers, reflectance, transmittance and Hall mobilities meas. 4-40548
SiO₂, fused silica, high and low water content, transmittance and refl. 2 μm to 1 mm 4-24108
VO₂ film, optical anisotropy induced by ps excitation 4-30546
ZnO:In film, prep. by spray pyrolysis, elec., struct. and optical props. 4-30095
ZnSe antireflection coatings for enhanced transmission in IR region 4-28810
ZnTe, single crystal growth, characterisation (*Korean*) 4-40640
ZrO₂-Y₂O₃ solid solns., single cryst., emission props. and optical transmission 4-20987
ZrO₂-SiO₂ dielectric multilayer interference polarisers for lasers 4-33742

light velocity

anisotropy, first-order optical tests 4-27556
measuring the speed of light by independent frequency and wavelength determination 4-8677
photon propagation in heat bath, thermal effects of change in light vel. 4-18147
relativistic addition of velocities directly from the constancy of the velocity of light 4-22555
wavespeeds in optically birefringent samples, universal relation 4-19360

light velocity measurement

anisotropy, first-order optical tests 4-27556
fundamental constants meas. 4-17870

light water *see water***lighting**

35-mm film projection, screen illumination 4-32353
ambient illumination circuit, used for R/RA 150 projector during slide change (*German*) 4-10392
circular optical reflectors, curve derivation for any beam, light source compensation 4-28801
colour-rendering capacity of illumination 4-22821
darkroom lighting in motion-picture lab., safety aspects (*German*) 4-8974
fluorescent lighting, skin cancer and malignant melanoma 4-52388
Mosfilm Studios, new lighting equipment (*Russian*) 4-43106
passive optical solar tracking system design and appls. 4-10388
photographic lighting control in film studio, central equipment room (*Russian*) 4-13696
radioluminescent low-level lighting, use of radwaste byproducts ⁸⁵Kr and tritium 4-28010
standards of illumination, visual image quality rel. to age 4-52329
system for continuous film printers (*Russian*) 4-8982
whiteness evaluation method, CIE standards (*Hungarian*) 4-27558
Xe fission product from radwaste, lighting and medical appls. 4-28011

lightning

300 MHz EM radiation, lightning discharges electrostatic field meas. (*French*) 4-44027
atmospheric noise meas., techniques and instruments 4-47455
atmospheric radio noise, global distribution 4-8296
ball lightning, plasma theory (*Russian*) 4-52868
ball lightning as fifth state of matter 4-8305
ball lightning formation mechanism 4-31623
coaxial pair, lightning stroke or phase-to-earth fault induced voltage anal. (*COPT*) 4-49208
CR 81 experiment (Tropical Deep Convection), EM meas. (*French*) 4-47394
detection and location network established in eastern USA 4-17276
effects on radio links 4-36474
electric fields characts. (book) 4-47769
electrical power transmission lines, lightning strike hazards and protection methods 4-42142
flash counters development and field evaluation 4-52938
light intensity variation with height and time, of subsequent return strokes 4-42074
occurrence and mechanisms 4-13219
small multicellular thunderstorm, study of lightning and precipitation characts. 4-42115
sub-microsecond struct. of EM waves radiated by thunderstorms (*French*) 4-47395
surge, actual pulse shape, propagating inducing and induced power mathematical modelling 4-58241
thunderstorm atmosphere, ball lightning and high-temp. physicochem. processes 4-52864
thunderstorm global distribution, Ionospheric Sounding Satellite obs. of atmospherics 4-22041
VHF-UHF radiation, physical mechanism hypothesis (*French*) 4-47397
VHF-UHF spectral anal. (*French*) 4-47396
VLF location of intracloud and ground stroke lightning, polarisation errors of direction finding equipment 4-42241

lightning conductors *see lightning protection***lightning protection**

No entries

lightning rods *see lightning protection***limit cycles**

synchronous and asynchronous systems of threshold elements 4-46970

limited space charge accumulation

see also Gunn effect; negative resistance effects; space-charge limited devices
PMMA, electric field interaction, space charge effects 4-25682
polyethylene, electric field interaction, space charge effects 4-25682

limiters

low-voltage switching arcs, energy balance components, calorimetric evaluation 4-10917

limiting circuits *see limiters***linear accelerators**

see also collective accelerators; electrostatic accelerators
autoaccelerators, long pulse electron beam effects 4-14256
beam formation and dynamics 4-43718
beam handling, modified alternating phase focusing (*Russian*) 4-23452
colliders, economics of two opposed linacs 4-28242
conference, physics of high-energy particle accelerators, Stanford, CA, USA (Aug. 1982) 4-27225
Coulomb effects in linear ion accelerator with quadrupole RF focusing 4-43719
cryogenic linac post accelerator for FSU tandem, progress report 4-54484
current limits, relativistic effect on proton and ion linacs 4-37959
current limits, role of mag. forces 4-37958
Dynaray 18 linear accelerator, operating characts. 4-21808
Dynaray-CH linear accelerator for BBC radiotherapy system 4-36216
electron paths in nonuniform magnetic field 4-37976
elementary principles, design struct., operation 4-28241
foil-focused relativistic electron beam equilibrium 4-18841
free electron laser expts. using long pulse induction linac 4-55057
heavy-ion RFQ linacs, space-charge limits 4-18831
Heidelberg RF linac, highly stripped ions deceleration by postaccelerator 4-932
ion accelerators with focusing axisymmetric accelerating field 4-48808
ion induction Linac, prototype module 4-5057
LAMPF, evolution, research programme and past achievements 4-37955
LAMPF II workshop, Los Alamos, NM, USA (July, 1983) 4-36787

linear accelerators continued

- light ion accelerators at CERN, overview 4-43711
- medical electron linear accelerator LUE-15M, dosimetric characts. of inhibitory radiation beam (*Russian*) 4-8110
- particle beam modelling and control, stability methods appl. 4-33244
- PIG type heavy-ion source for RILAC (*Japanese*) 4-43742
- proton accelerator, 1 MeV, with variable-phase focusing 4-33216
- radiotherapy application, accelerator design rel. to position for effective electron source 4-8093
- RF linac accelerators for 10 kA electron beams 4-48811
- single-pass e^+e^- linear colliders, colliding γ and $\gamma\gamma$ beams, polarisation effects and monochromatisation 4-54459
- SLAC, evolution and physics program 4-5056
- SLAC electron accelerators, neutron identification from cooling water 4-54446
- SLC, experimental proposals 4-9606
- SLC, status (*French*) 4-5058
- superconducting heavy ion accelerator, ATLAS for nuclear physics research 4-43705
- superconducting linac booster project for FN tandem accelerator 4-54486
- superconducting linacs as post-accelerators of tandems 4-54483
- superconducting microwave cavities in particle accelerators 4-28245
- Therac-20 linear accelerator, dose output variation with atm. press. and ambient temp. 4-8121
- travelling wave constant impedance accelerating struct., energy doubler anal. and calc. (*Chinese*) 4-54488

linear algebra

- see also determinants; eigenvalues and eigenfunctions; matrix algebra; tensors; vectors*
- Baker-Campbell-Hausdorff formulae, Z_n graded, coset space parametrisations 4-8715
- compact symplectic manifolds, lifting theorem, classical and quantum parallels 4-8743
- Euclidean algebra and group in plane 4-77
- Lie algebras, complex finite-dimens., with nonfinite Casimir operators 4-4199
- Lorentz algebra, indecomposable reps. in ang. mom. basis 4-4194
- near-IR reflectance analysis using Gauss-Jordan linear algebra 4-35951

linear-beam tubes *see microwave tubes***linear combination of atomic orbitals calculations** *see LCAO calculations***linear differential equations**

- anisotropic media, reson., diff. of wave beams 4-17714
- exactly soluble relaxation problem 4-27418
- gyroscope, dynamically tunable, transfer functions determ. 4-38709
- non-Newtonian media flow, differential evaluation methods (*German*) 4-49863
- second order, soln. using factorisation method 4-4184
- soliton bag model, boundary-eigenvalue solns. using SOLITON code 4-27709
- spin systems, limit diffusion mechanism of relaxation 4-27419
- stiff differential eqns. solns. via generalised block pulse functions 4-27286

linear integrated circuits

- hearing aid induction field wireless amplifier, IC microphone switch 4-52533

linear motors

- eddy currents, three-dimens., network method 4-49228

linear network analysis

- optical signal receiver linear correcting circuit, optimum impulse characteristic determination 4-49567
- short-circuit method for networks 4-67

linear programming

- constrained signal spectral extrapolation 4-10253

linear rectification *see rectification***linear systems**

- bilinear solar heating system, optimal periodic control 4-31077

linear vibrations *see vibrations***linearisation techniques**

- atomic Voigt effect, signal-to-noise ratio characts. 4-12432
- excited-state lifetime meas., Forster equation linearisation by phase-plane method 4-23632
- laser fusion, perturbative linearisation of fundamental eqns. 4-33171
- magnetoresistive sensors using ferromagnetic thin films 4-22770

linewidths (spectral) *see spectral line breadth***linguistics**

- review of present capability, linguistic and electronic challenges 4-21677

linguistics, language *see linguistics***linkages (electric connectors)** *see electric connectors***linking** *see joining processes***links, telecommunication** *see telecommunication links***Liouville equation**

- see also Vlasov equation*
- acoustic impedance profile, three-dimens., reconstruction 4-33841
- Backlund transformation for Liouville eqn. from Painleve property 4-78
- classical dynamics of relativistic string 4-22648
- dipole dipole nuclear spin relax., cross correl. corr. to Solomon-Bloembergen eqn. for T_2 4-7089
- Einstein-Liouville eqns., exact anisotropic soln. 4-27361
- exciton transport, non-Markovian, in one dimens. lattice 4-27427
- excitons in N mols., partition technique and generalized master equations 4-39781
- general relativity, Liouville theorem validity 4-22643
- generalized quantum Liouville equation; its solution by wave packet dynamics 4-27325
- integrable systems as nonlinear realisations of infinite-dimens. symmetries 4-36889
- interacting Brownian particles, Fokker-Planck eqn., derivation of N-particle analogue 4-4337
- light-cone quantisation of Liouville and Toda field theories 4-330
- linear response of system under random perturbations, stochastic eqns. of motion 4-17828
- nonlinear many-dimens., symm. and exact solns. 4-345
- projection operator formalism for second order response 4-22743
- quantum mech., Wigner representation 4-32090
- quantum statistical mechanics, finite-difference Liouville-von Neumann eqn. for density operator 4-22673
- quasipotential Coulomb scatt. of scalar particles 4-53907

Liouville equation continued

- regularised Liouville model, translational invariance breakdown, Monte Carlo anal. 4-27660
- relativistic statistical systems of particles with scalar interactions 4-364
- stochastic electrodynamics, perturbed harmonic oscillator zero-point field system 4-18145
- viscous flow, two dimens., with arbitrary random forcing, equilib. statistics 4-24399

lip microphones *see microphones***lipid bilayers**

- acetylcholine receptor from Torpedo californica reconstituted in lipid bilayers, channel props. 4-46965
- alamethicin, cond. in bilayer membranes, elevated hydrostatic press. effects 4-7943
- alkyl chain lipids, identification of long-chain packing, electron diffr. crystallography 4-26359
- barrier function destruction rel. to elec. strength reduction 4-52293
- biomembrane phase transition, statistical mechanical model 4-12534
- capacitance and optical parameters, combined anal. 4-31181
- β -carotene in lipid bilayers, UV/VIS/NIR spectrum, FE-MO calc. and comparison with expt. 4-57842
- cell-size lipid bilayer vesicles, form. and props. 4-26366
- channel lifetime in artificial lipid membranes, gramicidin A dimerisation kinetics 4-46950
- condensed phases, two dimens. model, Monte Carlo simulations 4-52295
- dipalmitoylphosphatidylcholine, dimensions of intermediate phase 4-26367
- dipalmitoylphosphatidylcholine-water suspension, phase transition, heat capacity meas. by AC calorimetry (*Japanese*) 4-57861
- electrostatic potential adjacent to membranes rel. to large divalent cations, calcs. 4-26363
- electrostatic potentials adjacent to membranes rel. to large divalent cations, hexamethonium obs. 4-26364
- energetics in fluctuation in lipid bilayer thickness 4-57858
- energetics of lipid bilayer thickness fluctuation 4-57859
- ESR multicomponent saturation transfer spectra anal. using integral method 4-7932
- inverted micellar structures in bilayer membranes 4-41453
- ionic channels in membranes, conf., Airlie, VA, USA (Oct. 1983) 4-42578
- kinks in lipid tail, constrained concerted motions in hydrocarbon chain anal. 4-41457
- lecithin bilayers, effect of La^{3+} on phase transitions 4-57830
- lecithins, fluid bilayers, critical lateral demixing, neutron diffr. study 4-3529
- liposomes containing dipalmitoyl phosphatidylcholine, phase transition, effect of physiologically relevant press. 4-3531
- lyotropics and biomembranes, flexoelectricity 4-50184
- oriented lipid membranes, orientational order parameters, angle-resolved fluores. depolarisation obs. 4-21492
- permeability coefficient, Monte Carlo computer calc. 4-31182
- phase transition anal. by pseudo-critical sp. ht. 4-52296
- phospholipid bilayer membranes, dispersion model saturation-transfer ESR spectra 4-19085
- phospholipid bilayers electrostatic force, electrolyte screening effect 4-52288
- phospholipid membranes, mol. order and dynamics, 2H NMR line shape meas. 4-28462
- phospholipid model membrane-local anaesthetic interactions, ab initio calculations 4-1032
- phospholipid monolayer transferred from water to solid substrates, electron microscopy and diffr. study 4-57860
- phospholipid vesicles, surface pot. determ. using amphiphilic pH indicators 4-31184
- phospholipid-polyglycine mol. interactions in model membranes, Raman spectra and thermal anal. 4-36072
- phospholipid-water interface mol. interactions, IR spectra 4-31158
- photosystem I reaction centres, reconstitution into bilayer lipid membranes 4-52282
- pigmented bilayer lipid membranes, props. as energy transducer 4-36070
- planar lipid bilayer, incorporated brain, voltage-dependent Ca^{2+} channels 4-46952
- plasma lipoproteins, interaction with bilayer lipid membranes, role of surface charge 4-52285
- postsynaptic membrane model, effect of microwaves, ionic channel cond. increase (*Russian*) 4-12629
- repulsive steric interaction between membranes of finite size 4-41456
- roughness rel. to optical parameters and capacitance 4-52284
- sarcoplasmic reticulum, ion cond. in K^+ channel, effects of phospholipid surface charge 4-46947
- surface potential of lipid layers, sharp changes due to phase transition 4-41455
- surfactant vesicles, surface pot. determ. using amphiphilic pH indicators 4-31184
- thermal response investigated by Fourier transform IR spectroscopy 4-57840
- US studies of membrane suspensions 4-52290
- voltage-sensing dyes, interactions with membranes 4-26362
- Na^+ channels in planar lipid bilayers, voltage-dependent block by saxitoxin 4-46948
- Zn (II) porphyrins, photoredox behaviour in vesicle assemblies 4-36071

liquefaction of gases

- throttle microliquefiers, scaling law derivation 4-27530

liquid alloys*see also liquid metals*

- alkali metal alloys, chem. interactions and electronic struct., solid state calcs. 4-45588
- alkali metal alloys, molten, thermal diffusion and thermolec. powers 4-34678
- alkali metal alloys, thermodynamic props., variational calc. 4-2062
- alkali metal binary alloys, liq., Helmholtz free energies, variational calc. 4-55702
- binary, association and quadrupolar nuclear spin relax. rate 4-46137
- binary, atomic and electronic struct., self-consistent theory 4-44925
- binary, homogeneous crystal nucleation 4-20326
- binary, least squares calc. (*German*) 4-25062
- binary, two cluster regular associated model (*French*) 4-39087
- compound forming molten alloys, thermodynamic props., quasi-lattice theory 4-39541
- conference, Los Angeles, USA (Aug. 1983) 4-42585

liquid alloys continued

- dynamics, microscopic studies 4-45293
 electrical resist. and Hall coeff. 4-45713
 nuclear quadrupole spin relax., rel. to local degrees of freedom 4-40262
 nuclear quadrupole relax., atom pair dynamics 4-40263
 rare earth dilute alloys, M-R (M=Ag, In, Sn, Sb, R=rare earth), liquid, electrical resistivities meas. 4-45722
 steel, liquid, dissolution kinetics of Ti 4-56027
 steel, liquid, solidification, thermogravitational convection, mathematical simulation 4-16382
 structural and thermodynamic props., electronic theory 4-44928
 structure, diff. studies 4-44932
 thermodynamic state functions, aggregation model (*German*) 4-34669
 thermodynamic state functions, aggregation model 4-34670
 transition metal alloys, amorphous and liquid, density of states, tight-binding calc. 4-45592
 transition metal solutes in liquid metals and alloys, mag. props. 4-46001
 Zircaloy, liquid, oxidation kinetics in steam, modelling of fission fuel cladding melting 4-30850
 Ag-Au, molten, thermal diffusion and thermoelec. power 4-34678
 Ag-Au liq. alloys, elec. resist., pseudopot. calcs. 4-50788
 Ag-based binary liquid alloys, free energy and entropy of mixing 4-45355
 Ag-Bi, liq. alloy, activity coeffs. of O, 1273K 4-51634
 Ag-Te, electronic props., cond. and susceptibility meas. 4-6758
 Ag-Tl, liq. alloy, activity coeffs. of O, 1273K 4-51634
 Ag-Zn, least squares calc. (*German*) 4-25062
 (Ag_{0.5}Cu_{0.5})₁₀₀₋₂Ge_x, mag. susceptibility meas. in amorphous and liq. states 4-20785
 Al-Ca liquid alloy, wetting of graphite, Al₂O₃ and SiO₂ substrates (*Japanese*) 4-25120
 Au based binary liquid alloys, free energy and entropy of mixing 4-45355
 Au-Ag ⁹⁹ liquid alloys, enthalpies of mixing, 1379K 4-39516
 Au-Cu ⁹⁹ liquid alloys, enthalpies of mixing, 1379K 4-39516
 Au-Te, electronic props., cond. and susceptibility meas. 4-6758
 Au₅Pb_{22.5}Sb_{22.5}, molten, kinematic viscosity and elec. cond. anomalies rel. to glass form. 4-2365
 Be-Si-Au ternary alloy liq. metal ion sources, characteristics meas. 4-13720
 Bi-Pb, liq. alloys, activity of O 4-57186
 Bi-Sb, liq. alloys, activity of O 4-57186
 Bi-Te, liq., semicond., ²⁰⁹Bi Knight shift 4-46133
 Cd-Sb liquid alloys, magnetic susceptibility and short range order 4-46000
 Cd-Zn, X-ray struct. study and elec. props. 4-6246
 Co-B eutectic melts, wetting of refractory compounds 4-2413
 Cs-Sb liq. alloy, struct., neutron diff. study 4-44933
 Cu-Ag-Ge, enthalpy of form., dissoln. of Ge (*French*) 4-35611
 Cu-Ag-Si, enthalpy of form., dissoln. of Si (*French*) 4-35611
 Cu-based binary liquid alloys, free energy and entropy of mixing 4-45355
 Cu-In, melts, thermodynamic activity of O, meas. by coulometric titration method 4-25061
 Cu-Sn melts, thermodynamic activity of O, meas. by coulometric titration method 4-25061
 Cu-Te, electronic props., cond. and susceptibility meas. 4-6758
 Cu-Zr liquid and glassy alloys, elec. resist., conc. depend. 4-45726
 Fe-B eutectic melts, wetting of refractory compounds 4-2413
 Fe-Co, liquid, elec. resist. meas. 4-45711
 Fe-Cr, elec. resistivity, conc. depend. 4-2582
 Fe-Cu melt, elec. cond. study (*Russian*) 4-50789
 Fe-Mn, elec. resistivity, conc. depend. 4-2582
 Fe-Ni, liquid, elec. resist. meas. 4-45711
 Fe-Ni base melt surface tension and metallic glass struct. 4-45455
 Fe-V, elec. resistivity, conc. depend. 4-2582
 FeAl-Y(La)(Ce), enthalpy of form. 4-51628
 Ga-In-Sn, liq., viscosity and elec. resist., temp. depend. 4-29665
 Ga-Sn, surface segregation, AES study 4-29736
 Ga-Te liq. alloys, far Ir reflectivity 4-20955
 Hg, thermodynamic and electronic props., higher order correlation effects 4-45709
 Hg-In liquid alloys, thermoelec. power minimum 4-45749
 Hg-Li, dil., liq., thermoelec. power minimum, elec. resist. meas. 4-34952
 Hg-Sn liquid alloys, thermoelec. power minimum 4-45749
 In-Hg Liq. alloys, association and quadrupolar nuclear spin relax. rate 4-46137
 In-Ni alloys, liq., NMR Knight shift and linewidth meas. 4-46119
 In-Sb, activity coeff. of O 4-15665
 In-Sb, liq., lifetime of associates 4-45293
 In_{0.03}Te_{0.17}, with segregation tendency, nucl. spin relax., TDPAD study 4-40287
 Li-Bi(Pb)(Sn)(Si), electron localisation and cpd. form., ⁶Li spin relax. study 4-40261
 Li-Pb, multicomponent hard sphere mixture, struct. factors 4-44938
 Li-Pb, struct. factors, hard sphere model 4-2060
 Li-Pb, total struct. factor, temp. depend. 4-2059
 Li-Pb liquid dilute alloy, elec. resist. and chem. short range order 4-50785
 Li-Pb solutions, nonideal, N₂, O₂ and H₂ solubilities, chem. theory 4-45337
 Li-Pb-H(N) ternary solutions, solubility of hydrides and nitrides, elec. resist. obs. 4-54402
 Li-Si, liquid alloys, ⁶Li spin-lattice relax. times, mag. field and temp. depend. 4-46138
 Li-Sn liquid alloys, ⁶Li spin-lattice relax. times, mag. field and temp. depend. 4-46138
 Li-Sn liquid dilute alloy, elec. resist. and chem. short range order 4-50785
 Li₇₁Ag₂₉, liquid, partial struct. factor determ. 4-20078
 Li_{0.1}Pb_{0.2}, liquid alloys, conc. fluctuations, neutron scatt. study 4-20080
 Li_{0.1}Pb_{0.3}, liquid eutectic, tritium recovery by vacuum degassing 4-9543
 Li₄Pb, liq., model for struct. 4-44931
 Li₄Pb, partial struct. factors and radial distrib. functions 4-2061
 Mg₇₀Zn₃₀ alloys, liq. and amorphous, struct., X-ray diff. study 4-44934
 Mn-Si, liq. struct., X-ray diff. studies, rel. to metallic glasses 4-44935
 Mn-Si alloy melts, struct. by X-ray diff. 4-2057
 Na-Bi dilute molten alloys, Na activity and struct. implications, EMF meas. 4-29304
 Na-Cs, liquid-vapour interface density profile calcs. 4-45314
 Na-Cs alloys, liq., self-diffusion (*German*) 4-2364

liquid alloys continued

- Na-Cs liq. alloys, Gibbs energy of mixing 4-45356
 Na-group VIB liq. alloys, thermodynamics of mixing 4-45357
 Na-Pb liquid alloys, mag. susceptibility, temp. and conc. depend. 4-45998
 Na-Sb liquid alloys, NMR relax. and metal-nonmetal transition 4-46131
 Na-Sn, struct. determ. by neutron diff. 4-20076
 Na-Sn dilute molten alloys, Na activity and struct. implications, EMF meas. 4-29304
 Na-Sn liquid alloys, mag. susceptibility, temp. and conc. depend. 4-45998
 Ni alloys, glass forming ability, liquid quenching 4-39522
 Ni-B, liq. struct., X-ray diff. studies, rel. to metallic glasses 4-44935
 Ni-B eutectic melts, wetting of refractory compounds 4-2413
 Ni-B molten alloys, struct. by X-ray diff. 4-2058
 Ni-Co, liquid, elec. resist. meas. 4-45711
 Ni-Mn-Sn alloys solid and liq., mag. props. and struct. 4-16016
 Ni-Ti, liq., viscosity meas. with high-temperature viscometer 4-44776
 NiMn melt, interface interaction with solid Ti, heat liberation 4-20496
 Pb-Li, molten eutectic, kinetics of H absorption 4-29779
 Pb-Li alloys, solubility of H₂, D₂ and T₂ 4-56021
 Pb-Sb, liq., O activity, determ. by modified coulometric titration 4-34671
 Pb-Sn monotectic, liq.-liq. and solid-liq. interface tension (*French*) 4-39628
 Pb₈Li₁₇ liquid alloy blanket, T recovery 4-9591
 Pd-Te, electronic props., cond. and susceptibility meas. 4-6758
 Sb-Te liquid semiconducting alloys, NMR investig. 4-46129
 Se-Te, Hall coeffs., melting point to 750°C 4-6811
 Se-Te liquid mixture, metal-nonmetal transition under press. 4-45632
 Se-Te liquid mixtures, semicond.-metal transition at high temp. and press. 4-45635
 Se_{1-x}Te_x, liquid and amorphous, TDPAC study 4-56835
 Sn-Pb, semi-solid dendritic, compression at low strain rates, liquid-solid segregation 4-57301
 Ti-Te melts, dissolved O, thermodynamic study using coulometric titration method 4-25060
 Zn-Pb monotectic, liq.-liq. and solid-liq. interface tension (*French*) 4-39628
 Zr alloys, glass forming ability, liquid quenching 4-39522

liquid crystal devices

- see also liquid crystal displays
 acousto-optical effects for intracavity modulation of laser output intensity 4-10335
 analogue spatial light modulator performing as rotating slit for optical data processing 4-28823
 coherent compact real-time optical correlators 4-48174
 coherent optical correlation with liquid crystal light valve and hologram matched filters (*French*) 4-38569
 cut-off modulator for multimode optical waveguides 4-55187
 developments at AT&T Bell Labs. 4-29310
 electro-optic leaky anisotropic waveguides using nematic liq. cryst. overlayer 4-28886
 interference optical filter 4-19547
 laminar cholesteric twist cells, domain wall tension and bistability 4-50186
 MDSMD photosensitive structures, nonstationary image recording 4-49505
 nematic cell, focusing by elec. modulation of refr. 4-38568
 nematic liq. cryst./CdS/CdTe noncoherent-coherent image convertor, fabrication and performance (*Chinese*) 4-49558
 nematic liquid crystal variable grating mode device, phys. characterisation, nonlinear optical processing and computing function apps. 4-24160
 nematic nonlinear Fabry-Perot resonator using a photoinduced Freedericksz transition 4-49440
 photoconductor-liquid crystal structure with glass fibre component as spatial and temporal light modulator 4-55186
 photoconductor-liquid crystal optically addressed light modulator, light scatt. 4-38570
 photoconductor-liquid crystal type light modulator, exhibiting texture and cholesteric-nematic transitions 4-28824
 photosensitive structures, optical response, dynamic behaviour 4-49470
 spatial light modulators, optically controlled, development and appls., review 4-19555
 US nematic detector, contrast improvement in elec. field 4-38680
 Si liquid crystal light valves, status and issues 4-24159

liquid crystal displays

- hand-held electrocardiograph 4-58033
 physical properties and development 4-2076
 visualisation of boundary layer transition, in wind tunnel facility 4-24495

liquid crystal phase transformations

- 4-acetyl-4'-n-alkanoyloxycyclohexane, liq. cryst. transitions, dilatometric study (*French*) 4-11275
 4-(4'-n-alkoxy benzyloxy) benzyldiene-2"-chloroanilines, mesogenic, melting points and transition temps. 4-39487
 4(4'-n-alkoxy benzyloxy benzyldiene)-4"-chloroanilines, mesogenic, melting points and transition temps. 4-39487
 4-(4'-n-alkoxy benzyldienamino) biphenyls, smectic A-nematic transition temps., chain ordering 4-39486
 p-(p'-n-alkoxycinnamoyloxy)benzal p"-phenetidines, mesomorphic characts. and phase transitions 4-39491
 4-trans-(4-alkyl) cyclohexylphenyl-alkyl-carboxylate, liq. cryst., X-ray diff. study 4-29309
 2-n-alkyl-6-(4'-cyanophenyl)-naphthalenes, nematic liq. crystals, synthesis and props. 4-6263
 alkyl-cyano-phenylcyclohexane(4-n-hexyloxyphenyl-4'-pentybenzoate) binary systems, induced smectic phase 4-10974
 4-n-alkyl-phenyl-3'-methoxy-4'-(4"-cyanobenzyloxy) benzoates, mesomorphic props. 4-10966
 alkylcyanobiphenyl, nematic-smectic A tricritical point, scanning calorimetry study 4-29611
 4'alkyloxy benzoindolide 4-n-propyloxy aniline, liq. cryst., synthesis, thermodynamic and optical props. 4-50509
 4-n-alkyloxybenzoic acid nematic phases, elec. cond. 4-34977
 4-n-alkylphenyl-3'-methoxy-4'-(4"-bromobenzyloxy) benzoates, mesomorphic props. 4-10966
 B-nor cholesterol derivatives, phase transitions, NMR, studies 4-6502
 bilayered fluid smectic phase, dielec. relax. 4-40338
 binary liq. cryst. mixtures, biaxial nematic phase, critical point, reentry transition 4-50507

liquid crystal phase transformations continued

binary system, smectic G to G' phase transition, texture and X-ray diff. meas. 4-11287
bis-(4'-n-heptyloxybenzylidene)-1,4-phenylenediamine, smectic liq. cryst. phase behaviour 4-6253
bis-[4-(4'-n-heptyloxybenzylidene)-1,4-phenylenediamine, smectogen, phase transitions (*French*) 4-15635
butyl-p-(alkoxybenzylidene)-aminobenzoates, smectic phases, DSC, density, and refr. index meas. 4-11281
4'-n-butylphenyl 4-(trans-4'-pentyloxybenzylidene)benzoate, X-ray scatt. near phase transition 4-57029
4-n-butyl-4'-n-alkanoloxycyclohexanes, thermodynamic props., DSC study 4-11288
caesium perfluoro-octanoate lyotropic liq. cryst., second order nematic-isotropic phase transition 4-39503
CBOOA, smectic A-nematic transition point, curvature-induced reduction 4-11283
cellulose and derivatives, liq. cryst. form., review 4-2072
cellulose-based liq. cryst. polymers, cholesteric phase, struct. and optical props. 4-6258
chiral smectic C cryst., vortex street struct. 4-20088
cholesteric liq. crystals, blue phase systems, electro-optical effects 4-7160
cholesteric chloride-cholesteric alkanolates mixtures, electro-optic and dielec. studies 4-39114
cholesteryl fluoroalkanoates, phase transition study 4-39499
cholesteryl laurate, US absorpt. and vel. meas. near transition temp. 4-10957
cholesteryl oleate-cholesteryl linoleate binary mixtures, X-ray diff., DSC, and optical microscopy studies 4-11282
cholesteryl propionate, US absorpt. and vel. meas. near transition temp. 4-10957
cholesteryl stearate, US absorpt. and vel. meas. near transition temp. 4-10957
cyano substituted nematogenic liq. crystals, negative dielec. anisotropy and spectroscopic props. 4-6260
4-cyano-4'-n-alkyloxybiphenyl mixtures, with chiral additions, reentrant polymorphism 4-20353
3-cyano-7-(4'-(4'-alkoxybenzoyloxy)benzoyloxy) coumarins, thermal props., reentrant nematic behaviour 4-11285
cyano-biphenyls and -p-terphenyls, mesomorphic transition temps. 4-50508
p-cyanobenzylidene-p'-n-octyloxyaniline, nematic-smectic A transition, shear US meas. 4-34641
N-p-cyanobenzylidene-p'-octyloxyaniline-4'-n-octyloxy-4-cyanobiphenyl mixture, reentrant nematic, nematic-isotropic transition press. depend., mol. ordering effect 4-39493
4-cyanobiphenyl-4-alkylaminobenzoates, liq. cryst. and dielec. props. 4-39489
cyanooctyloxybiphenyl liq. cryst., phase transitions, picosec. time-resolved fluoresc. spectra 4-46298
4-cyanophenyl-3'-methoxy-4'-(4'-n-alkyl-benzoyloxy) benzoates, mesomorphic props. 4-10966
4-cyanophenyl-tran-4'-n-pentylcyclohexane mixture, point disclinations at nematic-isotropic interface 4-10979
4-cyanophenyl-trans-4'-n-pentylcyclohexane mixture with nonmesomorphic cpd., nematic droplet form. in isotropic phase 4-10978
1-cyclohexyl-2-(4'-halobiphenyl-4'-yl)ethanes, synthesis and mesomorphic props. 4-10977
4-(4'-n-decyloxybenzoyloxy)-benzylidene-4'-cyanoaniline, reentrant nematic-smectic C-smectic A multicritical point, P-T diagram topology 4-39488
density studies across the smectic G-nematic and nematic-isotropic transitions 4-39504
di(4-alkoxyphenyl)TTF mesogenic series, phase transitions (*French*) 4-20354
di(4-alkylphenyl)TTF mesogenic series, phase transitions (*French*) 4-20354
di(n-butyl)-4 phenyl-2,6 TTF, structural evolution from cryst. to mesophase (*French*) 4-20355
di-(4'-n-octyloxyphenyl)-trans-cyclohexane-1,4-dicarboxylate, smectic C phase stability, effect of press. 4-11277
4,4'-di-n-alkyl-bibicyclo(2.2.2)octanes, liq. cryst., anisotropic dispersion interactions 4-20097
disclotic liq. crystals, axial-biaxial, phase transitions, D NMR study 4-29312
disymmetric and highly polar mesogens, smectic A behaviour (*French*) 4-55711
DOBAMBC, chiral smectic C*, planar samples, change of struct. in electric field 4-29315
DOBAMBC, helicoidal pitch anomalous behaviour in surface induced winding-unwinding chiral smectic C transition 4-20083
DOBAMBC, modulated smectic C*-uniform smectic transition 4-6507
doubly reentrant liquid crystals, frustrated spin gas model 4-11276
EBBA-p-n-octyloxy-p-cyanobiphenyl mixture, liq. cryst., commensurate and incommensurate smectic phases, dielec. permittivity meas. 4-39115
EBBA/ZLI-1167 mixed liq. cryst., opposite diatag. anisotropies, temp. dependent switching transition, Landau theory 4-39496
ester-tolan-AsSe struct., I-V characts. and photovoltaic effect 4-6835
esters that exhibit smectic F to isotropic liquid phase transitions 4-39501
ethyl-p-(alkoxybenzylidene)-aminobenzoates, smectic phases, DSC, density, and refr. index meas. 4-11281
ferroelastic liquid crystals, crit. phenomena 4-35376
ferroelectric smectic liquid crystal, identification 4-44942
fields below critical dimensions 4-24720
films, smectic-C* to smectic-A transition, order parameter meas., mean-field theory 4-50200
p-n-heptyl-p'-cyanobiphenyl, nematic-isotropic transition, effect of quasi-spherical solutes 4-11286
heptyloxy-p'-pentylphenylthiobenzoate/octyloxy-p'-pentylphenylthiobenzoate mixtures, high press. studies 4-11279
heptyloxyazobenzene, nematic liq. cryst., high press., volumetric study 4-6501
heptyloxybenzylidene-hpetylaniline liq. cryst. thin films, phase diagram, X-ray diff. study 4-34402
n-hexyl-4'-n-pentylbiphenyl-4-carboxylate, heat capacity near smectic A-hexatic-B and hexatic B-E transitions 4-2334
N-(p-hexyloxybenzylidene)-p-butylaniline, liq. cryst., dielec. anisotropy, order parameter 4-39111
(R)-hexyloxybenzylidene p'-amino-2-chloropropyl cinnamate, phase transitions, sp. ht. studies 4-6504

liquid crystal phase transformations continued

iso-propyl p-(p'-n-alkoxy benzoyloxy)benzoates, mesomorphic characts. var. with mol. struct. 4-39112
iso-propyl p-(p'-n-alkoxy cinnamoyloxy)benzoates, mesomorphic characts. var. with mol. struct. 4-39112
isotropic-nematic-smectic transitions, formulation and thermodynamic consistency, generalised mean field theory 4-11289
lecithin, hydrated, main phase transition kinetics, real-time X-ray diff. monitoring method 4-58053
lecithin bilayers, effect of La³⁺ on phase transitions 4-57830
lipid layers, sharp changes in surface pot. due to phase transition 4-41455
lyotropic mesophases, optical props., review 4-51217
lyotropic nematics, uniaxial-biaxial phase transition, light transmission 4-11857
lyotropic polymers, mesophase formation 4-50183
MBBA, liq. cryst., nuclear spin relax., pretransitional effects 4-56007
MBBA, nematic liq. cryst., vibr. states, disorder-order transition 4-56009
MBBA, solid, sequence of phase transitions, neutron diff. and Raman scatt. meas. 4-39468
MBBA-d_n, with chiral addition, d NMR study of cholesteric and blue phases 4-10983
2-methylbutyl p-(p-n-decyloxybenzylideneamino)-cinnamate, smectic C phase, pitch, electric field influence 4-50505
2-methylbutyl-4'-n-pentylbiphenyl-4-carboxylate, smectic liq. cryst., phase transform., heat capacity meas. 4-56010
micellar nematics, struct. and phys. props 4-50182
mixed liquid crystals, of opposite diatag. susceptibilities, direct obs. of switch-over transition 4-39500
4'-mono-4-propyl cyanophenyl cyclohexane, P-V-T relation and mol. rigidity effect on nematic-isotropic transition 4-39498
N-(4-n-butylxybenzylidene)-4-n-heptylaniline (40.7), X-ray scatt. study of phase transitions 4-29609
naphthalene moiety, effect on mesomorphic props., texture obs. 4-10971
nematic critical point, Landau theory 4-39495
nematic isotropic phase transition in semirigid polymer/liquid crystal sols. 4-2068
nematic liq. cryst., optically induced Fredericksz transition and bistability 4-2333
nematic liq. crystals, director anchoring energy crit. behaviour at free surface 4-44943
nematic liquid cryst. mixtures, orientational order and phase diagrams 4-10975
nematic liquid crystal, orientational self-focusing, nonstationary and polarisation effects 4-5672
nematic liquid crystal, pretransitional phenomena, effect of smectic fluctuations 4-15636
nematic liquid crystals, shear flow for positive Leslie viscosity, theory 4-50194
nematic liquid crystals, molecular alignment in oblique mag. field, optical study 4-39097
nematic liquid crystals, of axially symmetric mols., perturbation theory, effect of quadrupolar forces 4-20094
nematic polar-nonpolar mixtures, dielectric, diamagnetic and elastic props. 4-20087
nematic sols. giving rise to smectic mesophases 4-25022
nematic to smectic A transition, critical and tricritical behaviour 4-29612
nematic-isotropic interface struct., Landau theory 4-11284
nematic-isotropic phase transition, elec. field effect 4-39107
nematic-isotropic phase transitions, orientational order anal. 4-6506
nematic-isotropic transition, phase formation, boundary dependence 4-6505
nematic-smectic A-smectic C multicritical point, dislocation loop theory 4-29610
nematic-smectic transition, electro-optical and dynamo-optical effects 4-25725
nematics, hybrid aligned, nonlinear optical reorientation and Fredericksz threshold 4-34642
nematogenic mixtures, isotropic phase, pretransitional behaviour, D NMR 4-56006
4-nitrobenzylidene-4'-n-heptyloxyaniline, binary liq. crystal systems, phase diagrams 4-50189
p-nitrobenzylidene-p-n-alkoxy anilines, liq. cryst. phase transitions, DSC, positron annihilation studies 4-39494
p-nitrophenyl-p-alkoxycinnamates, liq. cryst. characts., effect of nitro terminal substituent 4-39109
p-nitrophenyl-p'-n-amyloxycinnamate-p-methoxyphenyl-p'-n-heptyloxybenzylidene nematic mixture, emergence of smectic mesophase 4-39490
p'-nitrophenyl-p-n-octyloxybenzoate/(2-hydroxy)-p-ethoxybenzylidene-p'-butylaniline mixtures, smectic A-nematic transition boundary 4-11280
4-nonyloxy-benzoyloxy-4'-cyanoazobenzene, layer spacing in smectic A and reentrant phases 4-10965
p-n-nonyloxybenzoic acid, smectic C phase stability, effect of press. 4-11277
4-nonyloxybenzoyloxy-4'-cyanoazobenzene, partially bilayer and monolayer smectic A phase, high press. studies 4-11278
OBBA, polymesomorphic, phase transitions, US vel. studies 4-25021
octylcyanobiphenyl, smectic A phases, heat capacity meas. 4-10961
octylcyanobiphenyl, smectic-nematic transition, specific heat meas. 4-15637
p-n-octyloxy-p'-cyanobiphenyl, smectic A-nematic transition point, curvature-induced reduction 4-11283
p'-n-octyloxy-p-cyanobiphenyl/p-butoxyphenyl-(p'-pentylbiphenyl)benzoate mixtures, smectic A-nematic transition boundary 4-11280
octyloxyanobiphenyl-hexyloxy-cyanobiphenyl mixtures, nematic-smectic A-reentrant nematic transitions 4-56008
4-octyloxybenzoyloxy-4'-cyanoazobenzene, partially bilayer and monolayer smectic A phase, high press. studies 4-11278
octyloxycyanobiphenol, nematic liq. cryst., high press., volumetric study 4-6501
octyloxycyanobiphenyl, smectic A phases, heat capacity meas. 4-10961
order parameter fluctuations in nematic liquid crystals 4-10987
ordered phase and phase transitions, conf., Kyoto, Japan (Sept. 1982) 4-8641
PAA, nematic homologous, ¹H spin relax. dispersion investig. 4-56808
4-n-pentyl-4'-cyanobiphenyl, nematic liq. cryst., elastic consts., birefr. meas. 4-55714
n-pentyl-4-(4'-n-decyloxybenzylideneamino) cinnamate, smectic C phase stability, effect of press. 4-11277

liquid crystal phase transformations continued

- N-(4-n-pentyloxybenzylidene)-4-n-hexylaniline, static and viscoelastic props. of various smectic phases 4-39095
 phenyl cinnamoyloxybenzoate derivatives, synthesis, solubility, liq. cryst. characts. 4-39492
 photoconductor-liq. cryst. struct., optical nonlinearity 4-44141
 photoconductor-liquid crystal type light modulator, exhibiting texture and cholesteric-nematic transitions 4-28824
 poly(p-biphenyl acrylate), mesomorphic, phase transitions, X-ray diff. study 4-15372
 poly-2-n-alkyl-1,4-phenylene terephthalates, thermotropic liq. crystals, struct.-property rels. 4-6250
 poly-di-p-tert-butylphenoxyphosphazene, temp. transitions (*Russian*) 4-39485
 polydecamethyleneterephthaloyl-di-n-oxybenzoate, mesomorphism, temp. transitions, melt viscosity (*Russian*) 4-56005
 polymer solutions, mesomorphic, nematic-isotropic phase transition, mean-field theory 4-50506
 polymers, semiflexible nematic systems, transition temp., orientation order 4-34399
 polyvinylisocyanates, nematic, polymerisation degree effect on transition temp. 4-2073
 positive dielectric anisotropy liq. crystals in cylindrical pores, transition temp. and singularities 4-6503
 pretransitional effects in isotropic phases close to nematic, nematic discoid and columnar phases 4-50188
 4-propionyl-4'-n-heptanoyloxazobenzene, transitions smectic A-hexatic B and hexatic B to crystal B 4-39497
 re-entrant phase transition in pure liq. cryst., proton NMR study 4-45329
 reentrant nematic mixtures, dielec. props., effect of smectic ordering 4-10967
 reentrant nematic-smectic A-smectic C multicritical point, topology 4-39502
 reentrant phase transition, Landau description 4-20352
 smectic A and nematic phases, partition function, mol. ordering and thermodynamic props. 4-20099
 smectic C to A transition, molecular conformations and orientations, X-ray diff. study 4-50190
 smectic E phase of liq. cryst., dielec. relax. 4-40337
 smectic liq. crystals, hydrodynamic and relax. processes, statistical theory 4-55721
 smectic liquid crystal, bend and splay elastic constants on approaching injected smectic phase 4-6262
 smectic liquid crystals, Ginsburg-Landau-de Gennes gradient term 4-10980
 structural phase transitions, seminar, Bentejima, Japan (June 83) 4-22509
 structural phase transitions and their analogues in liq. cryst. 4-25003
 TBBA, nematic, smectic A and smectic C phases, sp. vol. studies 4-50193
 TBBA, smectic F to smectic G transition, X-ray study 4-6264
 terephthalylidene-bis-[4-n-decylaniline], smectogen, phase transitions (*French*) 4-15635
 thermotropic polymeric liquid crystals, transform. morphology, reverse gas chromatography obs. (*Russian*) 4-29608

liquid crystals

- see also *cholesteric liquid crystals; liquid crystal phase transformations; nematic liquid crystals; smectic liquid crystals*
 alicyclic and heterocyclic acid esters, liq. cryst. phases synthesis 4-6266
 alkyl chain flexibility, D NMR investig. 4-56790
 trans, trans-4'-alkylbicyclohexyl-4-carbonitriles, cryst. and mol. structs. 4-6357
 anisotropic molecular liquids, guest-host system, fluoresc. meas., tilt angle effects 4-20102
 benzenehexa-n-alkanoates homologs, biaxial discotic liq. cryst. ^2H NMR study 4-7072
 biaxially ordered liquid crystals, D NMR investig. 4-56789
 binary mixture containing nematic and induced smectic-A mesophase, dielectric and electrooptic props. 4-55720
 biological functions (*Czech*) 4-3535
 carbonaceous mesophase, nonequilibrium disclinations obs. 4-10956
 cellulose and derivatives, liq. cryst. form., review 4-2072
 chiral disc-like compound, twisted mesophase, optical props. (*French*) 4-25713
 copolyester, random, injection moulded, thermotropic liquid crystal, micro-morphology, etching, X-ray and SEM obs. 4-20123
 cyanooxyloxybiphenyl liq. cryst., phase transitions, picosec. time-resolved fluoresc. spectra 4-46298
 developments at AT&T Bell Labs. 4-29310
 diffusion tensor and orientation-dependent friction, theory 4-50197
 discotic, D NMR investig. 4-56791
 discotic liq. crystals, axial-biaxial phase transitions, D NMR study 4-29312
 discotic liquid crystals, surface waves, theory 4-39117
 displays, physical properties and development 4-2076
 ethylene oxide, mol. geometry in liq. cryst. media, NMR determ. 4-54747
 ethylene-1,2- ^{13}C , ^1H and ^{13}C mag. shielding tensor, NMR determ. 4-54748
 hexaalkoxytriphenylenes, discotic columnar mesophases, alkyl chain flexibility 4-20086
 hexaethylene glycol dodecyl ether- H_2O system, lyotropic liq. cryst. with tetrahedral orientation pattern in mag. field, NMR 4-15375
 homopolymers, thermotropic, melt spinning, fibre formation, viscosity, temp. depend. 4-12053
 liquid crystalline polymers, struct., dynamics, D NMR investig. 4-56792
 low tilt angles meas. by conoscopic optical method 4-50178
 lyotropic liquid crystallinity and its loose struct., rel. to living state 4-57834
 lyotropic liquid crystals, aggregates of amphiphilic molecules 4-50181
 lyotropic polymers, mesophase formation 4-50183
 lyotropics and biomembranes, flexoelectricity 4-50184
 Lyotropics and related fields, conf., Cosenza, Italy (Sept. 1982) 4-47741
 mesogenic disc-like compound fluid mesophase orientation by glass slides with obliquely deposited Si oxides (*French*) 4-2069
 mesogenous molecular crystals, self-consistent phonon and libron interaction 4-55722
 mesophase, thermotropic, proton solid echo transverse relax. functions 4-11798

liquid crystals continued

- microemulsions, water-in-oil, highly viscous isotropic mesophase, TSD study 4-51181
 mixed liquid crystals, of opposite diamag. susceptibilities, direct obs. of switch-over transition 4-39500
 modulated structures, light diff. at inclined incidence 4-6256
 molecular processes in liq. cryst. solvents, dynamics, NMR investig. 4-54751
 naphthalene, mol. geometry in liq. cryst. media, NMR determ. 4-54747
 nematogen 4-n-pentyl-4'-cyanobiphenyl, auto-correlation spectral densities meas. 4-10963
 octa(dodecyloxymethyl)phthalocyanine, discotic mesophases, DSC, optical microscopy, and X-ray diff. meas. 4-10973
 k-palmitate- D_2O , self-diffusion, D NMR spin echo meas. 4-30354
 polarized light microscopy in the study of liquid crystals 4-2066
 poly-p-benzamide, fibre struct., water vapour sorption method (*Russian*) 4-29338
 poly-p-phenyleneterephthalamide, fibre struct., water vapour sorption method (*Russian*) 4-29338
 polyester, thermotropic mesomorphic, rheological props. of melts (*Russian*) 4-6268
 polyimides, aromatic, fluidity (*Russian*) 4-6538
 polymer with phenylbenzoate side groups, main chain distrib. (*Russian*) 4-29336
 polymers, liquid crystalline state with rigid and flexible fragments alternating along the chain (*Russian*) 4-29346
 polymers, thermo-recording with laser beam 4-39092
 polymers with mesogenic side groups, thermal effects on liquid crystalline order 4-29316
 positive dielectric anisotropy liq. crystals in cylindrical pores, transition temp. and singularities 4-6503
 potassium palmitate, liq. cryst. lamellar phase, chain ordering, NMR 4-29317
 pretransitional effects in isotropic phases close to nematic, nematic discoid and columnar phases 4-50188
 rotational dynamics, slow-motion EPR spectra, fast computational approach 4-2823
 sodium n-alkyl carboxylates, ionic mesophase, ^{23}Na NMR spin-lattice relax. obs. 4-28463
 solutions, ^{13}C NMR study 4-30296
 spiroantene, mol. geometry in liq. cryst. media, NMR determ. 4-54747
 TBBA and its homologues, liq. cryst., microscopic and thermal phase studies at high press. 4-39127
 tetramethylammonium nitrate, in liq. cryst. soln., ^{14}N NMR investig. 4-54750
 thermotropic liq. cryst. polymer, oscillatory shear, stress relax. 4-24397
 thermotropic liq. crystals, NMR relax. investig. 4-56807
 thermotropic liquid-crystalline polymers in electric and magnetic fields (*Russian*) 4-29319
 thermotropic mesophases, nucl. spin relax., spin probe investig. 4-56806
 thermotropic polymeric liquid crystals, transform. morphology, reverse gas chromatography obs. (*Russian*) 4-29608
 thermotropic polymers, annealing, local homeotropy TEM obs. 4-29307
 three-dimensional systems with long ranged 2D translational order, hydrodynamics 4-10985
 triphenylenehexa-n-alkanoates homologs, biaxial discotic liq. cryst. ^2H NMR study 4-7072
 GeO, obliquely deposited film, orientation props. for liquid crystals 4-50185
 NH_4NO_3 , in liq. cryst. soln., ^{14}N NMR investig. 4-54750

liquid drop model (nuclear) see nuclear liquid drop model**liquid encapsulated Czochralski method see crystal growth from melt****liquid films**

- see also *adsorbed layers; helium films; liquid helium; superfluidity; surface tension*
 air-water annular two-phase flow in horizontal tube 4-10771
 alminar film condensation in tube with upward vapour flow 4-5871
 breaking of liquid films and threads 4-25125
 butyl alcohol, thin films, vaporisation, heat transfer 4-28970
 condensate film flow, heat transfer investig. 4-14973
 condensation in porous medium, lateral mass flux effect 4-5947
 desiccant film flowing over roof, heat flux red. 4-21586
 flow with air in horizontal duct, viscous wave and film breakdown 4-29150
 grid-generated turbulence, vortices evolution and merging (*French*) 4-38800
 heptyloxybenzylidene-hpetylaniline liq. cryst. thin films, phase diagram, X-ray diff. study 4-34402
 horizontal annular flow, film thickness 4-29180
 image enhancement, thermal strain photography sensitivity 4-32351
 inclined plane, stationary long waves, nonlinear eqns. 4-29107
 laminar film flow over sphere, hydrodynamic stability 4-29056
 lipid films, microscopic order and disjoining press. 4-15364
 2,6-lutidine-water, thin critical fluid films, Rayleigh linewidth meas. 4-25126
 multilayered liquid films flow down inclined plate, stability, surface solidification effect 4-11387
 nematic liquid crystal, hybrid aligned cell, crit. thickness for large elastic anisotropy 4-6261
 nematic liquid crystal thin films, induced gratings, polaris. anal. 4-44201
 oil, IR irradi., viscosity and surface tension (*French*) 4-56124
 polymethylsiloxane liq. films, shear elasticity meas. 4-15566
 smectic liq. cryst. films, smectic-C* to smectic-A transition, order parameter meas., mean-field theory 4-50200
 smectic-A film, laser-induced transient and permanent gratings and ultrasonic waves 4-55709
 solute particles in colloidal suspensions, generalised van der Waals model for solvation forces 4-12390
 spherical film motion 4-11386
 surface waves, power spectrum, thermal fluctuation, light scatt. 4-56951
 thin films, Rayleigh-Taylor instability, nonlinear saturation 4-14949
 thin liquid films, thermal fluctuation power spectrum, long wavelength limit 4-56952
 turbulent falling liquid films, evaporation, heat exchange on thermal initial section 4-19832
 vibration-augmented heat and mass transfer between gas and suspension 4-19798
 viscous fluid, thin annular film surrounding circular pipe, nonlinear anal. 4-34754

liquid films continued

- viscous liquid film flowing down vertical wall, steady wave regimes 4-44610
 viscous liquid flowing film, convective heat transfer calc. 4-24430
 water, distilled, thin films, vaporisation, heat transfer 4-28970
 water, supercooled layer on ice, reply to comments 4-25128
 water, supercooled layer on ice surface, structure model 4-25127
 water-rigid ion crystal surface interface, computer simulation 4-25121
 He, strongly coupled ripplonic polarons at finite temp. 4-25105
⁴He superfluid 2-D film, vortex diffusivity 4-25110
 LiBr, falling wavy laminar liq. films., heat and mass transfer coeff. 4-19805

liquid flow coaxial cables see coaxial cables**liquid He see liquid helium****liquid helium**

- see also helium films; liquid helium-3; liquid helium-4; liquid helium sound propagation; riplons; vortices
 adsorption of H in liq. He surface, two dims. triplet H-H scatt. 4-36940
 boundary stability at supercrit. param. in heated channels 4-15735
 calibration of turbine flowmeters working with cryogenic liquids, conversion charact. eval. 4-5979
 capacitance sensor for cryogenic liquid level meas. (Chinese) 4-13645
 cryostat, mechanical noise for gravitation wave expts. 4-42838
 cryostat, temp. control below 4.2K 4-22785
 field emission electron microscope, liquid He cryostat for supercond. objective and cold stage 4-22885
 level measurement, continuous level monitoring using capacitive devices 4-27531
 positron induced cluster and positronium bubble 4-57024
 solid/liq. boundary, high freq. acoustic wave reflection 4-34744
 supercritical, ascending flow in heated tube, heat transfer 4-10665
 surface, coupled phonon-riplon modes, self consistent approach (Russian) 4-2405
 surface, RF power absorpt. by electron cryst., effect of optic plasma modes (Russian) 4-29727
 surface, trapped electron bound states, radiation field effects 4-11355
 surface, two-dims. electron lattice, dislocation-mediated melting 4-6480
 surface layer, nonlinear waves in transverse elec. field (Russian) 4-56106
 surface tension and condensate fraction 4-25103
 switch for liquid He temp. 4-42971
 two-phase flow in region of low press. 4-15022

liquid helium-3

- see also fermion systems; superfluid helium-3
 dynamic polarisation and EPR studies 4-6582
 dynamics of solid-liq. interface 4-11357
 film, mag. coupling with fluorocarbon substrate 4-56117
 film, paramagnetism singularities 4-50608
 fully spin-polarised, microscopic theory 4-6581
 heat transfer to sintered metal heat exchangers 4-56111
 magnetic coupling to ¹⁹F at low temps., relax. phenomena 4-15737
 NMR, spin-lattice relaxation times in high mag. fields 4-20426
 normal and polarised phases, microscopic calcs. 4-2397
 normal phase, an almost localised Fermi liquid, T=0 props. from Hubbard model 4-45442
 phenomenological theories, superfluid transition props. and neutron scatt. meas. 4-6602
 quantum fluids and solids, conf., Sanibel Island, USA, (April 1983) 4-4140
 quasiparticle interaction, microscopic models 4-6578
 quasiparticle scatt. amplitude, parametrisation 4-6579
 specific heat in Fermi liquid region 4-6580
 specific heat meas. in 8-T mag. field 4-45441
 spin polarised, elementary excitations 4-11371
 spin polarised system, transport phenomena 4-11369
 spontaneous ferromagnetism, high temp., and other mag. phenomena 4-56112
 strongly interacting fermion system, ground state, liquid ³He appl. 4-56114

liquid helium 3-4 mixtures

- convecting dilute soln. of ³He in superfluid ⁴He, chaos transition 4-11373
 critical behaviour, effective Hamiltonian and instability 4-50606
 dilute, heat capacity meas. and search for superfluidity, 320 μ K to 25 mK 4-6603
 dilute, heat transfer meas. 4-6604
 dilute, phonon-quasiparticle interactions under press. 4-15741
 dilute mixtures, mag. phenomena 4-56112
 dilute mixtures, thermal cond. near superfluid transition 4-25115
 film, dil., density fluctuations induced by impurities 4-15738
 film, third sound studies 4-34742
 flow properties of ³He moving through superfluid ⁴He below 150 mK 4-11378
 heat pulse propagation in dilute mixtures 4-39627
 Landau-Khalatnikov equations including healing and relaxation effects 4-11377
 phase separated, many-electron dipole on interface 4-6606
 positive ions, EPR obs. 4-45438
 quantum fluids and solids, conf., Sanibel Island, USA, (April 1983) 4-4140
 Rayleigh-Benard convection onset 4-15739
 spin waves, continuous wave NMR meas. 4-15740
 superfluid, boundary conditions at liq.-vapour interface 4-25116
 superfluid, second sound, porous microphone detection sensitivity 4-55291
 superfluid, transport and mag. props. 4-11376
 superfluid, volume sound absorpt. (Russian) 4-6605
 superfluid film formation near wall in proximity of λ line 4-45304
 superfluid solns., Bose spectrum 4-56115
 superfluid solution, convection 4-11374
 thin films, dil., density fluctuations 4-11375
 transport properties in ³He-⁴He mixtures near the superfluid transition 4-39625
 ultradilute superfluid mixtures, vortex nucleation 4-39626
³He, liquid, spin polarised system, transport phenomena 4-11369

liquid helium-4

- see also boson systems; superfluid helium-4

liquid helium-4 continued

- heat capacity meas. near lambda point 4-25107
 momentum distrib., density depend., neutron scatt. study 4-6576
 phase transformations near superfluid transition under heat flow 4-25106
 phonon propagation, HF cutoff obs. 4-29721
 positive ions, EPR obs. 4-45438
 ripplonic polarons in mag. fields, weak coupling case 4-25104
 shock waves of first and second sounds excited by heat pulses 4-34736
 space cooling system applications 4-8909
 spatial correlation and isothermal compressibility in interacting bosons at low temp. 4-11363
 superconducting cabled conductors cooled by He I and He II, stability studies 4-50985
 superheated, boiling, light-induced bubble nucleation, photographic study 4-11361
 thin film, interaction with metal surface (Russian) 4-56116
 thin film, strongly coupled ripplonic polarons at finite temp. 4-25105
 transverse acoustic impedance meas. 4-56110
 vortex ring nucleation by negative ions 4-39619
 wetting of FCC ⁴He grain boundaries 4-11381
 W-liq. ⁴He boundary, US transmission in collisionless region 4-20457

liquid helium sound propagation

- see also second sound; zero sound
 solid/liq. boundary, high freq. acoustic wave reflection 4-34744
 surface, RF power absorpt. by electron cryst., effect of optic plasma modes (Russian) 4-29727
 He film, superfluidity and third sound 4-50607
 He II, superfluid, transverse acoustic impedance, phonons and rotons 4-45435
³He, liq., normal and polarised, microscopic calcs. 4-2397
³He, superfluid, low temp. A-phase, US dispersion relation, cusp at $\omega=2a_0(T)$ 4-56113
³He, superfluid A-phase, rotating, vortex textures 4-11370
³He superfluid film, Bose spectrum in elec. field (Russian) 4-2395
³He-⁴He mixture films, third-sound studies 4-34742
³He-⁴He mixtures, superfluid, boundary conditions at liq.-vapour interface 4-25116
³He-⁴He superfluid, volume sound absorpt. (Russian) 4-6605
³He-⁴He superfluid solns., Bose spectrum 4-56115
³He-B, hydrodynamics in high mag. fields 4-2398
⁴He film, mass transport and third sound meas. near Kosterlitz-Thouless transition 4-2391
⁴He film, superfluid, nonlinear third sound 4-11362
⁴He films, third sound propag. 4-15734
⁴He, liquid, phonon propagation, HF cutoff obs. 4-29721
⁴He, liquid, shock waves of first and second sounds excited by heat pulses 4-34736
⁴He, superfluid, first sound absorption and vel. at high and low press. (Russian) 4-56109
⁴He, superfluid film, flow dissipation over coarse alumina substrate 4-11379
⁴He, superfluids, small amplitude long surface wave propagation 4-45436
 W-liq. ⁴He boundary, US transmission in collisionless region 4-20457

liquid lasers

- see also dye lasers
 benzimidazoles, 2-substituted, lasing in different aggregate states 4-38463
 benzoxazole aryl derivative soln., spontaneous and stimulated Raman scatt. 4-19438
 operational modes and methods (Spanish) 4-19417
 N₂, liq., high efficiency mid-IR generation by Raman down conversion of Ho:LiYF₄ laser 4-1442
 POCl₃-ZrCl₄-neodymium (trifluoroacetate)₃ laser system, refr. index gradient meas. (Chinese) 4-49345

liquid metal embrittlement

- metals, liquid metal embrittlement, interatomic bond weakening 4-26018
 steel, martensitic, tempered, gaseous H₂ and liq. metal embrittlement, fractographic study 4-21295
 Al₂O₃, compatibility with liquid Na, mech. and thermal props. 4-30841

liquid metals

- see also electron energy states of liquid metals; liquid alloys; mercury (metal)
 alkali liquid surface theory 4-45454
 alkali metals, electrical resistivity calcs. 4-2579
 alkali metals, Helmholtz free energies, variational calc. 4-55702
 alkali metals, inner order and struct. parameter 4-50175
 alkali metals, liq., surface energy, microscopic theory (Russian) 4-24713
 alkali metals, liq., variational thermodynamic calcs., use of one-component-plasma model 4-55695
 alkali metals, liquid, core polarisation and struct. factor 4-55703
 alkali metals, struct. factors under press. 4-6245
 alkali metals, thermal press. coeffs., Percus-Yevick phonon method 4-44939
 alkali metals, thermodynamic props., variational calc. 4-2062
 atomic level struct., mol. dynamics study 4-44991
 BGY pair potential, secondary interaction, approx. calcs. (German) 4-2064
 binary solutions, strongly associated, configurational entropies, short range order effects (French) 4-39086
 columns confined by external parallel conductors and surface tension, 2D theory 4-44757
 columns confined by external parallel conductors and surface tension, shaping devices 4-44758
 conference, Los Angeles, USA (Aug. 1983) 4-42585
 Culham Conceptual Tokamak Reactor IIA, liquid Li coolant, pumping power 4-48708
 dense high temperature matter in stellar interiors, elec./thermal cond. 4-3973
 electrical resist., Edwards' cancellation theorem and effective mass correction 4-29943
 electrical resist., Rubio-Ashcroft-Schaich and Rousseau-Stoddart-March formulae, comparison using multiple scatt. theory 4-56311
 electronic props., pair distribution function, Monte Carlo calc. 4-45596
 electronic struct. calc. 4-6248
 flow in the rectangular duct with strong non-uniform mag. field 4-49887
 flow meas. with conduction-type flowmeter with alternating mag. field 4-38920
 flow of liq. metal and solid phases in suspension-casting into R-10 ingot mold, hydraulic simulation 4-1790
 free energy change accompanying crystn. of undercooled melts 4-20336

liquid metals continued

- inhomogeneous flow in induction pump channel 4-38884
inhomogeneous liquid metal-vapour interface, elec. cond. theory 4-20619
ion emission in strong elec. field 4-46427
ion source, heating effects 4-35553
ion source, Laplace eqn. exact soln. in cuspidal geometry 4-48837
ion source for SIMS 4-43125
ion sources, ion motion computational models 4-43724
ion sources, mass spectra compilation 4-47780
ion sources, mechanism and appl. 4-43126
levitated metal droplet, heat and fluid flow under zero gravity conditions 4-57094
liquid alkali metal coolant systems, on-line monitoring equipment 4-9320
liquid metal flows and magnetohydrodynamics, conference, Beer-Sheva, Israel (March 1981) 4-27246
liquid-liquid film boiling of Freon-11 on liquid metal 4-27929
metal-ammonia solutions, metal-nonmetal transitions and critical phenomena, quantum percolation calc. 4-45634
metal-molten salt solutions, metal-nonmetal transitions and critical phenomena, quantum percolation calc. 4-45634
microrates of flow meas. using thermoelectric transducers 4-24490
microscopic theory of nuclear quadrupole relax. (Russian) 4-56804
natural convection heat transfer from downward facing horizontal surfaces 4-44574
noble metals, struct. and thermodynamics, pseudopot. and resonant model anal. 4-44929
nonsimple, electronic transport, tight-binding calc., effective medium approx. 4-45721
nuclear quadrupolar spin relax., rel. to local degrees of freedom 4-40262
nuclear quadrupole relax., atom pair dynamics 4-40263
radial distrib. function, perturbation and optimised cluster theory calc. 4-39088
roulette theory calc. of thermodynamic props. (Korean) 4-2063
self-diffusion, generalised Stokes-Einstein eqn. 4-45372
shaping of liq. metal ribbon (French) 4-50612
simple, density-functional theory of surface tension 4-6628
simple, self-diffusion 4-45371
small angle scatt., review 4-40566
small-angle X-ray or neutron scatt., linear k term 4-6247
specific heat calc. in hard sphere reference system 4-6516
static struct. factor, at distrib. degeneracy around single vacancies 4-44937
structural and thermodynamic props., electronic theory 4-44928
surface, laser-driven corrugation instability 4-14756
surface instability under intense IR radiation 4-20249
surface tension, pseudopotential calcs. 4-45453
surface tension, vaporisation entropy near melting point 4-50615
Tokamak fusion reactor, liquid metal in mag. field, convection, boiling heat transfer (Japanese) 4-14220
transition metals, electronic conduction, s-d band hybridisation, theory 4-45719
transition metals, liq., thermodynamic props., one-component plasma model 4-34397
transition metals, molten, static electroconductivity (Russian) 4-6760
turbulence suppression by mag. fields 4-29204
two-phase MHD flows in travelling and DC mag. fields, appl. to energy conversion system 4-29203
undercooled, entropy, free energy and sp. ht. 4-45350
US energy loss, two-state thermodynamical model 4-11228
viscosity and structure, mag. field influence 4-29664
Ag on GaAg, final spreading radius of melts on thin films 4-29730
Al, elec. resist., Harrison's first principle method, eigenvalue choice 4-2581
Al hot expanded liquid, vol., enthalpy, temp. and elec. resist. 4-45707
Al, solubility of Ti and B (French) 4-29634
Al, struct. and elec. resist., self-consistent calc. 4-44927
Al, thermodynamics, liq. theory approx. methods 4-20077
Al, wetting and contact reactions with nonmetallic materials 4-50614
Bi, liquid, contact reaction with Ti 4-2414
Bi, precision density meas. (German) 4-22762
Bi, viscosity and elec. resist. meas. (German) 4-6541
Cd, liquid, contact reaction with Ti 4-2414
Cd, liquid, thermal expansion meas. 4-39544
Cd, liquid-vapour interface, density profile study 4-45313
Cd, precision density meas. (German) 4-22762
Cr, liquid, elec. resist. and melting point 4-45712
Cs, liquid, sp. heat at temp. up to 2000K and press. up to 12 MPa 4-15656
Cs, liquid, surface tension, pseudopotential calcs. 4-45453
Cs liquid-vapour interface, X-ray refl. obs. 4-20434
Cs, NMR ¹³³Cs Knight shift and relax. rate studies 4-46130
Cs⁺ liquid metal source for SIMS 4-43729
Cu, electronic density of states, muffin tin model calc. 4-45571
Ga, EXAFS study of premelting and supercooling phenomena 4-57036
Ga, effective pair pot. rel. to pair correl. function 4-44940
Ga, liquid, effective pair pot. and pair correl. function 4-20079
Ga, liquid, struct. props. calc. 4-29305
Ga, liquid metal ion source; two-dimensional trajectories, paraxial formalism 4-33608
Ga on Ag and AgAu, final spreading radius of melts on thin films 4-29730
Ga, precision density meas. (German) 4-22762
Ga, rapid quenching process, thermal anal. 4-40769
Ga, X-ray scatt. anal., regularisation method 4-55745
Ga⁺ liquid metal ion sources, appl. to SIMS 4-43728
H, metallic liquid, ground-state energy 4-29717
Hg, elec. resist., nearly free electron calc., comparison with expt. 4-2580
Hg, liq. tube flow, heat transfer, temp. distrib. in longit. mag. field 4-38824
Hg, liquid, thermal expansion meas. 4-39544
Hg, liquid-vapour interface, density profile study 4-45313
Hg, metal-nonmetal and dielec. transitions 4-45633
Hg, metal-nonmetal transition under press. 4-45632
Hg, sp. ht. and high temp. and press., metal-nonmetal transition 4-45349
Hg, thermodynamic and elec. props. 4-25317
In, activity coeff. of O 4-15665
In molten, interaction with Fe-Si, dislocation formation (Russian) 4-6375
In, viscosity and elec. resist. meas. (German) 4-6541
K, liquid, surface tension, pseudopotential calcs. 4-45453
La, liquid, electronic conduction, s-d band hybridisation, theory 4-45719

liquid metals continued

- Li, molten, struct. and form factors, X-ray and neutron diffr. study 4-29302
Mg, thermodynamics, liq. theory approx. methods 4-20077
Na, compatibility of Al₂O₃ ceramics 4-30841
Na, H₂ pressure, Li effects on H₂ removal 4-725
Na, liquid, C movement from type 304 steel reactor vessel (Spanish) 4-28150
Na, liquid-vapour interface density profile calcs. 4-45314
Na, reaction with UO₂-CeO₂ solid soln. 4-14053
Na, self-diffusion 4-45371
Na, thermodynamics, liq. theory approx. methods 4-20077
Pb, liq., monolayer struct. on Ge (111), RHEED study 4-29306
Pb, liquid, contact reaction with Ti 4-2414
Pb, WCA struct. factor, core sizes and forces 4-44930
Rb, liq., self-current correl. function 4-44912
Rb liquid, quadrupolar relax. rates, mode-coupling theory of field-gradient correl. functions 4-2839
Rb liquid, supercooled and nucleated, vel. correlations 4-39085
Rb, low angle struct. factors, first nearly free electron theory anal. 4-44926
Rb, shear viscosity coeff. calc. using nonequilibrium mol. dynamics 4-34684
Rb, struct. factor at long wavelengths, classical theory anal. 4-29303
Rb, thermodynamics, liq. theory approx. methods 4-20077
Sn, liquid, contact reaction with Ti 4-2414
Sn molten, in water, thermal interaction, reactor accident molten fuel-coolant simulation 4-37837
Sn, oxidation, 25-240°C, LEELS and Auger study 4-26098
Sn, precision density meas. (German) 4-22762
Sn, struct. and elec. resist., self-consistent calc. 4-44927
Sn, viscosity and elec. resist. meas. (German) 4-6541
Te, liquid, Raman scatt. and struct. 4-30469
Te, liquid, vibr. dynamics and struct. study 4-56911
Tl, electronic density of states, relativistic KKR-EMA calc. 4-45569
Tl, precision density meas. (German) 4-22762
Yb, liquid, density meas. 4-6417
Zn, liquid, thermal expansion meas. 4-39544
Zn, liquids, X-ray diffr. study struct. factor determ. 4-44936
Zn, reaction with Fe-C-Si alloys, 733K (Japanese) 4-46652

liquid oscillations

- see also liquid waves*
channel, semi-infinite, free oscills. of viscous incompressible fluid 4-44722
dusty gas, oscillatory flow induced by oscillations of infinite flat plate 4-10740
dynamic interaction of liquid filled reservoirs with an elastic half-space (Russian) 4-10690
film flowing down inclined oscillating plane, stability problem (Russian) 4-44538
free oscillations of a liquid in an oblique section of a torus (Russian) 4-10689
immiscible liquids in rectangular container, oscills., damper for cantilever beam 4-49614
laminar to turbulent flow transition, laser Doppler anemometer meas. inside oscillating tank 4-38798
natural frequencies and modes of liq. in arbitrary shaped container 4-10535
nontensile thread dynamics in a liq. (Russian) 4-10530
parametric excitation of fluid flowing out of a vibr. container 4-44612
poly(ethylene oxide) mixture solns., Poiseuille flow, thermal elec. noise generation 4-29188
sloshing frequencies for cross section of cylindrical tank or canal, 2-dimens. problems 4-10694
steady motion of fluid, stability, effect of small forced oscills. 4-44609
turbulent viscosity in rough oscillatory flow 4-29064
wave propagation along inhomogeneous elastic layer in liq. (Russian) 4-10581

liquid permeability *see permeability*

liquid phase epitaxial growth

- equilibrium electroliq. epitaxy, growth kinetics and temp. distrib. 4-6308
garnet {111} thick LPE films, melt PbO/B₂O₃ molar ratio effects on morphological change 4-39712
garnets, growth rate inhibition by group II oxides 4-3091
III-V heterostructures, growth or dissolution reversal by LPE 4-50670
III-V pseudoternary alloy systems, LPE growth, lattice consts., comp. deviation effects 4-15776
III-V semiconductors, programmable (Chinese) 4-7373
low-temp. edge photoluminesc., shallow impurity position correl. 4-30527
semiconductor, syst. cryst. layer growth, numerical modelling 4-57114
solar cells construction and principles (Dutch) 4-36010
AlGaAs/GaAs selective-meltbacked substrate inner stripe laser, room temp. CW operation 4-24019
Al_{0.48}Ga_{0.52}As, LPE growth rate, diffusion limited growth model 4-35585
Al_{0.48}Ga_{0.52}As, single crystal stacked layers, cascade solar cell portions, growth and photoluminesc. 4-3089
AlGaInAs epitaxial layers LPE, on GaAs (100), growth lines rel. to melt surface tension 4-3090
Al_{0.48}In_{0.52}As LPE layers, undoped and Si-doped, elec. props. 4-20745
BaFe₁₂O₁₉ epitaxial films, LPE growth and mag. props. 4-7039
(Bi,Tm)₂(Fe,Ga)₂O₁₂ garnet film, pulsed magnetisation switching 4-2798
BiIG thin film waveguides, LPE-grown, growth-induced optical birefringence 4-19563
(BiSmLu)₂(FeSc)₂O₁₂ bubble films, mag. props. study 4-56739
CdTe epilayer-Cs, AES and work function study of deposition 4-25837
CdTe substrate large single crystal growth by Bridgman method, material eval. 4-21120
CdTe:In(Al) epitaxial layers, LPE growth and doping characts. 4-34820
Fe-Pd surface alloy, ion channelling and TEM studies of epitaxial growth 4-45544
GaAlAs, high-power dual-wavelength laser array, monolithic integration, LPE growth 4-19442
GaAlAs:Sn(Ge), liquidus-solidus curves, appl. to visible laser 4-46455
GaAs, electroliq. epitaxy, mass transport and growth rate 4-6307
GaAs, epitaxial, electronic props. of native deep level defects 4-39815
GaAs thin film planar waveguides, preparation, parameters optimisation (Czech) 4-10419
GaAs:Ge(Sn), LPE growth rate 4-34831
GaAs/GaAlAs DH lasers, LPE growth method 4-35587

liquid phase epitaxial growth continued

GaAs-GaAlAs heterostructures, LPE growth, Al conc. in subsurface region 4-7375
 GaAs_{1-x}Sb_x, electroliquid epitaxy 4-40693
 GaAs_{1-x}Sb_x, low-temp. edge photoluminesc., shallow impurity position correl. 4-30527
 Ga_{1-x}In_xAs epitaxial layers, grown with transition layer, elec. props. 4-30959
 GaInAsP BH heterostructure optical waveguide branches and bends, low-loss, LPE growth 4-38574
 GaInAsP, LPE growth on GaAs (100) by two-phase soln. technique 4-40679
 GaInAsP laser heterostructures, automated LPE apparatus for preparation 4-30652
 Ga_{1-x}In_xAs_{1-y}Sb_{1-y}, isoperiodic layers of quaternary solid solution 4-51555
 GaP, LPE, Ga soln. oxidation thermodynamic anal. 4-57538
 Gd-Fe garnet layers, Bi substituted, LPE growth 4-35586
 Ge high purity, detector fabrication by liquid phase epitaxial method 4-40680
 Hg_{1-x}Cd_xTe abrupt heterojunctions, misfit dislocations and dangling bond densities 4-50907
 Hg_{1-x}Cd_xTe heterojunctions, misfit dislocations, dangling bond densities, epitaxial growth theory 4-39706
 Hg_{1-x}Cd_xTe, LPE growth from Hg-rich solns., phase diagram determ. 4-34818
 Hg_{1-x}Cd_xTe, LPE growth using slider boat, annealing effect on epilayer props. 4-34819
 (In,Ga)P homogeneous alloy, temp. difference LPE growth (*Japanese*) 4-30651
 InAs, dissolution in In-As melt, kinetics, 823-973K 4-56014
 InGaAs films, LPE, carrier conc., Hall mobility, Al addition gettering effect 4-46456
 InGaAs/InP 1.65 μm GH lasers, molecular beam and liquid phase epitaxy growth, aging 4-33654
 InGaAs/InP waveguided optical switch using free-carrier plasma dispersion 4-49575
 In_{0.53}Ga_{0.47}As LPE on (100)-InP substrates at low growth temps., Hall meas. 4-21171
 In_{0.53}Ga_{0.47}As:Fe, LPE, dopant compensation 4-40688
 In_{1-x}Ga_xAs, LPE growth using source current control of composition 4-40678
 InGaAsP buried crescent lasers, orientational dependent growth kinetics influence on performance 4-38467
 InGaAsP three-channel buried crescent laser, 1.51 μm wavelength, LPE 4-49394
 InGaAsP/InP channeled substrate BH laser using Fe⁺ implant for current confinement, LPE growth 4-38472
 InGaAsP/InP heterolaser strips, hybrid technology fabrication 4-49401
 In_{1-x}Ga_xAs_{1-y}P_{1-y}/InP heterojunction interface, LPE grown, compositional transition layer study using AES 4-25165
 In_{1-x}Ga_xAs_{1-y}P_{1-y}/InP LPE layers, growth temp. effect on lattice mismatch 4-7374
 In_{1-x}Ga_{1-x}As_{1-y}P_{1-y}, LPE growth and surface morphology on GaAs (100) 4-40677
 In_{1-x}Ga_{1-x}As_{1-y}P_{1-y} layers, high temp. LPE, electron Hall mobility, scatt. mechanism 4-40087
 InGaP-InGaAs-InGaP heterostruct. diode, fabrication, room temp. lasing 4-49364
 In_{1-x}Ga_xP, electroepitaxial Peltier induced LPE on GaAs (100) 4-30653
 In_{1-x}Ga_{1-x}Sb_x, LPE growth, In conc. control using pulse current (*Japanese*) 4-30650
 InP avalanche photodiodes, LPE, hole diffusion length, impact ionisation coeffs. 4-40687
 InP, materials science, conf., Lancaster, England (March 1983) 4-36779
 InP:Cd LPE layers, impurity concentration meas. by ionized impurity scatt. anal. 4-20231
 Pb_{1-x}Sn_xSe, LPE, doping, charge carrier mobility and conc. 4-56457
 Pb_{1-x}Sn_xTe:In, liquid phase epitaxy, elec. cond., deep levels in forbidden zone 4-51556
 Pb_{1-x}Sn_xTe/PbSe_{1-y}Te_{1-y} distributed Bragg reflector diode lasers, LPE growth 4-38469
 PbTe:Cd, LPE growth, carrier conc., doping depend. 4-45559
 ReIG single crystal thin films, Faraday rotation meas. (*Chinese*) 4-46338
 p-Si insulator a-Si:As⁺, laser annealing effects (*Korean*) 4-40020
 Si, solution growth from liq. Sn, photovoltaic solar cell appl. 4-40690
 SiC, LPE growth, migration props. of Si-Tb solvents 4-12035
 SmTmGdLuAl:YIG epitaxial films, mag. props. study 4-56729
 (SmYGDmTm)₂Ga_{0.5}Fe_{0.5}O₁₂ films, ion-implanted, characterisation of microstructure by SEM 4-25173
 Te-HgTe-CdTe system, epitaxial crystallisation, liquidus isotherms 4-51557
 (YBi)₃(FeGa)₅O₁₂ LPE film waveguides, optical props., growth temp. effects 4-19561
 YIG, double-layer films, pulsed magnetisation props. 4-30255
 YIG epitaxial films, mag. props. and structural defects (*Russian*) 4-25612
 YIG film, spin wave resonance excitation mechanism 4-40208
 YIG, LPE films, growth and dissolution in orthoferrite primary phase melt 4-46457
 YIG:Gd epitaxial film, optical absorpt. study 4-30539
 (YSmLuCa)₃(FeGe)₅O₁₂:Xe(As) bubble garnet films, mag. and struct. props. 4-56744

liquid semiconductors

see also electron energy states of liquid semiconductors
 conference, Tokyo, Japan (August 1983) 4-42584
 ionic screening and acceptor band cond. 4-45796
 microscopic theory of nuclear quadrupole relax. (*Russian*) 4-56804
 static struct. factor, at. distrib. degeneracy around single vacancies 4-44937
 structure, neutron scatt. 4-15363
 As₂Se₃, charged defects, elec. cond. study 4-45792
 Bi-Te, liq., semicond., ²⁰⁹Bi Knight shift 4-46133
 Ga₂Te₃, liq., nonmetal-metal transition under press. 4-2512
 Ge melt, crystn. in an external elec. field 4-29362
 Ge, molten, struct., pseudopotential-derived interatomic forces and optimised RPA calcs. 4-55701
 GeSe₂, Raman scatt. and struct. order 4-46257
 Mn₂Te_{1-x}, liq., elec. cond. meas., struct., neutron diffr. 4-6789

liquid semiconductors continued

Sb-Te liquid semicond., mag. contrib. to hyperfine field, Knight shift meas. 4-56802
 Sb-Te liquid semiconducting alloys, NMR investig. 4-46129
 Se, charged defects, elec. cond. study 4-45792
 Se, electronic and thermodynamic props. 4-45791
 Se-Ga₂Se phase equilibria, regular associated soln. model for Ga-Se liq. 4-24986
 Se-Na (Ti)(Cl), liq., cond. and thermopower, charged additives effects 4-50811
 Se-Te, electronic and thermodynamic props. 4-45791
 Se-Te, Hall coeffs., melting point to 750°C 4-6811
 Se-Te liquid mixtures, semicond.-metal transition at high temp. and press. 4-45635
 Se-Te liquid semiconductors, acceptor band transport, semiconductor-metal transition 4-45842
 (Se_{0.5}Te_{0.5})_{1-x}M_x (M=Ti, Ag, Cu, Na) liquid semicond., electronic behaviour 4-25345
 Si, liq. 4-55983
 Ti-CuTe₂, molten system, electron transport props. and mag. susceptibility 4-25342

liquid-solid transformations see solid-liquid transformations

liquid structure

see also classical theories of fluid structure; long-range order; neutron diffraction examination of liquids; quantum theories of fluid structure; short-range order; X-ray diffraction examination of liquids
 acetone in CS₂ solns., atom-atom radial distrib. functions, intermol. pot. 4-43933
 acetone-water solution, structures, heat capacity (*Russian*) 4-44924
 acid electrolyte solns. in ethylenediamine, struct., IR absorpt. spectra 4-39082
 alkali metal liq. alloys, chem. interactions and electronic struct., solid state calcs. 4-45588
 alkali metal melts, inner order, struct. parameters 4-50175
 alkali metal phosphates, Raman spectra of melts, structure from temp. depend. (*Russian*) 4-51251
 alkali metal-group IV liq. alloys, neutron diffr., Knight shift and elec. resist. studies 4-45710
 alkali metals, electrical resistivity calcs. 4-2579
 alkali metals, liquid, core polarisation and struct. factor 4-55703
 alkali metals, struct. factors under press. 4-6245
 alkali metals, thermal press. coeffs., Percus-Yevick phonon method 4-44939
 alkali metals, variational thermodynamic calcs., use of one-component-plasma model 4-55695
 4-trans-(4-alkyl) cyclo-hexylphenyl-alkyl-carboxylate, liq. cryst., X-ray diffr. study 4-29309
 N-(4-p-alkyloxyallylidene)-4-p-alkylaniline soln., optical parameters 4-20965
 alloys, binary, atomic and electronic struct., self-consistent theory 4-44925
 alloys, liq. and amorphous, structure, diffr. studies 4-44932
 alloys and metals, structural and thermodynamic props., electronic theory 4-44928
 anisotropic potentials, short-ranged, Percus-Yevick approximations evaluation 4-20065
 aqueous solns., struct. and energetics, Monte Carlo calcs. 4-10938
 associated liq. struct., statistical theory 4-34387
 atom pairs relative dynamics in simple liquids 4-50167
 atomic level struct., computer simulation and statistical geometry 4-44957
 block copolymers, melt rheology, network model 4-49796
 bromochlorofluoromethanes, liq., rot.-translation coupling, low temp. mol. dynamics 4-15366
 n-butane in water, site-site correl. functions, Monte Carlo results 4-50168
 1,3-butanediol, supercooled, microscopic study of motions by γ-radiation Rayleigh scatt. 4-56949
 chlorofluoromethanes-NO free radical liq. system, H bond formation and mol. motion in solns. 4-30310
 chloroform/chloroform-d₃, neutron scatt., atom pair correl. functions 4-44922
 classical fluid, struct. factor calcs. 4-39072
 compound forming molten alloys, thermodynamic props., quasi-lattice theory 4-39541
 critical-concentration fluid mixtures, phase separation and cluster size 4-2340
 18-CROWN-6, liq. state, quasielastic neutron scatt. study of dynamics 4-6241
 p-cyanophenyl-p-heptylbenzoate, nematic, dielectric props. and birefringence 4-56843
 meta-difluorobenzene, ¹H and ¹⁹F NMR study of struct., J-coupling anisotropy and orientational behaviour 4-7082
 trans-1,2-dimethylcyclopropanes, rototranslation, mol. dynamics 4-15367
 diphtic mols., aq. solns., struct., conc.-chain length diagrams 4-10941
 DNA solutions, light scatt. and struct. 4-21619
 electrolyte solutions, extension of UNIFAC model 4-24967
 electrolyte solutions, phase equilibrium and thermodynamic props. 4-24966
 electrolyte-solution model, Monte Carlo simulation for divalent charged hard spheres of unequal diameter 4-29291
 electrolytes, aq., dielectric and struct. props., ion size and charge influence 4-11824
 ethane, liq., interaction models, Monte Carlo simulation 4-34392
 ferrofluids, preparation by spark erosion, struct. and mag. props. 4-30656
 fluid molecular theory, Gaussian overlap potential modelling 4-24701
 fluid phase equilibrium, conference, Callaway Gardens, GA, USA (April 1983) 4-22510
 formic acid in H₂O, apparent molar vol. depend. on sodium formate conc. 4-15563
 hard discs, close packed, disorder near walls (*French*) 4-15355
 hard spheroids, model fluid, equation of state and radial distrib. function, Monte Carlo simulations 4-55691
 heavy water, IR absorpt. spectra in liq. and supercooled ranges 4-11879
 hexatic liquid crystals, 3-dimens., stacked, hydrodynamic eqns. 4-44946
 hydrocarbon mol. fluids, generalised van der Waals eqn. of state, Bonblik-Nezbeda eqn. 4-2300
 4-hydroxypyridine, aq. soln., struct. and energetics, Monte Carlo method calcs. 4-10939

liquid structure continued

- inert gas liqs., vacancy form. energy, direct correl. function at melting temp. 4-50171
 inherent struct., density effect 4-55694
 ISM liquids, coupling of long and short range correl. and dielec. const. 4-24709
 isopolytellurate ions built up by MO_3 octahedra sharing edges in aqueous media, system of structures (*German*) 4-10946
 lactic acid, enantiomerism rel. to condensed phase dynamics 4-2046
 Lennard-Jones mixtures, molecular dynamics studies 4-24705
 light scattering, depolarised wing, relation to Maxwell and Kerr effects 4-35459
 linear thermotropic nematic polyesters, mol. arrangements in nematic mesophases 4-50172
 lipid films, microscopic order and disjoining press. 4-15364
 lyotropic nematics, struct. characterisation by polarising microscopy 4-6255
 macromolecular chains, confined, conformation study in cross-over between slit and capillary 4-39081
 metals, atomic level struct., mol. dynamics study 4-44991
 metals, linear k term in small-angle X-ray or neutron scatt. 4-6247
 metals, liq., electronic struct. calc. 4-6248
 metals, radial distrib. function, perturbation and optimised cluster theory calc. 4-39088
 metals, static struct. factor, at. distrib. degeneracy around single vacancies 4-44937
 metals, struct. and viscosity, mag. field influence 4-29664
 methane, mol. liq. struct., atom-atom radial distrib. functions 4-34394
 methane in water, site-site correl. functions, Monte Carlo results 4-50168
 methanol-chloroform(acetone)(tetrachloromethane), mixtures, molar excess enthalpies using isothermal dilution calorimeter 4-25055
 methanol-chloroform-acetone(benzene-tetrachloromethane), mixtures, molar excess enthalpies using isothermal dilution calorimeter 4-25055
 methyl ethyl ketone-l-alkanols-n-nonane ternary mixts., excess vol. meas. 4-15562
 2-methyl-2-propanol, liq., X-ray scatt. exptl. intensity distrib. curve 4-7269
 mixture models, molecular basis for local compositions 4-24703
 mixtures, group contrib. method 4-24702
 molecular liquids, hard dumbbell mol. fluid systems, independ. mol. interaction sites model, Monte Carlo study 4-2043
 molten salt chemistry, book 4-4175
 molten salts, structure, neutron scatt. 4-15363
 nematic aromatic polyester, mesogenic elements in main chain 4-55718
 nematic liquid crystal surface, X-ray reflectivity, struct. and absolute value of crit. fluctuations 4-44945
 nematic liquid crystals, order parameters, depolarised Raman scatt. study 4-29313
 noble metals, liq., struct. and thermodynamics from generalised OPW and reson. model approaches 4-15371
 noble metals, struct. and thermodynamics, pseudopot. and resonant model anal. 4-44929
 nonspherical molecular fluid in contact with solid surfaces, Percus-Yevick approx. reformulation for density profile 4-24710
 order, frustration and defects 4-20114
 order parameter fluctuations in nematic liquid crystals 4-10987
 pair correlation function and density profile of a liquid in contact with rigid wall 4-24708
 polar liquid, surface layer, mol. orientation calc. 4-34381
 polar liquids, struct. in hypernetted approx. (*Russian*) 4-6238
 polyacrylamide in water, liq. network struct. 4-50173
 polyelectrolytes, cylindrical, dielec. saturation effects 4-2048
 polymer melts, strained, tube relaxation 4-39083
 polymer polydispersed soln., true self-avoiding walks 4-44923
 polystyrene latex solns., liq.-like struct., depend. on ionic strength of added NaCl 4-10955
 polystyrene-polybutadiene, interaction parameters in toluene and tetrahydrofuran solns. 4-10952
 potassium decanoate-water-decanol-KCl, type II nematic lyomesophase, surface and mag. orientation 4-39113
 4-propionyl-4'-n-heptanoyloxazobenzene, hexatic B and cryst. B structures, X-ray diff. obs. 4-55719
 4-pyridone, aq. soln., struct. and energetics, Monte Carlo method calcs. 4-10939
 quantum liquid, structure factor and excitation energy, temp. depend. 4-20432
 reference-hypernetted-chain eqn. solns. with minimised free energy 4-2052
 rotational-translational coupling and liq. state dynamics 4-2046
 semiconductor, structure, neutron scatt. 4-15363
 semiconductors, conf., Tokyo, Japan (August 1983) 4-42584
 semiconductors, static struct. factor, at. distrib. degeneracy around single vacancies 4-44937
 semimetals, static struct. factor, at. distrib. degeneracy around single vacancies 4-44937
 smectic C* phase, thin planar, behaviour in electric field 4-29314
 soft sphere system struct. under shear, computer simulations and colloidal suspensions comparison 4-10936
 structural transition dynamics 4-2053
 surface ellipsometry 4-48180
 surface waves, viscoelastic theory 4-6625
 tetrachloromethane, mol. liq. struct., atom-atom radial distrib. functions 4-34394
 toluene-chlorobenzene (benzyl alcohol)(n-hexanol) binaries, viscosities and thermodynamics 4-15673
 twisted nematic cells, multiplexing under nonrigid boundary conditions 4-29311
 water, computer simulation methods for phys. props., review 4-50156
 water, H bond network organisation and lifetimes 4-20074
 water, high density, mol. dynamics study using modified central force pot. 4-55697
 water, IR absorpt. spectra in liq. and supercooled ranges 4-11879
 water, liq., eqn. of state, struct., thermodynamic props., press. effects 4-10940
 water, liq., H bond struct., press. effects 4-44918
 water, liq. struct., quantum and path integral Monte Carlo method calcs. 4-29292
 water, liquid, 2- and 3-body ab initio pots., Monte Carlo study 4-38063
 water, liquid and supercrit., struct. study by X-ray diff., mol. density radial distrib. and paired correl. functions 4-55699
 water, long range forces, struct., props., mol. dynamics calc. 4-10949

liquid structure continued

- water, modified, on pore glass surface, EPR study 4-2055
 water, molecular dynamics study between Lennard-Jones walls 4-24711
 water, struct. and refractive index in visible region 4-39084
 water, superheated, base to define normal components of expansivity and compressibility of stable water 4-39432
 water supercooled, hindered translational region, low freq. Raman study 4-25746
 water-salt systems, struct. features, cryocrystallisation 4-34619
 Al, struct. and elec. resist., self-consistent calc. 4-44927
 As_2S_3 molten phase, viscosity, rel. to struct. 4-20388
 Bi-Bi_2 molten mixtures, sp. ht. and time of flight neutron diff. studies 4-45348
 Cd-Zn, X-ray struct. study and elec. props. 4-6246
 Co ferrofluid, struct., neutron scatt. studies 4-30238
 Cs-Sb liq. alloy, struct., neutron diff. study 4-44933
 Cs_2SO_4 molten, struct. anal. 4-50174
 $[\text{Cu}(\text{CN})_3]^{2-}$ aq. solns., EXAFS study with position-sensitive photodiode array 4-2991
 $[\text{Cu}(\text{CN})_4]^{3-}$ aq. solns., EXAFS study with position-sensitive photodiode array 4-2991
 D_2O , supercooled region, neutron diff. studies 4-10954
 Ga, effective pair pot. rel. to pair correl. function 4-44940
 Ga, liq., X-ray scatt. anal., regularisation method 4-55745
 Ga, liquid, struct. props. calc. 4-29305
 Ge, molten, struct., pseudopotential-derived interatomic forces and optimised RPA calcs. 4-55701
 GeCl_4 mol. liq. struct., atom-atom radial distrib. functions 4-34394
 GeSe_2 , Raman scatt. and struct. order 4-46257
 HCl, dimer, liq. and ordered solid, struct. calc. using intermol. pot. model 4-38054
 HF, liq. struct., intermolecular pot. function, Monte Carlo simulations 4-34395
 ^3He , liq., normal and polarised, microscopic calcs. 4-2397
 ^4He , momentum distrib., density depend., neutron scatt. study 4-6576
 Hg-based liq. alloys, thermodynamic and electronic props., higher order correlation effects 4-45709
 $\text{K}_2\text{O-SiO}_2$ glass melts, struct. relax. and shear viscosity 4-15370
 Li, molten, struct. and form factors, X-ray and neutron diff. study 4-29302
 Li-Pb, multicomponent hard sphere mixture, struct. factors 4-44938
 Li-Pb, struct. factors, hard sphere model 4-2060
 Li-Pb, total struct. factor, temp. depend. 4-2059
 Li-Pb liquid dilute alloy, elec. resist. and chem. short range order 4-50785
 Li-Sn liquid dilute alloy, elec. resist. and chem. short range order 4-50785
 $\text{Li}_7\text{Ag}_{29}$ liquid, partial struct. factor determ. 4-20078
 LiBr aqueous solns., thermophysical props. correlation 4-24704
 LiI, aqs. soln., translational and rot. motions, mol. dynamics study 4-2047
 $\text{Li}_2\text{O-PbO}_2$ liquid alloys, conc. fluctuations, neutron scatt. study 4-20080
 Li_2Pb liq., model for struct. 4-44931
 Li_2Pb , partial struct. factors and radial distrib. functions 4-2061
 Mg, elastic properties and multivalued local pseudopotentials (*Russian*) 4-24893
 Mg salts in methanol and methanol-water mixtures, struct., Raman spectra 4-16193
 MgCl_2 , molten, struct., neutron diff. 4-44920
 $\text{Mg}_{20}\text{Zn}_{30}$ alloys, liq. and amorphous, struct., X-ray diff. study 4-44934
 Mn-Si, liq. struct., X-ray diff. studies, rel. to metallic glasses 4-44935
 Mn-Si alloy melts, struct. by X-ray diff. 4-2057
 MnCl_2 , molten, struct., neutron diff. 4-44920
 MnO-SiO_2 melts, X-ray diff. study 4-50170
 $\text{Mn}_2\text{Te}_{1-x}$ liq., elec. cond. meas., struct., neutron diff. 4-6789
 N_2 dense liq., thermodynamics study by mol. dynamics 4-38923
 Na-Bi dilute molten alloys, Na activity and struct. implications, EMF meas. 4-29304
 Na-Sn, struct. determ. by neutron diff. 4-20076
 Na-Sn dilute molten alloys, Na activity and struct. implications, EMF meas. 4-29304
 $\text{Na}_2\text{O-SiO}_2$ glass melts, struct. relax. and shear viscosity 4-15370
 Ni-B, liq. struct., X-ray diff. studies, rel. to metallic glasses 4-44935
 Ni-B molten alloys, struct. by X-ray diff. 4-2058
 Ni-Mn-Sn alloys solid and liq., mag. props. and struct. 4-16016
 NiCl_2 , aqueous soln., struct. determ. by neutron diff. multipattern anal. 4-29300
 Pb, liq., monolayer struct. on Ge (111), RHEED study 4-29306
 Pb, WCA struct. factor, core sizes and forces 4-44930
 Rb, low angle struct. factors, first nearly free electron theory anal. 4-44926
 Rb, struct. factor at long wavelengths, classical theory anal. 4-29303
 RbCl , molten, radial distrib. functions, generalised mean spherical approx. 4-55698
 Se, electronic and thermodynamic props. 4-45791
 Se-Te, electronic and thermodynamic props. 4-45791
 $\text{Se}_{1-x}\text{Te}_x$ liquid and amorphous, TDPAC study 4-56835
 SiCl_4 mol. liq. struct., atom-atom radial distrib. functions 4-34394
 Sn, struct. and elec. resist., self-consistent calc. 4-44927
 SnCl_4 mol. liq. struct., atom-atom radial distrib. functions 4-34394
 Te, liquid, Raman scatt. and struct. 4-30469
 Te, liquid, vibr. dynamics and struct. study 4-56911
 Zn, liquids, X-ray diff. study struct. factor determ. 4-44936
 ZnCl_2 -KCl system melts, density, refr. index, melt struct. 4-39358

liquid surface waves see surface waves (fluid)**liquid theory**

- see also classical theories of fluid structure; equations of state of liquids; quantum theories of fluid structure
 acetonitrile, liq., RISM pair-correl. function, intermolecular nucl. relax. 4-51155
 alkali metal-metal halide solns., model using HNC theory 4-20072
 alkali metals, liquid surface theory 4-45454
 alkali metals and alloys, liq., thermodynamic props., variational calc. 4-2062
 alkyldiaryldines aq. solns., substituent effect on intermol. H bonding from lattice gas theory for lower crit. points 4-11250
 alloys, binary, association and quadrupolar nuclear spin relax. rate 4-46137
 alloys, binary, two cluster regular associated model (*French*) 4-39087

liquid theory continued

anisotropic potentials, short-ranged, Percus-Yevick approximations evaluation 4-20065
 anisotropy in computer-simulated fluids 4-34383
 associated liq. struct., statistical theory 4-34387
 associated solutions with volume effects, thermodynamics study 4-25054
 asymptotic behaviour of three-particle correlations 4-39077
 asymptotic density correlations and corrections to scaling for fluids with non-finite range interactions 4-39078
 atomic and molecular fluids, rattling motions 4-6240
 atomic motions, local environments, mol. dynamics simulations 4-50159
 BGY pair potential, secondary interaction, approx. calcs. (*German*) 4-2064
 n-butane, liquid, molecular dynamic, simulation 4-44911
 n-butane in water, site-site correl. functions, Monte Carlo results 4-50168
 chloroform, liq., RISM pair-correl. function, intermolecular nucl. relax. 4-51155
 classical fluid, struct. factor calcs. 4-39072
 colloidal system stability, mean spherical approx. comparison with Monte Carlo simulations 4-7763
 critical region, near-critical pair correlation functions, differential eqns., nonlinearities 4-34610
 cubic chain-of-rotators eqn. of state and vapour-liquid equilibrium calcs. 4-24952
 dense binary mixtures, with one tracer component, transport props., Enskog theory calcs. 4-29295
 dense condensed media, perturbation theory and eqn. of state 4-55955
 dense fluids, static three-body correl. representation 4-44914
 dense hard-sphere fluid, self-diffusion, mol. dynamics simulation 4-6235
 dense Lennard-Jones fluid, microscopic sound waves 4-55925
 dense Lennard-Jones fluid, stationary nonequilib. states, mol. dynamics calcs. 4-44916
 diatomic fluids, force and torque correls. 4-50166
 diatomic fluids, thermodynamic props., ang. median pot. 4-56049
 dielectric constant, freq. depend. calc. in computer simulation 4-25666
 dielectric liquid, Clausius-Mossotti formula for dielectric suspension of spherical inclusions 4-30381
 double layer, dielectrically nonuniform, in dil. electrolytes, continuous struct. 4-52024
 electric double layer, structure at uncharged surface, dielec. step model 4-35044
 electric double layer, temp. jump investig. 4-52023
 electrical double layer, finite length dipole model 4-50160
 electrolyte solns., bimorphic lattice theory, conductivity data 4-24707
 electrolyte solutions, extension of UNIFAC model 4-24967
 electrolyte solutions, phase equilibrium and thermodynamic props. 4-24966
 electrolyte-solution model, Monte Carlo simulation for divalent charged hard spheres of unequal diameter 4-29291
 electrolytic solutions, hypernetted chain approx. for transport processes 4-20385
 entropy and press. using inverse power pot. reference system 4-6237
 ethane, liq., RISM pair-correl. function, intermolecular nucl. relax. 4-51155
 fluid mixtures, new theories of eqns. of state 4-24947
 fluid molecular theory, Gaussian overlap potential modelling 4-24701
 fluid phase equilibrium, conference, Callaway Gardens, GA, USA (April 1983) 4-22510
 fluids of Lennard-Jones spheres with dipoles and tetrahedral quadrupoles, computer simulation 4-39076
 force on an ion in solution due to an oscillating electric field 4-39553
 frozen rigid-sphere fluid, diffusion blocking 4-2362
 generalised eqn. of state, boiling point as parameter 4-24954
 glass transition by quenching of model liqs., mol. dynamics study 4-45332
 hard convex particle fluids, eqn. of state, modified cell theory 4-34389
 hard disc fluid, dynamical correlations, generalised Enskog theory 4-6232
 hard disc fluid, van Hove self-correlation function, Enskog theory, computer simulation 4-6233
 hard discs, close packed, disorder near walls (*French*) 4-15355
 hard dumbbell fluid, site-site Ornstein-Zernike eqn., zero pole approx. 4-39075
 hard ellipsoid system, phase diagram, Monte Carlo simulation studies 4-34614
 hard sphere fluid, interface at planar wall, theory and simulations 4-50162
 hard sphere multicomponent mixtures, mutual diffusion, Enskog theory 4-11326
 hard spheres, random close packing, freezing transition, and spinodal decomp. 4-20069
 hard spheres in soln., self-diffusion coeff., conc. depend. 4-6533
 hard spheroids, model fluid, equation of state and radial distrib. function, Monte Carlo simulations 4-55691
 hard-disk fluid, equilib. props. determ. using hypernetted chain integral eqn. theory 4-15358
 hard-sphere system, momentum correl. times, uncorrelated successive binary collision approx. anal. 4-44909
 hexane, liq., press. depend. of expansivity, model for liquids 4-55898
 homogeneous nucleation for inverse power pot. and Lennard-Jones liqs. 4-55693
 hydrocarbon mol. fluids, generalised van der Waals eqn. of state, Bon-blik-Nezbeda eqn. 4-2300
 inhomogeneous fluids, thermodynamic props. 4-20067
 inhomogeneous system, equilib. relax., mol. dynamics investig. 4-20066
 intramolecular rotation in liqs. and NMR 4-15361
 ISM liquids, coupling of long and short range correl. and dielec. const. 4-24709
 lactic acid, enantiomerism rel. to condensed phase dynamics 4-2046
 Lennard-Jones, atomic liq., dynamic and static props., mol. dynamics simulation 4-50165
 Lennard-Jones diatomic fluid, perturbation theory of site-centered spherical harmonic coeffs. 4-29293
 Lennard-Jones fluid, crit. phenomena on basis of perturbation theories 4-2303
 Lennard-Jones fluid, energy scaled displacement Monte Carlo for improving convergence rates appl. 4-10935
 Lennard-Jones fluid, homonuclear diatomics struct. near wall, mol. dynamics simulation 4-34388
 Lennard-Jones fluid, pair distrib. function, quantum corrections, mol. dynamics calc. 4-55696

liquid theory continued

Lennard-Jones fluids with spherical boundary conditions, finiteness effects in computer simulations 4-6234
 Lennard-Jones mixtures, molecular dynamics studies 4-24705
 Lennard-Jones system, two dims., ordered and stochastic behaviour 4-10943
 linear mol., fluctuating liq. cage model, IR and Raman spectra 4-7171
 localised chem. events in condensed phases, mol. dynamics 4-30921
 melting, hole model approach in hard sphere system 4-24977
 metallic binary solutions, strongly associated, configurational entropies, short range order effects (*French*) 4-39086
 metals, liq., electronic struct. calc. 4-6248
 metals, roulette theory calc. of thermodynamic props. (*Korean*) 4-2063
 metals, thermodynamics, liq. theory approx. methods 4-20077
 metals and alloys, nucl. quadrupole relax., atom pair dynamics 4-40263
 methane in water, site-site correl. functions, Monte Carlo results 4-50168
 methyl cyanide, dielectric permittivity computer simulation study 4-51178
 methyl cyanide, permanent and induced dipole interference, dielectric props., computer simulation 4-51179
 microscopic foundation for the hydrodynamic description of flow near a macroparticle 4-34386
 mixture models, molecular basis for local compositions 4-24703
 mixtures, group contrib. method 4-24702
 mixtures, liq., thermodynamic props., conformal soln. theory 4-50164
 molecular dynamics digital simulation at const. press. and temp. 4-24700
 molecular fluids, ang. pair correl. function, perturbation and integral eqn. theory 4-6230
 molecular fluids, complete integral equation formulation in the interaction site formalism 4-44913
 molecular fluids, effective central pots. calcs. 4-6229
 molecular fluids, non-axial, thermodynamic perturbation theory 4-20075
 molecular liquid mixtures, local comp. 4-55692
 molecular liquids, field-induced phenomena, computer simulation 4-2045
 molecular liquids, hard dumbbell mol. fluid systems, independ. mol. interaction sites model, Monte Carlo study 4-2043
 molecular liquids, mol. rot., analytical approach appl. to NMR and dielectric relax. 4-50157
 molecular liquids, MOLDY, mol. dynamics program, user's guide 4-47849
 molecular thermodynamics on basis of eqn. of state for Ar 4-29567
 neopentane, in water, mean force solute-solute pot. 4-34396
 non-polar mol. soln. in water, mean force, solute-solute pot. 4-34396
 nonaxial quadrupole forces effect, mol. dynamics study 4-50155
 nondiffusive system simulation, entropy estimation 4-50163
 nonself-consistent molecular fluid in contact with solid surfaces, Percus-Yevick approx. reformulation for density profile 4-24710
 nonuniform simple fluids, perturbation theory, high temp. approx. 4-20063
 one dims. Lennard-Jones fluid, Weeks-Chandler-Anderson perturbation theory 4-44908
 one-component plasma liq., freezing, mol. theory 4-50475
 one-component plasma structure factor in tabular form 4-10821
 pair correlation function and density profile of a liquid in contact with rigid wall 4-24708
 Percus-Yevick eqn., numerical soln. for soft core pot. well liq. 4-20071
 Percus-Yevick eqns., soln. for rectangular potential well in linear approx. 4-20070
 Percus-Yevick eqn. numerical soln. in crit. region for nontruncated pots. 4-10937
 polar liquid, surface layer, mol. orientation calc. 4-34381
 polar systems, dipole moment fluctuations in computer simulations 4-10942
 polyelectrolyte solutions, salt-free, conc. effects and condensation 4-5525
 polyelectrolytes soln., Monte Carlo simulation of isolated chair, config. props. 4-34393
 polymer chains, tricritical theta point region, transition to collapse 4-33570
 polymer soln., semi-dilute, static property in good solvent 4-15368
 polymer solns., coherent scatt. functions, chain conformation space renormalisation group 4-28580
 polymer solns., osmotic press., conc. depend. Monte Carlo simulation 4-34390
 polymer solutions, dynamics, variational principle for Kirkwood theory 4-15357
 polystyrene sphere suspensions, freezing curves 4-29576
 quadrupolar hard dumbbell mixtures, Monte Carlo simulation 4-50161
 reference-hypernetted-chain eqn. solns. with minimised free energy 4-2052
 rigid cores with semiflexible tails, orientational and positional ordering, lattice statistics 4-17850
 rigid disks and spheres, virial coeffs., press. consistent BGY eqns. 4-39071
 rotation time correl. function, molecular symmetry constraints 4-10944
 rotational-translational coupling and liq. state dynamics 4-2046
 self-current correl. function 4-44912
 semiclassical fluid mixt. with nonanalytic pots., equilib. props. 4-10934
 semiclassical fluid with hard-core pot., equilib. props., integral eqn. theory 4-34384
 simple fluid, const. press. sp. ht. 4-6515
 simple fluid, Joule-Kelvin coeff. 4-6236
 simple fluids, critical behaviour 4-2051
 simple fluids, self-diffusion and shear viscosity, mol. dynamics calcs. 4-29298
 simple liquid in the near-critical region 4-2314
 simple liquids, velocity correlations and cooperative effects 4-2049
 small particle in liq. state, freq. spectrum, liq. drop model 4-45296
 soft sphere system struct. under shear, computer simulations and colloidal suspensions comparison 4-10936
 solubility parameters and related props. estimation 4-50514
 square well fluid, well width influence on perturbation theory convergence 4-29294
 square-well fluids in $d=2,3$, perturbation theory, critical temp. 4-44915
 static correlations in two-dimensional classical electron liquid 4-20068
 structural transition dynamics 4-2053
 surface density profile, lattice model, Percus-Yevick approx. 4-39070
 systems with changing shape and size, mol. dynamics eqns. 4-15359
 time correl. functions at Smoluchowski level of description 4-57605
 transition metals, liq., thermodynamic props., one-component plasma model 4-34397
 two dims. fluids, electrostatics, multipolar expansions 4-2050

liquid theory continued

- two-fluid theory of coupled kinetic equations for a test particle and a background fluid 4-34385
 variational theory of simple liquids, double Yukawa pot. 4-6231
 velocity autocorrelation function of simple classical fluids 4-50154
 vibrational relax. time and mol. Raman spectra 4-24699
 water, computer simulation methods for phys. props., review 4-50156
 water, dielectrically nonhomogeneous boundary layer, standard chem. potential calc. 4-15356
 water, high density, mol. dynamics study using modified central force pot. 4-55697
 water, hot ST₂, energy scaled displacement Monte Carlo for improving convergence rates appl. 4-10935
 water, model two, three and four-body interactions, dimer energy surfaces 4-20073
 water, molecular dynamics study between Lennard-Jones walls 4-24711
 water-wall interaction, mol. dynamics simulation 4-44910
 DCI liquids, vibr. energy relax., soft cores and anisotropic forces effect 4-34382
 Ga, liquid, effective pair pot. and pair correl. function 4-20079
 HCl liquids, vibr. energy relax., soft cores and anisotropic forces effect 4-34382
³He, liquid, superfluid transition props. and neutron scatt. meas. in phenomenological theories 4-6602
 KH₂PO₄, mass transfer coeff. estimate 4-25068
 LiBr aqueous solns., thermophysical props. correlation 4-24704
 Lil, aqs. soln., translational and rot. motions, mol. dynamics study 4-2047
 NH₃, liquid and solid phase, intermolecular pots., mol. dynamics calcs. 4-50169
 NaCl, molten, mass-charge coupling and ionic dynamics 4-6242
 Rb liquid, quadrupolar relax. rates, mode-coupling theory of field-gradient correl. functions 4-2839
 RbCl, molten, radial distrib. functions, generalised mean spherical approx. 4-55698

liquid-vapour transformations

- see also boiling; condensation; evaporation; liquefaction of gases*
 alcohol-alkane mixtures, vap. liq. equilb. calcs. using topological treatment 4-29582
 n- alcohols, liquid, vap. press. meas. in temp. range from -30°C to +30°C 4-15625
 alkanes, light-heavy mixture, vap. liq. phase equilb. calc. using a new cubic eqn. of state 4-24984
 n-alkanes-1-dodecanol mixtures, vap. liq. equilb. and heats of mixing meas. 4-24985
 associated solutions with volume effects, thermodynamics study 4-25054
 binary systems, mean molar excess enthalpies and liq.-vapour equilb. determ. (German) 4-2315
 bromo-benzene-n-pentane binary soln., gravitational field effect on critical parameters (Russian) 4-25123
 bromo-ethyl-n-pentane binary soln., gravitational field effect on critical parameters (Russian) 4-25123
 1,4-butanediol, vapour press. and maximum likelihood Antoine-eqn. consts. 4-50479
 critical nucleus composition in multi-component vapour nucleation, thermodynamic model 4-39436
 cryogenic mixtures, phase equilibria calcs. at very high press. 4-24950
 cubic chain-of-rotators eqn. of state and vapour-liquid equilibrium calcs. 4-24952
 electrolyte solutions, vapour-phase equilibria calcs. 4-24981
 freon-113-n-pentane binary soln., gravitational field effect on critical parameters (Russian) 4-25123
 n-heptane, vapour-liq. coexistence region, vapour press., critical assessment 4-55980
 interfacial surfaces in Korteweg's theory of phase equilibria 4-32213
 Lennard-Jones fluid, crit. phenomena on basis of perturbation theories 4-2303
 1,1,1-methoxydimethylpropane, vapour press. and maximum likelihood Antoine-eqn. consts. 4-50479
 mixtures, thermodynamic props. and liq.-vapour equilb., random-mixture eqn. 4-29627
 mixtures, vapour-liquid equilb., generalised corresponding states principle 4-55979
 mixtures vapour-liquid equilb., generalised corresponding states principle, mixing rules 4-55978
 nonuniform molecular fluids, functional perturbation theory, weak dipole effect in liq. vap. interphase 4-11262
 organic binary mixture, vapour-liquid and liquid-liquid equilibrium calcs. 4-24979
 phase equilibrium, multiple equilb. points for nonideal mixtures, calc. and stability 4-20340
 physical property correlations, industrial viewpoint 4-20339
 polar and nonpolar fluids, analytic variational inequality minimisation eqn. of state 4-24953
 propane-n-octane, vapour-liq. equilb. meas. 4-29585
 simple liquid in the near-critical region 4-2314
 Stefan problem and phase front stability 4-13610
 ternary systems, mean molar excess enthalpies and liq.-vapour equilb. determ. (German) 4-2315
 thiacyclopentane, vapour press. and maximum likelihood Antoine-eqn. consts. 4-50479
 thin films on vapour-liq. interfaces, ellipsometry 4-50481
 toluene, homogeneous nucleation rate meas. 4-11251
 water-formaldehyde, vapour-liq. equilb., thermodynamic consistency 4-55982
 Ar, vapour-liq. coexistence region, vapour press., critical assessment 4-55980
 CO₂-N₂(methane), liq. vap. equilb. study 4-24983
 CO₂-N₂(methane)(N₂-methane), vapour-liq. equilb. meas. 4-29583
 CO₂+cyclohexane, excess enthalpies, 7.5 to 12.5 MPa 4-25058
 Cd, liquid-vapour interface, density profile study 4-45313
 H₂ containing mixtures, vapour-phase equilibrium 4-24980
 H₂, cubic eqns. of state for vapour-liquid equilibrium calcs. 4-24956
 H₂O-HCl-MgCl₂ conc. electrolyte soln., vapour-liquid equilibrium calcs. 4-24982
 H₂S-methane, liq. vap. equilb. study 4-24983
³He-⁴He mixtures, superfluid, boundary conditions at liq.-vapour interface 4-25116
 Hg, liquid-vapour interface, density profile study 4-45313
 LiBr aqueous solns., thermophysical props. correlation 4-24704

liquid-vapour transformations continued

- N₂, supercritical, vibrational Raman effect, exptl. probe of liq.-vapour crit. phenomenon 4-45315
 N₂-CO₂ (CO₂-methane), vapor-liq. equilb. meas. 4-29583
 Na, liquid-vapour interface density profile calcs. 4-45314
 Na-Cs, liquid-vapour interface density profile calcs. 4-45314
 Xe, fluid-gas transition, coexistence curve, correction to scaling amplitudes 4-20342
 Xe vapour, crit. temp., nonlinear renormalisation group 4-34623
- liquid waves**
see also capillary waves; ocean waves; surface waves (fluid)
 Cauchy problem for equations of internal waves 4-22590
 compressible non-viscous liquid layer sandwiched between two thermoelastic half spaces, wave propagation 4-38753
 deep water, obliquely incident surface wave diffraction by immersed vertical barrier 4-24443
 dielectric liquids, linear and nonlinear waves 4-5969
 floating body in regular waves, comput. of wave drift forces 4-55415
 free-surface problems involving submerged oscillating bodies, occurrence of negative added mass 4-55414
 highly nonlinear short-crested surface gravity water waves 4-14991
 homogeneous liq., nonuniform depth, progressive surface wave propag. 4-55419
 liquid film on inclined plane, stationary long waves, nonlinear eqns. 4-29107
 long water solitary wave run-up 4-14990
 long-crested surface gravity water waves 4-14992
 oscillations, parametric excitation of fluid flowing out of a vibr. container 4-44612
 α-phenyl o-cresol viscoelastic liq., depolarised light scatt. from shear wave 4-35456
 Poiseuille flow, finite-amplitude perturbations 4-5956
 propagation of waves along inhomogeneous elastic layer in liq. (Russian) 4-10581
 random behaviour, prediction and danger 4-12934
 shear flows, piecewise linear velocity profile, induced motions 4-5903
 solitary internal waves in a two-layer liquid with a free surface (Russian) 4-10688
 sphere, liq. freely floating, surface oscill. due to Marangoni-effect 4-5893
 stratified fluid with approx. density distrib., convergence of approx. solns. for waves 4-24444
 stubby blade intersecting ideal liq. surface, vortices and wave motion (Russian) 4-29091
 submerged fixed vertical plate in finite depth water, surface wave scatt. 4-44613
 viscous liquid film flowing down vertical wall, steady wave regimes 4-44610
 water wave generation at inertial surface 4-44614
 water wave radiation and diffraction by totally submerged body, Maz'ja's uniqueness theorem 4-32057
 water waves, finite amplitude, propag., wave jumps and caustics 4-29105
 LiBr, falling wavy laminar liq. films., heat and mass transfer coeff. 4-19805
- liquids**
for generalities only; for specific aspects see appropriate headings
see also liquid structure; liquid theory; solutions
 phase of matter, props., book 4-27258
 physics-and mathematics of nonlinear phenomena (Japanese) 4-53435
- list processing**
 ANALOGIC array processor AP400 for list mode data processing 4-23561
- list processing languages** *see list processing*
- literature**
 astronomical literature, searching and reviewing, guide for research students 4-31769
- literature reviews** *see reviews*
- lithium**
see also nuclei with
 abundance in M-type giants, spectral anal. 4-42435
 alkaline earth oxides, Li⁺ or Na⁺ ion implanted, point defects, ESR, optical absorpt., luminesc. spectra 4-20269
 ancient materials, Li, B, N content, ion beam anal. 4-43157
 atom, circular Rydberg states, prod. in at. beam 4-1076
 atom, elastic scatt. of positrons 4-1272
 atom, electron and positron collisional cross sections, modified Glauber approx. 4-1270
 atom, electron and positron total collision cross section using the modified Glauber approx. 4-5374
 atom, electron density, HF and local density approx. 4-1051
 atom, electron elastic scatt., spin exchange scatt. amplitudes determ. 4-5387
 atom, electron impact excitation of 3S state, intermediate energy 4-5453
 atom, excited state, photoionisation, zeros in dipole matrix elements 4-1114
 atom, metastable quartet, meas. in hollow-cathode discharge, XUV laser proposal 4-43841
 atom, photoabsorpt., electron correl. effect 4-43854
 atom, positron elastic scatt. at intermediate energies 4-5405
 atom, slow electron scatt., elastic and inelastic, cross-sections calcs. 4-5426
 atoms, oscillator strengths and excitation cross sections for forbidden transitions 4-54640
 atoms, transition probabilities and lifetimes calc. 4-14322
 battery, appl. of graphite intercalation cpd. electrodes (French) 4-46865
 battery, graphite fibre as positive electrode in rechargeable Li cell 4-41332
 battery, use of transition metal trichalcogenides as cathodes 4-31084
 battery developments and appl. (Czech) 4-3456
 9 Bootis, K-type giant with large Li abundance, spectrum anal. (Russian) 4-53167
 cells with polyacetylene electrodes, electrochemical study 4-52127
 cluster, HMO approx. (Russian) 4-10197
 clusters, with and without H impurity, spin polarised HF calcs. 4-34898
 concentration influence on spectral line intensity in unipolar arc (Russian) 4-34345
 correlation energy from Compton scattering and positron annihilation data 4-6722
 Culham Conceptual Tokamak Reactor IIA, liquid Li coolant, pumping power 4-48708

lithium continued

- deep level spectra, phonon effects, beyond linear screening and linear-coupling models 4-25289
 densities of states, ab initio calcs., evaluation technique 4-56183
 electron scattering total cross sections 4-54861
 electron spin susceptibility, CESR meas. 4-30282
 energy bands and density of states, linear combination of Gaussian orbital calc. 4-56199
 film, surface mag. cross-relax. influence on EPR (*Russian*) 4-7051
 fusion blanket coolant, performance comparison with He and flibe 4-28186
 high pressure equations of state and phase diagrams 4-34608
 high pressure equations of state and phase diagrams 4-45302
 hyperfine interactions calc. using Dirac wave functions 4-33300
 insertion in Wadsley-Roth phases based on Nb₂O₅, appl. in secondary cells 4-34453
 insertion into MoNb₁₂O₃₃ and WNb₁₂O₃₃ for secondary cells 4-50579
 interaction with Nb alloy, nonmetal interstitial impurity distrib., alloying effect (*Ukrainian*) 4-39329
 ion+surface impact on elements 24≤Z≤60, K-shell ionisation cross sections 4-9984
 ion source, high intensity, modified duopigatron design 4-13725
 ionic micelles in water, solubilised electrolytes and counterion effect (*French*) 4-26229
 isoelectronic series, dielectronic recombination rate coeffs. 4-38127
 isoelectronic series, electron impact Auger ionisation cross-sections calcs. 4-5457
 isoelectronic series, fine struct. and transition wavelengths for 1s2s2p ⁴P and 1s2p2p ⁴P states 4-38348
 isotope separation, laser-enhanced chemical reaction method 4-19291
 isotopes evolution in Galaxy 4-8564
 K-shell ionisation, electron penetration depth (*Korean*) 4-38334
 laser microprobe plume, at. fluoresc., spatial and temp. characts., atm. effects 4-35953
 lasing on reson. line at 670.7 nm, LiI photodissociation 4-23967
 liquid, corrosion of steel, AES 4-21507
 liquid, loop in transverse mag. field, flow and heat transfer, fusion reactor appl. 4-9392
 liquid, thermodynamic props., variational calc. 4-2062
 mechanical stability and theoretical tensile strength under hydrostatic loading (*Chinese*) 4-3174
 melt, inner order, struct. parameters 4-50175
 molecule, ionic Kratzer-type pots. in mol. spectra 4-19121
 molecule, lowest lying states, pot. energy curves and mol. consts. 4-48965
 molecule, pot. energy curves, ab initio CI calcs. 4-48947
 molecule, pot. energy curves, two electron correlated model 4-5320
 molten, struct. and form factors, X-ray and neutron diff. study 4-29302
 overlayer on Si, secondary ion emission study 4-46410
 phase transition, press. effects 4-15631
 primary cells, design and characts. (*Danish*) 4-16767
 pulsed spin transparency 4-56774
 secondary cells, charge-discharge characts. with graphite as positive electrode 4-46863
 secondary cells, TiS₂ cathode prepared directly on Ti plate 4-46864
 segregation on Al surface, quantitative study by high energy ion recoil spectrometry 4-46816
 statistical equilibrium in cool stars of different metallicity 4-42429
 surface (001), scatt. of N₂, quasiclassical trajectory study 4-51438
 surface (001), trapped N₂, diffusive dynamics, classical trajectory study 4-51439
 TGS:Mn²⁺(Li), cryst. growth from soln., growth habit, domains config., dielec. props. 4-2125
 thermal expansion, mode Gruneisen parameters 4-55951
 triply excited three-electron atomic systems and beam-gas electron spectroscopy 4-38103
 vacancies, quantum tunnelling, WKB method 4-56063
 Am/Li(α,n) sources, neutron spectral meas. 4-37980
 CaF₂:Li crystals, Stark effect on phononless lines of M_A centres 4-35418
 CdTe:Li-Au low resistance contacts 4-30049
 Co₂-O₂Li, chem. diffusion coeff., elec. cond. meas. 4-15695
 CsCdF₃:Cr³⁺, Li⁺, EPR study 4-46094
 Ge:Li, gamma irradi., recomb. centres 4-6805
 He²⁺+Li collisions, charge transfer calc. 4-19236
 He²⁺+Li collisions, electron capture cross section calc. 4-19237
 He²⁺+Li collisions, two electron capture at high energies 4-19238
 KCdF₃:Cr³⁺, Li⁺, EPR study 4-46094
 KCl:Li, (F₂⁺)_A color centre lasers, photodynamics 4-14692
 KCl:Li, F_A-centre absorpt. and emission 4-46292
 KCl:Li, IR absorption study 4-20999
 KCl:Li F_A(II) centre lasers, flashlamp pumped 4-23999
 KCl:Li⁺, F_A centres, reorientation and optical pumping 4-55826
 KTaO₃:Li, dielectric relax. meas. 4-40336
 KTaO₃:Li, ferroelectric transition, optical SHF study 4-46202
 KTaO₃:Li, off-centre Li ion displacement and dielec. susceptibility 4-50312
 KTaO₃:Li, random site elec. dipole system, collective effects 4-11847
 KTaO₃:Li crystals, ferroelec. phase transition, acoustic and dielec. props. 4-35380
 KZnF₃:Cr³⁺, Li⁺, EPR study 4-46094
 Li 3d states under combined action of internal coupling and external mag. field 4-18948
 Li, deposition effect on Si⁺ sputtering from oxidised Si surfaces 4-12024
 Li II, electron impact 2³S excitation 4-5425
 Li, Li⁺ and Li²⁺, static dipole polarisability, all-electron CI calcs. 4-23624
 Li⁻ excited states, lifetime and hyperfine struct. 4-9723
 Li⁺ detection using electron multipliers 4-57621
 Li⁺, effect on electronic struct. of GeF₂²⁻ ions 4-9680
 Li⁺ fast ion impact on gas targets and C-foils, autoionis. 4-11203
 Li⁺, ground state, specific mass shift, multiconfigurational HF calcs. 4-1048
 Li⁺ in Ar, drift and diffusion calc., basis set expansion with non-Gaussian weight functions 4-38936
 Li⁺, Lamb shift 4-54641
 Li⁺ mobility in He and Ar at 294 and 80K, interaction pot. derivation 4-38938
 Li⁺, scatt. and neutralisation from Ni (110) and adsorbed O 4-11987
 Li⁺, transverse diffusion coeff. and mobility in Ar 4-38939
 Li⁺, two-electron at. wave functions, asymptotic behaviour 4-54595
 Li²⁺, electron impact ionisation, triple differential cross section calcs. 4-33538

lithium continued

- Li/2Me-THF, LiAsF₆/Cr_{0.5}V_{0.5}S₂ ambient temp. cell, rechargeability 4-35996
 Li/I₂ parameter batteries, long term performance 4-36259
 Li/organic electron acceptor batteries 4-41331
 Li/perylene salt and Li/TTN rechargeable organic batteries using electrocryst. 4-41333
 Li/SOCl₂, BrCl primary cell, electrical impedance 4-52130
 Li/SOCl₂, high rate cells positive electrode characteristics 4-35994
 Li-Li₃N-TiS₂ solid state cells, cycling 4-52122
 Li-Pb solutions, nonideal, N₂, O₂ and H₂ solubilities, chem. theory 4-45337
 Li-SO₂, high power chemical current source electrochemical processes 4-35993
 Li⁺-FH(H₂O)(NH₃), interaction energies, SCF and Moller-Plesset levels 4-54831
 Li⁺+C⁴⁺(O⁸⁺), state-selective electron capture cross sections 4-14557
 Li⁺+FH(FD), quantum and quasiclassical collinear reactive probabilities calc., isotope effects 4-46740
 Li+H₂O interaction, pot. energy surface, DIM calcs. 4-3378
 Li+H⁺, charge transfer collisions, mol. state calcs. 4-10061
 Li+H⁺, electron capture, two-centre AO expansions 4-54852
 Li+H⁺, electron capture cross section, H excited state form. 4-33522
 Li+H⁺, excitation and electron capture in inelastic collisions, 2-15 keV 4-10000
 Li+H⁺ charge transfer collisions, one-active-electron model 4-10058
 Li+He⁺, charge exchange cross-sections calcs. 4-10060
 Li+He²⁺, single electron capture cross sections, AO expansion method 4-54853
 Li+Li, long-range electrostatic and dispersion interactions calc. 4-49111
 Li+Li(He)(Ar), 4²D-4²F excitation transfer 4-43968
 Li+Na₂-NaLi+Na exchange reactions, prod. state anal. by laser induced fluoresc. 4-3382
 Li+Na⁺ collision, dynamical state representation 4-9906
 Li⁺+He(Ne)(Ar), keV collisions, electron detachment, scaling law 4-9904
 Li⁺+Ca, charge transfer cross-sections, perturbed stationary state calcs. 4-10062
 Li⁺+H₂, vibr. inelastic scatt., adiabatic-diabatic calcs., breathing sphere pot. 4-14511
 Li⁺+H₂(D₂)(N₂) collisions, differential cross sections and energy transfer distrib. 4-19167
 Li⁺+He, autoionisation spectra 4-9948
 Li⁺+He, excitation, mechanism, coherence study 4-19140
 Li⁺+He collision, pot. curves and non-adiabatic coupling matrix elements 4-43947
 Li⁺+Li⁺ collisions, charge transfer and ionis. cross-sections 4-10039
 Li⁺+N₂, differential cross section, pot. energy surface 4-54838
 Li⁺+Na, charge exchange, coherence effects study 4-14528
 Li⁺+Na charge transfer reactions, core-independent parameters calcs. 4-10059
 Li⁺+Na(3s) collision, dynamical state representation 4-9906
 Li²⁺+Ar(He)(N₂), electron capture and loss, Li metastable ion form. 4-14538
 Li²⁺+H, charge exchange cross sections 4-14563
 Li²⁺+He, autoionisation spectra 4-9948
 Li²⁺+H, charge exchange, impact parameter depend. 4-14562
 Li²⁺+H, charge transfer, exponential distorted-wave approx. calcs. 4-38318
 Li³⁺+H, laser induced charge-transfer cross section collision, perturbation approach 4-49140
 Li³⁺+He, autoionisation spectra 4-9948
 Li³⁺+He collisions, double ionisation cross section, 4KL8 calcs. 4-9975
 Li₂ diffuse band in 420 nm region, obs., interpretation 4-28446
 Li₂, Li₂⁺ and Li₂⁻, static dipole polarisability calc. using pseudopot. treatment 4-33339
 Li₂, Li₂⁺ and Li₂⁻, pot. energy calc., quadrupole moments determ. 4-14352
 Li₂, pot. energy surfaces, restricted and spin unrestricted Hartree-Fock calcs. 4-28526
 Li₂, pot. energy curves, ab initio CI calcs. 4-48947
 Li₂, ground, excited and Rydberg 2²S states, model pot. calcs. 4-5153
 Li₂, ground and Rydberg states, model pot. calcs., core polarisation effects 4-19127
 Li₂, low-lying electronic states, ionisation pot. electron affinity, valence config. calcs. 4-43818
 Li₂+He, rot. transfer, reorientation, polarisation scaling laws 4-38293
 Li₂+He(Ar), rot. energy transfer, scaling laws 4-54843
 Li₂, static dipole polarisability, mol. moments, SCF calcs. 4-33311
 Li₂, static dipole polarisability, mol. moments, SCF calcs. 4-33311
 Li₆, props., ab initio calcs., Jahn-Teller effect in optimal geometrical shape 4-28358
 Li₇, props., ab initio calcs., Jahn-Teller effect in optimal geometrical shape 4-28358
 Li⁺CH₄ collisions, kinematic line broadening reduction in Auger electron spectra of fast ion beams 4-14508
 LiF:Mg,Ti, thermoluminesc. phosphor, glow peaks, modified Z-centre model 4-51367
 Li³⁺He collisions, charge exchange process 4-9981
 Li³⁺He, electron capture cross-sections, unitarised distorted wave approx. calcs. 4-38317
 Li⁻(³S), electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
 Li(³S), electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
⁶Li mol., lowest b ³Π_u state, direct obs. by collision induced fluoresc. 4-28485
⁷Li isotope atomic struct., expt. investigation in 6 MV tandem accelerator (*German*) 4-19299
⁷Li₂, Rydberg state, ionisation pot., optical-optical double reson. 4-49066
⁷Li₂, Rydberg state, bond energy, optical-optical double reson. 4-49066
⁶Li polarised ion source at Heidelberg MP tandem 4-54514
⁶Li⁺, He-like, excited 1s2s ³S₁ and 1s2p ³P hyperfine multiplets, laser-microwave spectroscopy 4-33552
 Li⁺+Xe, rot. and vibr. inelastic collision rate const. 4-5333
 Li(2s)+Na(3s), excitation cross sections, polarisation of impact radiation, coherence parameters 4-9884
 MgF₂:Li, nature of defects, diffusion and ionic cond. 4-15462
 MgO:Li²⁺ 4-20443
 Mg,Zn_{1-x}Te:Li, photoluminesc. and optical props. 4-56992
 NiPS₃/Li batteries, energy yields 4-25767

lithium continued

- RbCdF₃:Cr³⁺, Li⁺, EPR study 4-46094
 RbCl:Li F_A(II) centre lasers, flashlamp pumped 4-23999
 Si:Li detector for PIXE anal., accurate calibration 4-48873
 ZnSe:Li, dielectric constant evaluation and pair spectra 4-40523
- lithium alloys**
 Al-Cu-Li, nonlinear fatigue crack growth, deflection model 4-16494
 Al-Cu-Li, recrystallised 2020, fracture rel. to intermetallic particles 4-21315
 Al-Li, δ - δ transform., STEM study 4-12065
 Al-Li, rapidly solidified, deform. rel. to second phase dispersoids 4-7524
 Al-Li (1.8 wt.%), precipitation kinetics during ageing (Russian) 4-7467
 Al-Li-Mg, oxide film form. effect on corrosion cracking sensitivity 4-51893
 Al-Mg-Li, struct. and props., ageing effect 4-57298
 Al-Mg-Li-Zr, struct. and props., effect of cooling rate during crystn. 4-57299
 Cu-Fe-Li thermocouple electrode thermal EMF props. determ., for low-temp. thermocouples appl. 4-8908
 Hg-Li, dil., liq., thermoelec. power minimum, elec. resist. meas. 4-34952
 Li-Al/FeS cells, thermal energy generation meas. 4-12465
 Li-Bi, liq., electron localisation and cpd. form., ⁸Li spin relax. study 4-40261
 Li-Pb, liq., electron localisation and cpd. form., ⁸Li spin relax. study 4-40261
 Li-Pb, liq., thermodynamic state functions, aggregation model 4-34670
 Li-Pb, liquid, multicomponent hard sphere mixture, struct. factors 4-44938
 Li-Pb, liquid, struct. factors, hard sphere model 4-2060
 Li-Pb, liquid, total struct. factor, temp. depend. 4-2059
 Li-Pb eutectic alloy, breeding blanket material in fusion reactor 4-9419
 Li-Pb liquid dilute alloy, elec. resist. and chem. short range order 4-50785
 Li-Pb-H(N) ternary solutions, solubility of hydrides and nitrides, elec. resist. obs. 4-54402
 Li-Si, liq., electron localisation and cpd. form., ⁸Li spin relax. study 4-40261
 Li-Si, liquid alloys, ⁸Li spin-lattice relax. times, mag. field and temp. depend. 4-46138
 Li-Sn, liq., electron localisation and cpd. form., ⁸Li spin relax. study 4-40261
 Li-Sn liquid alloys, ⁸Li spin-lattice relax. times, mag. field and temp. depend. 4-46138
 Li-Sn liquid dilute alloy, elec. resist. and chem. short range order 4-50785
 Li-Ti, Liq., thermodynamic state functions, aggregation model 4-34670
 Li₇/Ag₂₉, liquid, partial struct. factor determ. 4-20078
 β -LiAl, bonding and lattice dynamics, inelastic neutron scatt. studies 4-45288
 LiAl-Ga(In), doping effect on elec. transport props. 4-45742
 Li₂Al_{1-x}, elec. resist. defect struct., temp., comp. depend. 4-2587
 LiPb blanket for mirror advanced fusion reactor 4-9427
 Li_{0.8}Pb_{0.2} liquid alloys, conc. fluctuations, neutron scatt. study 4-20080
 Li_{1.5}Pb_{0.5} eutectic, combined N₂ determ., fusion reactor material 4-33162
 Li_{1.5}Pb_{0.5} eutectic fusion reactor blanket, conceptual study 4-9426
 Li_{1.5}Pb_{0.5} fusion blanket incorporating Pb neutron multiplier, cross section sensitivity study 4-37851
 Li_{1.5}Pb_{0.5} fusion reactor breeder materials safety compatibility studies 4-14168
 Li_{1.5}Pb_{0.5} liq. breeder for fusion reactor blanket, progress in studies 4-9445
 Li_{1.5}Pb_{0.5} liquid eutectic, tritium recovery by vacuum degassing 4-9543
 Li₄Pb, liq., model for struct. 4-44931
 Li₄Pb, liquid, partial struct. factors and radial distrib. functions 4-2061
 Li₇Pb₂, Zircaloy clad assembly, reactor irr., T production and distribution 4-14200
 Mg-Li-Si(Ce), rapid solidification processing, refined microstructure, Hall-Petch strengthening 4-40807
 Pb-Li, molten eutectic, kinetics of H absorption 4-29779
 Pb-Li alloys, liq., solubility of H₂, D₂, and T₂ 4-56021
 Pb_{0.5}Li_{1.5} liquid alloy blanket, T recovery 4-9591
- lithium compounds**
 see also lithium alloys
 AES chemical effects 4-21507
 alkali metal-LiF model system, solar selective absorbing surfaces produced by ion implantation 4-26310
 ammonium tartrate, ferroelastic, piezoelec. and piezooptical props. 4-46185
 ammonium tartrate, phase transition, Raman scatt. study 4-25690
 borate glass, struct. and ion motion, NMR studies (German) 4-2095
 ferrite, optical props., evidence for 3dⁿ-3dⁿ⁻¹4s transitions 4-7163
 flibe fusion blanket coolant, performance comparison with He and Li 4-28186
 formate, elastic moduli, acoustic props. 4-34594
 formate monohydrate, phase matching angles and effective second-order nonlinear coefficients anal. (Chinese) 4-28759
 halides, binding to organic phosphates, multinucl. NMR investig. 4-1182
 halides, F and F_A centres, unrestricted Hartree-Fock cluster anal. 4-20998
 insertion compounds with Nb₂O₅, Wadsley-Roth phases, cryst. chemical data 4-34453
 intercalation compound with graphite, CESR studies 4-46111
 intercalation cpd. with graphite, C₆Li, density of unoccupied states, bremsstrahlung studies 4-39748
 intercalation cpd. with graphite, C₆Li, metallic character from CESR mes. 4-40229
 intercalation cpd. with graphite, C₆Li, positron annihilation studies 4-40565
 intercalation cpd. with graphite, LiC₆, Compton X-ray profiles and electron momentum density 4-40567
 intercalation cpd. with graphite, LiC₆, phonons study by inelastic neutron scatt. 4-45279
 intercalation cpd. with graphite, stage-2, (P,T) phase boundary, order-disorder transition 4-39478
 intercalation cpd. with graphite, staging transitions 4-40756
 intercalation cpd. with graphite and tetrahydrofuran, synthesis, X-ray and mag. reson. studies (French) 4-46128
 intercalation cpd. with VSe₂, ESR and mag. investigation 4-56759
 intercalation cpd. with ZrS₂, Li₂ZrS₂, electrochemical and X-ray diffraction studies 4-55806

lithium compounds continued

- Li₂O pebble blanket, shock wave propagation in ICF reactor 4-14212
 Li₂O-ZnO-Al₂O₃-TiO₂-SiO₂, glass-ceramic, polymorphic conversion 4-57216
 LiC₆ intercalation cpd., valence and core electronic excitations, EELS studies 4-25275
 α -Li₂O crystals, laser damage accumulation kinetics 4-15533
 oxyfluoride glasses, Li ion conduction and IR spectra 4-45402
 potassium tartrate, phase transition, Raman scatt. study 4-25690
 stearate, phase transitions studied by differential scanning calorimetry, enthalpy meas. (French) 4-15632
 TLD system, fading characteristic 4-48796
 β -LiAlO₃-(Na_{0.3}Li_{0.7})₂O, local elec. fields, IR absorpt. intensities 4-40434
 β -LiAlO₃-Li₂O, local elec. fields, IR absorpt. intensities 4-40434
 β -Al₂O₃-Li₂O, water uptake, DTA and ionic cond. study, molecule ions effects 4-39574
 β -Al₂O₃-M₂O (M=Na, K, Ag, Li), mobile cation vibr., Raman study 4-40464
 β -Al₂O₃-Na₂O-Li₂O, phase diagram and cryst. struct. 4-40758
 B₂O₃-Li₂O-LiCl glasses, fast ionic cond., low temp. US study 4-39407
 B₂O₃-Li₂O-LiCl-Al₂O₃, amorphous, prep. and ionic cond. (Chinese) 4-50567
 B₂O₃-Li₂O-TiO₂-BaO-CuO(Gd₂O₃) vitroceraamics, struct. and partial crystallisation, EPR study 4-46098
 BaB₂O₇-Li₂B₂O₇ system, phase equilibrium and cryst. structs., thermal and X-ray diff. anal. (Chinese) 4-55960
 BaB₂O₇-Li₂O system, phase equilibrium and cryst. structs., thermal and X-ray diff. anal. (Chinese) 4-55960
 C₆Li, intercalation cpd., local density of unoccupied states, photolyield spectroscopy meas. 4-3020
 CoLiO₂, cryst. struct. refinement, powder neutron diff. data 4-29398
 Cs₂Li₂F₆, synthesis and cryst. struct., X-ray diff. study 4-15442
 Cu-Li-Fe-O ferrites, mag. permeability dispersion mechanisms 4-51095
 K(Li,Mg_{2-x}Mn_x)Si₄O₁₀F₂, teniolite, mag. susceptibility and magnetisation 4-56534
 K₂Li_{0.8}Ga_{0.8}Cr_{0.8}, cryst. struct. determ. 4-24784
 KLiSO₄, cryst. struct., position of Li atom (Chinese) 4-50243
 K_{1-x}Li_xTaO₃, dielec. susceptibility, elec. field depend. 4-50746
 K_{1-x}Li_xTaO₃, ferroelectric phase transitions induced by dipole effects 4-35378
 K₂O-Li₂O-B₂O₃ glasses, elec. cond. mixed alkali effect and opt. absorpt. of Ni (II) 4-11907
 Li clusters, Huckel method appl. 4-23577
 Li ferrite spinel layers, heteroepitaxial CVD growth, dislocation structures, inner stresses, SEM, X-ray studies 4-11414
 Li halides in glassy state, Raman spectra 4-7179
 Li, Na, K/CO₃, SO₄, reciprocal quaternary system, phase diagram, conformational ionic solution theory 4-45307
 Li/Li(Al₂O₃) interface, in solid state galvanic cell, effect of press. 4-41325
 Li-Fe-S, phase equil., thermodynamics, electrochemical meas. 4-12437
 Li-La-Sm phosphate glass, luminescence study of impurity distrib. 4-25811
 Li-Li₂N-TiS₂ solid state cells, cycling 4-52122
 Li-Ti-Zn ferrites, props. for microwave appl. (Polish) 4-11744
 Li-Zn ferrite, spin wave stiffness const., Brillouin scatt. study 4-25526
 Li-Zn ferrite, substituted, localised canting models 4-6951
 LiAlCl₄, IR emission, transmission and reflectance techniques 4-54702
 LiAlFe_{1-x}Cl_x, ionic cond., phys. props. 4-34700
 LiAlO₂, ceramics for solid breeder concept for fusion reactors 4-54386
 LiAlO₂, fusion reactor breeder materials safety compatibility studies 4-14168
 LiAlO₂ polymorphs, ²⁷Al NMR, chem. shift and quadrupole coupling 4-30301
 LiAlO₂, porous matrix electrophoretic deposition for molten carbonate fuel cell 4-12469
 LiAsF₆ in 1,2-dimethoxyethane soln., mol. relax. investig. 4-2360
 LiBF₄-ZZ 4-46863
 LiBO₂, glass, struct. disorder and enhanced ion transport 4-39584
 Li₂B₂O₄, amorphous, ¹Li NMR study (Chinese) 4-2828
 Li₂B₂O₄, amorphous, ionic cond. during pre-crystallisation process (Chinese) 4-50566
 Li₂B₂O₇, crystalline, X-ray or γ -ray irr., thermally stimulated exoelectron emission (Korean) 4-16298
 Li₂B₂O₇, glass, struct. disorder and enhanced ion transport 4-39584
 Li₂B₂O₇, piezoelec., SAW propagation 4-20452
 Li₂B₂O₇ sintered crystal and thin evaporated layer, TSEE, dosimetric appl. 4-3024
 Li₂B₂O₇, thermoluminescent detectors, neutron response (Czech) 4-48803
 Li₂B₂O₇-Cu, effects of ion implantation on TSEE and TL glow curves 4-48770
 Li₂B₂O₇-Mn(Cu), thermoluminesc. phosphor, nonlinear response mechanism, trap distrib. model 4-51366
 LiBa₂(Si₁₀O₂₂)Cl₂(CO₃), cryst. struct. determ. 4-15448
 LiBbO₃-Fe, photofraction characts. meas. (Russian) 4-20931
 LiBbO₃-Fe(Cu), shift holograms, model using photovoltaic and photorefr. effects (Russian) 4-19397
 LiBe, low-lying electronic states, pot. curve, mixed orbital basis, SCF calcs. 4-28366
 LiBe⁺, low-lying electronic states, pot. curve, mixed orbital basis, SCF calcs. 4-28366
 LiBr aqueous solns., thermophysical props. correlation 4-24704
 LiBr desiccant soln. regeneration, solar regenerator theory and expt. 4-26273
 LiBr, falling wavy laminar liq. films, heat and mass transfer coeff. 4-19805
 LiCF₃SO₃-polyethylene oxide 4-45409
 LiCF₃SO₃-polyethylene oxide films, ionic cond., atmospheric water effects 4-45410
 Li₂CO₃, geometric struct., stability, ab initio LCAO SCF calcs. 4-28368
 Li₂CO₃ mineraliser, effect on kaolin-BaCO₃ reactions 4-40729
 Li₂CO₃-K, single crystals, chemical etch pits, trapped impurities, SEM obs. 4-29438
 Li₂CO₃-Na₂SO₄ eutectic system, phase diagram in CO₂ atmosphere, DTA obs. 4-3129
 Li₂-Ca₂CeO₆, ionic cond. and cryst. struct. 4-29685
 Li₂(MoO₄)₂, cryst. struct., thermal parameters, thermal vibr. ellipsoids, X-ray diff. study 4-11059
 Li₂Ce₂(MoO₄)₄, ferroelec. solid soln., cryst. struct., neutron diff. study 4-11060

lithium compounds continued

- LiCl, cohesive props. in local density formalism 4-6311
 LiCl D₂O, conc. solns., homogeneous nucleation of cubic ice 4-29570
 LiCl, electronic energy bands, density functional theory, self-interaction correction 4-20540
 LiCl, high resolution Cl L_{2,3} X-ray spectra, configuration interaction 4-11969
 LiCl, MC-INDO calcs. of electronic struct. 4-15816
 LiCl:Cu⁺, luminescent lifetime, effect of mag. field 4-30519
 LiCl-FeCl₂ system, phase diagram and ionic cond. 4-34707
 LiCl-KCl eutectic, Ti oxidation, electrochem. study (French) 4-46648
 LiCl-KCl eutectic melt, struct. and dynamical props., numerical simulation 4-45369
 LiCl-MCl₂ (M=Mg, V, Mn), solid soln., struct., ion motion and cond. 4-34705
 LiCl₂, ground state, vibr. RHF calcs. 4-54589
 Li₂Cl⁺, cluster ion form., secondary ion mass spectrometry 4-33579
 LiClO₃-polyethylene oxide electrolytes, conductance, radiation induced crosslinking effects 4-45411
 LiClO₄ binding to organic phosphates, multinucl. NMR investig. 4-1182
 LiClO₄ complex with poly(ethylene oxide) dielectric relax. study 4-25679
 LiClO₄, Li ionic conduction, in polymeric solid electrolytes 4-29693
 LiClO₄-solvent-nitroxide radical systems, multinuclear NMR study 4-28461
 LiClO₄-ZZ 4-46863
 LiCsO₄, ferroelastic props., temp. depend. 4-6427
 Li_{0.470}Co_{0.030}Co_{0.004}Fe_{2.495}O₄, ferrite, prep., physicochemical props. 4-57144
 LiErP₂O₁₂, cryst. struct. determ. (Chinese) 4-2145
 LiErP₂O₁₂, crystal structure study with X-ray diffraction 4-39218
 LiF (TLD-700), field fading, environmental monitoring 4-18802
 LiF (001), surface phonon spectroscopy by He atom inelastic scatt. 4-29764
 LiF (100), (110) and (111) surfaces, thermally stimulated exoelectron emission 4-7326
 LiF (200) curved crystal X-ray spectrometer for plasma diagnostics 4-22887
 LiF, aggregate electron colour centres luminesc. for ionizing radiation dosimetry (Russian) 4-57005
 LiF and LiF-MgO mixture layers, radiative cooling 4-38540
 LiF, ceramics, ion-implanted, struct. (Japanese) 4-11166
 LiF, channelling radiation from relativistic electrons 4-29496
 LiF, charged dislocation motion due to laser pulse 4-39309
 LiF, cohesive props. in local density formalism 4-6311
 LiF, cryst., ionic clusters, three-body energies 4-49204
 LiF, crystal, transport efficiency of high power VUV light beams 4-11971
 LiF crystal and film, TSEE glow curves rel. to heat treatment 4-3028
 LiF crystals, mechanically induced excited states, TSEE obs. 4-3023
 LiF crystals containing F₂-centres, photoinduced birefr. 4-30436
 LiF, decay process of Li s-core exciton 4-29895
 LiF, deformed in contact with external medium, dislocation distrib. in surface layers 4-11149
 LiF dosimetry by EPR meas. of paramagnetic centres 4-48761
 LiF, edge components of dislocations, sign of deformation effects 4-24819
 LiF, electron-induced desorption (Russian) 4-50357
 LiF, electrostriction coeff. meas. 4-40355
 LiF, F₂⁻, F₂[•] colour centres, four wave phase conjugation study 4-1447
 LiF F₂ crystals, laser active, nonstationary active spectroscopy 4-5590
 LiF F₂ tunable colour centre laser (Chinese) 4-49368
 LiF F₂ centre laser, quasi-CW lasing 4-24003
 LiF F₂ crystal laser, strongly excited, output characts. 4-55047
 LiF F₂ Q-switch for laser, polarisation characts. (Chinese) 4-49411
 LiF F₂⁺ centre laser, quasi-CW lasing 4-24003
 LiF films, guided light modes, photoacoustic study 4-38581
 LiF, γ-ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
 LiF, healed crack, forms of dislocations 4-24820
 LiF, implanted, nonmetal-metal transition, soliton model 4-20567
 LiF intercalation cpd. with graphite and F, elec. cond. and intercalation reaction study 4-41200
 LiF, light sensitivity obs. 4-47074
 LiF, MC-INDO calcs. of electronic struct. 4-15816
 LiF mineraliser, effect on kaolin-BaCO₃ reactions 4-40729
 LiF multiple dose reassessment by UV phototransferred thermoluminescence technique 4-54437
 LiF phosphors, mechanically induced thermolum. 4-57004
 LiF, photoabsorption by cation core electron shells 4-25831
 LiF, photon attenuation coeffs. 4-46216
 LiF, piezoluminescence in irradiated alkali halides 4-48768
 LiF plane analyser crystals, testing using X-ray double cryst. diffractometer 4-29287
 LiF polished optical surfaces, surface roughness spectral-density function 4-234
 LiF polycryst. thin films, R' aggregate color centers, hole burning spectroscopy 4-29431
 LiF radiatively coloured crystals for passive shutters in Nd lasers 4-5599
 LiF single cryst., dislocation struct. evolution during isothermal annealing (Russian) 4-39302
 LiF, single cryst., light induced desorption 4-20464
 LiF, single cryst., thermally stimulated exoemission, at low temps. 4-21114
 LiF, single crystal TLD 4-51373
 LiF, TLD, short term fading 4-54447
 LiF TLD 100, supralinearity and sensitisation, track interaction model 4-7251
 LiF TLD 100, thermoluminescence, mobile interstitial model 4-40540
 LiF TLD for environmental and personnel dosimetry, fading and sensitivity, annealing and readout method effects 4-48778
 LiF TLD phosphor, dosimetric characteristics 4-48795
 LiF TLD via computerised first order kinetics glow curve anal. 4-57003
 LiF TLD-100, ten years of residential monitoring 4-48790
 LiF, TSEE for beta and gamma dosimetry 4-3619
 LiF, thermoluminesc. dosimetry, γ-ray-Compton interactions, modified cavity theory 4-48752
 LiF thermoluminescent dosimeters, mixed radiation environment, absolute energy deposition calibration 4-48756
 LiF thermoluminescent dosimeters, response to β-rays 4-48762
 LiF, thermoluminescent detectors, neutron response (Czech) 4-48803

lithium compounds continued

- LiF thin layer detectors for TLDs and TSEE readable dosimeters 4-54444
 LiF, vacuum deposited thin film, integrating radiation dosimetry by exoelectron emission 4-48759
 LiF, vibrating dislocations, mass and line tension calc. 4-20192
 LiF with F₂⁻ centres, passive Q-switch for Nd:glass tunable narrow-band laser 4-28729
 LiF with stable and unstable F₂⁺ centres, lasing characts. 4-49373
 LiF, X-ray reflections from crystal planes, Bragg diffraction spectrometer appl. 4-39048
⁷LiF, high temp. peak LET depend., heavy particle dosimetry 4-57002
 LiF(Mg,Cu,P), dosimeter material, characteristics 4-51375
 LiF:B, viscous dislocation drag study 4-39308
 LiF:Fe, ion implanted, thermal annealing effects, conversion electron Mossbauer spectra 4-34646
 LiF:Mg, photo-transferred thermoluminesc. response to β-doses 4-28211
 LiF:Mg, thermoluminesc. spectra, Mg impurity interaction with emission centres 4-51362
 LiF:Mg, thermoluminescent dosimeters, integrated solid-state 4-48767
 LiF:Mg, Ti, impurity defect interactions, optical absorpt., ESR, and ionic cond. meas. 4-15517
 LiF:Mg,Ti, TLD system, fading characteristic 4-48796
 LiF:Mg,Ti, thermoluminesc. glow curves, trapping parameters, computerised curve fitting 4-51364
 LiF:Mg,Ti, thermoluminesc. phosphor, glow peaks, modified Z-centre model 4-51367
 LiF:Mg,Ti, thermoluminesc., defect complexes 4-51370
 LiF:Mg and LiF:Mg, Ti, Z-centre hypothesis, optical absorpt. study 4-34489
 LiF:Mn²⁺, double excitation transitions 4-21036
 LiF:O crystals, F₂⁺ centre stability (Chinese) 4-50282
 LiF:O²⁻, F₂⁺ centre stability, decay mech., rate constants, activation energy 4-39290
 LiF:OH, γ-irrad., formation of H bonds 4-45047
 LiF:OH⁻, X-irrad., thermal destruction of centres due to H atoms, EPR study 4-11184
 LiF:OH⁻ F₂ crystals laser active, nonstationary active spectroscopy 4-5590
 LiF:OH, stabilisation of H, effect of combined mech. load and γ-irrad. 4-6395
 LiF:Ti, photo-transferred thermoluminesc. response to β-doses 4-28211
 LiF:Ti, thermoluminescent dosimeters, integrated solid-state 4-48767
 LiF:Ti (TLD-100), photoluminescence and thermoluminescence, thermal treatment effects 4-40539
 LiF:Ti production technology for TLDs 4-57088
 LiF-Ag interface, surface plasmons, radiation coupling into thin film modes by localised plasma reson. 4-57009
 LiF-BeF₃, thermal diffusivity meas., use of simple ceramic cell 4-15726
 LiF-Li₂O-Al(PO₃)₃ system, Li⁺ conducting glassy solid electrolytes 4-45401
 LiF-NaF-KF, thermal diffusivity meas., use of simple ceramic cell 4-15726
⁷LiF-terfon thermoluminescent pillar for radiation physics and dosimetry 4-54443
 LiF+He beam, resonance in atom diff. by cryst. surface 4-25842
 LiF₂, ground state, vibr. RHF calcs. 4-54589
 LiF₂⁺, cluster ion form., secondary ion mass spectrometry 4-33579
 LiFH reactive systems, pot. energy surface, ab initio calcs. 4-46737
 LiFe₄(Ga,Al)_{0.5}O₈ ferrite, mag. props., impurity effects 4-56572
 LiFe₂O₈, ordered and disordered, cryst. struct. refinement, X-ray diff. study (French) 4-20160
 LiFe₂O₈ single crystal spheres, dissoln. forms 4-50527
 Li_{0.5}Fe_{2.5}O₄ (Mn, Bi), magnetic cation distrib. 4-40163
 LiFeP₂O₈, cryst. struct. determ. 4-45093
 Li₃Fe₂(PO₄)₃, high ionic cond. and at. struct. 4-56071
 Li₂FeP₂, intercalates, IR and struct. studies 4-25767
 Li_{1/3}FeSbSn_{2/3}O₈, reversible rammsdellite to double hexagonal close packing transitions (French) 4-39194
 LiGaO₂, nonlinear-optical props. and Raman tensor signs 4-46265
 Li_{0.5}Ge_{1.27}Fe_{0.23}O₄, nature of triangular spin struct. 4-35148
 Li_{1+x}Ge_{2-x}N_{3-3x}O₃, cryst. struct. determ. (French) 4-50262
 Li₂GeO₅ crystals, phase transition study by far IR Fourier spectroscopy 4-25743
 Li₂GeO₄-Li₂MoO₄ solid electrolytes, X-ray phase anal., elec. resist. meas. 4-2376
 Li₂GeO₄-Li₂SiO₄-Li₂VO₄, ionic cond. meas. (Chinese) 4-50565
 LiGeTe₂, chain compound, crystal struct. (German) 4-6344
 LiH, (B'II) state, pot. energy curves, adiabatic corrections 4-54623
 LiH, binding energies, spectroscopic consts., pot. functions 4-49119
 LiH, commutative coupling approx., appl. to bond form. and dissoc. 4-33292
 LiH, density shaping to fit one-electron props., constrained RHF calcs. 4-23585
 LiH, molecular wavefunctions with correl. corrections 4-33343
 LiH, third-order correl. energies calc. using first-order pair functions 4-23620
 LiH:Mn²⁺, single cryst., EPR studies 4-46097
 LiH, atomisation energies, Moller-Plesset study 4-35865
 Li⁺H₂O complexes, struct. and electron density, cation influence 4-48933
 LiHe⁺, electron affinity, use of universal even-tempered basis sets in spin-coupled wavefunctions 4-5512
 LiHe³⁺, infinitely excited quasimols., stabilisation treatment 4-43925
 LiHoF₄, uniaxial ferromag. elec. susceptibility anal. and crit. behaviour using correlated-effective-field theory 4-30176
 LiI, anhydrous solid electrolyte, NMR studies 4-35243
 LiI, aqs. soln., translational and rot. motions, mol. dynamics study 4-2047
 LiI photodissociation, lasing on Li reson. line at 670.7 nm 4-23967
 LiI-Cd,Cu, fast interstitial diffusion processes 4-15707
 LiI-Al₂O₃ composite electrolyte, phys. props. 4-34702
 LiI-Al₂O₃ solid electrolytes, NMR studies 4-35243
 LiI-SiO₂ composite, enhanced ionic cond. 4-34703
 LiI-tetraalkylammonium iodide melts and glasses, glass transition temps. and elec. cond. 4-39586
 LiO₃, ¹²⁸I recoil, pre-heat treatment study 4-55883
 α-LiIO₃, channelling of 1.0 MeV protons, backscattering spectra (Chinese) 4-29493
 LiIO₃, effective charges, press. depend. 4-55943
 α-LiIO₃, integral neutron intensities, ω-method corrections 4-34376

lithium compounds continued

- α -LiIO₃, light diff. due to space charge (*Chinese*) 4-2900
 α -LiIO₃, light diff. due to space charge (*Chinese*) 4-2901
 α -LiIO₃, low temp. pyroelec. props. 4-46189
 LiIO₃, polymorphic transformations, DTA, heat treatment and X-ray diff. studies (*Chinese*) 4-55776
 α -LiIO₃:Co²⁺, paramagnetic centre struct., RFDS method study 4-2811
 α -LiIO₃:Mn, role of impurity states in photoinduced effects 4-34915
 LiH₂O and LiD₂O, Li⁺ ion diffusion and water mol. reorientations, NMR study 4-34701
 LiInS₃, ternary cpd., photolum. study 4-30501
 LiInS₂, thin films, vacuum deposition and optical props. 4-40557
 LiInSe₂, films, vacuum evaporation for heterojunctions formation 4-25886
 LiInSe₂, fundamental absorption edge study 4-46284
 LiInSe₂, ternary cpd., photolum. study 4-30501
 Li₂IrO₃, cryst. struct., neutron and X-ray powder diff. study 4-39234
 LiK(PO₃)₂, cryst. struct., X-ray diff. study (*French*) 4-20153
 LiKSO₄ ferroelectricity, polarisation-electric field hysteresis 4-40379
 LiKSO₄, low-temp. phase transition, X-ray study 4-25013
 LiKSO₄:Cu²⁺, ESR and optical absorption spectra 4-56763
 Li_{1-x}La_{1/3}Nb_{1/3}Ti_{1/3}O₃, ionic cond., effect of two-dimensional vacancy sublattice, NMR obs. 4-56072
 Li_{1-x/2}(Li_{2x/3}Fe_{1-x/3}Sn_{1-x/3})O₄, cryst. struct. determ. 4-24782
 Li_{4-2x}Mg_{2x}SiO₄, solid electrolyte, resist. and struct., influence of Mg addition 4-56068
 Li_{1-x}MnO₂, Li insertion and rutile-spinel transformation 4-39464
 Li₂MnO₂, intercalation cpd., cryst. struct. 4-39257
 Li₂MnO₂, Li intercalated, struct., X-ray and electron diff. studies (*French*) 4-15444
 Li₂N, β -ray detected ⁶Li NMR study 4-40266
 Li₂N, electron density distrib., Compton scatt. meas. 4-39771
 Li₂N, Haven ratio and correlation effects in diffusion 4-15689
 Li₂N, ionic cond. and NMR relax. study, effect of O impurity 4-6550
 Li₂N:Al(Cu)(Mg)(H), ionic cond. and defect migration 4-25085
 LiNbO₃:Mg, growth and freq. doubling characts. (*Chinese*) 4-1440
 LiNbO₃:Ti microwave modulated waveguide interferometer for picosec. pulse prod. from He-Ne laser CW output 4-49576
 LiNC rot. and hyperfine consts., mol. beam elec. reson. study 4-23728
 LiNH₂SO₃, polycryst., Raman and IR spectra 4-40442
 Li(NH₄)SO₄, thermally stimulated depolarisation current studies 4-6802
 Li₂Ni₂, ionic cond., OH⁻ anion effects, NMR and PMR studies 4-45391
 Li₂Ni₂:LiOH solid soln., ionic cond., OH⁻ anion effects, NMR and PMR studies 4-45391
 LiNO₃, DMSO soln., highly conc., volumetric behaviour 4-34668
 LiNO₃, thermal diffusivity meas., use of simple ceramics cell 4-15726
 Li_{0.02}Na_{0.98}NbO₃, cryst. struct. determ. (*French*) 4-50261
 (Li_{1-x}Na_x)₄W_{1-y}U phosphors, photoluminescence, conc. depend. 4-51328
 LiNbO₃, high speed $\Delta\theta$ -reversal directional coupler modulator with low insertion loss for 1.3 μ m 4-33767
 LiNbO₃, ⁴He⁺ implantation damage depths, proton channelling studies 4-50325
 LiNbO₃, ageing and elec. props. 4-35646
 LiNbO₃, anisotropic diffusion waveguide, propagation of waveguide modes 4-1479
 LiNbO₃, CARS and CSRS spectra, cascade effect caused by polaritons 4-38528
 LiNbO₃ ceramics, dielectric spectra, piezoelec. grain reson. 4-2879
 LiNbO₃, channelling of 1.0 MeV protons, backscattering spectra (*Chinese*) 4-29493
 LiNbO₃, composition determ. by Raman spectrosc. 4-41281
 LiNbO₃ cryst. with laminar ferroelec. domains, second harmonic generation (*Chinese*) 4-55123
 LiNbO₃ crystal, submm radiation detector using difference freq. generated as result of stimulated scatt. by polaritons in LiNbO₃ cryst. 4-22841
 LiNbO₃ crystal for fibre optic sensor, design for voltage meas. appl. (*Japanese*) 4-27539
 LiNbO₃ crystal growth from melt, pulling system for automatic control of crystal diameter (*Czech*) 4-25877
 LiNbO₃ crystals, grown by Czochralski technique, piezoelectric-dielectric props. 4-40625
 LiNbO₃ crystals, refractive indices, X-ray induced change 4-46213
 LiNbO₃, defect chemistry and elec. props. 4-34479
 LiNbO₃ diffused waveguides, corrugated focusing gratings for coupling radiation 4-10426
 LiNbO₃, doped and undoped, stoichiometry, point defects, absorpt. edges 4-2195
 LiNbO₃, exoelectron emission under pyroelec. and piezoelec. conditions 4-25859
 LiNbO₃, F⁺-centres, improved point-ion pots. 4-56268
 LiNbO₃, Fe detect. by laser-induced fluoresc. of sputtered atoms 4-19605
 LiNbO₃ ferroelec. cryst., dielec. anomalies and inelastic light scatt. 4-11848
 LiNbO₃, high index overlay films, fabrication techniques 4-49569
 LiNbO₃ high press. shock wave arrival detectors 4-35361
 LiNbO₃ IR pyroelectric sensor, based on ion beam etching technology (*German*) 4-27584
 LiNbO₃, impact loaded, anomalous piezoelec. current pulses 4-40347
 LiNbO₃, integrated optical spectrum analyser development, component fabrication techniques 4-49568
 LiNbO₃, linear electro-optical effect anisotropy 4-35410
 LiNbO₃ modulator contrast, influence of pyroelectric effect 4-7131
 LiNbO₃ monocrystalline plates obtained by Stepanov method 4-25870
 LiNbO₃, nonequilibrium electron diffusion obs. 4-20668
 LiNbO₃ optical parametric oscillator using Nd:YAG laser radiation (*Japanese*) 4-55131
 LiNbO₃ optical phonon freq. angular dispersion in Raman spectrum 4-11890
 LiNbO₃ optical waveguide fabrication and characts. 4-5697
 LiNbO₃, phonon-like polaritons study 4-50738
 LiNbO₃ piezoelec., Rayleigh wave generation by photothermal effect, anal. (*French*) 4-34771
 LiNbO₃ piezoelectric transducer structure, numerical analysis of acoustic wave generation 4-30395
 LiNbO₃, planar electrooptic beam splitter with a zig-zag electrode 4-44193
 LiNbO₃ planar optical waveguide, pyroelectric and photogalvanic effects 4-49526

lithium compounds continued

- LiNbO₃, polarisation inhomogeneity of Raman light scatt. (*Russian*) 4-7207
 LiNbO₃ processing for integrated optics appls. 4-24251
 LiNbO₃, propagation of limited acoustic beams 4-24919
 LiNbO₃ proton exchanged waveguides, X-ray anal. 4-33765
 LiNbO₃ proton exchange, integrated optics appl. 4-33808
 LiNbO₃ proton-exchange slab and stripe waveguides, characterisation and comparisons 4-24178
 LiNbO₃ proton-exchanged waveguides, materials anal. and optical characts. 4-33764
 LiNbO₃, Raman and Rayleigh light scatt. 4-11899
 LiNbO₃, refractive index temp. depend., 60-900°C range 4-20935
 LiNbO₃, refractive index, adsorpt. and electro-optical coeff. meas. 4-40386
 LiNbO₃, relax. polarisation and thermally stimulated depolarisation currents 4-2870
 LiNbO₃, SAW harmonic generation, diff. effects 4-45478
 LiNbO₃, SAW self-focusing 4-19637
 LiNbO₃, shaped single crystals, melt grown, thermoelastic stress distrib., anisotropy factors 4-29357
 LiNbO₃, SiO₂ covered, electromech. coupling consts. of SAW 4-20451
 LiNbO₃ single cryst. plate growth by Stepanov method 4-3061
 LiNbO₃ single cryst., dislocation struct. of subboundaries, Au decoration study (*Chinese*) 4-50291
 LiNbO₃ single crystals, hardness (*Korean*) 4-15582
 LiNbO₃, single mode waveguide, refractive index, acoustooptical method 4-24172
 LiNbO₃ strip crystal growth by Stepanov method, stress and defect struct. 4-25869
 LiNbO₃ substrate, chirp grating lenses, fabrication, state of the art 4-49572
 LiNbO₃ substrate, SAW voltage sensor response obs. 4-27501
 LiNbO₃ substrate for mag. thin films, mag. anisotropy studies 4-56716
 LiNbO₃ surface laser damage statistics 4-25836
 LiNbO₃ surface topographical changes induced by low energy ion beam sputtering 4-16286
 LiNbO₃, Ti diffused plane waveguide, refr. index profile meas. (*Chinese*) 4-49316
 LiNbO₃, Ti diffused waveguides, struct. and optical meas. 4-24176
 LiNbO₃, Ti diffused waveguide deflector 4-55173
 LiNbO₃, Ti in-diffused, electro-optic modulation and switching in integrated optics 4-55228
 LiNbO₃ ultrafast all-optical gate 4-28880
 LiNbO₃ waveguide fabrication by proton exchange, temp. and water influence during process 4-33766
 LiNbO₃ waveguide optical planar lenses, theory and expts. 4-1461
 LiNbO₃ waveguides, optical props. and fabrication process characts. 4-49509
 LiNbO₃ waveguides, proton-exchanged, photorefractive effect 4-28830
 LiNbO₃ waveguides, susceptibility to optical damage 4-38578
 LiNbO₃ waveguides optical damage, role of transition metals (*Czech*) 4-10421
 LiNbO₃, z-cut, planar optical waveguides, proton-exchange fabrication 4-14783
 LiNbO₃:⁵⁷Co, Mossbauer emission studies 4-20892
 LiNbO₃:Cr, Cr distrib. coeff., growth parameters and elec. fields influence 4-20131
 LiNbO₃:Cr(Mn)(Fe)(Co)(Ni)(Cu), refr. index dispersion, impurity ionic radius depend. 4-2890
 LiNbO₃:Eu(Cu)(Mn)(Ni), X-ray irradi. and thermal reduction-induced defects 4-39286
 LiNbO₃:Fe, hyperfine struct., Mossbauer study 4-40293
 LiNbO₃:Fe, polariton Raman spectra, impurity conc. effect 4-29904
 LiNbO₃:Fe, Raman spectra, photo-induced refractive index change effects (*Chinese*) 4-56900
 LiNbO₃:Fe grating for Cu vapour laser (*Russian*) 4-5577
 LiNbO₃:Fe self-starting nonlinear mirror for Cu vapour laser 4-44113
 LiNbO₃:Fe Z-cut crystals, dynamic hologram, form. by transverse photogalvanic effect 4-28645
 LiNbO₃:Fe²⁺ commercial crystals, bulk photovoltaic effect 4-20686
 LiNbO₃:H waveguide fabrication, refractive index 4-5699
 LiNbO₃:Mg, intracavity freq. doubling for acousto-optic Q-switched Nd:YAG laser (*Chinese*) 4-49447
 LiNbO₃:MgO, two-pass SHG produced in resonator of Q-switched YAG laser (*Chinese*) 4-49448
 LiNbO₃:Mn, refractive index temp. depend., 60-900°C range 4-20935
 LiNbO₃:Ni(Cr)(Sm)(Gd), pyroelectric props. (*Korean*) 4-40364
 LiNbO₃:Ti, IR holographic gratings 4-33628
 LiNbO₃:Ti, optical waveguide couplers for a fibre-optic hydrophone 4-28874
 LiNbO₃:Ti, transparent thin films 4-30547
 LiNbO₃:Ti channel waveguide, mode field calcs. 4-24175
 LiNbO₃:Ti channel waveguide parameter optimisation for SHG 4-28834
 LiNbO₃:Ti channel waveguides, directional coupling meas. and calcs. 4-49512
 LiNbO₃:Ti channel waveguides, electro-optical control of photoinduced polarisation conversion 4-49525
 LiNbO₃:Ti diffused channel-waveguide couplers, calculated and measured performance comparison 4-1478
 LiNbO₃:Ti directional couplers, photorefr. effect obs. at GaAs wavelengths 4-33803
 LiNbO₃:Ti electrically induced strip-waveguide modulator 4-33748
 LiNbO₃:Ti graded index waveguides, metallic layers effect on light propagation (*Czech*) 4-10420
 LiNbO₃:Ti guided-wave interferometric modulators development and appl. 4-14782
 LiNbO₃:Ti hemispherical waveguide spatial-integrating acoustooptic correlator 4-33813
 LiNbO₃:Ti high-speed travelling-wave directional coupler switch/modulator for 1.32 μ m 4-24168
 LiNbO₃:Ti in-diffusion process in dry and wet atmospheres 4-24272
 LiNbO₃:Ti integrated-optics Bragg coupler with charact. grating 4-10425
 LiNbO₃:Ti integrated electrooptic digital-analogue convertor 4-19602
 LiNbO₃:Ti integrated-optical SSB modulator 4-33752
 LiNbO₃:Ti integrated interferometric optical-waveguide press. sensor 4-33811
 LiNbO₃:Ti integrated optics, computer anal. and design, comparison with expt. 4-38638
 LiNbO₃:Ti linear Mach-Zehnder interferometric modulators for EM field sensing 4-33751

lithium compounds continued

- LiNbO₃:Ti low-loss polarisation-independ. electro-optical switch design for 1.3 μm 4-33812
- LiNbO₃:Ti low-loss polarisation-independ. electrooptical switches at 1.3 μm 4-55225
- LiNbO₃:Ti M-type electrode planar guided-wave beam splitter 4-5682
- LiNbO₃:Ti Mach-Zehnder interferometric high-speed travelling-wave integrated-optics modulator 4-33747
- LiNbO₃:Ti microwave integrated optical modulator 4-49500
- LiNbO₃:Ti multilayer optical waveguide surface plasma waves 4-55190
- LiNbO₃:Ti optical waveguide fabrication by Ti diffusion, cpd., growth obs. 4-14785
- LiNbO₃:Ti optical waveguides, nonlinear optical freq. conversion results 4-28771
- LiNbO₃:Ti optical waveguides, freq. conversion 4-55124
- LiNbO₃:Ti passive channel waveguide TE-TM mode splitter 4-49507
- LiNbO₃:Ti single-mode waveguide low-loss coupling to multiple fibre arrays 4-24199
- LiNbO₃:Ti single-mode electrooptic X-switch for integrated optic switching networks 4-33810
- LiNbO₃:Ti stepped beta directional coupler having a high extinction ratio 4-33762
- LiNbO₃:Ti total-internal-reflection electrooptic thin-film modulator, characteristics 4-1474
- LiNbO₃:Ti travelling-wave directional coupler, design for 14 Gbit/s optical signal encoding at 1.32 μm 4-38637
- LiNbO₃:Ti waveguide collinear acoustooptic interaction (Czech) 4-49514
- LiNbO₃:Ti waveguides, wavelength dispersion, index profile distrib. 4-24177
- LiNbO₃:Ti waveguides, refractive index profiles meas. 4-28828
- LiNbO₃:Ti waveguides, integrated optical polarisers/analysers for single-mode selective transmission 4-38636
- LiNbO₃:Ti(Mg), optical and ferroelec. props., electro-optical device appl. 4-30440
- LiNbO₃/CdS struct., acoustic wave reflection, acoustoelectronic interaction 4-20454
- LiNbO₃/SiO₂ layered structure, magnetron sputtered, SAW props. 4-50620
- LiNbO₃, optical characts. study (Chinese) 4-2889
- Li₆Nd(BO₃)₃, conc. quenching of Nd³⁺ emission 4-25784
- Li₄Nd_{1-x}Nb_{1-x}Ti_{2x}O₃, ionic cond. 4-56072
- Li₄NiP₂S₆, intercalates, IR and struct. studies 4-25767
- LiO, ⁷Li state pot. curve, ab initio multicof. SCF calcs. 4-3378
- LiO₂, self-diffusion and chem. diffusion characts., review 4-50573
- Li₂O₂, spectroscopic study by physical and chemical methods 4-9759
- Li₂O-TiO₂-Al₂SiO₂ system, crystn. of glass fibres 4-55750
- Li₂O, ceramics for solid breeder concept for fusion reactors 4-54386
- Li₂O, fusion reactor breeder materials safety compatibility studies 4-14168
- Li₂O, high purity, prep., analysis, melting point 4-3108
- Li₂O, IR spectroscopic anal. of OH⁻ and OD⁻ as function of chem. treatment 4-30462
- Li₂O moderator-breeder canister blanket for fusion synfuels 4-9420
- Li₂O, single crystal and sintered pellet, ionic cond., OH⁻ impurity effect, 300-1150°C 4-15678
- Li₂O slab assemblies, anal. by integration transport code BERMUDA in fusion reactors 4-9437
- Li₂O solid pebble blanket, centrifugal action solid breeder reaction chamber 4-14183
- Li₂O, status of blanket research, for fusion reactors 4-908
- Li₂O-Al₂O₃-Nb₂O₅ glasses, rapidly quenched, struct. and props. 4-46538
- Li₂O-Al₂O₃-SiO₂, foamed glass ceramic lead through seal, dielec. const., microwave appls. 4-17896
- Li₂O-Al₂O₃-SiO₂, glass ceramic, heterogeneous system, prediction of fatigue life and fracture stress 4-26036
- Li₂O-Al₂O₃-SiO₂ glass containing Zr and Ti, phase separation and crystallisation (Russian) 4-6292
- Li₂O-Al₂O₃-SiO₂-P₂O₅ system, superionic gel and glass formation by low temp. chemical polymerisation 4-39587
- Li₂O-Al₂O₃-SiO₂-(TiO₂) glass, ESR study of change of structural state of Cu II during crystallisation 4-20856
- Li₂O-B₂O₃ thin films, ionic cond. and struct. 4-2375
- Li₂O-B₂O₃-CuO glass, EPR line width and X-band spectra, freq. depend. 4-46099
- Li₂O-B₂O₃-TeO₂ glass, ¹¹B NMR 4-51144
- Li₂O-Bi₂O₃-P₂O₅ glass, electrochromism, conduction bands 4-51241
- Li₂O-GeO₂ ion exchanged glasses, refractive index, conc. depend. 4-51228
- Li₂O-MgO-Al₂O₃-SiO₂, ceramic, synthesis, thermodynamic anal. 4-57143
- Li₂O-MoO₃-WO₃, roller quenched glasses, transitions, elec. cond. (Japanese) 4-40759
- Li₂O-SiO₂, prop.-morphology relations 4-24728
- Li₂O-SiO₂:Er³⁺ glass, Er³⁺ ⁴I_{13/2} level population inversion characts. 4-5592
- Li₂O-ZrO₂-SiO₂ system, phase relations 4-16379
- LiOB pot. energy surface SCF calcs. 4-28365
- LiOB, pot. surface calc. by diatomic fragments in mols. method 4-54602
- Li₂OH⁺, geometric struct., force fields and vibr. spectra, ab initio calcs. 4-9664
- Li₃(OH)₃, geometric struct., force fields and vibr. spectra, ab initio calcs. 4-9664
- Li₂O₂SiO₂ glass, low temp. spin-lattice relax., polarised ⁸Li NMR study 4-40267
- LiPF₆-ZZ 4-46863
- LiPO₃, Raman spectra of melts, structure from temp. depend. (Russian) 4-51251
- LiPO₃-KPO₃ system, equilib. diagram, preparation, struct., space groups (French) 4-34616
- Li₃PO₄, Raman spectra of melts, structure from temp. depend. (Russian) 4-51251
- Li₄P₂O₇, Raman spectra of melts, structure from temp. depend. (Russian) 4-51251
- LiPrP₂O₁₂, optical absorpt. and emission spectra of Pr³⁺ ions 4-56959
- LiPrP₂O₁₂ single crystal laser oscillations 4-1398
- Li₂ReO₃, cryst. struct. determ. 4-20171
- Li₂RuO₃, cryst. struct., neutron and X-ray powder diff. study 4-39234
- Li₂S-GeS₂ glasses, ionic Li cond., NMR studies 4-6546
- Li₂S-GeS₂-LiBr-LiCl ionic conductive glasses, effects of mixed anions 4-39590
- Li₂S-GeS₂-LiI glass system, ionic conductive, solid state battery appl. 4-41328

lithium compounds continued

- Li₂S-P₂S₅-LiI glasses, Li⁺ ion cond., electrochemical cell appl. (French) 4-39592
- Li₂S-Sb₂S₃ solid solutions, cryst. struct. and phys. props. (French) 4-34704
- LiSCN, quadrupole form. const. UV absorpt. spectra 4-49046
- Li₂SO₄, α - and β -phases, thermal expansion, X-ray diff. study 4-29658
- Li₂SO₄, ionic cond. and elastic const. studies 4-15685
- Li₂SO₄, low-freq. Raman scatt. 4-2917
- Li₂SO₄, Raman spectroscopic studies 4-35454
- Li₂SO₄-2Na₂SO₄ system, phase diagram, elec. cond. and cation diffusion 4-34699
- Li₂SO₄.H₂O, pyroelectric, neutron diff. struct. investigation 4-29422
- Li_{0.5+2}Sb₂Fe_{2.5-2x}O₄ ferrite, ¹²¹Sb and ⁵⁷Fe Mossbauer spectra studies 4-2850
- LiScO₃, cryst. struct. study, α -LiFeO₂ type struct. 4-29418
- Li₂Se₂(PO₄)₃, high ionic cond. and at. struct. 4-56071
- Li₂₃Si₁₃, energy band struct. calc. 4-25213
- Li₂SiO₃, ceramics for solid breeder concept for fusion reactors 4-54386
- Li₂SiO₃ fusion blanket incorporating Pb neutron multiplier, cross section sensitivity study 4-37851
- Li₂SiO₃, fusion reactor breeder materials safety compatibility studies 4-14168
- Li₂SiO₃, solid and liquid, blanket materials, heat of formation meas. by vaporisation method 4-48714
- Li₂SiO₄, fusion reactor breeder materials safety compatibility studies 4-14168
- Li₂SiO₄-Li₂VO₄, ionic cond. meas. (Chinese) 4-50565
- Li₂Si₂O₇, cryst. struct. containing stellae quadrangulae 4-2150
- LiTaO₃, exoelectron emission under pyroelec. and piezoelec. conditions 4-25859
- LiTaO₃, F⁺-centres, improved point-ion pots. 4-56268
- LiTaO₃, ferroelec. cryst., polariton spectroscopy 4-25741
- LiTaO₃, photorefractive effect, competing mechanisms 4-11853
- LiTaO₃ pyroelectric material for electronic pulse detection of ultraheavy nuclei 4-38007
- LiTaO₃ SAW resonator, freq. accuracy meas. 4-19680
- LiTaO₃ single cryst., reduction, electron irradi. and ESR spectra 4-45188
- LiTaO₃ single cryst., dislocation struct. of subboundaries, Au decoration study (Chinese) 4-50291
- LiTaO₃, Zr substitution effects on cryst. and dielec. props. 4-39229
- LiTaO₃:Fe, two step excitation for optical data storage 4-49293
- LiTaO₃-based solid soln. with cation vacancies, prep. and ferroelec. props. 4-40373
- LiTa₂O₈ (H), cryst. struct., electron and neutron diff. obs. 4-55803
- LiTa₂O₈ (H), Li ordering, electron and neutron diff. study 4-34465
- LiTaO₄, polymorphism, neutron and X-ray diff. studies 4-55778
- LiTa₂Si₂-2H, Li order-disorder transitions, electrochemical data 4-2133
- LiTb_{0.63}Y_{0.37}F₄, smeared paramag. to ferromag. phase transition, susceptibility meas. 4-2759
- Li₂Ti_{1-x}MyS₂ (M=V, Cr, Fe), prep., chem. and phys. props. 4-20175
- LiTiO₃, fusion reactor breeder materials safety compatibility studies 4-14168
- LiTiO₃, refractive index, adsorpt. and electro-optical coeff. meas. 4-40386
- Li₄Ti₂O₇, spinel, ion exchange reactions 4-7710
- Li₂TiO₂, insertion reactions and diffusion 4-52002
- Li₂TiO₂(B), bronze, physical props. study (French) 4-51146
- Li₂TiS₂, electrodes in secondary batteries 4-52134
- Li₂TiS₂, intercalate, struct. and dislocations 4-20168
- LiTiZn ferrites, dielec. const. and mag. props., Zn conc. effects 4-56844
- LiTmF₄, scheelite struct., cryst. elec. field symm., local distortions, NMR study 4-29935
- LiV₂O₈, IR spectra and bond lengths 4-51257
- Li₃VO₄-Li₂SiO₄, ionic cond. meas. (Chinese) 4-50565
- Li₃VO₄-Li₂SiO₄-Li₂GeO₄ ternary system, phase transitions and ionic cond. (Chinese) 4-23222
- Li₃VO₄-Li₂SiO₄-Li₂GeO₄, ionic cond. meas. (Chinese) 4-50565
- β -Li₂V₂O₈, electrodes for Li cells 4-52124
- Li₂V₂O₈, small polaron mobility, elec. cond. meas., EPR spectra 4-56350
- Li₂V₂O₈ electrodes in secondary batteries 4-52134
- Li_{3+x}V_{1-x}Si₂O₈, Li⁺ ion conductors, NMR study 4-34706
- Li₃WO₃, cryst. struct. determ. 4-20171
- LiWO₃F, cryst. struct. determ. 4-50263
- LiY_{1-x}Er_xF₄ crystals, excitation-energy transport rates 4-51331
- LiYF₄:Pr³⁺, polarised absorpt. spectra and quantum states (Chinese) 4-51305
- LiYF₄ crystals, far-IR optical props. 4-51216
- LiYF₄:Er³⁺, Pr³⁺ pulse-polarised lasing at 0.8503 μm 4-33665
- LiYF₄:Er(Ho)(Yb)(Tm), γ -irrad., colouring study 4-29477
- LiYF₄:Ho laser, high efficiency mid-IR generation by Raman down conversion in liq. N₂ 4-1442
- LiY_{1-x}Ho_xF₄ crystals, excitation-energy transport rates 4-51331
- LiYbF₄:Tm³⁺, laser emission at 1.4625 μm due to new lasing transition in Tm³⁺ 4-10310
- Li₂Zn₂SiO₄, solid electrolyte, resist. and struct., influence of Zn addition 4-56068
- Li₂ZrO₃, fusion reactor breeder materials safety compatibility studies 4-14168
- Li_{0.29}ZrSe₃, Li ordering, NMR studies 4-45043
- (⁶Li,Ca)SO₄:Dy, thermal neutron dosimeter 4-48793
- ⁶LiF, thermoluminescent detectors, neutron response (Czech) 4-48803
- ⁶LiF, ⁷LiF, TLD albedo and S activation techniques combination for fast neutron personnel dosimetry 4-48775
- Li⁺ spin-lattice relax. and quadrupole relax. in labile solvate layers 4-54760
- ⁷LiF, thermoluminesc. glow curve shape prod. by α and β radiations 4-21050
- ⁷LiF, thermoluminescent detectors, neutron response (Czech) 4-48803
- ⁷LiF TLD for skin and extremity monitoring of personnel 4-48779
- LiNaSO₄, internal modes, IR transmittance spectra 4-20961
- LiNbO₃:Ti guided light interferometric modulators 4-33746
- Li₆Li₂Sc₂Si₂O₈, protonenstatite, elastic props. compared to orthoenstatite, Brillouin scatt. 4-39364
- MoO₃-K₂O-Li₂O-Al₂O₃-SiO₂ glass-ceramic, nucleation kinetics 4-29329
- NH₄LiSO₄, ferroelec., Brillouin scatt. study, relaxation and anomalous temp. depend. of elastic constants 4-25769
- NaF:LiF, additively colored, F-centre decay 4-11144
- Na₄Li₁₀W₃O₁₅, Bridgman grown crystals, ferroelastic domains, polarisation microscopy (French) 4-45039

lithium compounds continued

- $\text{Nb}_2\text{O}_5\text{-LiTaO}_3$ heterostructure waveguides, light intensity modulation based on guided-to-radiation mode coupling 4-28821
 $\text{Pb}_{1-x}(\text{BiLi})_{x/2}\text{TiO}_3$ and $\text{Pb}_{1-x-y}(\text{BiLi})_{x/2}(\text{NaCe})_{y/2}\text{TiO}_3$ ferroelectric solid solutions, piezoelec. props. 4-25683
 $\text{SiO}_2\text{-LiO}_2\text{-Al}_2\text{O}_3\text{-K}_2\text{O-Na}_2\text{O}$ glass, laser-irradiated, thermostimulated exoelectron emission 4-57079
 $\text{Sr}_{0.5}\text{La}_{0.5}\text{Li}_{0.5}\text{Co}_{0.5}\text{O}_4$ ESR and mag. studies 4-20782
 TiS_2 cathode prepared directly on Ti plate for Li secondary cells 4-46864
 $\text{V}_2\text{O}_5\text{-B}_2\text{O}_3$ glass, Li insertion, cond., activation energy 4-39997
 $\text{V}_2\text{O}_5\text{-TeO}_2\text{-Li}_2\text{O}$ glass, VO^{2+} complex, EPR study (*Russian*) 4-46092
 $\text{ZrO}_2\text{-P}_2\text{O}_5\text{-Li}_2\text{O-SiO}_2$, struct., ionic cond., and optical spectra (*French*) 4-24796

lithography

- see also electron beam lithography; ion beam lithography; photolithography
 gap measurement technique, wide-range, printing lithographic mask-to-substrate gap meas. appls. 4-27479

lithospace see Earth crust**lithosphere** see Earth crust**liver**

- acoustic attenuation from reflected ultrasound signals, spectral-shift and spectral-difference approaches 4-55286
 alcohol dehydrogenase derivatives, horse liver, active site cryst. structs. 4-7925
 calf, ultrasonic scatt. cross section meas. 4-44281
 cell line, human liver carcinoma, BEL-7402, biological effects of Ar laser (*Chinese*) 4-52389
 cells, electrogenesis stability in inbred mice, in vivo and in vitro obs. 4-31187
 CT differential diagnostics of benign and malignant tumours, dispersion analysis of densitometric data (*Russian*) 4-16952
 DNA, radiation damage, mouse liver and transplanted tumours expts. (*Russian*) 4-36170
 dynamic hepatic scintiangiographic imaging, mathematical and statistical models in nuclear medicine 4-3616
 fatty and normal, US attenuation, freq. dependence 4-47051
 gap junction in rat liver, reversible struct. transition, high-resolution electron microscopy obs. 4-46958
 glycogen in living rabbit, natural-abundance ^{13}C NMR meas. 4-41664
 hepatoma cells, effect of thermotolerance on thermal radiosensitisation 4-57855
 mitochondria, rat liver, in vitro effects of microwave radiation 4-57940
 nonwater tissue components, proton mag. relax. after expt. thermal burn 4-41441
 radiation hepatitis following moving strip radiotherapy 4-16964
 tumour, murine, onset probability rel. to acoustic characts. 4-52381
 US attenuation and absorpt. in liver tissue 4-12623
 US wave propagation 4-57938
 vascular fibrinolytic activity, Ross after liver X-irrad., late radiation damage, beagle expts. 4-3600
 ^{241}Am , internal deposition in exposure accident at Hanford, 1976 4-16988
 ^{241}Am , organ burden and dose estimates, 1976 Hanford exposure incident 4-16989
 $^{239}\text{PuO}_2$ and ^{239}Pu citrate, liver tumours induction in Chinese hamsters 4-8053

livestock see farming**living systems**

- see also biocybernetics; brain models; extraterrestrial life; physiological models
 liquid crystals role in live organisms (*Czech*) 4-3535

LMC see Large Magellanic Cloud**LME** see liquid metal embrittlement**load (electric)**

- photovoltaic solar array optimization as function of time and load profiles 4-31103

lobes (distribution) see antenna radiation patterns**local area networks** see communication networks; computer networks**local moments in dilute systems**

- metal, indirect exchange interaction with resonance defect electron states 4-11669
 metals, cluster approach to mag. impurities 4-25515
 metals, local 4f moment form. and dynamics 4-40139
 metals with rare earth impurities, degenerate Anderson model, low temp. thermodynamics 4-51061
 spin-dependent impurity pots. in Wolff model 4-25516
 theory of magnetic alloys, exact results, review 4-51022
 transition metal solutes in dilute metals and alloys, mag. props. 4-46001
 CeCu_2Si_2 , magnetism and supercond. 4-56543
 CeNi_2Fe , ferromagnetic order, Curie temp., magnetisation 4-56542
 $\text{Cu}_2\text{Au(Mn)}$ spin glasses, mean-free-path effects 4-56636
 $\text{Eu}_{1-x}\text{Ho}_x\text{Mo}_2\text{S}_8$, press. induced supercond. 4-56476
 Fe-Au , dil., local moment induced elec. quadrupole splitting of dil. ^{198}Au , NMR-ON study 4-46127
 FeNi Invar alloys, model for mag. abnormalities 4-25542
 $\text{La}_2\text{Li}_0.5\text{Cu}_{0.5}\text{O}_4\text{Co}^{3+}$, intermediate spin impurity, mag. props. (*French*) 4-2727
 LaNi_2Fe , ferromagnetic order, Curie temp., magnetisation 4-56542
 $\text{Mn}_2\text{N-Mn}_3\text{GaN}$ solid soln., mag. phase diagram and second order transition line 4-11711
 RuFeB , mag. system, novel behaviour of Fe moments 4-20816
 RuFeSi , mag. system, novel behaviour of Fe moments 4-20816
 YNi_2Fe , ferromagnetic order, Curie temp., magnetisation 4-56542
 $\text{Yb}_{1-x}\text{Tm}_x\text{S}$, mag. and elec. transport props. 4-56541

local networks see communication networks; computer networks**localised electron states**

- see also Anderson model; charge-ordered states; charge transfer states; Wigner crystal
 amorphous semiconductors, carrier diffusion, review 4-6791
 amorphous semiconductors, carrier recombination rate study 4-25370
 amorphous semiconductors, localisation, deep states in gap, and hopping transport 4-45685
 amorphous semiconductors, localised state distrib., transient photodecay meas. sensitivity, Monte Carlo study 4-56388
 amorphous semiconductors, nucl. spin relax. phenomena 4-40270
 Anderson model, perturbation expansions for systems with strong local correlations 4-2551

localised electron states continued

- angle resolved photoemission, surface state lifetimes determ. 4-57075
 binary alloys, localisation, quantum percolation 4-15857
 bounded two-dimensional systems, conductivity activation temp. depend. 4-45664
 Cayley tree, cond. near localisation threshold 4-20616
 chalcogenide glasses, localised states and photoinduced changes 4-50769
 chalcogenide glasses, time resolved photoluminescence and localised states 4-46309
 core excitons in electronic polaron model 4-56221
 density of states in dislocation and impurity cages 4-45688
 disordered electronic system, mobility-edge problem, dynamic representation 4-25296
 disordered semiconductor, thermoelectric power due to variable-range hopping 4-45816
 disordered semiconductors, electron-phonon interactions near mobility edge 4-45650
 disordered semiconductors, nonequilibrium transport and energy relax. 4-45777
 disordered solids, scaling theory of electrons 4-11483
 disordered system, single-particle and pair excitations 4-2553
 disordered system of localised electrons, Coulomb gap, mean field approach 4-45686
 disordered systems, eigenstates, fractal character 4-45701
 disordered systems, power law localisation 4-2552
 disordered systems, supercond. and localisation, local gauge invariant approach 4-6923
 disordered tight-binding systems, localisation of electronic states 4-15856
 disordered tight-binding systems, localisation of electronic states 4-39838
 electron pair self localisation in model struct. with critical pot. 4-25300
 gap-free semiconductor, fluctuation model, Fermi level 4-34857
 graphite, highly oriented pyrolytic, local density of unoccupied states, photoyield spectroscopy meas. 4-3020
 graphite-Ba intercalation cpd., C_6Ba , electronic struct., XPS and UPS studies 4-39755
 graphite- FeCl_3 intercalation cpds., acceptor site for donated electrons, Mossbauer anal. 4-11810
 graphite-KHg intercalation cpd., KHgC_4 and KHgC_8 , XPS core levels 4-39805
 hopping transport of interacting localized electrons 4-45780
 ice, amorphous, adsorpt. and mobility of H atoms on surface 4-29775
 ice, electron solvation, subnanosec. time-resolved optical absorpt. 4-30491
 impurity elec. cond., self-consistent current relax. theory 4-20643
 intermediate valence ion fluctuations between two mag. configurations 4-29933
 intermediate valence systems, Ramirez-Falicov-Kimball theory, discontinuous transition (*Portuguese*) 4-11496
 intermetallic compounds, hybridisation and struct. instabilities 4-11470
 intrinsic and extrinsic disorder effects 4-25298
 local moments in narrow band and metal-insulator transition, thermodynamic anal. 4-25228
 localisation in incommensurate potential, multidimensional model 4-39804
 magnetically mixed semiconductors, spin correlation effects for large radius electron centre 4-35150
 metallic alloys, strongly disordered, cond. 4-45735
 metallic glasses, elec. resist., cond., incipient localisation and electron-electron correl. effects 4-45729
 metals, disordered 1-D, localisation length singularity and hopping cond. 4-29944
 metals, one dimens., geom. reson. in LF conductivity 4-56323
 metals, thermoelectric power, correl. function method 4-25324
 mobility edges in electronic pair spectra 4-56281
 molecular crystals, energy spectrum, influence of planar defects and disorder 4-39785
 non-crystalline materials, electronic props. 4-2606
 nonmetallic cryst., excitation relax. mechanism at low temps. (*Russian*) 4-46299
 oligonaphthols, elec. cond., naphthoxyl type paramag. centre contrib. 4-6787
 one dimensional systems, temperature depend. cond., eigenstates tunnelling theory 4-45760
 one-dimensional, Gutzwiller state, exact and Monte Carlo calcs. 4-29918
 one-dimensional disordered chain, energy level correlations 4-34850
 one-dimensional disordered systems with localised carriers, kinetics study 4-15879
 one-dimensional incommensurate systems, localisation, tight-binding approx. 4-56280
 one-dimensional random systems, localised eigenstates at zero temp. 4-6739
 oxide surfaces, electronic struct. DV-X α cluster calc. 4-11567
 percolation-localisation crossover near percolation threshold 4-25299
 periodic Anderson Hamiltonian with orbital degeneracy, ordered states 4-25506
 periodic Anderson model, one dimensional exact soln., electron correl., singlet ground state energy 4-25274
 (perylene) $_2(\text{AsF}_6)_{0.75}(\text{PF}_6)_{0.35}\text{XO}$, $85\text{CH}_2\text{Cl}_2$, mag. susceptibility under press. and elec. cond. anisotropy 4-2598
 plasma, density functional theory, dynamic correl. localisation onset 4-55485
 polyacetylene- I_2 , photoluminescence, doping effects 4-56996
 polyacetylene, cis and trans, multiphonon Raman scatt. and localised gap states 4-29931
 trans-polyacetylene, coexistence of soliton and polaron 4-6715
 polyacetylene and itinerant Peierls systems, theory of electronic structures and lattice distortions 4-56240
 polymer chain with isotopically substituted host, localised excitations 4-11484
 polyurethane, dielec.-semicond. type transition on heating (*Russian*) 4-39993
 polyvinyl carbazole electrophotographic layers, local centre functions (*Russian*) 4-17996
 pseudoexciton time evolution in crystal localised excitation 4-50748
 rare earth compounds, nonmetal-metal transition, electronic density of states 4-20565
 rare earth elements, core level binding energies in free atom and metallic phase 4-6727
 rare earth intermetallics, X-ray absorption spectra localised versus itinerant final states 4-35517
 rare earth sulphides, 5p states, energy position and chem. interactions 4-2537

localised electron states continued

- rare earths, 4p core electron energy loss spectra, breakdown of one electron approx. 4-51424
 S-N-S junction, supercurrent and localisation effects 4-11647
 scaling theory of localisation 4-11487
 semiconductor/metal interface, Schottky barrier heights and the continuum of gap states 4-35066
 semiconductors, doped, band tailing, impurity band form. and localisation 4-6744
 semiconductors, exciton localisation on defects 4-20575
 site-dilute systems, localisation, triadicalisation study 4-34917
 spatially disordered systems, electron localisation, short range order effects 4-45691
 superconducting occurrence in system of interacting localised and delocalised electrons 4-15984
 surface layers of single cryst., electron spectroscopy and localisation of moderate energy electrons 4-20437
 temperature dependence of the conductivity near the localization threshold 4-25335
 three dims. systems, localisation, magnetoconductivity cut-off depend. 4-50782
 (TMTSF)₂BrO₄, metal-insulator transition, anion disorder effects 4-2513
 toluquinone, $\pi\pi^*$ excitations, localisation, Stark effect, dipole moment and polarisability 4-56890
 transition metal monoxides, superexchange, itinerant versus localised picture 4-56603
 Sd transition metals, double hole binding energy shifts, rel. to AES results 4-3002
 triarylmethane-bisphenol-A-polycarbonate solid soln., hole transport 4-25344
 two dims. weakly localised regime, anomalous magnetoresistance, field depend. 4-50781
 two-dimensional disorder in the presence of a uniform magnetic field 4-2554
 two-dimensional electron delocalisation in mag. field 4-11469
 two-dimensional electron-impurity system under strong mag. fields, Anderson localisation 4-15855
 Wannier functions, exponentially localised, existence 4-2493
 Ag, self-consistent relativistic band struct. calc. 4-29875
 AgCl-NaCl solid soln., microscopic structure and electronic props., ESR study 4-40228
 AgN₃, light stimulated charge carrier transfer, photocurrent and dark current studies 4-35024
 AgPt dilute alloys, spin-orbit and cryst. field effects 4-29934
 Al film, granular, electron inelastic lifetime, electron-electron attraction strength, magnetoresist. 4-2661
 Al₂O₃ film, anodic, photocond. in 3 to 6.2 eV range, localised levels 4-2664
 As₂Se₃, amorphous and cryst., luminesc. centres, time resolved photoluminesc. and photoinduced absorpt. meas. 4-46310
 As₂Te₃, amorphous, dispersive transport, TOF and transient field effect meas. 4-45784
 Au, self-consistent relativistic band struct. calc. 4-29875
 Bi films, 2D and 3D, weak localisation, spin-orbit and electro-electron interactions 4-25348
 Bi thin films, electron localisation, effect of boundary scatt., magnetoresist. study (*Russian*) 4-29991
 C₆K, intercalation cpd., local density of unoccupied states, photoyield spectroscopy meas. 4-3020
 C₆Li, intercalation cpd., local density of unoccupied states, photoyield spectroscopy meas. 4-3020
 Cd, halogenation, UPS study 4-30609
 CdCr₂S₄, ternary mag. semicond., coexistence of Cr²⁺ and Cr⁴⁺ ions, ferromag. reson. study 4-30287
 p-CdCr₂Se₄, mag. ordering influence on photoconductivity 4-15909
 Cd_{1-x}Mn_xSe, single cryst., Mn pinned level detection by photocond. 4-30007
 CdS, semiconductor-insulator struct., TSC meas. (*Russian*) 4-50941
 CdS, zinc-blende and wurtzite phases, electronic band struct., local density approx. 4-6703
 CdS_{0.5}Se_{0.47}, luminescence study of excitons 4-21037
 CdS_{1-x}Se_x solid soln. dispersion of localised exciton lifetimes 4-25233
 Ce, α and γ phases, 4f-related features, photoemission studies 4-57071
 Ce compounds, electronic structure, 4f localisation, photoemission study 4-3017
 Ce compounds, f level occupancy, hybridisation and coupling to conduction states 4-29919
 Ce intermetallics, 4d to 4f excitations, core level EELS study 4-3003
 CePd₃, bremsstrahlung isochromat spectra 4-2988
 Cu, charge-density distrib. around Fe-Fe dimer, $\chi\alpha$ cluster calc. 4-2541
 Cu, d-bands, local density approx., screened self-interaction correction 4-56201
 Cu, self-consistent relativistic band struct. calc. 4-29875
 Cu₅₀Ti₅₀, elec. resist., cond., incipient localisation and electron-electron correl. effects 4-45729
 CuZr amorphous alloys, anomalous magnetoresist., weak localisation 4-50794
 Fe, core level excitations, spin-depend., spin polarised APS study 4-30567
 GaAs surface electronic props. of (100) face, thermally cleaned in UHV and O covered 4-56409
 GaAs, wires of rectangular cross sections, 1D and 2D quantum localisation, resistance, thermal behaviour 4-25332
 GaAs-Al_{0.1}Ga_{0.9}As heterostructure, localisation of two-dimensional electrons 4-40005
 GaSe_{1-x}S_x solid solns., localised excitons, photoluminesc. study 4-46311
 Gd₂S₃, mag. semicond., metal-insulator transition and magnetoresist. 4-56218
 Ge epitaxial growth mode on Si (111) substrate at initial stage, EELS, LEED studies 4-21085
 a-Ge:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 a-Ge:H, spin-lattice relax. of paramag. states 4-40226
 a-Ge:Mo films, local struct. and elec. props. 4-39133
 Ge:P(B) amorphous films, ESR spectra, temp. depend. 4-11770
 n-Ge:Sb, negative magnetoresistance theory 4-25380
 GeSe:Fe amorphous semicond., conduction mechanism, Mossbauer studies 4-25353
⁴He, liquid film, surface electron props. calcs. 4-50609
 Hf, polycrystalline, surface core level shifts, XPS study 4-39803
 Hg_{0.8}Cd_{0.2}Te, electron localisation, magnetoresist., Hall effect meas. 4-35016

localised electron states continued

- In-Mn(Cr), dil., thermodynamics, effect of localised states in energy gap 4-25478
 InSb, doped, NMR relax. in localised regime 4-2837
 InSb, lattice relaxation controlled free carrier conc., transport props. study (*French*) 4-56357
 In_{2-x}Sn_xO_{3-y}, weak localisation and correlation effects of 2D electrons 4-11606
 KCl, surface, local density of electronic states 4-40012
 La, f electron characterisation using EELS and XPS studies 4-56261
 Li-Bi(Pb)(Sn)(Si), liq., electron localisation and cpd. form., ⁶Li spin relax. study 4-40261
 LiC₆ intercalation cpd., valence and core electronic excitations, EELS studies 4-25275
 Ni dihalides, 2p core level satellites in XPS spectra 4-57074
 Ni-P, amorphous, P density of states, X-ray emission and absorpt. spectra 4-45602
 P, black, core-exciton induced resonant photoemission 4-51453
 Pb-Mn, dil., thermodynamics, effect of localised states in energy gap 4-25478
 PbGeS₃, photoconductivity study (*Russian*) 4-25407
 Pd, adsorption of CO on (111) surface, photoemission spectra, C KVV Auger spectroscopy; 4-30605
 Pd thin film, magnetoresist., localisation and electron interaction effects 4-35094
 PdGa (110), electronic struct., angle-resolved photoemission study 4-30607
 Pt (100), (111), (997), Au and Ag overlayers, electronic struct., XPS and UPS studies 4-25416
 Pt, adsorbed CO on (001) surface, valence band shakeup, synchrotron radiation photoemission spectra 4-30606
 Pt catalyst supported on γ -Al₂O₃ and TiO₂, XPS 4-40607
 Rh catalyst supported on γ -Al₂O₃ and TiO₂, XPS 4-40607
 RhAl(Ga)(In) alloys, band struct. and mixed states, photoemission spectra studies 4-25208
 Ru ternary oxides, metal-semicond. transition, electron spectroscopy studies 4-11440
 Sb₂Te₃Se, photoelectron diff. from high-lying core levels, surface struct. determ. 4-7312
 Si bilayers, randomly stacked, localised electron states, LCAO calc. 4-45693
 Si, dislocations, static and moving, localised electron states calc. 4-6733
 Si inversion layers, use of investigating electron states localisation, conductance oscils., quantised Hall resist. 4-45853
 Si MOS inversion layers, in weak and strong mag. fields, review 4-50942
 a-Si, optical absorpt. spectrum, electronic consequences of ideal local order 4-46280
 a-Si:C(N), local struct., NMR, EPR, Raman scatt., and IR absorpt. studies 4-39131
 Si:H, amorphous films, localised states, photoluminesc. study method 4-39832
 a-Si:H, compensated, localised states, drift mobility, charge collection meas. 4-45692
 a-Si:H, deep trapping, disorder and band tail localisation effects 4-45809
 a-Si:H, doped and undoped, electron spin-lattice relax. meas. 4-20863
 a-Si:H, electronic and optical props. 4-45687
 a-Si:H, gap state parameters, isothermal capacitance transient spectroscopy (*Japanese*) 4-20609
 a-Si:H, recomb. processes, ODMR and photoluminesc. study 4-20889
 a-Si:H, spin-lattice relax. of paramag. states 4-40226
 a-Si:H,P, localised states and photoconductivity 4-39836
 a-Si:H,P, photoinduced transient localised states 4-39835
 a-Si:H films, local states in band gap, photocond. and dark cond. studies 4-25403
 a-Si:H MOSFET, photocond., Fermi level effects 4-6830
 Si:P, ion implanted, cryst. ordering disruption, 2p core reflectance spectra 4-40595
 SiN_x, amorphous, valence and core level photoemission data 4-40598
 SiN_xH, amorphous, valence and core level photoemission data 4-40598
 IT-TaS₂, non-Ohmic conduction and weak localisation 4-50797
 TaS₂(W) (1T), commensurate CDWs, effects of doping, elec. resist. meas. 4-56328
 Tb_{1-x}Eu_x(MoO₄)₃ 4-51280
 Th, f electron characterisation using EELS and XPS studies 4-56261
 Ti₃Be₂Zr₃, resist., cond., incipient localisation and electron-electron correl. effects 4-45729
 U, f electron characterisation using EELS and XPS studies 4-56261
 U intermetallics, X-ray absorption spectra localised versus itinerant final states 4-35517
 U monochalcogenides, magneto-optics and electronic struct. 4-56210
 V₂O₅-P₂O₅ glass, localised states energy spectrum (*Russian*) 4-56282
 Zn, d-bands, local density approx., screened self-interaction correction 4-56201
 Zn-Mn dilute supercond. film, quenched and annealed, localised excited states 4-50749
- localised modes in crystals** *see lattice localised modes*
localised states, electron *see localised electron states*
locomotive diesel electric engines *see diesel-electric locomotives*
locomotives
see also diesel-electric locomotives; electric locomotives; railways
 visual locomotive simulator, projection system design 4-24135
loggers *see data loggers; recorders*
logic, formal *see formal logic*
logic analysers *see display instrumentation*
logic arrays *see cellular arrays*
logic circuit elements *see logic devices*
logic circuits
see also emitter-coupled logic; flip-flops; formal logic; integrated logic circuits; logic devices; transistor-transistor logic
 optical bistability light beam gating, input/output characts., appls. (*Italian*) 4-38518
 programmable gating unit for transient waveforms recorders, for NMR 4-22814
logic devices
see also logic gates
 LiNbO₃ ultrafast all-optical gate 4-28880
logic gates
 nonlinear Fabry-Perot etalon as optical logic gate 4-38517
 LiNbO₃ ultrafast all-optical gate 4-28880

long-range order*see also order-disorder transformations*

- alloys, substitutional, supercond. transition temp., CPA calc. (*Russian*) 4-25468
- amorphous Heisenberg ferromagnet, 2-D, long-range order and magnetisation 4-30138
- antiferromagnetic classical planar X-Y model, 2-D, critical phenomena and discrete symmetry breaking 4-35184
- binary alloys, first- and second-order phase transitions, collective variable method anal. (*Russian*) 4-24957
- graphite-K intercalation cpd., KC_8 , kinetic neutron diffr. study 4-39442
- graphite-K-Cs intercalation cpd., KC_8C_{16} , heterostruct., X-ray diffr. studies 4-39264
- graphite-K-Rb intercalation cpd., heterostruct., X-ray diffr. studies 4-39264
- liquid crystals, doubly reentrant, frustrated spin gas model 4-11276
- oxides, nonstoichiometric, long-range ordering of extended defects, computer simulation 4-24833
- quadrupolar glassy system, orientational ordering simulation 4-8841
- quasi-one-dimensional conductors, effect of one-dimensional quantum fluctuations 4-2592
- random anisotropic spin models, non-uniform long-range order 4-25498
- two-dimensional Hubbard model, Monte Carlo studies 4-11660
- water, modified, on pore glass surface, EPR study 4-2055
- $AlCr_2$, order-disorder transition study (*Russian*) 4-6485
- $As_{50}Se_{50}$ - $Ge_{25}Se_{75}$ multilayered amorphous struct., long-range interaction 4-15951
- $Ba_2NaNb_2O_5$, X-ray study 4-46363
- Cu (110), clean and O-covered, H_2O adsorption, UPS, desorption, work function and LEED studies 4-45509
- Fe-Al, Debye temp. anomalies (*Russian*) 4-6464
- Fe-Al, low-temp. heat capacity, long range order (*Russian*) 4-6522
- $FeCo-V(G)(Mn)(Ni)$, at. ordering characts., calorimetry, neutron diffr., TEM studies (*Russian*) 4-24965
- γ -FeNiCr, antiferromagnetic order near stainless steel composition 4-35201
- $Li_{0.29}ZrSe_2$, Li ordering, NMR studies 4-45043
- $Mg_{70}Zn_{30}$, amorphous, struct. studies 4-44981
- γ -MnNi antiferromag. mag. moment distrib., mag. environment model anal. 4-30154
- Ni-Cr (33.3 at.%), short-range and long-range ordered, internal friction anomalies 4-30738
- Ni_3Mn-Ni_3Cr system, L_{12} superstruct. stability and order disorder transformation (*Russian*) 4-24997
- Ni_4Mo , order-disorder transform. under electron irradi. in HVEM 4-51654
- $Pd_{77.5-x}Cu_6Si_{16.5}Fe_x$ amorphous alloys, mag. double transitions 4-30165
- Pt surface, chemisorption and ordering of naphthalene and azulene 4-29811
- $Rb_2Co_0.6Mg_{0.4}F_4$, disordering process obs. 4-2788
- V_2O_5 , amorphous and hydrated, reactivity and phys. props. (*French*) 4-44965
- YGd, dilute alloys, spin density wave transition, sp. ht. study 4-56584

long tailed pair *see differential amplifiers***loop antennas**

- annular loop antenna arrays near field patterns in lossy cylinders, hyperthermia appl. 4-12672
- satellite, two component warm plasma performance comparison 4-44858

Lorentz transformation

- approximate relativistic two-body problem in analytical mechanics 4-13511
- baryon lifetime and semileptonic branching ratios for $\Delta B=0$ and $\Delta S=1$ decays, Lorentz invariance testing 4-13820
- charged particle in EM field, relativistic motion, Lorentz group, Thomas precession 4-47863
- conference, modified theory of relativity, Patna, India (June 1983) 4-31974
- de Sitter and Einstein cylinder space-times, causal automorphism 4-36977
- gauge transformations as Lorentz-Boosted rotations 4-13770
- gravitational Poincaré gauge theory and Higgs mechanism 4-37282
- Landau Fermi liquid, relativistic formulation 4-53580
- $R+T^2$ gravit. theories, extra gauge symmetries 4-32147
- relativistic particle dynamics, unified geometrical approach 4-37313
- some cinematic properties of standing waves (*French*) 4-33617
- superluminal Lorentz transformations 4-53480
- superluminal Lorentz transformations in six-dimensional spacetime 4-27293
- tachyons phase space 4-32039
- vectorial representation with extended trigonometric and hyperbolic functions, rotations rep. 4-13510

Lorenz number

- electron gas, two-dimensional, thermopower and thermal cond. in quantising mag. field 4-56249
- As, thermal cond., 2 to 300K, lattice and electronic contribs. 4-6574
- Cu-Ni, transport props. at high temp. 4-20628
- ErNi, ferromagnetic, thermal cond. and elec. resist. 4-50791

Loschmidt number *see constants***loss angle***see also dielectric losses*

- fibre reinforced epoxy bonded composites, thermal stability (*Russian*) 4-7497

loss angle, dielectric *see dielectric losses***loss-angle measurement**

- insulator loss tangent meters, using K155 microcircuits 4-42983

loss measurement

- ferroelectric ceramics, dielec. const. and loss factor meas. technique (*German*) 4-46171
- fibres, multimode, source config. effects on bandwidth and loss meas. 4-10442
- insertion loss meas. of optical fibre connectors (*Czech*) 4-55200
- optical attenuator for communication systems testing (*Czech*) 4-53725
- optical fibre joint loss measurement using two-point processing 4-24218
- optical waveguide loss measurement, direct temp. meas. method 4-38571
- quartz resonators fabricated from high purity material, acoustic loss meas. 4-20236
- radiation loss measurement in optical elements using three-mirror cavity based apparatus 4-33824

loss tangent, dielectric *see dielectric losses***losses***see also dielectric losses; eddy current losses; heat losses; loss angle; magnetic leakage*

- adfoal resonator, waveguide mode losses, plane mirror position effect 4-55090
- dielectric waveguide directional couplers interferometers, normal mode loss effects 4-49522
- dielectric waveguide grating filter, analysis and insertion-loss response prediction 4-38634
- dielectric waveguide structures, radiation loss by volume current method 4-24169
- fibre-optic connector performance improvements 4-10430
- fibres, single-mode, with depressed inner cladding, mode coupling loss 4-24195
- graded-index optical fibre transmission lines, loss increase, wavelength dependent 4-28876
- laser near-hemispherical resonator, diffr. losses 4-24029
- maximum-power points of solar cells with simultaneous series and shunt losses 4-52145
- metallic waveguides, circular, smooth and corrugated, TE_{01} mode propag. at $394 \mu m$ 4-38579
- monomode fibre, shifted zero dispersion type, splice anal. 4-28852
- monomode fibre microbending loss, soln. of Petermann's auxiliary function 4-24190
- multi-demultiplexer, all-optical-passive component for fibre-telecommunications 4-44251
- multifilament superconductor hysteresis losses in superimposed DC and AC mag. fields, scaling law 4-45951
- multifilamentary superconducting wire, AC losses, numerical model 4-45948
- optical fibre, single mode polarisation holding cable, loss and polarisation characts. 4-28867
- optical fibre bonding techniques, losses and terminations (*Croatian*) 4-10452
- optical fibre cable, single mode, polarisation holding props., microbending loss during cabling 4-24204
- optical fibre loss due to H_2 generation at high temp. 4-49541
- optical fibre loss measurement system, sensor unit design for multiple fibres (*Japanese*) 4-33784
- optical fibre transmission loss increase due to H_2 diffusion 4-19591
- optical fibres, jacketed, under lateral pressure, struct. anal., microbending losses 4-24203
- optical fibres, jacketed, with initial imperfection, thermal characts. 4-55197
- optical fibres, second window, 1-1.7 μm , efficiency improvement 4-49548
- optical fibres, silicone-coated, loss increase with heat treatment 4-21338
- optical fibres, single and multimode, hexafluoroethane doped, plasma activated CVD, OH absorption loss study 4-28847
- optical fibres, single mode, physical interpretation of spot size, dispersion and splice loss aspects 4-38613
- optical fibres, transmission loss, impurity influence in raw materials, VAD 4-28864
- optical ultralow loss single-mode fibre design for 2.5 to 6 μm band operation 4-1483
- optical W-fibres, finite cladding effects, leaky mode interpretation 4-1485
- optical waveguide theory, book 4-33760
- optical waveguides and fibres, bent, beam propag. analysis of loss 4-28831
- optical waveguides formed by Ag-Na ion exchange, propag. losses 4-24167
- phase conjugate mirror resonator losses, directional behaviour in aberrated multiperture cavities 4-28773
- self-induced transparency with chirping and losses 4-14760
- silicate glass, ultrapure multicomponent, optical absorpt. and scatt. rel. to As_2O_3 additions 4-55152
- single mode fibres, F doped, fabrication by VAD, transmission characts. 4-24268
- single mode high-bandwidth fibres, 1.3-1.55 μm , current status 4-33795
- SiO_2 fibre cable filled with water, H_2 hydrogen rel. to loss increase 4-28851
- SMA type optical connectors, insertion loss rel. to plug-frames and nuts (*Japanese*) 4-33759
- solitons in optical communications 4-49551
- stable optical resonators with internal limiting apertures, diff. loss anal. 4-28732
- superconductors, aC transport current losses in transverse and longitudinal DC fields 4-45950
- thin film leaky modes meas. using substrate excitation by prism coupling 4-19566
- $As_2S_3(Se)(Ge-Se)$ glass IR optical fibre cable for continuous CO laser transmission, design and expt. study 4-38610
- Al hermetic coated optical fibre, spectral loss characts. at high temp. 4-24232
- $As-S(Se)$ glasses, fibre waveguides for middle IR range, optical losses below 1 dB/m 4-55204
- Cu vapour laser, nonaxial beam radiation divergence dynamics and loss calcs. 4-28674
- GaAs waveguide modulators and directional couplers with low losses for high speed operation at 1.3 μm 4-33761
- GaAs-GaAlAs optical waveguides, MOCVD grown, low losses, attenuation meas. 4-24179
- GeO_2 glass optical fibres, loss characts., nonlinear optics appl. 4-24229
- $Li-SOCl_2$ batteries, galvanic corrosion and capacity loss 4-7839
- $LiNbO_3:Ti$ low-loss polarisation-independ. electrooptical switches at 1.3 μm 4-55225
- Nb-Ti multifilamentary superconductors, with very fine filaments, behaviour under AC mag. fields 4-45983
- Nb_3Sn multifilament superconductors, AC loss depend. on struct. props. 4-45952
- Nb_3Sn superconductors, temp. depend. AC losses, 4.2-1.8K 4-45949
- NbTi composite multifilamentary supercond., stability under influence of pulsed mag. field, expt. study 4-45953
- NbTi superconductors, temp. depend. AC losses, 4.2-1.8K 4-45949
- Si_3N_4 , plasma-deposited, for low-loss optical waveguides 4-19557
- SiO_2 fibre in cable filled with water, IR optical loss increase 4-1490
- SiO_2 fibres, IR optical loss increase due to chemical reaction of H_2 4-33796

losses continued

- SiO₂ multimode optical fibres, splicing using electric arc fusion technique, loss meas. 4-55243
 SiO₂:P₂O₅ fibres, optical loss stress and temp. effects, expt. study 4-1492
 SiO₂-GeO₂ optical fibres, heat-treated, optical loss increase, ESR study 4-21337
 SiO₂-GeO₂ optical fibres, loss spectra due to H₂ and D₂ permeation, expt. study 4-38608
 SiO₂-GeO₂ optical fibres, diffused H₂ gas chem. change to OH⁺, expt. study 4-38612
 SiO₂-GeO₂(P₂O₅) optical fibres, dopant effect on transmission loss due to H₂ permeation, expt. study 4-38607
 TiBr-TiI polycryst. optical fibres, optical losses at CO- and CO₂-laser wavelengths, expt. study 4-33773
 YIG epitaxial film, CVD, quality and thickness, guided wave optical loss 4-16341

loudness

- see also *acoustic intensity measurement*
 airborne US noise, loudness 4-52364
 audition of noise, loudness, annoyance and noisiness growth rates determ. 4-36134
 hearing, loudness, effect of temporal post-masking 4-36135
 magnitude estimation, hearing aid selection appl. 4-57903
 neural model of binocular brightness and binaural loudness perception, nonlinear sensory input summation 4-41520
 presbycusis listeners, loudness perception 4-57904

loudspeakers

- acoustic radiation, finite element anal. 4-28956
 Chelsea dipole active attenuator, loudspeakers and microphones 4-5769
 emitted sound field, radiating surface vibr. means by holographic interferometry 4-38683
 halls, sound reproduction with phased linear loudspeaker arrays (*German*) 4-28929
 JBL's central array design program 4-19676
 microphones in sound reinforcement system, gain calculation and meas. 4-49629
 multidriver arrays, acoustical and electrical interaction 4-10496
 placement, optimisation, near reflecting planes, low-freq. performance 4-38684
 stereophonic reproduction with two loudspeakers, sound image localisation (*Japanese*) 4-55307
 survey of state-of-the-art, magnets, baffles, boxes and freq. splitters (*German*) 4-28955

Love waves

- Euro-Asiatic path Love wave dispersion 4-41746
 ferroelectric plate, acoustic soliton propag., Love and Lamb waves 4-24918
 inhomogeneous medium, SH wave propag., point source, Green's function appl. 4-49742
 laminated composite, isotropic, Love waves, dispersion relations analysis 4-44468
 layered medium seismic wave propagation algorithm 4-52588
 upper mantle anisotropy and oceanic crust struct., teleseismic evidence 4-3707
 mantle lateral heterogeneity and anisotropy from great circle surface seismic wave obs. 4-52594
 North America upper mantle anisotropy from Love wave overtone data 4-36308
 Pacific upper mantle anisotropy from Love wave overtone data 4-36308
 piezoelectric plate, acoustic soliton propag., Love and Lamb waves 4-24918
 propagation, nonlocal aspects 4-44447
 propagation in heterogeneous layer 4-44452
 seismic Love waves in oceanic areas, higher mode difference 4-12784
 seismic waves, dispersion inversion, implications for Earth struct. and anisotropy 4-26638
 semiconductor-piezoelectric periodically layered active medium, Love waves propag. 4-29759

low energy electron diffraction

- ferromagnet, relativistic multiple scatt. theory of electrons 4-15352
 graphite, KOH adsorption on basal surface, UPS, AES, LEED studies 4-2462
 graphite, ordered surface struct. on edge surface, LEED study 4-34764
 graphite (0001), K absorption and intercalation, LEED and AES studies 4-29786
 instrumentation developments survey 4-4501
 intensity and spin polarisation, non-muffin tin and 3-D surface barrier effects 4-45476
 interlayer multiple scatt. calc. 4-6226
 metals, group VIII (*Russian*) 4-34779
 metals, surface props. (*Czech*) 4-39640
 missing spots in LEED 4-39064
 modulation of reflections technique 4-10930
 reliability of slow methods in struct. anal. 4-39062
 RHEED-LEED-AES in-situ meas. apparatus and appl. to MBE and metal oxidation 4-39065
 stepped surfaces and interfaces, atomic correlations and diffracted beam shapes calc. 4-29738
 surface structure determ. by LEED, sensitivity anal. 4-6630
 symmetry-adapted function calcs. 4-39061
 thin film diffraction, Debye-Waller factors 4-2037
 very low energy electron diff. fine struct., comparison methods 4-44904
 Ag (110), SO₂ adsorption, LEED, XPS and UPS studies 4-45518
 Ag (111), Cl adsorption, LEED, Auger effect and desorption studies 4-29802
 Ag, adsorption of water on clean and O-covered surfaces 4-34793
 Al (001), surface state resonance in LEED and its relation to CID pattern 4-25412
 Al (001) surface, medium energy electron diff. study 4-20445
 Al (110) surface, oscill. relax., LEED meas. 4-29740
 Al (111) with Sn and Pb monolayers, coverage and core level binding energies 4-25153
 BaO epitaxial film on W (110), slow electron diff. study 4-20511
 BaO, scatt. matrix calcs. of low energy electron reflection intensities 4-2038
 Be (0001) surface oxidation studies 4-57398
 Bi (0001), adsorption of O₂, kinetic, electronic and structural features 4-25160
 Bi, heteroepitaxy, on GaAs (001) and (110), and Ge (001), LEED study 4-56164

low energy electron diffraction continued

- C (001)2X1, missing spots in LEED 4-39064
 C films, diamondlike, surface anal. by AES and LEED 4-20515
 CO₂ oxidation on kinked Pt (321) surfaces 4-31023
 CdTe (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
 Cr (110), chemisorption and surface reaction of Br₂ 4-56152
 Cu (001), clean and with adsorbed O, surface struct. determ. using LEED I-V curves, appl. of averaged Patterson function 4-15750
 Cu (001), O₂ adsorption sites, LEED study 4-2445
 Cu (110), clean and O-covered, H₂O adsorption, UPS, desorption, work function and LEED studies 4-45509
 Cu (111), adsorbed Cs struct., LEED studies 4-25132
 Cu (111), subthreshold effect, inner potentials and surface relax., LEED study 4-34763
 Cu (111) and (110) oxidised surfaces, adsorption of CO, IR spectra, LEED, and surface pot. meas. 4-29794
 Cu, adsorption of water with Br on (110) and (111) surfaces, UPS, LEED, TDS, work function studies 4-30603
 Cu epitaxial films on W, quantum size effect, very low energy electron refl. study 4-21084
 Cu-Ni surface alloys, prep. by Ni(CO)₄ decomp., ellipsometry, AES, LEED, ion depth profiling 4-41259
 Fe (001), adsorption of Se, LEED, AES, and work function meas. 4-20495
 Fe (211), relax. phenomena in outer atomic layers 4-11392
 Fe (211), surface struct. determ. using LEED 4-39638
 Fe (310) and (210) surface relax. trends, LEED study 4-39646
 Fe, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
 GaAs (110) with adsorbed Al, Ga and In, chemical bonding, adatom-adatom interaction 4-29784
 GaAs, MBE, surface and interface electronic struct., photoemission, LEED studies 4-20524
 GaAs, surface electronic props. and surface geometry 4-6856
 GaP (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
 Gd, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
 Ge (111), chemisorption of Pb, LEED and AES meas. 4-15763
 Ge (111)-Pb interface, growth and struct., LEED, AES, and SEM study 4-20502
 Ge (111)c(2X8), missing spots in LEED 4-39064
 Ge epitaxial growth mode on Si (111) substrate at initial stage, EELS, LEED studies 4-21085
 Ge, heteroepitaxial growth on Si (111)7X7 and Si (100)2X1 substrates 4-25171
 Ge, heteroepitaxial vacuum deposition on Si (111), 5X5 superstruct., LEED and AES studies (*Japanese*) 4-39719
 Ge ordered overlayer growth on Si (111) under ultrahigh vacuum conditions 4-39734
 Ge, pulsed laser annealing, time-resolved surface struct. study using LEED 4-34538
 Ge/GaAs (110) interface form., MBE growth, effect of substrate temp. 4-6671
 InP (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
 InP surface, cleaved, adsorption of Ga and Sb 4-29815
 Ir (100)1X1, LEED, interlayer multiple diff. 4-44903
 MgO (001) surface, LEED study 4-29742
 MgO, scatt. matrix calcs. of low energy electron reflection intensities 4-2038
 Mo (011) with adsorbed H film, electron stimulated ordering 4-39666
 Mo, halogen desorption, LEED, AES and work function meas. 4-45521
 MoSe₂ (0001) Van der Waals surface struct., LEED, AES, and electrochem. meas. 4-34765
 N₂ physisorbed layer on graphite, struct., LEED and mol. dynamics simulation 4-45525
 Nb, halogen desorption, LEED, AES and work function meas. 4-45521
 Ni (001), laser annealing for surface cleaning, AES and LEED studies 4-16538
 Ni (001), mol. S₂ chemisorption, LEED, AES, work function meas. 4-39689
 Ni (001), O₂ adsorption sites, LEED study 4-2445
 Ni (110), adsorption of H, ordered low temp. phases, LEED study 4-45501
 Ni (111) with Sn and Pb monolayers, coverage and core level binding energies 4-25153
 Ni, surface ferromagnetism study by polarised and unpolarised electrons 4-35220
 Ni vicinal (001) surface, struct., LEED and UPS studies 4-29744
 NiO (111), epitaxial film on Ni (111), reduction by mol. H₂, invest. (*French*) 4-31026
 NiSi₂ epitaxial, form. and struct. on Si (111) 4-25178
 Pd, chemisorption of acetylene, catalysis, UPS, XPS, LEED, work function, desorption, mol. beam meas. 4-41257
 Pd, coadsorbed H and CO, methanol decomp. and interactions, TDS, LEED, AES studies 4-41256
 Pd film growth on Si (111) 7X7 surface, struct., low energy ion scatt. study 4-45542
 Pd surfaces, (110), (100) and (111), Xe adsorpt., LEED, UPS, work function and flash desorpt. invest. 4-39664
 Pd thin film with adsorbed O₂ and CO, Auger, electron loss spectra studies 4-50645
 Pt (100), adsorption of O₂, Rutherford backscatt., nuclear microanal., work function, and LEED meas. 4-56150
 Pt (111), adsorption of NO, XPS, LEED, and AES study 4-45500
 Pt (111), chemisorbed S, reversible phase transitions 4-15761
 Pt (111), LEED, longit. and transverse spin polarisation 4-2036
 Pt (111)/Cu system, growth and alloy form., LEED, AES and desorption studies 4-29808
 Pt, polycrystalline films, (111) fiber axis orientation, Kikuchi rings obs. 4-56175
 Pt surface, chemisorption and ordering of naphthalene and azulene 4-29811
 Pt(100), CO induced hex=(1X1) phase transition, absolute coverages and hysteresis phenomena 4-6487
 Rh (100), coadsorption of NO and D₂ 4-45513
 Rh (100), NO chemisorption and decomposition, desorption studies 4-45512

low energy electron diffraction continued

- Rh (111), adsorption of benzene and naphthalene, LEED, AES, and thermal desorption study 4-29796
 Rh (111), benzene adsorption, LEED, EELS, desorption and Auger studies 4-45527
 Ru (001), coadsorption of H₂O and Na, LEED study 4-2461
 Ru (100), Cl adsorption, UPS, AES, LEED, work function and desorption studies 4-29805
 Ru, adsorption of NH₃, mol. orientation, LEED, ESDIAD, TDS, work function meas. 4-39681
 Si (001)2×2, missing spots in LEED 4-39064
 Si (100) surface, LEED evaluation of models 4-29749
 Si (111), Ag adsorption, ion scatt., LEED and AES studies 4-45507
 Si (111) 7×7, adsorption and growth of Ag, angle-resolved EELS and LEED study 4-35533
 Si (111) Ga and In adsorption, LEED, AES and photoemission spectra studies 4-45520
 Si (111) surface, cleaved, low temp. LEED and elec. cond. meas. 4-6633
 Si (111)/Ag interface struct., and form., EXAFS studies 4-29830
 Si (111)2×1 surface, test of structural models 4-20701
 p-Si inversion layer in MOSFET, atomic roughness and Hall mobility 4-15963
 Si, MBE, pulsed laser irradiation, effects, LEED study 4-35571
 Si reconstructed (001) surfaces, electronic struct., angle-resolved EELS, LEED studies 4-21086
 Si surface, (111), nitridation process, XPS and LEED study 4-57604
 Si surface, defect struct., LEED spot profile anal. 4-6634
 Si-NiSi₂ interface, diffusion layers and Schottky-barrier height 4-20501
 Si-V interface, chemical reaction and Schottky-barrier form. 4-45535
 SiO₂ ultra thin film struct. and growth kinetics on Si (111) surface 4-56179
 Sm monolayer on Al (100), valence, LEED and XPS study 4-2452
 α -Sn (100), surface struct., effect of H₂ adsorption 4-29750
 Ta, halogen desorption, LEED, AES and work function meas. 4-45521
 Ti overlayers, quasi-one-dimensional, CDW study 4-56246
 W (001), O chemisorption, LEED fine struct. anal. 4-29813
 W (001), spin polarisation due to LEED 4-24694
 W (011) with adsorbed H and D lattices, thermal and electron-stimulated disordering 4-11407
 W (100), desorption of H, LEED and work function study 4-45502
 W (100), H chemisorbed layer, incommensurate struct., LEED simulation 4-45528
 W (110), adsorption of acetylene, electron spectroscopic study 4-20488
 W (112), O₂ chemisorbed layer, phase diagram and order-disorder transformations 4-25151
 W, halogen desorption, LEED, AES and work function meas. 4-45521
 W(110)p(2×1)-O overlayer, fourfold degenerate ground state, 2D ordering dynamics 4-2446
 ZnO, surface electronic props. and surface geometry 4-6856
 ZnO, Xe adsorption, LEED, desorption and ARUPS studies 4-45517
 ZnTe (110) surface, at geometrical arrangement, LEED intensity anal. 4-20449
 Zr overlayers on Pt(100) surface, structural and chemisorptive props., LEED and AES study 4-50616

low gravity experiments *see zero gravity experiments***low induction loss** *see loss angle***low-temperature physics** *see cryogenics***low-temperature production**

- see also Joule-Thomson effect; magnetic cooling; refrigeration*
 dilution refrigerator, cryopump for exchange gas removal 4-8904
 nuclear demagnetisation refrigerator, two-stage, performance (Japanese) 4-266
 pneumatically operated Gifford McMahon cryorefrigerator 4-8910

low-temperature techniques

- see also cryostats; refrigeration*
 capacitance sensor for cryogenic liquid level meas. (Chinese) 4-13645
 coaxial microwave liquid He-vacuum junction 4-37109
 cryo-UHV sample holder design, with unrestricted manipulation 4-22784
 cryospectroscopy, electronic absorpt. spectrum of benzene 4-28454
 desorption spectrometer, cold-trap, useful in normal vacua 4-26255
 EPR and NMR studies using high-pressure low-temp. locknut cell 4-13665
 ESR spectroscopy, magnetic field production in high-pressure, low-temp. chamber 4-42998
 experimental techniques at low temperatures (Korean) 4-8911
 FTU Tokamak, toroidal and poloidal mag. struct. 4-48725
 gas supercooling apparatus 4-49018
 glassy-metallic ribbons thermal conductivities meas. 4-42972
 heat exchangers, for cooling liq. ³He samples, Cu, Ag and Pd powder use compared 4-8902
 impact-abrasive wear test method and equipment for materials at subzero temps. 4-41135
 Kerr cell for low-temp. optical spectroscopy 4-8956
 liquid density measurement at low temperatures 4-27487
 liquids, continuous level monitoring using capacitive devices 4-27531
 magnetic dichrograph with double light modulation 4-33562
 magnetic field dependence of thermometers, use of capacitive sensors 4-17891
 microwave spectroscopy, up to 215 GHz, multimode resonator system 4-32289
 NMR imaging, 1.5 T superconducting magnet 4-27545
 optical high-pressure cell, for Raman studies of gases and liquids 4-17959
 overflow sensor, for liquid N₂ filling system 4-4414
 precipitated H₂ bubbles in Cu, ortho-para conversion and time depend. heat leaks 4-13646
 pressure transducer using Si planar technology for use down to 4K 4-48101
 quantum fluids and solids, conf., Sanibel Island, USA, (April 1983) 4-4140
 resistance thermometer, using carbonaceous microcomposite 4-8906
 sample chamber for neutron scattering work, at high and low temp. 4-5082
 self-clamping pressure cell, low-temp. pressure variations 4-42977
 semiconductor sensors obs. in EM environments 4-258
 specimen holder for ultrahigh resolution transmission electron microscope at low temps. 4-48264
 specimen holder with two degrees of freedom for magnetooptics research 4-37108
 spectrometer for 0.8 to 45, range, using Elektronika 1001 computer 4-32324

low-temperature techniques continued

- SQUID, appl. in current sensing noise thermometry 4-8900
 SQUID toroidal sensor design and fabrication 4-22773
 Stirling cycle cryo-refrigerator, error in refrigeration capacity calc. 4-27533
 Stycast 1266 epoxy, magnetic susceptibility meas. from 2.5 to 400K 4-22786
 switch for liquid He temp. 4-42971
 thermocouple, Pd-Cr-Os/Cu-Fe, thermoelectric props. obs. 4-8907
 thermocouple differential thermometer with SQUID detector 4-8901
 thermometry, nuclear orientation and γ -ray anisotropy techniques 4-13640
 thermometry, techniques at 0.5-30K 4-32263
 two-stage nuclear demagnetisation refrigerator reaching 27 μ K 4-53691
 C thin film cryogenic thermometers, fast response 4-42963
⁴He 1958 scale of temperatures, cubic spline fit 4-53685
⁴He 1958 scale of temperatures, cubic spline fit 4-53686
 Si diode thermometer, miniature, for cryogenics 4-8898
 Si surface barrier detector, low temp. performance 4-54565

LPE *see liquid phase epitaxial growth***LS coupling** *see Russell-Saunders coupling***LSA** *see limited space charge accumulation***LSI** *see large scale integration***lubrication***see also friction*

- 35-mm release prints, lubrication for extended projection print life 4-17972
 antiwear additives, wear test machine comparison, Falex and four-ball apparatus 4-46717
 body in lubricated contact, low-freq. scatt., second correction 4-33994
 body in lubricated contact, low-freq. scatt. 4-33992
 elastohydrodynamic lubrication theory, Grubin's film thickness formula 4-34015
 electrical contacts, solder- and tin-coated, fretting corrosion 4-46667
 journal bearing, optimum design 4-27303
 Oldroyd liq. flow in a continuous-flow squeeze film 4-34148
 Oldroyd-B fluid, lubrication squeeze-film theory 4-34146
 plain bearing alloys, development and props. 4-51822
 powder mechanics in tribology 4-49777
 Rankine-cycle engines trichlorofluoroethane; lubricant mixtures thermal stability 4-52185
 review of friction and wear research, scope and future directions 4-7594
 Reynolds equation as a solution of the Stokes equations 4-13518
 roll coating operations 4-35752
 sliding contacts, static contact resist. of solid lubricant composite 4-25422
 sliding sheets, lubrication with comparable viscous and inertia forces 4-14958
 steel contacts, dry and lubricated sliding, failure mechanisms 4-41010
 steel wear particles, boundary lubrication with zinc dialkyl dithiophosphate 4-46630
 thin drop spreading by gravity and capillarity 4-34154
 unsteady flow between rectangular plates and between circular plates 4-19893
 wear of sliding pair with steel, cardan joint use 4-46631
 Al-Cu powders, compaction, die wall an internal lubrication rel. to mech. strength 4-30665
 Cu-Sn-Ni, self-lubricating sintered, bronze bearings, crushing strength, porosity, Ni addition effect 4-12198
 MoS₂ films, RF sputtered lubricant, environmental stability and wear rel. to crystallite orientation 4-51828
 MoS₂, sputtered films, lubricating props., growth morphology 4-21142

Luder's bands

- steel, Hall-Petch relationship 4-16453

- steel, mild, low C, neutron irradiated, beneficial effect on mech. props. in blue-brittle range 4-45197

- Cu-Ni-Al, ageing and deform. behaviour (Japanese) 4-3185

- Fe, Hall-Petch relationship 4-16453

- Ti-Ni single crystal, shape memory effect, pseudoelectricity 4-3196

- Ludwig-Soret effect** *see diffusion in solids*

- luminescence** *see brightness*

luminescence

- see also cathodoluminescence; chemiluminescence; electroluminescence; fluorescence; fluorescent screens; ionoluminescence; luminescence of gases; luminescence of liquids and solutions; luminescence of solids; luminescent devices; phosphorescence; phosphors; photoluminescence; sonoluminescence; stimulated emission; superradiance; thermoluminescence; triboluminescence*

- chlorophyll from green plant leaves, native states transform. due to struct. damage 4-52264

- materials, historical development and radiological engng. appls. 4-32020

- photon radiation spectrometry, using Pb-containing plastic scintillation 4-28300

luminescence chambers *see scintillation chambers***luminescence of gases**

- acetophenone, ring aza substitution effect on luminesc. 4-14478

- acetyl pyridines, ring aza substitution effect on luminesc. 4-14478

- p-benzoquinone-d₀(-d₄), vapour phase phosphoresc., CO stretch, vibr. struct. 4-49089

- methane-air flames, self-spreading front, temp. meas. by spark-induced fluoresc. (German) 4-27519

- Ar, recombination luminesc. from ionisation tracks produced by α -particles in high press. gas 4-971

- Ar, shock wave radiation over broad spectral range 4-34130

- H₂-O₂ flames, Na D line emission intensity, mag. field effect 4-52010

- H₂O vapour, pulse radiolysis, time resolved luminesc. 4-54782

- He, shock wave propag., luminescence 4-34129

- Kr, recombination luminesc. from ionisation tracks produced by α -particles in high press. gas 4-971

- NO+O chemiluminescence in a flow of nonadiabatically cooled dissociated air (Russian) 4-26212

- Xe, recombination luminesc. from ionisation tracks produced by α -particles in high press. gas 4-971

- Xe, shock wave radiation over broad spectral range 4-34130

luminescence of inorganic solids

- γ -ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336

- alkali halides: Pb²⁺, optical spectra, influence of precipitation processes 4-25786

luminescence of inorganic solids continued

- alkali halides, crystals, γ -irrad., mechanoluminesc. study 4-40545
 alkali metal halides, cathodoluminescence spectra, effect of O impurities 4-30531
 alkali metal halides, excitons, absorpt., reflectivity, intrinsic luminesc. spectra 4-25242
 alkali metal metavanadates, luminesc., excitation and absorpt. spectra 4-11925
 alkaline earth oxides, Li^+ or Na^+ ion implanted, point defects, ESR, optical absorpt., luminesc. spectra 4-20269
 alkaline earth pyrophosphates, luminescence of Mn and Sn activated 4-30495
 β -alumina, divalent-cation, preparation, struct. and Raman spectra 4-24795
 amorphous semiconductor superlattices, phys. props. 4-15940
 biphenyl mol. crystals, pyrene doped, luminesc. linewidths 4-51314
 borosilicate charged glasses, laser-induced elec. breakdown 4-7123
 borosilicate glass: UO_2^{2+} , site-selective spectra 4-16229
 brown diamonds, luminescence decay times, cathodoluminescence and photoluminescence 4-57000
 caesium pentacyanopropenide salt, glass and cryst. state, adsorpt. and fluoresc. thermal modulation spectra 4-30509
 chalcogenide glasses, doping, transport and optical props 4-45160
 chalcogenide glasses, time resolved photoluminescence and localised states 4-46309
 crystals with Jahn-Teller centres, luminesc. polarisation, spin-orbit interaction effects 4-25810
 diamond, H3 vibronic centre excited states, absorpt. and luminesc. meas. 4-16223
 dosimetry phosphors, thermoluminesc. at elevated irrad. temps. 4-52483
 GaAlAs:Si and GaAs:Si, heavy doping during MBE, surface struct. and photoluminesc. spectra 4-16319
 GaAs-AlGaAs multi-quantum-well heterostructure waveguides, optical absorpt., luminesc. characts. 4-19562
 glass:Cr III, absorpt., excitation and emission spectra, ligand field 4-40493
 glass:Yb³⁺, stimulated emission cross section depend. on host glass comp., absorpt. and fluoresc. spectra 4-25783
 glass, triboluminescence and blackbody temp. 4-7253
 glass semiconductors, luminescence, model 4-16246
 II-VI semiconductors, deformation luminescence and mobile dislocations 4-16172
 III-V semiconductors, Er doped, 1.54 μm photolum. obs. 4-21001
 inert gas solids, excitons, absorpt., reflectivity, intrinsic luminesc. spectra 4-25242
 irradiated materials, pulverisation effect on thermoluminescent props. 4-51377
 N-isopropylcarbazole, ferroelec. mol. cryst., pyroelec. and pyroluminesc. props. 4-35370
 K-vacancy probabilities, impact parameter depend., in gas and solid-target collision systems 4-49139
 L-shell photoelectric cross sections at 6 keV on Zr, Nb, Mo, Ag, Cd, In, Sn, I 4-51451
 laser media, optimal conc. determ. of active particles, luminesc. conc. quenching 4-28699
 light amplification, radiative processes in electron-hole drops 4-40530
 marble from Greek quarries, low temp. thermoluminescence rel. to stress history 4-47261
 metal surface, electron irradiated, light emission, role of surface bremsstrahlung 4-21046
 nitrates, cryst., NO_2^- impurity centre, multiplicity of spectra and local symm. 4-25802
 phosphate glass:Ag, electron and photon dose meas. 4-48798
 phospho-tungstate glass:Eu (III), vitreous and partly crystallised, site-selective fluoresc. 4-21005
 phosphors, cathodoluminescence intensities below 3 kV 4-21048
 phyllosilicates, induced thermoluminesc., cryst. defect study 4-21049
 poly(N-epoxypropylcarbazole), fluorescence, γ -ray irrad. and additive effects 4-21025
 quartz:Ag, luminescence decay study 4-46305
 quartz, artificial and natural crystals, nature of UV luminesc. 4-51330
 quartz, coloration, natural and radiation induced, Al impurity effect 4-30534
 quartz, thermolum. centres 4-51358
 quartz, thermoluminescence, predose sensitisation used to evaluate crystallisation temp. 4-30535
 quartz, triboluminescence and blackbody temp. 4-7253
 quartz, UV thermoluminescence excitation spectra 4-11951
 quartz, x-cut, shock-induced luminesc. 4-21040
 quartz glass, O-vacancy defects, electronic struct. and optical studies 4-2966
 rare earth orthovanadates, electronic struct., rel. to photoelectron and optical spectra 4-39752
 rare earth tantalates, struct. and luminescent props. 4-34454
 refractory metals surface, polycryst., visible emission excited by electrons, optical characts. 4-21045
 rock thermoluminescence of thin slices, colour photography obs. method (Japanese) 4-22131
 ruby, light induced three-dimensional polar struct., luminescence study 4-21015
 ruby particles embedded in Al, fluoresc. line shifts for stress and strain distrib. determ. 4-7686
 semiconductor, biexciton luminescence, M-band, soliton waves, self-induced transparency study (Russian) 4-5671
 semiconductor materials and devices 4-34379
 semiconductor surfaces and interfaces, recomb. processes 4-6804
 semiconductors, cathodoluminescence studies of dislocations 4-16258
 thermoluminescence phosphors, nonlinear response mechanism, trap distrib. model 4-51366
 ZnS:R, R=rare earth, DC electrolum. devices 4-51355
 Ag, ellipsoidal spheroids, surface-plasmon radiation 4-46333
 AgBr, exciton relax., time resolved secondary emission studies 4-56230
 AgBr infra-chromatic photographic emulsions, supersensitisation mechanism (Russian) 4-17994
 AgBr:I photographic film, anti-Stokes luminesc. 4-56986
 AgBr:Ir³⁺, radiative recomb., photoluminesc. spectra 4-11932
 AgBr_{1-x}Cl_x, x=0.15, 0.6, excitons press. induced phase transition, photoluminescence obs. 4-2522
 AgCl, luminescence excitation by vacuum UV photons 4-30511
 AgCl powder, photostimulated flash luminesc. studies (Russian) 4-16249

luminescence of inorganic solids continued

- AgI infra-chromatic photographic emulsions, supersensitisation mechanism (Russian) 4-17994
 Al, ion-bombardment induced photon emission, angle of incidence depend. 4-35495
 Al, sputtering, at. excitation 4-11998
 Al-Al₂O₃-Ag MIM tunnel diodes, radiation from surface plasma waves (French) 4-40074
 Al-Al₂O₃-metal tunnel junctions, light emission, role of multiple scatt. of surface polaritons 4-7250
 AlAs-GaAs superlattices, photoluminesc. spectra, well size fluctuations effects 4-25793
 AlGaAs/GaAs quantum well heterostructs., organometallic VPE and photoluminesc. 4-25890
 (AlGa)As-GaAs double heterostructures, MBE grown, optical props., effect of As species 4-16251
 AlGaAs-GaAs single quantum wells, MBE growth, photoluminesc. props. 4-30640
 Al_{0.4}Ga_{0.6}As/GaAs quantum well struct., MBE growth, photoluminescence props. 4-51344
 Al_{0.4}Ga_{0.6}As LED materials, organometallic VPE, growth temp. depend. 4-51522
 Al_{0.4}Ga_{0.6}As:Si, MBE growth and characterisations, H₂ gas effects 4-16330
 Al_{0.4}Ga_{0.6}As:Sn(Ge)(Te)(Cu) epitaxial films, impurity photolumin. 4-16263
 Al_{0.4}Ga_{0.6}As/GaAs heterostructures, photoluminescence, Al isovalent impurity effects (Russian) 4-40533
 Al_{0.4}Ga_{0.6}As/GaAs quantum well heterostruct., photoluminescence 4-25791
 Al_{0.4}Ga_{0.6}As/GaAs quantum well heterostructs., MBE grown, photoluminesc. 4-35472
 Al_{0.4}Ga_{0.6}As-GaAs, single crystal stacked layers, cascade solar cell portions, growth and photoluminesc. 4-3089
 Al_{0.4}Ga_{0.6}N, reactive MBE growth and optical characterisation 4-16328
 Al_{0.4}Ga_{0.6}P, high excitation photo- and electroluminesc. 4-21008
 Al_{0.4}In_{0.6}As epitaxial layer, lattice matched to InP, direct energy gap, cathodoluminesc. study 4-45616
 Al₂O₃ anodic film, thickness determ. by photoluminesc. method 4-26108
 α -Al₂O₃:Cr³⁺, N-lines in luminescence spectra 4-21018
 α -Al₂O₃:Ga³⁺ crystals, cathodoluminesc. and thermoluminesc. spectra 4-25815
 β -Al₂O₃-EuO(Eu₂O₃), synthesis, ion transport and fluorescence lifetimes 4-39576
 β'' -Al₂O₃-Nd₂O₃, fluorescent solid electrolytes 4-29681
 Ar, solid, electronic excited states relaxation processes, luminesc. study 4-51325
 Ar, solid, surface-sensitive luminescence and excitons 4-46303
 Ar:Xe, N₂O(NO)(N₂O₂), Wannier impurity states, energy transfer, photoluminescence 4-56977
 As₂O₃, temporary mechanoluminesc. spectra 4-7252
 As₂S₃ chalcogenide glass films, photoluminescence polarisation 4-46307
 As₂S₃Fe chalcogenide glasses, optical and electronic props. 4-45782
 As₂-Se, chalcogenide glass, photoluminescence fatigue 4-51341
 As₂Se₃, amorphous and cryst., luminesc. centres, time resolved photoluminesc. and photoinduced absorpt. meas. 4-46310
 As₂Se₃ synthetic cryst., photoluminescence, optical transmission and elec. cond. 4-7236
 Au, sputtering, at. excitation, projectile incidence angle depend. 4-11997
 B, sputtering, at. excitation, projectile incidence angle depend. 4-11997
 BaClF:Sm²⁺, cryst., fluoresc. spectra, mag. field effects 4-46332
 BaClF:Sm²⁺, phonon annihilation and excited state desorption processes, anti-Stokes fluorescence 4-46323
 BaF₂-BaCl₂ system, luminesc. and phase comp. 4-51329
 BaFBr, thermoluminesc. emission spectra, 300-600K 4-51361
 BaFCl, doped and undoped, γ -ray induced luminesc. 4-11919
 BaFCl:Ti(Gd) crystals, X-ray and γ -ray induced luminesc. 4-21004
 BaO film on W and Ag, low-voltage cathodolum. characts. 4-11944
 Ba₂O₃-CuCl₂ glass, thermoluminescence following X-ray irradiation 4-51372
 BaS phosphors, thermally stimulated luminesc. glow peaks and trap distrib. 4-40538
 BaS:Cu,Bi, new X-ray TLD phosphors 4-21051
 BaS:Cu,Bi phosphors, gamma-ray induced thermally stimulated luminesc. study 4-16259
 Ba(Pt_{1-x}Ni_x(CN)₄)₄H₂O, quasi one-dimens. mixed cryst. mag. field and temp. effects on luminesc. quenching 4-11920
 Be, sputtering, at. excitation, projectile incidence angle depend. 4-11997
 Be surface, BF₂⁺ and CF₃⁺ ion sputtering, selective photon emission obs. 4-16256
 BeO single cryst., radiation-optical props., cryst. growth depend. 4-56975
 Bi₂GeO₂₀ sillenites, photocurrent rel. to nonequilibrium charge carrier lifetime (Russian) 4-20685
 Bi₂SiO₄ sillenites, photocurrent rel. to nonequilibrium charge carrier lifetime (Russian) 4-20685
 Bi₂XO₂₀(X=Si,Ge,Ti) sillenites, photochromic effect and optical data recording (Russian) 4-20953
 C, vacuum deposited target, sputtering yield, sputtered atom photon emission meas. (Japanese) 4-3010
 a-C:H glow discharge film, white photoluminescence 4-40511
 Ca halophosphate:Sb³⁺, Mn²⁺, luminesc. at low temp., red shift 4-40494
 Ca, sputtering, at. excitation 4-11998
 CaAl₂Si₂O₈ glass, emission spectra, shock wave instability temp. and rel. to fusion curve 4-30529
 CaCO₃, calcite, blue colour rel. to radiation damage 4-11143
 CaF₂ film, ⁹TSEE glow curves rel. to heat treatment 4-3028
 CaF₂ fluorite, thermoluminescent glow peaks anal. up to 900°C 4-41912
 CaF₂ γ -ray and He⁺ ion irradiated, induced optical absorption and thermoluminescence 4-46336
 CaF₂, shock compression and shocked-induced radiation, phase transitions obs. 4-39399
 CaF₂:Cd(Mn)(Pb)(rare earth), X-ray irrad., optical detection of EPR using afterglow 4-25637
 CaF₂:Dy, (TLD-200), thermolum. behaviour for low up to high doses 4-2973
 CaF₂:Dy, thermoluminescent emission spectra 4-51381
 CaF₂:Eu, fluorite, Stark levels, laser-induced reversible deformation 4-15862
 CaF₂:Gd(Sm), X-ray irrad., optical absorpt. and thermoluminesc. meas. 4-30489
 CaF₂:Ho³⁺, Eu²⁺ single cryst., Eu²⁺ luminesc. decay 4-40517

luminescence of inorganic solids continued

- CaF₂:Li crystals, Stark effect on phononless lines of M_A centres 4-35418
 CaF₂:Mn²⁺ fluorescence spectra, temp. depend. 4-51316
 CaF₂:Sm³⁺ crystals in mag. field, polarised luminesc. 4-7231
 CaF₂:Tm, TLD, short term fading 4-54447
 CaF₂:Tm, thermoluminesc. glow curve shape prod. by α and β radiations 4-21050
 Ca₂Ga₂Ge₂O₁₂:Nd³⁺, spectroscopy of Nd³⁺ activator centres 4-56974
 CaO powder, photoluminescence emission from surface states 4-46321
 CaO powders, photoluminescence from surface states 4-46306
 CaO:Dy, thermoluminescent phosphors, X-ray excited optical luminescence 4-51380
 CaO:Mg and undoped, coloured crystals, EPR, thermoluminesc. 4-51369
 Ca₃(PO₄)₂:F, thermoluminescence studies 4-40543
 CaS phosphors, electroluminesc. and photoluminesc. 4-51349
 CaS:Cu,Ce phosphors, phosphorescence decay and thermoluminesc. 4-25795
 CaSO₄:Dy, growth and thermoluminescence 4-21117
 CaSO₄:Dy, TLD, short term fading 4-54447
 CaSO₄:Dy, thermoluminescence response as a function of irradiation temperature 4-9601
 CaSO₄:Dy, thermoluminesc. phosphor, distrib. of activation energies and freq. factors 4-51365
 CaSO₄:Dy, thermoluminescent phosphors, X-ray excited optical luminescence 4-51380
 CaSO₄:Dy, thermoluminescent emission spectra 4-51381
 CaSO₄:Dy embedded polyethylene discs, phosphoresc. and photostimulated luminesc. at elevated temp., fast neutron dosimetry appl. 4-43652
 CaSO₄:Dy sintered dosimeters, props. 4-51374
 CaSO₄:Eu, thermoluminesc. centres, ESR, optical excitation spectra 4-51368
 (Cd,Mn)S(Se)(Te) dilute mag. semiconds., bound mag. polarons, optical studies 4-56239
 (Cd,Mn)Se, bound mag. polaron form., ps. laser spectroscopy study 4-6716
 Cd, sputtering, at. excitation 4-11998
 CdF₂:Mn,Y electroluminescent MIS struct., degradation process 4-51348
 CdGa₂S₄, ion irradiat., blue photoluminesc. studies 4-35488
 CdGa₂S₄, radiated recombination meas. 4-11936
 Cd,Hg_{1-x}Te, magnetoabsorption and photoluminescence 4-11872
 CdInGaS₄, layered cpd., photolum. meas. 4-30500
 CdIn₂S₄, single cryst., luminesc. decay 4-30497
 Cd_{1-x}Mn_xSe, exciton emission and emission by exciton-impurity complexes 4-30512
 Cd_{1-x}Mn_xSe, subnanosecond luminesc. spectroscopy under high intensity optical excitation 4-7244
 Cd_{0.45}Mn_{0.55}Te, optical absorption and photolum., hydrostatic press. shift 4-11924
 Cd_{1-x}Mn_xTe, exciton luminesc., mag. polarons interpretation 4-7227
 Cd_{1-x}Mn_xTe, photolum. bands, models for temp. depend. 4-30522
 Cd₃(PO₄)₂, prep. and characterisation by simultaneous study of TSL and TSC 4-46461
 CdS, acoustoluminesc. and photoluminesc., influence of r centres charge state 4-16261
 CdS, biexciton luminescence and P bands 4-11940
 CdS, excitation spectroscopy of donor-acceptor pair luminesc. 4-35485
 CdS, exciton ground state fine struct., photoluminesc. studies 4-29897
 CdS, exciton transport by nonequilib. phonons and recombination radiation 4-34883
 CdS, luminescence study of exciton polaritons 4-21038
 CdS, luminescence-band structure study using thermal modulation 4-40527
 CdS metallised piezoelec. resonator, acoustoinjection luminesc. spectra 4-30536
 CdS, orange luminesc. obs. 4-21007
 CdS, photosensitivity, annealing effects 4-39987
 CdS, plastically deformed cryst., optical props. 4-16234
 CdS, polariton imprisonment, luminescence study 4-20576
 CdS, pure, enhanced two-photon absorption, anti-Stokes luminesc. obs. 4-11935
 CdS, surface streamer discharges, emission 4-39034
 CdS:Ga, excitonic luminesc. spectra doping effects 4-16240
 CdS:Te, electroluminescence and current flow mechanism (*Russian*) 4-56998
 CdS_{0.53}Se_{0.47}, luminescence study of excitons 4-21037
 CdS_{1-x}Se_x, luminescence study of exciton mobility edge 4-16233
 CdSe, electron-hole plasma emission in temp. range 100-300K 4-40528
 CdSe_{1-x}Te_x films, impurity luminesc., photocond. meas., comp. depend., band struct. 4-35506
 n-CdSiAs₂ film, photoelectric and luminescence props. (*Russian*) 4-50874
 CdTe, defect imaging using X-ray and scanning cathodoluminescence 4-15482
 CdTe, dense exciton gas, self-heating, luminesc. study 4-6709
 CdTe film growth on (001) GaAs:Cr by MBE, RHEED, photoluminesc. 4-45539
 CdTe films, (100), MBE growth on GaAs (100), exciton photoluminesc. study 4-40653
 CdTe, MBE growth on Ge, photoluminescence spectra, X-ray diff. studies 4-20522
 CdTe, photoluminescence meas., stimulated emission spectra, light amplification under two-photon pumping 4-40481
 CdTe, pure, photolum. effects of excitation intensity 4-56991
 CdTe, single crystals, growth from melt, elec. and optical props. 4-35564
 CdTe, small-angle grain boundaries, screw dislocations, refl. X-ray topography, scanning cathodoluminescence imaging 4-2213
 CdTe surface, photoetching effect, cathodoluminescence imaging 4-16255
 CdTe:In(Al) epitaxial layers, LPE growth and doping characts. 4-34820
 CdTe:N(P)(As), photoluminescence studies 4-16244
 CdTe:P, doping by laser annealing, photoluminesc. and SIMS studies (*French*) 4-15527
 CdTe/sapphire films, MBE growth and photoluminesc. 4-16232
 p-CdTe-CdS thin film solar cell, electrochemically deposited, hole trap 4-50911
 Cd,Zn_{1-x}Te, bound excitons and resonant Raman scatt. 4-30470
 Cr (III) complexes, absorpt. bands with fine struct., singlet-triplet transitions 4-20988
 Cr III complexes, aqs. soln., time resolved fluoresc. spectra, phosphoresc. 4-21006
 Cr III in glass ceramics, ligand field strengths, fluoresc. and absorpt. spectra obs. 4-56965

luminescence of inorganic solids continued

- CsI:Na scintillation crystals, short-lived phosphorescence 4-16242
 CsI:Na, luminescence produced by X-rays, 5-400K (*Russian*) 4-35519
 CsMnCl₃·2D₂O, energy transfer of exciton (*Chinese*) 4-2950
 Cs₂Na(Er_{0.2}Y_{0.8}Y_{0.4})Cl₆, cryst., Er³⁺ IR to visible conversion study 4-49456
 Cs₂NaLa_{1-x}Nd_xCl₆, cryst., fluoresc. conc. quenching, IR and Raman study 4-40496
 Cs₂NaLa_{1-x}Nd_xCl₆ crystal, fluoresc., conc. and temp. quenching 4-46316
 CsNd(MoO₄)₂, stimulated emission on ⁴F_{3/2}→⁴I_{11/2} transition of Nd³⁺ ions 4-56963
 Cu, ion-bombardment induced photon emission, angle of incidence depend. 4-35495
 CuAlS₂, as-grown, photolum. study 4-30499
 CuCl, excitonic molecules relaxation under giant two-photon absorption 4-50728
 CuCl, excitonic molecules relaxation under giant two-photon absorption 4-50729
 CuCl, excitonic mols., luminesc., Bose-Einstein condensation 4-25244
 CuCl powder, photostimulated flash luminesc. studies (*Russian*) 4-16249
 CuGaS₂, photolum. and heterostruct. formation with sputtered ZnS 4-30498
 CuI single crystals, low-temp. violet luminesc. 4-7229
 CuI, stress effects on excitons bound to neutral acceptors, photoluminesc. spectra 4-39784
 CuI, Zeeman effect of principle emission line 4-46237
 CuInSe₂, impurity states, photoluminesc. study 4-16231
 Cu₂O, heat treatment effects, photoluminescence and optical absorpt. studies 4-11914
 Cu₂O, highly mobile paraexcitons, luminescence study 4-50732
 Eu(III) ions in hydrated 'A' and 'Y' zeolites, coordination environment, luminescence lifetimes and EXAFS meas. 4-54744
 Ga chalcogenide layer compounds, growth and characterisation 4-7344
 GaAlAs stripe geometry DH lasers, life testing, low temp. cathodoluminesc. spectra 4-38479
 GaAlAs-GaAs DH stripe laser, life-tested, low temp. SEM cathodolum. 4-35498
 Ga_{1-x}Al_xAs, electron-hole plasma, k-selection rule, photoluminesc. study 4-45818
 GaAs bicrystals, impact ionisation near grain boundaries, electroluminesc. study 4-20661
 GaAs coated with Al₂O₃ photoluminescence changes and facet coating procedures 4-56972
 GaAs, crystal defects obs. by X-ray topography and SEM transmission cathodolum. 4-6360
 GaAs, diffusion length meas. by filtered cathodoluminescence 4-50841
 GaAs doping superlattices, time-resolved luminescence study 4-21034
 GaAs doping superlattices, photoluminescence study 4-30506
 GaAs electrodes, photoluminescent props. appl. to dead layer model of photoelectrochem. cells 4-7225
 GaAs, electron-hole liq. plasma expansion, photoluminescence study 4-11553
 GaAs, epitaxial, photoluminescence and close space vapour transport growth 4-46331
 GaAs epitaxial growth by MO-CVD, optical and elec. props. (*Japanese*) 4-34832
 GaAs epitaxial layers, MOCVD grown, elec. and optical props., operating press. effects 4-40662
 GaAs, heavily doped, electron irradi., annealed, internal quantum efficiency of deep-centre luminesc. 4-7246
 GaAs, LEC grown, undoped, semi-insulating, 0.8 eV deep level photoluminescence 4-20592
 GaAs, LEC grown semi-insulating, cryst. homogeneity improvement by annealing 4-51470
 GaAs, MBE growth, elec. and luminescence props. 4-30637
 GaAs MBE layers grown using cracked AsH₃, photoluminesc. characterisation 4-46294
 GaAs MO-VPE epitaxial layers, residual impurities 4-34830
 GaAs, photoconductor, hole sweep-out, time resolved luminesc. measurements 4-40489
 GaAs, photoluminescence spectrum, excited state donor to acceptor transitions 4-46325
 GaAs, photoluminescence excitation of 0.77 eV emission 4-46327
 GaAs, quantum wells, localisation induced excitonic electron-hole recombination, cathodoluminesc. study 4-39923
 GaAs quantum wells, MBE, impurity trapping, interface struct., luminesc. 4-45666
 GaAs, semi-insulating, undoped, 0.68 eV emission, persistent photoluminesc. quenching 4-46295
 GaAs semi-insulating LEC single crystals, dislocations, transmission cathodolum. obs. 4-20195
 GaAs semi-insulating substrate wafers uniformity characterisation, optical and elec. methods 4-21012
 GaAs single quantum well struct. growth by MBE 4-15790
 p-GaAs surface recombination rate meas., using cathodoluminescence 4-8922
 GaAs, time-resolved cathodoluminescence, delayed coincidence meas. 4-46335
 GaAs:Be layers, implanted, substrate for MBE grown GaAs photoluminescence intensity meas. 4-20514
 GaAs:Cr, impurity IR absorption spectra, shape and temp. depend. (*Russian*) 4-40487
 GaAs:Cr, single crystal growth by gradient freeze method 4-46431
 GaAs:Cr, thermally converted, defect profiles, photoluminescence spectra 4-2965
 GaAs:Cr,Mn, semi-insulating, dopant redistribution during annealing, photoluminesc. study 4-39330
 GaAs:Er³⁺(Yb³⁺), rare earth activated luminesc. 4-35480
 GaAs:In, photoluminescence study (*Russian*) 4-7249
 GaAs:Mg, ion implantation, cathodoluminesc. study and computer simulation 4-21047
 GaAs:Sb epitaxial films, edge photoluminescence spectra 4-2967
 GaAs:Se, donor-level deepening under hydrostatic press., photoluminesc. study 4-21011
 GaAs:Se, implanted, deep levels, TSC and photolum. studies 4-2542
 GaAs:Si, LEC grown, dislocations study 4-34499
 GaAs:Si MBE films, Si doping, photoluminescence studies 4-11160
 GaAs:Ta, luminesc. of Ta centres 4-25806
 GaAs:Te, heavily doped, photoluminescence study 4-40502
 GaAs:Te, impurity distrib. around dislocations 4-11175

luminescence of inorganic solids continued

- n-GaAs:Te,Ge epitaxial layer, edge photoluminescence, compensation effects 4-11938
 GaAs:W, luminesc. spectra, cryst. field theory, Tanabe-Sugano diagrams 4-35486
 GaAs-Al_{1-x}Ga_{1-x}As:Si doped quantum well struct., photolum., anomalous polarisation 4-2962
 GaAs-Al_{1-x}Ga_{1-x}As multiple quantum well heterostructs., spontaneous and stimulated photoluminescence 4-16250
 GaAs-Al_{1-x}Ga_{1-x}As multiple quantum well struct., free excitons in room temp. photolum. 4-30518
 GaAs-Al_{1-x}Ga_{1-x}As quantum well structures, recomb. enhancement due to carrier localisation 4-7234
 GaAs-Al_{1-x}Ga_{1-x}As quantum well heterostruct., p-doped, photolum. effects of longitudinal elec. field 4-21002
 GaAs-Al_{1-x}Ga_{1-x}As system, parabolic quantum wells, photolum. meas. 4-56995
 GaAs-AlAs multi-quantum-well struct., excitons, luminescence 4-46328
 GaAs-AlAs multiple-quantum-well struct., laser heating, luminesc. study 4-46301
 GaAs-AlGaAs multiple quantum wells and bulk GaAs, photoexcited, hot carrier relaxation 4-56361
 GaAs-AlGaAs single and multi-quantum well struct., MOCVD growth 4-51507
 GaAs-AlGaAs single quantum well, improvements using thin superlattice buffers 4-51310
 GaAs-GaAlAs double quantum wells, bound and virtual bound states 4-46330
 GaAsP:Cr, deep level photoluminesc. 4-40497
 GaAs_{0.11}P_{0.89}N, recomb. mechanism, cathodoluminesc. study 4-57001
 GaAs_{1-x}P_x, MOVPE grown, luminesc. props. and deep electron traps 4-25794
 GaAs_{1-x}P_xN, Te VPE layers, minority carrier lifetime, photoluminesc. meas. 4-51333
 GaAs_{0.5}Sb_{0.5}, organometallic VPE growth 4-57104
 GaAs_{1-x}Sb_x, low-temp. edge photoluminesc., shallow impurity position correl. 4-30527
 GaInAs, OMVPE growth, morphology, solid comp., optical and elec. props. 4-46441
 GaInAs, organometallic VPE growth, photoluminescence characterization 4-51509
 GaInAs/AlInAs single quantum wells, photoluminesc. props. 4-2949
 Ga_{0.9}In_{0.03}As:Mn, pure and doped epitaxial layers, photoluminescence study 4-51339
 β-Ga₂O₃:Cr³⁺, N-lines in luminescence spectra 4-21018
 GaP, bound exciton series, absorpt., isoelectronic trap luminesc. studies 4-39818
 GaP, decay of red Cu-S pair luminesc. 4-51336
 n-GaP, luminescence and deep level studies of dislocations 4-16257
 GaP p-n struct., nonclassical thermal injection currents, luminesc. study 4-11585
 GaP reverse biased diodes, electroluminescence spectra (*Russian*) 4-40537
 GaP single cryst., heat-treated, electrophys. props. and photolum. 4-25808
 GaP:Er³⁺(Yb³⁺), rare earth activated luminesc. 4-35480
 GaP:N, effect of heat treatment on N conc. change, cathodolum. study 4-24842
 GaP:N LED, degradation and cathodoluminescence profile 4-35494
 GaP:Ta, luminesc. of Ta centres 4-25806
 GaSb/Al_{0.5}Ga_{0.5}Sb optically pumped multiquantum well lasers 4-55038
 GaSb/AlSb multiquantum well struct., MBE growth and narrow-well photoluminesc. 4-21003
 GaSe, exciton-exciton collisions, spontaneous and optically amplified luminesc. 4-7239
 GaSe:Cu, doped and undoped, radiative recomb. kinetics, spontaneous photoluminesc. spectra 4-7242
 GaSe:Eu (Nd)(Gd), photoluminescence and ESR spectra 4-51342
 GaSe_{1-x}S_x solid solns., localised excitons, photoluminesc. study 4-46311
 (Gd,La)MgB₂O₁₀:Tb, energy transfer, luminesc. 4-46313
 GdAlO₃:Cr³⁺, mag. Franck-Condon effect, absorpt. and emission spectra 4-11910
 Gd₃Ga₂O₁₂, Raman and luminescence study (*Russian*) 4-56947
 Gd₃Ga₂O₁₂:Ca²⁺ garnet, γ-ray irradi., thermoluminescent props. 4-35502
 GdMgB₂O₁₀:Mn(Bi)(Ce), energy transfer, luminesc. 4-46313
 GdOCl:B³⁺, photoluminescence and luminescent centres 4-40520
 GdSeO₃:Nd³⁺, synthesis and optical props. 4-20966
 Ge, deformed, electron-hole liquid, recombination radiation and plasma emission 4-34884
 Ge, electron-hole liq. droplet destabilisation, magnetohydrodynamic mechanism 4-20572
 Ge, heavily doped, implanted laser annealed, and bulk grown, photolum. study 4-21031
 Ge, heavily doped, laser annealed, photolum. study 4-21032
 Ge, plasma transport and laser annealing, optical response 4-20247
 Ge, strained and photoexcited, Mott and liquid-gas transitions, luminesc. and energy spectra studies 4-56220
 Ge, vacuum deposited target, sputtering yield, sputtered atom photon emission meas. (*Japanese*) 4-3010
 Ge:Be radiative recomb. of excitons bound to Be double acceptors 4-56978
 Ge:Sb(Ga)(O), γ-ray and neutron irradi., photoluminescence studies 4-30517
 Ge:Sb(Ga)(O), neutron irradi., low temp. photoluminescence studies 4-35487
 Ge:Zn, bound double exciton complexes, photoluminescence 4-45644
 Ge-Se binary system, photoluminescence and photostructural changes (*Russian*) 4-21000
 GeO₂-P₂O₅-SiO₂ optical fibre preform luminesc. 4-56988
 Ge₂S₃, glassy, photoluminescence and EPR 4-16243
 Ge₂Se₃, amorphous, struct. and photoluminesc. 4-46312
 Ge₂Se_{1-x} system, struct. and photoluminesc. 4-51320
 Ge₂Se_{1-y} glass, y=0.05-0.38, doped and undoped, optical absorpt., photoluminescence, photocond. meas. 4-25782
 Hg_{1-x}In(Ga)(S), thermoluminescence and photoconductivity studies (*Russian*) 4-21054
 In chalcogenide layer compounds, growth and characterisation 4-7344
 In halides, exciton transitions, refl., absorption and emission spectra 4-46279
 p-InAs/metal struct., elec., photoelec. and luminesc. props. 4-30072

luminescence of inorganic solids continued

- InGaAs, MOCVD growth using new AsH₃ cracking method, photoluminesc. and elec. props. 4-21153
 In_{0.53}Ga_{0.47}As/InP quantum well heterostruct. lasers, VPE in multiple chamber reactor 4-21147
 InGa_{1-x}As low-temp. edge photoluminesc., shallow impurity position correl. 4-30527
 InGa_{1-x}As:Si(Sn) MBE layer, elec. and optical props. 4-46300
 InGaAsP DH laser, heat treatment effects 4-44104
 InGaAsP double heterostructures, optical study for injection laser applications 4-30507
 InGaAsP/InP 1.3 μm BH lasers, V-grooved, catastrophic degradation by large pulsed currents 4-33655
 InGaAsP/InP double heterostruct., edge luminescence band profile 4-51340
 InGaAsP-InP DH wafers, optical props., effect of proton bombard., rel. to lasing characts. (*Chinese*) 4-38473
 InGaAsP-InP double heterostructure, electron-hole plasma, luminescence and Auger studies 4-56426
 InGaAsP-InP heterostructures, nonequilibrium carrier redistribution, photoluminescence study 4-6882
 InGaAsP-InP LPE double heterostructure, cathodolum. anal. 4-35497
 InGaP and InGaAlP, MBE grown, doping studies, elec. and optical meas. 4-15510
 In_{1-x}Ga_xP, electroepitaxial Peltier induced LPE on GaAs (100), photoluminesc. microanal. 4-30653
 In_{1-x}Ga_xP solid soln., donor-acceptor recombination, band struct. effects 4-25809
 InGaPAs:N solid soln. epitaxial struct., luminesc. and photoelec. props. 4-21029
 InP, diffusion length meas. by filtered cathodoluminescence 4-50841
 InP, doped and undoped VPE, optical characterisation of acceptors 4-35477
 InP, electron irradi. defects, elec. and optical investigations 4-34902
 InP, fine struct. of (A⁰X) complex 4-25804
 InP, heat treated, photoluminescence and photocond. spectrum 4-51326
 InP, high purity, synthesis from melt, donor conc., Hall meas., photoluminesc. 4-40629
 InP, high purity, undoped, residual acceptors, photoluminesc. study 4-39806
 InP, high-purity hydride VPE, defect centre obs. 4-35478
 InP, impact ionisation of excitons and shallow donors, photoluminesc. study 4-7241
 InP ingots, LEC, Ge doping conc. local variations, SEM cathodolum. spectra 4-34520
 InP, ion implanted, rapid lamp annealing, band-to-band luminesc. 4-51312
 InP, luminescence-band structure study using thermal modulation 4-40527
 InP, MOCVD epitaxy, C-V, Hall and photoluminesc. characts. 4-40664
 InP, organometallic VPE, morphology, photoluminesc., electron mobility 4-3080
 InP, ion irradiated, photoluminesc., thermal processing effect 4-16248
 InP, p- and n-type, luminesc. polarisation and deformation pot. const. 4-30523
 InP, photoluminescence spectrum, excited state donor to acceptor transitions 4-46325
 n-InP semiconductor-liquid junction with dil. HNO₃ injection electroluminesc. 4-30510
 InP, synthesis, crystal growth, Hall effect, photoluminesc., SIMS 4-40631
 InP, unintentionally doped LEC crystals, annealing effects 4-34901
 InP, vapour grown, donor identification, exciton band-gap luminescence 4-50755
 InP:Co, deep levels, space charge spectra, photoluminescence and EPR studies 4-39814
 InP:Er³⁺(Yb³⁺), rare earth activated luminesc. 4-35480
 InP:Fe, impurity centres, time depend. photoluminesc. study 4-46324
 InP:Fe, pure and doped, deep centres, optical studies 4-11479
 InP:Si, elec. and photolum. obs. of Si implantation and damage, residual impurities 4-34511
 InP:Si, ion implanted, photoluminescence excitons and polaritons 4-40498
 InP:Si, n-type doping in MBE growth, elec. and optical props. 4-2219
 InP:Si, VPE layers, optical evidence of amphoteric behaviour of Si 4-35479
 InP/InGaAsP aged LEDs, dark spot defects 4-56999
 InPe:Te, ion implanted, photoluminescence study 4-35481
 InSb, luminesc. spectra and optical heating of electrons 4-25807
 InSb, luminescence of bound diamagnetic excitons 4-30513
 InSb, mag. field stabilised electron-hole liq. 4-56223
 InSe, exciton absorpt. line, influence of indirect phototransitions (*Russian*) 4-50736
 InSe, photoluminescence meas., stimulated emission spectra, light amplification under two-photon pumping 4-40481
 InSe:Cd, doped and intercalated, photoluminescence spectra 4-16245
 InSe:Gd with macroscopic inclusions, polariton effects, photoluminesc. studies 4-29903
 InSe:Zn, photoluminescence spectra 4-16245
 InSe_{1-x}S_x single cryst., optical absorption, electroabsorption and photoluminesc. studies 4-2959
 KBO₃:Sn glass, luminescence and absorpt. (*Russian*) 4-51345
 KBr, KCl, low luminesc. and ultrafast config. relax. of F-centres 4-46315
 KBr, X-ray irradi. under high AC fields, F-band absorpt. and thermoluminesc. 4-25788
 KBr:Ca²⁺, X-irradi., F- and Z₁-centres, thermolum., optical absorpt. spectra 4-11946
 KBr:In³⁺, two-photon excited luminesc. 4-11931
 KBr:Pb²⁺, A-band emission, decay kinetics temp. meas. 4-11918
 KBr:Sn²⁺, photoluminescence decay times 4-11933
 KBr(Cl) X-irradi. crystals, acoustic and photon emissions during mech. deform. 4-34586
 KBr(Cl):Mn²⁺, double excitation transitions 4-21036
 KBr(Cl)(I):Ge²⁺(Sn²⁺)(Pb²⁺), impurity-cation vacancy interactions, luminesc. study 4-11934
 KBr_{1-x}I_x mixed crystals, low temp. thermoluminesc. glow curves 4-51359
 KCLl(Br):Eu²⁺, X-ray induced precipitation, photoluminesc. study 4-11305
 KCaLa_{1-x-y}Ce₂Tb₃(PO₄)₂, green emission and energy transfer mechanisms 4-46304
 KCl (Br), luminescence excitation by vacuum UV photons 4-30511

luminescence of inorganic solids continued

- KCl, additionally coloured, influence of NO_3^- an lyoluminescence (*Russian*) 4-30530
- KCl coloured crystals, mechanoluminescence 4-16260
- KCl single cryst., F-band absorption and thermolum., influence of X-ray irradiation 4-2972
- KCl, thermoluminescence characteristics 4-51376
- KCl:Ba²⁺, gamma-ray irradi., Z₁-centres, optical absorpt. spectra, thermolum. studies 4-11945
- KCl:Cu, UV irradi. induced aggregation and thermoluminescence spectra 4-11950
- KCl:Cu⁺, luminescent lifetime, effect of mag. field 4-30519
- KCl:Ga, A_T luminescence decay and polarisation, mag. field effects 4-11927
- KCl:Mn, X-irrad., postirrad. deform. effect on thermolum. peaks 4-2971
- KCl:Na crystals, V₁ and F_A centres, thermolum. study 4-40542
- KCl:Ti, crystals, decay kinetics and polarisation of A_T emission, mag. field effect 4-25803
- KCl(Br), selective σ -luminescence at triplet state of exciton 4-51327
- KCl:Br_{1-x}, gamma irradi., thermolum., optical absorpt. studies 4-30533
- KCl:Br_{1-x}:Ca²⁺, doped and undoped, thermolum., microhardness meas., quenching temp. depend., impurity dispersion state effect 4-11947
- K₂Cr₂O₇ cryst., ESR of lowest triplet state in mag. field at 1.2K 4-30271
- KI, is exciton self-trapping, dynamical aspects, luminesc. meas. 4-25798
- KI, VUV excitation of luminescence 4-40524
- KI:Eu single crystals, X-irradiated, Eu precipitation study by photolum. 4-2952
- KI:Eu²⁺, X-irrad., luminesc. and cond. meas., impurity cluster effects 4-16241
- KI:In, crystals, decay kinetics and polarisation of A_T emission, mag. field effect 4-25803
- KI:In, polarised A_T luminescence, kinetic, spectral and polarisation props. 4-11928
- KI:Ti⁺, dimer centre luminescence 4-2958
- KI+Ti⁺, VUV excitation of luminescence 4-40524
- KI(Br)(Cl):Ti, geometrical struct. of (Ti⁺)₂ luminescent centre, optical studies 4-40522
- KLu(WO₄)₂:Nd³⁺, Czochralski grown, stimulated emission and luminesc.-generation props. 4-56964
- KMnF₃, photoluminescence, interacting centres and short-wavelength edge 4-56993
- KNd(PO₃)₄, flux growth, absorpt. spectra, fluoresc. branching coeffs. 4-51293
- KNd_{0.9}R_{0.1}P₂O₇ laser crystals, (R=La, Ce, Pr, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu or Y) effects of a rare-earth elements, spectral study (*Chinese*) 4-55045
- K₂O-B₂O₃ glass, PbBr₂ activated, luminesc. and excitation spectra of impurity centres 4-56987
- K₂(PtX₆) (X=F⁻, Cl⁻, Br⁻), two-component luminesc. spectra 4-30515
- K₂F₁₀Eu³⁺(Tb³⁺), energy migration, decay times, luminesc. 4-11917
- Kr, solid, electronic excited states relaxation processes, luminesc. study 4-51325
- LaCl₃:Nd³⁺, laser induced fluores. line narrowing 4-7226
- LaCl₃:Pr³⁺, laser excited fluores. IR absorpt. study 4-20963
- LaF₃:Gd³⁺, two-photon absorption lines, polarisation depend. 4-2938
- LaF₃:Nd³⁺, energy transfer up-conversion, UV fluoresc. detect. 4-25796
- La₂Hf₂O₇:Eu³⁺(Tb³⁺)(Ti⁴⁺), lattice consts., luminesc. props. 4-45082
- LaMgB₂O₆:Bi³⁺(Mn²⁺), photoluminescence, Stokes shift and energy transfer 4-40521
- (La_{1-x}Nd_x)₂Ga₂SiO₄, spectral laser and electromech. props. 4-30516
- La_{1-x}Nd_xMgAl₁₁O₁₉, continuous lasing and spectroscopic props. 4-14699
- La_{1-x}Nd_xMgAl₁₁O₁₉ single crystals, spectroscopic and lasing props. 4-28702
- A-La₂O₃:Eu³⁺, fluorescence spectrum anal. 4-21023
- La₂O₃-Nd₂O₃-Ta₂O₅ system, lumiphore design 4-21020
- LaOCl:Bi³⁺, photoluminescence and luminescent centres 4-40520
- γ-La₂S₃:Nd³⁺, luminescence quantum efficiency study 4-35489
- γ-La₂S₃:Nd³⁺ semiconductor crystals 4-30526
- La₂S₃:2Ga₂O₃:Nd³⁺ glasses, upper active level filling process characts. 4-30526
- La₂S₃:2Ga₂O₃:Nd³⁺ glass, luminescence quantum efficiency study 4-35489
- Li-La-Sm phosphate glass, luminescence study of impurity distrib. 4-25811
- Li₂B₄O₇:Mn, Si, TLD system, fading characteristic 4-48796
- Li₂B₄O₇, x=1,7, thermoluminescent props. for dosimetry 4-51371
- LiCl:Cu⁺, luminescent lifetime, effect of mag. field 4-30519
- LiF, aggregate electron colour centres luminesc. for ionizing radiation dosimetry (*Russian*) 4-57005
- LiF film and crystal, TSEE glow curves rel. to heat treatment 4-3028
- LiF phosphors, mechanically induced thermolum. 4-57004
- LiF, single crystal TLD 4-51373
- LiF, TLD, short term fading 4-54447
- LiF TLD 100, supralinearity and sensitisation, track interaction model 4-7251
- LiF TLD 100, thermoluminescence, mobile interstitial model 4-40540
- LiF TLD phosphor, dosimetric characteristics 4-48795
- LiF:(Mg,Cu,P), dosimeter material, characteristics 4-51375
- LiF:Mg, photo-transferred thermoluminesc. response to β-doses 4-28211
- LiF:Mg, thermoluminesc. spectra, Mg impurity interaction with emission centres 4-51362
- LiF:Mg,Ti, TLD system, fading characteristic 4-48796
- LiF:Mg,Ti, thermoluminesc. glow curves, trapping parameters, computerised curve fitting 4-51364
- LiF:Mn²⁺, double excitation transitions 4-21036
- LiF:Ti, photo-transferred thermoluminesc. response to β-doses 4-28211
- LiF:Ti (TLD-100), photoluminescence and thermoluminescence, thermal treatment effects 4-40539
- LiInS₂, ternary cpd., photolum. study 4-30501
- LiInSe₂, ternary cpd., photolum. study 4-30501
- (Li_{1-x}N_x)₄W_{1-y}U phosphors, photoluminescence, conc. depend. 4-51328
- Li₂Nd(BO₃)₃, conc. quenching of Nd³⁺ emission 4-25784
- LiPr₂PO₇, optical absorpt. and emission spectra of Pr³⁺ ions 4-56959
- LiY_{1-x}Er_xF₄ crystals, excitation-energy transport rates 4-51331
- LiY_{1-x}Ho_xF₄ crystals, excitation-energy transport rates 4-51331
- LiF, thermoluminesc. glow curve shape prod. by α and β radiations 4-21050
- Lu₂O₃:Sc₂O₃:Nd³⁺ single crystals, spectral and physicochem. prop. investigation 4-35442

luminescence of inorganic solids continued

- Mg, sputtering, at. excitation, projectile incidence angle depend. 4-11997
- Mg, sputtering, at. excitation 4-11998
- MgAl₂O₄, neutron-electron irradiation, crystal defect study (*Russian*) 4-51379
- MgAl₂O₄:Cr³⁺, N-lines in luminescence spectra 4-21018
- MgB₄O₇:Dy, thermoluminescent emission spectra 4-51381
- MgF₂ crystals, optical absorpt. by self-trapped excitons 4-16239
- MgF₂:Co crystals, UV luminesc. 4-7233
- MgF₂:Dy, thermoluminescent phosphors, X-ray excited optical luminescence 4-51380
- MgO, emission spectra, shock wave instability temp. and rel. to fusion curve 4-30529
- MgO powder, photoluminescence emission from surface states 4-46321
- MgO powders, photoluminescence from surface states 4-46306
- MgO surface, UV excited, H₂ adsorpt., enhanced phosphoresc. 4-51324
- MgO:Fe, cathodoluminescence obs. in SEM 4-25816
- MgO:Al₂O₃, spinels, optical absorption spectra of X-ray photoluminescence (*Russian*) 4-30514
- MgS:Eu,Sm phosphors, optically stimulated luminesc. dosimetry 4-48753
- Mg₂Zn_{1-x}Te:Li, photoluminesc. and optical props. 4-56992
- NaBr, luminescence excitation by vacuum UV photons 4-30511
- NaBr:Ti⁺, two-photon excited luminesc. 4-11931
- NaBr(Cl):S, UV irradi., luminesc. and coloration 4-35473
- NaBr(F)(Cl):Cu⁺, luminescent lifetime, effect of mag. field 4-30519
- NaCl X-irrad. crystals, acoustic and photon emissions during mech. deform. 4-34586
- NaCl:Ca, Pb²⁺, precipitation processes, optical spectra study 4-11306
- NaCl:Ca, quenched, complex glow curves 4-51360
- NaCl:Ca,Cu, single crystal, thermolum. and thermally stimulated exoelectron emission 4-51378
- NaCl:Ca²⁺, impurity dispersion role in microhardness and thermolum. 4-11949
- NaCl:Ca²⁺,Cu⁺, X-irrad., recombination luminesc., photoacoustic emission 4-51315
- NaCl:KCl, thermoluminescence, annealing and deformation effects 4-57006
- NaCl:Sn, thermoluminescence emission and decay kinetics 4-57007
- NaCl:Sr²⁺, X-irrad., Z₁-centre form., thermoluminesc. and optical absorpt. study 4-2198
- NaCl:Sr²⁺, X-ray irradi., glow curves, impurity aggregation state effect 4-2970
- NaCl:Tb, Z₂ centres, thermolum., optical absorpt. studies 4-2969
- NaCl(Br):Eu²⁺, X-ray induced precipitation, photoluminesc. study 4-11305
- Na₃Eu(PO₄)₂:NaMPO₄, M=Ca, Sr, Eu³⁺ as structural probe, emission line broadening 4-2957
- NaF, X-ray irradi., F and F₂ centres excited states, radiative lifetimes 4-29432
- NaF:Mg, colour centres, optical studies 4-56990
- NaF:U(VI) crystal luminescence 4-7232
- NaF(Cl):Mn²⁺, double excitation transitions 4-21036
- NaI, self-trapping excitons, luminesc. and excitation spectra 4-7235
- NaI(Tl) scintillation crystals, X-ray induced luminesc. (*Russian*) 4-56985
- NaMgF₃, flux-grown, X-irrad., glow curves, optical absorpt. spectra studies 4-11948
- NaNO₂ single-cryst., inhomogeneous broadening, scatt. and luminesc. 4-11941
- Na₃Nd(BO₃)₃, conc. quenching of Nd³⁺ emission 4-25784
- Na₃Nd(BO₃)₂, conc. quenching of Nd³⁺ emission 4-25784
- Na₃Nd₂(BO₃)₃, conc. quenching of Nd³⁺ emission 4-25784
- Na₂O-BaO-B₂O₃-SiO₂-CeO₂ glass, radiation colouring, radio- and thermoluminescence 4-11190
- Na₂O-SiO₂ glass, elementary electron excitations, localisation and migration 4-50735
- NaOH, frozen glassy solution, chemiluminescent and calorimetric studies of phase changes 4-51384
- Nb, ion-bombardment induced photon emission, angle of incidence depend. 4-35495
- Nd₂O₃-La₂O₃-P₂O₅, vitreous, concentration quenching of luminescence 4-51343
- Ne, solid, electronic excited states relaxation processes, luminesc. study 4-51325
- Ne, solid, excitation spectrum of visible luminescence 4-30521
- a-P, radiative recombination, ODMR and photoluminesc. studies 4-25799
- PbF₂:Eu³⁺, ²D_{5/2} transition, homogeneous linewidth, anomalous temp. depend. 4-11930
- Pb_{1-x}Mn_xS, diode laser spectra splitting in zero mag. field 4-7243
- PbMoO₄, X-ray excited luminescence and cond. 4-40526
- Pb₂OFBr, prep., luminesc. spectra 4-2126
- Pb₂OFCl, prep., luminesc. spectra 4-2126
- Pb₂OFI, prep., luminesc. spectra 4-2126
- PbTe epitaxial film, deep level photoluminescence 4-46319
- RbAg₂I, superionic conductor, low-temp. phase photoluminescence 4-35490
- RbBr, luminescence excitation spectra between 40 and 130 eV 4-25800
- RbCl, hot luminesc. and ultrafast config. relax. of F-centres 4-46315
- RbI, is exciton self-trapping, dynamical aspects, luminesc. meas. 4-25798
- RbI, luminescence excitation spectra between 40 and 130 eV 4-25800
- RbI, self-trapping excitons, luminesc. and excitation spectra 4-7235
- RbMnF₃, photoluminescence, interacting centres and short-wavelength edge 4-56993
- RbNd(WO₄)₂, stimulated emission on ⁴F_{3/2}-⁴I_{11/2} transition of Nd³⁺ ions 4-56963
- Rb₂UO₂Br_x·xH₂O, IR, Raman, polarised luminesc. and electronic absorpt. spectra 4-11889
- Ru (II) complexes, tetrapyrrolyl ligands, polarisation, lifetimes, luminesc. 4-51318
- Ru complex, dual emission props. 4-40491
- Se₂O₃, breakdown of excitonic absorption and luminesc. due to d-type cond. band 4-46318
- Se, trigonal single cryst., mid-gap photolum. and excitation spectrum 4-7245
- Si (111), He²⁺ impact, short wavelength photon emission 4-49145
- Si, amorphous, glow-discharged, photoluminescence study 4-40532
- Si, CW beam-annealed, electron microscopy and defect/impurity spectroscopy 4-20604
- Si, dislocated crystal, photolum. study 4-16235
- Si, heavily doped, laser annealed, photolum. study 4-21032

luminescence of inorganic solids continued

- Si, heavily doped, n- and p-type, photoluminesc. and excitation spectra, optical and reduced band gap 4-46326
 Si, laser generated plasma, non-equilib. effects, luminesc. study 4-21030
 Si MOSFET, electron temp., determ. from broadband far IR emission 4-35080
 Si, microcrystalline, luminescence lifetime distrib. 4-40512
 Si, minority carrier lifetime, SEM cathodolum. assessment 4-35499
 Si, n⁺-p junctions, mesoplasma formation, space distrib. of radiation in impulse regime (*Russian*) 4-30541
 Si, neutron irradiated, zero phonon line, uniaxial stress meas. 4-35484
 Si, plastic deform., deep level defects 4-15845
 Si, time-resolved cathodoluminescence, delayed coincidence meas. 4-46335
 Si, ultra high purity cryst. growth by floating zone method for radiation detectors 4-3066
 Si, vacuum deposited target, sputtering yield, sputtered atom photon emission meas. (*Japanese*) 4-3010
 Si:B, fine struct. of energy levels of excitons bound to impurity 4-29892
 a-Si:C₀H film, photolum. props., effect of O₂ 4-40513
 Si:Cu, vibronic coupling and photolum. spectrum 4-51338
 Si:Er, 1.54 μ m photolum. obs. 4-21001
 Si:Fe,B, isotope shift study of luminescence 4-2961
 Si:H, amorphous CVD film, post-hydrogenated, electronic props. 4-35578
 Si:H, amorphous films, localised states, photoluminesc. study method 4-39832
 a-Si:H, Cl film, photoluminescence spectra 4-40507
 Si:H, dopant effect on dislocation photoluminescence 4-16237
 a-Si:H, electron-transport meas. 4-40090
 a-Si:H, luminescence, metastable excited carrier population 4-40525
 a-Si:H, luminescence quantum efficiency 4-40506
 a-Si:H, luminescence study of saturation of band tail states 4-40509
 a-Si:H, optically detected mag. resonance and luminescence 4-40282
 a-Si:H, phonon interactions in tail states 4-20308
 a-Si:H, radiative and nonradiative processes 4-21033
 a-Si:H, recomb. mechanisms, radiative and nonradiative processes, subnanosecond photoluminescence meas. 4-40503
 a-Si:H, recomb. processes, ODMR and photoluminesc. study 4-20889
 a-Si:H, recombination kinetics depend. on photoexcitation density 4-39925
 Si:H, twisted, radiative recomb. hydrogenation effects. 4-16236
 a-Si:H, two-beam photoluminescence study 4-40505
 a-Si:H,P, dispersive photoluminescence decay 4-40510
 a-Si:H film, low temp. photocond. and photolum. study 4-39971
 a-Si:H films, photocond. and photoluminesc. at low temps. 4-56979
 a-Si:H films, RF glow discharge deposition and solar cell appls. 4-45825
 a-Si:H p⁺-i-n⁺ cells, electroluminesc. detected ODMR 4-40281
 a-Si:H p-i-n junctions, luminescence phenomena 4-40508
 a-Si:H sputtered, luminescence lifetime distrib. 4-40512
 a-Si:H ultrathin layers, quantum size effect, optical props. 4-21057
 a-Si:H/a-Si_{0.8}C_{0.2}H quantum well structs., optical props. 4-51387
 Si:In(Tl)(Bi), photoluminescence lifetimes of bound excitons 4-56231
 Si:N, 1.123 eV A,B,C photoluminescence line 4-51311
 Si noble gas atoms, deep impurity levels, luminescence studies 4-45672
 SiO, Czochralski grown, annealed, deep level photoluminesc. from dislocations 4-21010
 SiO, Czochralski grown, thermal donors, deep level luminesc. study 4-21009
 Si:Ti, ion implanted, photo- and cathodoluminesc. studies 4-21013
 SiC diodes, prebreakdown electroluminescence emission (*Russian*) 4-40536
 SiC epitaxial lumiphors, photoluminesc. props. (*Russian*) 4-7221
 SiC, neutron irradi., D₁ centres, vibr. struct., absorpt. and luminesc. spectra 4-30494
 SiC:Al, 6H polypoly, CVD epitaxial growth, Al doping using metalorganics and luminesc. props. 4-30644
 a-SiC:H, glow discharge deposition and phys. props. 4-40676
 a-SiC:H film, phys. props. 4-40438
 a-Si_{1-x}C_xH, AC electrolum., polarisation effects 4-40534
 Si,C_{1-x} amorphous CVD films, photoluminescence and optical props. (*French*) 4-46320
 Si,C_{1-x}H, amorphous, luminescence study 4-40504
 Si,C_{1-x}H, amorphous, photoluminescence study 4-25797
 Si_{1-x}Ge_xH, amorphous, density of states by space-charge limited currents, photoluminescence and optical gap 4-20663
 Si₂H₂(OH)₃, siloxene, layer cpd., time resolved luminesc., mol. exciton model 4-40515
 Si₃N₄, amorphous film, luminescence study 4-25818
 SiO₂, amorphous, X-ray irradi., 1.9 eV luminescence centres 4-56980
 SiO₂, amorphous and cryst., low temp. recombination luminescence 4-46337
 SiO₂, ionising particle irradi., predose effects 4-11198
 SiO₂, quartz, point defects, thermoluminesc., IR and EPR study 4-21053
 SiO₂, vitreous, elementary electron excitations, localisation and migration 4-50735
 SiO₂-Rf₃ thin films (R=Tb, Eu, Sm, Tm, Dy); electrolum. characts. 4-51353
 SnO₂-ZnS-Cu₂S-ZnS:Mn-Al thin film structures, electrolum., short pulse excitation 4-30551
 SrCl₂:Ce, luminescence study (*Russian*) 4-51346
 SrCl₂:Sm²⁺, cryst., fluoresc. spectra, mag. field effects 4-46332
 SrF₂:Na crystals, Stark effect on phononless lines of M_A centres 4-35418
 SrF₂:SrCl₂ system, luminesc. and phase comp. 4-51329
 Sr₂La₂W₂O₁₂:Tm, Eu(Er), two-colour emission spectra (*German*) 4-7228
 SrNb₂O₇(Sr₂Nb₂O₇)-NdNb₂O₇, cross-sections in SrO-Nd₂O₃-Nb₂O₅ system 4-51639
 SrS, near-IR luminescence from F⁺ centres and near anionic vacancies 4-46314
 SrS:Pb²⁺ phosphors, luminesc. of Pb²⁺ centres 4-46302
 SrSe:Pb²⁺ phosphors, luminesc. of Pb²⁺ centres 4-46302
 Sr₂SrGd₂□W₂O₁₂:Eu³⁺ luminesc., low-lying charge-transfer transition 4-2951
 SrTiO₃ single cryst., electroluminesc., at low temps. 4-11943
 TbF₃:Eu_{0.2}(MoO₄)₃ 4-51280
 TbF₃, exciton-exciton annihilation and saturation effects, fluorescence obs. 4-2963
 ThBr₄:U⁴⁺, site-selective excitation in visible region 4-11760
 ThBr₄:U⁴⁺, site-selective excitation in visible region 4-11929
 UO₂(NO₃)₂·6H₂O, photoluminescence, high press. study 4-11913
 Xe crystal, exciton luminesc. from high-energy states (*Russian*) 4-30532
 Y-Ga:Tb garnet phosphor, luminescence props. 4-21022

luminescence of inorganic solids continued

- YAG cryst., neutron irradi.-stimulated recombination processes 4-35482
 Y₃Al₅O₁₂:Fe³⁺, luminescence and level structure of optical centres (*Russian*) 4-51319
 YGaO₃:Bi, luminescence props. and emission centres 4-21026
 Y₂Ga₂O₇:Bi, luminescence props. and emission centres 4-21026
 Y₂O₃-Sc₂O₃:Nd³⁺ single crystals, spectral and physicochem. prop. investigation 4-35442
 Y₂O₃:Eu³⁺, time resolved emission study by computer controlled luminescence spectrometer 4-51323
 YOCl:Bi³⁺, photoluminescence and luminescent centres 4-40520
 Y₂O₃:Eu phosphors, cathodoluminesc. enhancement by coagulation 4-35493
 ZnAl₂O₄:Cr³⁺, N-lines in luminescence spectra 4-21018
 Zn₂Cd_{1-x}S powders, photoluminescence and SA emission 4-35483
 ZnGa₂O₄:Cr³⁺, N-lines in luminescence spectra 4-21018
 ZnIn₂S₄, peculiarities of photolum. 4-30496
 Zn_{1-x}Mn_xTe, semimagnetic, photolum. study, plasma parameters 4-7240
 ZnO lumiphors, grain size effect on photoluminesc. and electroluminesc. 4-30505
 ZnO sputtered thin films, UV photolum., excitonic recomb. 4-30528
 ZnS, acoustoluminescence excitation (*Russian*) 4-7254
 ZnS DC electroluminescent film, Cu electromigration rel. to emission degradation 4-51351
 ZnS electrolumiphors, aging in presence of moisture 4-21042
 ZnS films, activation for blue emission by embedding techniques (*Japanese*) 4-30503
 ZnS, ion implanted, radiation defect related photoluminescence band 4-7237
 ZnS:Al film, amorphous, low resist., optical and elec. props. 4-40514
 ZnS:Cu, Br(Al), AC powder electrolum. deterioration, ESR and X-ray diff. study 4-25813
 ZnS:Cu,Mn,Cl, electroluminescence in Cu₂S-ZnS:Cu, Mn, Cl-Al structures 4-16254
 ZnS:Cu electrolumiphors, ageing and restoration processes, moisture effects 4-51350
 ZnS:ErF₃, YbF₃ phosphors, electroluminescence, IR-to-visible conversion (*Japanese*) 4-16253
 ZnS:I, excitonic and time-resolved edge emissions 4-39786
 ZnS:Mn, heavily doped, electroluminescence study 4-46334
 ZnS:Mn and ZnS:TbF₃ films, RF sputtered, DC electroluminesc. 4-11942
 ZnS:Mn electroluminescent films, growth by atomic layer epitaxy and electron beam evaporation 4-25186
 ZnS:Mn films, electroluminescence, microstructure rel. to deposition method, TEM obs. 4-2468
 ZnS:Mn thin film structs., electrolum. decay kinetics, conc. and field depends. 4-51354
 ZnS:Mn thin films, with chalcogenide glass control layers, DC electrolum. 4-25814
 ZnS:Mn thin films, with high Mn conc., photoluminesc. study 4-51332
 ZnS:Mn(Cl), excitonic excitation spectra under press. 4-21016
 ZnS:Ni, impurity charge state changes, luminesc., absorpt., excitation and EPR spectra studies 4-16228
 ZnS:Tb bulk cryst., photoluminescence studies 4-56994
 ZnS:Te,Al; Te doping and implantation, cathodoluminescence study 4-45162
 ZnS:TM,Ag, photoluminescence study 4-46317
 ZnS:TM phosphor, surface luminesc. 4-40516
 ZnS:TM³⁺, luminesc. centres, photoexcitation mechanisms 4-11915
 ZnS(Se), MOCVD growth rel. to luminesc. props. 4-51352
 ZnSe, cryst., cathodolum. spectra and images in SEM 4-35500
 ZnSe crystal, self-activated luminesc., excitation spectra, under press. 4-51337
 ZnSe epitaxial film on GaAs substrate, luminesc. and stimulated emission study 4-40482
 ZnSe, hetero-epitaxial growth on GaP by MBE 4-16336
 ZnSe MBE growth on GaAs(GaP), vacuum thermal treatment and substrate cleaning effects, photoluminesc. study 4-12029
 ZnSe, MOCVD, donor spatial distrib., cathodolum. study 4-34521
 ZnSe, surface streamer discharges, emission 4-39034
 ZnSe:Ga, MBE grown on GaAs substrate temp. effect on photoluminescence and elec. props. 4-21062
 ZnSe:In, Li, dielectric constant evaluation and pair spectra 4-40523
 ZnSe:Mn luminescent thin films, scanning CW laser beam annealing 4-50350
 ZnSe:Ni, impurity charge state changes, luminesc., absorpt., excitation and EPR spectra studies 4-16228
 ZnSe:Ni, luminescence and electroabsorption studies 4-35496
 ZnSiO₄:Mn phosphor, cathodoluminesc., voltage dependence, hysteresis obs. 4-21044
 Zn₂SiO₄:Al(Tl), photolum. meas. 4-35476
 Zn₂SiO₄:Mn phosphor, photoluminesc. spectrum, pairing effects 4-40500
 Zn₂SiO₄:Mn phosphors, phosphorescence and photostimulated luminesc., tunneling model 4-11921
 ZnSiP₂ photolum. and luminesc. excitation spectra 4-30502
 ZnTe, acousto and photoluminescence, impurity-defect mechanism 4-35504
 ZnTe, light amplification, radiative processes in electron-hole drops 4-40530
 ZnTe, luminescence study of neutral donor bound excitons 4-21017
 ZnTe:P,Na, pure and doped, defect struct., TEM and photoluminesc. study 4-51321
 ZnTe_{1-x}Se_x solid solns., photoluminesc. and phonon spectra meas. 4-30524
 ZrO₂, powdered monoclinic and stabilised ceramic, X, γ or β irradi., exoemission and thermoluminesc. 4-3029
 ZrSiO₄, natural and synthetic zircon, thermolum. props. 4-40544
 ZrSiO₄, thermolum. props., Ispra course, Ispra, Italy (May 1982) 4-36769

luminescence of liquids and solutions

- 4-n-hexyloxybenzylidene-4-n'-hexylaniline, polarised luminescence and rot. relax. 4-11939
 9,10-di-n-propylanthracene in aqueous-micellar sodium dodecylsulphate solns., luminesc. and spectral study 4-16238
 9,10-dimethylanthracene in aqueous-micellar sodium dodecylsulphate solns., luminesc. and spectral study 4-16238
 9,10-diphenylanthracene in aqueous-micellar sodium dodecylsulphate solns., luminesc. and spectral study 4-16238
 acetophenone, ring aza substitution effect on luminesc. 4-14478

luminescence of liquids and solutions continued

- acetyl pyridines, ring aza substitution effect on luminesc. 4-14478
 N-acetyl-D-glucosamine lyoluminescence materials, low radiation dosimetry meas. 4-48763
 anionic dye trace diffusion coeff. through cationic polyelectrolyte soln., fluoresc. photobleaching study 4-6536
 anisotropic molecular liquids, guest-host system, fluoresc. meas., tilt angle effects 4-20102
 anthracene in aqueous-micellar sodium dodecylsulphate solns., luminesc. and spectral study 4-16238
 anthraquinonediazoles, amino-substituted in solid and liq. solvents, luminesc. props. 4-21024
 2-arylbenzoxazoles in dil. cyclohexane soln., UV absorpt. and fluoresc. spectra 4-14475
 associated molcs., absorption spectra and luminesc. yield, solvation effects 4-21028
 1-azacarbazole dimers, solid state and soln. excited state double H^+ transfer, luminesc. 4-57551
 1,12 benzperylene, fluorescence from vibronic states in condensed phase 4-54796
 citric acid complexes with Tb(III) and Eu(III), luminescence and intermolecular energy transfer 4-19130
 cyanine dyes, potential saturable absorbers, viscosity-depend. fluorescence lifetime meas. 4-19523
 cyanoethoxybiphenyl liq. cryst., phase transitions, picosec. time-resolved fluoresc. spectra 4-46298
 3-diethylamino-6-amino-N-ethylphthalimide solution, luminesc., spectral-polarisation characts. order light quenching conditions 4-54794
 diphenyl butadiene, soln., photochemical isomerisation, Kramers soln. 4-35867
 diphenylisobenzofuran, lyoluminescence materials, low radiation dosimetry meas. 4-48763
 1,4-diphenylnaphthalene, dye, lasing ability, rel. to fluoresc. state symmetry 4-44099
 drugs, luminesc., X-ray and UV excited 4-5264
 (durene) $^{+}$ + (paraterphenyl- d_{14}) $^{-}$, radical-ion pair recombination, quantum beats induction by hyperfine interactions 4-3386
 fibrinogen, luminesc. conformational transitions influence 4-54895
 fluoranthene, D fluctuations in photoemission spectra and broad fluoresc. bands resolution 4-35475
 glucose, lyoluminescence materials, low radiation dosimetry meas. 4-48763
 L-glutamine, lyoluminescence materials, low radiation dosimetry meas. 4-48763
 indole derivatives, fluorescence, absorpt. and excitation spectra 4-19101
 lophine, chemilum. reactions in presence of different metal ions 4-7255
 lucigenin, chemilum. reactions in presence of different metal ions 4-7255
 luminol, chemilum. reactions in presence of different metal ions 4-7255
 magnesium octaethyl porphyrin solns., wavelength depend. intersystem crossing 4-1196
 mannose, lyoluminescence materials, low radiation dosimetry meas. 4-48763
 methyl viologen and anionic solutes, ion pair complexes, luminesc. props., application to polar energy storage 4-40492
 9-methylanthracene in aqueous-micellar sodium dodecylsulphate solns., luminesc. and spectral study 4-16238
 naphthalene, in polystyrene film, fluorescence spectra 4-40519
 naphthalene dye, lasing ability, rel. to fluoresc. state symmetry 4-44099
 naphthols, in aq. surfactant soln., excited state processes 4-33449
 octadecyl rhodamine B clustered transport system in Triton-X-100 micelles, excitation transport, ps. fluoresc. study 4-40499
 organic molecule solutions, spectral-polarisation characts. order light quenching conditions 4-54794
 10-phenyl-9-acetoxynaphthalene derivatives, luminesc. and laser props. 4-14469
 2-phenylnaphthalene, dye, lasing ability, rel. to fluoresc. state symmetry 4-44099
 N-phenylpyrroles, excited CT state population and mol. conformation 4-1207
 PMMA colloids, sterically stabilised, fluoresc. energy transfer, microphase model 4-35946
 poly(propylene oxide) melt, self-diffusion, tube renewal versus reptation 4-25067
 poly-2-isopropenylnaphthalene, anionically polarised, luminesc. in soln. 4-7224
 poly-L-lysine molcs., mobilities in low-scatt solns. 4-52254
 polycyclic aromatic hydrocarbons, luminesc. props. in colloidal or microcryst. suspensions 4-25805
 polymer colloids, sterically stabilised, fluoresc. energy transfer, microphase model 4-35946
 polynuclear aromatic hydrocarbons, luminesc., X-ray and UV excited 4-5264
 polystyrene, excimer form., energy migration model, luminesc. spectra (Russian) 4-56971
 quinine, fluoresc. lifetime standard, conditions for homogeneous decay 4-38223
 racemic mixtures, circularly polarised luminesc. 4-2956
 rhodamine 6G aqueous soln. laser, emission characts., thiourea influence 4-26884
 rhodamine 6G-malachite green solns., anti-Stokes fluoresc. obs. 4-2955
 rhodamine dye ionic associates with org. liqs., fluoresc. quenching, elemental analysis methods development 4-52033
 rhodium (III) porphyrins, triplet-triplet absorpt. spectra, luminesc. study 4-51317
 strychnine dye, unsymmetrical, solvent polarity indicator, solvatochromism, polarography and MO calcs. (German) 4-1054
 styrene-methyl methacrylate copolymers in soln., crit. conc., fluoresc. meas. 4-2960
 suspended particle solutions, fluorescence enhancement by Rayleigh and Mie scatt. (Chinese) 4-51313
 tetracene, in soln., rot. diffusion anisotropy, solvation structural depend. 4-10945
 3,6-tetramethyldiamine-N-methylphthalimide solution, luminesc., spectral-polarisation characts. order light quenching conditions 4-54794
 (tetramethylethylene) $^{+}$ + (paraterphenyl- d_{14}) $^{-}$, radical-ion pair recombination, quantum beats induction by hyperfine interactions 4-3386
 thiamine derivatives in aq. soln., low temp. luminescence 4-21027
 triphenylamine, neutral and protonated, electronic config. and spectra 4-54786
 tryptophan labelled macromols., polarised luminesc., HF movements of indole groups 4-52273

luminescence of liquids and solutions continued

- Ar $^{+}$ current injection and light emission in divergent elec. field 4-50111
 Bk $^{3+}$ aquo ions, band struct., absorpt. and fluoresc. spectra 4-56976
 Cr complexes in aq. solns., T_2 excited states, photophysics, picosecond laser spectroscopy 4-41240
 NaCl, γ -irrad., aqualuminesc. spectrum in presence of xanthene dyes 4-12377
 O $_2$, Δ_2 state, in micellar systems, distrib. equilibria between hydrophilic and hydrophobic components 4-28503
 O $_2$, Δ_2 state, solvent-induced deactivation, additivity rels. in nonaromatic 4-9811
 Xe, current injection and light emission in divergent elec. field 4-50111
 ZnS, colloidal dispersion, photoluminesc. and photoinduced O $_2$ adsorpt. 4-31031
- luminescence of organic solids**
 acid-base interactions on metal oxide catalysts, luminesc. study 4-56141
 anthracene:tetracene crystals, polariton luminesc. spectra 4-46329
 anthracene, cryst., luminesc. quantum efficiency, photoacoustic spectrosc. obs. 4-49630
 anthracene, meso and dimeso derivatives, luminesc. quantum efficiency, photoacoustic spectrosc. obs. 4-49630
 anthraquinonediazoles, amino-substituted in solid and liq. solvents, luminesc. props. 4-21024
 1-azacarbazole dimers, solid state and soln. excited state double H^+ transfer, luminesc. 4-57551
 benzene thin films, luminesc. emission and excitation spectra under slow electron impact at 77K 4-11923
 benzophenone, triplet-triplet absorpt., diffuse-reflectance laser flash photolysis 4-46297
 benzophenone/naphthalene rigid glasses, intermol. triplet-triplet energy transfer, microcryst. formation effect 4-2954
 benzo[*f*]quinoline-biphenyl mixed crystals, delayed fluoresc., temp. independ. 4-25801
 d-comphoric acid, temporary mechanoluminesc. spectra 4-7252
 coporphyrin III molecule in solid matrices, optical relax. and inhomogeneous distrib. function by laser spectroscopy 4-16225
 diaryldibenzodifurandiones luminophores, absorpt. and luminesc. charact. 4-56982
 1,4-dibromonaphthalene, mol. cryst., exciton states, intraband scatt., luminesc. study 4-7222
 4,4'-dimethylbenzophenone, phosphorescence emission 4-21019
 p,p'-diphenol, temporary mechanoluminesc. spectra 4-7252
 diphenyl:fluoranthene doped mol. crystals, excitation energy transfer, phosphorescence study 4-16247
 doped cryst., exciplex form., host electronic excitation energy trapping 4-25792
 dye monolayers at air-water interface, enhanced-light reflection 4-6648
 fluorescein in frozen solns., fluoresc. and phosphoresc. obs. 4-30504
 glasses, organic, optical linewidth, anomalous temp. depend. explanation 4-46296
 high polymers, synthetic, radiation damage, thermoluminesc., ESR and optical absorpt. investig. 4-21052
 6-hydroxy 9-phenyl fluoron in frozen solns., fluoresc. and phosphoresc. obs. 4-30504
 in cellulose acetate films, fluoresc. anisotropy and decay times 4-2953
 3-methylpentane glass, γ -irrad., isothermal luminesc. 4-30520
 molecules with heteroatoms, spectral-luminesc. props. and electron states 4-54795
 naphthalene, luminescence and thermomodulation spectra 4-35503
 naphthalene, mol. cryst., exciton states, intraband scatt., luminesc. study 4-7222
 naphthalene chloroderivatives, vibr. and luminescence spectra (Russian) 4-23702
 naphthalene-biphenyl mixed crystals, delayed fluoresc., temp. independ. 4-25801
 pentacene monomers and dimers in mixed mol. crystals, intersystem crossing, photon ecoh meas. 4-40495
 PET, electroluminescence for AC voltages 4-25812
 PET, glass, secondary relax. transition, 310K (Russian) 4-30736
 phenanthrene, in alcoholic glass, addition of H-bond breaking gases, phosphoresc. temp. depend. 4-30508
 phenazine crystals, isotopically mixed, triplet state dimers, phosphoresc., EPR 4-56973
 3-phenylmethylene-1(3H)-isobenzofuranones luminophores, absorpt. and emission characts. 4-56983
 poly-p-xylylene films, vapor phase polymerised, thermally deactivated high field cond. and electroluminesc. 4-20662
 polyacetylene-1 $_2$, photoluminescence, doping effects 4-56996
 polyacetylene, femtosecond excited state relax. 4-21035
 polycyclic aromatic hydrocarbons, quantitative determ. in polluted environments by quaseline luminesc. 4-57616
 polycyclic aromatics, phosphoresc., triplet energy transfer 4-7223
 polydiacetylene bilayer films, fluorogenic 4-40501
 polyimide based electrophotographic layers (Russian) 4-17990
 PTFE, γ -irrad., struct., radioluminescence obs. (Russian) 4-55756
 pyrene, in cellulose acetate films, fluoresc. anisotropy and decay times 4-2953
 saccharin, temporary mechanoluminesc. spectra 4-7252
 t-stilbene-1,2,4,5-tetracyanobenzene (1:2) complex, photoexcited triplets, ESR and DF ODMR studies 4-56818
 p-terphenyl cryst., charge carrier generation, two-photon absorpt. coeff. 4-56381
 p-terphenyl cryst., zero field splitting of triplet excitons, fluorescence studies 4-6707
 tetrapropylammonium iodide, absorption and photoluminescence of self trapped excitons (Russian) 4-35474
 tetrachlorophthalic-hexamethylbenzene charge transfer crystals, delayed thermal fluoresc. 4-56981
 tetraphenylsulfate, chemiluminescence reactions and decay const. 4-51383
 tetrapropylammonium iodide, absorption and photoluminescence of self trapped excitons (Russian) 4-35474
 9-vinylcarbazole oligomers, electro-photographic props., heat treatment effect (Russian) 4-4486
 vinylcarbazole-methylmethacrylate copolymers, luminesc. 4-56984
 xanthone, cryst., polarised Raman spectra and phosphoresc. 4-25755
 Al(octaethylporphyrin)/Ag film sandwich cells, UV electroluminescence study 4-21041
 (CC $_6$ H $_5$) $_2$ X (X=N, P, As, Sb, or Bi), spectral luminesc. props. and electron states 4-54795

luminescence of solids

- see also *luminescence of inorganic solids; luminescence of organic solids*
 crystal plate, light emission by moving fast electron 4-7265
 latent xerographic image, luminesc. effect 4-40529
 mechanoluminescence, dependence on area of newly created cryst. surfaces 4-2974
 molecular cryst., metal quenching of luminescence 4-7247
 molecular cryst. and salts, mech. yield, triboluminescence intensity study 4-51382
 molecular crystal, nonlinear luminescence quenching (*Russian*) 4-7248
 molecular crystals, spectroscopy, 1981 bibliography 4-42647
 one-dimensional N-sites N-electrons system, extended Peierls-Hubbard model, lattice relax. 4-45654
 optically thin films, polarisation of centre radiation, resonator effect on phototransition probability 4-51401
 p-n junctions, photoelectric effect under recomb. radiation generation and absorpt. conditions 4-15942
 radiative and non-radiative decays leads to dip in emission line-shape 4-21039
 semiconductor, cubic, hot exciton optical orientation, effect of mag. field 4-25235
 semiconductor, dielectric constant evaluation and pair spectra 4-40523
 semiconductor, variable gap, cathodoluminesc., nonequilib. carrier distrib. 4-25817
 semiconductors, dislocation properties and struct., Colloquium, Aussois, France (Mar. 1983) 4-13475
 surface, adsorbed atoms and mols., valence electron excitations and optical props. 4-50635

luminescent devices

- see also *fluorescent screens; phosphors; scintillation counters*
 electroluminescence devices, rare earth complex excitation mechanism 4-51356
 PMMA luminescent solar collectors, performance, Monte Carlo simulation 4-3478
 ZnS:R, R=rare earth, DC electrolum. devices 4-51355
 GaP reverse biased diodes, electroluminescence spectra (*Russian*) 4-40537
 n-GaP/Langmuir-Blodgett film/Au electroluminescent structures 4-21043
 SiC diodes, prebreakdown electroluminescence emission (*Russian*) 4-40536
 ZnS:Mn MISIM thin film electroluminescent display devices, electron impact excited luminesc. 4-16252
 ZnS:Mn thin films, with chalcogenide glass control layers, DC electrolum. 4-25814
 ZnSe:Mn AC electrolum. thin film devices, electron-impact-excited luminesc. 4-51357

luminophors see *phosphors***luminors** see *phosphors***lumped parameter networks**

- short-circuit method for networks 4-67

lunar atmosphere see *Moon; planetary satellite atmospheres***lunar geology** see *lunar rocks and minerals***lunar rocks and minerals**

- Cayley Plains, KREEP-rich poikilitic impact melt rocks, subophitic lithologies 4-36597
 globules, interferometry of smooth elongated shapes 4-36598
 light element chemistry and spallogensis 4-13215
 magma genesis in battered Moon, effects of basin-forming impacts 4-8413
 physical properties, data collection (book) 4-42613
 plutonism of highlands and maretype volcanism 4-42326
¹²⁹I dating, tandem accelerator mass spectrometric meas. 4-3935
 Xe retention in olivine following ion implantation and annealing 4-13262

lunar seismology

- No entries

lunar structure

- see also *lunar rocks and minerals; Moon*
 axes of inertia, orientation determ. from Earth-based obs. (*Russian*) 4-53070

lung

- see also *pneumodynamics*
 airborne dust, electric charge meas. using semiautomatic method 4-31149
 airway smooth muscle, canine, contractile force during cyclical length changes 4-16908
 alveolar gas exchange, breath-to-breath, model evaluation of estimates 4-36152
 alveolar liquid press. in excised oedematous dog lung with increased static recoil 4-21712
 alveolar macrophages, rat, effect of whole-body irradiation on phagocytic activity 4-21741
 alveolar pressure in fluid-filled occluded lung segments permeability oedema 4-21704
 alveolar type II cells, isolated, rat, transmembrane pot. expts. 4-3532
 alveolar wall, length-tension props. rel. to saline immersion, cat and rat obs. 4-3575
 alveolar-airway barrier protein permeability, lung inflation effect, dog expts. 4-21637
 arteries from sensitised dogs, mech. props. 4-36144
 avian lung modelling, regional ventilation-perfusion inhomogeneity 4-26466
 blood flow, regional, meas. by videodensitometry 4-3606
 blood flow anal. with detailed anatomical and elasticity data, cat 4-21715
 capillary pressures, isogravimetric and venous occlusion, comparison in isolated dog lungs 4-16912
 cardiopulmonary parameters estimation using quasi-optimal inputs 4-31270
 cells, Chinese hamster, rot. diffusion of TEMPONE 4-26369
 cigarette smoke radioactivity rel. to lung cancer 4-47034
 CT differential diagnostics of benign and malignant tumours, dispersion analysis of densitometric data (*Russian*) 4-16952
 elastic characteristics of perivascular interstitial space 4-3583
 electric properties and ion transport in airways excised from adult and foetal sheep 4-31205
 electrical brain stimulation rel. to cardiopulmonary function localisation 4-26383
 fibroblasts, normal, human, differential recovery from pot. lethal damage, γ -ray and N-ion irradiation 4-36183

lung continued

- gas exchange studies, optimal experimental design theory appl. 4-31269
 haemodynamics and gas exchange props. during progressive edema 4-21706
 heart-lung bypass machines, power and weight characts. of thermoregulating devices 4-3649
 histological lung sections, inhaled particles spatial distrib. quantification, microcomputer based system 4-31389
 Hodgkin's disease patients, early and late pulmonary changes after mediastinum irradiation (*Russian*) 4-8037
 ICRP publication 32, inhalation limits of Ra daughters by workers, comments 4-3629
 Lewis lung carcinoma, continuous irradiation at clinically-used ultra low dose rates, mouse expts. 4-36187
 LF sound, speed through lungs of normal men 4-36159
 lymph flow, effect of HF oscill. 4-31246
 magnetic particles, behaviour in hamster lung, clearance and cytoplasmic motility 4-21636
 microvascular permeability after coronary arterial ligation in dogs 4-16849
 nodule evaluation system, design, function and performance evaluation 4-21806
 nodules, standard phantom for quantitative CT anal. 4-31332
 nonuniform deformations, review 4-3572
 oedema fluid, flow into pulmonary airways 4-21710
 particle deposition in human airways, electrostatic charge meas. 4-31259
 phospholipids aerosols, dispersed surface active, characterisation by ultrasonic and jet nebulisation 4-31260
 pleural surface, regional surface expansive forces, estimation in intact dogs 4-16911
 radioisotope imaging, separator to generate 0.5 μ m aq. particles 4-47069
 radiotherapy-induced change, CT findings 4-36180
 receptors, rapidly adapting, response during lung inflation 4-16894
 regional pleural expansive forces, meas. in intact dogs by wick catheters 4-31248
 respiratory after discharge mechanisms in piglets, excitatory and inhibitory, interaction 4-21646
 respiratory physiology, recommendations for using standardised terminology in radiation research 4-21748
 respiratory tract, human, inhaled aerosols deposition 4-31258
 retention-solubility studies in lungs, appls. of Pick-Nevalinna interpolation theory 4-26469
 smooth muscle, canine trachea, max. shortening vel., zero load-clamp vs. afterloaded method 4-31250
 surfactant release as an early measure of radiation pneumonitis, mouse expt. 4-36188
 synthetic lung surfactant, development, phys. principles 4-52292
 thoracic irradiation, expression of early and late damage in mice 4-41579
 tracheal ciliated cells in rabbit, SEM study 4-52404
 tumour incidence in dogs that inhaled emitters, rel. to radiation dose patterns 4-41576
 tumour induction in Syrian hamsters by Pu, microscopic dose distrib. 4-26483
 vascular permeability, effects of transient pulmonary hypertension 4-16913
 vascular tissue transport in sheep, effects of coronary flow restriction 4-36085
²⁴¹Am, internal deposition in exposure accident at Hanford, 1976 4-16988
²⁴¹Am, organ burden and dose estimates, 1976 Hanford exposure incident 4-16989
- lutecium** see *lutetium*
- lutetium**
 see also *nuclei with*
 atom, hyperfine struct., isotope shift, 542.2 nm line study 4-18985
 de Haas-van Alphen meas. of Fermi surface 4-50704
 electron-phonon interaction, relativistic APW band struct. calc. 4-34886
¹⁷¹Lu in Zn and In single cryst., elec. field gradient at nucl. site 4-25313
- lutetium alloys**
 Gd₂Lu_{1-x}Al₂, g-factor shifts, ESR meas! d-character of band electrons 4-51133
 LuCo₂, mag. props. 4-20788
 LuFe₂, mag. props. 4-20788
 LuFe₂Al₃, ferromagnetism and hyperfine studies 4-7010
 Lu₂Fe₂₃H₄, H₂ absorption thermodynamics 4-2441
 LuNi₂, mag. props. 4-20788
 LuPd₃, band struct., bremsstrahlung isochromat spectra 4-39769
- lutetium compounds**
 see also *lutetium alloys*
 (BiSmLu)₃(FeSc)₂O₁₂ bubble films, mag. props. study 4-56739
 (Dy, Sm, Lu, Bi, Ca)₃(Fe, Ge)₂O₁₂ bubble garnet disc devices 4-56742
 Ho₂Lu_{1-x}Rh₂B₄, rare earth ion dynamics, supercond. effects, muon spin-lattice relax. rate meas. 4-56841
 KLu(WO₄)₂:Nd³⁺, Czochralski grown, stimulated emission and luminesc.-generation props. 4-56964
 (La, Sm, Lu, Tm, Ca)₃(Fe, Ge)₂O₁₂ bubble garnet film, mag. props. study 4-56740
 (La, Sm, Lu, Tm)₃(Fe, Ga)₂O₁₂ bubble garnet film, mag. props. study 4-56740
 (La₂Nd_{0.3}Lu_{0.7})Lu₂Ga₃O₁₂ garnet, elastic and photoelastic consts. 4-11212
 LuCo₃H_x, H₂ description isotherms and thermodynamic props. 4-39665
 LuCrO₃, weak ferromagnet, domain walls, NMR spectra 4-51154
 LuFe₂Ge₆, cryst. struct., X-ray diffraction anal. 4-2175
 Lu₂Fe₂O₁₂, garnet, electric field gradient calcs. 4-50779
 LuMnGe₂, cryst. struct., single cryst. X-ray diffraction study (*French*) 4-39238
 Lu₂O₃-Sc₂O₃:Nd³⁺ single crystals, spectral and physicochem. prop. investigation 4-35442
 Lu_{1-x}S, defect ordering 4-55812
 Lu₂WO₁₂, enthalpy, sp. ht. determ. 4-50534
 Lu₂Y_{1-x}Sc_{0.5}Nd_{0.5}(Er)(Eu), electrophysical props. 4-56341
 Lu₂Al₂O₁₂:Nd³⁺ quasi-CW crystal lasers, pyrotechnically pumped 4-28700
 (Sm, Dy, Lu, Ca)₃(Fe, Si)₂O₁₂, bubble garnets, mag. props. study 4-56743
 SmTmGdLuAl:YIG epitaxial films, mag. props. study 4-56729
 Y_{3-x}Lu_xAl₅O₁₂, absorpt. of high freq. acoustic waves 4-20296
 Y_{3-x}Lu_xAl₅O₁₂ garnet, acoustic props. study 4-11232
 (YSmLuCa)₃(FeGe)₂O₁₂:Xe(As) bubble garnet films, mag. and struct. props. 4-56744

Luxemburg effect *see* *ionospheric electromagnetic wave propagation*
Lyapunov methods
low-frequency phenomena in dynamical systems with many attractors
4-37022
stability and stabilisation of motion with respect to part of variables
4-22575
statistical dynamics generated by fluctuations of local Lyapunov exponents
4-42859
lymphocytes *see* *blood; cellular biophysics*
lyotropic liquid crystals *see* *liquid crystals*
lysozyme *see* *proteins*

ABSTRACTS AND CURRENT PAPERS JOURNALS
SUBSCRIPTION PRICES 1984

	USA \$	UK £	ROW £	JAPAN ¥
PHYSICS ABSTRACTS (PA)	1460	585	760	410,400
2nd and subsequent copies	605	325	330	178,200
ELECTRICAL & ELECTRONICS ABSTRACTS (EEA)	1080	500	620	334,800
COMPUTER & CONTROL ABSTRACTS (CCA)	660	310	385	207,900
PA/EEA/CCA COMBINED SUBSCRIPTION	2870	1210	1575	850,500
EEA/CCA COMBINED SUBSCRIPTION	1580	705	910	491,400
IT FOCUS	95	70	75	40,500
CURRENT PAPERS IN PHYSICS				
Member rate	85	42	42	—
Non-Member rate	185	108	108	58,300
CURRENT PAPERS IN ELECTRICAL & ELECTRONICS ENGINEERING				
Member rate	85	42	42	—
Non-Member rate	160	88	88	47,500
CURRENT PAPERS ON COMPUTERS & CONTROL				
Member rate	85	42	42	—
Non-Member rate	160	88	88	47,500
KEY ABSTRACTS				
Member rate*	42	21	21	—
Non-Member rate	88	40	40	21,600
KEY ABSTRACTS				
EMI/PMI COMBINED	—	66	66	35,600
All Key Abstracts combined				
Member rate	300	152	152	—
Non-Member rate	640	300	300	162,000

* The Key Abstracts Member rate is available to Members of the IEE and IEEE only.

CUMULATIVE INDEXES

Cumulative indexes are available for *Physics Abstracts*, *Electrical & Electronics Abstracts* and *Computer & Control Abstracts*, for both authors and subjects. These cumulations generally cover a period of four years, with the exception of *Computer & Control Abstracts* where the initial volume covered the period 1966-68. The table below shows the prices and periods for the two types of cumulative index.

	PHYSICS ABSTRACTS		ELECTRICAL & ELECTRONICS ABSTRACTS		COMPUTER & CONTROL ABSTRACTS	
	Subject	Author	Subject	Author	Subject	Author
	£	£	£	£	£	£
1955-59	20	—	15	20	—	—
1960-64	40	17	20	12	—	—
1965-68	60	—	35	20	—	—
1969-72	—	—	72	64	48	30
1973-76	600	300	250	150	150	75
1977-80	770	450	380	250	250	120
1966-68	—	—	—	—	15	

For US\$ and Yen prices please contact the appropriate address below

ORDERING PROCEDURE

THE AMERICAS
North (including Canada), Central and South
All orders from the above areas, and orders from members of Institute of Electrical and Electronics Engineers Inc. anywhere in the world, should be sent to Fulfillment Manager, Institute of Electrical & Electronics Engineers Inc., 445 Hoes Lane, Piscataway, N.J. 08854, USA. Telephone (201) 981 0060

日本：
INSPEC 刊行物の購入価格は、すべて円建てとなっており、航空便(ASP扱)で送られます。詳細については、最寄りの洋書取扱店又は、総代理店ユサコ株式会社（昭和58年10月1日より社名変更）〒105 東京都港区新橋1-13-12 電話(03)502-6471までお問合わせ下さい。

REMAINDER OF THE WORLD
All remaining subscriptions should be sent to INSPEC Marketing Department, P O Box 26, Hitchin, Herts SG5 1SA, England. Telephone Hitchin 53331, Telex 825962, Telegrams IEE G.

OTHER INSPEC SERVICES

SDI
(Selective Dissemination of Information.)
This is a service individually tailored to the requirements and interests of the engineer or research worker. Details of information relevant to the interest profile of the individual subscriber are selected from the data being processed for the INSPEC Database, information is dispatched weekly on 150 mm, 100 mm (6", 4") cards.

TOPICS
This is an SDI service based on standard profiles. There are over 90 subjects covering high-activity areas of research and development. This is an inexpensive card service designed to alert engineers and researchers to the availability of literature within their subject area.

MAGNETIC TAPES
Tapes containing all the information included in the INSPEC publications are issued twice monthly. They enable the larger research and development organisations to produce their own internal information and current-awareness services.

1977-80

CUMULATIVE INDEXES

Search 4 years at a time
using the latest
Cumulative Indexes.

- **Save Time**

Your search is completed faster
with the
1977-80 Cumulative Indexes

- **Increase Precision**

The subject indexing has been
revised to relate all the entries
produced over the four year period
to the 1980 subject headings.

Orders and Enquiries to:

INSPEC Marketing Department
Station House
Nightingale Road
Hitchin
Herts, SG5 1RJ
UK

or for Americas only
INSPEC
IEEE Service Center
445 Hoes Lane
Piscataway, N.J. 08854
USA